

*Technical Memorandum No. 33-100
Volume 4, Part B*

Earth-Mars Trajectories, 1971

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N 65-35303

FACILITY FORM 602

(ACCESSION NUMBER) <u>753</u>	(THRU) <u>1</u>
(PAGES) <u>OP. 67358</u>	(CODE) <u>30</u>
(NASA CR OR TMX OR AD NUMBER)	(CATEGORY)

GPO PRICE \$ _____

CSFTI PRICE(S) \$ _____

Hard copy (HC) 10.53

Microfiche (MF) 3.50

ff 653 July 65

**JET PROPULSION LABORATORY
CALIFORNIA INSTITUTE OF TECHNOLOGY
PASADENA, CALIFORNIA**

June 15, 1965

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A handwritten signature in cursive script, reading "T. W. Hamilton", positioned above a horizontal line.

T. W. Hamilton, Manager
Systems Analysis Section

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Prepared Under Contract No. NAS 7-100
National Aeronautics & Space Administration

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FOREWORD

This volume is one of a set of seven giving key characteristics of Earth-to-Mars ballistic trajectories during the period 1964-1977, which period is divided into seven launch intervals (one interval per volume), spaced about 25 months apart. Within each interval, trajectories are calculated for each launch date and further subdivided into flight time ranges graduated in 2-day increments. Launch dates and approximate flight times for this volume are as follows (only trajectories requiring *vis viva* geocentric energies of less than 40 km/sec are included).

Launch date (1971)	Flight time range (days)
March 6-August 10	70-280

The applicability of these books may be extended by noting the 15-year cyclic recurrence of Earth-Mars trajectories. Thus trajectories in 1979 approximate 1964 trajectories; 1982 trajectories approximate 1967 trajectories, etc. Simply by updating the trajectories by 15 years, the results may be reapplied.

It is intended that these books provide trajectory and guidance analysts with data, in volume, so that preliminary design studies, investigations of the properties of ballistic interplanetary trajectories, and interplanetary guidance and orbit determination analyses may be performed. While not exact, these trajectories are sufficiently accurate to be quite useful for the above purposes.

In generating such a large amount of data, it is impossible to check the correctness of each number. Should the reader detect any errors, the authors would appreciate being advised.

Companion volumes (Ref. 1) give the characteristics of Earth-Venus trajectories during the period 1964-1970.

This volume would be incomplete without an expression of gratitude to V. C. Clarke, Jr., W. E. Bollman, T. W. Hamilton, and C. G. Pfeiffer, who laid the foundation upon which this document is based.

I. INTRODUCTION

This report presents the results of extensive machine computations of three-dimensional ballistic interplanetary trajectories. The analytic model used to represent these trajectories is based upon two-body, inverse-square, force field mechanics. A brief explanation of the model is presented in Section II.

Basically, the trajectories are calculated in two distinct parts: (1) the heliocentric transfer ellipse and (2) the launch-planet-centered escape trajectories. Following these trajectories, differential corrections or error coefficients and guidance and tracking parameters are given.

A. Heliocentric Conic Computation

The heliocentric trajectory is obtained by specifying the launch date and flight time only. Given these, the positions of the launch planet on the launch date and the target planet on the arrival date may be obtained by interrogating the ephemerides. By assuming the planets to be massless, a unique heliocentric trajectory may then be computed which passes through the centers of the launch and target planets. Though this assumption may at first seem gross, experience has proved it to be perfectly reasonable for this purpose. After the solution has been obtained by an iterative procedure, the orbital elements, heliocentric position, and velocity vectors at launch and arrival are computed. Other heliocentric quantities of engineering interest are also computed.

B. Planetocentric Conic Computation

After the heliocentric orbit is obtained, the launch and arrival hyperbolic-excess velocity vectors are computed by subtracting the velocity vectors of the launch and target planets from the heliocentric launch and arrival velocity vectors of the probe. The launch hyperbolic-excess vector is, in fact, the most important result of these computations because it yields the energy and direction of fire required to achieve interplanetary transfer.

Further computations are done to exhibit properties of the near-Earth portion of the trajectories. Given the launch hyperbolic-excess vector, a launch site (Cape Kennedy), a launch azimuth, and certain properties of a typical interplanetary boost vehicle, and assuming a 100-nm parking orbit, quantities such as launch time, injection position and velocity vectors, parking orbit coast time, and injection time are computed. In essence, then, approximate trajectories are obtained from the

launch pad to the target. The terminal portions of the trajectories are assumed to impact vertically on the target planet.

C. Differential Corrections

To augment the trajectory parameters, differential corrections or error coefficients relating variations in the launch hyperbolic-excess velocity vector to variations in target miss and flight time are computed. Actually, the variables at launch in these coefficients are the square of the hyperbolic-excess speed, or *vis viva* energy C_3 , and the declination and right ascension of a unit vector S , collinear with the outgoing asymptote of the escape hyperbola. The target variables are the components of the impact parameter B , defined below, and the flight time. These coefficients are obtained by a numerical differencing technique developed by William Kizner of JPL.

Based upon these error coefficients, guidance and tracking parameters are calculated as described below.

D. Mid-Course Guidance

Interplanetary guidance is currently being accomplished by determining the orbit of the probe from radio tracking data and then applying one or more impulsive velocity corrections to null the predicted target error. The guidance task closely parallels the trajectory problem, for it is convenient to define the following guidance "phases":

1. Planetocentric phase, in which, after the launch vehicle has placed the probe on its escape hyperbola, the orbital elements of this trajectory are determined and the hyperbolic-excess velocity is corrected to the desired value.
2. Heliocentric phase, in which additional velocity corrections may be made to correct any error in orbit determination and/or maneuver execution in phase 1.
3. Approach phase, in which the probe is in the sphere of influence of the planet and the final vernier corrections may be made to trim the results of phase 2.

The preflight analysis of phase-1 guidance is primarily concerned with the statistical problem of determining how much propellant to carry aboard the spacecraft in

order to correct a "three-sigma" injection guidance error. These studies are well-documented elsewhere (Ref. 2-4) and will not be discussed here. Suffice it to say that correcting the hyperbolic-excess velocity is a reasonably good approximation to nulling the miss components at the planet. Such an analysis need only be concerned with the planetocentric phase of flight.

The analysis of the heliocentric phase is more complicated, since maneuvers there depend upon errors in applying the first midcourse maneuver (phase 1). In order to understand the effect of phase 1 errors, or to specify a tolerance on them, it is convenient to ask how a unit error in hyperbolic-excess velocity maps to miss at the target. This unit velocity error can be thought of as due to uncertainties in phase-1 maneuver execution and orbit determination. Conceptually, this analysis can be accomplished by letting a unit velocity error trace out a sphere at the tip of the hyperbolic-excess velocity vector and observing the semimajor and semiminor axes of the miss ellipse at the target (only two miss components are normally of interest). Mathematically, this is done by simply forming a matrix of the differential corrections, multiplying this matrix by its own transpose, diagonalizing the resulting symmetric matrix, and observing that the two diagonal terms are the desired semimajor and semiminor axes of the unit error ellipse.¹ It is easy to show that if the coordinate system chosen to describe the target error is collinear with these axes, the rows of the resulting differential correction matrix (which are gradient vectors) are orthogonal, and their norms are the magnitudes of the error-ellipse axes.

The approach guidance phase is not conveniently treated with this kind of analysis, and is not discussed further.

E. Orbit Determination

A spacecraft boosted toward Mars or Venus by the current generation of launch vehicles requires the accuracy obtainable using Earth-based radio guidance in order to accomplish most planet-oriented experiments. The steps in radio guidance are:

1. Track the transponder signal from the spacecraft from several stations located at a spread of latitudes to determine the orbit of the spacecraft.

¹ It should be apparent to readers familiar with statistical concepts that this is equivalent to mapping a three-dimensional gaussian distribution of velocity errors, with unit standard deviation along each axis, to a two-dimensional gaussian distribution of position errors at the target.

2. Calculate the velocity changes required to alter the orbit to pass through the desired region at the target. The maneuver is then applied with a small rocket motor; the pointing direction and burning time (of the velocity increment) are calculated to perfectly correct the orbit if both the estimate of the orbit and the application of the maneuver are without error.
3. Track the spacecraft after the first maneuver for a sufficient interval to form a new estimate of the perturbed orbit.

This process of tracking and maneuvering may be repeated several times to achieve high accuracies at the target. There is, however, a limit to the process imposed by our uncertainties in the actual location of the target planet as well as the unpredictable forces acting on the spacecraft.

For extremely high accuracy at the target planet, on-board measurements must be used in conjunction with the Earth-based tracking in order to further reduce the above-mentioned uncertainties. It is not the function of this report to discuss on-board measurement systems but rather to describe the capabilities of current Earth-based radio guidance techniques when applied to interplanetary trajectories.

An adequate description of the accuracy to which orbits may be determined and maneuvers executed for the case of several corrective maneuvers is beyond the scope of this report. The results presented here may be strictly interpreted as corresponding to the accuracy capabilities for a single mid-course maneuver occurring anywhere between 1 and 14 days after injection. The relative contribution to the target uncertainty caused by orbit determination errors and mid-course execution errors depends directly upon the size of the correction required on a particular flight. For this reason, then, the two error sources are considered separately. While our results do correspond to the single maneuver case, they are very valuable in providing a general description of the way in which these errors vary over the selected set of trajectories. Such utilization of the results is discussed later herein.

F. Accuracy of Computations

Extensive accuracy studies were performed to verify the adequacy of these trajectories for preliminary design use. Both Mars and Venus trajectories were computed on the JPL precision-integrating trajectory program using

initial conditions obtained from the approximate trajectories contained herein. Of 56 Mars cases run, 29 missed the target by less than 500,000 km; 16 missed by between 500,000 and 1,000,000 km; and 5 missed by between 1,000,000 and 1,500,000 km. The worst case missed by 3,500,000 km. For the flight time errors, 16 varied between 1 and 2 days; 14 varied between 2 and 3 days; and 9 were greater than 3 days. The worst case was 7.2 days. No systematic properties of these errors were noted except that they appear to get worse for the higher-energy trajectories.

For Venus, the accuracy was considerably better, averaging 322,000-km miss error and 0.67-day flight time errors. Based on these comparisons, the model used to generate the trajectories contained herein is considered to be adequate and the results suitable for preliminary mission design studies. These results are very useful for initializing a precision trajectory search program.

When used for the stated purposes, these trajectories provide an excellent source of data obtained at considerably less time and expense than precision cases.

II. ANALYTICAL MODEL FOR INTERPLANETARY TRAJECTORIES

The analytical model consists of three distinct phases of two-body motion: (1) an escape hyperbola near the launch planet, (2) elliptical² motion under the attraction of the Sun, and (3) terminal hyperbolic motion near the target planet.

A. Heliocentric Motion

Solution of the heliocentric elliptic motion is obtained first under the following assumptions:

1. The launch and target planets move in orbits about the Sun as given in the national ephemerides. Their velocity components are obtained by using two-body conic formulas, mean orbital elements, and their tabular positions as listed in the ephemerides.
2. The launch and target planets are massless. Thus the only force acting on the probe is that of the Sun.
3. The position of the probe at launch into the heliocentric orbit is the center of the massless launch planet. Its position at arrival on the heliocentric orbit is the center of the massless target planet.

Thus for solution to the heliocentric phase of motion, the attractions of the launch and target planets are temporarily disregarded. The primary result to be obtained from the solution of the heliocentric transfer problem is the hyperbolic-excess velocity vector relative to the launch planet.

1. Determination of Planar Orientation

Since the launch and arrival positions of the probe are assumed to be the centers of the launch and target planets, they can immediately be determined, given the launch and arrival³ times, by consulting the ephemeris. Further, the orientation of the heliocentric transfer plane can immediately be found. Let \mathbf{R}_L be the Sun-launch planet position vector at launch time T_L , and let \mathbf{R}_p be the Sun-target planet position vector at arrival time T_p (Fig. 1). Then, planar orientation is found from the unit normal \mathbf{W} to the plane as follows:

$$\mathbf{W} = \frac{\mathbf{R}_L \times \mathbf{R}_p}{R_L R_p \sin \Psi} \quad (1)$$

²Hyperbolic heliocentric motion is not considered herein.

³Or, for convenience, the launch date and flight time can be specified.

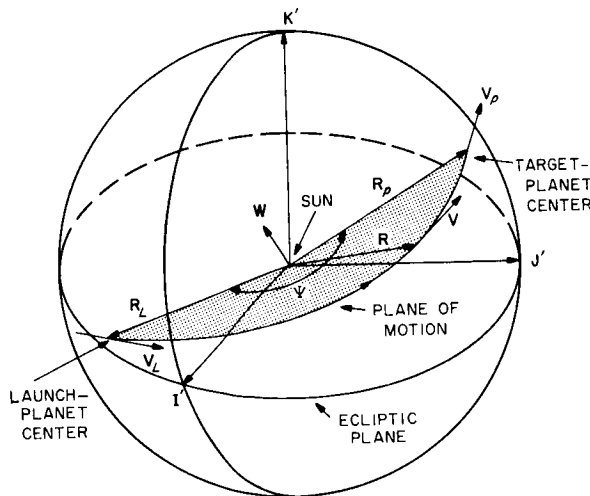


Fig. 1. Heliocentric transfer geometry

where the angle ψ is defined below. The inclination i to the ecliptic plane can be found by

$$\cos i = \mathbf{W} \cdot \mathbf{K}' \quad (2)$$

where \mathbf{K}' is a unit vector pointing in the direction of the ecliptic north pole.

2. In-Plane Relations

The heliocentric central angle Ψ (Fig. 1) is also readily determined by utilizing the positions of the launch and target planets. This angle may be obtained from

$$\cos \Psi = \frac{\mathbf{R}_L \cdot \mathbf{R}_P}{|\mathbf{R}_L| |\mathbf{R}_P|} \quad (3)$$

$$\sin \Psi = \text{sgn} [(\mathbf{R}_L \times \mathbf{R}_P) \cdot \mathbf{K}'] (1 - \cos^2 \Psi)^{1/2} \quad (4)$$

The velocity vector \mathbf{V} of the spacecraft anywhere along its path may be obtained from

$$\mathbf{V} = \frac{V}{R} [(\mathbf{W} \times \mathbf{R}) \cos \Gamma + \mathbf{R} \sin \Gamma] \quad (5)$$

Here, \mathbf{R} is the heliocentric position vector, $R = |\mathbf{R}|$, and V is the heliocentric speed obtained from

$$V = \sqrt{(GM_s) \left(\frac{2}{R} - \frac{1}{a} \right)} \quad (6)$$

*In this report, we are interested only in transfers which have the same rotational motion about the Sun as the planets; thus, $0 \leq i \leq \pi/2$.

and the path angle Γ is found from

$$\sin \Gamma = \left[\sqrt{\frac{R}{(1 - e^2)(2a - R)}} \right] e \sin v \quad (7)$$

In Eq. (6) and (7), GM_s is the universal gravitational constant times the mass of the Sun ($= 2.959122083 \times 10^{-4} \text{ au}^3/\text{day}^2$), a and e are the semimajor axis and eccentricity of the transfer ellipse, respectively, and v is the true anomaly of the probe given by

$$\cos v = \frac{a(1 - e^2) - R}{eR} \quad (8)$$

3. Lambert's Theorem

Now there are two unknowns in Eq. (5)-(8) which prevent their immediate evaluation. These two unknowns are the semimajor axis a and the eccentricity e . The determination of these quantities is the main problem. Battin (Ref. 5) has shown that the eccentricity is actually a function of the semimajor axis. Thus it is first necessary to determine a . The semimajor axis is related to the time of flight T_F by Lambert's Theorem, which states: *The transfer time between any two points on an ellipse is a function of the sum of the distances of each point from the focus, the distance between the points, and the semimajor axis of the ellipse.* Functionally, the theorem is stated as

$$T_F = T_F(R_L + R_P, C, a) \quad (9)$$

where the distance C between the launch planet at launch time and the target planet at arrival time is shown in Fig. 2 and is obtained from

$$C = |\mathbf{R}_P - \mathbf{R}_L| \quad (10)$$

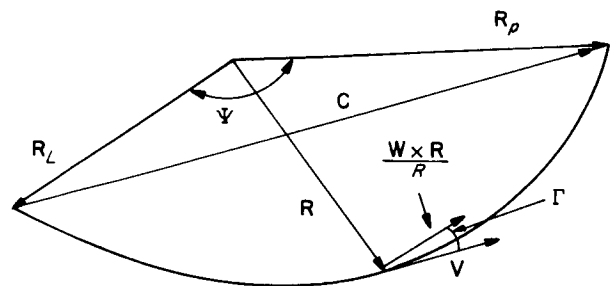


Fig. 2. In-plane transfer geometry

Since the time of flight T_F and the launch and arrival positions R_L and R_P are known, only the semimajor axis

remains to be found by iterative solution of Eq. (9). After the semimajor axis a is obtained, the heliocentric velocities of the probe at launch and arrival time V_L and V_p may be evaluated from Eq. (5) under the conditions $R = R_L$ and $R = R_p$. The path angles Γ_L , Γ_p and true anomalies⁵ v_L , v_p at launch and arrival times may also be evaluated from Eq. (8) and (7) under the same conditions.

Finally, the desired end result, the hyperbolic-excess velocity V_{hL} relative to the launch planet may be found (Fig. 3) by

$$V_{hL} = V_L - V_1 \quad (11)$$

where V_1 is the velocity of the launch planet at launch time.

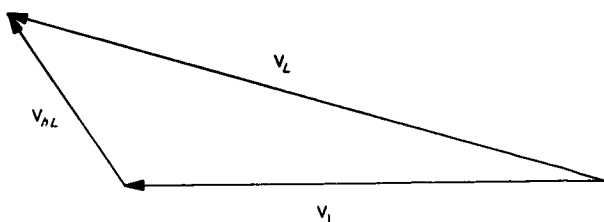


Fig. 3. Determination of the hyperbolic-excess velocity vector V_{hL}

B. Launch Planet Escape Hyperbola

The key result from the solution of heliocentric transfer is the hyperbolic-excess velocity vector V_{hL} at launch. The reason for the importance of this vector is that it tells the direction in which the probe must be traveling relative to the launch planet when just leaving its gravitational influence. There are an infinite number of escape trajectories (all hyperbolas) which can have the same hyperbolic-excess velocity vector. However, only a portion of these are practical for use when related to existing launch sites and boost vehicle constraints. For example, it would be ridiculously costly in payload—and impractical—to shoot a vehicle straight up. Criteria for selection of a family of feasible escape trajectories are given below.

1. Assumptions

The solution of the escape phase of motion is obtained under the following assumptions: (1) The probe is acted on only by the gravitational force of the launch planet, and (2) the oblateness effects of the launch planet are neglected.

The direction of the asymptote of the escape hyperbola is found by normalizing the hyperbolic-excess vector V_{hL} . The injection energy⁶ C_3 of the escape hyperbola is found by squaring the hyperbolic-excess speed, or

$$C_3 = V_{hL}^2 \quad (12)$$

Thus, in contrast to the heliocentric problem, the launch planet is now “massy,” while the influence of the Sun is neglected. However, the hyperbolic-excess velocity vectors found by solving the heliocentric problem are used as a starting point to solve the escape problem.

2. Size and Shape of the Escape Hyperbola

As previously stated, only some of the infinite number of escape trajectories are practical. Two of the practical aspects of a set of trajectories are the sizes and shapes of the hyperbolas.

Size is basically determined by the energy C_3 , which in turn is a function of boost vehicle capability. For boost vehicles in use (or shortly to be available) at this writing, values of energy less than or equal to $25 \text{ km}^2/\text{sec}^2$ are considered reasonable. The larger the value of energy that the booster is required to deliver, the smaller the payload and launch period over which the vehicle may be fired.

The shape of the hyperbola is determined by its eccentricity, which is a function of both the energy and perifocal distance according to

$$e = 1 + \frac{R_p C_3}{GM} \quad (13)$$

where R_p is the perifocal distance and GM is the universal gravitational constant times the mass of the launch planet. From Eq. (13) it can be seen that for a fixed perifocal distance the eccentricity increases linearly with the energy. The value of perifocal distance is not arbitrary, but depends strongly on the boost vehicle trajectory. It has been shown (Ref. 6) that in the great majority of cases it is necessary and desirable to use a circular parking orbit as part of the preinjection phase of the escape trajectory. It is further an interesting fact that the altitude of the parking orbit determines the perifocal distance. If h is the parking orbit altitude and R_0 is the launch planet's radius, then, to an extremely close degree of approximation,

$$R_p = R_0 + h \quad (14)$$

⁵The details of quadrant choice for these angles are found in Ref. 5.

⁶ C_3 is actually twice the total energy per unit mass, i.e., the *vis viva* integral.

or the perifocal distance is equal to the launch-planet-centered radius of the parking orbit. In Ref. 6 it also has been shown that the lowest possible parking orbit (80–100 nm) allows greatest payload capability. Thus, using 100 nm for the parking orbit altitude, a practical value of perifocal distance is 6560 km. The perifocal distance will vary only slightly about this value for other parking orbit altitudes, or even for direct-ascent-type preinjection trajectories. Therefore, *both* the size and shape are essentially determined by the energy alone, which is found from Eq. (12).

Given the size and shape of the escape hyperbola, its planar orientation must be determined, and this can be done by considering two vectors: (1) the direction of the hyperbolic-excess vector, denoted by a unit vector S , and (2) a unit vector R_L^i directed from the center of the launch planet to the launch site. The vehicle's flight plane will essentially be determined by these two vectors, as shown in Fig. 4. A unit normal W to the launch-planet-centered flight plane is determined by

$$W = \frac{R_L^i \times S}{|R_L^i \times S|} \tag{15}$$

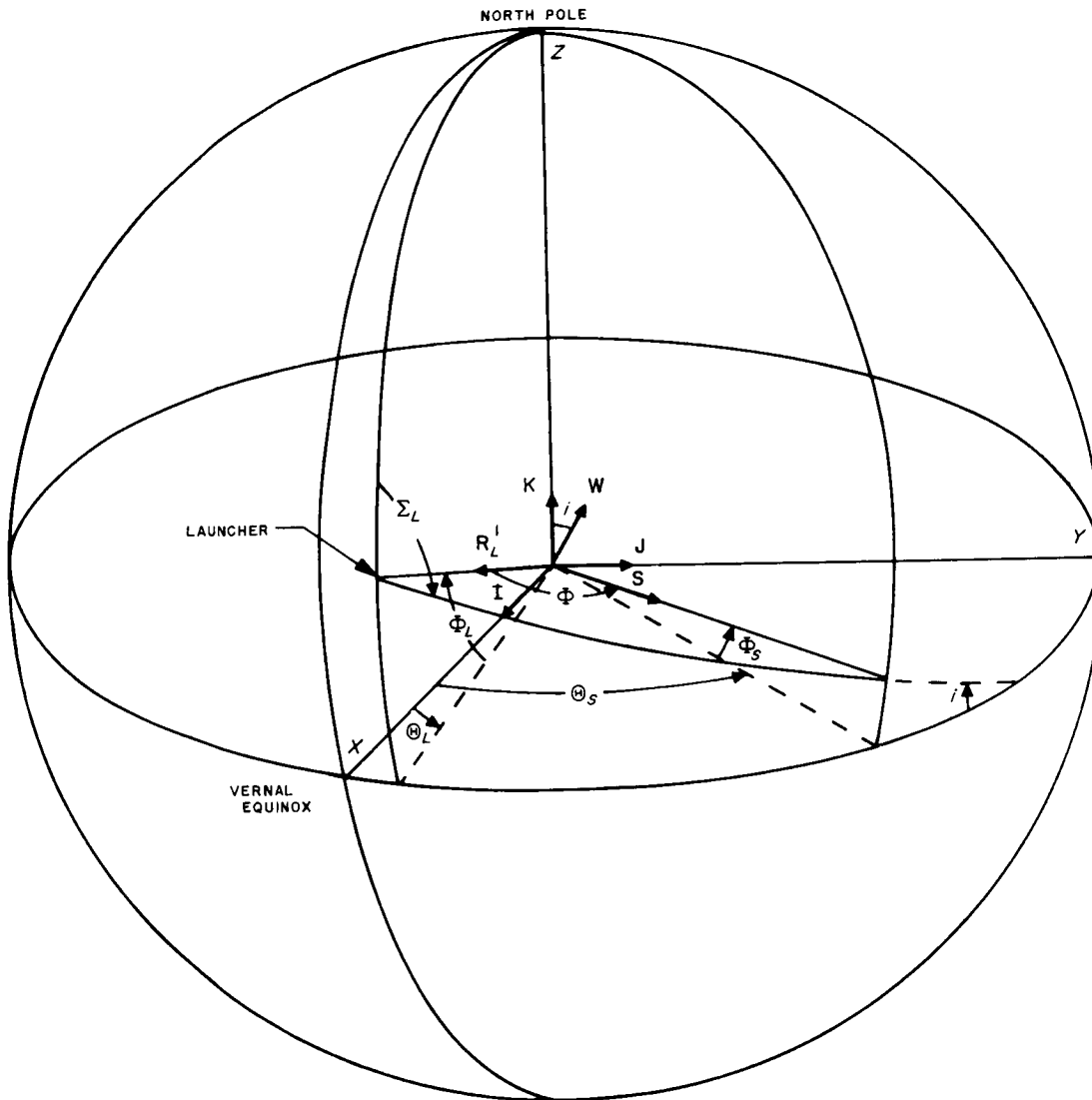


Fig. 4. Vehicle flight plane

with the constraint that the Z component of W is always positive.

Since R_L^i is a function of time, according to the rotation rate of the launch planet, the planar orientation must continually change. In effect, this says that the launch azimuth is a continuous function of launch time.

A detailed description of the geometrical aspects of the launch planet ascent trajectory is not given here but may be found in Ref. 6.

C. Differential Corrections

The calculation of differential corrections for interplanetary trajectories may be accomplished in several ways and depends on choice of independent and dependent variables. In this report, a numerical differencing scheme is used. Basically, the independent variables—the injection energy C_3 , declination Φ_s , and right ascension Θ_s of the outgoing asymptote S of the escape hyperbola—are varied, one at a time, to produce variations in the dependent variables—the components of the impact parameter B and the time-of-flight T_F .

The impact parameter B is defined as a vector originating at the center of the target planet and directed perpendicular to the incoming asymptote of the target-centered approach hyperbola (Fig. 5). The impact parameter B is resolved into two components which lie in a

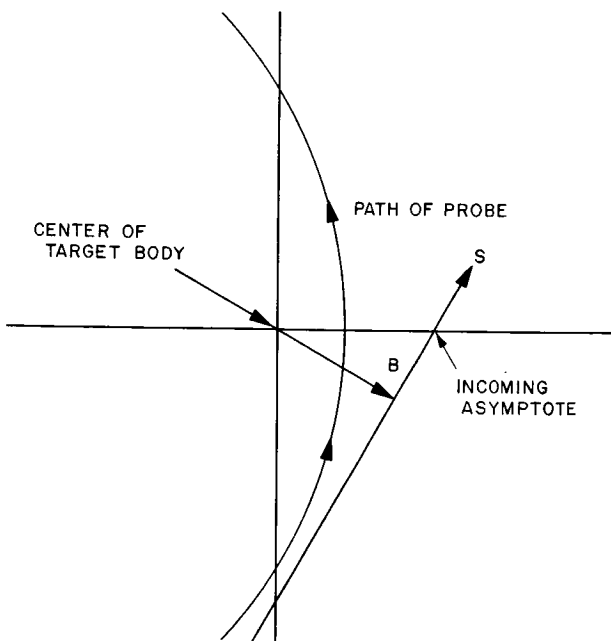


Fig. 5. Impact parameter B

plane normal to the incoming asymptote S. The orientations of the reference axes in this plane are arbitrary, but one is usually selected to lie in a fixed plane. Thus, define a unit vector T, lying in the ecliptic plane according to

$$T = \frac{S \times K'}{|S \times K'|} \tag{16}$$

where K' is a unit normal vector to the ecliptic plane. The remaining axis is then given by a unit vector R, defined by

$$R = S \times T \tag{17}$$

Figure 6 illustrates the orientation of the R, S, T target coordinates.

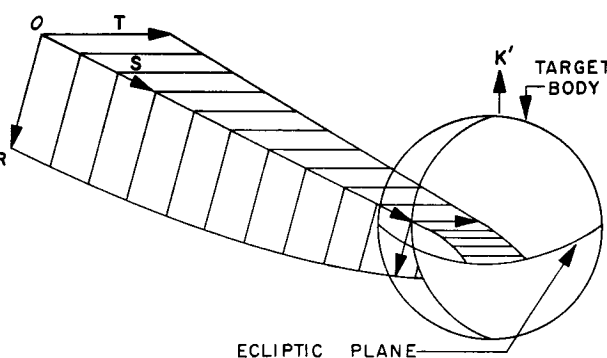


Fig. 6. The R, S, T target coordinate system

The impact parameter B lies in the R-T plane and has miss components $B \cdot T$ and $B \cdot R$. $B \cdot T = B \cdot R = 0$ denotes vertical impact on the target. Thus, $B \cdot T$, $B \cdot R$, and T_F are the three target-dependent variables. If Q_i represents a set of generalized independent variables, such as injection position and velocity or other convenient variables, then the partial derivatives $\partial B \cdot T / \partial Q_i$, $\partial B \cdot R / \partial Q_i$, $\partial T_F / \partial Q_i$ are first-order differential corrections or error coefficients relating miss at the target and flight time errors to the independent variables.

A convenient set of independent variables for interplanetary trajectories is the *vis viva* injection energy C_3 , the declination Φ_s , and the right ascension Θ_s of the asymptote of the escape hyperbola. These variables essentially describe the launch hyperbolic-excess velocity vector since

$$V_{hL} = (C_3)^{1/2} (\cos \Phi_s \cos \Theta_s, \cos \Phi_s \sin \Theta_s, \sin \Phi_s) \tag{18}$$

As stated above, the differential corrections are calculated by a numerical differencing method which uses

quantities obtained from the conic trajectory. The basic idea is to compute a varied or perturbed trajectory and then difference it with the reference case. Let primed quantities denote variables on the perturbed trajectory. A small variation ΔV_{hL} in the hyperbolic-excess velocity vector is equivalent to a small variation ΔV_L in the launch heliocentric velocity vector. The launch heliocentric velocity on the perturbed trajectory is, then,

$$V'_L = V_L + \Delta V_{hL} \quad (19)$$

where

$$\begin{aligned} \Delta V_{hL} = & (C_3)^{1/2} \Delta \Phi_s [-\sin \Phi_s \cos \Theta_s, -\sin \Phi_s \sin \Theta_s, \cos \Phi_s] + \\ & (C_3)^{1/2} \Delta \Theta_s [-\cos \Phi_s \sin \Theta_s, \cos \Phi_s \cos \Theta_s, 0] + \\ & \frac{\Delta C_3}{2(C_3)^{1/2}} [\cos \Phi_s \cos \Theta_s, \cos \Phi_s \sin \Theta_s, \sin \Phi_s] \end{aligned}$$

where $\Delta \Phi_s, \Delta \Theta_s$ are small angular variations (0.2 deg), and the energy variation is $\Delta C_3 = 0.005 C_3$.

The semimajor axis a' is obtained from

$$a' = \frac{R_L}{2 - \frac{V_L'^2 R_L}{GM_s}} \quad (20)$$

The radial rate \dot{R}_L' is

$$\dot{R}_L' = \frac{V_L' \cdot R_L}{R_L} \quad (21)$$

The semilatus rectum p' and eccentricity e' are

$$p' = \frac{R_L^2 (V_L'^2 - \dot{R}_L'^2)}{GM_s} \quad (22)$$

$$e' = \left(1 - \frac{p'}{a'}\right)^{1/2} \quad (23)$$

The eccentric anomaly at launch E_L' is

$$\sin E_L' = \frac{R_L \dot{R}_L'}{e' (a' GM_s)^{1/2}} \quad (24)$$

$$\cos E_L' = \frac{1}{e'} \left(1 - \frac{R_L}{a'}\right)$$

The mean anomaly at launch M_L' is obtained from

$$M_L' = E_L' - e' \sin E_L' \quad (25)$$

The mean orbital rate n' is

$$n' = \frac{(GM_s)^{1/2}}{a'^{3/2}} \quad (26)$$

The mean anomaly at the target M_p' is

$$M_p' = n' T_F + M_L' \quad (27)$$

The eccentric anomaly at the target E_p' is obtained from the expansion

$$\begin{aligned} E_p' = & E_p + \left(\frac{1}{1 - e' \cos E_p}\right) \Delta M - \frac{1}{2} \left[\frac{e' \sin E_p}{(1 - e' \cos E_p)^3}\right] \Delta M^2 \\ & + \frac{1}{6} \left[\frac{3(e' \sin E_p)^2 - (1 - e' \cos E_p)(e' \cos E_p)}{(1 - e' \cos E_p)^5}\right] \Delta M^3 \end{aligned} \quad (28)$$

if

$$\cos E_p \geq 0$$

or

$$E_p' = E_p + \frac{e' \cos E_p - 1 + \sqrt{(e' \cos E_p - 1)^2 + (2e' \sin E_p) \Delta M}}{e' \sin E_p} \quad (29)$$

if

$$\cos E_p < 0$$

where

$$\Delta M = M_p' - (E_p - e' \sin E_p)$$

The true anomalies at launch and the target v_L' and v_p' are found from

$$\cos v_L' = \frac{p' - R_L}{e' R_L} \quad (30)$$

$$0 < v_L' < \pi \quad \text{if } \dot{R}_L' \text{ is positive}$$

$$\pi < v_L' < 2\pi \quad \text{if } \dot{R}_L' \text{ is negative}$$

$$\cos v_p' = \frac{\cos E_p' - e'}{1 - e' \cos E_p'} \quad (31)$$

$$\sin v_p' = \frac{(1 - e'^2)^{1/2} \sin E_p'}{1 - e' \cos E_p'}$$

The heliocentric central angle Ψ' is

$$\Psi' = v_p' - v_L' \quad (32)$$

The angular momentum h' is

$$h' = R_L \times V_L' \quad (33)$$

The heliocentric position vector at the target is

$$\mathbf{R}'_p = R'_p \left(\frac{\mathbf{R}_L}{R_L} \cos \Psi' + \frac{\mathbf{h}' \times \mathbf{R}_L}{h' R_L} \sin \Psi' \right) \quad (34)$$

where

$$R'_p = a' (1 - e' \cos E'_p) \quad (35)$$

A vector in the direction of perihelion with magnitude e' is

$$\boldsymbol{\epsilon}' = \frac{\mathbf{V}'_L \times \mathbf{h}'}{GM_s} - \frac{\mathbf{R}_L}{R_L} \quad (36)$$

The heliocentric velocity at the target is

$$\mathbf{V}'_p = \frac{\mathbf{h}'}{r'} \times \left(\frac{\mathbf{R}'_p}{R'_p} + \boldsymbol{\epsilon}' \right) \quad (37)$$

The hyperbolic-excess velocity at the target is

$$\mathbf{V}'_{hp} = \mathbf{V}'_p - \mathbf{V}_s \quad (38)$$

The difference between the heliocentric position vectors on the perturbed and reference trajectories is

$$\Delta \mathbf{R}'_p = \mathbf{R}'_p - \mathbf{R}_p \quad (39)$$

The impact parameter \mathbf{B} is

$$\mathbf{B} = - \frac{(\Delta \mathbf{R}'_p \cdot \mathbf{V}'_{hp}) \mathbf{V}'_{hp}}{V'^2_{hp}} + \Delta \mathbf{R}'_p$$

The flight time error is

$$\Delta T_F = - \frac{\Delta \mathbf{R}'_p \cdot \mathbf{V}'_{hp}}{V'^2_{hp}} \quad (40)$$

The partial derivatives are formed by dividing $\Delta \Theta_s$, $\Delta \Phi_s$, and ΔC_3 into the miss components $\mathbf{B} \cdot \mathbf{T}$, $\mathbf{B} \cdot \mathbf{R}$, and flight time error ΔT_F . In addition to the component partials, the quantity $\partial B / \partial Q_i$ is defined by

$$\frac{\partial B}{\partial Q_i} = \left[\left(\frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial Q_i} \right)^2 + \left(\frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial Q_i} \right)^2 \right]^{1/2} \quad (41)$$

The three partials, $\partial B / \partial \Theta_s$, $\partial B / \partial \Phi_s$, $\partial B / \partial C_3$, are important measures of the error sensitivity of a trajectory.

The effect of uncertainty in the knowledge of the astronomical unit-to-kilometer conversion factor on target miss and flight time may be determined by the following formulae,

$$\frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial au} = \frac{-2C_3}{au} \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial C_3} \quad (42)$$

$$\frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial au} = \frac{-2C_3}{au} \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial C_3}$$

from whence

$$\frac{\partial B}{\partial au} = \frac{2C_3}{au} \frac{\partial B}{\partial C_3} \quad (43)$$

and

$$\frac{\partial T_F}{\partial au} = \frac{-2C_3}{au} \frac{\partial T_F}{\partial C_3} \quad (44)$$

where au is the astronomical unit-to-kilometer conversion factor.

The effect of solar radiation pressure acting on the probe may also be evaluated as follows: In Eq. (19) let $\Delta \mathbf{V}_{hL} = 0$, but in Eq. (20), (22), (24), (26), (36), vary GM_s by adding an increment ΔGM_s . This procedure gives rise to a varied trajectory from which the impact parameter \mathbf{B} and flight time error ΔT_F may be obtained. The partials $\partial \mathbf{B} / \partial GM_s$ and $\partial T_F / \partial GM_s$ may then be calculated. Since the acceleration caused by solar radiation pressure acts opposite to the gravitational attraction of the Sun, radiation pressure has the effect of decreasing the Sun's gravitational attraction, or decreasing GM_s . A decrease, $\Delta GM_s = -1.25 \times 10^6 \text{ km}^3/\text{sec}^2$ corresponds to the solar radiation pressure acting on a 3500-kg spacecraft having a perfectly reflecting area of 22 square meters. Thus the miss, always being a positive number, is obtained by $\Delta B_{sp} = 1.25 \times 10^6 \partial B / \partial GM_s$, and the corresponding flight time error is $\Delta T_{Fsp} = -1.25 \times 10^6 \partial T_F / \partial GM_s$, which is sign sensitive.

D. Mid-Course Execution Accuracy

The effect of mid-course execution errors on target accuracy can be rather simply described if it is assumed that the guidance maneuver is made on the asymptote of the escape hyperbola and that the velocity errors are spherically distributed (that is, the three-dimensional statistical distribution of velocity errors is composed of three orthogonal, independent velocity errors, each with the same variance). The mapping of these errors to the target (Fig. 7) results in a three-dimensional ellipsoid of position errors, which is the "one-sigma ellipsoid." The semiaxes are the respective standard deviations of the position errors. As pointed out above, this ellipsoid can be thought of as the locus of target errors that results from a unit velocity error at the mid-course point tracing out a sphere.

Let the differential corrections discussed above be expressed in matrix form as

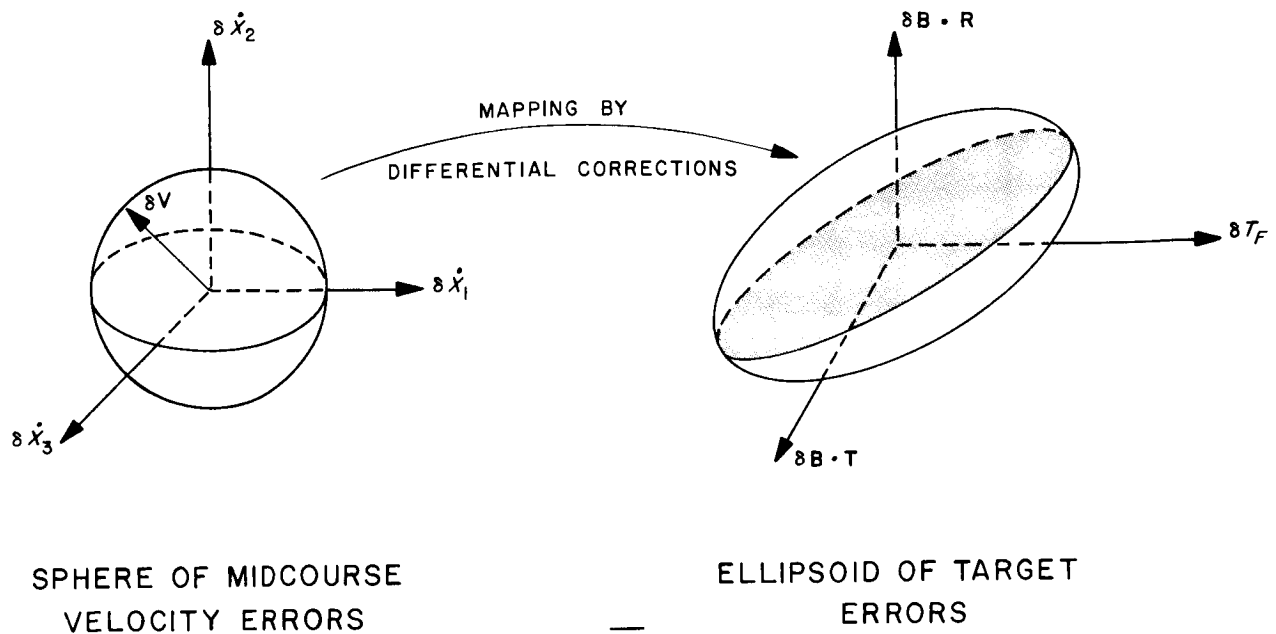


Fig. 7. The mapping of mid-course execution error

$$K = \begin{bmatrix} \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \Phi_S} & \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \Theta_S} & \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial C_3} \\ \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \Phi_S} & \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \Theta_S} & \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial C_3} \\ \frac{\partial T_F}{\partial \Phi_S} & \frac{\partial T_F}{\partial \Theta_S} & \frac{\partial T_F}{\partial C_3} \end{bmatrix} \quad (45)$$

Now define a Cartesian coordinate system X_1, X_2, X_3 such that

$$\left. \begin{aligned} \delta \dot{X}_1 &= V_{hL} \delta \Phi_S \\ \delta \dot{X}_2 &= - (V_{hL} \cos \Phi_S) \delta \Theta_S \\ \delta \dot{X}_3 &= \delta V_{hL} = \frac{\delta C_3}{2V_{hL}} \end{aligned} \right\} \quad (46)$$

Then a new matrix F can be formed,

$$F = \begin{bmatrix} \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \dot{X}_1} & \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \dot{X}_2} & \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \dot{X}_3} \\ \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \dot{X}_1} & \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \dot{X}_2} & \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \dot{X}_3} \\ \frac{\partial T_F}{\partial \dot{X}_1} & \frac{\partial T_F}{\partial \dot{X}_2} & \frac{\partial T_F}{\partial \dot{X}_3} \end{bmatrix} \quad (47)$$

where

$$\left. \begin{aligned} \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \dot{X}_1} &= \frac{1}{V_{hL}} \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \Phi_S} \\ \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \dot{X}_2} &= \frac{-1}{V_{hL} \cos \Phi_S} \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \Theta_S} \\ \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \dot{X}_3} &= 2V_{hL} \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial C_3} \\ \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \dot{X}_1} &= \frac{1}{V_{hL}} \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \Phi_S} \\ \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \dot{X}_2} &= \frac{-1}{V_{hL} \cos \Phi_S} \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \Theta_S} \\ \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \dot{X}_3} &= 2V_{hL} \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial C_3} \\ \frac{\partial T_F}{\partial \dot{X}_1} &= \frac{1}{V_{hL}} \frac{\partial T_F}{\partial \Phi_S} \\ \frac{\partial T_F}{\partial \dot{X}_2} &= \frac{-1}{V_{hL} \cos \Phi_S} \frac{\partial T_F}{\partial \Theta_S} \\ \frac{\partial T_F}{\partial \dot{X}_3} &= 2V_{hL} \frac{\partial T_F}{\partial C_3} \end{aligned} \right\} \quad (48)$$

Let the spherical distribution of midcourse velocity errors be described in the X_1, X_2, X_3 system as

$$\text{statistical expectation } \left[\delta \dot{X}_1^2 + \delta \dot{X}_2^2 + \delta \dot{X}_3^2 \right] = 3 \sigma_v^2 \quad (49)$$

where σ_v will be taken equal to 0.1 meters/sec. The resultant one-sigma ellipsoid of target errors is described by the quadratic form,

$$\delta \mathbf{M} \Lambda^{-1} \delta \mathbf{M}^T = 1 \quad (50)$$

where

$$\Lambda = \sigma_v^2 \mathbf{F} \mathbf{F}^T = \begin{bmatrix} \lambda_{11} & \lambda_{12} & \lambda_{13} \\ & \lambda_{22} & \lambda_{23} \\ \text{symmetric} & & \lambda_{33} \end{bmatrix} \quad (51)$$

and

$$\delta \mathbf{M} = (\delta \mathbf{B} \cdot \mathbf{T}, \delta \mathbf{B} \cdot \mathbf{R}, \delta T_F)$$

The elements of the Λ matrix are:

$$\begin{aligned} \lambda_{11} &= \sigma_v^2 \left[\frac{1}{C_3} \left(\frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \Phi_S} \right)^2 + \frac{1}{C_3 \cos^2 \Phi_S} \left(\frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \Theta_S} \right)^2 \right. \\ &\quad \left. + 4C_3 \left(\frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial C_3} \right)^2 \right] \\ \lambda_{12} &= \sigma_v^2 \left[\frac{1}{C_3} \left(\frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \Phi_S} \right) \left(\frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \Phi_S} \right) + \frac{1}{C_3 \cos^2 \Phi_S} \left(\frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \Theta_S} \right) \right. \\ &\quad \left. \times \left(\frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \Theta_S} \right) + 4C_3 \left(\frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial C_3} \right) \left(\frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial C_3} \right) \right] \\ \lambda_{13} &= \sigma_v^2 \left[\frac{1}{C_3} \left(\frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \Phi_S} \right) \left(\frac{\partial T_F}{\partial \Phi_S} \right) + \frac{1}{C_3 \cos^2 \Phi_S} \left(\frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \Theta_S} \right) \left(\frac{\partial T_F}{\partial \Theta_S} \right) \right. \\ &\quad \left. + 4C_3 \left(\frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial C_3} \right) \left(\frac{\partial T_F}{\partial C_3} \right) \right] \\ \lambda_{22} &= \sigma_v^2 \left[\frac{1}{C_3} \left(\frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \Phi_S} \right)^2 + \frac{1}{C_3 \cos^2 \Phi_S} \left(\frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \Theta_S} \right)^2 \right. \\ &\quad \left. + 4C_3 \left(\frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial C_3} \right)^2 \right] \\ \lambda_{23} &= \sigma_v^2 \left[\frac{1}{C_3} \left(\frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \Phi_S} \right) \left(\frac{\partial T_F}{\partial \Phi_S} \right) + \frac{1}{C_3 \cos^2 \Phi_S} \left(\frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \Theta_S} \right) \left(\frac{\partial T_F}{\partial \Theta_S} \right) \right. \\ &\quad \left. + 4C_3 \left(\frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial C_3} \right) \left(\frac{\partial T_F}{\partial C_3} \right) \right] \\ \lambda_{33} &= \sigma_v^2 \left[\frac{1}{C_3} \left(\frac{\partial T_F}{\partial \Phi_S} \right)^2 + \frac{1}{C_3 \cos^2 \Phi_S} \left(\frac{\partial T_F}{\partial \Theta_S} \right)^2 + 4C_3 \left(\frac{\partial T_F}{\partial C_3} \right)^2 \right] \end{aligned} \quad (52)$$

The quantities in the Λ matrix can be interpreted as standard deviations (sigmas) and correlation coefficients (rhos) according to

$$\left. \begin{aligned} \sigma_T &= (\lambda_{11})^{1/2} \\ \sigma_R &= (\lambda_{22})^{1/2} \\ \sigma_F &= (\lambda_{33})^{1/2} \\ \rho_{RT} &= \frac{\lambda_{12}}{(\lambda_{11} \lambda_{22})^{1/2}} \\ \rho_{TF} &= \frac{\lambda_{13}}{(\lambda_{11} \lambda_{33})^{1/2}} \\ \rho_{RF} &= \frac{\lambda_{23}}{(\lambda_{22} \lambda_{33})^{1/2}} \end{aligned} \right\} \quad (53)$$

Then the Λ matrix becomes

$$\Lambda = \begin{bmatrix} \sigma_T^2 & \rho_{RT} \sigma_R \sigma_T & \rho_{TF} \sigma_F \sigma_T \\ & \sigma_R^2 & \rho_{RF} \sigma_R \sigma_F \\ \text{symmetric} & & \sigma_F^2 \end{bmatrix} \quad (54)$$

It is often of interest when describing only miss components to consider

$$\sigma_B = (\sigma_R^2 + \sigma_T^2)^{1/2} \quad (55)$$

and to diagonalize the upper 2×2 portion of the Λ (the miss component elements) to get

$$\Lambda^* = \mathbf{L} \Lambda \mathbf{L}^T = \begin{bmatrix} \sigma_1^2 & 0 & \rho_{13} \sigma_1 \sigma_3 \\ & \sigma_2^2 & \rho_{23} \sigma_2 \sigma_3 \\ \text{symmetric} & & \sigma_3^2 \end{bmatrix} \quad (56)$$

where the matrix \mathbf{L} is given by

$$L = \begin{bmatrix} \cos \theta & \sin \theta & 0 \\ -\sin \theta & \cos \theta & 0 \\ 0 & 0 & 1 \end{bmatrix} \quad (57)$$

The angle θ is positive when turned counterclockwise from the **T** axis, and has been chosen such that $\sigma_1 \geq \sigma_2$. This is accomplished by

$$\theta = \frac{1}{2} \tan^{-1} \left[\frac{2\rho_{RT}}{\left(\frac{\sigma_T}{\sigma_R}\right) - \left(\frac{\sigma_R}{\sigma_T}\right)} \right] \quad (58)$$

where θ is in first quadrant if ρ_{RT} is positive and θ is in second quadrant if ρ_{RT} is negative. Notice that $\sigma_3 = \sigma_F$. The two-dimensional error ellipse described by σ_1, σ_2 , and θ is the projection of all points of the three-dimensional ellipsoid of position errors (discussed in Section IIE) onto the **T-R** plane, as shown in Fig. 8.

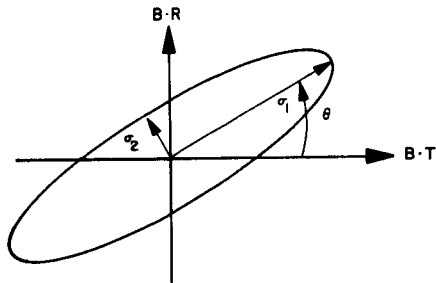


Fig. 8. Projection of three-dimensional error ellipsoid on the **T-R** plane

E. Orbit Determination Accuracy

In this section the analytic model used for describing orbit determination accuracy (tracking error) for interplanetary trajectories is discussed, and the factors upon which the tracking error depends are reviewed. The dominant error sources are defined for the easterly launchings from Cape Kennedy using tracking coverage supplied by NASA's Deep Space Instrumentation Facility (DSIF). Probable generalization to other situations is suggested. Finally, the method of describing target errors is presented along with all formulae relating the tracking errors to the target error parameters chosen.

1. Method of Describing Orbit Determination Accuracy

As discussed in Section IID, the uncertainties in our knowledge of an interplanetary trajectory are well described in terms of the direction and magnitude of the geocentric hyperbolic-excess velocity vector, V_{hL} . Figure 9 defines the right-handed Cartesian coordinate system we have adopted for describing uncertainties in V_{hL} . The X_3 axis is along V_{hL} ; the X_1 axis is in the direction of a positive differential change in asymptote declination Φ_S ; and the X_2 axis completes the system.

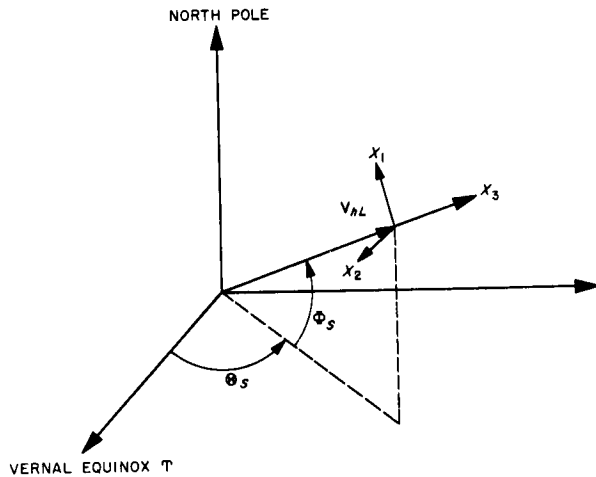


Fig. 9. Orientation of the X_i Cartesian coordinate system to describe uncertainties in the hyperbolic-excess velocity vector V_{hL} .

Let \dot{X} represent the vector of velocity errors in the X_i system just described; $\dot{X} = (\delta\dot{X}_1, \delta\dot{X}_2, \delta\dot{X}_3)^T$, where T indicates the transpose. The average of any function of \dot{X} , $f(\dot{X})$, over an ensemble of randomly generated tracking runs may assist in describing our statistical knowledge of \dot{X} based on tracking noise, station location, and physical constant uncertainties. The ensemble average is usually written $Ef(\dot{X})$ or as $f(\dot{X})$. When \dot{X} has a Gaussian (normal) probability density function, the distribution can be described completely by specifying $E\dot{X}$ and $E[(\dot{X} - \dot{X})(\dot{X} - \dot{X})^T]$, the mean and covariance of \dot{X} , respectively.

When all parameters influencing our knowledge of \dot{X} have been considered, $E\dot{X}$ should be zero and then the description of our uncertainties in \dot{X} can be adequately given by Covar \dot{X} , defined above. For convenience, the symbol $\Lambda_{\dot{X}}$, for Covar \dot{X} , is introduced.

$$\Lambda_{\dot{X}} = \text{Covar } \dot{X} = E \left[(\dot{X} - \dot{X})(\dot{X} - \dot{X})^T \right] \quad (59)$$

Note that

$$\Lambda_{\dot{\mathbf{X}}} = \begin{pmatrix} \delta\dot{\mathbf{X}}_1\delta\dot{\mathbf{X}}_1 & \delta\dot{\mathbf{X}}_1\delta\dot{\mathbf{X}}_2 & \delta\dot{\mathbf{X}}_1\delta\dot{\mathbf{X}}_3 \\ \delta\dot{\mathbf{X}}_2\delta\dot{\mathbf{X}}_1 & \delta\dot{\mathbf{X}}_2\delta\dot{\mathbf{X}}_2 & \delta\dot{\mathbf{X}}_2\delta\dot{\mathbf{X}}_3 \\ \delta\dot{\mathbf{X}}_3\delta\dot{\mathbf{X}}_1 & \delta\dot{\mathbf{X}}_3\delta\dot{\mathbf{X}}_2 & \delta\dot{\mathbf{X}}_3\delta\dot{\mathbf{X}}_3 \end{pmatrix} \quad (60)$$

is a 3×3 real symmetric matrix. The diagonal terms are the variances of the three components, and the off-diagonal terms measure the correlation between the three components.

Before describing how $\Lambda_{\dot{\mathbf{X}}}$ has been "mapped" into target error uncertainties, a discussion is given of the dependence of $\Lambda_{\dot{\mathbf{X}}}$ upon the relevant factors describing near-Earth tracking as well as the typical errors assumed in preparing the estimates given in this report.

2. Accuracy of Near-Earth Tracking

By expressing the accuracy of near-Earth tracking in terms of $\dot{\mathbf{X}}$ and its associated covariance $\Lambda_{\dot{\mathbf{X}}}$, the dependence upon almost all trajectory parameters has been eliminated. The remaining relevant trajectory parameters are listed in Table 1.

Table 1. Trajectory parameters influencing tracking accuracy

1. Launch site	
2. Launch azimuth Σ_L	Depends on launch time.
3. Injection region	Depends on time in parking orbit; short or long coast less than 1 revolution is current practice.
4. Declination of \mathbf{V}_{hL} , Φ_s	Depends on target position at arrival date and injection energy, C_s .
5. Magnitude of $\mathbf{V}_{hL} = V_{hL} = (C_s)^{1/2}$	

Note the limited number of trajectory parameters on which $\Lambda_{\dot{\mathbf{X}}}$ depends. Table 2 summarizes the key tracking station parameters which influence accuracy in the geocentric tracking phase.

The first three factors listed in Table 2 define the tracking configuration, whereas the last three are station performance factors. Usually, tracking accuracy studies are carried out with the tracking configuration relatively fixed, and the influence of the station performance factors are determined.

The final source of tracking error is uncertainty in physical constants. The influence of GM-Earth errors is somewhat smaller than the above-mentioned errors and should be reduced to negligible contribution in the next two

Table 2. Tracking station parameters influencing tracking accuracy

1. Station locations	A spread of latitudes is very desirable.
2. Total tracking time	
3. Tracking data types	Range R , range rate \dot{R} , and angles are most commonly taken.
4. Delay in acquiring first data	Delay is measured from the injection region as well as station acquisition delays.
5. Tracking data accuracies	Expressed in terms of equivalent uncorrelated noise at a given sampling rate.
6. Uncertainty in tracking station locations	Important when high data accuracies are available. Longitude errors usually are most important.

years. Sections IIC and IIIC describe how the uncertainty in the astronomical unit affects the target error; this error can be important for very long flights, but should also be reduced to a negligible contribution in the next two years. Errors in the target's mass cause minor variations in flight time T_F and negligible effect on \mathbf{B} . The last important target error source currently recognized is the uncertainty in the effect of the standard solar radiation pressure on spacecraft trajectory. The source of uncertainty is that effective reflecting area (largely solar panels) is not perfectly known. Techniques for the accurate measurement of this quantity are currently under development. Our studies show that unless this error is held below 5% it will be the dominant error source on many of our flights. Sections IIC and IIIC describe the calculation of the standard solar radiation pressure on a typical spacecraft deriving electrical power from the Sun.

The tracking accuracies reported here are representative of those foreseen for the 1971 time period. Range rate data were taken from the DSIF stations in South Africa, Australia, and the United States. The measurements were assigned standard deviations at 0.001 meters/sec, corresponding to a 60-sec sample rate. Station location uncertainties were assumed to be uncorrelated, with standard deviations of 0.001 deg in latitude, 0.0005 deg in longitude, and 30 meters in geocentric radius. Simultaneous tracking by more than one station was not allowed. The uncertainties quoted are those to be expected in the absence of other error sources, notably solar pressure and astronomical unit uncertainties.

The $\Lambda_{\dot{\mathbf{X}}}$ matrix used in these calculations was assumed to be independent of the trajectory parameters listed in Table 1. This approximation is good for the range of energies and asymptotic declinations considered to be

most feasible. In the future these approximations will be refined as necessary. The $\Delta \dot{\mathbf{x}}$ used for orbit determination accuracy in this report is given in Section III E. The target accuracies calculated here are typical for any reasonable multistation tracking configuration, with the data types and accuracies corresponding to this conservative representation of DSIF capabilities.

3. Calculation of Target Errors

The representation of tracking accuracy in the geocentric phase in terms of $\Delta \dot{\mathbf{x}}$, the covariance of the \mathbf{V}_{hL} in a particular rectangular coordinate system, was developed earlier in this section. In order to express the effect of these uncertainties in \mathbf{V}_{hL} in terms of target error, two steps must be performed. First, a set of coordinates \mathbf{M}_1 at the target planet for expressing the errors (\mathbf{M}_1 cannot exceed 3 dimensions) must be chosen. (A convenient set with desirable linearity properties is the T-R-S system defined previously.) The matrix U_1 , which maps $\dot{\mathbf{X}}$ to the desired \mathbf{M}_1 , is then determined.

$$\mathbf{M}_1 = U_1 \dot{\mathbf{X}} = \begin{pmatrix} \delta \mathbf{B} \cdot \mathbf{T} \\ \delta \mathbf{B} \cdot \mathbf{R} \\ \delta S \end{pmatrix} \quad (61)$$

The covariance of \mathbf{M}_1 is given by

$$\text{Covar} [\mathbf{M}_1] = \overline{\mathbf{M}_1 \mathbf{M}_1^T} = U_1 \Lambda_{\dot{\mathbf{X}}} U_1^T = \Lambda_{\mathbf{M}_1} \quad (62)$$

The determination of U_1 for the coordinates chosen follows the lines of Section II D. It is presumed that the K -matrix is given, where

$$K = \begin{bmatrix} \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \Phi_S} & \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \Theta_S} & \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial C_3} \\ \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \Phi_S} & \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \Theta_S} & \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial C_3} \\ \frac{\partial T_F}{\partial \Phi_S} & \frac{\partial T_F}{\partial \Theta_S} & \frac{\partial T_F}{\partial C_3} \end{bmatrix} \quad (45)$$

By postmultiplying K by

$$A = \begin{bmatrix} \frac{1}{V_{hL}} & 0 & 0 \\ 0 & \frac{-1}{V_{hL} \cos \Phi_S} & 0 \\ 0 & 0 & 2V_{hL} \end{bmatrix} \quad (63)$$

the F matrix is obtained.

$$F = KA \quad (47)$$

The F matrix must now be adjusted to transform into the T-R-S coordinates used for \mathbf{M}_1 . This transformation B is simply

$$B = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & -V_{hp} \end{bmatrix} \quad (64)$$

since $\delta S = -V_{hp} \delta T_L$. Thus our U_1 matrix is given by

$$U_1 = B(KA) = BF \quad (65)$$

Now the mapping given in Eq. (62) to obtain $\Lambda_{\mathbf{M}_1}$ is applied. Since all of the coordinates of \mathbf{M}_1 have the same dimensions (length squared), the one-sigma ellipsoid described by the quadratic form

$$\delta \mathbf{M}_1 \Lambda_{\mathbf{M}_1}^{-1} \delta \mathbf{M}_1^T = 1 \quad (66)$$

has physical significance. The three principal axes of this ellipsoid are the square roots of the 3-eigenvalues of the $\Lambda_{\mathbf{M}_1}$ matrix. The formulas used are standard and are not reproduced here. The projection of the three-dimensional ellipsoid on to the T-R plane is an ellipse. Its major and minor semiaxes and orientation of the major axis are calculated by the same procedure used in Section II D. It is often convenient to write $\Lambda_{\mathbf{M}_1}$ in an alternate form:

$$\Lambda_{\mathbf{M}_1} = \begin{bmatrix} \sigma_T^2 & \rho_{RT} \sigma_T \sigma_R & \rho_{TS} \sigma_T \sigma_S \\ \rho_{RT} \sigma_R \sigma_T & \sigma_R^2 & \rho_{RS} \sigma_R \sigma_S \\ \rho_{TS} \sigma_S \sigma_T & \rho_{RS} \sigma_S \sigma_R & \sigma_S^2 \end{bmatrix} \quad (67)$$

It can be seen that $\Lambda_{\mathbf{M}_1}$ is completely described by $\sigma_T, \sigma_R, \sigma_S, \rho_{TS}, \rho_{RS}, \rho_{TR}$, because of its symmetry.

III. EXPLANATION OF TRAJECTORY TABLES

Tabular listings of pertinent quantities of the heliocentric and planetocentric trajectories, differential corrections, guidance, and orbit determination parameters are given at 1-day launch date intervals and 2-day flight time intervals over the selected launch period. The launch period is selected to encompass the minimum energy transfer dates obtained from Ref. 7 and 8. A summary of the characteristics of these trajectories is given in Ref. 7.

Each trajectory begins with a header giving launch date, flight time (in days), and arrival date. All the heliocentric transfer trajectories are calculated assuming launch into the heliocentric orbit at 0 hours of the launch date and arrival at 0 hours of the arrival date. Later, however, when the launch-planet ascent trajectories are computed, the actual launch times during the launch day for each launch azimuth are given.

Each page lists four trajectories, each of which is divided into five basic print groups: HELIOCENTRIC CONIC, PLANETOCENTRIC CONIC, DIFFERENTIAL CORRECTIONS, MID-COURSE EXECUTION ACCURACY, and ORBIT DETERMINATION ACCURACY. Each quantity is assigned an identifying alphabetic symbol of no more than three letters. The definitions of the symbols and quantities they represent are given below. All pertinent quantities are referenced to the mean equinox and equator, or ecliptic, of *launch* date.

A. Heliocentric Conic Group

The HELIOCENTRIC CONIC group gives the characteristics of the heliocentric transfer ellipse, such as the position and velocity vectors at launch and arrival, some orbital elements, and other quantities of engineering interest. The printout array is as follows:

HELIOCENTRIC CONIC	DISTANCE
RL LAL LOL VL GAL AZL HCA SMA ECC INC VI	
RP LAP LOP VP GAP AZP TAL TAP RCA APO V2	
RC GL GP ZAL ZAP ETS ZAE ETE ZAC ETC LVI	

After the words HELIOCENTRIC CONIC, the heliocentric arc DISTANCE traveled by the spacecraft from launch to arrival is printed. The quantities are defined as follows (all angles are in deg; distances are in millions of km; speeds are in km/sec):

Line 1	
$RL, R_L = R_L $	the heliocentric radius of the launch planet at 0 hours of the launch date.
LAL, β_L	the celestial latitude of the launch planet at 0 hours of the launch date.
LOL, λ_L	the celestial longitude of the launch planet at 0 hours of the launch date.
$VL, V_L = V_L $	the heliocentric speed of the probe at 0 hours of the launch date.
GAL, Γ_L	the path angle of the probe at 0 hours of the launch date, i.e., the complement of the angle between the position and velocity vectors, R_L and V_L , defined by
	$\sin \Gamma_L = \frac{R_L \cdot V_L}{R_L V_L} \quad -\frac{\pi}{2} \leq \Gamma_L \leq \frac{\pi}{2}$
AZL, Σ_L	the azimuth angle of the probe at 0 hours of the launch date, i.e., the angle, measured in a plane perpendicular to the radius vector R_L , between the projection of the ecliptic north and the projection of the velocity vector V_L on the plane perpendicular to R_L , defined by
	$\cos \Sigma_L = \frac{V_L \cdot \Psi^1}{V_L \cos \Gamma_L} \quad 0 \leq \Sigma_L \leq 2\pi$
	$\sin \Sigma_L = \frac{(R_L \times V_L) \cdot \Psi^1}{ R_L \times V_L }$
	where $\Psi^1 = (K' - R_L^1 \sin \beta_L) \sec \beta_L$, where the superscript 1 denotes a unit vector.
HCA, ψ	the heliocentric central angle, or angle between the position vector R_L , of the launch planet at 0 hours of the launch date and the position vector R_p , of the target planet at 0 hours of the arrival date. This angle is defined by Eq. (3) and (4) and illustrated in Fig. 1.
SMA, a	the semimajor axis of the heliocentric transfer ellipse.

ECC, e the eccentricity of the heliocentric transfer ellipse.

INC, i the inclination of the heliocentric transfer ellipse.

V1, $V_1 = |V_1|$ the heliocentric speed of the launch planet at 0 hours of the launch date.

Line 2

RP, $R_p = |R_p|$ the heliocentric radius of the target planet at 0 hours of the arrival date.

LAP, β_p the celestial latitude of the target planet at 0 hours of the arrival date.

LOP, λ_p the celestial longitude of the target planet at 0 hours of the arrival date.

VP, $V_p = |V_p|$ the heliocentric speed of the probe at 0 hours of the arrival date.

GAP, Γ_p the path angle of the probe at 0 hours of the arrival date, defined the same as Γ_L except that R_p and V_p are substituted for R_L and V_L .

AZP, Σ_p the azimuth angle of the probe at 0 hours of the arrival date, defined the same as Σ_L except that R_p and V_p are substituted for R_L and V_L .

TAL, v_L the true anomaly of the probe in the heliocentric transfer ellipse at 0 hours of the launch date.

TAP, v_p the true anomaly of the probe in the heliocentric transfer ellipse at 0 hours of the arrival date.

RCA, $R_{c,1}$ the perihelion distance of the heliocentric transfer ellipse. This distance is printed even though the probe may not transit perihelion.

APO, R_A the aphelion distance of the heliocentric transfer ellipse. This distance is printed even though the probe may not transit aphelion.

V2, $V_2 = |V_2|$ the heliocentric speed of the target planet at 0 hours of the arrival date.

Line 3

RC, R_r the communication distance, or distance between the launch and target planets at 0 hours of the arrival date.

GL, γ_L the angle between the launch hyperbolic-excess velocity vector V_{hL} and its projection on the orbital plane of the launch planet, defined by

$$\sin \gamma_L = \frac{W_1 \cdot V_{hL}}{V_{hL}} \quad -\frac{\pi}{2} \leq \gamma_L \leq \frac{\pi}{2}$$

where W_1 is a unit normal to the launch planet's orbital plane. This angle is useful in describing the direction in which the probe leaves the launch planet.

GP, γ_p the angle between the incoming arrival hyperbolic-excess velocity vector V_{hp} , and its projection on the target planet's orbital plane, defined by

$$\sin \gamma_p = \frac{W_2 \cdot V_{hp}}{V_{hp}} \quad -\frac{\pi}{2} \leq \gamma_p \leq \frac{\pi}{2}$$

where W_2 is a unit normal to the target planet's orbital plane. This angle is useful in determining whether the probe is approaching from above or below the target planet. If γ_p is positive, the probe approaches from below -if negative, from above.

ZAL, ζ_L the angle between the outgoing launch asymptote (or hyperbolic-excess velocity vector) and the launch heliocentric radius vector R_L at launch time. This parameter is a good approximation to the launch-planet-probe-Sun angle as the probe leaves the launch planet. It is an important quantity in the design of attitude control systems which use the Sun and launch planet as optical references. The quantity ζ_L is defined as

$$\cos \zeta_L = \frac{V_{hL} \cdot R_L^i}{V_{hL}} \quad 0 \leq \zeta_L \leq \pi$$

The next six quantities, all angles, have the same general definition. They are important in the design of the near-target trajectory and are used in determining the aiming point for interplanetary flyby trajectories. Consider the target-centered geometry of Fig. 10.

In this diagram, the reference coordinate system is the same target R, S, T system defined in Section IIC. A unit

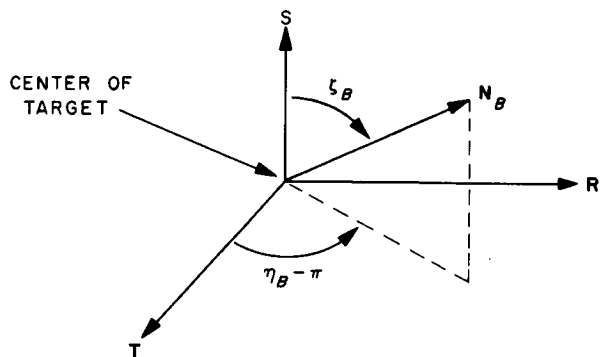


Fig. 10. Generalized geometry for aiming point angles

vector N_B (subscript B for body) is directed from the target center to another celestial body. The angular quantity ζ_B is the angle subtended at the target center between the incoming asymptote S and the target-celestial body line N_B . Thus

$$\cos \zeta_B = S \cdot N_B = \frac{V_{hp} \cdot N_B}{V_{hp}} \quad 0 \leq \zeta_B \leq \pi$$

since

$$S = \frac{V_{hp}}{V_{hp}}$$

The angle η_B is the supplement of the angle between the T direction and the projection of N_B on the $R - T$ plane, defined by

$$\sin \eta_B = \frac{-R \cdot N_B}{\sin \zeta_B} \quad 0 \leq \eta_B \leq 2\pi$$

$$\cos \eta_B = \frac{-T \cdot N_B}{\sin \zeta_B}$$

These quantities are computed for three celestial bodies: the Sun (ζ_s and η_s), the Earth (ζ_E and η_E), and the star Canopus (ζ_c and η_c). Thus,

ZAP, ζ_s (or ζ_p) This angle is useful in that it indicates the direction of the probe's approach to the target. If $\zeta_s < \pi/2$, the probe approaches from the target planet's dark side. If $\zeta_s > \pi/2$, it approaches from the light side. Thus the parameter is equivalent to the Sun-probe-target angle a few days before encounter.

ETS, η_s defined as above.

ZAE, ζ_E This angle is useful in locating the Earth as the probe approaches the target. The parameter is equivalent to the

Earth-probe-target angle a few days before encounter.

ETE, η_E defined as above.

ZAC, ζ_c the Canopus-probe-target angle a few days before encounter.

ETC, η_c defined as above.

LVI, Φ_I the declination (latitude) of the vertical impact point referenced to the target planet's equator. The vertical impact point is that point on the surface of the target planet that the incoming asymptote would intersect if it were to pass through the center of the planet. This quantity is defined by

$$\begin{aligned} \sin \Phi_I = & -(\cos \Theta_{sp} \cos \Phi_{sp} \cos \Theta_p \cos \Phi_p \\ & + \sin \Theta_{sp} \cos \Phi_{sp} \sin \Theta_p \cos \Phi_p \\ & + \sin \Phi_{sp} \sin \Phi_p) \end{aligned}$$

where Θ_p and Φ_p are the Earth equatorial right ascension and declination of the Mars north pole, and Θ_{sp} and Φ_{sp} are the right ascension and declination of the incoming asymptote with respect to the Earth's equator (Fig. 11).

⁷ Because of its importance in trajectory studies, the parameter LVI has been substituted in place of CLP, which was given in previous volumes.

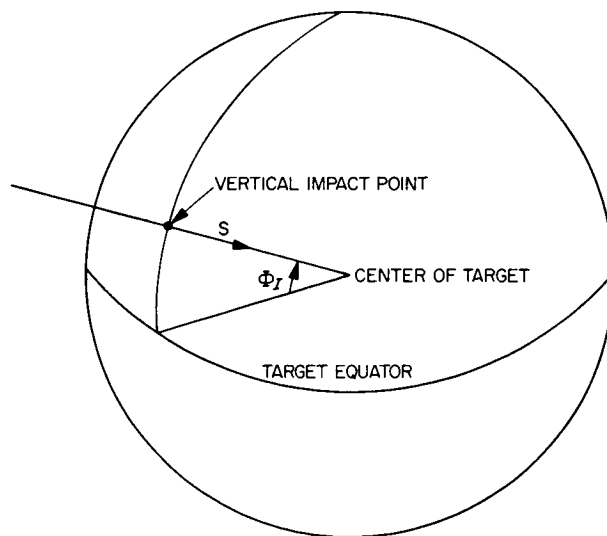


Fig. 11. Vertical impact point geometry

B. Planetocentric Conic Group

The second group, PLANETOCENTRIC CONIC, gives the characteristics of primarily the launch-planet ascent trajectories, but also includes the hyperbolic-excess vector at the target. Injection conditions are given for seven launch azimuths, assuming only short coast time parking orbits. As explained in Ref. 6, there may be two launch times per day for each launch azimuth, resulting in a short and long parking orbit. The injection conditions for each set are given in geocentric space-fixed spherical coordinates and, by assuming a 100-nm parking orbit altitude and typical boost vehicle trajectory characteristics, the longitude of injection is calculated, along with the latitude and longitude of ignition of final burn out of the parking orbit.

A special case may arise when the declination of the outgoing asymptote of the escape hyperbola is greater than the launch site latitude (Cape Kennedy). In this case, owing to geometrical restrictions, it may not be possible to fire in a symmetrical band of azimuths about due east, as explained in Ref. 6. This band of restricted azimuths may eliminate part or all of the selected launch azimuth band 50 to 110 deg. When this happens, only those trajectories with permissible azimuths are printed, in addition to the limiting azimuths, or the most northerly and southerly azimuths, that are possible.

The ascent trajectory profile is as shown in Fig. 12. Its characteristics are defined as follows:

- Φ_1 the arc subtended at Earth's center during ascent from launch into parking orbit.
- t_1 the time from launch to parking-orbit injection.
- Φ_2 the arc subtended at Earth's center during final burn out of the parking orbit, to injection.
- t_2 the time of final burn.
- k_ϕ the inverse parking orbital rate, equal to $1/\dot{\phi}_c$.
- v_1 the true anomaly in the hyperbolic orbit at injection.
- R_p the perifocal distance of the escape hyperbola, taken equal to the Earth-centered radius of the parking orbit.

ϕ_L the longitude of the launch site.

θ_L the latitude of the launch site.

The values of these quantities for all trajectories contained herein are:

- $\Phi_1 = 23 \text{ deg}$
- $t_1 = 700 \text{ sec}$
- $\Phi_2 = 25 \text{ deg}$
- $t_2 = 300 \text{ sec}$
- $k_\phi = 14.689 \text{ sec/deg}$
- $v_1 = 12 \text{ deg}$
- $R_p = 6560 \text{ km}$
- $\phi_L = 28.28 \text{ deg}$
- $\theta_L = 279.5 \text{ deg}$

An inherent assumption here is that these quantities are relatively invariant with injection energy. This is a reasonable assumption and will affect the injection coordinates only slightly.

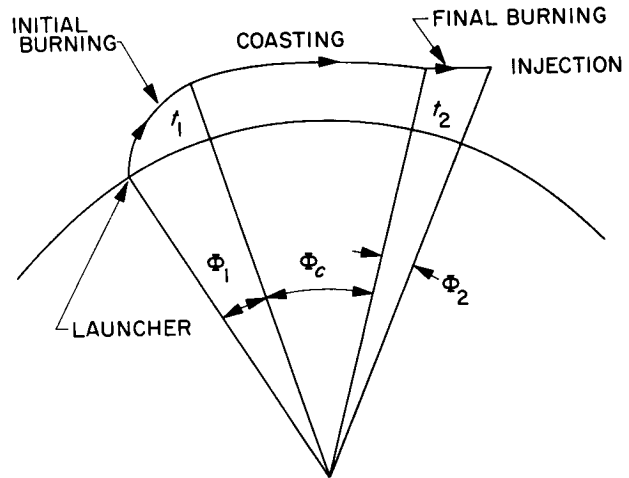


Fig. 12. Ascent trajectory profile

The print array for the PLANETOCENTRIC CONIC group is:

C3	VHL	DLA	RAL	RAD	VEL	PTH	VHP	DPA	RAP	ECC
LNCH AZMTH	LNCH TIME	LI TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG

The quantities are defined as follows (all angles are in deg; distances are in km; speeds are in km/sec, launch-injection (L-I)time and parking orbit coast time (PO CST TIM) are in sec; launch time and injection time are in hr, min, and sec, GMT):

Line 1

C3, C_3	the <i>vis viva</i> integral (Moulton), or twice the total energy per unit mass, expressed in km^2/sec^2 and defined by $C_3 = V_{hL}^2$.	L-I TIME, t_{LI}	the launch-to-injection time.
VHL, V_{hL}	the launch hyperbolic-excess speed.	INJ LAT, ϕ	the injection latitude (or declination Φ).
DLA, Φ_S	the declination of the outgoing asymptote of the escape hyperbola defined in Eq. (18).	INJ LONG, θ	the injection longitude, measured positive east of Greenwich, $0 \leq \theta \leq 2\pi$.
RAL, Θ_S	the right ascension of the outgoing asymptote of the escape hyperbola defined in Eq. (18).	INJ RT ASC, Θ	the injection right ascension.
RAD, $R = \mathbf{R} $	the launch-planet-centered injection radius.	INJ AZMTH, Σ	the injection azimuth, or angle between the projection of the velocity vector \mathbf{V} , on the local horizontal plane and the projection of true north on this plane, measured positive east of true north.
VEL, $V = \mathbf{V} $	the inertial injection speed.	INJ TIME, T_I	the injection time. The same comment applies to this quantity regarding launch date as applied to the launch time. However, both times must be consistent. For example, if launch time is on the previous day, injection time may fall on the launch date shown, or it may be on the following day.
PTH, Γ	the injection path angle defined by $\sin \Gamma = \frac{\mathbf{V} \cdot \mathbf{R}}{VR} \quad -\frac{\pi}{2} \leq \Gamma \leq \frac{\pi}{2}$	PO CST TIM, t_c	the coast time in the parking orbit, in sec.
VHP, V_{hp}	the hyperbolic-excess speed at the target.	INJ 2 LAT, ϕ_2	the latitude of the start of final burn out of the parking orbit.
DPA, Φ_{sp}	the declination of the incoming asymptote at the target. The reference coordinate system here is vernal equinox, Earth equatorial, mean of <i>launch</i> date	INJ 2 LONG, θ_2	the longitude of the start of final burn out of the parking orbit, $0 \leq \theta_2 \leq 2\pi$.
RAP, Θ_{sp}	the right ascension of the incoming asymptote at the target. Same reference coordinates as for Φ_{sp} .		
ECC, e	the eccentricity of the escape hyperbola.		

Line 2

LNCH AZMTH, Σ_L	the launch azimuth measured in a plane tangent to the surface of the launch planet at the launch site, positive east of true north.
LNCH TIME, T_L	the launch time. For the range of launch azimuths given herein, launch time may cross 0 hours,

The quantities $T_I, R, \Phi, \Theta, V, \Gamma, \Sigma$ form a consistent set of injection conditions; i.e., they are the time and the space-fixed spherical coordinates which can be used to initialize an integrating trajectory program.

C. Differential Corrections Group

The DIFFERENTIAL CORRECTIONS group is comprised of sixteen error coefficients relating variations in

injection energy C_3 , declination Φ_s , and right ascension Θ_s , of the outgoing asymptote of the escape hyperbola, the astronomical unit, and solar radiation pressure to variations in the miss components $\mathbf{B} \cdot \mathbf{T}$, $\mathbf{B} \cdot \mathbf{R}$, and the flight time. These coefficients are very useful in gaging the error sensitivity of an interplanetary trajectory. The printout array for this group is as follows:

DIFFERENTIAL CORRECTIONS

TDE	TRA	TC3	BAU
RDE	RRA	RC3	FAU
FDE	FRA	FC3	BSP
BDE	BRA	BC3	FSP

The symbols are defined as follows:

Line 1

TDE, $\frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \Phi_s}$ the partial derivative of the **T** component of the impact parameter **B**, with respect to the declination of the launch escape asymptote Φ_s , in megakilometers/deg.

TRA, $\frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \Theta_s}$ the partial derivative of the **T** component of the impact parameter **B**, with respect to the right ascension of the launch escape asymptote Θ_s , in megakilometers/deg.

TC3, $\frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial C_3}$ the partial derivative of the **T** component of the impact parameter **B**, with respect to the injection energy C_3 , in megakilometers/km²/sec².

BAU, $\frac{\partial \mathbf{B}}{\partial au}$ the partial derivative of the magnitude of the impact parameter **B**, with respect to the astronomical unit-to-kilometer conversion factor. This derivative is dimensionless and indicates the target miss caused by an uncertainty in the value of the astronomical unit.

Line 2

RDE, $\frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \Phi_s}$ the partial derivative of the **R** component of the impact parameter **B**, with respect to the declination of the launch escape asymptote Φ_s , in megakilometers/deg.

RRA, $\frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \Theta_s}$ the partial derivative of the **R** component of the impact parameter **B**, with respect to the right ascension of the launch

escape asymptote Θ_s , in megakilometers/deg.

RC3, $\frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial C_3}$ the partial derivative of the **R** component of the impact parameter **B**, with respect to the injection energy C_3 , in megakilometers/km²/sec².

FAU, $\frac{\partial T_F}{\partial au}$ the partial derivative of the flight time T_F , with respect to the astronomical unit-to-kilometer conversion factor. This derivative has dimensions of sec/km and indicates the error in flight time caused by an uncertainty in the value of the astronomical unit.

Line 3

FDE, $\frac{\partial T_F}{\partial \Phi_s}$ the partial derivative of flight time T_F , with respect to the declination of the launch escape asymptote Φ_s , in days/deg.

FRA, $\frac{\partial T_F}{\partial \Theta_s}$ the partial derivative of flight time T_F , with respect to the right ascension of the launch escape asymptote Θ_s , in days/deg.

FC3, $\frac{\partial T_F}{\partial C_3}$ the partial derivative of flight time T_F , with respect to the injection energy C_3 , in days/km²/sec².

BSP, ΔB_{sp} the target miss (in km) caused by solar radiation pressure acting on a 3500-kg spacecraft having an effective perfectly reflecting area of 22 square meters.

Line 4

BDE, $\frac{\partial \mathbf{B}}{\partial \Phi_s}$ the partial derivative of the magnitude of the impact parameter **B**, with respect to the declination of the launch escape asymptote Φ_s , in megakilometers/deg.

BRA, $\frac{\partial \mathbf{B}}{\partial \Theta_s}$ the partial derivative of the magnitude of the impact parameter **B**, with respect to the right ascension of the launch escape asymptote Θ_s , in megakilometers/deg.

BC3, $\frac{\partial \mathbf{B}}{\partial C_3}$ the partial derivative of the magnitude of the impact parameter **B**, with respect to the injection energy C_3 , in megakilometers/km²/sec².

FSP, $\Delta T_{F,sp}$ the flight time error (in sec) caused by solar radiation pressure acting on a 3500-kg spacecraft having an effective perfectly reflecting area of 22 square meters.

D. Mid-Course Execution Accuracy Group

The MID-COURSE EXECUTION ACCURACY group gives the parameters of the "one-sigma" three-dimensional ellipsoid of target errors, resulting from a spherically distributed mid-course guidance execution error with σ_v equal to 0.1 m/sec (see Eq. 49). It is assumed here that a single mid-course guidance maneuver is applied during the time the spacecraft is essentially traveling radially outward from the launch planet. This time is approximately from several hours to several days after launch and is a practical period in which to perform a mid-course maneuver. These quantities are quoted in the useful R, S, T coordinate system discussed above.

The print array for this group is:

MID-COURSE EXECUTION ACCURACY

SGT	SGR	SG3
RRT	RRF	RTF
SCB	R23	R13
SG1	SG2	THA

The quantities are defined as follows:

Line 1

- SGT, σ_T the standard deviation of position errors along the T axis, in km.
- SGR, σ_R the standard deviation of position errors along the R axis, in km.
- SG3, σ_3 the standard deviation of flight time errors, in sec.

Line 2

- RRT, ρ_{RT} the linear correlation coefficient relating position errors in the R and T directions (dimensionless).
- RRF, ρ_{RF} the linear correlation coefficient relating position errors in the R direction and flight-time errors (dimensionless).
- RTF, ρ_{TF} the linear correlation coefficient relating position errors in the T direction and flight-time errors (dimensionless).

Line 3

- SCB, σ_B the square root of the sum of the squares of σ_R and σ_T .

- R23, ρ_{23} the linear correlation coefficient of σ_2 and σ_3 ($= \sigma_F$). The same remarks apply to this number as to ρ_{13} , except that the σ_2 direction replaces the σ_1 direction.

- R13, ρ_{13} the linear correlation coefficient relating σ_1 and σ_3 ($= \sigma_F$). This number statistically relates position errors in the σ_1 direction to flight time errors. If $\rho_{13} = 1$, then a position error in the σ_1 direction will always be accompanied by a flight-time error which is linearly related to that position error; ρ_{13} is dimensionless.

Line 4

- SG1, σ_1 the semimajor axis of the error ellipse formed by projecting the three-dimensional error ellipsoid onto the T-R plane (Fig. 8), in km.
- SG2, σ_2 the semiminor axis of this error ellipse (Fig. 8), in km.
- THA, θ the angle between the T axis and the direction of the σ_1 axis, measured in the T-R plane as shown in Fig. 8, in deg.

E. Orbit Determination Accuracy Group

The ORBIT DETERMINATION ACCURACY group is comprised of 12 numbers which describe the uncertainty in target coordinates due to tracking errors described in Section IIE. The printout array for this group is as follows:

ORBIT DETERMINATION ACCURACY

ST	SR	SS
CRT	CRS	CST
LSA	MSA	SSA
EL1	EL2	ALF

The first two lines describe the covariance of M_1 by the method described in Section IIE (Eq. 67):

Line 1

- ST, σ_T the standard deviation of errors in the coordinate $B \cdot T$, in km.
- SR, σ_R the standard deviation of errors in the coordinate $B \cdot R$, in km.
- SS, σ_S the standard deviation of errors in S, in km.

Line 2

- CRT, ρ_{RT} the linear correlation coefficient relating errors in $\mathbf{B} \cdot \mathbf{R}$ to errors in $\mathbf{B} \cdot \mathbf{T}$, dimensionless.
- CRS, ρ_{RS} the linear correlation coefficient relating errors in $\mathbf{B} \cdot \mathbf{R}$ to errors in S , dimensionless.
- CST, ρ_{TS} the linear correlation coefficient relating errors in $\mathbf{B} \cdot \mathbf{T}$ to errors in S , dimensionless.

The third line contains the three semiaxes of the one-sigma position ellipsoid described by $\mathbf{M}_1 \Lambda^{-1} \mathbf{M}^T = 1$.

Line 3

- LSA, $\sqrt{\epsilon_{max}}$ the largest semiaxis of the position ellipsoid, in km. (ϵ_{max} is the largest eigenvalue of Λ_{M_1} , in km^2 .)
- MSA, $\sqrt{\epsilon_{mid}}$ the middle semiaxis of the position ellipsoid, in km. (ϵ_{mid} is the second-largest, or middle, eigenvalue of Λ_{M_1} , in km^2 .)
- SSA, $\sqrt{\epsilon_{min}}$ the smallest semiaxis of the position ellipsoid, in km. (ϵ_{min} is the smallest eigenvalue of Λ_{M_1} , in km^2 .)

The fourth line describes the projection of the above position ellipsoid on the \mathbf{T} - \mathbf{R} plane. This projection is an ellipse with major and minor semiaxes and orientation as described below:

Line 4

- EL1 the major semiaxis of the target error ellipsoid projected onto the \mathbf{T} - \mathbf{R} plane, in km.

EL2 the minor semiaxis of the target error ellipsoid projected onto the \mathbf{T} - \mathbf{R} plane, in km.

ALF, α the angle measured counterclockwise from the \mathbf{T} -axis to the major semiaxis direction, in deg ($0 \cong \alpha \cong 180$ deg).

The $\Lambda_{\dot{\mathbf{x}}}$ matrix used in generating the results for this report is

$$\Lambda_{\dot{\mathbf{x}}} = \begin{pmatrix} 25 \times 10^{-12} & 0 & 0 \\ 0 & 2.25 \times 10^{-12} & 0 \\ 0 & 0 & .0225 \times 10^{-12} \end{pmatrix} \left(\frac{\text{km}}{\text{sec}} \right)^2$$

In all cases $\text{LSA} \gg \text{SSA}$, so that the information contained in lines 3 and 4 of the printout is very useful in visualizing the error ellipsoid. The general shape of the ellipsoid is a thin elliptical "pancake." When $\text{MSA} \ll \text{LSA}$, the "pancake" degenerates to approach a pencil shape. By inspecting the "shadow" of the pancake or pencil shape on the \mathbf{T} - \mathbf{R} plane, its orientation may be visualized.

If it is desired to estimate the flight time T_F , this can easily be done by the relation

$$\sigma_F = \frac{1}{V_{hp}} \sigma_S$$

The correlation coefficients between T_F and $\mathbf{B} \cdot \mathbf{T}$ are those given by CST; those between T_F and $\mathbf{B} \cdot \mathbf{R}$ are given by CRS.

IV. CONSTANTS

Constants used in trajectory calculations at the Jet Propulsion Laboratory are given in Ref. 9. For purposes of ready reference those constants used in the calculations contained herein are given below.

Gravitational Constants

1. Sun

$$GM_S = 2.959122083 \times 10^{-4} \text{ au}^3/\text{day}^2$$

2. Earth

$$GM_E = 3.986032 \times 10^5 \text{ km}^3/\text{sec}^2$$

Astronomical Unit-to-Kilometer Conversion Factor

$$1 \text{ au} = 149.599 \times 10^6 \text{ km}$$

Earth's Rotation Rate

$$\omega_E = 4.1780742 \times 10^{-3} \text{ deg/sec}$$

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Earth-Mars Trajectories, 1971

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LAUNCH DATE APR 23 1971

FLIGHT TIME 178.00

ARRIVAL DATE OCT 18 1971

Heliocentric Conic: RL 150.41 LAL -.00 LOL 212.20 VL 32.451 GAL -2.14 AZL 92.65 HCA 148.21 SMA 188.49 ECC .19690 INC 2.6471 V1 29.624
 RP 208.32 LAP -1.39 LOP .44 VP 23.717 GAP 9.17 AZP 87.75 TAL 346.91 TAP 135.12 RCA 149.77 APO 223.21 V2 26.304
 RC 93.190 GL -24.78 GP 5.98 ZAL 118.09 ZAP 134.21 ETS 174.01 ZAE 170.73 ZAE 170.73 ETE 128.55 ZAC 106.37 ETC 277.20 LVI -22.86

Distance 441.736 Earth to Mars

Planetary Corrections: C3 12.765 VHL 3.573 DLA -33.10 RAL 348.79 RAD 8639.4 VEL 11.525 PTH 6.57 VHP 4.057 DPA -12.39 RAP 316.17 ECC 1.2101
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 44 36 2331.28 1.06 59.34 201.38 137.57 19 23 27 1331.3 19.19 43.02
 60.00 20 18 41 2080.83 7.30 42.75 207.34 129.75 20 33 22 1080.8 22.53 23.41
 70.00 22 45 23 1648.43 16.46 14.34 213.89 120.36 23 12 51 648.4 27.49 351.32
 72.04 0 6 1 1412.80 22.17 359.28 217.08 115.23 0 29 34 412.8 30.58 334.17
 72.04 0 6 1 1412.80 22.17 359.28 217.08 115.23 0 29 34 412.8 30.58 334.17
 72.04 0 6 1 1412.80 22.17 359.28 217.08 115.23 0 29 34 412.8 30.58 334.17
 110.00 3 48 45 5983.28 16.46 281.16 213.89 120.36 5 28 28 4983.3 27.49 258.14

Differential Corrections: TDE -.3904 TRA -.6318 TC3 -.0302 BAU .0981 SGT 1362.0 SGR 603.1 SG3 1025.3 ST 36.2 SR 17.9 SS 57.2
 RDE -.2173 RRA -.1421 RC3 .5741 FAU .13924 RRT .6552 RRF -.8261 RTF -.7707 CRT .9561 CR8 .6496 CST .8407
 PDE .9313 FRA 5.0391 FC3-9.4434 BSP 2374 SGB 1489.6 R23 -.3472 R13 -.8087 LSA 68.9 MSA 20.6 SBA 1.0
 BDE .4468 BRA .6476 BC3 .5749 FSP 1675 SGI 1424.4 SG2 435.6 THA 17.91 EL1 40.1 EL2 4.7 ALF 25.71

LAUNCH DATE APR 23 1971

FLIGHT TIME 180.00

ARRIVAL DATE OCT 20 1971

Heliocentric Conic: RL 150.41 LAL -.00 LOL 212.20 VL 32.429 GAL -2.12 AZL 92.69 HCA 149.48 SMA 186.11 ECC .19525 INC 2.6914 V1 29.624
 RP 208.49 LAP -1.37 LOP 1.69 VP 23.663 GAP 8.91 AZP 87.68 TAL 346.93 TAP 136.39 RCA 149.77 APO 222.45 V2 26.284
 RC 95.074 GL -25.31 GP 6.35 ZAL 117.99 ZAP 132.41 ETS 174.01 ZAE 169.65 ETE 133.69 ZAC 106.80 ETC 277.18 LVI -23.04

Distance 445.831 Earth to Mars

Planetary Corrections: C3 12.674 VHL 3.560 DLA -33.56 RAL 346.09 RAD 8639.4 VEL 11.522 PTH 6.57 VHP 3.960 DPA -12.20 RAP 315.55 ECC 1.2086
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 48 48 2318.34 1.71 58.80 201.84 137.55 19 27 26 1318.3 19.80 42.40
 60.00 20 24 47 2082.82 8.08 41.87 207.91 129.62 20 59 10 1062.8 23.22 22.38
 70.00 23 2 25 1597.74 18.18 11.41 215.03 119.43 23 29 3 397.7 28.68 347.86
 71.14 0 1 34 1428.72 22.50 .68 217.43 115.58 0 25 23 428.7 31.02 335.52
 71.14 0 1 34 1428.72 22.50 .68 217.43 115.58 0 25 23 428.7 31.02 335.52
 71.14 0 1 34 1428.72 22.50 .68 217.43 115.58 0 25 23 428.7 31.02 335.52
 110.00 4 5 47 5932.59 18.18 278.24 215.03 119.43 5 44 40 4932.6 28.68 254.68

Differential Corrections: TDE -.3918 TRA -.5955 TC3 -.1191 BAU .1043 SGT 1314.4 SGR 633.8 SG3 1078.8 ST 35.9 SR 17.8 SS 59.0
 RDE -.2135 RRA -.1625 RC3 .8041 FAU .14448 RRT .6497 RRF -.8551 RTF -.7392 CRT .9722 CR8 .6776 CST .8271
 PDE .9811 FRA 5.2815 FC3-9.8679 BSP 2353 SGB 1459.2 R23 -.4035 R13 -.7917 LSA 68.2 MSA 20.9 SBA 1.0
 BDE .4462 BRA .6173 BC3 .6157 FSP 1785 SGI 1385.8 SG2 456.9 THA 19.61 EL1 39.9 EL2 3.8 ALF 25.99

LAUNCH DATE APR 23 1971

FLIGHT TIME 182.00

ARRIVAL DATE OCT 22 1971

Heliocentric Conic: RL 150.41 LAL -.00 LOL 212.20 VL 32.408 GAL -2.11 AZL 92.74 HCA 150.70 SMA 185.77 ECC .19372 INC 2.7391 V1 29.624
 RP 208.67 LAP -1.34 LOP 2.93 VP 23.614 GAP 8.66 AZP 87.61 TAL 346.94 TAP 137.64 RCA 149.78 APO 221.75 V2 26.264
 RC 96.986 GL -25.84 GP 6.74 ZAL 117.90 ZAP 130.57 ETS 174.02 ZAE 168.42 ETE 137.97 ZAC 107.26 ETC 277.07 LVI -23.24

Distance 449.936 Earth to Mars

Planetary Corrections: C3 12.604 VHL 3.550 DLA -34.02 RAL 346.42 RAD 8639.4 VEL 11.519 PTH 6.57 VHP 3.868 DPA -11.98 RAP 314.87 ECC 1.2074
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 53 14 2305.44 2.36 58.26 202.36 137.53 19 31 39 1305.4 20.42 41.78
 60.00 20 31 16 2044.42 8.88 40.97 208.56 129.47 21 5 21 1044.4 23.91 21.32
 70.00 23 29 22 1517.86 20.78 6.68 216.72 117.74 23 54 40 517.9 30.36 342.23
 70.25 23 53 31 1444.20 22.83 2.05 217.83 115.94 24 17 35 444.2 31.47 336.85
 70.25 23 53 31 1444.20 22.83 2.05 217.83 115.94 24 17 35 444.2 31.47 336.85
 70.25 23 53 31 1444.20 22.83 2.05 217.83 115.94 24 17 35 444.2 31.47 336.85
 110.00 4 32 44 5852.72 20.78 273.51 216.72 117.74 6 10 17 4852.7 30.36 249.07

Differential Corrections: TDE -.3897 TRA -.5487 TC3 -.1908 BAU .1123 SGT 1243.9 SGR 689.0 SG3 1132.1 ST 35.0 SR 17.7 SS 60.3
 RDE -.2093 RRA -.1837 RC3 .6385 FAU .15050 RRT .6380 RRF -.8806 RTF -.7350 CRT .9850 CR8 .7030 CST .8098
 PDE 1.0166 FRA 5.5103 FC-10.3370 BSP 2243 SGB 1412.4 R23 -.4511 R13 -.7788 LSA 68.9 MSA 21.2 SBA .9
 BDE .4388 BRA .5787 BC3 .6664 FSP 1881 SGI 1327.3 SG2 482.8 THA 22.00 EL1 39.1 EL2 2.7 ALF 26.66

LAUNCH DATE APR 23 1971

FLIGHT TIME 184.00

ARRIVAL DATE OCT 24 1971

Heliocentric Conic: RL 150.41 LAL -.00 LOL 212.20 VL 32.389 GAL -2.10 AZL 92.79 HCA 151.95 SMA 185.45 ECC .19232 INC 2.7904 V1 29.624
 RP 208.85 LAP -1.31 LOP 4.18 VP 23.564 GAP 8.41 AZP 87.54 TAL 346.93 TAP 138.88 RCA 149.78 APO 221.12 V2 26.243
 RC 98.929 GL -26.40 GP 7.16 ZAL 117.82 ZAP 128.88 ETS 174.03 ZAE 167.06 ETE 141.90 ZAC 107.76 ETC 276.95 LVI -23.43

Distance 454.052 Earth to Mars

Planetary Corrections: C3 12.558 VHL 3.544 DLA -34.50 RAL 346.79 RAD 8639.3 VEL 11.517 PTH 6.58 VHP 3.782 DPA -11.74 RAP 314.15 ECC 1.2067
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 57 54 2292.57 3.01 57.72 202.94 137.50 19 36 7 1292.6 21.02 41.16
 60.00 20 38 12 2025.51 9.69 40.04 209.29 129.31 21 11 58 1025.5 24.62 20.22
 69.37 23 49 42 1459.37 23.15 3.41 218.30 116.32 24 14 2 459.4 31.91 338.16
 69.37 23 49 42 1459.37 23.15 3.41 218.30 116.32 24 14 2 459.4 31.91 338.16
 69.37 23 49 42 1459.37 23.15 3.41 218.30 116.32 24 14 2 459.4 31.91 338.16
 69.37 23 49 42 1459.37 23.15 3.41 218.30 116.32 24 14 2 459.4 31.91 338.16
 69.37 23 49 42 1459.37 23.15 3.41 218.30 116.32 24 14 2 459.4 31.91 338.16

Differential Corrections: TDE -.3796 TRA -.4995 TC3 -.2693 BAU .1221 SGT 1171.8 SGR 709.9 SG3 1186.0 ST 34.0 SR 17.7 SS 61.9
 RDE -.2055 RRA -.2067 RC3 .6754 FAU .15663 RRT .6129 RRF -.9028 RTF -.6605 CRT .9942 CR8 .7295 CST .7891
 PDE 1.0512 FRA 5.7440 FC-10.7977 BSP 2129 SGB 1370.1 R23 -.4969 R13 -.7658 LSA 69.6 MSA 21.5 SBA .9
 BDE .4316 BRA .5406 BC3 .7271 FSP 1975 SGI 1268.3 SG2 518.3 THA 24.78 EL1 38.3 EL2 1.7 ALF 27.41

LAUNCH DATE APR 23 1971 FLIGHT TIME 186.00 ARRIVAL DATE OCT 26 1971

HELIOCENTRIC CONIC DISTANCE 458.176 EARTH TO MARS
RL 150.41 LAL -.00 LOL 212.20 VL 32.372 GAL -2.09 AZL 92.85 HCA 153.19 SMA 185.16 ECC .19104 INC 2.8463 V1 29.624
RP 209.04 LAP -1.28 LOP 5.42 VP 23.316 GAP 8.17 AZP 87.46 TAL 346.92 TAP 140.10 RCA 149.79 APO 220.53 V2 26.221
RC 100.898 GL -26.98 GP 7.62 ZAL 117.74 ZAP 126.76 ETS 174.04 ZAE 165.60 ETE 144.41 ZAC 108.29 ETC 276.82 LVI -23.68
PLANETOCENTRIC CONIC
C3 12.536 VHL 3.541 DLA -34.99 RAL 347.18 RAD 6639.3 VEL 11.516 PTH 6.56 VHP 3.701 DPA -11.48 RAP 313.38 ECC 1.2063
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 2 53 2279.64 3.66 57.18 203.59 137.47 19 40 52 1279.6 21.63 40.53
60.00 20 45 40 2005.87 10.54 39.08 210.11 129.13 21 19 6 1005.9 25.34 19.06
68.49 23 46 9 1474.47 23.46 4.77 218.83 116.73 24 10 44 474.5 32.36 339.48
68.49 23 46 9 1474.47 23.46 4.77 218.83 116.73 24 10 44 474.5 32.36 339.48
68.49 23 46 9 1474.47 23.46 4.77 218.83 116.73 24 10 44 474.5 32.36 339.48
68.49 23 46 9 1474.47 23.46 4.77 218.83 116.73 24 10 44 474.5 32.36 339.48
68.49 23 46 9 1474.47 23.46 4.77 218.83 116.73 24 10 44 474.5 32.36 339.48
68.49 23 46 9 1474.47 23.46 4.77 218.83 116.73 24 10 44 474.5 32.36 339.48
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3734 TRA -.4465 TC3 -.3547 BAU .1336 SGT 1098.2 SGR 756.5 SG3 1239.7 ST 33.0 SR 17.8 SS 63.4
RDE -.2024 RRA -.2317 RC3 .7140 FAU .16255 RRT .5711 RRF -.9217 RTF -.6022 CRT .9984 CRS .7579 CST .7655
FDE 1.0914 FRA 5.9809 FC-11.2261 BSP 2015 SGB 1333.6 R23 -.5368 R13 -.7549 LSA 70.4 MSA 21.8 SSA .9
BDE .4247 BRA .5031 BC3 .7973 FSP 2073 SG1 1208.2 SG2 564.5 THA 28.13 EL1 37.5 EL2 .9 ALF 28.29

LAUNCH DATE APR 23 1971 FLIGHT TIME 188.00 ARRIVAL DATE OCT 28 1971

HELIOCENTRIC CONIC DISTANCE 462.309 EARTH TO MARS
RL 150.41 LAL -.00 LOL 212.20 VL 32.356 GAL -2.08 AZL 92.91 HCA 154.43 SMA 184.89 ECC .18988 INC 2.9067 V1 29.624
RP 209.24 LAP -1.25 LOP 6.66 VP 23.468 GAP 7.93 AZP 87.38 TAL 346.89 TAP 141.31 RCA 149.79 APO 220.00 V2 26.198
RC 102.893 GL -27.59 GP 8.12 ZAL 117.67 ZAP 124.80 ETS 174.07 ZAE 164.03 ETE 146.80 ZAC 108.87 ETC 276.68 LVI -23.93
PLANETOCENTRIC CONIC
C3 12.537 VHL 3.541 DLA -35.49 RAL 347.60 RAD 6639.3 VEL 11.516 PTH 6.56 VHP 3.627 DPA -11.19 RAP 312.56 ECC 1.2063
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 8 11 2266.53 4.31 56.63 204.31 137.43 19 45 58 1266.5 22.24 39.89
60.00 20 53 48 1985.21 11.42 38.05 211.04 128.92 21 26 53 985.2 26.09 17.82
67.61 23 42 51 1489.54 23.77 6.14 219.43 117.16 24 7 41 489.5 32.81 340.81
67.61 23 42 51 1489.54 23.77 6.14 219.43 117.16 24 7 41 489.5 32.81 340.81
67.61 23 42 51 1489.54 23.77 6.14 219.43 117.16 24 7 41 489.5 32.81 340.81
67.61 23 42 51 1489.54 23.77 6.14 219.43 117.16 24 7 41 489.5 32.81 340.81
67.61 23 42 51 1489.54 23.77 6.14 219.43 117.16 24 7 41 489.5 32.81 340.81
67.61 23 42 51 1489.54 23.77 6.14 219.43 117.16 24 7 41 489.5 32.81 340.81
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3629 TRA -.3862 TC3 -.4301 BAU .1462 SGT 1013.2 SGR 809.4 SG3 1292.2 ST 31.5 SR 17.8 SS 64.6
RDE -.1988 RRA -.2580 RC3 .7588 FAU .16942 RRT .5106 RRF -.9375 RTF -.5274 CRT .9956 CRS .7838 CST .7341
FDE 1.1148 FRA 6.1994 FC-11.6992 BSP 1867 SGB 1296.8 R23 -.5573 R13 -.7560 LSA 70.7 MSA 22.0 SSA .8
BDE .4138 BRA .4644 BC3 .8722 FSP 2149 SG1 1139.7 SG2 618.7 THA 33.04 EL1 36.2 EL2 1.5 ALF 29.45

LAUNCH DATE APR 23 1971 FLIGHT TIME 190.00 ARRIVAL DATE OCT 30 1971

HELIOCENTRIC CONIC DISTANCE 466.448 EARTH TO MARS
RL 150.41 LAL -.00 LOL 212.20 VL 32.341 GAL -2.08 AZL 92.97 HCA 155.66 SMA 184.65 ECC .18882 INC 2.9728 V1 29.624
RP 209.44 LAP -1.22 LOP 7.89 VP 23.422 GAP 7.70 AZP 87.29 TAL 346.84 TAP 142.50 RCA 149.78 APO 219.52 V2 26.174
RC 104.913 GL -28.22 GP 8.66 ZAL 117.60 ZAP 122.80 ETS 174.10 ZAE 162.37 ETE 148.75 ZAC 109.50 ETC 276.54 LVI -24.21
PLANETOCENTRIC CONIC
C3 12.564 VHL 3.545 DLA -36.01 RAL 348.07 RAD 6639.3 VEL 11.517 PTH 6.56 VHP 3.557 DPA -10.85 RAP 311.70 ECC 1.2068
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 13 53 2253.22 4.98 56.07 205.13 137.38 19 51 27 1253.2 22.86 39.23
60.00 21 2 43 1963.27 12.36 38.95 212.08 128.67 21 35 26 963.3 26.87 16.49
66.71 23 39 47 1504.74 24.08 7.52 220.11 117.62 24 4 52 504.7 33.28 342.17
66.71 23 39 47 1504.74 24.08 7.52 220.11 117.62 24 4 52 504.7 33.28 342.17
66.71 23 39 47 1504.74 24.08 7.52 220.11 117.62 24 4 52 504.7 33.28 342.17
66.71 23 39 47 1504.74 24.08 7.52 220.11 117.62 24 4 52 504.7 33.28 342.17
66.71 23 39 47 1504.74 24.08 7.52 220.11 117.62 24 4 52 504.7 33.28 342.17
66.71 23 39 47 1504.74 24.08 7.52 220.11 117.62 24 4 52 504.7 33.28 342.17
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3635 TRA -.3329 TC3 -.5472 BAU .1628 SGT 988.6 SGR 869.7 SG3 1345.4 ST 31.0 SR 18.2 SS 66.4
RDE -.1979 RRA -.2886 RC3 .7997 FAU .17440 RRT .4175 RRF -.9308 RTF -.4337 CRT .9837 CRS .8196 CST .7041
FDE 1.1775 FRA 6.4931 FC-12.0172 BSP 1851 SGB 1301.8 R23 -.5785 R13 -.7551 LSA 72.1 MSA 22.5 SSA .8
BDE .4139 BRA .4406 BC3 .9690 FSP 2263 SG1 1100.2 SG2 695.8 THA 37.75 EL1 35.9 EL2 2.8 ALF 30.19

LAUNCH DATE APR 23 1971 FLIGHT TIME 192.00 ARRIVAL DATE NOV 1 1971

HELIOCENTRIC CONIC DISTANCE 470.595 EARTH TO MARS
RL 150.41 LAL -.00 LOL 212.20 VL 32.328 GAL -2.08 AZL 93.05 HCA 156.90 SMA 184.43 ECC .18787 INC 3.0454 V1 29.624
RP 209.66 LAP -1.19 LOP 9.13 VP 23.376 GAP 7.47 AZP 87.20 TAL 346.78 TAP 143.68 RCA 149.78 APO 219.08 V2 26.150
RC 106.958 GL -28.90 GP 9.26 ZAL 117.53 ZAP 120.77 ETS 174.14 ZAE 160.82 ETE 150.35 ZAC 110.18 ETC 276.39 LVI -24.52
PLANETOCENTRIC CONIC
C3 12.618 VHL 3.552 DLA -36.56 RAL 348.58 RAD 6639.4 VEL 11.519 PTH 6.57 VHP 3.494 DPA -10.48 RAP 310.79 ECC 1.2077
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 20 4 2239.45 5.67 55.49 206.04 137.32 19 57 23 1239.5 23.50 38.54
60.00 21 12 40 1939.37 13.37 35.74 213.27 128.38 21 44 59 939.4 27.70 15.02
65.80 23 36 54 1520.27 24.39 8.95 220.88 118.12 24 2 14 520.3 33.75 343.56
65.80 23 36 54 1520.27 24.39 8.95 220.88 118.12 24 2 14 520.3 33.75 343.56
65.80 23 36 54 1520.27 24.39 8.95 220.88 118.12 24 2 14 520.3 33.75 343.56
65.80 23 36 54 1520.27 24.39 8.95 220.88 118.12 24 2 14 520.3 33.75 343.56
65.80 23 36 54 1520.27 24.39 8.95 220.88 118.12 24 2 14 520.3 33.75 343.56
65.80 23 36 54 1520.27 24.39 8.95 220.88 118.12 24 2 14 520.3 33.75 343.56
65.80 23 36 54 1520.27 24.39 8.95 220.88 118.12 24 2 14 520.3 33.75 343.56
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3565 TRA -.2688 TC3 -.6451 BAU .1797 SGT 912.1 SGR 936.8 SG3 1395.5 ST 29.9 SR 18.6 SS 67.6
RDE -.1982 RRA -.3206 RC3 .8478 FAU .18038 RRT .2967 RRF -.9615 RTF -.2941 CRT .9603 CRS .8426 CST .6626
FDE 1.2150 FRA 6.6761 FC-12.3763 BSP 1793 SGB 1307.5 R23 -.5289 R13 -.8031 LSA 72.7 MSA 22.9 SSA .7
BDE .4070 BRA .4184 BC3 1.0653 FSP 2347 SG1 1053.2 SG2 774.8 THA 47.57 EL1 34.9 EL2 4.4 ALF 31.39

LAUNCH DATE APR 23 1971

FLIGHT TIME 194.00

ARRIVAL DATE NOV 3 1971

HELIOCENTRIC CONIC
 RL 150.41 LAL -.00 LOL 212.20 VL 32.316 GAL -2.08 AZL 93.13 HCA 158.13 SMA 184.23 ECC .18701 INC 3.1256 V1 29.624
 RP 209.87 LAP -1.16 LOP 10.36 VP 23.331 GAP 7.25 AZP 87.10 TAL 346.71 TAP 144.84 RCA 149.78 APO 216.68 V2 26.124
 RC 109.029 GL -29.61 GP 9.90 ZAL 117.46 ZAP 118.71 ETS 174.19 ZAE 158.78 ETE 151.85 ZAC 110.91 ETC 276.23 LVI -24.87

PLANETOCENTRIC CONIC
 C3 12.701 VHL 3.564 DLA -37.13 RAL 349.14 RAD 6639.4 VEL 11.523 PTH 6.57 VHP 3.436 DPA -10.05 RAP 309.85 ECC 1.2090
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 26 48 2223.13 6.39 54.88 207.06 137.25 20 3 53 1225.1 24.16 37.81
 60.00 21 23 56 1912.82 14.49 34.39 214.63 128.03 21 55 49 912.8 28.61 13.36
 64.86 23 34 12 1536.23 24.69 10.42 221.74 118.66 23 59 48 536.2 34.25 345.02
 64.86 23 34 12 1536.23 24.69 10.42 221.74 118.66 23 59 48 536.2 34.25 345.02
 64.86 23 34 12 1536.23 24.69 10.42 221.74 118.66 23 59 48 536.2 34.25 345.02
 64.86 23 34 12 1536.23 24.69 10.42 221.74 118.66 23 59 48 536.2 34.25 345.02
 64.86 23 34 12 1536.23 24.69 10.42 221.74 118.66 23 59 48 536.2 34.25 345.02

DIFFERENTIAL CORRECTIONS
 TDE -.3535 TRA -.2038 TC3 -.7579 BAU .1993
 RDE -.1964 RRA -.3564 RC3 .8963 FAU .18548
 FDE 1.2719 FRA 6.9029 FC-12.6425 BSP 1809
 BDE .4044 BRA .4106 BC3 1.1737 FSP 2440

MID-COURSE EXECUTION ACCURACY
 SGT 885.3 SGR 1012.1 SG3 1443.6
 RRT .1449 RRF -.9702 RTF -.1363
 SGB 1344.7 R23 -.3312 R13 -.9120
 SG1 1039.7 SG2 852.7 THA 66.41

ORBIT DETERMINATION ACCURACY
 ST 29.1 SR 19.1 SS 69.1
 CRT .9237 CRS .8700 CST .6173
 LSA 73.8 MSA 23.4 SSA .7
 EL1 34.3 EL2 6.2 ALF 32.50

LAUNCH DATE APR 23 1971

FLIGHT TIME 196.00

ARRIVAL DATE NOV 5 1971

HELIOCENTRIC CONIC
 RL 150.41 LAL -.00 LOL 212.20 VL 32.305 GAL -2.09 AZL 93.21 HCA 159.36 SMA 184.05 ECC .18626 INC 3.2147 V1 29.624
 RP 210.10 LAP -1.13 LOP 11.59 VP 23.287 GAP 7.02 AZP 86.99 TAL 346.62 TAP 145.98 RCA 149.77 APO 218.33 V2 26.098
 RC 111.121 GL -30.38 GP 10.62 ZAL 117.38 ZAP 116.62 ETS 174.26 ZAE 156.88 ETE 152.69 ZAC 111.71 ETC 276.06 LVI -25.26

PLANETOCENTRIC CONIC
 C3 12.816 VHL 3.580 DLA -37.75 RAL 349.76 RAD 6639.5 VEL 11.528 PTH 6.57 VHP 3.385 DPA -9.57 RAP 308.86 ECC 1.2109
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 34 13 2209.99 7.14 54.24 208.22 137.17 20 11 3 1210.0 24.85 37.03
 60.00 21 37 3 1882.35 15.76 32.82 216.22 127.58 22 8 25 882.4 29.62 11.42
 63.88 23 31 39 1552.79 25.00 11.96 222.71 119.25 23 57 32 552.8 34.76 346.54
 63.88 23 31 39 1552.79 25.00 11.96 222.71 119.25 23 57 32 552.8 34.76 346.54
 63.88 23 31 39 1552.79 25.00 11.96 222.71 119.25 23 57 32 552.8 34.76 346.54
 63.88 23 31 39 1552.79 25.00 11.96 222.71 119.25 23 57 32 552.8 34.76 346.54
 63.88 23 31 39 1552.79 25.00 11.96 222.71 119.25 23 57 32 552.8 34.76 346.54

DIFFERENTIAL CORRECTIONS
 TDE -.3491 TRA -.1343 TC3 -.8688 BAU .2204
 RDE -.1972 RRA -.3955 RC3 .9487 FAU .19050
 FDE 1.3241 FRA 7.1164 FC-12.8683 BSP 1867
 BDE .4009 BRA .4177 BC3 1.2864 FSP 2520

MID-COURSE EXECUTION ACCURACY
 SGT 879.2 SGR 1096.3 SG3 1488.6
 RRT -.0297 RRF -.9772 RTF .0417
 SGB 1405.3 R23 .0391 R13 -.9765
 SG1 1097.1 SG2 878.1 THA 93.80

ORBIT DETERMINATION ACCURACY
 ST 28.2 SR 19.9 SS 70.5
 CRT .8716 CRS .8944 CST .5623
 LSA 74.8 MSA 23.8 SSA .6
 EL1 33.5 EL2 8.2 ALF 33.78

LAUNCH DATE APR 23 1971

FLIGHT TIME 198.00

ARRIVAL DATE NOV 7 1971

HELIOCENTRIC CONIC
 RL 150.41 LAL -.00 LOL 212.20 VL 32.295 GAL -2.10 AZL 93.31 HCA 160.59 SMA 183.89 ECC .18559 INC 3.3142 V1 29.624
 RP 210.33 LAP -1.10 LOP 12.82 VP 23.243 GAP 6.81 AZP 86.87 TAL 346.52 TAP 147.11 RCA 149.76 APO 218.02 V2 26.071
 RC 113.239 GL -31.21 GP 11.41 ZAL 117.30 ZAP 114.51 ETS 174.35 ZAE 154.89 ETE 153.51 ZAC 112.59 ETC 275.89 LVI -25.71

PLANETOCENTRIC CONIC
 C3 12.968 VHL 3.601 DLA -38.40 RAL 350.44 RAD 6639.5 VEL 11.534 PTH 6.58 VHP 3.339 DPA -9.01 RAP 307.83 ECC 1.2134
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 42 28 2193.78 7.95 53.55 209.53 137.07 20 19 2 1193.8 25.88 36.19
 60.00 21 52 50 1845.79 17.27 30.91 218.11 127.00 22 23 35 845.8 30.79 9.03
 62.86 23 29 16 1570.11 25.31 13.58 223.80 119.90 23 55 26 570.1 35.30 348.16
 62.86 23 29 16 1570.11 25.31 13.58 223.80 119.90 23 55 26 570.1 35.30 348.16
 62.86 23 29 16 1570.11 25.31 13.58 223.80 119.90 23 55 26 570.1 35.30 348.16
 62.86 23 29 16 1570.11 25.31 13.58 223.80 119.90 23 55 26 570.1 35.30 348.16
 62.86 23 29 16 1570.11 25.31 13.58 223.80 119.90 23 55 26 570.1 35.30 348.16

DIFFERENTIAL CORRECTIONS
 TDE -.3453 TRA -.0612 TC3 -.9835 BAU .2438
 RDE -.1993 RRA -.4387 RC3 1.0037 FAU .19300
 FDE 1.3808 FRA 7.3154 FC-13.0184 BSP 1993
 BDE .3987 BRA .4429 BC3 1.4032 FSP 2598

MID-COURSE EXECUTION ACCURACY
 SGT 905.0 SGR 1190.1 SG3 1529.4
 RRT -.2109 RRF -.9827 RTF .1241
 SGB 1495.1 R23 .2105 R13 -.9601
 SG1 1221.8 SG2 861.6 THA 108.63

ORBIT DETERMINATION ACCURACY
 ST 27.6 SR 20.8 SS 71.8
 CRT .8029 CRS .9163 CST .4985
 LSA 75.8 MSA 24.4 SSA .6
 EL1 32.9 EL2 10.4 ALF 35.17

LAUNCH DATE APR 23 1971

FLIGHT TIME 200.00

ARRIVAL DATE NOV 9 1971

HELIOCENTRIC CONIC
 RL 150.41 LAL -.00 LOL 212.20 VL 32.287 GAL -2.11 AZL 93.43 HCA 161.81 SMA 183.75 ECC .18500 INC 3.4264 V1 29.624
 RP 210.57 LAP -1.07 LOP 14.04 VP 23.200 GAP 6.60 AZP 86.74 TAL 346.41 TAP 148.22 RCA 149.75 APO 217.74 V2 26.044
 RC 115.380 GL -32.11 GP 12.29 ZAL 117.19 ZAP 112.38 ETS 174.45 ZAE 152.84 ETE 154.13 ZAC 113.56 ETC 275.72 LVI -26.23

PLANETOCENTRIC CONIC
 C3 13.161 VHL 3.628 DLA -39.12 RAL 351.20 RAD 6639.6 VEL 11.542 PTH 6.59 VHP 3.300 DPA -8.36 RAP 306.78 ECC 1.2166
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 51 46 2178.10 8.83 52.79 211.03 136.94 20 28 3 1176.1 26.38 35.26
 60.00 22 13 4 1798.45 19.19 28.38 220.46 126.14 22 43 2 798.4 32.23 5.84
 61.77 23 27 1 1588.39 25.62 15.30 225.04 120.63 23 53 30 588.4 35.88 349.88
 61.77 23 27 1 1588.39 25.62 15.30 225.04 120.63 23 53 30 588.4 35.88 349.88
 61.77 23 27 1 1588.39 25.62 15.30 225.04 120.63 23 53 30 588.4 35.88 349.88
 61.77 23 27 1 1588.39 25.62 15.30 225.04 120.63 23 53 30 588.4 35.88 349.88
 61.77 23 27 1 1588.39 25.62 15.30 225.04 120.63 23 53 30 588.4 35.88 349.88

DIFFERENTIAL CORRECTIONS
 TDE -.3419 TRA .0158 TC3-1.0983 BAU .2687
 RDE -.2032 RRA -.4868 RC3 1.0611 FAU .19887
 FDE 1.4441 FRA 7.5008 FC-13.0822 BSP 2184
 BDE .3978 BRA .4871 BC3 1.5272 FSP 2670

MID-COURSE EXECUTION ACCURACY
 SGT 963.2 SGR 1295.3 SG3 1565.8
 RRT -.3781 RRF -.9871 RTF .3908
 SGB 1614.1 R23 .2590 R13 -.9527
 SG1 1380.3 SG2 836.7 THA 115.75

ORBIT DETERMINATION ACCURACY
 ST 27.0 SR 21.9 SS 73.1
 CRT .7175 CRS .9355 CST .4263
 LSA 77.0 MSA 24.9 SSA .6
 EL1 32.4 EL2 12.7 ALF 36.77

LAUNCH DATE APR 23 1971 FLIGHT TIME 202.00 ARRIVAL DATE NOV 11 1971

Heliocentric Conic: RL 150.41 LAL -.00 LOL 212.20 VL 32.279 GAL -2.13 AZL 93.55 HCA 163.03 SMA 183.62 ECC .18451 INC 3.5540 V1 29.624
 RP 210.82 LAP -1.04 LOP 15.26 VP 23.158 GAP 6.39 AZP 86.60 TAL 346.28 TAP 149.31 RCA 149.74 APO 217.50 V2 26.015
 RC 117.845 GL -33.11 GP 13.27 ZAL 117.07 ZAP 110.23 ETS 174.58 ZAE 150.72 ETE 154.57 ZAC 114.63 ETC 275.54 LVI -26.83

Planeto-centric Conic: C3 13.403 VHL 3.661 DLA -39.90 RAL 352.04 RAD 6639.8 VEL 11.553 PTH 6.60 VHP 3.268 DPA -7.61 RAP 305.68 ECC 1.2206
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 2 24 2156.46 9.61 51.95 212.77 136.79 20 38 21 1156.5 27.25 34.21
 60.00 22 43 38 1724.30 22.12 24.29 223.72 124.59 23 12 22 724.3 34.30 .64
 60.60 23 24 56 1607.85 25.94 17.15 226.44 121.44 23 51 44 607.9 36.49 351.75
 60.60 23 24 56 1607.85 25.94 17.15 226.44 121.44 23 51 44 607.9 36.49 351.75
 60.60 23 24 56 1607.85 25.94 17.15 226.44 121.44 23 51 44 607.9 36.49 351.75
 60.60 23 24 56 1607.85 25.94 17.15 226.44 121.44 23 51 44 607.9 36.49 351.75

Differential Corrections: TDE -.3383 TRA .0972 TC3-1.2088 BAU .2956 RDE -.2089 RRA -.5400 RC3 1.1227 FAU .20235 FDE 1.5095 FRA 7.6572 FC-13.0696 BSP 2432 BDE .3976 BRA .5487 BC3 1.6497 FSP 2726
 Mid-course Execution Accuracy: SGT 1050.2 SGR 1412.8 SG3 1595.8 RRT -.5209 RRF -.9904 RTF .5319 SGB 1760.4 R23 .2661 R13 -.9542 SG1 1562.8 SG2 810.5 THA 119.99
 Orbit Determination Accuracy: ST 26.7 SR 23.3 SS 74.2 CRT .6153 CR8 .9515 CST .3439 LSA 78.2 MSA 25.5 88A .5 EL1 31.9 EL2 15.3 ALF 38.75

LAUNCH DATE APR 23 1971 FLIGHT TIME 204.00 ARRIVAL DATE NOV 13 1971

Heliocentric Conic: RL 150.41 LAL -.00 LOL 212.20 VL 32.272 GAL -2.14 AZL 93.70 HCA 164.25 SMA 183.51 ECC .18409 INC 3.7003 V1 29.624
 RP 211.07 LAP -1.00 LOP 16.48 VP 23.116 GAP 6.18 AZP 86.44 TAL 346.14 TAP 150.39 RCA 149.73 APO 217.29 V2 25.986
 RC 119.734 GL -34.21 GP 14.37 ZAL 116.91 ZAP 108.07 ETS 174.74 ZAE 148.52 ETE 154.85 ZAC 115.82 ETC 275.37 LVI -27.54

Planeto-centric Conic: C3 13.706 VHL 3.702 DLA -40.76 RAL 352.99 RAD 6639.9 VEL 11.566 PTH 6.61 VHP 3.244 DPA -6.73 RAP 304.56 ECC 1.2256
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 14 46 2134.15 10.91 50.98 214.81 136.60 20 50 20 1134.1 28.24 32.99
 59.33 23 23 1 1628.75 26.26 19.15 228.05 122.36 23 50 9 628.7 37.15 353.79
 59.33 23 23 1 1628.75 26.26 19.15 228.05 122.36 23 50 9 628.7 37.15 353.79
 59.33 23 23 1 1628.75 26.26 19.15 228.05 122.36 23 50 9 628.7 37.15 353.79
 59.33 23 23 1 1628.75 26.26 19.15 228.05 122.36 23 50 9 628.7 37.15 353.79
 59.33 23 23 1 1628.75 26.26 19.15 228.05 122.36 23 50 9 628.7 37.15 353.79

Differential Corrections: TDE -.3351 TRA .1827 TC3-1.3165 BAU .3246 RDE -.2176 RRA -.6000 RC3 1.1853 FAU .20472 FDE 1.5858 FRA 7.7897 FC-12.9308 BSP 2744 BDE .3995 BRA .6272 BC3 1.7715 FSP 2775
 Mid-course Execution Accuracy: SGT 1165.5 SGR 1544.9 SG3 1618.7 RRT -.6323 RRF -.9930 RTF .6412 SGB 1935.2 R23 .2587 R13 -.9589 SG1 1766.8 SG2 789.5 THA 122.85
 Orbit Determination Accuracy: ST 26.6 SR 25.0 SS 75.3 CRT .5002 CR8 .9647 CST .2554 LSA 79.5 MSA 26.1 88A .5 EL1 31.6 EL2 18.2 ALF 41.47

LAUNCH DATE APR 23 1971 FLIGHT TIME 206.00 ARRIVAL DATE NOV 15 1971

Heliocentric Conic: RL 150.41 LAL -.00 LOL 212.20 VL 32.267 GAL -2.16 AZL 93.87 HCA 165.46 SMA 183.42 ECC .18374 INC 3.8699 V1 29.624
 RP 211.33 LAP -.97 LOP 17.70 VP 23.074 GAP 5.98 AZP 86.25 TAL 345.98 TAP 151.44 RCA 149.72 APO 217.12 V2 25.957
 RC 121.945 GL -35.44 GP 15.63 ZAL 116.71 ZAP 105.91 ETS 174.93 ZAE 146.25 ETE 154.96 ZAC 117.16 ETC 275.20 LVI -28.38

Planeto-centric Conic: C3 14.084 VHL 3.753 DLA -41.72 RAL 354.07 RAD 6640.1 VEL 11.582 PTH 6.63 VHP 3.228 DPA -5.71 RAP 303.41 ECC 1.2318
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 29 27 2108.09 12.20 49.85 217.24 136.35 21 4 35 1108.1 29.37 31.55
 57.95 23 21 19 1651.34 26.59 21.33 229.91 123.42 23 48 50 651.3 37.86 356.05
 57.95 23 21 19 1651.34 26.59 21.33 229.91 123.42 23 48 50 651.3 37.86 356.05
 57.95 23 21 19 1651.34 26.59 21.33 229.91 123.42 23 48 50 651.3 37.86 356.05
 57.95 23 21 19 1651.34 26.59 21.33 229.91 123.42 23 48 50 651.3 37.86 356.05
 57.95 23 21 19 1651.34 26.59 21.33 229.91 123.42 23 48 50 651.3 37.86 356.05

Differential Corrections: TDE -.3327 TRA .2717 TC3-1.4188 BAU .3561 RDE -.2297 RRA -.6877 RC3 1.2509 FAU .20627 FDE 1.6884 FRA 7.8855 FC-12.6797 BSP 3105 BDE .4043 BRA .7209 BC3 1.8915 FSP 2808
 Mid-course Execution Accuracy: SGT 1304.2 SGR 1694.0 SG3 1633.0 RRT -.7155 RRF -.9950 RTF .124 SGB 2137.9 R23 .2456 R13 -.9643 SG1 1992.6 SG2 774.6 THA 124.86
 Orbit Determination Accuracy: ST 26.8 SR 27.0 SS 76.4 CRT .3766 CR8 .9752 CST .1629 LSA 81.0 MSA 26.8 88A .4 EL1 31.6 EL2 21.2 ALF 45.64

LAUNCH DATE APR 23 1971 FLIGHT TIME 208.00 ARRIVAL DATE NOV 17 1971

Heliocentric Conic: RL 150.41 LAL -.00 LOL 212.20 VL 32.262 GAL -2.19 AZL 94.07 HCA 166.67 SMA 183.34 ECC .18347 INC 4.0690 V1 29.624
 RP 211.60 LAP -.94 LOP 18.91 VP 23.033 GAP 5.78 AZP 86.04 TAL 345.81 TAP 152.48 RCA 149.70 APO 216.97 V2 25.928
 RC 124.177 GL -36.84 GP 17.07 ZAL 116.45 ZAP 103.75 ETS 175.16 ZAE 145.90 ETE 154.92 ZAC 118.68 ETC 275.03 LVI -29.38

Planeto-centric Conic: C3 14.557 VHL 3.815 DLA -42.81 RAL 355.32 RAD 6640.3 VEL 11.602 PTH 6.64 VHP 3.222 DPA -4.49 RAP 302.22 ECC 1.2396
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 47 25 2078.56 13.75 48.45 220.22 136.01 21 22 2 1078.6 30.71 29.74
 56.42 23 19 52 1676.13 26.91 23.75 232.07 124.64 23 47 48 676.1 38.64 358.57
 56.42 23 19 52 1676.13 26.91 23.75 232.07 124.64 23 47 48 676.1 38.64 358.57
 56.42 23 19 52 1676.13 26.91 23.75 232.07 124.64 23 47 48 676.1 38.64 358.57
 56.42 23 19 52 1676.13 26.91 23.75 232.07 124.64 23 47 48 676.1 38.64 358.57
 56.42 23 19 52 1676.13 26.91 23.75 232.07 124.64 23 47 48 676.1 38.64 358.57

Differential Corrections: TDE -.3308 TRA .3648 TC3-1.5117 BAU .3907 RDE -.2463 RRA -.7438 RC3 1.3207 FAU .20711 FDE 1.7578 FRA 7.9289 FC-12.3169 BSP 3509 BDE .4124 BRA .8285 BC3 2.0073 FSP 2815
 Mid-course Execution Accuracy: SGT 1461.2 SGR 1862.9 SG3 1836.3 RRT -.7773 RRF -.9965 RTF .7823 SGB 2367.6 R23 .2296 R13 -.9697 SG1 2240.9 SG2 764.3 THA 126.24
 Orbit Determination Accuracy: ST 27.3 SR 29.4 SS 77.2 CRT .2501 CR8 .9832 CST .0696 LSA 82.5 MSA 27.6 88A .4 EL1 31.9 EL2 24.4 ALF 53.34

LAUNCH DATE APR 23 1971

FLIGHT TIME 210.00

ARRIVAL DATE NOV 19 1971

HELIOCENTRIC CONIC

DISTANCE 508.116

EARTH TO MARS

RL 150.41 LAL -.00 LOL 212.20 VL 32.257 GAL -2.21 AZL 94.31 HCA 167.88 SMA 183.27 ECC .18327 INC 4.3067 V1 29.624
RP 211.87 LAP -.90 LOP 20.12 VP 22.893 GAP 5.58 AZP 85.79 TAL 345.63 TAP 153.52 RCA 149.68 APO 216.86 V2 25.896
RC 126.431 GL -38.44 GP 18.74 ZAL 116.11 ZAP 101.60 ETS 175.44 ZAE 141.45 ETE 154.70 ZAC 120.42 ETC 274.87 LVI -30.56

PLANETOCENTRIC CONIC

C3 15.159 VHL 3.893 DLA -44.05 RAL 356.77 RAD 6640.6 VEL 11.628 PTH 6.67 VHP 3.228 DPA -3.04 RAP 301.01 ECC 1.2499
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 10 21 2036.32 15.71 46.65 224.00 135.51 21 44 17 1036.3 32.39 27.37
54.71 23 18 51 1703.44 27.23 26.45 234.62 126.07 23 47 14 703.4 39.48 1.43
54.71 23 18 51 1703.44 27.23 26.45 234.62 126.07 23 47 14 703.4 39.48 1.43
54.71 23 18 51 1703.44 27.23 26.45 234.62 126.07 23 47 14 703.4 39.48 1.43
54.71 23 18 51 1703.44 27.23 26.45 234.62 126.07 23 47 14 703.4 39.48 1.43
54.71 23 18 51 1703.44 27.23 26.45 234.62 126.07 23 47 14 703.4 39.48 1.43

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3282 TRA .4633 TC3-1.5894 BAU .4279 SGT 1632.4 SGR 2055.2 SG3 1626.1 ST 28.1 SR 32.4 SS 77.9
RDE -.2704 RRA -.8309 RC3 1.3900 FAU .20635 RRT -.8230 RRF -.9976 RTF .8266 CRT .1258 CRS .9892 CST -.0208
FDE 1.8680 FRA 7.9132 FC-11.7843 BSP 3967 SGB 2624.8 R23 .2125 R13 -.9747 LSA 84.3 MSA 28.4 SSA .3
BDE .4253 BRA .9514 BC3 2.1115 FSP 2000 SGI 2512.6 SG2 758.5 THA 127.12 EL1 33.1 EL2 27.3 ALF 69.35

LAUNCH DATE APR 23 1971

FLIGHT TIME 212.00

ARRIVAL DATE NOV 21 1971

HELIOCENTRIC CONIC

DISTANCE 512.298

EARTH TO MARS

RL 150.41 LAL -.00 LOL 212.20 VL 32.254 GAL -2.24 AZL 94.80 HCA 169.09 SMA 183.22 ECC .18313 INC 4.5957 V1 29.624
RP 212.14 LAP -.87 LOP 21.32 VP 22.952 GAP 5.39 AZP 85.49 TAL 345.44 TAP 154.53 RCA 149.68 APO 216.77 V2 25.864
RC 126.706 GL -40.30 GP 20.70 ZAL 115.68 ZAP 99.47 ETS 175.76 ZAE 138.89 ETE 154.31 ZAC 122.46 ETC 274.73 LVI -32.04

PLANETOCENTRIC CONIC

C3 15.938 VHL 3.992 DLA -45.47 RAL 358.51 RAD 6641.0 VEL 11.661 PTH 6.70 VHP 3.248 DPA -1.29 RAP 299.76 ECC 1.2623
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 41 57 1979.83 18.44 44.04 229.08 134.67 22 14 57 979.8 34.65 23.87
52.78 23 18 24 1734.05 27.51 29.50 237.68 127.76 23 47 18 734.0 40.40 4.72
52.78 23 18 24 1734.05 27.51 29.50 237.68 127.76 23 47 18 734.0 40.40 4.72
52.78 23 18 24 1734.05 27.51 29.50 237.68 127.76 23 47 18 734.0 40.40 4.72
52.78 23 18 24 1734.05 27.51 29.50 237.68 127.76 23 47 18 734.0 40.40 4.72
52.78 23 18 24 1734.05 27.51 29.50 237.68 127.76 23 47 18 734.0 40.40 4.72

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3233 TRA .5679 TC3-1.6451 BAU .4680 SGT 1814.3 SGR 2278.9 SG3 1601.4 ST 29.1 SR 36.2 SS 78.9
RDE -.3070 RRA -.9333 RC3 1.4554 FAU .20345 RRT -.8567 RRF -.9984 RTF .8592 CRT .0077 CRS .9935 CST -.1058
FDE 2.0160 FRA 7.8377 FC-11.0510 BSP 4502 SGB 2912.9 R23 .1948 R13 -.9792 LSA 86.7 MSA 29.2 SSA .3
BDE .4459 BRA 1.0925 BC3 2.1965 FSP 2771 SGI 2812.5 SG2 758.2 THA 127.49 EL1 36.2 EL2 29.1 ALF 69.00

LAUNCH DATE APR 23 1971

FLIGHT TIME 214.00

ARRIVAL DATE NOV 23 1971

HELIOCENTRIC CONIC

DISTANCE 516.480

EARTH TO MARS

RL 150.41 LAL -.00 LOL 212.20 VL 32.252 GAL -2.27 AZL 94.95 HCA 170.29 SMA 183.17 ECC .18306 INC 4.9538 V1 29.624
RP 212.43 LAP -.83 LOP 22.53 VP 22.912 GAP 5.20 AZP 85.12 TAL 345.24 TAP 155.52 RCA 149.64 APO 216.70 V2 25.832
RC 130.999 GL -42.49 GP 23.03 ZAL 115.07 ZAP 97.38 ETS 176.21 ZAE 136.19 ETE 153.73 ZAC 124.66 ETC 274.61 LVI -33.82

PLANETOCENTRIC CONIC

C3 16.974 VHL 4.120 DLA -47.14 RAL .63 RAD 6641.5 VEL 11.705 PTH 6.74 VHP 3.289 DPA .83 RAP 298.48 ECC 1.2793
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 37 5 1873.13 23.46 38.86 237.27 132.66 23 8 18 873.1 38.57 16.69
50.57 23 18 53 1768.71 27.73 32.97 241.42 129.78 23 48 22 768.7 41.38 8.57
50.57 23 18 53 1768.71 27.73 32.97 241.42 129.78 23 48 22 768.7 41.38 8.57
50.57 23 18 53 1768.71 27.73 32.97 241.42 129.78 23 48 22 768.7 41.38 8.57
50.57 23 18 53 1768.71 27.73 32.97 241.42 129.78 23 48 22 768.7 41.38 8.57
50.57 23 18 53 1768.71 27.73 32.97 241.42 129.78 23 48 22 768.7 41.38 8.57

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3169 TRA .6765 TC3-1.6801 BAU .5138 SGT 2005.9 SGR 2537.8 SG3 1555.5 ST 30.3 SR 40.9 SS 79.8
RDE -.3607 RRA -1.0518 RC3 1.5178 FAU .19866 RRT -.8810 RRF -.9989 RTF .824 CRT -.0970 CRS .9964 CST -.1808
FDE 2.1928 FRA 7.6575 FC-11.0327 BSP 5078 SGB 3234.8 R23 .1785 R13 -.9829 LSA 89.6 MSA 30.0 SSA .2
BDE .4801 BRA 1.2506 BC3 2.2642 FSP 2699 SGI 3142.7 SG2 766.5 THA 127.46 EL1 41.1 EL2 30.0 ALF 98.87

LAUNCH DATE APR 23 1971

FLIGHT TIME 216.00

ARRIVAL DATE NOV 25 1971

HELIOCENTRIC CONIC

DISTANCE 520.663

EARTH TO MARS

RL 150.41 LAL -.00 LOL 212.20 VL 32.250 GAL -2.30 AZL 95.41 HCA 171.49 SMA 183.14 ECC .18304 INC 5.4109 V1 29.624
RP 212.72 LAP -.80 LOP 23.73 VP 22.873 GAP 5.01 AZP 84.85 TAL 345.02 TAP 156.51 RCA 149.62 APO 216.67 V2 25.799
RC 133.312 GL -45.11 GP 25.85 ZAL 114.29 ZAP 95.33 ETS 176.73 ZAE 133.30 ETE 152.92 ZAC 127.74 ETC 274.53 LVI -36.04

PLANETOCENTRIC CONIC

C3 18.399 VHL 4.289 DLA -49.10 RAL 3.30 RAD 6642.1 VEL 11.765 PTH 6.79 VHP 3.357 DPA 3.44 RAP 297.14 ECC 1.3028
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
48.03 23 20 52 1808.71 27.82 36.96 246.08 132.24 23 51 1 808.7 42.39 13.15
48.03 23 20 52 1808.71 27.82 36.96 246.08 132.24 23 51 1 808.7 42.39 13.15
48.03 23 20 52 1808.71 27.82 36.96 246.08 132.24 23 51 1 808.7 42.39 13.15
48.03 23 20 52 1808.71 27.82 36.96 246.08 132.24 23 51 1 808.7 42.39 13.15
48.03 23 20 52 1808.71 27.82 36.96 246.08 132.24 23 51 1 808.7 42.39 13.15
48.03 23 20 52 1808.71 27.82 36.96 246.08 132.24 23 51 1 808.7 42.39 13.15

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3011 TRA .7935 TC3-1.6781 BAU .5651 SGT 2203.3 SGR 2841.0 SG3 1482.8 ST 31.6 SR 47.1 SS 80.4
RDE -.4444 RRA -1.1914 RC3 1.5892 FAU .19098 RRT -.9000 RRF -.9993 RTF .9007 CRT -.1969 CRS .9982 CST -.2544
FDE 2.4234 FRA 7.3467 FC3-0.9881 BSP 5733 SGB 3595.3 R23 .1617 R13 -.9862 LSA 93.5 MSA 30.7 SSA .2
BDE .5368 BRA 1.4313 BC3 2.2975 FSP 2579 SGI 3510.2 SG2 777.5 THA 127.03 EL1 47.8 EL2 30.5 ALF 102.86

LAUNCH DATE APR 23 1971 FLIGHT TIME 216.00 ARRIVAL DATE NOV 27 1971

Table with columns for Heliocentric Conic, Planetary Conic, and Differential Corrections. Includes parameters like RL, RP, RC, CS, LNCH AZMTH, and TDE.

LAUNCH DATE APR 23 1971 FLIGHT TIME 220.00 ARRIVAL DATE NOV 29 1971

Table with columns for Heliocentric Conic, Planetary Conic, and Differential Corrections. Includes parameters like RL, RP, RC, CS, LNCH AZMTH, and TDE.

LAUNCH DATE APR 23 1971 FLIGHT TIME 222.00 ARRIVAL DATE DEC 1 1971

Table with columns for Heliocentric Conic, Planetary Conic, and Differential Corrections. Includes parameters like RL, RP, RC, CS, LNCH AZMTH, and TDE.

LAUNCH DATE APR 23 1971 FLIGHT TIME 224.00 ARRIVAL DATE DEC 3 1971

Table with columns for Heliocentric Conic, Planetary Conic, and Differential Corrections. Includes parameters like RL, RP, RC, CS, LNCH AZMTH, and TDE.

LAUNCH DATE APR 23 1971

FLIGHT TIME 236.00

ARRIVAL DATE DEC 19 1971

HELIOCENTRIC CONIC

DISTANCE 562.987

EARTH TO MARS

RL 150.41 LAL -.00 LOL 212.20 VL 32.263 GAL -2.78 AZL 82.44 HCA 183.36 SMA 183.36 ECC .18594 INC 7.5568 V1 29.624
RP 219.97 LAP -.44 LOP 35.53 VP 22.489 GAP 3.26 AZP 97.55 TAL 342.09 TAP 165.45 RCA 149.27 APO 217.46 V2 25.443
RC 157.385 GL 53.91 GP -47.99 ZAL 112.82 ZAP 82.03 ETS 169.82 ZAE 109.44 EYE 203.46 ZAC 54.43 ETC 272.25 LVI 34.29

PLANETOCENTRIC CONIC

C3 27.514 VHL 5.245 DLA 42.41 RAL 319.86 RAD 6646.0 VEL 12.144 PTH 7.11 VHP 4.905 DPA -69.54 RAP 315.47 ECC 1.4528
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 10 49 35 4181.37 -37.46 188.12 218.82 58.20 11 59 16 3181.4 -46.72 157.78
56.98 9 2 49 4464.58 -20.64 200.41 205.52 52.09 10 17 14 3464.6 -34.22 177.88
56.98 9 2 49 4464.58 -20.64 200.41 205.52 52.09 10 17 14 3464.6 -34.22 177.88
56.98 9 2 49 4464.58 -20.64 200.41 205.52 52.09 10 17 14 3464.6 -34.22 177.88
56.98 9 2 49 4464.58 -20.64 200.41 205.52 52.09 10 17 14 3464.6 -34.22 177.88
56.98 9 2 49 4464.58 -20.64 200.41 205.52 52.09 10 17 14 3464.6 -34.22 177.88
56.98 9 2 49 4464.58 -20.64 200.41 205.52 52.09 10 17 14 3464.6 -34.22 177.88

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 3.1239 TRA 1.0014 TC3-2.0828 BAU 1.0087 SGT 4314.2 SGR 4733.7 SG3 598.2 ST 172.1 SR 172.8 SS 104.4
RDE 3.0715 RRA 1.8697 RC3-1.7837 FAU .08521 RRT .9614 RRF .9996 RTF .9566 CRT .9936 CRS -.9999 CST -.9920
FDE 4.3639 FRA 2.8125 FC3-2.6810 BSP 10511 SGB 6404.7 R23 .1418 R13 .9896 LSA 264.9 MSA 15.3 SSA .1
BDE 4.3809 BRA 2.1210 BC3 2.7422 FSP 1051 SGI 6343.2 SG2 885.6 THA 47.76 EL1 243.5 EL2 13.8 ALF 45.12

LAUNCH DATE APR 23 1971

FLIGHT TIME 238.00

ARRIVAL DATE DEC 17 1971

HELIOCENTRIC CONIC

DISTANCE 566.743

EARTH TO MARS

RL 150.41 LAL -.00 LOL 212.20 VL 32.267 GAL -2.84 AZL 84.84 HCA 184.51 SMA 183.43 ECC .18646 INC 5.1592 V1 29.624
RP 216.21 LAP -.41 LOP 36.69 VP 22.452 GAP 3.09 AZP 95.14 TAL 341.77 TAP 166.28 RCA 149.23 APO 217.63 V2 25.405
RC 159.881 GL 41.94 GP -40.57 ZAL 118.45 ZAP 79.34 ETS 169.60 ZAE 110.79 ETE 199.30 ZAC 61.87 ETC 271.86 LVI 27.89

PLANETOCENTRIC CONIC

C3 18.802 VHL 4.336 DLA 31.46 RAL 326.04 RAD 6642.3 VEL 11.782 PTH 6.81 VHP 4.170 DPA -62.87 RAP 307.18 ECC 1.3094
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 12 44 20 3780.24 -47.08 154.87 212.65 82.19 13 47 21 2780.2 -44.66 120.06
60.00 12 35 21 3804.23 -38.44 154.84 210.48 76.84 13 38 45 2804.2 -39.71 123.76
70.00 12 14 52 3864.78 -28.90 156.42 207.17 70.96 13 19 17 2864.8 -33.97 128.88
75.61 11 9 6 4069.85 -18.66 167.44 202.56 64.20 12 16 56 3069.9 -27.66 143.25
75.61 11 9 6 4069.85 -18.66 167.44 202.56 64.20 12 16 56 3069.9 -27.66 143.25
75.61 11 9 6 4069.85 -18.66 167.44 202.56 64.20 12 16 56 3069.9 -27.66 143.25
110.00 17 14 19 2911.60 -28.90 85.34 207.17 70.96 18 2 50 1911.6 -33.97 57.79

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 2.3449 TRA 1.2996 TC3-2.9899 BAU .9123 SGT 4514.0 SGR 4144.0 SG3 891.5 ST 157.9 SR 135.8 SS 118.4
RDE 1.9621 RRA 1.7403 RC3-2.0575 FAU .11373 RRT .9669 RRF .9997 RTF .9640 CRT .9940 CRS -.9999 CST -.9922
FDE 4.7249 FRA 4.4194 FC3-5.2367 BSP 10347 SGB 6127.7 R23 .1496 R13 .9885 LSA 239.2 MSA 13.9 SSA .1
BDE 3.0575 BRA 2.1720 BC3 3.6295 FSP 1603 SGI 6077.2 SG2 785.6 THA 42.47 EL1 208.0 EL2 11.3 ALF 40.68

LAUNCH DATE APR 23 1971

FLIGHT TIME 240.00

ARRIVAL DATE DEC 19 1971

HELIOCENTRIC CONIC

DISTANCE 570.904

EARTH TO MARS

RL 150.41 LAL -.00 LOL 212.20 VL 32.271 GAL -2.89 AZL 86.26 HCA 185.68 SMA 183.50 ECC .18702 INC 3.7383 V1 29.624
RP 216.56 LAP -.37 LOP 37.85 VP 22.415 GAP 2.92 AZP 93.72 TAL 341.44 TAP 167.10 RCA 149.18 APO 217.82 V2 25.366
RC 162.390 GL 32.53 GP -34.62 ZAL 122.47 ZAP 76.91 ETS 169.70 ZAE 111.17 ETE 195.82 ZAC 67.84 ETC 271.61 LVI 22.71

PLANETOCENTRIC CONIC

C3 15.282 VHL 3.909 DLA 22.84 RAL 330.33 RAD 6640.7 VEL 11.633 PTH 6.67 VHP 3.799 DPA -57.31 RAP 302.76 ECC 1.2515
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 13 46 44 3537.73 -48.76 131.81 204.03 100.04 14 45 41 2537.7 -37.57 101.20
60.00 13 57 49 3508.17 -40.17 130.03 205.10 93.51 14 56 18 2508.2 -34.39 100.54
70.00 14 15 45 3455.37 -34.11 125.87 205.22 88.16 15 13 20 2455.4 -31.30 97.50
80.00 14 48 50 3351.81 -29.34 117.84 204.84 84.19 15 44 41 2351.6 -28.77 90.23
90.00 15 53 0 3144.43 -27.37 102.16 204.58 82.59 16 45 24 2144.4 -27.71 75.16
100.00 17 31 42 2826.08 -29.34 79.00 204.84 84.19 18 18 48 1826.1 -28.77 51.59
110.00 19 15 11 2502.19 -34.11 54.75 205.22 88.16 19 56 53 1502.2 -31.30 26.42

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.9000 TRA 1.3003 TC3-3.7633 BAU .8835 SGT 4701.6 SGR 3591.1 SG3 1104.3 ST 143.8 SR 107.1 SS 120.6
RDE 1.3715 RRA 1.5506 RC3-2.1302 FAU .13655 RRT .9703 RRF .9998 RTF .5.83 CRT .9949 CRS -.9998 CST -.9925
FDE 4.6875 FRA 5.8232 FC3-7.7355 BSP 9864 SGB 5918.2 R23 .1809 R13 .9866 LSA 215.8 MSA 12.2 SSA .2
BDE 2.3433 BRA 2.1576 BC3 4.3244 FSP 1963 SGI 5875.2 SG2 695.3 THA 37.15 EL1 179.1 EL2 8.7 ALF 36.84

LAUNCH DATE APR 23 1971

FLIGHT TIME 242.00

ARRIVAL DATE DEC 21 1971

HELIOCENTRIC CONIC

DISTANCE 575.066

EARTH TO MARS

RL 150.41 LAL -.00 LOL 212.20 VL 32.276 GAL -2.98 AZL 87.20 HCA 186.81 SMA 183.57 ECC .18763 INC 2.7992 V1 29.624
RP 216.91 LAP -.33 LOP 39.00 VP 22.378 GAP 2.78 AZP 92.78 TAL 341.10 TAP 167.91 RCA 149.13 APO 218.02 V2 25.327
RC 164.912 GL 25.22 GP -29.93 ZAL 125.25 ZAP 74.70 ETS 169.92 ZAE 110.88 ETE 192.99 ZAC 72.55 ETC 271.44 LVI 18.60

PLANETOCENTRIC CONIC

C3 13.659 VHL 3.896 DLA 16.19 RAL 333.52 RAD 6639.9 VEL 11.564 PTH 6.61 VHP 3.594 DPA -52.86 RAP 300.00 ECC 1.2248
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 28 25 3372.70 -43.73 116.91 199.08 111.01 15 24 38 2372.7 -31.13 90.71
60.00 14 49 31 3316.51 -38.16 114.18 201.41 104.08 15 44 48 2316.5 -28.63 87.59
70.00 15 20 32 3225.19 -33.17 108.02 202.64 98.65 16 14 18 2225.2 -26.27 81.50
80.00 16 8 43 3074.25 -29.48 97.09 203.16 94.95 16 59 57 2074.2 -24.47 70.79
90.00 17 21 3 2840.73 -28.07 80.05 203.28 93.58 18 8 24 1840.7 -23.78 53.88
100.00 18 51 34 2548.72 -29.48 58.46 203.16 94.95 19 34 3 1548.7 -24.47 32.15
110.00 20 19 59 2272.01 -33.17 36.94 202.64 98.65 20 57 51 1272.0 -26.27 10.42

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.6340 TRA 1.8717 TC3-4.3325 BAU .8744 SGT 4894.4 SGR 3124.8 SG3 1250.7 ST 133.1 SR 86.8 SS 118.9
RDE 1.0331 RRA 1.3751 RC3-2.0390 FAU .15197 RRT .9726 RRF .9994 RTF .9711 CRT .9964 CRS -.9995 CST -.9934
FDE 4.5000 FRA 6.5028 FC3-9.6321 BSP 9624 SGB 5806.8 R23 .1704 R13 .9847 LSA 198.1 MSA 10.5 SSA .3
BDE 1.9332 BRA 2.1646 BC3 4.7883 FSP 2216 SGI 5774.0 SG2 618.2 THA 32.25 EL1 158.7 EL2 6.2 ALF 33.07

LAUNCH DATE APR 23 1971 FLIGHT TIME 244.00 ARRIVAL DATE DEC 25 1971

HELIOCENTRIC CONIC DISTANCE 579.226 EARTH TO MARS
RL 150.41 LAL -.00 LOL 212.20 VL 32.201 GAL -3.02 AZL 87.87 HCA 187.96 SMA 183.86 ECC .18828 INC 2.1335 V1 29.624
RP 217.26 LAP -.30 LOP 40.15 VP 22.341 GAP 2.59 AZP 92.11 TAL 340.74 TAP 188.70 RCA 149.08 APO 218.23 V2 25.288
RC 187.446 GL 19.55 GP -26.19 ZAL 127.19 ZAP 72.67 ETS 170.17 ZAE 110.17 ETE 190.70 ZAC 76.30 ETC 271.30 LVI 19.34

PLANETOCENTRIC CONIC
C3 12.873 VHL 3.588 DLA 11.08 RAL 336.02 RAD 6639.5 VEL 11.530 PTH 6.58 VHP 3.474 DPA -49.30 RAP 298.09 ECC 1.2119
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 58 48 3855.02 -40.42 107.56 196.84 117.61 15 53 0 2295.0 -26.01 84.19
60.00 15 26 14 3181.87 -35.42 103.81 189.68 110.84 16 19 16 2181.9 -23.82 79.45
70.00 16 4 50 3068.29 -30.95 98.34 201.41 105.22 16 55 58 2068.3 -21.78 71.54
80.00 17 0 31 2893.85 -27.70 83.99 202.30 101.60 17 48 45 1893.8 -20.25 59.06
90.00 18 16 23 2649.01 -26.48 66.26 202.56 100.30 19 0 32 1649.0 -19.67 41.31
100.00 19 43 23 2368.32 -27.70 45.36 202.30 101.60 20 22 51 1368.3 -20.25 20.43
110.00 21 4 16 2115.10 -30.95 25.25 201.41 105.22 21 39 31 1115.1 -21.78 .46

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.4730 TRA 1.8342 TC3-4.7184 BAU .8728 SGT 5089.6 SGR 2740.8 SG3 1349.0 ST 126.0 SR 72.6 SS 116.8
RDE .8281 RRA 1.2264 RC3-1.8801 FAU .16065 RRT .9739 RRF .9991 RTF .9729 CRT .9980 CRS -.9991 CST -.9947
FDE 4.3422 FRA 7.1560 FC-10.6044 BSP 9655 SGB 5780.7 R23 .1775 R13 .9832 LSA 186.1 MSA 8.9 SSA .4
BDE 1.6899 BRA 2.2064 BC3 5.0718 FSP 2412 SG1 5754.4 SG2 550.5 THA 27.95 EL1 145.3 EL2 3.9 ALF 29.94

LAUNCH DATE APR 23 1971 FLIGHT TIME 246.00 ARRIVAL DATE DEC 25 1971

HELIOCENTRIC CONIC DISTANCE 583.385 EARTH TO MARS
RL 150.41 LAL -.00 LOL 212.20 VL 32.206 GAL -3.08 AZL 88.36 HCA 189.10 SMA 183.74 ECC .18896 INC 1.6345 V1 29.624
RP 217.61 LAP -.26 LOP 41.30 VP 22.304 GAP 2.43 AZP 91.62 TAL 340.38 TAP 189.48 RCA 149.02 APO 218.46 V2 25.249
RC 169.992 GL 15.09 GP -23.19 ZAL 128.58 ZAP 70.80 ETS 170.43 ZAE 109.19 ETE 188.86 ZAC 79.32 ETC 271.19 LVI 12.72

PLANETOCENTRIC CONIC
C3 12.506 VHL 3.536 DLA 7.06 RAL 338.06 RAD 6639.3 VEL 11.514 PTH 6.56 VHP 3.403 DPA -46.42 RAP 296.67 ECC 1.2058
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 21 58 3168.48 -37.50 101.34 196.08 121.75 16 14 47 2168.5 -22.04 79.78
60.00 15 53 59 3083.30 -32.82 96.75 199.16 114.84 16 45 22 2083.3 -20.00 73.91
70.00 16 37 46 2954.52 -28.64 88.29 201.14 109.46 17 27 0 1954.5 -18.11 64.76
80.00 17 38 18 2764.88 -25.61 74.99 202.23 105.89 18 24 23 1764.9 -16.70 51.13
90.00 18 56 21 2513.03 -24.48 56.82 202.57 104.62 19 38 14 1513.0 -16.17 32.67
100.00 20 21 10 2239.36 -25.61 36.36 202.23 105.89 20 58 30 1239.4 -16.70 12.50
110.00 21 37 12 2001.34 -28.64 17.21 201.14 109.46 22 13 33 1001.3 -18.11 353.68

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.3575 TRA 1.9738 TC3-5.0272 BAU .8868 SGT 5278.5 SGR 2415.2 SG3 1408.1 ST 120.2 SR 61.7 SS 112.9
RDE .6657 RRA 1.0906 RC3-1.6900 FAU .16792 RRT .9751 RRF .9986 RTF .9747 CRT .9953 CRS -.9984 CST -.9958
FDE 4.1457 FRA 7.5747 FC-11.6239 BSP 9601 SGB 5804.8 R23 .1800 R13 .9822 LSA 175.9 MSA 7.5 SSA .6
BDE 1.9208 BRA 2.2551 BC3 5.3037 FSP 2491 SG1 5784.1 SG2 489.2 THA 24.23 EL1 135.1 EL2 2.0 ALF 27.14

LAUNCH DATE APR 23 1971 FLIGHT TIME 248.00 ARRIVAL DATE DEC 27 1971

HELIOCENTRIC CONIC DISTANCE 587.543 EARTH TO MARS
RL 150.41 LAL -.00 LOL 212.20 VL 32.292 GAL -3.15 AZL 88.75 HCA 190.24 SMA 183.84 ECC .18968 INC 1.2493 V1 29.624
RP 217.97 LAP -.22 LOP 42.44 VP 22.267 GAP 2.26 AZP 91.23 TAL 340.01 TAP 170.25 RCA 148.97 APO 218.71 V2 25.209
RC 172.547 GL 11.53 GP -20.73 ZAL 129.64 ZAP 69.04 ETS 170.68 ZAE 108.05 ETE 187.37 ZAC 81.79 ETC 271.10 LVI 10.56

PLANETOCENTRIC CONIC
C3 12.370 VHL 3.517 DLA 3.92 RAL 339.77 RAD 6639.2 VEL 11.508 PTH 6.56 VHP 3.362 DPA -44.06 RAP 295.57 ECC 1.2036
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 40 24 3103.36 -35.08 97.00 196.10 124.48 16 32 8 2103.4 -18.97 78.64
60.00 16 15 50 3009.13 -30.58 91.73 199.32 117.64 17 5 59 2009.1 -17.00 69.94
70.00 17 3 26 2869.11 -26.56 82.52 201.45 112.30 17 51 15 1869.1 -15.18 59.87
80.00 18 7 30 2688.47 -23.65 68.50 202.65 108.77 18 31 58 1668.5 -13.83 45.42
90.00 19 27 5 2411.63 -22.57 50.01 203.04 107.51 20 7 17 1411.6 -13.32 26.79
100.00 20 50 22 2142.94 -23.15 29.87 202.65 108.77 21 26 5 1142.9 -12.83 6.78
110.00 22 2 52 1915.93 -26.56 11.43 201.45 112.30 22 34 48 915.9 -15.18 348.79

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.2840 TRA 2.1110 TC3-5.2450 BAU .9033 SGT 5465.3 SGR 2143.2 SG3 1441.8 ST 116.8 SR 53.4 SS 109.3
RDE .5868 RRA .9737 RC3-1.5254 FAU .17288 RRT .9786 RRF .9979 RTF .3.69 CRT .9998 CRS -.9973 CST -.9969
FDE 3.9654 FRA 7.8504 FC-12.0993 BSP 9684 SGB 5870.5 R23 .1760 R13 .9823 LSA 168.5 MSA 6.5 SSA .8
BDE 1.4117 BRA 2.3248 BC3 5.4823 FSP 2520 SG1 5854.7 SG2 430.2 THA 21.07 EL1 128.4 EL2 .9 ALF 24.58

LAUNCH DATE APR 23 1971 FLIGHT TIME 250.00 ARRIVAL DATE DEC 29 1971

HELIOCENTRIC CONIC DISTANCE 591.692 EARTH TO MARS
RL 150.41 LAL -.00 LOL 212.20 VL 32.298 GAL -3.22 AZL 89.06 HCA 191.38 SMA 183.93 ECC .19044 INC .9387 V1 29.624
RP 218.33 LAP -.19 LOP 43.58 VP 22.230 GAP 2.10 AZP 90.92 TAL 339.62 TAP 171.01 RCA 148.91 APO 218.96 V2 25.169
RC 175.114 GL 8.66 GP -18.70 ZAL 130.47 ZAP 67.39 ETS 170.92 ZAE 106.81 ETE 186.16 ZAC 83.83 ETC 271.03 LVI 8.62

PLANETOCENTRIC CONIC
C3 12.378 VHL 3.517 DLA 1.42 RAL 341.28 RAD 6639.2 VEL 11.509 PTH 6.56 VHP 3.341 DPA -42.10 RAP 294.71 ECC 1.2036
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 55 27 3033.58 -33.11 93.88 196.54 126.35 16 48 21 2033.6 -16.57 74.33
60.00 16 33 32 2952.27 -28.73 86.06 199.84 119.57 17 22 44 1952.3 -14.64 66.99
70.00 17 24 6 2803.54 -24.80 78.24 202.08 114.27 18 10 50 1803.5 -12.85 56.22
80.00 18 30 53 2594.45 -21.95 63.66 203.37 110.77 19 14 7 1594.4 -11.52 41.13
90.00 19 51 39 2333.81 -20.89 44.92 203.79 109.51 20 30 33 1333.8 -11.02 22.23
100.00 21 13 44 2068.92 -21.95 25.03 203.37 110.77 21 48 13 1068.9 -11.52 2.50
110.00 22 23 33 1850.36 -24.80 7.16 202.08 114.27 22 54 23 850.4 -12.85 345.14

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.2422 TRA 2.2513 TC3-5.3943 BAU .9192 SGT 5652.5 SGR 1922.9 SG3 1463.5 ST 115.3 SR 48.1 SS 106.2
RDE .5268 RRA .8845 RC3-1.3367 FAU .17138 RRT .9744 RRF .9969 RTF .9760 CRT .9993 CRS -.9958 CST -.9980
FDE 3.9008 FRA 8.1271 FC-11.9929 BSP 9934 SGB 5970.7 R23 .1816 R13 .9804 LSA 165.2 MSA 5.6 SSA 1.1
BDE 1.3493 BRA 2.4188 BC3 5.5575 FSP 2619 SG1 5956.6 SG2 410.0 THA 18.43 EL1 124.9 EL2 1.7 ALF 22.62

LAUNCH DATE APR 23 1971

FLIGHT TIME 252.00

ARRIVAL DATE DEC 31 1971

HELIOCENTRIC CONIC

RL 150.41 LAL -.00 LOL 212.20 VL 32.304 GAL -3.29 AZL 89.31 HCA 192.52 SMA 184.04 ECC .19123 INC .6862 V1 29.624
RP 218.69 LAP -.15 LOP 44.72 VP 22.194 GAP 1.94 AZP 90.67 TAL 339.24 TAP 171.75 RCA 148.84 APO 219.23 V2 25.129
RC 177.690 GL 6.30 GP -16.99 ZAL 131.17 ZAP 65.63 ETS 171.14 ZAE 103.53 ETE 185.16 ZAC 85.55 ETC 270.96 LVI 7.34

PLANETOCENTRIC CONIC

C3 12.459 VHL 3.530 DLA -.60 RAL 342.54 RAD 6639.3 VEL 11.512 PTH 6.56 VHP 3.332 DPA -40.45 RAP 294.01 ECC 1.2050
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 7 58 3019.00 -31.53 91.55 197.19 127.68 16 58 13 2015.0 -14.70 72.58
60.00 16 48 11 2908.03 -27.21 85.30 200.57 120.95 17 36 39 1908.0 -12.78 64.74
70.00 17 41 8 2752.34 -23.32 74.99 202.89 115.69 18 27 0 1752.3 -10.99 53.42
80.00 18 50 3 2536.51 -20.50 59.97 204.24 112.19 19 32 20 1536.5 -9.67 37.83
90.00 20 11 46 2272.85 -19.45 41.03 204.68 110.94 20 49 39 1272.8 -9.17 18.72
100.00 21 32 55 2010.98 -20.50 21.34 204.24 112.19 22 6 26 1011.0 -9.67 359.20
110.00 22 40 34 1799.16 -23.32 3.91 202.89 115.69 23 10 33 799.2 -10.99 342.34

DIFFERENTIAL CORRECTIONS

TDE 1.2228 TRA 2.3925 TC3-5.4917 BAU .9355
RDE .4816 RRA .8041 RC3-1.1774 FAU .16937
FDE 3.8366 FRA 8.3090 FC-11.7688 BSP 10259
BDE 1.3142 BRA 2.9240 BC3 5.6165 FSP 2678

MID-COURSE EXECUTION ACCURACY

SGT 5835.6 SGR 1733.8 SG3 1470.7
RRT .9729 RRF .9956 RTF .9761
SG8 8087.7 R23 .1806 R13 .9796
SG1 6075.5 S62 384.7 THA 16.19

ORBIT DETERMINATION ACCURACY

ST 115.2 SR 43.7 SS 107.0
CRT .9976 CR8 -.9938 CST -.9988
LSA 163.1 MSA 5.1 SSA 1.4
EL1 123.2 EL2 2.9 ALF 20.75

LAUNCH DATE APR 23 1971

FLIGHT TIME 254.00

ARRIVAL DATE JAN 2 1972

HELIOCENTRIC CONIC

RL 150.41 LAL -.00 LOL 212.20 VL 32.311 GAL -3.36 AZL 89.32 HCA 193.65 SMA 184.14 ECC .19205 INC .4769 V1 29.624
RP 219.06 LAP -.11 LOP 45.85 VP 22.158 GAP 1.78 AZP 90.46 TAL 338.84 TAP 172.49 RCA 148.78 APO 219.51 V2 25.089
RC 180.275 GL 4.34 GP -15.54 ZAL 131.77 ZAP 64.34 ETS 171.35 ZAE 104.21 ETE 184.33 ZAC 87.01 ETC 270.91 LVI 6.08

PLANETOCENTRIC CONIC

C3 12.603 VHL 3.550 DLA -2.24 RAL 343.70 RAD 6639.4 VEL 11.519 PTH 6.57 VHP 3.334 DPA -39.05 RAP 293.44 ECC 1.2074
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 18 34 2984.85 -30.26 89.80 197.97 128.64 17 8 19 1984.9 -13.22 71.23
60.00 17 0 31 2873.26 -25.98 83.19 201.41 121.97 17 48 25 1873.3 -11.29 63.00
70.00 17 55 24 2711.90 -22.11 72.49 203.79 116.72 18 40 36 1711.9 -9.50 51.24
80.00 19 6 5 2490.58 -19.30 57.09 205.19 113.24 19 47 36 1490.6 -8.17 35.25
90.00 20 28 34 2224.46 -18.24 37.99 205.65 111.99 21 5 38 1224.5 -7.67 15.95
100.00 21 48 57 1965.05 -19.30 18.46 205.19 113.24 22 21 42 965.1 -8.17 356.61
110.00 22 54 50 1758.72 -22.11 1.40 203.79 116.72 23 24 9 758.7 -9.50 340.15

DIFFERENTIAL CORRECTIONS

TDE 1.2040 TRA 2.5186 TC3-5.6031 BAU .9608
RDE .4421 RRA .7280 RC3-1.0593 FAU .16964
FDE 3.7222 FRA 8.3756 FC-11.6531 BSP 10417
BDE 1.2626 BRA 2.6218 BC3 5.7024 FSP 2644

MID-COURSE EXECUTION ACCURACY

SGT 6012.6 SGR 1567.7 SG3 1465.1
RRT .9720 RRF .9937 RTF .9771
SG8 8213.6 R23 .1730 R13 .9797
SG1 6203.4 S62 356.7 THA 14.27

ORBIT DETERMINATION ACCURACY

ST 114.9 SR 39.8 SS 104.5
CRT .9946 CR8 -.9909 CST -.9993
LSA 160.2 MSA 5.2 SSA 1.5
EL1 121.5 EL2 3.9 ALF 19.04

LAUNCH DATE APR 23 1971

FLIGHT TIME 256.00

ARRIVAL DATE JAN 4 1972

HELIOCENTRIC CONIC

RL 150.41 LAL -.00 LOL 212.20 VL 32.317 GAL -3.44 AZL 89.70 HCA 194.77 SMA 184.25 ECC .19291 INC .2973 V1 29.624
RP 219.43 LAP -.08 LOP 46.98 VP 22.121 GAP 1.61 AZP 90.29 TAL 338.44 TAP 173.21 RCA 148.71 APO 219.80 V2 25.048
RC 182.871 GL 2.70 GP -14.29 ZAL 132.32 ZAP 62.91 ETS 171.54 ZAE 102.89 ETE 183.63 ZAC 88.26 ETC 270.87 LVI 5.00

PLANETOCENTRIC CONIC

C3 12.788 VHL 3.576 DLA -3.58 RAL 344.75 RAD 6639.5 VEL 11.526 PTH 6.57 VHP 3.342 DPA -37.85 RAP 292.98 ECC 1.2105
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 27 41 2961.23 -29.25 88.46 198.81 129.36 17 17 2 1961.2 -12.06 70.19
60.00 17 11 4 2845.84 -24.98 81.56 202.30 122.72 17 58 30 1845.0 -10.12 61.64
70.00 18 7 32 2679.80 -21.11 70.53 204.74 117.49 18 52 12 1679.8 -8.31 49.52
80.00 19 19 40 2453.93 -18.30 54.83 206.18 114.01 20 0 34 1453.9 -6.96 33.20
90.00 20 42 47 2185.76 -17.24 35.60 206.66 112.77 21 19 13 1185.8 -6.45 13.76
100.00 22 2 32 1928.41 -18.30 16.20 206.18 114.01 22 34 40 928.4 -6.96 354.57
110.00 23 6 58 1726.61 -21.11 359.45 204.74 117.49 23 35 45 726.6 -8.31 338.43

DIFFERENTIAL CORRECTIONS

TDE 1.1987 TRA 2.6470 TC3-5.6832 BAU .9831
RDE .4139 RRA .8629 RC3 -.9485 FAU .16795
FDE 3.6420 FRA 8.4238 FC-11.3697 BSP 10644
BDE 1.2682 BRA 2.7288 BC3 5.7618 FSP 2626

MID-COURSE EXECUTION ACCURACY

SGT 6186.1 SGR 1425.7 SG3 1453.6
RRT .9698 RRF .9913 RTF .574
SG8 8348.2 R23 .1663 R13 .9795
SG1 6339.2 S62 339.2 THA 12.64

ORBIT DETERMINATION ACCURACY

ST 115.4 SR 36.8 SS 102.7
CRT .9903 CR8 -.9874 CST -.9996
LSA 158.7 MSA 5.5 SSA 1.5
EL1 121.0 EL2 4.9 ALF 17.56

LAUNCH DATE APR 23 1971

FLIGHT TIME 258.00

ARRIVAL DATE JAN 6 1972

HELIOCENTRIC CONIC

RL 150.41 LAL -.00 LOL 212.20 VL 32.324 GAL -3.52 AZL 89.85 HCA 195.90 SMA 184.37 ECC .19379 INC .1432 V1 29.624
RP 219.80 LAP -.04 LOP 48.10 VP 22.085 GAP 1.45 AZP 90.14 TAL 338.03 TAP 173.93 RCA 148.64 APO 220.10 V2 25.007
RC 185.475 GL 1.31 GP -13.21 ZAL 132.83 ZAP 61.55 ETS 171.72 ZAE 101.57 ETE 183.05 ZAC 89.35 ETC 270.84 LVI 4.05

PLANETOCENTRIC CONIC

C3 13.003 VHL 3.606 DLA -4.69 RAL 345.72 RAD 6639.6 VEL 11.536 PTH 6.58 VHP 3.356 DPA -36.80 RAP 292.61 ECC 1.2140
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 35 36 2942.73 -28.45 87.43 199.69 129.89 17 24 39 1942.7 -11.15 69.38
60.00 17 20 10 2824.18 -24.18 80.29 203.22 123.28 18 7 14 1824.2 -9.18 60.57
70.00 18 17 58 2654.24 -20.30 68.99 205.71 118.07 19 2 12 1654.2 -7.35 48.16
80.00 19 31 19 2424.58 -17.47 53.04 207.19 114.60 20 11 44 1424.6 -5.99 31.56
90.00 20 54 58 2154.70 -16.41 33.69 207.68 113.36 21 30 52 1154.7 -5.47 12.01
100.00 22 14 11 1899.05 -17.47 14.41 207.19 114.60 22 45 50 899.1 -5.99 352.93
110.00 23 17 24 1701.06 -20.30 357.91 205.71 118.07 23 45 45 701.1 -7.35 337.07

DIFFERENTIAL CORRECTIONS

TDE 1.2035 TRA 2.7767 TC3-5.7423 BAU 1.0091
RDE .3930 RRA .6036 RC3 -.8505 FAU .16550
FDE 3.5791 FRA 8.4470 FC-11.0189 BSP 10903
BDE 1.2661 BRA 2.8419 BC3 5.8049 FSP 2603

MID-COURSE EXECUTION ACCURACY

SGT 6356.3 SGR 1303.2 SG3 1437.6
RRT .9668 RRF .9882 RTF .9777
SG8 8488.5 R23 .1585 R13 .9793
SG1 6480.3 S62 326.9 THA 11.24

ORBIT DETERMINATION ACCURACY

ST 116.6 SR 34.4 SS 101.2
CRT .9848 CR8 -.9832 CST -.9998
LSA 158.0 MSA 6.0 SSA 1.5
EL1 121.4 EL2 5.7 ALF 16.26

LAUNCH DATE APR 23 1971 FLIGHT TIME 260.00 ARRIVAL DATE JAN 8 1972

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCM AZMTH, and TDE.

LAUNCH DATE APR 23 1971 FLIGHT TIME 262.00 ARRIVAL DATE JAN 10 1972

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCM AZMTH, and TDE.

LAUNCH DATE APR 23 1971 FLIGHT TIME 264.00 ARRIVAL DATE JAN 12 1972

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCM AZMTH, and TDE.

LAUNCH DATE APR 23 1971 FLIGHT TIME 266.00 ARRIVAL DATE JAN 14 1972

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCM AZMTH, and TDE.

LAUNCH DATE APR 23 1971

FLIGHT TIME 268.00

ARRIVAL DATE JAN 16 1972

HELIOCENTRIC CONIC

DISTANCE 628.871

EARTH TO MARS

RL 150.41 LAL -.00 LOL 212.20 VL 32.362 GAL -3.93 AZL 90.38 HCA 201.46 SMA 184.99 ECC .19867 INC .3803 V1 29.624
RP 221.69 LAP .14 LOP 53.66 VP 21.907 GAP .65 AZP 89.65 TAL 335.92 TAP 177.37 RCA 148.24 APO 221.75 V2 24.801
RC 198.621 GL -3.25 GP -9.44 ZAL 135.11 ZAP 55.51 ETS 172.47 ZAE 95.19 ETE 181.17 ZAC 93.11 ETC 270.81 LVI .64

PLANETOCENTRIC CONIC

C3 14.357 VHL 3.789 DLA -7.97 RAL 349.89 RAD 6640.2 VEL 11.594 PTH 6.64 VHP 3.471 DPA -35.09 RAP 291.77 ECC 1.2363
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 3 38 2898.75 -26.50 85.05 204.15 131.08 17 51 56 1898.8 -8.97 67.48
60.00 17 51 47 2770.67 -22.14 77.22 207.86 124.58 18 37 58 1770.7 -6.86 57.96
70.00 18 53 37 2588.86 -18.16 65.13 210.51 119.43 19 36 46 1588.9 -4.88 44.70
80.00 20 10 42 2347.54 -15.23 48.42 212.12 115.99 20 49 50 1347.5 -3.40 27.31
90.00 21 36 0 2072.36 -14.13 28.73 212.66 114.76 22 10 32 1072.4 -2.84 7.39
100.00 22 53 34 1822.01 -15.23 9.79 212.12 115.99 23 23 56 822.0 -3.40 348.67
110.00 23 53 4 1635.68 -18.16 354.05 210.51 119.43 24 20 19 635.7 -4.88 333.62

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3072 TRA 3.4266 TC3-5.8952 BAU 1.1359 SGT 7159.1 SGR 886.3 SG3 1317.6 ST 126.4 SR 27.6 SS 95.1
RDE .3453 RRA .3929 RC3 -.5161 FAU .14910 RRT .9328 RRF .9554 RTF .9777 CRT .9426 CRS -.9522 CST -.9994
FDE 3.3578 FRA 8.2935 FC3-8.9910 BSP 12216 SGB 7212.8 R23 .1152 R13 .9783 LSA 160.3 MSA 9.1 SSA 1.4
BDE 1.3520 BRA 3.4491 BC3 5.9177 F8P 2411 SG1 7205.8 SG2 317.2 THA 6.60 EL1 129.0 EL2 9.0 ALF 11.70

LAUNCH DATE APR 23 1971

FLIGHT TIME 270.00

ARRIVAL DATE JAN 16 1972

HELIOCENTRIC CONIC

DISTANCE 632.977

EARTH TO MARS

RL 150.41 LAL -.00 LOL 212.20 VL 32.370 GAL -4.01 AZL 90.46 HCA 202.56 SMA 185.13 ECC .19974 INC .4556 V1 29.824
RP 222.07 LAP .17 LOP 54.76 VP 21.871 GAP .49 AZP 89.58 TAL 335.48 TAP 178.04 RCA 148.15 APO 222.11 V2 24.759
RC 201.270 GL -3.84 GP -8.91 ZAL 135.55 ZAP 54.43 ETS 172.60 ZAE 93.98 ETE 180.94 ZAC 93.64 ETC 270.83 LVI .12

PLANETOCENTRIC CONIC

C3 14.669 VHL 3.830 DLA -8.33 RAL 350.37 RAD 6640.4 VEL 11.607 PTH 6.65 VHP 3.500 DPA -32.56 RAP 291.76 ECC 1.2414
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 7 41 2896.27 -26.39 84.91 205.03 131.14 17 55 58 1896.3 -8.65 67.38
60.00 17 56 15 2767.12 -22.00 77.02 208.77 124.66 18 42 22 1767.1 -6.70 57.79
70.00 18 58 33 2585.97 -18.00 64.84 211.44 119.53 19 41 37 1584.0 -4.70 44.45
80.00 20 16 4 2341.31 -15.04 48.05 213.07 116.10 20 55 5 1341.3 -3.19 26.96
90.00 21 41 32 2065.51 -13.93 28.32 213.61 114.86 22 15 58 1065.5 -2.62 7.00
100.00 22 58 55 1815.78 -15.04 9.42 213.07 116.10 23 29 11 815.8 -3.19 348.33
110.00 0 1 55 1630.78 -18.00 353.76 211.44 119.53 0 29 6 630.8 -4.70 333.36

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3408 TRA 3.5608 TC3-5.8991 BAU 1.1605 SGT 7309.3 SGR 831.0 SG3 1290.3 ST 128.9 SR 26.9 SS 94.2
RDE .3429 RRA .3610 RC3 -.4700 FAU .14505 RRT .9209 RRF .9440 RTF .9774 CRT .9323 CRS -.9445 CST -.9992
FDE 3.3308 FRA 8.2393 FC3-8.5609 BSP 12501 SGB 7356.4 R23 .1081 R13 .9779 LSA 161.7 MSA 9.7 SSA 1.4
BDE 1.3839 BRA 3.5790 BC3 5.9178 F8P 2372 SG1 7349.3 SG2 322.1 THA 5.99 EL1 131.4 EL2 9.6 ALF 11.08

LAUNCH DATE APR 23 1971

FLIGHT TIME 272.00

ARRIVAL DATE JAN 20 1972

HELIOCENTRIC CONIC

DISTANCE 637.078

EARTH TO MARS

RL 150.41 LAL -.00 LOL 212.20 VL 32.378 GAL -4.10 AZL 90.52 HCA 203.66 SMA 185.27 ECC .20082 INC .5234 V1 29.824
RP 222.46 LAP .21 LOP 55.86 VP 21.836 GAP .33 AZP 89.52 TAL 335.03 TAP 178.69 RCA 148.06 APO 222.47 V2 24.717
RC 203.922 GL -4.37 GP -8.43 ZAL 135.99 ZAP 53.39 ETS 172.72 ZAE 92.79 ETE 180.73 ZAC 94.12 ETC 270.86 LVI -.36

PLANETOCENTRIC CONIC

C3 14.992 VHL 3.872 DLA -8.62 RAL 351.03 RAD 6640.5 VEL 11.621 PTH 6.66 VHP 3.531 DPA -32.07 RAP 291.79 ECC 1.2467
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 11 24 2895.19 -26.34 84.86 205.90 131.17 17 59 40 1895.2 -8.79 67.33
60.00 18 0 18 2765.16 -21.93 76.91 209.66 124.70 18 46 23 1765.2 -6.62 57.69
70.00 19 2 58 2580.89 -17.89 64.67 212.36 119.59 19 45 59 1580.9 -4.58 44.29
80.00 20 20 50 2337.13 -14.52 47.80 214.00 116.17 20 59 47 1337.1 -3.05 26.73
90.00 21 48 29 2060.83 -13.80 28.05 214.55 114.93 22 20 49 1060.8 -2.47 6.74
100.00 23 3 42 1811.61 -14.92 9.17 214.00 116.17 23 33 54 811.6 -3.05 348.10
110.00 0 6 21 1627.71 -17.89 353.58 212.36 119.59 0 33 28 627.7 -4.58 333.20

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3751 TRA 3.6935 TC3-5.9048 BAU 1.1866 SGT 7457.0 SGR 782.3 SG3 1262.1 ST 131.4 SR 26.3 SS 93.2
RDE .3415 RRA .3310 RC3 -.4304 FAU .14140 RRT .9070 RRF .9306 RTF .9773 CRT .9215 CRS -.9384 CST -.9990
FDE 3.2991 FRA 8.1708 FC3-8.1854 BSP 12756 SGB 7498.0 R23 .1008 R13 .9777 LSA 162.9 MSA 10.3 SSA 1.4
BDE 1.4168 BRA 3.7083 BC3 5.9203 F8P 2324 SG1 7490.8 SG2 327.9 THA 5.45 EL1 133.7 EL2 10.1 ALF 10.33

LAUNCH DATE APR 23 1971

FLIGHT TIME 274.00

ARRIVAL DATE JAN 22 1972

HELIOCENTRIC CONIC

DISTANCE 641.173

EARTH TO MARS

RL 150.41 LAL -.00 LOL 212.20 VL 32.387 GAL -4.19 AZL 90.59 HCA 204.78 SMA 185.41 ECC .20194 INC .5854 V1 29.824
RP 222.84 LAP .28 LOP 56.98 VP 21.801 GAP .17 AZP 89.47 TAL 334.59 TAP 179.34 RCA 147.97 APO 222.85 V2 24.678
RC 206.578 GL -4.84 GP -7.99 ZAL 136.42 ZAP 52.39 ETS 172.84 ZAE 91.62 ETE 180.84 ZAC 94.55 ETC 270.89 LVI -.81

PLANETOCENTRIC CONIC

C3 15.326 VHL 3.915 DLA -8.88 RAL 351.68 RAD 6640.7 VEL 11.635 PTH 6.67 VHP 3.582 DPA -31.82 RAP 291.87 ECC 1.2522
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 14 49 2895.33 -26.35 84.86 206.76 131.17 18 3 4 1895.3 -8.80 67.34
60.00 18 3 59 2764.58 -21.91 76.88 210.55 124.71 18 50 3 1764.6 -6.59 57.66
70.00 19 6 58 2579.41 -17.84 64.58 213.27 119.62 19 49 57 1579.4 -4.52 44.21
80.00 20 25 7 2334.75 -14.85 47.66 214.92 116.20 21 4 2 1334.7 -2.97 26.60
90.00 21 50 53 2058.03 -13.72 27.88 215.48 114.98 22 25 11 1058.0 -2.38 6.59
100.00 23 7 59 1809.22 -14.85 9.03 214.92 116.20 23 38 8 809.2 -2.97 347.97
110.00 0 10 20 1626.23 -17.84 353.50 213.27 119.62 0 37 26 626.2 -4.52 333.13

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.4126 TRA 3.8280 TC3-5.9043 BAU 1.2125 SGT 7602.3 SGR 739.9 SG3 1233.9 ST 134.0 SR 25.9 SS 92.2
RDE .3416 RRA .3033 RC3 -.3950 FAU .13763 RRT .8908 RRF .9149 RTF .9770 CRT .9106 CRS -.9282 CST -.9988
FDE 3.2720 FRA 8.1001 FC3-7.7744 BSP 13012 SGB 7638.3 R23 .0944 R13 .9774 LSA 164.4 MSA 10.8 SSA 1.3
BDE 1.4533 BRA 3.8400 BC3 5.9175 F8P 2277 SG1 7630.9 SG2 334.9 THA 4.96 EL1 136.1 EL2 10.5 ALF 10.04

LAUNCH DATE APR 23 1971 FLIGHT TIME 276.00 ARRIVAL DATE JAN 24 1972

HELIOCENTRIC CONIC DISTANCE 645.266 EARTH TO MARS
 RL 150.41 LAL -.00 LOL 212.20 VL 32.395 GAL -4.28 AZL 90.64 HCA 209.84 SMA 185.95 ECC .20308 INC .6419 V1 29.624
 RP 223.23 LAP .28 LOP 58.04 VP 21.767 GAP .01 AZP 89.42 TAL 334.14 TAP 179.97 RCA 147.87 APO 223.23 V2 24.633
 RC 209.236 GL -5.25 GP -7.60 ZAL 136.86 ZAP 51.42 ETS 172.95 ZAE 90.48 ETE 180.38 ZAC 94.95 ETC 270.93 LVI -1.24

PLANETOCENTRIC CONIC
 C3 15.671 VHL 3.939 DLA -9.05 RAL 352.26 RAD 6640.8 VEL 11.650 PTH 6.69 VHP 3.594 DPA -31.20 RAP 291.98 ECC 1.2579
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 17 50 2896.52 -26.40 84.93 207.62 131.13 18 6 14 1896.5 -8.66 67.39
 60.00 18 7 20 2765.20 -21.93 76.91 211.43 124.70 18 53 25 1765.2 -6.62 57.69
 70.00 19 10 34 2579.31 -17.84 64.57 214.16 119.62 19 53 33 1579.3 -4.52 44.20
 80.00 20 28 57 2333.92 -14.82 47.61 215.83 116.22 21 7 51 1333.9 -2.94 26.56
 90.00 21 54 49 2056.88 -13.68 27.81 216.39 114.99 22 29 6 1056.9 -2.34 6.52
 100.00 23 11 49 1808.40 -14.82 8.98 215.83 116.22 23 41 57 808.4 -2.94 347.93
 110.00 0 13 56 1626.13 -17.84 353.49 214.16 119.62 0 41 2 626.1 -4.52 333.12

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.4512 TRA 3.9625 TC3-5.9015 BAU 1.2388 SGT 7744.0 SGR 702.7 SG3 1205.4 ST 136.6 SR 25.5 SS 91.2
 RDE .3425 RRA .2774 RC3 -.3636 FAU .13392 RRT .8723 RRF .8970 RTF .9767 CRT .8995 CRS -.9197 CST -.9986
 FDE 3.2431 FRA 8.0239 FC3-7.3979 BSP 13259 SGB 7775.8 R23 .0865 R13 .9770 LSA 165.9 MSA 11.3 S8A 1.3
 BDE 1.4911 BRA 3.9722 BC3 5.9127 FSP 2229 SG1 7768.3 SG2 342.5 THA 4.53 EL1 138.6 EL2 11.0 ALF 9.60

LAUNCH DATE APR 23 1971 FLIGHT TIME 278.00 ARRIVAL DATE JAN 26 1972

HELIOCENTRIC CONIC DISTANCE 649.345 EARTH TO MARS
 RL 150.41 LAL -.00 LOL 212.20 VL 32.404 GAL -4.38 AZL 90.69 HCA 206.93 SMA 185.69 ECC .20425 INC .6942 V1 29.624
 RP 223.62 LAP .31 LOP 59.13 VP 21.732 GAP -.16 AZP 89.38 TAL 333.68 TAP 180.61 RCA 147.77 APO 223.62 V2 24.591
 RC 211.896 GL -5.61 GP -7.23 ZAL 137.29 ZAP 50.49 ETS 173.06 ZAE 89.36 ETE 180.24 ZAC 95.31 ETC 270.98 LVI -1.64

PLANETOCENTRIC CONIC
 C3 16.028 VHL 4.003 DLA -9.20 RAL 352.85 RAD 6641.0 VEL 11.665 PTH 6.70 VHP 3.628 DPA -30.82 RAP 292.13 ECC 1.2638
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 20 52 2898.64 -26.50 85.04 208.47 131.08 18 9 11 1898.6 -8.96 67.48
 60.00 18 10 25 2766.87 -21.99 77.01 212.30 124.66 18 56 32 1766.9 -6.69 57.77
 70.00 19 13 50 2580.42 -17.88 64.64 215.05 119.60 19 56 50 1580.4 -4.56 44.26
 80.00 20 32 24 2334.47 -14.84 47.65 216.73 116.21 21 11 18 1334.5 -2.96 26.59
 90.00 21 58 21 2057.16 -13.69 27.83 217.30 114.99 22 32 38 1057.2 -2.35 6.54
 100.00 23 15 16 1808.94 -14.84 9.02 216.73 116.21 23 45 25 808.9 -2.96 347.95
 110.00 0 17 12 1627.23 -17.88 353.56 215.05 119.60 0 44 19 627.2 -4.56 333.18

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.4928 TRA 4.0993 TC3-5.8927 BAU 1.2647 SGT 7883.4 SGR 670.7 SG3 1177.2 ST 139.3 SR 25.3 SS 90.3
 RDE .3445 RRA .2532 RC3 -.3353 FAU .13009 RRT .8514 RRF .8766 RTF .9763 CRT .8805 CRS -.9114 CST -.9984
 FDE 3.2185 FRA 7.9471 FC3-7.0271 BSP 13506 SGB 7911.9 R23 .0834 R13 .9766 LSA 167.5 MSA 11.8 S8A 1.3
 BDE 1.5320 BRA 4.1071 BC3 5.9022 FSP 2181 SG1 7904.1 SG2 350.9 THA 4.15 EL1 141.1 EL2 11.4 ALF 9.21

LAUNCH DATE APR 23 1971 FLIGHT TIME 280.00 ARRIVAL DATE JAN 28 1972

HELIOCENTRIC CONIC DISTANCE 653.423 EARTH TO MARS
 RL 150.41 LAL -.00 LOL 212.20 VL 32.412 GAL -4.47 AZL 90.74 HCA 208.01 SMA 185.84 ECC .20544 INC .7428 V1 29.624
 RP 224.01 LAP .35 LOP 60.21 VP 21.698 GAP -.32 AZP 89.34 TAL 333.22 TAP 181.23 RCA 147.66 APO 224.02 V2 24.550
 RC 214.558 GL -5.94 GP -6.89 ZAL 137.73 ZAP 49.59 ETS 173.16 ZAE 88.26 ETE 180.11 ZAC 95.64 ETC 271.03 LVI -2.03

PLANETOCENTRIC CONIC
 C3 16.395 VHL 4.049 DLA -9.31 RAL 353.42 RAD 6641.2 VEL 11.681 PTH 6.72 VHP 3.662 DPA -30.46 RAP 292.31 ECC 1.2698
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 23 34 2901.56 -26.63 85.20 209.31 131.01 18 11 56 1901.6 -9.11 67.61
 60.00 18 13 14 2769.46 -22.09 77.15 213.17 124.60 18 59 24 1769.5 -6.81 57.90
 70.00 19 16 48 2582.59 -17.95 64.76 215.93 119.56 19 59 51 1582.6 -4.65 44.37
 80.00 20 35 30 2336.22 -14.89 47.75 217.62 116.10 21 14 26 1336.2 -3.02 26.68
 90.00 22 1 31 2058.72 -13.73 27.92 218.19 114.96 22 35 49 1058.7 -2.40 6.62
 100.00 23 18 22 1810.69 -14.89 9.11 217.62 116.10 23 48 33 810.7 -3.02 348.05
 110.00 0 20 10 1629.41 -17.95 353.68 215.93 119.56 0 47 20 629.4 -4.65 333.29

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.5372 TRA 4.2361 TC3-5.8797 BAU 1.2905 SGT 8020.9 SGR 643.3 SG3 1149.2 ST 142.1 SR 25.1 SS 89.4
 RDE .3473 RRA .2304 RC3 -.3102 FAU .12634 RRT .8282 RRF .8540 RTF .5.60 CRT .8778 CRS -.9032 CST -.9983
 FDE 3.1954 FRA 7.8677 FC3-6.6713 BSP 13761 SGB 8046.7 R23 .0787 R13 .9762 LSA 169.3 MSA 12.3 S8A 1.3
 BDE 1.5760 BRA 4.2443 BC3 5.8879 FSP 2136 SG1 8038.6 SG2 359.7 THA 3.81 EL1 143.8 EL2 11.9 ALF 8.86

LAUNCH DATE APR 24 1971

FLIGHT TIME 112.00

ARRIVAL DATE AUG 14 1971

HELIOCENTRIC CONIC

RL 150.45 LAL -.00 LOL 213.18 VL 34.993 GAL -4.58 AZL 91.93 HCA 106.15 SMA 245.90 ECC .39508 INC 1.9259 V1 29.616
RP 207.38 LAP -1.85 LOP 319.34 VP 27.207 GAP 21.54 AZP 89.46 TAL 343.75 TAP 89.90 RCA 148.75 APO 343.05 V2 26.414
RC 56.241 GL -10.74 GP 1.27 ZAL 121.24 ZAP 173.95 ETS 167.74 ZAE 173.22 ETE 112.37 ZAC 101.88 ETC 276.81 LVI -17.91

PLANETOCENTRIC CONIC

C3 39.573 VHL 6.291 DLA -19.63 RAL 341.02 RAD 6650.5 VEL 12.627 PTH 7.48 VHP 10.682 DPA -17.34 RAP 316.06 ECC 1.6513
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 11 40 2905.59 -26.81 85.41 207.55 130.90 18 0 6 1905.6 -9.31 67.78
60.00 18 14 35 2738.32 -20.88 75.42 212.62 125.29 19 0 13 1738.3 -5.45 56.39
70.00 19 34 8 2504.45 -15.27 60.30 216.47 120.93 20 15 52 1504.5 -1.67 40.28
80.00 21 9 7 2207.14 -10.89 40.26 219.01 117.97 21 45 55 1207.1 1.35 19.60
90.00 22 42 58 1904.40 -9.13 18.93 219.93 116.88 23 14 43 904.4 2.57 358.01
100.00 23 51 59 1681.61 -10.89 1.63 219.01 117.97 24 20 1 681.6 1.35 340.96
110.00 0 37 30 1551.27 -15.27 349.21 216.47 120.93 1 3 21 551.3 -1.67 329.20

DIFFERENTIAL CORRECTIONS

TDE -.5901 TRA-1.2599 TC3 -.0504 BAU .0537
RDE -.5783 RRA .2000 RC3 .0681 FAU .03545
FDE .3389 FRA 1.1797 FC3 -.7756 BSP 2082
BDE .8262 BRA 1.2756 BC3 .1015 FSP 170

MID-COURSE EXECUTION ACCURACY

SGT 1333.1 SGR 572.0 SG3 132.4
RRT .0530 RRF -.0572 RTF -.7312
SGB 1450.6 R23 -.0097 R13 -.7313
SG1 1333.5 SG2 571.0 THA 1.60

ORBIT DETERMINATION ACCURACY

ST 32.5 SR 26.5 SS 21.3
CRT .7603 CR8 .5837 CST .9693
LSA 43.9 MSA 16.9 S8A 1.1
EL1 39.5 EL2 14.2 ALF 37.44

LAUNCH DATE APR 24 1971

FLIGHT TIME 114.00

ARRIVAL DATE AUG 16 1971

HELIOCENTRIC CONIC

RL 150.45 LAL -.00 LOL 213.18 VL 34.824 GAL -4.45 AZL 91.94 HCA 107.42 SMA 240.63 ECC .38162 INC 1.9382 V1 29.616
RP 207.27 LAP -1.85 LOP 320.60 VP 27.001 GAP 21.64 AZP 89.42 TAL 343.80 TAP 91.22 RCA 148.80 APO 332.46 V2 26.426
RC 56.362 GL -11.08 GP 1.31 ZAL 121.27 ZAP 173.10 ETS 168.89 ZAE 173.50 ETE 104.75 ZAC 101.88 ETC 276.90 LVI -18.08

PLANETOCENTRIC CONIC

C3 37.305 VHL 6.108 DLA -19.92 RAL 341.23 RAD 6649.7 VEL 12.538 PTH 7.41 VHP 10.352 DPA -17.18 RAP 316.46 ECC 1.6139
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 13 47 2884.55 -25.86 84.30 206.87 131.44 18 1 52 1884.6 -8.26 68.88
60.00 18 17 8 2716.11 -20.00 74.20 211.95 125.75 19 2 24 1716.1 -4.47 55.33
70.00 19 37 15 2480.57 -14.43 58.96 215.81 121.30 20 18 36 1480.6 -.76 39.04
80.00 21 12 55 2181.23 -10.05 38.79 218.37 118.26 21 49 16 1181.2 2.23 18.17
90.00 22 47 6 1877.38 -8.30 17.38 219.30 117.13 23 18 23 877.4 3.44 356.50
100.00 23 55 46 1655.70 -10.05 .16 218.37 118.26 24 23 21 655.7 2.23 339.54
110.00 0 40 37 1527.39 -14.43 347.87 215.81 121.30 1 6 5 527.4 -.76 327.96

DIFFERENTIAL CORRECTIONS

TDE -.5887 TRA-1.2526 TC3 -.0382 BAU .0509
RDE -.5601 RRA .1911 RC3 .0945 FAU .03657
FDE .3501 FRA 1.2283 FC3 -.8487 BSP 2173
BDE .8111 BRA 1.2671 BC3 .1020 FSP 185

MID-COURSE EXECUTION ACCURACY

SGT 1366.4 SGR 570.7 SG3 141.6
RRT .0583 RRF -.0626 RTF -.7433
SGB 1480.8 R23 -.0102 R13 -.7434
SG1 1366.9 SG2 569.6 THA 1.69

ORBIT DETERMINATION ACCURACY

ST 33.3 SR 26.4 SS 22.1
CRT .7606 CR8 .5808 CST .9684
LSA 44.8 MSA 17.1 S8A 1.1
EL1 40.0 EL2 14.3 ALF 36.48

LAUNCH DATE APR 24 1971

FLIGHT TIME 116.00

ARRIVAL DATE AUG 18 1971

HELIOCENTRIC CONIC

RL 150.45 LAL -.00 LOL 213.18 VL 34.664 GAL -4.33 AZL 91.95 HCA 108.68 SMA 235.88 ECC .36893 INC 1.9508 V1 29.616
RP 207.18 LAP -1.85 LOP 321.87 VP 26.806 GAP 20.54 AZP 89.37 TAL 343.87 TAP 92.55 RCA 148.86 APO 322.90 V2 26.438
RC 56.568 GL -11.44 GP 1.36 ZAL 121.28 ZAP 172.25 ETS 169.79 ZAE 173.65 ETE 96.85 ZAC 101.87 ETC 276.99 LVI -18.24

PLANETOCENTRIC CONIC

C3 35.213 VHL 5.934 DLA -20.22 RAL 341.43 RAD 6649.0 VEL 12.454 PTH 7.35 VHP 10.032 DPA -17.02 RAP 316.85 ECC 1.5795
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 15 55 2863.55 -24.91 83.20 206.22 131.94 18 3 38 1863.5 -7.21 65.98
60.00 18 19 43 2693.87 -19.11 72.99 211.30 126.18 19 4 37 1693.9 -3.50 54.26
70.00 19 40 27 2456.54 -13.57 57.62 215.17 121.65 20 21 23 1456.5 .16 37.78
80.00 21 16 48 2155.00 -9.20 37.31 217.75 118.53 21 52 43 1155.0 3.11 16.73
90.00 22 51 22 1849.94 -7.44 15.82 218.70 117.36 23 22 12 849.9 4.32 354.96
100.00 0 3 35 1629.47 -9.20 358.68 217.75 118.53 0 30 45 629.5 3.11 338.10
110.00 0 43 49 1503.35 -13.57 346.54 215.17 121.65 1 8 52 503.4 .16 326.70

DIFFERENTIAL CORRECTIONS

TDE -.5821 TRA-1.2434 TC3 -.0282 BAU .0495
RDE -.5424 RRA .1823 RC3 .1013 FAU .03774
FDE .3614 FRA 1.2787 FC3 -.9279 BSP 2238
BDE .7936 BRA 1.2566 BC3 .1051 FSP 200

MID-COURSE EXECUTION ACCURACY

SGT 1397.0 SGR 569.1 SG3 151.3
RRT .0632 RRF -.0684 RTF -.7229
SGB 1509.2 R23 -.0115 R13 -.7531
SG1 1398.4 SG2 567.8 THA 1.76

ORBIT DETERMINATION ACCURACY

ST 34.0 SR 26.3 SS 22.9
CRT .7608 CR8 .5777 CST .9675
LSA 45.6 MSA 17.2 S8A 1.1
EL1 40.6 EL2 14.3 ALF 35.60

LAUNCH DATE APR 24 1971

FLIGHT TIME 118.00

ARRIVAL DATE AUG 20 1971

HELIOCENTRIC CONIC

RL 150.45 LAL -.00 LOL 213.18 VL 34.513 GAL -4.20 AZL 91.96 HCA 109.94 SMA 231.37 ECC .35698 INC 1.9636 V1 29.616
RP 207.09 LAP -1.85 LOP 323.13 VP 26.620 GAP 20.05 AZP 89.33 TAL 343.95 TAP 93.80 RCA 148.91 APO 314.23 V2 26.448
RC 56.856 GL -11.80 GP 1.41 ZAL 121.27 ZAP 171.38 ETS 170.51 ZAE 173.70 ETE 89.02 ZAC 101.87 ETC 277.07 LVI -18.40

PLANETOCENTRIC CONIC

C3 33.280 VHL 5.789 DLA -20.54 RAL 341.61 RAD 6648.3 VEL 12.377 PTH 7.29 VHP 9.723 DPA -16.86 RAP 317.22 ECC 1.5477
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 18 3 2842.57 -23.95 82.13 205.60 132.42 18 5 25 1842.6 -6.17 65.09
60.00 18 22 20 2671.58 -18.21 71.79 210.66 126.59 19 6 52 1671.6 -2.52 53.19
70.00 19 43 43 2432.34 -12.71 56.28 214.56 121.97 20 24 16 1432.3 1.09 36.52
80.00 21 20 49 2128.44 -8.34 35.81 217.16 118.77 21 56 18 1128.4 4.01 15.27
90.00 22 55 48 1822.05 -6.56 14.24 218.12 117.57 23 26 10 822.0 5.20 353.39
100.00 0 7 37 1602.91 -8.34 357.18 217.16 118.77 0 34 20 602.9 4.01 336.64
110.00 0 47 5 1479.16 -12.71 345.20 214.56 121.97 1 11 45 479.2 1.09 325.44

DIFFERENTIAL CORRECTIONS

TDE -.5695 TRA-1.2251 TC3 -.0072 BAU .0483
RDE -.5292 RRA .1737 RC3 .1083 FAU .03889
FDE .3750 FRA 1.3333 FC3 -1.0116 BSP 2200
BDE .7747 BRA 1.2373 BC3 .1086 FSP 218

MID-COURSE EXECUTION ACCURACY

SGT 1417.1 SGR 567.1 SG3 161.7
RRT .0681 RRF -.0751 RTF -.7687
SGB 1526.4 R23 -.0129 R13 -.7690
SG1 1417.8 SG2 565.6 THA 1.86

ORBIT DETERMINATION ACCURACY

ST 34.3 SR 26.2 SS 23.8
CRT .7590 CR8 .5762 CST .9678
LSA 46.1 MSA 17.4 S8A 1.1
EL1 40.7 EL2 14.4 ALF 35.11

LAUNCH DATE APR 24 1971

FLIGHT TIME 120.00

ARRIVAL DATE AUG 22 1971

HELIOCENTRIC CONIC
 RL 150.45 LAL -0.00 LOL 213.18 VL 34.370 GAL -4.08 AZL 91.98 HCA 111.21 SMA 227.67 ECC .34569 INC 1.9765 V1 29.616
 RP 207.01 LAP -1.84 LOP 324.40 VP 26.444 GAP 19.37 AZP 89.28 TAL 344.04 TAP 98.23 RCA 148.96 APO 306.37 V2 26.457
 RC 57.225 GL -12.16 GP 1.46 ZAL 121.24 ZAP 170.49 ETS 171.10 ZAE 173.63 ETE 81.97 ZAC 101.88 ETC 277.15 LVI -18.56

PLANETOCENTRIC CONIC
 C3 31.490 VHL 5.612 DLA -20.87 RAL 341.79 RAD 6647.6 VEL 12.305 PTH 7.24 VHP 9.424 DPA -16.71 RAP 317.58 ECC 1.5184
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 20 11 2821.72 -22.99 81.08 205.00 132.88 18 7 13 1821.7 -5.12 64.21
 60.00 18 25 0 2849.36 -17.31 70.61 210.06 126.98 19 9 9 1649.4 -1.54 52.13
 70.00 19 47 4 2408.09 -11.83 54.95 213.96 122.28 20 27 12 1408.1 2.01 35.26
 80.00 21 24 59 2101.65 -7.46 34.31 216.59 119.00 22 0 1 1101.7 4.91 13.79
 90.00 23 0 25 1793.81 -5.67 12.64 217.56 117.75 23 30 19 793.8 6.10 351.80
 100.00 0 11 47 1576.12 -7.46 355.68 216.59 119.00 0 38 3 576.1 4.91 335.16
 110.00 0 50 27 1454.91 -11.83 343.87 213.96 122.28 1 14 41 454.9 2.01 324.17

DIFFERENTIAL CORRECTIONS
 TDE -.5684 TRA-1.2185 TC3 .0005 BAU .0487
 RDE -.5086 RRA .1631 RC3 .1137 FAU .04025
 FDE .3856 FRA 1.3874 FC3-1.1064 BSP 2308
 BDE .7627 BRA 1.2296 BC3 .1157 FSP 235

MID-COURSE EXECUTION ACCURACY
 SGT 1452.3 SGR 564.8 SG3 172.7
 RRT .0747 RRF -.0818 RTF -.7742
 SGB 1558.2 R23 -.0138 R13 -.7744
 SG1 1453.0 SG2 562.9 THA 1.96

ORBIT DETERMINATION ACCURACY
 ST 35.2 SR 26.1 SS 24.5
 CRT .7605 CRS .5719 CST .9659
 LSA 47.1 MSA 17.5 SSA 1.1
 EL1 41.4 EL2 14.4 ALF 34.10

LAUNCH DATE APR 24 1971

FLIGHT TIME 122.00

ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC
 RL 150.45 LAL -0.00 LOL 213.18 VL 34.235 GAL -3.96 AZL 91.99 HCA 112.47 SMA 224.11 ECC .33507 INC 1.9897 V1 29.616
 RP 206.94 LAP -1.84 LOP 325.66 VP 26.277 GAP 19.10 AZP 89.24 TAL 344.15 TAP 96.62 RCA 149.02 APO 299.20 V2 26.466
 RC 57.675 GL -12.54 GP 1.52 ZAL 121.20 ZAP 169.59 ETS 171.60 ZAE 173.49 ETE 74.75 ZAC 101.88 ETC 277.23 LVI -18.72

PLANETOCENTRIC CONIC
 C3 29.852 VHL 5.464 DLA -21.21 RAL 341.94 RAD 6646.9 VEL 12.239 PTH 7.19 VHP 9.135 DPA -16.55 RAP 317.92 ECC 1.4913
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 22 21 2800.97 -22.03 80.05 204.42 133.30 18 9 2 1801.0 -4.08 63.34
 60.00 18 27 42 2627.17 -16.39 69.45 209.48 127.35 19 11 29 1627.2 -7.56 51.07
 70.00 19 50 30 2383.75 -10.94 53.63 213.40 122.56 20 30 14 1383.8 2.94 33.98
 80.00 21 29 18 2074.58 -6.56 32.80 216.05 119.19 22 3 52 1074.6 5.81 12.29
 90.00 23 5 13 1765.18 -4.76 11.03 217.03 117.91 23 34 38 765.2 7.00 350.18
 100.00 0 16 5 1549.05 -6.56 354.17 216.05 119.19 0 41 54 549.1 5.81 333.66
 110.00 0 53 53 1430.57 -10.94 342.54 213.40 122.56 1 17 43 430.6 2.94 322.90

DIFFERENTIAL CORRECTIONS
 TDE -.5660 TRA-1.2100 TC3 .0113 BAU .0495
 RDE -.4925 RRA .1586 RC3 .1235 FAU .04168
 FDE .3973 FRA 1.4446 FC3-1.2086 BSP 2396
 BDE .7503 BRA 1.2201 BC3 .1240 FSP 253

MID-COURSE EXECUTION ACCURACY
 SGT 1485.0 SGR 562.1 SG3 184.5
 RRT .0821 RRF -.0893 RTF -.7808
 SGB 1587.8 R23 -.0147 R13 -.7811
 SG1 1485.8 SG2 559.9 THA 2.07

ORBIT DETERMINATION ACCURACY
 ST 36.0 SR 26.0 SS 25.4
 CRT .7819 CRS .5683 CST .9643
 LSA 48.0 MSA 17.6 SSA 1.2
 EL1 42.0 EL2 14.4 ALF 33.18

LAUNCH DATE APR 24 1971

FLIGHT TIME 124.00

ARRIVAL DATE AUG 26 1971

HELIOCENTRIC CONIC
 RL 150.45 LAL -0.00 LOL 213.18 VL 34.107 GAL -3.84 AZL 92.00 HCA 113.74 SMA 220.86 ECC .32505 INC 2.0031 V1 29.616
 RP 206.87 LAP -1.83 LOP 326.93 VP 26.118 GAP 18.63 AZP 89.19 TAL 344.26 TAP 97.99 RCA 149.07 APO 292.65 V2 26.473
 RC 58.203 GL -12.91 GP 1.57 ZAL 121.13 ZAP 168.67 ETS 172.01 ZAE 173.28 ETE 66.71 ZAC 101.90 ETC 277.31 LVI -18.87

PLANETOCENTRIC CONIC
 C3 28.331 VHL 5.323 DLA -21.57 RAL 342.09 RAD 6646.3 VEL 12.177 PTH 7.14 VHP 8.855 DPA -16.39 RAP 318.25 ECC 1.4663
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 24 32 2780.36 -21.06 79.04 203.87 133.71 18 10 52 1780.4 -3.05 62.48
 60.00 18 30 27 2605.04 -15.48 68.30 208.93 127.69 19 13 52 1605.0 .41 50.01
 70.00 19 54 2 2359.34 -10.04 52.31 212.86 122.82 20 33 21 1359.3 3.87 32.71
 80.00 21 33 45 2047.23 -5.65 31.28 215.53 119.37 22 7 53 1047.2 6.72 10.77
 90.00 23 10 13 1736.11 -3.83 9.40 216.53 118.04 23 39 9 736.1 7.91 348.53
 100.00 0 20 33 1521.70 -5.65 352.65 215.53 119.37 0 45 55 521.7 6.72 332.14
 110.00 0 57 24 1406.16 -10.04 341.22 212.86 122.82 1 20 50 406.2 3.87 321.62

DIFFERENTIAL CORRECTIONS
 TDE -.5817 TRA-1.2000 TC3 .0242 BAU .0507
 RDE -.4769 RRA .1482 RC3 .1316 FAU .04320
 FDE .4091 FRA 1.5045 FC3-1.3202 BSP 2468
 BDE .7389 BRA 1.2091 BC3 .1338 FSP 273

MID-COURSE EXECUTION ACCURACY
 SGT 1515.1 SGR 559.1 SG3 197.1
 RRT .0895 RRF -.0975 RTF -.7775
 SGB 1614.9 R23 -.0161 R13 -.7878
 SG1 1516.0 SG2 556.5 THA 2.19

ORBIT DETERMINATION ACCURACY
 ST 36.7 SR 25.8 SS 26.2
 CRT .7827 CRS .5844 CST .9628
 LSA 48.0 MSA 17.7 SSA 1.2
 EL1 42.5 EL2 14.4 ALF 32.36

LAUNCH DATE APR 24 1971

FLIGHT TIME 126.00

ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC
 RL 150.45 LAL -0.00 LOL 213.18 VL 33.987 GAL -3.73 AZL 92.02 HCA 115.01 SMA 217.88 ECC .31561 INC 2.0169 V1 29.616
 RP 206.82 LAP -1.83 LOP 328.20 VP 25.967 GAP 18.17 AZP 89.15 TAL 344.37 TAP 99.38 RCA 149.12 APO 286.65 V2 26.479
 RC 58.807 GL -13.30 GP 1.83 ZAL 121.06 ZAP 167.73 ETS 172.36 ZAE 173.04 ETE 63.48 ZAC 101.91 ETC 277.38 LVI -19.03

PLANETOCENTRIC CONIC
 C3 26.926 VHL 5.189 DLA -21.93 RAL 342.23 RAD 6645.8 VEL 12.120 PTH 7.09 VHP 8.584 DPA -16.24 RAP 318.56 ECC 1.4431
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 26 43 2759.90 -20.10 78.05 203.35 134.08 18 12 43 1759.9 -2.02 61.62
 60.00 18 33 15 2582.99 -14.55 67.16 208.40 128.01 19 16 18 1583.0 1.38 48.96
 70.00 19 57 39 2334.89 -9.14 50.99 212.35 123.05 20 36 33 1334.9 4.80 31.42
 80.00 21 38 23 2019.81 -4.73 29.75 215.05 119.52 22 12 2 1019.6 7.63 9.23
 90.00 23 15 25 1706.60 -2.89 7.75 216.06 118.14 23 43 52 706.6 8.83 346.85
 100.00 0 25 11 1494.08 -4.73 351.12 215.05 119.52 0 50 5 494.1 7.63 330.60
 110.00 1 1 1 1381.70 -9.14 339.91 212.35 123.05 1 24 2 381.7 4.80 320.34

DIFFERENTIAL CORRECTIONS
 TDE -.5573 TRA-1.1893 TC3 .0381 BAU .0523
 RDE -.4618 RRA .1398 RC3 .1401 FAU .04479
 FDE .4214 FRA 1.5676 FC3-1.4402 BSP 2537
 BDE .7238 BRA 1.1974 BC3 .1452 FSP 294

MID-COURSE EXECUTION ACCURACY
 SGT 1544.1 SGR 555.8 SG3 210.4
 RRT .0978 RRF -.1064 RTF -.7942
 SGB 1641.0 R23 -.0174 R13 -.7946
 SG1 1545.2 SG2 552.7 THA 2.31

ORBIT DETERMINATION ACCURACY
 ST 37.4 SR 25.6 SS 27.0
 CRT .7837 CRS .5807 CST .9612
 LSA 49.7 MSA 17.8 SSA 1.2
 EL1 43.0 EL2 14.4 ALF 31.57

LAUNCH DATE APR 24 1971

FLIGHT TIME 120.00

ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC
 RL 150.45 LAL -.00 LOL 213.18 VL 33.873 GAL -3.82 AZL 92.03 HCA 116.27 SMA 219.16 ECC .30670 INC 2.0309 V1 29.616
 RP 206.77 LAP -1.82 LOP 329.48 VP 25.823 GAP 17.72 AZP 89.10 TAL 344.50 TAP 100.77 RCA 149.17 APO 281.15 V2 26.485
 RC 59.485 GL -13.69 GP 1.70 ZAL 120.96 ZAP 166.78 ETS 172.66 ZAE 172.77 ETE 59.09 ZAC 101.94 ETC 277.45 LVI -19.18

PLANETOCENTRIC CONIC
 C3 25.628 VHL 5.062 DLA -22.31 RAL 342.35 RAD 6645.3 VEL 12.066 PTH 7.05 VHP 8.322 DPA -16.08 RAP 318.85 ECC 1.4218
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 28 56 2739.63 -19.13 77.09 202.86 134.43 18 14 36 1739.6 -1.00 60.77
 60.00 18 36 5 2561.05 -13.63 66.04 207.90 128.30 19 18 46 1561.1 2.35 47.91
 70.00 20 1 21 2310.40 -8.23 49.68 211.87 123.27 20 39 51 1310.4 5.73 30.13
 80.00 21 43 11 1991.71 -3.79 28.21 214.59 119.64 22 16 23 991.7 8.55 7.66
 90.00 23 20 52 1676.62 -1.92 6.07 215.63 118.22 23 48 49 676.6 9.75 345.13
 100.00 0 29 59 1466.18 -3.79 349.58 214.59 119.64 0 54 25 466.2 8.55 329.03
 110.00 1 4 43 1357.22 -8.23 338.60 211.87 123.27 1 27 21 357.2 5.73 319.05

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.5522 TRA-1.1779 TC3 .0531 BAU .0542 SGT 1571.6 SGR 552.2 SG3 224.7 ST 36.0 SR 25.4 SS 27.9
 RDE -.4473 RRA .1315 RC3 .1489 FAU .04649 RRT .1067 RRF -.1162 RTF -.8008 CRT .7647 CRS .5570 CST .9596
 FDE .4342 FRA 1.6339 FC3-1.5708 BSP 2599 SGB 1665.8 R23 -.0190 R13 -.8010 LSA 50.5 MSA 17.9 SSA 1.2
 BDE .7106 BRA 1.1853 BC3 .1581 FSP 317 SG1 1572.9 SG2 548.6 THA 2.44 EL1 43.4 EL2 14.3 ALF 30.83

LAUNCH DATE APR 24 1971

FLIGHT TIME 130.00

ARRIVAL DATE SEP 1 1971

HELIOCENTRIC CONIC
 RL 150.45 LAL -.00 LOL 213.18 VL 33.766 GAL -3.51 AZL 92.05 HCA 117.54 SMA 212.65 ECC .29831 INC 2.0452 V1 29.616
 RP 206.74 LAP -1.81 LOP 330.73 VP 25.687 GAP 17.28 AZP 89.05 TAL 344.63 TAP 102.18 RCA 149.22 APO 276.09 V2 26.489
 RC 60.233 GL -14.09 GP 1.77 ZAL 120.85 ZAP 165.80 ETS 172.91 ZAE 172.51 ETE 55.34 ZAC 101.97 ETC 277.31 LVI -19.33

PLANETOCENTRIC CONIC
 C3 24.427 VHL 4.942 DLA -22.69 RAL 342.47 RAD 6644.8 VEL 12.017 PTH 7.01 VHP 8.068 DPA -15.93 RAP 319.12 ECC 1.4020
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 31 11 2719.56 -18.17 76.14 202.39 134.76 18 16 30 1719.6 .01 59.94
 60.00 18 38 59 2539.24 -12.71 64.94 207.43 128.57 19 21 18 1539.2 3.31 46.87
 70.00 20 5 10 2285.89 -7.31 48.38 211.41 123.46 20 43 16 1285.9 6.65 28.84
 80.00 21 48 10 1963.52 -2.84 26.66 214.17 119.74 22 20 53 963.5 9.47 6.07
 90.00 23 26 34 1646.14 -.94 4.37 215.23 118.27 23 54 0 646.1 10.67 343.37
 100.00 0 34 58 1437.99 -2.84 348.03 214.17 119.74 0 58 56 438.0 9.47 327.44
 110.00 1 8 32 1332.71 -7.31 337.30 211.41 123.46 1 30 45 332.7 6.65 317.76

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.5465 TRA-1.1659 TC3 .0695 BAU .0564 SGT 1597.6 SGR 548.3 SG3 240.0 ST 38.6 SR 25.2 SS 28.8
 RDE -.4332 RRA .1233 RC3 .1582 FAU .04830 RRT .1163 RRF -.1267 RTF -.8069 CRT .7656 CRS .5529 CST .9579
 FDE .4468 FRA 1.7036 FC3-1.7119 BSP 2632 SGB 1689.1 R23 -.0207 R13 -.8073 LSA 51.2 MSA 18.0 SSA 1.2
 BDE .6973 BRA 1.1724 BC3 .1727 FSP 342 SG1 1599.1 SG2 544.1 THA 2.58 EL1 43.8 EL2 14.3 ALF 30.13

LAUNCH DATE APR 24 1971

FLIGHT TIME 132.00

ARRIVAL DATE SEP 3 1971

HELIOCENTRIC CONIC
 RL 150.45 LAL -.00 LOL 213.18 VL 33.664 GAL -3.41 AZL 92.06 HCA 118.81 SMA 210.35 ECC .29039 INC 2.0599 V1 29.616
 RP 206.71 LAP -1.80 LOP 332.00 VP 25.557 GAP 16.85 AZP 89.01 TAL 344.77 TAP 103.59 RCA 149.26 APO 271.43 V2 26.492
 RC 61.050 GL -14.49 GP 1.84 ZAL 120.73 ZAP 164.81 ETS 173.13 ZAE 172.27 ETE 52.29 ZAC 102.00 ETC 277.57 LVI -19.48

PLANETOCENTRIC CONIC
 C3 23.310 VHL 4.829 DLA -23.08 RAL 342.58 RAD 6644.3 VEL 11.971 PTH 6.97 VHP 7.822 DPA -15.78 RAP 319.37 ECC 1.3838
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 33 27 2699.70 -17.22 75.22 201.96 135.07 18 18 26 1699.7 1.00 59.11
 60.00 18 41 56 2517.58 -11.79 63.85 206.99 128.82 19 23 53 1517.6 4.26 45.83
 70.00 20 9 4 2261.38 -6.39 47.08 211.00 123.62 20 46 46 1261.4 7.57 27.54
 80.00 21 53 21 1935.03 -1.87 25.10 213.79 119.80 22 25 36 935.0 10.39 4.46
 90.00 23 32 32 1615.11 .06 2.64 214.86 118.28 23 59 27 615.1 11.60 341.57
 100.00 0 40 9 1409.51 -1.87 346.47 213.79 119.80 1 3 38 409.5 10.39 323.83
 110.00 1 12 27 1308.20 -6.39 336.00 211.00 123.62 1 34 15 308.2 7.57 316.46

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.5407 TRA-1.1535 TC3 .0867 BAU .0589 SGT 1622.3 SGR 544.2 SG3 256.2 ST 39.1 SR 25.0 SS 29.7
 RDE -.4196 RRA .1151 RC3 .1678 FAU .05023 RRT .1269 RRF -.1383 RTF -.8128 CRT .7667 CRS .5489 CST .9560
 FDE .4599 FRA 1.7770 FC3-1.8650 BSP 2706 SGB 1711.2 R23 -.0225 R13 -.8133 LSA 52.0 MSA 18.1 SSA 1.2
 BDE .6844 BRA 1.1592 BC3 .1889 FSP 369 SG1 1624.0 SG2 539.2 THA 2.74 EL1 44.2 EL2 14.2 ALF 29.46

LAUNCH DATE APR 24 1971

FLIGHT TIME 134.00

ARRIVAL DATE SEP 5 1971

HELIOCENTRIC CONIC
 RL 150.45 LAL -.00 LOL 213.18 VL 33.589 GAL -3.31 AZL 92.08 HCA 120.08 SMA 208.22 ECC .28293 INC 2.0750 V1 29.616
 RP 206.69 LAP -1.80 LOP 333.27 VP 25.433 GAP 16.43 AZP 88.96 TAL 344.92 TAP 105.00 RCA 149.31 APO 267.13 V2 26.495
 RC 61.933 GL -14.89 GP 1.91 ZAL 120.60 ZAP 163.79 ETS 173.33 ZAE 172.05 ETE 49.81 ZAC 102.04 ETC 277.63 LVI -19.62

PLANETOCENTRIC CONIC
 C3 22.293 VHL 4.722 DLA -23.49 RAL 342.68 RAD 6643.8 VEL 11.928 PTH 6.93 VHP 7.585 DPA -15.63 RAP 319.60 ECC 1.3664
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 35 44 2680.09 -18.27 74.32 201.55 135.35 18 20 24 1680.1 1.99 58.29
 60.00 18 44 56 2496.08 -10.87 62.78 206.58 129.05 19 26 32 1496.1 5.20 44.79
 70.00 20 13 6 2236.88 -5.46 45.79 210.61 123.77 20 50 23 1236.9 8.49 26.23
 80.00 21 58 45 1906.23 -.90 23.52 213.44 119.85 22 30 31 906.7 11.31 2.82
 90.00 23 38 49 1583.46 1.08 .88 214.54 118.26 24 5 13 583.5 12.54 339.71
 100.00 0 45 33 1380.70 -.90 344.88 213.44 119.85 1 8 33 380.7 11.31 324.19
 110.00 1 16 28 1283.70 -5.46 334.70 210.61 123.77 1 37 52 283.7 8.49 315.15

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.5344 TRA-1.1404 TC3 .1040 BAU .0614 SGT 1645.3 SGR 539.9 SG3 273.5 ST 39.5 SR 24.8 SS 30.6
 RDE -.4064 RRA .1070 RC3 .1778 FAU .05228 RRT .1382 RRF -.1510 RTF -.8182 CRT .7678 CRS .5451 CST .9542
 FDE .4734 FRA 1.8538 FC3-2.0303 BSP 2761 SGB 1731.6 R23 -.0249 R13 -.8188 LSA 52.7 MSA 18.2 SSA 1.2
 BDE .6714 BRA 1.1454 BC3 .2060 FSP 397 SG1 1647.2 SG2 534.1 THA 2.90 EL1 44.5 EL2 14.1 ALF 28.84

LAUNCH DATE APR 24 1971

FLIGHT TIME 136.00

ARRIVAL DATE SEP 7 1971

Heliocentric Conic: RL 150.45 LAL -.00 LOL 213.18 VL 33.478 GAL -3.21 AZL 92.09 HCA 121.35 SMA 206.26 ECC .27590 INC 2.0904 V1 29.616
 RP 206.68 LAP -1.79 LOP 334.54 VP 23.315 GAP 16.02 AZP 88.91 TAL 345.07 TAP 106.42 RCA 148.35 APO 263.17 V2 26.496
 RC 62.879 GL -15.30 GP 2.00 ZAL 120.46 ZAP 162.78 ETS 173.49 ZAE 171.86 ETE 47.85 ZAC 102.09 ETC 277.66 LVI -19.77

Distance 359.758

Planetocentric Conic: C3 21.345 VHL 4.620 DLA -23.89 RAL 342.78 RAD 6643.4 VEL 11.889 PTH 6.90 VHP 7.354 DPA -15.48 RAP 319.81 ECC 1.3813
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 30 4 2660.74 -15.33 73.44 201.17 135.61 18 22 24 1660.7 2.96 57.48
 60.00 18 47 59 2474.76 -9.95 61.73 206.21 129.26 19 29 14 1474.8 6.13 43.76
 70.00 20 17 14 2212.39 -4.53 44.50 210.25 123.89 20 54 6 1212.4 9.40 24.92
 80.00 22 4 23 1877.07 .09 21.92 213.13 119.86 22 35 40 877.1 12.23 1.14
 90.00 23 49 26 1551.11 2.12 359.07 214.26 118.21 24 11 17 551.1 13.48 337.81
 100.00 0 51 10 1351.54 .09 343.28 213.13 119.86 1 13 42 351.5 12.23 322.51
 110.00 1 20 36 1259.21 -4.53 333.42 210.25 123.89 1 41 35 259.2 9.40 313.84

Differential Corrections: TDE -.5280 TRA-1.1269 TC3 .1220 BAU .0640 SGT 1666.6 SGR 535.4 SG3 292.0 ST 40.0 SR 24.5 S8 31.6
 RDE -.3937 RRA .0988 RC3 .1882 FAU .05446 RRT .1506 RRF -.1647 RTF -.8234 CRT .7692 CRS .5409 CST .9521
 FDE .4869 FRA 1.9350 FC3-2.2088 BSP 2805 SGB 1750.5 R23 -.0271 R13 -.8240 LSA 53.5 MSA 18.3 S8A 1.2
 BDE .6586 BRA 1.1312 BC3 .2243 FSP 428 SG1 1668.8 SG2 528.6 THA 3.08 EL1 44.7 EL2 14.0 ALF 28.24

Mid-course Execution Accuracy: SGT 1666.6 SGR 535.4 SG3 292.0 ST 40.0 SR 24.5 S8 31.6
 RRT .1506 RRF -.1647 RTF -.8234 CRT .7692 CRS .5409 CST .9521
 SGB 1750.5 R23 -.0271 R13 -.8240 LSA 53.5 MSA 18.3 S8A 1.2
 SG1 1668.8 SG2 528.6 THA 3.08 EL1 44.7 EL2 14.0 ALF 28.24

Orbit Determination Accuracy: ST 40.0 SR 24.5 S8 31.6
 CRT .7692 CRS .5409 CST .9521
 LSA 53.5 MSA 18.3 S8A 1.2
 EL1 44.7 EL2 14.0 ALF 28.24

LAUNCH DATE APR 24 1971

FLIGHT TIME 138.00

ARRIVAL DATE SEP 9 1971

Heliocentric Conic: RL 150.45 LAL -.00 LOL 213.18 VL 33.393 GAL -3.12 AZL 92.11 HCA 122.62 SMA 204.45 ECC .26927 INC 2.1062 V1 29.616
 RP 206.67 LAP -1.77 LOP 335.81 VP 25.202 GAP 15.61 AZP 88.86 TAL 345.22 TAP 107.84 RCA 149.40 APO 259.50 V2 26.496
 RC 63.888 GL -15.72 GP 2.08 ZAL 120.30 ZAP 161.69 ETS 173.64 ZAE 171.72 ETE 46.35 ZAC 102.15 ETC 277.73 LVI -19.91

Distance 363.292

Planetocentric Conic: C3 20.470 VHL 4.524 DLA -24.31 RAL 342.87 RAD 6643.0 VEL 11.852 PTH 6.87 VHP 7.132 DPA -15.33 RAP 319.99 ECC 1.3369
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 40 25 2641.66 -14.40 72.58 200.82 135.85 18 24 26 1641.7 3.92 56.68
 60.00 18 51 7 2453.64 -9.04 60.69 205.86 129.44 19 32 0 1453.6 7.05 42.74
 70.00 20 21 29 2187.93 -3.60 43.22 209.94 123.99 20 57 57 1187.9 10.30 23.60
 80.00 22 10 15 1847.51 1.09 20.29 212.86 119.84 22 41 3 847.5 13.15 359.43
 90.00 23 52 27 1517.93 3.19 357.22 214.02 118.11 24 17 45 517.9 14.43 335.83
 100.00 0 57 3 1321.98 1.09 341.66 212.86 119.84 1 19 5 322.0 13.15 320.80
 110.00 1 24 52 1234.75 -3.60 332.13 209.94 123.99 1 45 28 234.7 10.30 312.52

Differential Corrections: TDE -.5216 TRA-1.1130 TC3 .1396 BAU .0665 SGT 1686.4 SGR 530.7 SG3 311.6 ST 40.4 SR 24.2 S8 32.5
 RDE -.3814 RRA .0907 RC3 .1991 FAU .05679 RRT .1642 RRF -.1798 RTF -.8279 CRT .7710 CRS .5371 CST .9499
 FDE .5009 FRA 2.0206 FC3-2.4020 BSP 2846 SGB 1768.0 R23 -.0299 R13 -.8285 LSA 54.2 MSA 18.4 S8A 1.2
 BDE .6462 BRA 1.1167 BC3 .2432 FSP 460 SG1 1688.9 SG2 522.8 THA 3.27 EL1 45.0 EL2 13.8 ALF 27.68

Mid-course Execution Accuracy: SGT 1686.4 SGR 530.7 SG3 311.6 ST 40.4 SR 24.2 S8 32.5
 RRT .1642 RRF -.1798 RTF -.8279 CRT .7710 CRS .5371 CST .9499
 SGB 1768.0 R23 -.0299 R13 -.8285 LSA 54.2 MSA 18.4 S8A 1.2
 SG1 1688.9 SG2 522.8 THA 3.27 EL1 45.0 EL2 13.8 ALF 27.68

Orbit Determination Accuracy: ST 40.4 SR 24.2 S8 32.5
 CRT .7710 CRS .5371 CST .9499
 LSA 54.2 MSA 18.4 S8A 1.2
 EL1 45.0 EL2 13.8 ALF 27.68

LAUNCH DATE APR 24 1971

FLIGHT TIME 140.00

ARRIVAL DATE SEP 11 1971

Heliocentric Conic: RL 150.45 LAL -.00 LOL 213.18 VL 33.312 GAL -3.03 AZL 92.12 HCA 123.89 SMA 202.77 ECC .26303 INC 2.1225 V1 29.616
 RP 206.68 LAP -1.78 LOP 337.08 VP 25.095 GAP 15.21 AZP 88.82 TAL 345.38 TAP 109.26 RCA 149.44 APO 256.11 V2 26.496
 RC 64.956 GL -16.13 GP 2.17 ZAL 120.14 ZAP 160.61 ETS 173.76 ZAE 171.63 ETE 45.29 ZAC 102.21 ETC 277.77 LVI -20.05

Distance 366.879

Planetocentric Conic: C3 19.661 VHL 4.434 DLA -24.73 RAL 342.96 RAD 6642.7 VEL 11.818 PTH 6.84 VHP 6.916 DPA -15.19 RAP 320.14 ECC 1.3236
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 42 48 2622.87 -13.48 71.75 200.50 136.07 18 26 31 1622.9 4.86 55.89
 60.00 18 54 18 2432.73 -8.13 59.66 205.55 129.61 19 34 50 1432.7 7.96 41.72
 70.00 20 25 52 2163.49 -2.67 41.94 209.65 124.06 21 1 56 1163.5 11.20 22.28
 80.00 22 16 25 1817.51 2.11 18.65 212.63 119.79 22 46 42 817.5 14.07 357.68
 90.00 0 3 49 1483.79 4.28 353.30 213.83 117.98 0 28 33 483.8 15.39 333.78
 100.00 1 3 13 1291.98 2.11 340.01 212.63 119.79 1 24 45 292.0 14.07 319.05
 110.00 1 29 14 1210.31 -2.67 330.86 209.65 124.06 1 49 25 210.3 11.20 311.20

Differential Corrections: TDE -.5150 TRA-1.0979 TC3 .1567 BAU .0690 SGT 1703.5 SGR 526.0 SG3 332.4 ST 40.7 SR 23.9 S8 33.5
 RDE -.3898 RRA .0925 RC3 .2104 FAU .05924 RRT .1790 RRF -.1863 RTF -.8220 CRT .7731 CRS .5339 CST .9479
 FDE .5154 FRA 2.1100 FC3-2.6083 BSP 2888 SGB 1782.8 R23 -.0328 R13 -.8327 LSA 54.9 MSA 18.5 S8A 1.2
 BDE .6339 BRA 1.1010 BC3 .2624 FSP 493 SG1 1708.3 SG2 516.8 THA 3.48 EL1 45.2 EL2 13.7 ALF 27.15

Mid-course Execution Accuracy: SGT 1703.5 SGR 526.0 SG3 332.4 ST 40.7 SR 23.9 S8 33.5
 RRT .1790 RRF -.1863 RTF -.8220 CRT .7731 CRS .5339 CST .9479
 SGB 1782.8 R23 -.0328 R13 -.8327 LSA 54.9 MSA 18.5 S8A 1.2
 SG1 1708.3 SG2 516.8 THA 3.48 EL1 45.2 EL2 13.7 ALF 27.15

Orbit Determination Accuracy: ST 40.7 SR 23.9 S8 33.5
 CRT .7731 CRS .5339 CST .9479
 LSA 54.9 MSA 18.5 S8A 1.2
 EL1 45.2 EL2 13.7 ALF 27.15

LAUNCH DATE APR 24 1971

FLIGHT TIME 142.00

ARRIVAL DATE SEP 13 1971

Heliocentric Conic: RL 150.45 LAL -.00 LOL 213.18 VL 33.237 GAL -2.94 AZL 92.14 HCA 125.16 SMA 201.82 ECC .25715 INC 2.1393 V1 29.616
 RP 206.70 LAP -1.75 LOP 338.35 VP 24.992 GAP 14.82 AZP 88.77 TAL 345.54 TAP 110.69 RCA 149.48 APO 252.96 V2 26.494
 RC 66.082 GL -16.55 GP 2.27 ZAL 119.97 ZAP 159.50 ETS 173.87 ZAE 171.59 ETE 44.63 ZAC 102.29 ETC 277.81 LVI -20.18

Distance 370.517

Planetocentric Conic: C3 18.914 VHL 4.349 DLA -25.15 RAL 343.04 RAD 6642.3 VEL 11.787 PTH 6.81 VHP 6.707 DPA -15.05 RAP 320.27 ECC 1.3113
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 45 13 2604.35 -12.57 70.93 200.21 136.28 18 28 38 1604.3 5.79 55.11
 60.00 18 57 32 2412.00 -7.23 58.65 205.27 129.76 19 37 44 1412.0 8.86 40.71
 70.00 20 30 23 2139.03 -1.74 40.66 209.41 124.11 21 6 2 1139.0 12.09 20.99
 80.00 22 22 53 1786.93 3.14 16.96 212.44 119.71 22 52 40 786.9 15.00 355.88
 90.00 0 11 48 1448.36 5.41 353.31 213.89 117.80 0 35 56 448.4 16.36 331.63
 100.00 1 9 41 1261.39 3.14 338.33 212.44 119.71 1 30 42 261.4 15.00 317.25
 110.00 1 33 45 1185.85 -1.74 329.58 209.41 124.11 1 53 31 185.8 12.09 309.86

Differential Corrections: TDE -.4989 TRA-1.0751 TC3 .1934 BAU .0745 SGT 1702.8 SGR 521.2 SG3 354.5 ST 40.4 SR 23.6 S8 34.5
 RDE -.3580 RRA .0744 RC3 .2224 FAU .06192 RRT .1954 RRF -.2141 RTF -.8414 CRT .7725 CRS .5289 CST .9462
 FDE .5154 FRA 2.2026 FC3-2.8342 BSP 2807 SGB 1780.8 R23 -.0342 R13 -.8422 LSA 55.0 MSA 18.6 S8A 1.2
 BDE .6141 BRA 1.0756 BC3 .2948 FSP 530 SG1 1706.2 SG2 510.2 THA 3.76 EL1 44.8 EL2 13.5 ALF 27.02

Mid-course Execution Accuracy: SGT 1702.8 SGR 521.2 SG3 354.5 ST 40.4 SR 23.6 S8 34.5
 RRT .1954 RRF -.2141 RTF -.8414 CRT .7725 CRS .5289 CST .9462
 SGB 1780.8 R23 -.0342 R13 -.8422 LSA 55.0 MSA 18.6 S8A 1.2
 SG1 1706.2 SG2 510.2 THA 3.76 EL1 44.8 EL2 13.5 ALF 27.02

Orbit Determination Accuracy: ST 40.4 SR 23.6 S8 34.5
 CRT .7725 CRS .5289 CST .9462
 LSA 55.0 MSA 18.6 S8A 1.2
 EL1 44.8 EL2 13.5 ALF 27.02

LAUNCH DATE APR 24 1971 FLIGHT TIME 144.00 ARRIVAL DATE SEP 15 1971

HELIOCENTRIC CONIC DISTANCE 374.199 EARTH TO MARS
RL 150.49 LAL -.00 LOL 213.18 VL 33.168 GAL -2.86 AZL 92.16 HCA 126.42 SMA 199.78 ECC .25162 INC 2.1567 V1 29.616
RP 206.72 LAP -1.74 LOP 339.82 VP 24.894 GAP 14.44 AZP 88.72 TAL 345.69 TAP 112.12 RCA 149.51 APO 250.05 V2 26.491
RC 67.265 GL -16.88 GP 2.37 ZAL 119.80 ZAP 158.36 ETS 173.97 ZAE 171.61 ETE 44.37 ZAC 102.37 ETC 277.84 LVI -20.32
PLANETOCENTRIC CONIC
C3 16.225 VHL 4.269 DLA -25.58 RAL 343.13 RAD 6642.0 VEL 11.758 PTH 6.79 VHP 6.506 DPA -14.91 RAP 320.37 ECC 1.2999
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 47 41 2586.20 -11.68 70.13 199.98 136.48 18 30 47 1586.2 6.69 54.34
60.00 19 0 51 2391.58 -6.34 57.66 205.02 129.88 19 40 43 1391.6 9.74 39.71
70.00 20 35 2 2114.67 -.81 39.39 209.20 124.15 21 10 17 1114.7 12.97 19.61
80.00 22 29 41 1755.82 4.19 15.25 212.30 119.59 22 58 57 755.8 15.92 354.04
90.00 0 20 22 1411.57 6.57 351.24 213.61 117.57 0 43 53 411.6 17.34 329.38
100.00 1 16 29 1230.29 4.19 336.62 212.30 119.59 1 37 0 230.3 15.92 315.40
110.00 1 38 24 1161.49 -.81 328.31 209.20 124.15 1 57 46 161.5 12.97 308.53
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4965 TRA-1.0618 TC3 .2000 BAU .0751 SGT 1723.2 SGR 516.5 SG3 378.2 ST 40.9 SR 23.3 SS 35.5
RDE -.3471 RRA .0661 RC3 .2346 FAU .06469 RRT .2127 RRF -.2337 RTF -.8416 CRT .7766 CRS .5257 CST .9428
FDE .5434 FRA 2.3029 FC3-3.0731 BSP 2895 SGB 1798.9 R23 -.0389 R13 -.8426 LSA 55.9 MSA 18.6 SSA 1.2
BDE .6058 BRA 1.0639 BC3 .3083 FSP 570 SGI 1727.0 SG2 503.6 THA 3.99 EL1 45.2 EL2 13.3 ALF 26.38

LAUNCH DATE APR 24 1971 FLIGHT TIME 146.00 ARRIVAL DATE SEP 17 1971

HELIOCENTRIC CONIC DISTANCE 377.922 EARTH TO MARS
RL 150.45 LAL -.00 LOL 213.18 VL 33.098 GAL -2.78 AZL 92.17 HCA 127.69 SMA 198.45 ECC .24642 INC 2.1746 V1 29.616
RP 206.75 LAP -1.72 LOP 340.89 VP 24.801 GAP 14.07 AZP 88.67 TAL 345.85 TAP 113.54 RCA 149.55 APO 247.35 V2 26.487
RC 68.502 GL -17.40 GP 2.48 ZAL 119.63 ZAP 157.19 ETS 174.05 ZAE 171.67 ETE 44.53 ZAC 102.46 ETC 277.86 LVI -20.45
PLANETOCENTRIC CONIC
C3 17.590 VHL 4.194 DLA -26.01 RAL 343.21 RAD 6641.7 VEL 11.731 PTH 6.76 VHP 6.311 DPA -14.78 RAP 320.44 ECC 1.2895
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 50 11 2568.37 -10.80 69.36 199.74 136.63 18 32 59 1568.4 7.58 53.58
60.00 19 4 14 2371.40 -5.46 56.69 204.81 129.99 19 43 46 1371.4 10.61 38.71
70.00 20 39 50 2090.33 .12 38.12 209.03 124.15 21 14 40 1090.3 13.84 18.26
80.00 22 36 53 1723.97 5.26 13.49 212.21 119.43 23 5 37 724.0 16.85 352.13
90.00 0 29 42 1372.84 7.79 349.04 213.59 117.27 0 52 34 372.8 16.34 326.98
100.00 1 23 41 1198.44 5.26 334.86 212.21 119.43 1 43 39 198.4 16.85 313.49
110.00 1 43 12 1137.15 .12 327.04 209.03 124.15 2 2 9 137.1 13.84 307.18
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4921 TRA-1.0478 TC3 .2093 BAU .0762 SGT 1737.7 SGR 511.9 SG3 403.3 ST 41.2 SR 23.0 SS 36.6
RDE -.3365 RRA .0576 RC3 .2473 FAU .06762 RRT .2316 RRF -.2551 RTF -.8428 CRT .7807 CRS .5230 CST .9396
FDE .5593 FRA 2.4087 FC3-3.3261 BSP 2952 SGB 1811.5 R23 -.0438 R13 -.8439 LSA 56.7 MSA 18.7 SSA 1.2
BDE .5962 BRA 1.0493 BC3 .3240 FSP 612 SGI 1742.1 SG2 496.7 THA 4.25 EL1 45.4 EL2 13.1 ALF 25.85

LAUNCH DATE APR 24 1971 FLIGHT TIME 148.00 ARRIVAL DATE SEP 19 1971

HELIOCENTRIC CONIC DISTANCE 381.685 EARTH TO MARS
RL 150.45 LAL -.00 LOL 213.18 VL 33.034 GAL -2.71 AZL 92.19 HCA 128.98 SMA 197.22 ECC .24152 INC 2.1931 V1 29.616
RP 206.79 LAP -1.71 LOP 342.16 VP 24.711 GAP 13.70 AZP 88.62 TAL 346.00 TAP 114.96 RCA 149.58 APO 244.85 V2 26.483
RC 69.791 GL -17.83 GP 2.60 ZAL 119.45 ZAP 155.99 ETS 174.12 ZAE 171.80 ETE 45.11 ZAC 102.57 ETC 277.88 LVI -20.59
PLANETOCENTRIC CONIC
C3 17.005 VHL 4.124 DLA -26.45 RAL 343.30 RAD 6641.5 VEL 11.706 PTH 6.74 VHP 6.122 DPA -14.64 RAP 320.47 ECC 1.2799
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 52 44 2550.88 -9.93 68.60 199.54 136.77 18 35 14 1550.9 8.46 52.84
60.00 19 7 42 2351.47 -4.59 55.73 204.64 130.08 19 46 53 1351.5 11.47 37.72
70.00 20 44 47 2065.99 1.05 36.85 208.90 124.14 21 19 13 1066.0 14.70 16.90
80.00 22 44 32 1691.19 6.35 11.67 212.18 119.24 23 12 43 591.2 17.78 350.14
90.00 0 40 0 1331.49 9.07 346.68 213.64 116.90 1 2 11 331.5 19.37 324.38
100.00 1 31 20 1165.66 6.35 333.04 212.18 119.24 1 30 49 165.7 17.78 311.51
110.00 1 48 9 1112.81 1.05 325.77 208.90 124.14 2 6 42 112.6 14.70 305.82
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4859 TRA-1.0311 TC3 .2203 BAU .0776 SGT 1746.2 SGR 507.4 SG3 429.8 ST 41.4 SR 22.7 SS 37.6
RDE -.3263 RRA .0491 RC3 .2806 FAU .07075 RRT .2519 RRF -.2784 RTF -.8443 CRT .7848 CRS .5203 CST .9382
FDE .5747 FRA 2.5190 FC3-3.6022 BSP 2986 SGB 1818.4 R23 -.0491 R13 -.8456 LSA 57.3 MSA 18.8 SSA 1.3
BDE .5833 BRA 1.0323 BC3 .3412 FSP 657 SGI 1751.3 SG2 489.7 THA 4.54 EL1 45.5 EL2 12.8 ALF 25.44

LAUNCH DATE APR 24 1971 FLIGHT TIME 150.00 ARRIVAL DATE SEP 21 1971

HELIOCENTRIC CONIC DISTANCE 385.482 EARTH TO MARS
RL 150.45 LAL -.00 LOL 213.18 VL 32.975 GAL -2.64 AZL 92.21 HCA 130.23 SMA 196.07 ECC .23692 INC 2.2123 V1 29.616
RP 206.84 LAP -1.69 LOP 343.43 VP 24.625 GAP 13.34 AZP 88.57 TAL 346.16 TAP 116.38 RCA 149.62 APO 242.52 V2 26.477
RC 71.130 GL -18.26 GP 2.72 ZAL 119.27 ZAP 154.78 ETS 174.18 ZAE 171.97 ETE 46.17 ZAC 102.69 ETC 277.89 LVI -20.72
PLANETOCENTRIC CONIC
C3 16.465 VHL 4.058 DLA -26.88 RAL 343.39 RAD 6641.2 VEL 11.684 PTH 6.72 VHP 5.941 DPA -14.51 RAP 320.48 ECC 1.2710
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 55 19 2533.73 -9.08 67.86 199.38 136.91 18 37 33 1533.7 9.31 52.10
60.00 19 11 14 2331.80 -3.72 54.79 204.50 130.16 19 50 6 1331.8 12.30 36.74
70.00 20 49 54 2041.66 1.98 35.58 208.81 124.10 21 23 56 1041.7 15.55 15.53
80.00 22 52 42 1857.27 7.47 9.78 212.19 118.99 23 20 20 657.3 18.72 348.06
90.00 0 51 38 1286.40 10.45 344.08 213.77 116.43 1 13 5 286.4 20.45 321.51
100.00 1 39 30 1131.74 7.47 331.15 212.19 118.99 1 58 22 131.7 18.72 309.43
110.00 1 53 17 1088.47 1.98 324.50 208.81 124.10 2 11 25 88.5 15.55 304.45
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4798 TRA-1.0138 TC3 .2300 BAU .0788 SGT 1752.1 SGR 503.3 SG3 458.0 ST 41.6 SR 22.4 SS 38.7
RDE -.3164 RRA .0404 RC3 .2744 FAU .07405 RRT .2741 RRF -.3037 RTF -.8457 CRT .7895 CRS .5188 CST .9329
FDE .5918 FRA 2.6367 FC3-3.8935 BSP 3007 SGB 1822.9 R23 -.0550 R13 -.8472 LSA 58.0 MSA 18.9 SSA 1.3
BDE .5748 BRA 1.0146 BC3 .3581 FSP 705 SGI 1757.9 SG2 482.4 THA 4.87 EL1 45.5 EL2 12.5 ALF 25.05

LAUNCH DATE APR 24 1971 FLIGHT TIME 192.00 ARRIVAL DATE SEP 23 1971

HELIOCENTRIC CONIC DISTANCE 389.313 EARTH TO MARS
RL 130.49 LAL -.00 LOL 213.18 VL 32.919 GAL -2.97 AZL 92.23 HCA 131.50 SMA 195.00 ECC .23260 INC 2.2322 V1 29.618
PLANETOCENTRIC CONIC
C3 15.970 VHL 3.996 DLA -27.32 RAL 343.48 RAD 6641.0 VEL 11.862 PTH 6.70 VHP 5.765 DPA -14.38 RAP 320.45 ECC 1.2628
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4728 TRA -.9946 TC3 .2382 BAU .0799 SGT 1752.7 SGR 499.6 SG3 487.9 ST 41.6 SR 22.0 SS 39.8

LAUNCH DATE APR 24 1971 FLIGHT TIME 154.00 ARRIVAL DATE SEP 25 1971

HELIOCENTRIC CONIC DISTANCE 393.173 EARTH TO MARS
RL 150.45 LAL -.00 LOL 213.18 VL 32.866 GAL -2.51 AZL 92.25 HCA 132.76 SMA 194.01 ECC .22854 INC 2.2529 V1 29.616
PLANETOCENTRIC CONIC
C3 15.514 VHL 3.939 DLA -27.75 RAL 343.58 RAD 6640.8 VEL 11.643 PTH 6.68 VHP 5.595 DPA -14.25 RAP 320.38 ECC 1.2553
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4656 TRA -.9745 TC3 .2439 BAU .0808 SGT 1749.7 SGR 496.3 SG3 519.4 ST 41.5 SR 21.7 SS 41.0

LAUNCH DATE APR 24 1971 FLIGHT TIME 156.00 ARRIVAL DATE SEP 27 1971

HELIOCENTRIC CONIC DISTANCE 397.062 EARTH TO MARS
RL 150.45 LAL -.00 LOL 213.18 VL 32.816 GAL -2.45 AZL 92.27 HCA 134.03 SMA 193.09 ECC .22473 INC 2.2744 V1 29.616
PLANETOCENTRIC CONIC
C3 15.097 VHL 3.885 DLA -28.19 RAL 343.68 RAD 6640.6 VEL 11.625 PTH 6.67 VHP 5.432 DPA -14.13 RAP 320.28 ECC 1.2485
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4583 TRA -.9528 TC3 .2473 BAU .0816 SGT 1742.0 SGR 493.8 SG3 552.7 ST 41.4 SR 21.3 SS 42.1

LAUNCH DATE APR 24 1971 FLIGHT TIME 158.00 ARRIVAL DATE SEP 28 1971

HELIOCENTRIC CONIC DISTANCE 400.977 EARTH TO MARS
RL 150.45 LAL -.00 LOL 213.18 VL 32.770 GAL -2.39 AZL 92.30 HCA 135.29 SMA 192.24 ECC .22116 INC 2.2969 V1 29.616
PLANETOCENTRIC CONIC
C3 14.715 VHL 3.836 DLA -28.63 RAL 343.79 RAD 6640.4 VEL 11.609 PTH 6.65 VHP 5.274 DPA -14.01 RAP 320.14 ECC 1.2422
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4432 TRA -.9229 TC3 .2662 BAU .0845 SGT 1716.5 SGR 492.1 SG3 987.7 ST 40.6 SR 20.9 SS 43.1

LAUNCH DATE APR 24 1971

FLIGHT TIME 160.00

ARRIVAL DATE OCT 1 1971

HELIOCENTRIC CONIC

DISTANCE 404.915

EARTH TO MARS

RL 150.45 LAL -.00 LOL 213.18 VL 32.726 GAL -2.34 AZL 92.32 HCA 136.55 SMA 191.45 ECC .21782 INC 2.3203 V1 29.616
 RP 207.21 LAP -1.60 LOP 349.75 VP 24.243 GAP 11.67 AZP 88.31 TAL 346.85 TAP 123.40 RCA 149.75 APO 233.15 V2 26.433
 RC 78.302 GL -20.44 GP 3.47 ZAL 118.40 ZAP 148.12 ETS 174.36 ZAE 173.35 ETE 61.39 ZAC 103.47 ETC 277.86 LVI -21.36

PLANETOCENTRIC CONIC

C3 14.367 VHL 3.790 DLA -29.06 RAL 343.91 RAD 6640.2 VEL 11.594 PTH 6.64 VHP 5.123 DPA -13.88 RAP 319.96 ECC 1.2364
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 9 4 2453.42 -5.07 64.45 199.08 137.37 18 49 57 1453.4 13.28 48.60
 60.00 19 30 12 2257.57 .42 50.28 204.35 130.30 20 7 30 1237.6 16.26 31.92
 70.00 21 18 31 1918.99 6.64 29.14 209.03 123.58 21 50 30 919.0 19.69 8.43
 80.00 23 48 30 1449.12 14.11 357.90 213.42 116.59 24 12 39 449.1 23.85 334.74
 83.01 1 13 51 1187.80 18.95 340.88 215.73 112.45 1 33 39 187.8 26.55 316.24
 100.00 2 35 18 6211.63 14.11 297.17 213.42 116.59 4 18 49 5211.6 23.85 274.02
 110.00 2 21 53 6253.85 6.64 295.96 209.03 123.58 4 6 7 5253.9 19.69 275.25

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4431 TRA -.9061 TC3 .2423 BAU .0824 SGT 1714.0 SGR 491.6 SG3 624.8 ST 40.9 SR 20.6 SS 44.5
 RDE -.2723 RRA -.0071 RC3 .3542 FAU .09355 RRT .4084 RRF -.4615 RTF -.8449 CRT .8235 CRS .5200 CST .9113
 FDE .6799 FRA 3.3208 FC3-5.6372 BSP 2979 SGB 1783.1 R23 -.1001 R13 -.8486 LSA 60.8 MSA 19.4 SSA 1.2
 BDE .5201 BRA .9061 BC3 .4292 FSP 990 SG1 1726.5 SG2 445.5 THA 7.16 EL1 44.5 EL2 10.7 ALF 23.99

LAUNCH DATE APR 24 1971

FLIGHT TIME 162.00

ARRIVAL DATE OCT 3 1971

HELIOCENTRIC CONIC

DISTANCE 408.876

EARTH TO MARS

RL 150.45 LAL -.00 LOL 213.18 VL 32.685 GAL -2.29 AZL 92.34 HCA 137.82 SMA 190.71 ECC .21469 INC 2.3449 V1 29.616
 RP 207.31 LAP -1.57 LOP 351.02 VP 24.175 GAP 11.36 AZP 88.26 TAL 346.97 TAP 124.78 RCA 149.77 APO 231.66 V2 26.422
 RC 80.098 GL -20.88 GP 3.65 ZAL 118.24 ZAP 146.68 ETS 174.38 ZAE 173.62 ETE 67.27 ZAC 103.67 ETC 277.83 LVI -21.49

PLANETOCENTRIC CONIC

C3 14.050 VHL 3.748 DLA -29.49 RAL 344.04 RAD 6640.1 VEL 11.581 PTH 6.62 VHP 4.977 DPA -13.76 RAP 319.74 ECC 1.2312
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 12 0 2438.46 -4.32 63.82 199.13 137.43 18 52 39 1438.5 14.01 47.93
 60.00 19 34 17 2219.54 1.22 49.42 204.44 130.29 20 11 17 1219.5 17.00 30.97
 70.00 21 24 59 1893.94 7.58 27.81 209.22 123.40 21 56 33 893.9 20.50 6.94
 80.00 0 11 43 1383.59 16.07 354.02 214.11 115.51 0 34 47 383.6 25.20 330.34
 81.26 1 0 31 1227.42 19.35 343.98 215.65 112.70 1 20 58 227.4 27.01 319.28
 100.00 2 54 35 6146.10 16.07 293.29 214.11 115.51 4 37 1 5146.1 25.20 269.61
 110.00 2 28 21 6228.80 7.58 294.63 209.22 123.40 4 12 10 5228.8 20.50 273.76

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4374 TRA -.8823 TC3 .2301 BAU .0822 SGT 1696.4 SGR 492.4 SG3 663.9 ST 40.7 SR 20.2 SS 45.8
 RDE -.2645 RRA -.0177 RC3 .3725 FAU .09802 RRT .4391 RRF -.4992 RTF -.8419 CRT .8340 CRS .5250 CST .9059
 FDE .7023 FRA 3.4823 FC3-6.0396 BSP 2960 SGB 1766.4 R23 -.1146 R13 -.8464 LSA 61.5 MSA 19.6 SSA 1.2
 BDE .5112 BRA .8823 BC3 .4379 FSP 1058 SG1 1711.1 SG2 438.6 THA 7.78 EL1 44.3 EL2 10.3 ALF 23.87

LAUNCH DATE APR 24 1971

FLIGHT TIME 164.00

ARRIVAL DATE OCT 5 1971

HELIOCENTRIC CONIC

DISTANCE 412.857

EARTH TO MARS

RL 150.45 LAL -.00 LOL 213.18 VL 32.647 GAL -2.25 AZL 92.37 HCA 139.08 SMA 190.03 ECC .21177 INC 2.3707 V1 29.616
 RP 207.42 LAP -1.55 LOP 352.28 VP 24.110 GAP 11.06 AZP 88.21 TAL 347.08 TAP 128.16 RCA 149.79 APO 230.27 V2 26.409
 RC 81.730 GL -21.33 GP 3.85 ZAL 118.08 ZAP 145.21 ETS 174.39 ZAE 173.83 ETE 74.35 ZAC 103.89 ETC 277.79 LVI -21.61

PLANETOCENTRIC CONIC

C3 13.783 VHL 3.710 DLA -29.93 RAL 344.18 RAD 6639.9 VEL 11.568 PTH 6.61 VHP 4.837 DPA -13.64 RAP 319.48 ECC 1.2265
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 15 1 2423.86 -3.59 63.21 199.21 137.47 18 55 25 1423.9 14.72 47.28
 60.00 19 38 30 2201.76 2.00 48.57 204.57 130.26 20 15 12 1201.8 17.73 30.03
 70.00 21 31 46 1868.52 8.53 26.45 209.46 123.20 22 2 55 868.5 21.30 5.40
 79.78 0 49 43 1259.25 19.74 346.52 215.61 112.96 1 10 42 259.3 27.47 321.76
 79.78 0 49 43 1259.25 19.74 346.52 215.61 112.96 1 10 42 259.3 27.47 321.76
 79.78 0 49 43 1259.25 19.74 346.52 215.61 112.96 1 10 42 259.3 27.47 321.76
 110.00 2 35 9 6203.38 8.53 293.28 209.46 123.20 4 18 32 5203.4 21.30 272.22

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4297 TRA -.8551 TC3 .2183 BAU .0824 SGT 1669.7 SGR 494.8 SG3 704.6 ST 40.3 SR 19.9 SS 47.0
 RDE -.2570 RRA -.0288 RC3 .3921 FAU .10282 RRT .4700 RRF -.5382 RTF -.8481 CRT .8448 CRS .5295 CST .8996
 FDE .7213 FRA 3.6471 FC3-6.4674 BSP 2914 SGB 1741.5 R23 -.1314 R13 -.8437 LSA 62.0 MSA 19.7 SSA 1.2
 BDE .5007 BRA .8553 BC3 .4478 FSP 1128 SG1 1687.0 SG2 432.2 THA 8.49 EL1 43.9 EL2 9.8 ALF 23.87

LAUNCH DATE APR 24 1971

FLIGHT TIME 168.00

ARRIVAL DATE OCT 7 1971

HELIOCENTRIC CONIC

DISTANCE 416.857

EARTH TO MARS

RL 150.45 LAL -.00 LOL 213.18 VL 32.611 GAL -2.21 AZL 92.40 HCA 140.34 SMA 189.39 ECC .20904 INC 2.3977 V1 29.616
 RP 207.54 LAP -1.53 LOP 353.54 VP 24.048 GAP 10.76 AZP 88.15 TAL 347.18 TAP 127.52 RCA 149.80 APO 228.99 V2 26.395
 RC 83.399 GL -21.78 GP 4.08 ZAL 117.93 ZAP 143.89 ETS 174.40 ZAE 173.93 ETE 82.56 ZAC 104.13 ETC 277.75 LVI -21.74

PLANETOCENTRIC CONIC

C3 13.504 VHL 3.675 DLA -30.36 RAL 344.34 RAD 6639.8 VEL 11.557 PTH 6.60 VHP 4.703 DPA -13.51 RAP 319.17 ECC 1.2222
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 18 7 2409.61 -2.87 62.61 199.33 137.51 18 58 16 1409.6 15.42 46.64
 60.00 19 42 30 2184.20 2.77 47.73 204.74 130.22 20 19 14 1184.2 18.44 29.10
 70.00 21 38 56 1842.59 9.49 25.06 209.76 122.96 22 9 39 842.6 22.10 3.82
 78.48 0 40 34 1286.18 20.12 348.70 215.61 113.23 1 2 0 286.2 27.92 323.88
 78.48 0 40 34 1286.18 20.12 348.70 215.61 113.23 1 2 0 286.2 27.92 323.88
 78.48 0 40 34 1286.18 20.12 348.70 215.61 113.23 1 2 0 286.2 27.92 323.88
 110.00 2 42 19 6177.45 9.49 291.89 209.76 122.96 4 25 16 5177.4 22.10 270.64

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4201 TRA -.8241 TC3 .2036 BAU .0831 SGT 1633.6 SGR 498.9 SG3 747.2 ST 39.6 SR 19.5 SS 48.2
 RDE -.2496 RRA -.0404 RC3 .4130 FAU .10787 RRT .5018 RRF -.5783 RTF -.8347 CRT .8564 CRS .5353 CST .8929
 FDE .7399 FRA 3.8191 FC3-8.9156 BSP 2834 SGB 1708.1 R23 -.1488 R13 -.8418 LSA 62.3 MSA 19.8 SSA 1.2
 BDE .4887 BRA .8251 BC3 .4604 FSP 1198 SG1 1654.1 SG2 426.2 THA 9.34 EL1 43.2 EL2 9.2 ALF 24.01

LAUNCH DATE APR 24 1971 FLIGHT TIME 168.00 ARRIVAL DATE OCT 9 1971

HELIOCENTRIC CONIC DISTANCE 420.875 EARTH TO MARS
RL 150.45 LAL -.00 LOL 213.18 VL 32.578 GAL -2.17 AZL 92.43 HCA 141.59 SMA 188.81 ECC .20649 INC 2.4262 V1 29.618

PLANETOCENTRIC CONIC C3 13.273 VHL 3.643 DLA -30.78 RAL 344.51 RAD 6639.7 VEL 11.547 PTH 6.59 VHP 4.574 DPA -13.39 RAP 316.82 ECC 1.2104
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS TDE -.4161 TRA -.7970 TC3 .1685 BAU .0827
RDE -.2429 RRA -.0529 RC3 .4343 FAU .11287
FDE .7659 FRA 4.0050 FC3-7.3621 BSP 2812
BDE .4818 BRA .7987 BC3 .4658 FSP 1280

LAUNCH DATE APR 24 1971 FLIGHT TIME 170.00 ARRIVAL DATE OCT 11 1971

HELIOCENTRIC CONIC DISTANCE 424.909 EARTH TO MARS
RL 150.45 LAL -.00 LOL 213.18 VL 32.546 GAL -2.13 AZL 92.46 HCA 142.85 SMA 188.26 ECC .20412 INC 2.4563 V1 29.616

PLANETOCENTRIC CONIC C3 13.066 VHL 3.615 DLA -31.21 RAL 344.70 RAD 6639.6 VEL 11.538 PTH 6.58 VHP 4.451 DPA -13.26 RAP 316.42 ECC 1.2190
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS TDE -.4093 TRA -.7649 TC3 .1361 BAU .0834
RDE -.2363 RRA -.0659 RC3 .4573 FAU .11824
FDE .7899 FRA 4.1947 FC3-7.8341 BSP 2741
BDE .4726 BRA .7677 BC3 .4772 FSP 1360

LAUNCH DATE APR 24 1971 FLIGHT TIME 172.00 ARRIVAL DATE OCT 13 1971

HELIOCENTRIC CONIC DISTANCE 428.959 EARTH TO MARS
RL 150.45 LAL -.00 LOL 213.18 VL 32.517 GAL -2.10 AZL 92.49 HCA 144.11 SMA 187.76 ECC .20192 INC 2.4882 V1 29.616

PLANETOCENTRIC CONIC C3 12.884 VHL 3.589 DLA -31.64 RAL 344.90 RAD 6639.5 VEL 11.531 PTH 6.58 VHP 4.333 DPA -13.13 RAP 317.98 ECC 1.2120
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS TDE -.4025 TRA -.7314 TC3 .0958 BAU .0846
RDE -.2301 RRA -.0799 RC3 .4816 FAU .12370
FDE .8145 FRA 4.3950 FC3-8.3116 BSP 2666
BDE .4636 BRA .7356 BC3 .4910 FSP 1445

LAUNCH DATE APR 24 1971 FLIGHT TIME 174.00 ARRIVAL DATE OCT 15 1971

HELIOCENTRIC CONIC DISTANCE 433.022 EARTH TO MARS
RL 150.45 LAL -.00 LOL 213.18 VL 32.490 GAL -2.08 AZL 92.52 HCA 145.38 SMA 187.29 ECC .19988 INC 2.5219 V1 29.616

PLANETOCENTRIC CONIC C3 12.726 VHL 3.567 DLA -32.07 RAL 345.12 RAD 6639.4 VEL 11.524 PTH 6.57 VHP 4.221 DPA -12.99 RAP 317.49 ECC 1.2094
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS TDE -.3957 TRA -.6952 TC3 .0502 BAU .0868
RDE -.2241 RRA -.0947 RC3 .5076 FAU .12945
FDE .8393 FRA 4.6000 FC3-8.8062 BSP 2574
BDE .4547 BRA .7017 BC3 .5101 FSP 1532

LAUNCH DATE APR 24 1971

FLIGHT TIME 176.00

ARRIVAL DATE OCT 17 1971

HELIOCENTRIC CONIC
 RL 150.45 LAL -.00 LOL 213.18 VL 32.465 GAL -2.03 AZL 92.56 HCA 146.61 SMA 186.88 ECC .19798 INC 2.5579 V1 29.618
 RP 208.24 LAP -1.41 LOP 359.81 VP 23.757 GAP 9.36 AZP 87.86 TAL 347.52 TAP 134.13 RCA 149.88 APO 223.85 V2 26.313
 RC 92.259 GL -24.08 GP 5.34 ZAL 117.33 ZAP 135.48 ETS 174.42 ZAE 171.81 ETE 125.55 ZAC 105.65 ETC 277.39 LVI -22.42

DISTANCE 437,099 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 12.590 VHL 3.548 DLA -32.49 RAL 345.36 RAD 6639.4 VEL 11.518 PTH 6.57 VHP 4.115 DPA -12.84 RAP 316.95 ECC 1.2072
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 35 6 2343.21 .46 59.84 200.54 137.57 19 14 10 1343.2 18.62 43.56
 60.00 20 6 52 2098.99 6.50 43.63 206.32 129.86 20 41 51 1099.0 21.83 24.43
 70.00 22 23 35 1696.31 14.79 17.05 212.32 121.14 22 51 51 696.3 26.27 354.51
 73.29 0 8 27 1384.92 21.88 356.99 216.27 114.65 0 31 32 384.9 30.08 331.89
 73.29 0 8 27 1384.92 21.88 356.99 216.27 114.65 0 31 32 384.9 30.08 331.89
 73.29 0 8 27 1384.92 21.88 356.99 216.27 114.65 0 31 32 384.9 30.08 331.89
 110.00 3 26 57 6031.17 14.79 283.87 212.32 121.14 5 7 28 5031.2 26.27 261.33

DIFFERENTIAL CORRECTIONS
 TDE -.3879 TRA -.6551 TC3 .0026 BAU .0902 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.2184 RRA -.1105 RC3 .5358 FAU .13551 SGT 1401.9 SGR 560.0 SG3 986.8 ST 36.5 SR 17.9 SS 55.1
 FDE .8644 FRA 4.8092 FC3-9.3177 BSP 2450 RRT .6200 RRF -.7744 RTF -.7766 CRT .9344 CRS .6024 CST .8445
 BDE .4451 BRA .6644 BC3 .5358 FSP 1616 SGB 1509.6 R23 -.3102 R13 -.8039 LSA 65.3 MSA 20.7 SSA 1.1
 SG1 1448.5 SG2 425.2 THA 15.26 EL1 40.3 EL2 5.8 ALF 25.18

LAUNCH DATE APR 24 1971

FLIGHT TIME 178.00

ARRIVAL DATE OCT 19 1971

HELIOCENTRIC CONIC
 RL 150.45 LAL -.00 LOL 213.18 VL 32.442 GAL -2.03 AZL 92.60 HCA 147.86 SMA 186.46 ECC .19623 INC 2.5962 V1 29.616
 RP 208.41 LAP -1.38 LOP 1.06 VP 23.704 GAP 9.10 AZP 87.80 TAL 347.55 TAP 135.41 RCA 149.87 APO 223.05 V2 26.294
 RC 94.128 GL -24.57 GP 5.65 ZAL 117.24 ZAP 133.71 ETS 174.43 ZAE 170.82 ETE 131.65 ZAC 106.03 ETC 277.30 LVI -22.57

DISTANCE 441,188 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 12.477 VHL 3.532 DLA -32.92 RAL 345.63 RAD 6639.3 VEL 11.513 PTH 6.56 VHP 4.014 DPA -12.68 RAP 316.36 ECC 1.2053
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 38 54 2330.70 1.09 59.31 200.91 137.57 19 17 45 1330.7 19.22 42.99
 60.00 20 12 18 2082.09 7.24 42.81 206.79 129.75 20 47 0 1082.1 22.48 23.48
 70.00 22 35 45 1659.36 16.08 14.96 213.13 120.55 23 3 24 659.4 27.22 352.05
 72.39 0 3 42 1400.98 22.20 358.39 216.54 114.96 0 27 3 401.0 30.50 333.24
 72.39 0 3 42 1400.98 22.20 358.39 216.54 114.96 0 27 3 401.0 30.50 333.24
 72.39 0 3 42 1400.98 22.20 358.39 216.54 114.96 0 27 3 401.0 30.50 333.24
 110.00 3 39 7 5994.21 16.08 281.78 213.13 120.55 5 19 1 4994.2 27.22 258.88

DIFFERENTIAL CORRECTIONS
 TDE -.3761 TRA -.6089 TC3 -.0420 BAU .0948 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.2126 RRA -.1270 RC3 .5665 FAU .14194 SGT 1325.7 SGR 582.5 SG3 1038.3 ST 35.2 SR 17.6 SS 56.3
 FDE .8913 FRA 5.0160 FC3-9.8489 BSP 2282 RRT .6309 RRF -.8080 RTF -.7377 CRT .9504 CRS .6193 CST .8295
 BDE .4320 BRA .6220 BC3 .5681 FSP 1698 SGB 1448.1 R23 -.3498 R13 -.7953 LSA 65.5 MSA 20.9 SSA 1.0
 SG1 1381.6 SG2 433.6 THA 17.24 EL1 39.1 EL2 4.9 ALF 25.89

LAUNCH DATE APR 24 1971

FLIGHT TIME 180.00

ARRIVAL DATE OCT 21 1971

HELIOCENTRIC CONIC
 RL 150.45 LAL -.00 LOL 213.18 VL 32.420 GAL -2.02 AZL 92.64 HCA 149.11 SMA 186.09 ECC .19462 INC 2.6372 V1 29.616
 RP 208.58 LAP -1.35 LOP 2.31 VP 23.652 GAP 8.84 AZP 87.74 TAL 347.57 TAP 136.68 RCA 149.88 APO 222.31 V2 26.274
 RC 96.027 GL -25.06 GP 5.99 ZAL 117.15 ZAP 131.90 ETS 174.44 ZAE 169.68 ETE 136.69 ZAC 106.44 ETC 277.19 LVI -22.73

DISTANCE 445,286 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 12.386 VHL 3.519 DLA -33.36 RAL 345.92 RAD 6639.3 VEL 11.509 PTH 6.56 VHP 3.918 DPA -12.51 RAP 315.73 ECC 1.2038
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 42 51 2318.44 1.71 58.80 201.34 137.55 19 21 30 1318.4 19.80 42.41
 60.00 20 18 0 2069.18 7.98 41.99 207.32 129.64 20 52 25 1065.2 23.13 22.52
 70.00 22 50 18 1618.02 17.58 12.48 214.11 119.77 23 17 14 616.0 28.26 349.12
 71.53 23 55 27 1416.30 22.52 359.73 216.86 115.28 24 19 3 416.3 30.92 334.53
 71.53 23 55 27 1416.30 22.52 359.73 216.86 115.28 24 19 3 416.3 30.92 334.53
 71.53 23 55 27 1416.30 22.52 359.73 216.86 115.28 24 19 3 416.3 30.92 334.53
 110.00 3 53 41 5950.88 17.58 279.30 214.11 119.77 5 32 52 4950.9 28.26 255.94

DIFFERENTIAL CORRECTIONS
 TDE -.3777 TRA -.5731 TC3 -.1346 BAU .1011 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.2084 RRA -.1460 RC3 .5955 FAU .14731 SGT 1278.6 SGR 609.7 SG3 1092.3 ST 35.0 SR 17.5 SS 56.1
 FDE .9281 FRA 5.2580 FC-10.2964 BSP 2259 RRT .6244 RRF -.8389 RTF -.1332 CRT .9675 CRS .6473 CST .8148
 BDE .4314 BRA .5914 BC3 .6105 FSP 1809 SGB 1416.5 R23 -.4099 R13 -.7752 LSA 66.7 MSA 21.2 SSA 1.0
 SG1 1341.9 SG2 453.8 THA 18.81 EL1 38.9 EL2 4.0 ALF 26.10

LAUNCH DATE APR 24 1971

FLIGHT TIME 182.00

ARRIVAL DATE OCT 23 1971

HELIOCENTRIC CONIC
 RL 150.45 LAL -.00 LOL 213.18 VL 32.400 GAL -2.00 AZL 92.68 HCA 150.35 SMA 185.78 ECC .19313 INC 2.6813 V1 29.616
 RP 208.76 LAP -1.33 LOP 3.55 VP 23.602 GAP 8.59 AZP 87.67 TAL 347.58 TAP 137.93 RCA 149.88 APO 221.67 V2 26.254
 RC 97.955 GL -25.57 GP 6.36 ZAL 117.08 ZAP 130.05 ETS 174.45 ZAE 168.41 ETE 140.83 ZAC 106.87 ETC 277.07 LVI -22.90

DISTANCE 449,386 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 12.316 VHL 3.509 DLA -33.79 RAL 346.24 RAD 6639.2 VEL 11.506 PTH 6.55 VHP 3.828 DPA -12.33 RAP 315.04 ECC 1.2027
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 47 1 2306.28 2.32 58.29 201.82 137.53 19 25 27 1306.3 20.38 41.83
 60.00 20 24 2 2048.01 8.72 41.15 207.92 129.50 20 58 10 1048.0 23.78 21.53
 70.00 23 9 51 1558.37 19.48 9.10 215.40 118.63 23 35 49 558.4 29.54 345.12
 70.68 23 51 28 1431.21 22.83 1.04 217.24 115.62 24 15 19 431.2 31.34 335.80
 70.68 23 51 28 1431.21 22.83 1.04 217.24 115.62 24 15 19 431.2 31.34 335.80
 70.68 23 51 28 1431.21 22.83 1.04 217.24 115.62 24 15 19 431.2 31.34 335.80
 110.00 4 13 13 5893.23 19.48 275.93 215.40 118.63 5 51 26 4893.2 29.54 251.94

DIFFERENTIAL CORRECTIONS
 TDE -.3717 TRA -.5268 TC3 -.2101 BAU .1092 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.2038 RRA -.1657 RC3 .6288 FAU .15351 SGT 1208.7 SGR 641.5 SG3 1146.2 ST 34.1 SR 17.4 SS 55.5
 FDE .9596 FRA 5.4868 FC-10.7904 BSP 2141 RRT .6110 RRF -.8664 RTF -.6853 CRT .9815 CRS .6724 CST .7960
 BDE .4239 BRA .5522 BC3 .6630 FSP 1905 SGB 1368.4 R23 -.4623 R13 -.7588 LSA 67.4 MSA 21.5 SSA 1.0
 SG1 1281.9 SG2 478.8 THA 21.04 EL1 38.1 EL2 3.0 ALF 26.73

LAUNCH DATE APR 24 1971 FLIGHT TIME 184.00 ARRIVAL DATE OCT 25 1971

HELIOCENTRIC CONIC DISTANCE 453.515 EARTH TO MARS
RL 150.45 LAL -.00 LOL 213.18 VL 32.382 GAL -1.98 AZL 92.73 HCA 151.59 SMA 185.45 ECC .18177 INC 2.7287 V1 29.616
RP 208.94 LAP -1.30 LOP 4.80 VP 23.952 GAP 8.34 AZP 87.60 TAL 347.87 TAP 139.16 RCA 149.88 APO 221.01 V2 26.232
RC 99.910 GL -26.10 GP 6.75 ZAL 117.02 ZAP 128.16 ETS 174.46 ZAE 167.02 ETE 144.22 ZAC 107.35 ETC 276.95 LVI -23.08

PLANETOCENTRIC CONIC
C3 12.269 VHL 3.503 DLA -34.24 RAL 346.58 RAD 6639.2 VEL 11.504 PTH 6.58 VHP 3.743 DPA -12.12 RAP 314.31 ECC 1.2019
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 51 23 2294.20 2.93 57.79 202.36 137.51 19 29 37 1294.2 20.95 41.24
60.00 20 30 26 2030.48 9.48 40.29 208.60 129.36 21 4 17 1030.5 24.43 20.51
69.84 23 47 47 1445.82 23.13 2.34 217.68 115.97 24 11 53 445.8 31.75 337.06
69.84 23 47 47 1445.82 23.13 2.34 217.68 115.97 24 11 53 445.8 31.75 337.06
69.84 23 47 47 1445.82 23.13 2.34 217.68 115.97 24 11 53 445.8 31.75 337.06
69.84 23 47 47 1445.82 23.13 2.34 217.68 115.97 24 11 53 445.8 31.75 337.06
69.84 23 47 47 1445.82 23.13 2.34 217.68 115.97 24 11 53 445.8 31.75 337.06

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3664 TRA -.4777 TC3 -.2946 BAU .1191 SGT 1138.1 SGR 678.3 SG3 1200.2 ST 33.2 SR 17.3 SS 61.0
RDE -.1998 RRA -.1871 RC3 .6640 FAU .15963 RRT .5826 RRF -.8904 RTF -.6352 CRT .9922 CRS .6999 CST .7742
FDE .9945 FRA 5.7193 FC-11.2639 BSP 2022 SGB 1324.9 R23 -.5150 R13 -.7404 LSA 68.1 MSA 21.8 SSA .9
BDE .4173 BRA .5130 BC3 .7264 FSP 2001 SG1 1221.2 SG2 513.8 THA 23.56 EL1 37.3 EL2 1.9 ALF 27.42

LAUNCH DATE APR 24 1971 FLIGHT TIME 186.00 ARRIVAL DATE OCT 27 1971

HELIOCENTRIC CONIC DISTANCE 457.642 EARTH TO MARS
RL 150.45 LAL -.00 LOL 213.18 VL 32.365 GAL -1.98 AZL 92.78 HCA 152.83 SMA 185.17 ECC .19053 INC 2.7801 V1 29.616
RP 209.14 LAP -1.27 LOP 6.04 VP 23.504 GAP 8.10 AZP 87.53 TAL 347.55 TAP 140.38 RCA 149.89 APO 220.44 V2 26.209
RC 101.892 GL -26.84 GP 7.18 ZAL 116.98 ZAP 126.23 ETS 174.48 ZAE 165.52 ETE 146.98 ZAC 107.85 ETC 276.81 LVI -23.28

PLANETOCENTRIC CONIC
C3 12.243 VHL 3.499 DLA -34.69 RAL 346.96 RAD 6639.2 VEL 11.503 PTH 6.55 VHP 3.684 DPA -11.89 RAP 313.54 ECC 1.2019
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 56 1 2282.13 3.53 57.28 202.97 137.48 19 34 3 1282.1 21.51 40.65
60.00 20 37 18 2012.43 10.26 39.40 209.35 129.19 21 10 50 1012.4 25.10 19.45
69.01 23 44 23 1460.24 23.43 3.63 218.18 116.35 24 8 43 460.2 32.18 338.31
69.01 23 44 23 1460.24 23.43 3.63 218.18 116.35 24 8 43 460.2 32.18 338.31
69.01 23 44 23 1460.24 23.43 3.63 218.18 116.35 24 8 43 460.2 32.18 338.31
69.01 23 44 23 1460.24 23.43 3.63 218.18 116.35 24 8 43 460.2 32.18 338.31
69.01 23 44 23 1460.24 23.43 3.63 218.18 116.35 24 8 43 460.2 32.18 338.31

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3605 TRA -.4252 TC3 -.3844 BAU .1309 SGT 1066.8 SGR 720.6 SG3 1254.1 ST 32.1 SR 17.3 SS 62.4
RDE -.1962 RRA -.2102 RC3 .7012 FAU .16589 RRT .5361 RRF -.9111 RTF -.5705 CRT .9979 CRS .7288 CST .7487
FDE 1.0309 FRA 5.9544 FC-11.7164 BSP 1903 SGB 1287.3 R23 -.5632 R13 -.7227 LSA 68.9 MSA 22.1 SSA .9
BDE .4104 BRA .4744 BC3 .7997 FSP 2099 SG1 1159.3 SG2 559.7 THA 26.55 EL1 36.5 EL2 1.0 ALF 28.22

LAUNCH DATE APR 24 1971 FLIGHT TIME 188.00 ARRIVAL DATE OCT 29 1971

HELIOCENTRIC CONIC DISTANCE 461.778 EARTH TO MARS
RL 150.45 LAL -.00 LOL 213.18 VL 32.349 GAL -1.98 AZL 92.84 HCA 154.07 SMA 184.91 ECC .18940 INC 2.8358 V1 29.616
RP 209.34 LAP -1.24 LOP 7.28 VP 23.456 GAP 7.97 AZP 87.45 TAL 347.51 TAP 141.59 RCA 149.89 APO 219.93 V2 26.186
RC 103.900 GL -27.21 GP 7.64 ZAL 116.90 ZAP 124.26 ETS 174.51 ZAE 163.92 ETE 149.25 ZAC 108.40 ETC 276.67 LVI -23.49

PLANETOCENTRIC CONIC
C3 12.239 VHL 3.498 DLA -35.18 RAL 347.36 RAD 6639.2 VEL 11.503 PTH 6.55 VHP 3.590 DPA -11.64 RAP 312.72 ECC 1.2014
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 0 57 2269.94 4.14 56.77 203.64 137.44 19 38 47 1269.9 22.08 40.06
60.00 20 44 42 1993.60 11.07 38.47 210.19 129.00 21 17 56 993.6 25.78 18.33
68.17 23 41 11 1474.76 23.73 4.94 218.74 116.75 24 5 45 474.8 32.60 339.58
68.17 23 41 11 1474.76 23.73 4.94 218.74 116.75 24 5 45 474.8 32.60 339.58
68.17 23 41 11 1474.76 23.73 4.94 218.74 116.75 24 5 45 474.8 32.60 339.58
68.17 23 41 11 1474.76 23.73 4.94 218.74 116.75 24 5 45 474.8 32.60 339.58
68.17 23 41 11 1474.76 23.73 4.94 218.74 116.75 24 5 45 474.8 32.60 339.58

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3503 TRA -.3853 TC3 -.4658 BAU .1436 SGT 985.4 SGR 768.5 SG3 1307.0 ST 30.7 SR 17.3 SS 63.6
RDE -.1922 RRA -.2345 RC3 .7437 FAU .17249 RRT .4696 RRF -.9288 RTF -.4469 CRT .9966 CRS .7556 CST .7190
FDE 1.0518 FRA 6.1738 FC-12.2012 BSP 1746 SGB 1249.6 R23 -.5950 R13 -.7194 LSA 69.2 MSA 22.3 SSA .8
BDE .3986 BRA .4341 BC3 .8775 FSP 2177 SG1 1087.8 SG2 615.0 THA 30.90 EL1 35.2 EL2 1.2 ALF 29.20

LAUNCH DATE APR 24 1971 FLIGHT TIME 190.00 ARRIVAL DATE OCT 31 1971

HELIOCENTRIC CONIC DISTANCE 465.920 EARTH TO MARS
RL 150.45 LAL -.00 LOL 213.18 VL 32.335 GAL -1.98 AZL 92.90 HCA 155.31 SMA 184.67 ECC .18838 INC 2.8965 V1 29.616
RP 209.85 LAP -1.21 LOP 8.51 VP 23.410 GAP 7.64 AZP 87.37 TAL 347.48 TAP 142.77 RCA 149.88 APO 219.46 V2 26.162
RC 103.933 GL -27.80 GP 8.15 ZAL 116.86 ZAP 122.26 ETS 174.55 ZAE 162.24 ETE 151.09 ZAC 108.98 ETC 276.52 LVI -23.73

PLANETOCENTRIC CONIC
C3 12.260 VHL 3.501 DLA -35.65 RAL 347.81 RAD 6639.2 VEL 11.504 PTH 6.55 VHP 3.522 DPA -11.35 RAP 311.85 ECC 1.2018
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 6 13 2257.65 4.76 56.25 204.40 137.39 19 43 51 1257.6 22.66 39.45
60.00 20 52 46 1973.83 11.91 37.48 211.15 128.79 21 25 40 973.8 26.49 17.14
67.33 23 38 15 1489.27 24.02 6.25 219.38 117.17 24 3 4 489.3 33.04 340.86
67.33 23 38 15 1489.27 24.02 6.25 219.38 117.17 24 3 4 489.3 33.04 340.86
67.33 23 38 15 1489.27 24.02 6.25 219.38 117.17 24 3 4 489.3 33.04 340.86
67.33 23 38 15 1489.27 24.02 6.25 219.38 117.17 24 3 4 489.3 33.04 340.86
67.33 23 38 15 1489.27 24.02 6.25 219.38 117.17 24 3 4 489.3 33.04 340.86

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3506 TRA -.3122 TC3 -.5878 BAU .1605 SGT 945.3 SGR 823.2 SG3 1360.0 ST 30.2 SR 17.5 SS 65.3
RDE -.1904 RRA -.2627 RC3 .7830 FAU .17759 RRT .3670 RRF -.9434 RTF -.3734 CRT .9860 CRS .7888 CST .6823
FDE 1.1077 FRA 6.4245 FC-12.5407 BSP 1721 SGB 1253.5 R23 -.6324 R13 -.7007 LSA 70.4 MSA 22.8 SSA .8
BDE .3989 BRA .4080 BC3 .9791 FSP 2289 SG1 1044.5 SG2 693.1 THA 34.64 EL1 34.8 EL2 2.5 ALF 29.92

LAUNCH DATE APR 24 1971

FLIGHT TIME 192.00

ARRIVAL DATE NOV 2 1971

Heliocentric Conic: RL 150.45 LAL -0.00 LOL 213.18 VL 32.322 GAL -1.98 AZL 92.98 HCA 156.54 SMA 184.46 ECC .18746 INC 2.9633 V1 29.616
 RP 209.78 LAP -1.18 LOP 9.75 VP 23.364 GAP 7.41 AZP 87.28 TAL 347.40 TAP 143.94 RCA 149.88 APO 219.04 V2 26.137
 RC 107.990 GL -28.43 GP 8.70 ZAL 116.82 ZAP 120.23 ETS 174.60 ZAE 160.47 ETE 152.60 ZAC 109.62 ETC 276.36 LVI -23.99

Planetocentric Conic: C3 12.304 VHL 3.308 DLA -36.15 RAL 348.30 RAD 6639.2 VEL 11.506 PTH 6.55 VHP 3.459 DPA -11.02 RAP 310.95 ECC 1.2025
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 11 54 2245.00 5.39 55.72 205.24 137.34 19 49 19 1245.0 23.24 38.81
 60.00 21 1 40 1952.35 12.82 36.41 212.22 128.54 21 34 12 952.5 27.25 15.84
 66.48 23 35 26 1504.19 24.31 7.61 220.09 117.63 24 0 31 504.2 33.48 342.19
 66.48 23 35 26 1504.19 24.31 7.61 220.09 117.63 24 0 31 504.2 33.48 342.19
 66.48 23 35 26 1504.19 24.31 7.61 220.09 117.63 24 0 31 504.2 33.48 342.19
 66.48 23 35 26 1504.19 24.31 7.61 220.09 117.63 24 0 31 504.2 33.48 342.19
 66.48 23 35 26 1504.19 24.31 7.61 220.09 117.63 24 0 31 504.2 33.48 342.19

Differential Corrections: TDE -.3440 TRA -.2484 TC3 -.6903 BAU .1775
 RDE -.1882 RRA -.2922 RC3 .8291 FAU .18363
 FDE 1.1452 FRA 6.6482 FC-12.9200 BSP 1660
 BDE .3921 BRA .3835 BC3 1.0788 FSP 2376

Mid-course Execution Accuracy: SGT 895.9 SGR 884.4 SG3 1410.5
 RRT .2374 RRF -.9555 RTF -.2337
 SGB 1258.9 R23 -.6041 R13 -.7403
 SG1 990.4 SG2 777.2 THA 43.45

Orbit Determination Accuracy: ST 29.1 SR 17.8 SS 66.6
 CRT .9634 CR8 .8181 CST .6384
 LSA 71.1 MSA 23.1 SSA .8
 EL1 33.8 EL2 4.1 ALF 30.97

LAUNCH DATE APR 24 1971

FLIGHT TIME 194.00

ARRIVAL DATE NOV 4 1971

Heliocentric Conic: RL 150.45 LAL -0.00 LOL 213.18 VL 32.311 GAL -1.98 AZL 93.04 HCA 157.77 SMA 184.27 ECC .18663 INC 3.0366 V1 29.616
 RP 209.99 LAP -1.15 LOP 10.98 VP 23.319 GAP 7.19 AZP 87.19 TAL 347.32 TAP 145.09 RCA 149.88 APO 218.66 V2 26.111
 RC 110.071 GL -29.10 GP 9.30 ZAL 116.77 ZAP 118.16 ETS 174.65 ZAE 158.63 ETE 153.83 ZAC 110.31 ETC 276.20 LVI -24.29

Planetocentric Conic: C3 12.376 VHL 3.518 DLA -36.68 RAL 348.83 RAD 6639.2 VEL 11.509 PTH 6.56 VHP 3.402 DPA -10.64 RAP 310.00 ECC 1.2037
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 18 5 2231.91 6.05 55.17 206.18 137.28 19 55 17 1231.9 23.84 38.15
 60.00 21 11 37 1929.30 13.80 35.23 213.44 128.25 21 43 46 929.3 28.05 14.40
 65.59 23 32 51 1519.40 24.60 9.00 220.90 118.12 23 58 10 519.4 33.94 343.55
 65.59 23 32 51 1519.40 24.60 9.00 220.90 118.12 23 58 10 519.4 33.94 343.55
 65.59 23 32 51 1519.40 24.60 9.00 220.90 118.12 23 58 10 519.4 33.94 343.55
 65.59 23 32 51 1519.40 24.60 9.00 220.90 118.12 23 58 10 519.4 33.94 343.55
 65.59 23 32 51 1519.40 24.60 9.00 220.90 118.12 23 58 10 519.4 33.94 343.55

Differential Corrections: TDE -.3407 TRA -.1846 TC3 -.8081 BAU .1972
 RDE -.1872 RRA -.3252 RC3 .8761 FAU .18895
 FDE 1.1918 FRA 6.8778 FC-13.2177 BSP 1671
 BDE .3887 BRA .3739 BC3 1.1919 FSP 2467

Mid-course Execution Accuracy: SGT 878.5 SGR 953.4 SG3 1459.5
 RRT .0792 RRF -.9654 RTF -.0692
 SGB 1296.5 R23 -.3343 R13 -.9057
 SG1 967.4 SG2 863.1 THA 67.99

Orbit Determination Accuracy: ST 28.3 SR 18.2 SS 68.0
 CRT .9269 CR8 .8473 CST .5890
 LSA 72.1 MSA 23.6 SSA .7
 EL1 33.2 EL2 5.8 ALF 31.88

LAUNCH DATE APR 24 1971

FLIGHT TIME 196.00

ARRIVAL DATE NOV 6 1971

Heliocentric Conic: RL 150.45 LAL -0.00 LOL 213.18 VL 32.300 GAL -1.99 AZL 93.12 HCA 159.00 SMA 184.09 ECC .18590 INC 3.1180 V1 29.616
 RP 210.22 LAP -1.12 LOP 12.20 VP 23.275 GAP 6.97 AZP 87.09 TAL 347.23 TAP 146.23 RCA 149.87 APO 218.32 V2 26.085
 RC 112.177 GL -29.81 GP 9.96 ZAL 116.73 ZAP 116.07 ETS 174.73 ZAE 156.72 ETE 154.81 ZAC 111.06 ETC 276.03 LVI -24.63

Planetocentric Conic: C3 12.477 VHL 3.532 DLA -37.25 RAL 349.41 RAD 6639.3 VEL 11.513 PTH 6.56 VHP 3.351 DPA -10.21 RAP 309.02 ECC 1.2053
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 24 51 2218.18 6.73 54.59 207.24 137.21 20 1 49 1218.2 24.47 37.45
 60.00 21 22 58 1903.22 14.89 33.90 214.84 127.89 21 54 42 903.2 28.93 12.75
 64.68 23 30 24 1535.17 24.89 10.45 221.80 118.66 23 55 59 535.2 34.42 344.99
 64.68 23 30 24 1535.17 24.89 10.45 221.80 118.66 23 55 59 535.2 34.42 344.99
 64.68 23 30 24 1535.17 24.89 10.45 221.80 118.66 23 55 59 535.2 34.42 344.99
 64.68 23 30 24 1535.17 24.89 10.45 221.80 118.66 23 55 59 535.2 34.42 344.99
 64.68 23 30 24 1535.17 24.89 10.45 221.80 118.66 23 55 59 535.2 34.42 344.99

Differential Corrections: TDE -.3373 TRA -.1182 TC3 -.9271 BAU .2185
 RDE -.1872 RRA -.3613 RC3 .9255 FAU .19384
 FDE 1.2461 FRA 7.0966 FC-13.4502 BSP 1738
 BDE .3858 BRA .3795 BC3 1.3100 FSP 2556

Mid-course Execution Accuracy: SGT 885.7 SGR 1030.4 SG3 1505.2
 RRT -.0961 RRF -.9734 RTF .1297
 SGB 1358.7 R23 .2131 R13 -.9499
 SG1 1042.7 SG2 871.2 THA 106.15

Orbit Determination Accuracy: ST 27.6 SR 18.8 SS 69.4
 CRT .8742 CR8 .8750 CST .5322
 LSA 73.2 MSA 24.0 SSA .7
 EL1 32.5 EL2 7.8 ALF 32.89

LAUNCH DATE APR 24 1971

FLIGHT TIME 198.00

ARRIVAL DATE NOV 8 1971

Heliocentric Conic: RL 150.45 LAL -0.00 LOL 213.18 VL 32.291 GAL -2.00 AZL 93.21 HCA 160.22 SMA 183.94 ECC .18526 INC 3.2087 V1 29.616
 RP 210.45 LAP -1.09 LOP 13.43 VP 23.232 GAP 6.75 AZP 86.98 TAL 347.13 TAP 147.35 RCA 149.86 APO 218.02 V2 26.058
 RC 114.307 GL -30.58 GP 10.68 ZAL 116.67 ZAP 113.96 ETS 174.82 ZAE 154.74 ETE 155.38 ZAC 111.87 ETC 275.86 LVI -25.02

Planetocentric Conic: C3 12.610 VHL 3.551 DLA -37.85 RAL 350.06 RAD 6639.4 VEL 11.519 PTH 6.57 VHP 3.306 DPA -9.72 RAP 308.00 ECC 1.2075
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 32 20 2203.55 7.46 53.97 208.43 137.13 20 9 4 1203.5 25.14 36.70
 60.00 21 36 15 1872.96 16.15 32.33 216.48 127.44 22 7 28 873.0 29.93 10.81
 63.72 23 28 4 1551.74 25.18 11.98 222.81 119.25 23 53 56 551.7 34.92 346.51
 63.72 23 28 4 1551.74 25.18 11.98 222.81 119.25 23 53 56 551.7 34.92 346.51
 63.72 23 28 4 1551.74 25.18 11.98 222.81 119.25 23 53 56 551.7 34.92 346.51
 63.72 23 28 4 1551.74 25.18 11.98 222.81 119.25 23 53 56 551.7 34.92 346.51
 63.72 23 28 4 1551.74 25.18 11.98 222.81 119.25 23 53 56 551.7 34.92 346.51

Differential Corrections: TDE -.3334 TRA -.0439 TC3 -1.0459 BAU .2416
 RDE -.1877 RRA -.4007 RC3 .9796 FAU .19874
 FDE 1.2912 FRA 7.2963 FC-13.6451 BSP 1859
 BDE .3826 BRA .4031 BC3 1.4330 FSP 2629

Mid-course Execution Accuracy: SGT 921.5 SGR 1116.3 SG3 1546.9
 RRT -.2726 RRF -.9797 RTF .2873
 SGB 1447.5 R23 .3186 R13 -.9267
 SG1 1179.5 SG2 839.1 THA 117.35

Orbit Determination Accuracy: ST 27.0 SR 19.5 SS 70.6
 CRT .8031 CR8 .8993 CST .4634
 LSA 74.1 MSA 24.5 SSA .6
 EL1 31.8 EL2 9.9 ALF 33.89

LAUNCH DATE APR 24 1971

FLIGHT TIME 200.00

ARRIVAL DATE NOV 10 1971

HELIOCENTRIC CONIC
 RL 150.45 LAL -.00 LOL 213.18 VL 32.283 GAL -2.02 AZL 93.31 HCA 161.45 SMA 183.80 ECC .18471 INC 3.3108 V1 29.616
 RP 210.70 LAP -1.05 LOP 14.65 VP 23.189 GAP 6.54 AZP 86.86 TAL 347.01 TAP 148.45 RCA 149.85 APO 217.75 V2 26.030
 RC 116.460 GL -31.42 GP 11.49 ZAL 116.61 ZAP 111.83 ETS 174.93 ZAE 152.69 ETE 156.17 ZAC 112.77 ETC 275.68 LVI -26.48

DISTANCE 486.717 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 12.780 VHL 3.375 DLA -38.50 RAL 350.77 RAD 6639.4 VEL 11.926 PTH 6.57 VHP 3.267 DPA -9.14 RAP 306.95 ECC 1.2103
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 40 43 2187.71 8.25 53.29 209.79 137.03 20 17 11 1187.7 29.86 35.87
 60.00 21 52 24 1836.10 17.67 30.40 218.44 126.03 22 23 1 836.1 31.09 8.30
 62.70 23 25 52 1569.18 25.48 13.60 223.96 119.91 23 52 1 569.2 35.45 346.13
 62.70 23 25 52 1569.18 25.48 13.60 223.96 119.91 23 52 1 569.2 35.45 346.13
 62.70 23 25 52 1569.18 25.48 13.60 223.96 119.91 23 52 1 569.2 35.45 346.13
 62.70 23 25 52 1569.18 25.48 13.60 223.96 119.91 23 52 1 569.2 35.45 346.13
 62.70 23 25 52 1569.18 25.48 13.60 223.96 119.91 23 52 1 569.2 35.45 346.13

DIFFERENTIAL CORRECTIONS
 TDE -.3297 TRA .0325 TC3-1.1855 BAU .2664 SGT 989.0 SGR 1212.2 SG3 1583.9 ST 76.5 SR 20.5 SS 71.8
 RDE -.1898 RRA -.4445 RC3 1.0354 FAU .20282 RRT -.4310 RRF -.9847 RTF .4449 CRT .7139 CRS .9212 CST .3866
 FDE 1.3466 FRA 7.4831 FC-13.7398 BSP 2050 SGB 1964.5 R23 .3291 R13 -.9284 LSA 75.2 MSA 25.0 SSA .6
 BDE .3805 BRA .4457 BC3 1.5590 FSP 2700 SG1 1340.1 SG2 807.2 THA 122.29 EL1 31.2 EL2 12.2 ALF 34.99

LAUNCH DATE APR 24 1971

FLIGHT TIME 202.00

ARRIVAL DATE NOV 12 1971

HELIOCENTRIC CONIC
 RL 150.45 LAL -.00 LOL 213.18 VL 32.275 GAL -2.03 AZL 93.43 HCA 162.67 SMA 183.68 ECC .18423 INC 3.4264 V1 29.618
 RP 210.95 LAP -1.02 LOP 15.87 VP 23.146 GAP 6.34 AZP 86.73 TAL 346.87 TAP 149.54 RCA 149.84 APO 217.52 V2 26.001
 RC 118.637 GL -32.33 GP 12.39 ZAL 116.53 ZAP 109.69 ETS 175.06 ZAE 150.59 ETE 156.60 ZAC 113.75 ETC 275.90 LVI -26.01

DISTANCE 490.889 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 12.993 VHL 3.605 DLA -39.22 RAL 351.56 RAD 6639.6 VEL 11.535 PTH 6.58 VHP 3.234 DPA -8.47 RAP 305.87 ECC 1.2138
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 50 13 2170.26 9.12 52.54 211.35 136.90 20 26 23 1170.3 26.64 34.95
 60.00 22 13 28 1787.25 19.64 27.77 220.89 125.93 22 43 16 787.2 32.56 5.07
 61.61 23 23 47 1587.73 25.78 15.34 225.26 120.64 23 50 15 587.7 36.02 349.88
 61.61 23 23 47 1587.73 25.78 15.34 225.26 120.64 23 50 15 587.7 36.02 349.88
 61.61 23 23 47 1587.73 25.78 15.34 225.26 120.64 23 50 15 587.7 36.02 349.88
 61.61 23 23 47 1587.73 25.78 15.34 225.26 120.64 23 50 15 587.7 36.02 349.88
 61.61 23 23 47 1587.73 25.78 15.34 225.26 120.64 23 50 15 587.7 36.02 349.88

DIFFERENTIAL CORRECTIONS
 TDE -.3271 TRA .1125 TC3-1.2858 BAU .2932 SGT 1087.6 SGR 1319.0 SG3 1614.7 ST 26.3 SR 21.6 SS 72.9
 RDE -.1937 RRA -.4931 RC3 1.0936 FAU .20617 RRT -.5605 RRF -.9886 RTF .5725 CRT .6086 CRS .9401 CST .3028
 FDE 1.4088 FRA 7.6470 FC-13.7376 BSP 2297 SGB 1709.6 R23 .3188 R13 -.9361 LSA 76.3 MSA 25.6 SSA .5
 BDE .3802 BRA .5058 BC3 1.6680 FSP 2757 SG1 1520.6 SG2 781.3 THA 125.45 EL1 30.7 EL2 14.7 ALF 36.14

LAUNCH DATE APR 24 1971

FLIGHT TIME 204.00

ARRIVAL DATE NOV 14 1971

HELIOCENTRIC CONIC
 RL 150.45 LAL -.00 LOL 213.18 VL 32.289 GAL -2.05 AZL 93.56 HCA 163.88 SMA 183.58 ECC .18384 INC 3.5587 V1 29.616
 RP 211.20 LAP -.99 LOP 17.09 VP 23.105 GAP 6.13 AZP 86.58 TAL 346.73 TAP 150.61 RCA 149.83 APO 217.32 V2 25.972
 RC 120.836 GL -33.35 GP 13.40 ZAL 116.42 ZAP 107.54 ETS 175.22 ZAE 148.42 ETE 158.87 ZAC 114.85 ETC 275.32 LVI -26.63

DISTANCE 495.084 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 13.258 VHL 3.641 DLA -40.01 RAL 352.44 RAD 6639.7 VEL 11.547 PTH 6.59 VHP 3.209 DPA -7.69 RAP 304.76 ECC 1.2182
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 1 10 2190.62 10.10 51.70 213.17 136.75 20 37 0 1150.6 27.51 33.89
 60.43 23 21 51 1607.61 26.09 17.23 226.74 121.48 23 48 39 607.6 36.64 351.79
 60.43 23 21 51 1607.61 26.09 17.23 226.74 121.48 23 48 39 607.6 36.64 351.79
 60.43 23 21 51 1607.61 26.09 17.23 226.74 121.48 23 48 39 607.6 36.64 351.79
 60.43 23 21 51 1607.61 26.09 17.23 226.74 121.48 23 48 39 607.6 36.64 351.79
 60.43 23 21 51 1607.61 26.09 17.23 226.74 121.48 23 48 39 607.6 36.64 351.79

DIFFERENTIAL CORRECTIONS
 TDE -.3241 TRA .1987 TC3-1.3990 BAU .3217 SGT 1208.9 SGR 1439.6 SG3 1639.6 ST 26.3 SR 23.1 SS 74.0
 RDE -.1994 RRA -.5474 RC3 1.1566 FAU .20918 RRT -.6622 RRF -.9916 RTF .1.20 CRT .4889 CRS .9896 CST .2108
 FDE 1.4720 FRA 7.7852 FC-13.6591 BSP 2602 SGB 1879.9 R23 .2991 R13 -.9457 LSA 77.5 MSA 26.2 SSA .5
 BDE .3806 BRA .5817 BC3 1.8152 FSP 2806 SG1 1720.3 SG2 758.0 THA 127.57 EL1 30.3 EL2 17.5 ALF 37.56

LAUNCH DATE APR 24 1971

FLIGHT TIME 206.00

ARRIVAL DATE NOV 16 1971

HELIOCENTRIC CONIC
 RL 150.45 LAL -.00 LOL 213.18 VL 32.283 GAL -2.07 AZL 93.71 HCA 165.10 SMA 183.48 ECC .18351 INC 3.7115 V1 29.616
 RP 211.46 LAP -.95 LOP 18.30 VP 23.063 GAP 5.93 AZP 86.41 TAL 346.57 TAP 151.66 RCA 149.81 APO 217.16 V2 25.942
 RC 123.058 GL -34.49 GP 14.55 ZAL 116.28 ZAP 105.39 ETS 175.41 ZAE 146.19 ETE 156.99 ZAC 116.08 ETC 275.14 LVI -27.37

DISTANCE 499.242 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 13.588 VHL 3.888 DLA -40.89 RAL 353.44 RAD 6639.8 VEL 11.561 PTH 6.61 VHP 3.191 DPA -6.77 RAP 303.63 ECC 1.2236
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 14 0 2127.99 11.22 50.72 215.31 136.55 20 49 28 1128.0 28.51 32.66
 59.14 23 20 3 1629.21 26.41 19.29 228.44 122.43 23 47 12 629.2 37.30 353.90
 59.14 23 20 3 1629.21 26.41 19.29 228.44 122.43 23 47 12 629.2 37.30 353.90
 59.14 23 20 3 1629.21 26.41 19.29 228.44 122.43 23 47 12 629.2 37.30 353.90
 59.14 23 20 3 1629.21 26.41 19.29 228.44 122.43 23 47 12 629.2 37.30 353.90
 59.14 23 20 3 1629.21 26.41 19.29 228.44 122.43 23 47 12 629.2 37.30 353.90

DIFFERENTIAL CORRECTIONS
 TDE -.3220 TRA .2844 TC3-1.5089 BAU .3525 SGT 1352.7 SGR 1575.5 SG3 1656.5 ST 26.6 SR 24.8 SS 75.0
 RDE -.2081 RRA -.6091 RC3 1.2201 FAU .21084 RRT -.7371 RRF -.9940 RTF .7445 CRT .3606 CRS .9683 CST .1170
 FDE 1.5458 FRA 7.8981 FC-13.4337 BSP 2959 SGB 2076.5 R23 .2790 R13 -.9542 LSA 78.9 MSA 26.9 SSA .4
 BDE .3835 BRA .6722 BC3 1.9405 FSP 2846 SG1 1939.2 SG2 742.7 THA 129.14 EL1 30.1 EL2 20.5 ALF 39.66

LAUNCH DATE APR 24 1971

FLIGHT TIME 208.00

ARRIVAL DATE NOV 18 1971

HELIOCENTRIC CONIC

DISTANCE 503.422

EARTH TO MARS

RL 150.45 LAL -.00 LOL 213.18 VL 32.250 GAL -2.10 AZL 93.89 HCA 166.31 SMA 183.41 ECC .18326 INC 3.8899 V1 29.616
RP 211.73 LAP -.92 LOP 19.51 VP 23.022 GAP 5.73 AZP 86.22 TAL 346.39 TAP 152.70 RCA 149.80 APO 217.02 V2 25.911
RC 125.302 GL -35.77 GP 15.86 ZAL 116.09 ZAP 103.24 ETS 175.64 ZAE 143.89 ETE 156.97 ZAC 117.47 ETC 274.97 LVI -28.25

PLANETOCENTRIC CONIC

C3 13.999 VHL 3.741 DLA -41.88 RAL 354.59 RAD 6640.0 VEL 11.578 PTH 6.62 VHP 3.182 DPA -5.68 RAP 302.47 ECC 1.2304
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 29 27 2101.12 12.54 49.54 217.89 136.28 21 4 28 1101.1 29.67 31.15
57.72 23 18 27 1652.76 26.73 21.56 230.41 123.53 23 45 59 652.8 38.03 356.25
57.72 23 18 27 1652.76 26.73 21.56 230.41 123.53 23 45 59 652.8 38.03 356.25
57.72 23 18 27 1652.76 26.73 21.56 230.41 123.53 23 45 59 652.8 38.03 356.25
57.72 23 18 27 1652.76 26.73 21.56 230.41 123.53 23 45 59 652.8 38.03 356.25
57.72 23 18 27 1652.76 26.73 21.56 230.41 123.53 23 45 59 652.8 38.03 356.25

DIFFERENTIAL CORRECTIONS

TDE -.3211 TRA .3755 TC3-1.6111 BAU .3862
RDE -.2201 RRA -.6783 RC3 1.2891 FAU .21206
FDE 1.6228 FRA 7.9618 FC-13.1150 BSP 3349
BDE .3894 BRA .7753 BC3 2.0634 FSP 2859

MID-COURSE EXECUTION ACCURACY

SGT 1513.8 SGR 1729.3 SG3 1663.4
RRF -.7925 RRF -.9957 RTF .7979
SGB 2298.3 R23 .2585 R13 -.9617
SG1 2178.8 SG2 733.0 THA 130.22

ORBIT DETERMINATION ACCURACY

ST 27.2 SR 26.9 SS 75.8
CRT .2311 CRS .9781 CST .0244
LSA 80.3 HSA 27.7 SSA .4
EL1 30.0 EL2 23.7 ALF 43.46

LAUNCH DATE APR 24 1971

FLIGHT TIME 210.00

ARRIVAL DATE NOV 20 1971

HELIOCENTRIC CONIC

DISTANCE 507.604

EARTH TO MARS

RL 150.45 LAL -.00 LOL 213.18 VL 32.255 GAL -2.12 AZL 94.10 HCA 167.51 SMA 183.35 ECC .18308 INC 4.1021 V1 29.616
RP 212.01 LAP -.89 LOP 20.72 VP 22.982 GAP 5.54 AZP 85.99 TAL 346.21 TAP 153.72 RCA 149.78 APO 216.92 V2 25.880
RC 127.566 GL -37.24 GP 17.38 ZAL 115.83 ZAP 101.11 ETS 175.92 ZAE 141.51 ETE 156.79 ZAC 119.07 ETC 274.80 LVI -29.32

PLANETOCENTRIC CONIC

C3 14.516 VHL 3.810 DLA -43.02 RAL 355.92 RAD 6640.3 VEL 11.601 PTH 6.64 VHP 3.183 DPA -4.38 RAP 301.28 ECC 1.2389
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 48 37 2067.91 14.17 48.07 221.09 135.91 21 23 5 1067.9 31.08 29.24
56.12 23 17 8 1678.72 27.05 24.09 232.72 124.82 23 45 7 678.7 38.84 358.90
56.12 23 17 8 1678.72 27.05 24.09 232.72 124.82 23 45 7 678.7 38.84 358.90
56.12 23 17 8 1678.72 27.05 24.09 232.72 124.82 23 45 7 678.7 38.84 358.90
56.12 23 17 8 1678.72 27.05 24.09 232.72 124.82 23 45 7 678.7 38.84 358.90
56.12 23 17 8 1678.72 27.05 24.09 232.72 124.82 23 45 7 678.7 38.84 358.90

DIFFERENTIAL CORRECTIONS

TDE -.3188 TRA .4728 TC3-1.8953 BAU .4215
RDE -.2381 RRA -.7579 RC3 1.3578 FAU .21162
FDE 1.7198 FRA 7.9805 FC-12.6210 BSP 3801
BDE .3978 BRA .8933 BC3 2.1720 FSP 2858

MID-COURSE EXECUTION ACCURACY

SGT 1686.5 SGR 1905.0 SG3 1658.8
RRF -.8345 RRF -.9970 RTF .8385
SGB 2544.2 R23 .2372 R13 -.9685
SG1 2438.5 SG2 725.9 THA 130.84

ORBIT DETERMINATION ACCURACY

ST 28.1 SR 29.5 SS 76.6
CRT .1023 CRS .9856 CST -.0667
LSA 82.0 HSA 28.5 SSA .3
EL1 30.4 EL2 27.1 ALF 57.53

LAUNCH DATE APR 24 1971

FLIGHT TIME 212.00

ARRIVAL DATE NOV 22 1971

HELIOCENTRIC CONIC

DISTANCE 511.787

EARTH TO MARS

RL 150.45 LAL -.00 LOL 213.18 VL 32.252 GAL -2.15 AZL 94.36 HCA 168.72 SMA 183.30 ECC .18296 INC 4.3577 V1 29.616
RP 212.29 LAP -.85 LOP 21.92 VP 22.941 GAP 5.35 AZP 85.73 TAL 346.01 TAP 154.73 RCA 149.76 APO 216.84 V2 25.848
RC 129.850 GL -38.95 GP 19.15 ZAL 115.48 ZAP 99.00 ETS 176.25 ZAE 139.04 ETE 156.44 ZAC 120.92 ETC 274.65 LVI -30.62

PLANETOCENTRIC CONIC

C3 15.179 VHL 3.896 DLA -44.33 RAL 357.49 RAD 6640.6 VEL 11.629 PTH 6.67 VHP 3.197 DPA -2.81 RAP 300.07 ECC 1.2498
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 13 39 2024.32 16.29 46.10 225.21 135.34 21 47 23 1024.3 32.88 26.64
54.32 23 16 14 1707.74 27.36 26.95 235.48 126.35 23 44 42 707.7 39.72 1.94
54.32 23 16 14 1707.74 27.36 26.95 235.48 126.35 23 44 42 707.7 39.72 1.94
54.32 23 16 14 1707.74 27.36 26.95 235.48 126.35 23 44 42 707.7 39.72 1.94
54.32 23 16 14 1707.74 27.36 26.95 235.48 126.35 23 44 42 707.7 39.72 1.94
54.32 23 16 14 1707.74 27.36 26.95 235.48 126.35 23 44 42 707.7 39.72 1.94

DIFFERENTIAL CORRECTIONS

TDE -.3177 TRA .5728 TC3-1.7674 BAU .4611
RDE -.2641 RRA -.8497 RC3 1.4283 FAU .20989
FDE 1.8346 FRA 7.9330 FC-11.9707 BSP 4284
BDE .4131 BRA 1.0247 BC3 2.2724 FSP 2829

MID-COURSE EXECUTION ACCURACY

SGT 1871.2 SGR 2107.3 SG3 1639.9
RRF -.8643 RRF -.9980 RTF .8689
SGB 2818.2 R23 .2183 R13 -.9738
SG1 2722.4 SG2 728.5 THA 131.08

ORBIT DETERMINATION ACCURACY

ST 29.4 SR 32.7 SS 77.3
CRT -.0132 CRS .9911 CST -.1460
LSA 83.9 HSA 29.4 SSA .3
EL1 32.7 EL2 29.3 ALF 93.54

LAUNCH DATE APR 24 1971

FLIGHT TIME 214.00

ARRIVAL DATE NOV 24 1971

HELIOCENTRIC CONIC

DISTANCE 515.970

EARTH TO MARS

RL 150.45 LAL -.00 LOL 213.18 VL 32.250 GAL -2.18 AZL 94.67 HCA 169.92 SMA 183.26 ECC .18291 INC 4.6730 V1 29.616
RP 212.57 LAP -.82 LOP 23.13 VP 22.902 GAP 5.16 AZP 85.40 TAL 345.80 TAP 155.72 RCA 149.74 APO 216.78 V2 25.815
RC 132.133 GL -40.95 GP 21.27 ZAL 115.01 ZAP 96.91 ETS 176.86 ZAE 136.45 ETE 155.91 ZAC 123.10 ETC 274.51 LVI -32.21

PLANETOCENTRIC CONIC

C3 16.049 VHL 4.006 DLA -45.86 RAL 359.38 RAD 6641.0 VEL 11.666 PTH 6.70 VHP 3.227 DPA -.90 RAP 298.82 ECC 1.2641
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 49 37 1959.70 19.40 43.09 230.95 134.34 22 22 17 959.7 35.42 22.57
52.26 23 16 2 1740.50 27.64 30.21 238.82 128.17 23 45 2 740.5 40.68 5.48
52.26 23 16 2 1740.50 27.64 30.21 238.82 128.17 23 45 2 740.5 40.68 5.48
52.26 23 16 2 1740.50 27.64 30.21 238.82 128.17 23 45 2 740.5 40.68 5.48
52.26 23 16 2 1740.50 27.64 30.21 238.82 128.17 23 45 2 740.5 40.68 5.48
52.26 23 16 2 1740.50 27.64 30.21 238.82 128.17 23 45 2 740.5 40.68 5.48

DIFFERENTIAL CORRECTIONS

TDE -.3128 TRA .6804 TC3-1.8101 BAU .5033
RDE -.3039 RRA -.9584 RC3 1.4923 FAU .20552
FDE 1.9883 FRA 7.8145 FC-11.0868 BSP 4847
BDE .4361 BRA 1.1754 BC3 2.3460 FSP 2778

MID-COURSE EXECUTION ACCURACY

SGT 2063.0 SGR 2343.6 SG3 1603.7
RRF -.8873 RRF -.9987 RTF .8888
SGB 3122.3 R23 .1993 R13 -.9786
SG1 3034.5 SG2 734.9 THA 130.90

ORBIT DETERMINATION ACCURACY

ST 30.7 SR 36.7 SS 78.0
CRT -.1211 CRS .9949 CST -.2202
LSA 86.4 HSA 30.2 SSA .3
EL1 37.3 EL2 30.0 ALF 107.06

LAUNCH DATE APR 24 1971 FLIGHT TIME 216.00 ARRIVAL DATE NOV 26 1971

HELIOCENTRIC CONIC DISTANCE 520.154 EARTH TO MARS
RL 150.45 LAL -.00 LOL 213.10 VL 32.248 GAL -2.22 AZL 95.07 HCA 171.11 SMA 103.23 ECC .18291 INC 5.0707 V1 29.616
RP 212.06 LAP -.78 LOP 24.32 VP 22.062 GAP 4.97 AZP 84.99 TAL 345.58 TAP 156.69 RCA 149.72 APO 216.75 V2 25.782
RC 134.475 GL -43.34 GP 25.81 ZAL 114.37 ZAP 94.88 ETS 177.17 ZAE 133.71 ETE 155.17 ZAC 125.71 ETC 274.41 LVI -34.20

PLANETOCENTRIC CONIC
C3 17.227 VHL 4.151 DLA -47.67 RAL 1.73 RAD 6641.6 VEL 11.716 PTH 6.75 VHP 3.261 DPA 1.44 RAP 297.53 ECC 1.2835
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
49.88 23 16 57 1778.07 27.83 33.97 242.96 130.40 23 46 35 778.1 41.71 9.68
49.88 23 16 57 1778.07 27.83 33.97 242.96 130.40 23 46 35 778.1 41.71 9.68
49.88 23 16 57 1778.07 27.83 33.97 242.96 130.40 23 46 35 778.1 41.71 9.68
49.88 23 16 57 1778.07 27.83 33.97 242.96 130.40 23 46 35 778.1 41.71 9.68
49.88 23 16 57 1778.07 27.83 33.97 242.96 130.40 23 46 35 778.1 41.71 9.68
49.88 23 16 57 1778.07 27.83 33.97 242.96 130.40 23 46 35 778.1 41.71 9.68
49.88 23 16 57 1778.07 27.83 33.97 242.96 130.40 23 46 35 778.1 41.71 9.68

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3059 TRA .7913 TC3-1.8269 BAU .5532 SGT 2260.3 SGR 2617.7 SG3 1542.0 ST 32.3 SR 41.7 SS 78.4
RDE -.3619 RRA-1.0828 RC3 1.5596 FAU .20006 RRT -.9046 RRF -.9992 RTF .9054 CRT -.2134 CRS .9973 CST -.2837
FDE 2.1612 FRA 7.5570 FC-10.0544 BSP 5419 SGB 3458.4 R23 .1812 R13 -.9826 LSA 89.2 MSA 31.1 SSA .2
BDE .4738 BRA 1.3411 BC3 2.4020 FSP 2662 SG1 3376.9 SG2 746.7 THA 130.38 EL1 42.9 EL2 30.6 ALF 109.82

LAUNCH DATE APR 24 1971 FLIGHT TIME 218.00 ARRIVAL DATE NOV 28 1971

HELIOCENTRIC CONIC DISTANCE 524.337 EARTH TO MARS
RL 150.45 LAL -.00 LOL 213.10 VL 32.247 GAL -2.25 AZL 95.59 HCA 172.31 SMA 103.22 ECC .18297 INC 5.5898 V1 29.616
RP 213.16 LAP -.75 LOP 25.52 VP 22.823 GAP 4.79 AZP 84.46 TAL 345.35 TAP 157.65 RCA 149.70 APO 216.74 V2 25.749
RC 136.814 GL -46.23 GP 26.94 ZAL 113.50 ZAP 92.93 ETS 177.79 ZAE 130.76 ETE 154.19 ZAC 128.89 ETC 274.35 LVI -36.69

PLANETOCENTRIC CONIC
C3 18.893 VHL 4.347 DLA -49.82 RAL 4.75 RAD 6642.3 VEL 11.786 PTH 6.81 VHP 3.369 DPA 4.37 RAP 296.19 ECC 1.3109
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
47.11 23 19 43 1822.12 27.85 38.35 248.22 133.13 23 50 5 822.1 42.76 14.77
47.11 23 19 43 1822.12 27.85 38.35 248.22 133.13 23 50 5 822.1 42.76 14.77
47.11 23 19 43 1822.12 27.85 38.35 248.22 133.13 23 50 5 822.1 42.76 14.77
47.11 23 19 43 1822.12 27.85 38.35 248.22 133.13 23 50 5 822.1 42.76 14.77
47.11 23 19 43 1822.12 27.85 38.35 248.22 133.13 23 50 5 822.1 42.76 14.77
47.11 23 19 43 1822.12 27.85 38.35 248.22 133.13 23 50 5 822.1 42.76 14.77
47.11 23 19 43 1822.12 27.85 38.35 248.22 133.13 23 50 5 822.1 42.76 14.77

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.2854 TRA .9126 TC3-1.7970 BAU .6085 SGT 2461.2 SGR 2948.6 SG3 1452.7 ST 33.8 SR 48.7 SS 79.3
RDE -.4622 RRA-1.2362 RC3 1.6043 FAU .19009 RRT -.9174 RRF -.9995 RTF .9174 CRT -.2989 CRS .9989 CST -.3439
FDE 2.4309 FRA 7.1788 FC3-8.7107 BSP 6117 SGB 3840.8 R23 .1639 R13 -.9860 LSA 93.8 MSA 31.7 SSA .2
BDE .5432 BRA 1.5366 BC3 2.4090 FSP 2519 SG1 3763.3 SG2 767.4 THA 129.40 EL1 50.4 EL2 31.1 ALF 109.36

LAUNCH DATE APR 24 1971 FLIGHT TIME 220.00 ARRIVAL DATE NOV 30 1971

HELIOCENTRIC CONIC DISTANCE 528.519 EARTH TO MARS
RL 150.45 LAL -.00 LOL 213.10 VL 32.247 GAL -2.29 AZL 96.30 HCA 173.49 SMA 103.21 ECC .18309 INC 6.2953 V1 29.616
RP 213.46 LAP -.71 LOP 26.71 VP 22.784 GAP 4.60 AZP 83.74 TAL 345.10 TAP 158.60 RCA 149.67 APO 216.76 V2 25.714
RC 139.171 GL -49.81 GP 30.84 ZAL 112.29 ZAP 91.09 ETS 178.58 ZAE 127.31 ETE 152.93 ZAC 132.84 ETC 274.38 LVI -39.86

PLANETOCENTRIC CONIC
C3 21.395 VHL 4.625 DLA -52.39 RAL 8.81 RAD 6643.5 VEL 11.891 PTH 6.90 VHP 3.513 DPA 8.08 RAP 294.77 ECC 1.3521
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
43.87 23 25 48 1875.16 27.52 43.50 255.12 136.51 23 57 3 875.2 43.69 21.04
43.87 23 25 48 1875.16 27.52 43.50 255.12 136.51 23 57 3 875.2 43.69 21.04
43.87 23 25 48 1875.16 27.52 43.50 255.12 136.51 23 57 3 875.2 43.69 21.04
43.87 23 25 48 1875.16 27.52 43.50 255.12 136.51 23 57 3 875.2 43.69 21.04
43.87 23 25 48 1875.16 27.52 43.50 255.12 136.51 23 57 3 875.2 43.69 21.04
43.87 23 25 48 1875.16 27.52 43.50 255.12 136.51 23 57 3 875.2 43.69 21.04
43.87 23 25 48 1875.16 27.52 43.50 255.12 136.51 23 57 3 875.2 43.69 21.04

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.2403 TRA 1.0417 TC3-1.7169 BAU .6769 SGT 2861.0 SGR 3338.7 SG3 1319.5 ST 35.1 SR 58.3 SS 80.2
RDE -.6328 RRA-1.4163 RC3 1.6287 FAU .17643 RRT -.9271 RRF -.9997 RTF .5265 CRT -.3855 CRS .9986 CST -.4099
FDE 2.7807 FRA 6.5690 FC3-7.1400 BSP 6851 SGB 4269.4 R23 .1475 R13 -.9868 LSA 100.2 MSA 31.8 SSA .1
BDE .6769 BRA 1.7582 BC3 2.3865 FSP 2282 SG1 4195.0 SG2 793.8 THA 128.07 EL1 60.5 EL2 31.2 ALF 108.03

LAUNCH DATE APR 24 1971 FLIGHT TIME 222.00 ARRIVAL DATE DEC 2 1971

HELIOCENTRIC CONIC DISTANCE 532.699 EARTH TO MARS
RL 150.45 LAL -.00 LOL 213.10 VL 32.247 GAL -2.33 AZL 97.31 HCA 174.88 SMA 103.22 ECC .18326 INC 7.3103 V1 29.616
RP 213.77 LAP -.68 LOP 27.90 VP 22.745 GAP 4.42 AZP 82.72 TAL 344.85 TAP 159.53 RCA 149.64 APO 216.80 V2 25.680
RC 141.545 GL -54.33 GP 35.79 ZAL 110.61 ZAP 89.44 ETS 179.57 ZAE 123.82 ETE 151.38 ZAC 137.83 ETC 274.54 LVI -43.90

PLANETOCENTRIC CONIC
C3 25.479 VHL 5.048 DLA -55.44 RAL 14.59 RAD 6645.2 VEL 12.060 PTH 7.04 VHP 3.756 DPA 12.84 RAP 293.24 ECC 1.4193
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
40.11 23 37 59 1941.42 26.48 49.56 264.51 140.67 24 10 20 941.4 44.17 28.88
40.11 23 37 59 1941.42 26.48 49.56 264.51 140.67 24 10 20 941.4 44.17 28.88
40.11 23 37 59 1941.42 26.48 49.56 264.51 140.67 24 10 20 941.4 44.17 28.88
40.11 23 37 59 1941.42 26.48 49.56 264.51 140.67 24 10 20 941.4 44.17 28.88
40.11 23 37 59 1941.42 26.48 49.56 264.51 140.67 24 10 20 941.4 44.17 28.88
40.11 23 37 59 1941.42 26.48 49.56 264.51 140.67 24 10 20 941.4 44.17 28.88
40.11 23 37 59 1941.42 26.48 49.56 264.51 140.67 24 10 20 941.4 44.17 28.88

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.1340 TRA 1.1803 TC3-1.5737 BAU .7691 SGT 2850.3 SGR 3794.9 SG3 1128.2 ST 36.3 SR 72.8 SS 81.2
RDE -.9521 RRA-1.6243 RC3 1.6192 FAU .15812 RRT -.9344 RRF -.9998 RTF .9331 CRT -.4998 CRS .9999 CST -.5086
FDE 3.2410 FRA 5.6446 FC3-5.3728 BSP 7541 SGB 4746.1 R23 .1320 R13 -.9911 LSA 110.7 MSA 30.9 SSA .1
BDE .9615 BRA 2.0079 BC3 2.2580 FSP 1915 SG1 4674.0 SG2 824.3 THA 126.37 EL1 75.5 EL2 30.3 ALF 106.78

LAUNCH DATE APR 24 1971

FLIGHT TIME 224.00

ARRIVAL DATE DEC 4 1971

HELIOCENTRIC CONIC

RL 150.45 LAL -.00 LOL 213.18 VL 32.248 GAL -2.37 AZL 96.90 HCA 175.85 SMA 183.23 ECC .18348 INC 8.8988 V1 29.616
RP 214.08 LAP -.64 LOP 29.08 VP 22.706 GAP 4.25 AZP 81.12 TAL 344.59 TAP 160.45 RCA 149.61 APO 216.85 V2 25.645
RC 143.936 GL -60.17 GP 42.11 ZAL 108.26 ZAP 88.10 ETS 180.77 ZAE 119.53 ETE 149.52 ZAC 144.17 ETC 274.99 LVI -49.03

PLANETOCENTRIC CONIC

C3 33.018 VHL 5.746 DLA -58.91 RAL 23.47 RAD 6648.2 VEL 12.367 PTH 7.29 VHP 4.198 DPA 18.97 RAP 291.55 ECC 1.5434
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
35.90 0 6 3 2028.68 24.02 56.50 277.87 145.57 0 39 52 1028.7 43.42 38.55
35.90 0 6 3 2028.68 24.02 56.50 277.87 145.57 0 39 52 1028.7 43.42 38.55
35.90 0 6 3 2028.68 24.02 56.50 277.87 145.57 0 39 52 1028.7 43.42 38.55
35.90 0 6 3 2028.68 24.02 56.50 277.87 145.57 0 39 52 1028.7 43.42 38.55
35.90 0 6 3 2028.68 24.02 56.50 277.87 145.57 0 39 52 1028.7 43.42 38.55
35.90 0 6 3 2028.68 24.02 56.50 277.87 145.57 0 39 52 1028.7 43.42 38.55

DIFFERENTIAL CORRECTIONS

TDE .1672 TRA 1.3598 TC3-1.3245 BAU .8794
RDE-1.6748 RRA-1.8930 RC3 1.4882 FAU .12753
FDE 3.9178 FRA 4.4175 FC3-3.3438 BSP 8683
BDE 1.6831 BRA 2.3308 BC3 1.9923 FSP 1514

MID-COURSE EXECUTION ACCURACY

SGT 3039.5 SGR 4367.4 SG3 875.9
RRF -.9400 RRF -.9999 RTF .9377
SGB 3321.0 R23 .1176 R13 -.9930
SG1 5250.6 SG2 862.3 THA 124.25

ORBIT DETERMINATION ACCURACY

ST 40.3 SR 99.9 SS 84.7
CRT -.7102 CRS 1.0000 CST -.7093
LSA 134.2 MSA 27.7 SSA .1
EL1 104.3 EL2 27.2 ALF 107.20

LAUNCH DATE APR 24 1971

FLIGHT TIME 236.00

ARRIVAL DATE DEC 16 1971

HELIOCENTRIC CONIC

RL 150.45 LAL -.00 LOL 213.18 VL 32.263 GAL -2.70 AZL 81.79 HCA 182.97 SMA 183.49 ECC .18591 INC 8.2075 V1 29.616
RP 216.04 LAP -.42 LOP 36.11 VP 22.479 GAP 3.23 AZP 98.20 TAL 342.61 TAP 165.57 RCA 149.37 APO 217.60 V2 25.424
RC 158.631 GL 56.65 GP -49.57 ZAL 111.14 ZAP 82.10 ETS 169.36 ZAE 108.57 ETE 203.67 ZAC 52.84 ETC 272.38 LVI 38.61

PLANETOCENTRIC CONIC

C3 30.347 VHL 5.509 DLA 44.97 RAL 318.38 RAD 6647.1 VEL 12.259 PTH 7.20 VHP 5.120 DPA -70.88 RAP 318.05 ECC 1.4994
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 10 2 31 4311.89 -32.44 196.53 216.95 53.07 11 14 23 3311.9 -44.46 169.53
53.45 8 39 2 4526.30 -20.59 205.92 206.31 49.09 9 54 28 3526.3 -35.30 184.13
53.45 8 39 2 4526.30 -20.59 205.92 206.31 49.09 9 54 28 3526.3 -35.30 184.13
53.45 8 39 2 4526.30 -20.59 205.92 206.31 49.09 9 54 28 3526.3 -35.30 184.13
53.45 8 39 2 4526.30 -20.59 205.92 206.31 49.09 9 54 28 3526.3 -35.30 184.13
53.45 8 39 2 4526.30 -20.59 205.92 206.31 49.09 9 54 28 3526.3 -35.30 184.13
53.45 8 39 2 4526.30 -20.59 205.92 206.31 49.09 9 54 28 3526.3 -35.30 184.13

DIFFERENTIAL CORRECTIONS

TDE 3.4100 TRA .9108 TC3-1.9453 BAU 1.0509
RDE 3.3881 RRA 1.8193 RC3-1.7102 FAU .07838
FDE 4.1906 FRA 2.3974 FC3-2.2361 BSP 10554
BDE 4.8070 BRA 2.0345 BC3 2.5902 FSP 925

MID-COURSE EXECUTION ACCURACY

SGT 4354.9 SGR 4808.5 SG3 529.0
RRF .9607 RRF .9995 RTF .9547
SGB 6487.5 R23 .1457 R13 .9891
SG1 6424.0 SG2 904.9 THA 47.95

ORBIT DETERMINATION ACCURACY

ST 178.5 SR 180.7 SS 99.2
CRT .9938 CRS -.9999 CST -.9922
LSA 272.3 MSA 15.5 SSA .1
EL1 253.6 EL2 14.1 ALF 45.36

LAUNCH DATE APR 24 1971

FLIGHT TIME 238.00

ARRIVAL DATE DEC 18 1971

HELIOCENTRIC CONIC

RL 150.45 LAL -.00 LOL 213.18 VL 32.267 GAL -2.76 AZL 84.60 HCA 184.11 SMA 183.55 ECC .18644 INC 5.3993 V1 29.616
RP 216.39 LAP -.39 LOP 37.27 VP 22.442 GAP 3.06 AZP 95.39 TAL 342.29 TAP 166.41 RCA 149.33 APO 217.78 V2 25.385
RC 161.134 GL 43.53 GP -41.48 ZAL 117.27 ZAP 79.21 ETS 169.16 ZAE 110.15 ETE 199.30 ZAC 60.95 ETC 271.93 LVI 28.66

PLANETOCENTRIC CONIC

C3 19.402 VHL 4.405 DLA 32.99 RAL 325.46 RAD 6642.6 VEL 11.807 PTH 6.83 VHP 4.238 DPA -63.69 RAP 308.13 ECC 1.3193
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 12 28 34 3824.94 -46.59 159.07 214.07 78.99 13 32 19 2824.9 -45.55 124.00
60.00 12 14 3 3863.66 -37.42 159.56 211.09 73.79 13 18 27 2863.7 -40.12 128.76
70.00 11 33 52 3982.76 -26.02 164.38 206.33 67.05 12 40 15 2982.8 -33.07 137.96
72.26 10 40 34 4146.77 -19.27 173.63 202.90 62.69 11 49 41 3146.8 -28.82 149.50
72.26 10 40 34 4146.77 -19.27 173.63 202.90 62.69 11 49 41 3146.8 -28.82 149.50
72.26 10 40 34 4146.77 -19.27 173.63 202.90 62.69 11 49 41 3146.8 -28.82 149.50
110.00 16 33 19 3029.58 -26.02 93.29 206.33 67.05 17 23 48 2029.6 -33.07 66.88

DIFFERENTIAL CORRECTIONS

TDE 2.4445 TRA 1.2354 TC3-2.9777 BAU .9431
RDE 2.0456 RRA 1.7021 RC3-2.0867 FAU .11183
FDE 4.6470 FRA 4.0769 FC3-4.9902 BSP 10151
BDE 3.1875 BRA 2.1032 BC3 3.6360 FSP 1485

MID-COURSE EXECUTION ACCURACY

SGT 4545.6 SGR 4174.6 SG3 845.8
RRF .9665 RRF .9997 RTF .5333
SGB 6171.7 R23 .1518 R13 .9881
SG1 6120.1 SG2 796.0 THA 42.48

ORBIT DETERMINATION ACCURACY

ST 161.6 SR 138.8 SS 116.0
CRT .9939 CRS -.9999 CST -.9922
LSA 242.2 MSA 14.1 SSA .1
EL1 212.7 EL2 11.6 ALF 40.64

LAUNCH DATE APR 24 1971

FLIGHT TIME 240.00

ARRIVAL DATE DEC 20 1971

HELIOCENTRIC CONIC

RL 150.45 LAL -.00 LOL 213.18 VL 32.272 GAL -2.82 AZL 86.18 HCA 185.26 SMA 183.63 ECC .18701 INC 3.8210 V1 29.616
RP 216.73 LAP -.35 LOP 38.43 VP 22.404 GAP 2.90 AZP 93.81 TAL 341.96 TAP 167.22 RCA 149.29 APO 217.97 V2 25.347
RC 163.649 GL 33.29 GP -35.04 ZAL 121.60 ZAP 76.64 ETS 169.35 ZAE 110.67 ETE 195.68 ZAC 67.41 ETC 271.66 LVI 23.04

PLANETOCENTRIC CONIC

C3 15.322 VHL 3.914 DLA 23.63 RAL 330.19 RAD 6640.7 VEL 11.635 PTH 6.67 VHP 3.818 DPA -57.68 RAP 303.20 ECC 1.2522
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 13 38 35 3555.26 -46.95 133.26 204.69 98.78 14 37 50 2355.3 -38.19 102.41
60.00 13 48 18 3529.38 -40.25 131.83 205.59 92.29 14 47 7 2529.4 -34.93 102.08
70.00 14 4 14 3482.42 -34.03 127.98 205.54 86.92 15 2 16 2482.4 -31.74 99.48
80.00 14 34 39 3387.01 -29.07 120.23 205.01 82.85 15 31 6 2387.0 -29.10 92.81
90.00 15 37 6 3185.33 -26.98 105.09 204.68 81.18 16 30 12 2185.3 -27.96 78.12
100.00 17 17 31 2861.48 -29.07 81.60 205.01 82.85 18 5 12 1861.5 -29.10 54.18
110.00 19 3 40 2929.24 -34.03 56.90 205.54 86.92 19 45 50 1929.2 -31.74 26.40

DIFFERENTIAL CORRECTIONS

TDE 1.9475 TRA 1.4690 TC3-3.8011 BAU .8955
RDE 1.3950 RRA 1.5269 RC3-2.1588 FAU .13510
FDE 4.6446 FRA 5.4041 FC3-7.6331 BSP 9921
BDE 2.3956 BRA 2.1188 BC3 4.3714 FSP 1919

MID-COURSE EXECUTION ACCURACY

SGT 4742.3 SGR 3602.3 SG3 1080.8
RRF .9703 RRF .9996 RTF .9680
SGB 5955.3 R23 .1624 R13 .9863
SG1 5914.2 SG2 699.2 THA 36.99

ORBIT DETERMINATION ACCURACY

ST 146.9 SR 108.5 SS 120.0
CRT .9948 CRS -.9998 CST -.9926
LSA 218.2 MSA 12.4 SSA .2
EL1 182.4 EL2 8.9 ALF 36.41

LAUNCH DATE APR 24 1971 FLIGHT TIME 242.00 ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC DISTANCE 574.546 EARTH TO MARS
RL 150.45 LAL -.00 LOL 213.18 VL 32.277 GAL -2.88 AZL 87.19 HCA 186.41 SMA 183.71 ECC .18762 INC 2.8103 V1 29.616

PLANETOCENTRIC CONIC
C3 13.533 VHL 3.879 DLA 16.48 RAL 333.63 RAD 8639.8 VEL 11.558 PTH 6.60 VHP 3.594 DPA -52.92 RAP 300.26 ECC 1.2227
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.6560 TRA 1.6549 TC3-4.4015 BAU .8788 SGT 4936.0 SGR 3114.7 SG3 1239.9 ST 135.2 SR 87.0 SS 118.8

LAUNCH DATE APR 24 1971 FLIGHT TIME 244.00 ARRIVAL DATE DEC 24 1971

HELIOCENTRIC CONIC DISTANCE 578.706 EARTH TO MARS
RL 150.45 LAL -.00 LOL 213.18 VL 32.282 GAL -2.94 AZL 87.89 HCA 187.56 SMA 183.79 ECC .18827 INC 2.1063 V1 29.616

PLANETOCENTRIC CONIC
C3 12.697 VHL 3.563 DLA 11.04 RAL 336.27 RAD 8639.4 VEL 11.523 PTH 6.57 VHP 3.466 DPA -49.16 RAP 298.28 ECC 1.2090
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.4666 TRA 1.8093 TC3-4.8464 BAU .8830 SGT 5126.0 SGR 2708.8 SG3 1341.8 ST 126.1 SR 71.5 SS 115.5

LAUNCH DATE APR 24 1971 FLIGHT TIME 248.00 ARRIVAL DATE DEC 26 1971

HELIOCENTRIC CONIC DISTANCE 582.865 EARTH TO MARS
RL 150.45 LAL -.00 LOL 213.18 VL 32.287 GAL -3.01 AZL 88.41 HCA 188.70 SMA 183.88 ECC .18896 INC 1.5888 V1 29.616

PLANETOCENTRIC CONIC
C3 12.318 VHL 3.510 DLA 8.86 RAL 338.40 RAD 8639.2 VEL 11.506 PTH 6.55 VHP 3.393 DPA -46.16 RAP 296.84 ECC 1.2027
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.3437 TRA 1.9524 TC3-5.1590 BAU .8950 SGT 5313.3 SGR 2372.6 SG3 1403.3 ST 119.9 SR 60.1 SS 111.3

LAUNCH DATE APR 24 1971 FLIGHT TIME 248.00 ARRIVAL DATE DEC 28 1971

HELIOCENTRIC CONIC DISTANCE 587.018 EARTH TO MARS
RL 150.45 LAL -.00 LOL 213.18 VL 32.293 GAL -3.07 AZL 88.81 HCA 189.84 SMA 183.98 ECC .18969 INC 1.1910 V1 29.616

PLANETOCENTRIC CONIC
C3 12.184 VHL 3.491 DLA 3.61 RAL 340.17 RAD 8639.2 VEL 11.500 PTH 6.55 VHP 3.351 DPA -43.73 RAP 295.75 ECC 1.2005
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.2663 TRA 2.0929 TC3-5.3761 BAU .9097 SGT 5500.5 SGR 2100.2 SG3 1441.2 ST 116.2 SR 52.3 SS 109.0

LAUNCH DATE APR 24 1971

FLIGHT TIME 250.00

ARRIVAL DATE DEC 30 1971

HELIOCENTRIC CONIC

DISTANCE 591.168

EARTH TO MARS

RL 150.45 LAL -.00 LOL 213.18 VL 32.299 GAL -3.14 AZL 89.12 HCA 190.97 SMA 184.07 ECC .19045 INC .8767 V1 29.616
 RP 218.51 LAP -.17 LOP 44.15 VP 22.220 GAP 2.08 AZP 90.86 TAL 340.12 TAP 171.10 RCA 149.02 APO 219.13 V2 25.149
 RC 176.400 GL 8.15 GP -18.35 ZAL 129.84 ZAP 67.00 ETS 170.94 ZAE 106.44 ETE 185.92 ZAC 84.17 ETC 271.08 LVI 8.43

PLANETOCENTRIC CONIC

C3 12.191 VHL 3.492 DLA 1.05 RAL 341.68 RAD 6639.2 VEL 11.501 PTH 6.55 VHP 3.330 DPA -41.73 RAP 294.89 ECC 1.2006
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 54 36 3043.12 -32.69 93.24 196.63 126.72 16 45 19 2043.1 -16.07 73.85
 60.00 16 33 5 2940.77 -28.34 87.34 199.94 119.94 17 22 6 1940.8 -14.16 66.40
 70.00 17 24 5 2790.77 -24.44 77.42 202.19 114.64 18 10 36 1790.8 -12.39 55.52
 80.00 18 31 15 2580.44 -21.61 62.76 203.49 111.12 19 14 16 1580.4 -11.08 40.33
 90.00 19 52 12 2319.24 -20.55 43.98 203.91 109.86 20 30 51 1319.2 -10.58 21.39
 100.00 21 14 7 2054.91 -21.61 24.13 203.49 111.12 21 48 22 1054.9 -11.08 1.70
 110.00 22 23 31 1837.58 -24.44 6.34 202.19 114.64 22 54 9 837.6 -12.39 344.44

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.2228 TRA 2.2350 TC3-5.5173 BAU .9248 SGT 5685.7 SGR 1875.0 SG3 1461.9 ST 114.6 SR 46.7 SS 107.5
 RDE .5081 RRA .8541 RC3-1.3243 FAU .17113 RRT .9735 RRF .9970 RTF .9752 CRT .9992 CRS -.9958 CST -.9983
 FDE 3.8609 FRA 8.0408 FC-12.1520 BSP 10006 SGB 5986.8 R23 .1868 R13 .9795 LSA 163.8 MSA 5.3 SSA 1.2
 BDE 1.3242 BRA 2.3927 BC3 5.6740 FSP 2641 SG1 5972.9 SG2 407.9 THA 17.89 EL1 123.7 EL2 1.7 ALF 22.17

LAUNCH DATE APR 24 1971

FLIGHT TIME 252.00

ARRIVAL DATE JAN 1 1972

HELIOCENTRIC CONIC

DISTANCE 595.316

EARTH TO MARS

RL 150.45 LAL -.00 LOL 213.18 VL 32.305 GAL -3.21 AZL 89.38 HCA 192.11 SMA 184.18 ECC .19124 INC .6214 V1 29.616
 RP 218.88 LAP -.13 LOP 45.28 VP 22.184 GAP 1.92 AZP 90.61 TAL 339.73 TAP 171.84 RCA 148.96 APO 219.40 V2 25.109
 RC 178.981 GL 5.75 GP -16.62 ZAL 130.53 ZAP 65.44 ETS 171.20 ZAE 105.15 ETE 184.94 ZAC 85.91 ETC 271.02 LVI 6.92

PLANETOCENTRIC CONIC

C3 12.284 VHL 3.505 DLA -1.00 RAL 343.00 RAD 6639.2 VEL 11.505 PTH 6.55 VHP 3.322 DPA -40.06 RAP 294.20 ECC 1.2022
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 7 20 3004.04 -31.07 90.91 197.33 128.04 16 57 24 2004.0 -14.16 72.09
 60.00 16 47 59 2895.94 -26.79 84.56 200.71 121.31 17 36 15 1895.9 -12.26 64.13
 70.00 17 41 23 2738.86 -22.92 74.15 203.04 116.04 18 27 2 1738.9 -10.50 52.69
 80.00 18 50 45 2521.70 -20.12 59.03 204.40 112.54 19 32 46 1521.7 -9.19 37.00
 90.00 20 12 39 2257.44 -19.07 40.06 204.85 111.28 20 50 16 1257.4 -8.69 17.83
 100.00 21 33 37 1996.17 -20.12 20.40 204.40 112.54 22 6 53 996.2 -9.19 358.36
 110.00 22 40 50 1785.68 -22.92 3.07 203.04 116.04 23 10 35 785.7 -10.50 341.61

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.1913 TRA 2.3657 TC3-5.6406 BAU .9464 SGT 5864.0 SGR 1680.0 SG3 1465.4 ST 113.5 SR 41.9 SS 105.0
 RDE .4577 RRA .7688 RC3-1.1787 FAU .17154 RRT .9730 RRF .9956 RTF .9762 CRT .9973 CRS -.9936 CST -.9989
 FDE 3.7406 FRA 8.1704 FC-12.0892 BSP 10192 SGB 6099.9 R23 .1816 R13 .9794 LSA 160.1 MSA 4.9 SSA 1.4
 BDE 1.2762 BRA 2.4875 BC3 5.7625 FSP 2640 SG1 6088.5 SG2 375.4 THA 15.64 EL1 121.0 EL2 2.9 ALF 20.23

LAUNCH DATE APR 24 1971

FLIGHT TIME 254.00

ARRIVAL DATE JAN 3 1972

HELIOCENTRIC CONIC

DISTANCE 599.460

EARTH TO MARS

RL 150.45 LAL -.00 LOL 213.18 VL 32.312 GAL -3.29 AZL 89.59 HCA 193.24 SMA 184.29 ECC .19206 INC .4088 V1 29.616
 RP 219.25 LAP -.09 LOP 46.41 VP 22.147 GAP 1.76 AZP 90.40 TAL 339.34 TAP 172.57 RCA 148.89 APO 219.68 V2 25.068
 RC 181.572 GL 3.78 GP -15.15 ZAL 131.12 ZAP 63.96 ETS 171.43 ZAE 103.84 ETE 184.13 ZAC 87.38 ETC 270.97 LVI 5.65

PLANETOCENTRIC CONIC

C3 12.434 VHL 3.528 DLA -2.65 RAL 344.18 RAD 6639.3 VEL 11.511 PTH 6.56 VHP 3.324 DPA -38.64 RAP 293.64 ECC 1.2046
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 18 4 2973.77 -29.79 89.17 198.15 128.98 17 7 38 1973.8 -12.68 70.74
 60.00 17 0 27 2861.02 -25.53 82.46 201.59 122.31 17 48 8 1861.0 -10.77 62.39
 70.00 17 55 49 2698.22 -21.69 71.65 203.98 117.05 18 40 47 1698.2 -8.99 50.50
 80.00 19 6 57 2475.52 -18.89 58.16 205.39 113.56 19 48 12 1475.5 -7.66 34.40
 90.00 20 29 37 2208.76 -17.84 37.02 205.86 112.31 21 6 26 1208.8 -7.18 15.06
 100.00 21 49 48 1949.99 -18.89 17.53 205.39 113.56 22 22 18 950.0 -7.66 355.77
 110.00 22 55 15 1745.04 -21.69 .57 203.98 117.05 23 24 20 745.0 -8.99 339.42

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.1732 TRA 2.4937 TC3-5.7418 BAU .9704 SGT 8040.0 SGR 1515.3 SG3 1460.2 ST 113.2 SR 38.2 SS 102.8
 RDE .4207 RRA .6950 RC3-1.0526 FAU .17111 RRT .9718 RRF .9937 RTF .5.69 CRT .9939 CRS -.9906 CST -.9994
 FDE 3.6395 FRA 8.2494 FC-11.9137 BSP 10390 SGB 6227.2 R23 .1747 R13 .9794 LSA 157.5 MSA 5.0 SSA 1.5
 BDE 1.2463 BRA 2.5887 BC3 5.8372 FSP 2621 SG1 8217.5 SG2 347.4 THA 13.74 EL1 119.4 EL2 4.0 ALF 18.54

LAUNCH DATE APR 24 1971

FLIGHT TIME 256.00

ARRIVAL DATE JAN 5 1972

HELIOCENTRIC CONIC

DISTANCE 603.599

EARTH TO MARS

RL 150.45 LAL -.00 LOL 213.18 VL 32.319 GAL -3.36 AZL 89.77 HCA 194.36 SMA 184.40 ECC .19292 INC .2348 V1 29.616
 RP 219.62 LAP -.06 LOP 47.54 VP 22.111 GAP 1.60 AZP 90.23 TAL 338.93 TAP 173.29 RCA 148.83 APO 219.97 V2 25.028
 RC 184.172 GL 2.13 GP -13.90 ZAL 131.66 ZAP 62.55 ETS 171.65 ZAE 102.52 ETE 183.46 ZAC 88.64 ETC 270.93 LVI 4.55

PLANETOCENTRIC CONIC

C3 12.624 VHL 3.553 DLA -3.99 RAL 345.25 RAD 6639.4 VEL 11.519 PTH 6.57 VHP 3.333 DPA -37.43 RAP 293.20 ECC 1.2078
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 27 14 2950.24 -28.77 87.85 199.03 129.68 17 16 24 1950.2 -11.52 69.71
 60.00 17 11 3 2833.68 -24.53 80.84 202.52 123.04 17 58 17 1833.7 -9.59 61.04
 70.00 18 8 1 2666.19 -20.68 69.71 204.96 117.80 18 52 27 1666.2 -7.80 48.79
 80.00 19 20 36 2438.92 -17.88 53.91 206.42 114.32 20 1 15 1438.9 -6.46 32.36
 90.00 20 43 55 2170.12 -16.83 34.63 206.90 113.07 21 20 5 1170.1 -5.96 12.88
 100.00 22 3 28 1913.39 -17.88 15.28 206.42 114.32 22 35 21 913.4 -6.46 353.73
 110.00 23 7 27 1713.01 -20.68 358.62 204.96 117.80 23 36 0 713.0 -7.80 337.71

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.1727 TRA 2.6276 TC3-5.8004 BAU .9916 SGT 6213.5 SGR 1375.6 SG3 1449.3 ST 114.2 SR 35.3 SS 101.3
 RDE .3948 RRA .6323 RC3 -.9356 FAU .16865 RRT .9695 RRF .9912 RTF .9773 CRT .9893 CRS -.9878 CST -.9997
 FDE 3.5755 FRA 8.3132 FC-11.5664 BSP 10697 SGB 6363.9 R23 .1675 R13 .9792 LSA 156.6 MSA 5.4 SSA 1.5
 BDE 1.2374 BRA 2.7026 BC3 5.8754 FSP 2620 SG1 6355.4 SG2 329.8 THA 12.15 EL1 119.4 EL2 4.9 ALF 17.06

LAUNCH DATE APR 24 1971

FLIGHT TIME 298.00

ARRIVAL DATE JAN 7 1972

Heliocentric Conic: RL 150.45 LAL -.00 LOL 213.18 VL 32.326 GAL -3.44 AZL 89.92 HCA 195.48 SMA 184.52 ECC .19381 INC .0678 V1 20.616
 RP 219.99 LAP -.02 LOP 48.66 VP 22.075 GAP 1.44 AZP 90.08 TAL 338.52 TAP 174.01 RCA 148.76 APO 220.28 V2 24.987
 RC 186.781 GL .74 GP -12.83 ZAL 132.17 ZAP 61.20 ETS 171.85 ZAE 101.20 ETE 182.89 ZAC 89.72 ETC 270.90 LVI 3.61

Planetocentric Conic: C3 12.842 VHL 3.584 DLA -5.09 RAL 346.22 RAD 6639.5 VEL 11.529 PTH 6.58 VHP 3.347 DPA -36.38 RAP 292.84 ECC 1.2113
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 35 10 2931.96 -27.97 86.84 199.93 130.19 17 24 2 1932.0 -10.62 68.92
 60.00 17 20 10 2812.26 -23.73 79.59 203.47 123.58 18 7 3 1812.3 -8.67 59.98
 70.00 18 18 27 2640.88 -19.87 68.19 205.96 118.37 19 2 28 1640.9 -6.85 47.45
 80.00 19 32 16 2409.82 -17.05 52.15 207.45 114.89 20 12 25 1409.8 -5.49 30.75
 90.00 20 56 6 2139.31 -15.99 32.76 207.95 113.64 21 31 45 1139.3 -4.98 11.14
 100.00 22 15 7 1884.29 -17.05 13.51 207.45 114.89 22 46 32 884.3 -5.49 352.11
 110.00 23 17 54 1687.70 -19.87 357.11 205.96 118.37 23 46 1 687.7 -6.85 338.37

Differential Corrections: TDE 1.1728 TRA 2.7526 TC3-5.8682 BAU 1.0177 SGT 6381.8 SGR 1254.1 SG3 1432.5 ORBIT DETERMINATION ACCURACY
 RDE .3741 RRA .5756 RC3 -.8386 FAU .16651 RRT .9661 RRF .9879 RTF .9774 CRT .9832 CRS -.9825 CST -.9998
 FDE 3.5053 FRA 8.3292 FC-11.2253 BSP 10909 SGB 6503.8 R23 .1599 R13 .9789 LSA 155.6 MSA 5.9 SSA 1.5
 BDE 1.2310 BRA 2.8121 BC3 5.9278 FSP 2588 SG1 6496.0 SG2 318.1 THA 10.78 EL1 119.5 EL2 5.8 ALF 15.78

LAUNCH DATE APR 24 1971

FLIGHT TIME 260.00

ARRIVAL DATE JAN 9 1972

Heliocentric Conic: RL 150.45 LAL -.00 LOL 213.18 VL 32.333 GAL -3.52 AZL 90.05 HCA 196.60 SMA 184.64 ECC .19472 INC .0280 V1 29.616
 RP 220.36 LAP .01 LOP 49.78 VP 22.039 GAP 1.28 AZP 89.95 TAL 338.11 TAP 174.71 RCA 148.68 APO 220.59 V2 24.946
 RC 189.399 GL -1.44 GP -11.89 ZAL 132.65 ZAP 59.91 ETS 172.03 ZAE 99.89 ETE 182.41 ZAC 90.66 ETC 270.88 LVI 2.77

Planetocentric Conic: C3 13.082 VHL 3.617 DLA -6.00 RAL 347.13 RAD 6639.6 VEL 11.539 PTH 6.59 VHP 3.365 DPA -35.47 RAP 292.56 ECC 1.2153
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 42 7 2917.86 -27.35 86.07 200.85 130.58 17 30 45 1917.9 -9.92 68.31
 60.00 17 28 6 2795.55 -23.10 78.63 204.43 123.99 18 14 42 1795.5 -7.94 59.17
 70.00 18 27 29 2620.93 -19.22 67.01 206.96 118.79 19 11 10 1620.9 -6.10 46.39
 80.00 19 42 18 2386.70 -16.39 50.75 208.48 115.31 20 22 5 1386.7 -4.72 29.47
 90.00 21 6 35 2114.75 -15.32 31.27 208.99 114.07 21 41 50 1114.8 -4.20 9.76
 100.00 22 25 10 1861.17 -16.39 12.12 208.48 115.31 22 56 11 861.2 -4.72 350.83
 110.00 23 26 56 1667.75 -19.22 355.93 206.96 118.79 23 54 43 667.8 -6.10 335.31

Differential Corrections: TDE 1.1838 TRA 2.8812 TC3-5.9120 BAU 1.0423 SGT 6347.3 SGR 1149.0 SG3 1412.3 ORBIT DETERMINATION ACCURACY
 RDE .3591 RRA .5254 RC3 -.7523 FAU .16356 RRT .9617 RRF .9837 RTF .9776 CRT .9760 CRS -.9773 CST -.9998
 FDE 3.4327 FRA 8.3280 FC-10.8239 BSP 11172 SGB 6647.4 R23 .1510 R13 .9788 LSA 155.5 MSA 6.6 SSA 1.5
 BDE 1.2371 BRA 2.9287 BC3 5.9597 FSP 2557 SG1 6640.1 SG2 310.4 THA 9.60 EL1 120.4 EL2 6.5 ALF 14.65

LAUNCH DATE APR 24 1971

FLIGHT TIME 262.00

ARRIVAL DATE JAN 11 1972

Heliocentric Conic: RL 150.45 LAL -.00 LOL 213.18 VL 32.341 GAL -3.60 AZL 90.16 HCA 197.71 SMA 184.76 ECC .19567 INC .1609 V1 29.616
 RP 220.74 LAP .05 LOP 50.89 VP 22.003 GAP 1.12 AZP 89.84 TAL 337.69 TAP 175.40 RCA 148.61 APO 220.91 V2 24.904
 RC 192.025 GL -1.45 GP -11.06 ZAL 133.11 ZAP 58.67 ETS 172.20 ZAE 98.60 ETE 182.01 ZAC 91.49 ETC 270.37 LVI 2.03

Planetocentric Conic: C3 13.340 VHL 3.652 DLA -6.74 RAL 347.97 RAD 6639.7 VEL 11.550 PTH 6.60 VHP 3.386 DPA -34.66 RAP 292.35 ECC 1.2195
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 48 15 2907.14 -26.88 85.49 201.76 130.80 17 36 42 1907.1 -9.39 67.84
 60.00 17 35 3 2782.65 -22.60 77.90 205.38 124.30 18 21 26 1782.6 -7.38 58.54
 70.00 18 35 22 2605.33 -18.71 66.09 207.95 119.11 19 18 47 1605.3 -5.51 45.57
 80.00 19 51 2 2368.44 -15.85 49.66 209.50 115.64 20 30 30 1368.4 -4.11 28.46
 90.00 21 15 41 2095.28 -14.77 30.10 210.02 114.39 21 50 36 1095.3 -3.58 8.67
 100.00 22 33 53 1842.91 -15.85 11.03 209.50 115.64 23 4 36 842.9 -4.11 349.83
 110.00 23 34 48 1652.15 -18.71 355.01 207.95 119.11 24 2 20 652.1 -5.51 334.49

Differential Corrections: TDE 1.2001 TRA 3.0102 TC3-5.9457 BAU 1.0673 SGT 6709.6 SGR 1057.7 SG3 1389.6 ORBIT DETERMINATION ACCURACY
 RDE .3479 RRA .4806 RC3 -.6771 FAU .16029 RRT .9561 RRF .9782 RTF .5.76 CRT .9677 CRS -.9713 CST -.9997
 FDE 3.4062 FRA 8.3114 FC-10.4022 BSP 11445 SGB 6792.4 R23 .1420 R13 .9786 LSA 155.7 MSA 7.2 SSA 1.5
 BDE 1.2495 BRA 3.0483 BC3 5.9842 FSP 2524 SG1 6785.5 SG2 306.4 THA 8.59 EL1 121.7 EL2 7.2 ALF 13.65

LAUNCH DATE APR 24 1971

FLIGHT TIME 264.00

ARRIVAL DATE JAN 13 1972

Heliocentric Conic: RL 150.45 LAL -.00 LOL 213.18 VL 32.348 GAL -3.68 AZL 90.27 HCA 198.82 SMA 184.89 ECC .19865 INC .2652 V1 29.616
 RP 221.12 LAP .09 LOP 52.00 VP 21.968 GAP .98 AZP 89.75 TAL 337.26 TAP 176.08 RCA 148.53 APO 221.25 V2 24.863
 RC 194.859 GL -2.33 GP -10.33 ZAL 133.57 ZAP 57.48 ETS 172.36 ZAE 97.33 ETE 181.66 ZAC 92.22 ETC 270.87 LVI 1.37

Planetocentric Conic: C3 13.614 VHL 3.690 DLA -7.36 RAL 348.76 RAD 6639.9 VEL 11.562 PTH 6.61 VHP 3.410 DPA -33.94 RAP 292.20 ECC 1.2240
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 53 42 2899.17 -26.92 85.07 202.67 131.07 17 42 2 1899.2 -8.99 67.50
 60.00 17 41 12 2772.88 -22.23 77.35 206.33 124.53 18 27 24 1772.9 -6.96 58.07
 70.00 18 42 16 2593.30 -18.31 65.39 208.93 119.35 19 25 29 1593.3 -5.05 44.94
 80.00 19 58 39 2354.18 -15.43 48.81 210.30 115.88 20 37 53 1354.2 -3.63 27.67
 90.00 21 23 38 2080.01 -14.34 29.19 211.03 114.64 21 58 18 1080.0 -3.09 7.81
 100.00 22 41 31 1828.65 -15.43 10.18 210.50 115.88 23 11 59 828.7 -3.63 349.04
 110.00 23 41 43 1640.11 -18.31 354.31 208.93 119.35 24 9 3 640.1 -5.05 333.85

Differential Corrections: TDE 1.2221 TRA 3.1403 TC3-5.9694 BAU 1.0921 SGT 6869.1 SGR 978.1 SG3 1365.2 ORBIT DETERMINATION ACCURACY
 RDE .3398 RRA .4401 RC3 -.6114 FAU .15680 RRT .9491 RRF .9715 RTF .9776 CRT .9586 CRS -.9647 CST -.9996
 FDE 3.3666 FRA 8.2826 FC3-9.9717 BSP 11719 SGB 6938.4 R23 .1327 R13 .9784 LSA 156.4 MSA 7.9 SSA 1.4
 BDE 1.2684 BRA 3.1711 BC3 6.0006 FSP 2486 SG1 6931.7 SG2 305.3 THA 7.71 EL1 123.4 EL2 7.9 ALF 12.77

LAUNCH DATE APR 24 1971

FLIGHT TIME 266.00

ARRIVAL DATE JAN 15 1972

HELIOCENTRIC CONIC

DISTANCE 624.227

EARTH TO MARS

RL 150.45 LAL -.00 LOL 213.18 VL 32.356 GAL -3.77 AZL 90.36 HCA 199.93 SMA 185.02 ECC .19765 INC .3549 V1 29.616
RP 221.50 LAP .12 LOP 53.11 VP 21.932 GAP .80 AZP 89.66 TAL 336.83 TAP 176.76 RCA 148.45 APO 221.59 V2 24.821
RC 197.299 GL -3.09 GP -9.69 ZAL 134.02 ZAP 56.33 ETS 172.51 ZAE 96.08 ETE 181.36 ZAC 92.86 ETC 270.88 LVI .76

PLANETOCENTRIC CONIC

C3 13.900 VHL 3.728 DLA -7.87 RAL 349.51 RAD 6640.0 VEL 11.574 PTH 6.62 VHP 3.436 DPA -33.30 RAP 292.11 ECC 1.2288
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 58 36 2893.50 -26.27 84.77 203.58 131.21 17 46 50 1893.5 -8.71 67.26
60.00 17 46 39 2765.70 -21.95 76.94 207.26 124.69 18 32 45 1765.7 -6.64 57.72
70.00 18 48 22 2584.24 -18.01 64.88 209.89 119.52 19 31 27 1584.2 -4.71 44.46
80.00 20 5 21 2343.26 -15.10 48.17 211.49 116.07 20 44 24 1343.3 -3.26 27.07
90.00 21 30 36 2068.24 -14.01 28.49 212.03 114.82 22 5 4 1068.2 -2.71 7.16
100.00 22 48 13 1817.73 -15.10 9.53 211.49 116.07 23 18 31 817.7 -3.26 348.44
110.00 23 47 49 1631.06 -18.01 353.78 209.89 119.52 24 15 0 631.1 -4.71 333.38

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.2458 TRA 3.2684 TC3-5.9918 BAU 1.1182 SGT 7024.1 SGR 908.1 SG3 1336.8 ST 122.4 SR 27.3 SS 94.9
RDE .3338 RRA .4029 RC3 -.5543 FAU .15332 RRT .9404 RRF .9631 RTF .9775 CRT .9485 CRS -.9574 CST -.9994
FDE 3.3270 FRA 8.2359 FC3-9.5492 BSP 11975 SGB 7082.6 R23 .1239 R13 .9782 LSA 157.1 MSA 8.5 S8A 1.4
BDE 1.2898 BRA 3.2932 BC3 6.0173 FSP 2443 SG1 7075.9 SG2 306.7 THA 6.94 EL1 125.2 EL2 8.5 ALF 12.00

LAUNCH DATE APR 24 1971

FLIGHT TIME 268.00

ARRIVAL DATE JAN 17 1972

HELIOCENTRIC CONIC

DISTANCE 628.337

EARTH TO MARS

RL 150.45 LAL -.00 LOL 213.18 VL 32.364 GAL -3.85 AZL 90.44 HCA 201.03 SMA 185.15 ECC .19868 INC .4370 V1 29.616
RP 221.88 LAP .16 LOP 54.21 VP 21.897 GAP .64 AZP 89.59 TAL 336.39 TAP 177.43 RCA 148.37 APO 221.94 V2 24.780
RC 199.945 GL -3.75 GP -9.11 ZAL 134.46 ZAP 55.23 ETS 172.66 ZAE 94.85 ETE 181.10 ZAC 93.44 ETC 270.69 LVI .21

PLANETOCENTRIC CONIC

C3 14.199 VHL 3.768 DLA -8.29 RAL 350.22 RAD 6640.1 VEL 11.587 PTH 6.63 VHP 3.463 DPA -32.72 RAP 292.07 ECC 1.2337
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 3 1 2889.76 -26.10 84.57 204.47 131.31 17 51 11 1889.8 -8.52 67.10
60.00 17 51 33 2760.71 -21.76 76.66 208.19 124.80 18 37 33 1760.7 -6.42 57.48
70.00 18 53 48 2577.69 -17.78 64.48 210.85 119.65 19 36 43 1577.7 -4.46 44.12
80.00 20 11 16 2335.16 -14.86 47.69 212.46 116.20 20 50 11 1335.2 -2.99 26.62
90.00 21 36 44 2059.42 -13.76 27.96 213.01 114.95 22 11 3 1059.4 -2.42 6.66
100.00 22 54 8 1809.63 -14.86 9.06 212.46 116.20 23 24 18 809.6 -2.99 347.99
110.00 23 53 14 1624.50 -17.78 353.40 210.85 119.65 24 20 19 624.5 -4.46 333.03

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.2752 TRA 3.3995 TC3-6.0019 BAU 1.1433 SGT 7176.8 SGR 847.1 SG3 1311.8 ST 124.8 SR 26.5 SS 93.9
RDE .3301 RRA .3691 RC3 -.5035 FAU .14953 RRT .9297 RRF .9529 RTF .9774 CRT .9379 CRS -.9497 CST -.9992
FDE 3.2965 FRA 8.1854 FC3-9.1170 BSP 12250 SGB 7226.6 R23 .1156 R13 .9779 LSA 158.2 MSA 9.2 S8A 1.4
BDE 1.3173 BRA 3.4195 BC3 6.0230 FSP 2402 SG1 7220.0 SG2 310.1 THA 6.27 EL1 127.3 EL2 9.0 ALF 11.32

LAUNCH DATE APR 24 1971

FLIGHT TIME 270.00

ARRIVAL DATE JAN 19 1972

HELIOCENTRIC CONIC

DISTANCE 632.442

EARTH TO MARS

RL 150.45 LAL -.00 LOL 213.18 VL 32.372 GAL -3.94 AZL 90.51 HCA 202.13 SMA 185.29 ECC .19974 INC .5099 V1 29.616
RP 222.27 LAP .19 LOP 55.31 VP 21.862 GAP .48 AZP 89.53 TAL 335.95 TAP 178.09 RCA 148.28 APO 222.30 V2 24.738
RC 202.595 GL -4.33 GP -8.59 ZAL 134.90 ZAP 54.16 ETS 172.79 ZAE 93.65 ETE 180.87 ZAC 93.96 ETC 270.91 LVI -.30

PLANETOCENTRIC CONIC

C3 14.509 VHL 3.809 DLA -8.64 RAL 350.90 RAD 6640.3 VEL 11.600 PTH 6.64 VHP 3.492 DPA -32.19 RAP 292.07 ECC 1.2388
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 7 2 2887.65 -26.00 84.46 205.36 131.36 17 55 10 1887.6 -8.42 67.01
60.00 17 55 57 2757.57 -21.63 76.49 209.10 124.87 18 41 54 1757.6 -6.29 57.32
70.00 18 58 38 2573.26 -17.64 64.22 211.78 119.73 19 41 31 1573.3 -4.29 43.88
80.00 20 16 31 2329.45 -14.69 47.35 213.42 116.29 20 55 20 1329.5 -2.79 26.31
90.00 21 42 9 2053.13 -13.57 27.59 213.97 115.05 22 16 23 1053.1 -2.22 6.31
100.00 22 59 23 1803.92 -14.69 8.72 213.42 116.29 23 29 27 803.9 -2.79 347.68
110.00 0 2 0 1620.08 -17.64 353.14 211.78 119.73 0 29 0 620.1 -4.29 332.80

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3087 TRA 3.5306 TC3-6.0099 BAU 1.1692 SGT 7326.7 SGR 793.7 SG3 1284.3 ST 127.3 SR 25.8 SS 92.9
RDE .3280 RRA .3380 RC3 -.4589 FAU .14574 RRT .9170 RRF .9407 RTF .571 CRT .9289 CRS -.9415 CST -.9990
FDE 3.2870 FRA 8.1275 FC3-8.6957 BSP 12508 SGB 7369.5 R23 .1080 R13 .9776 LSA 159.4 MSA 9.8 S8A 1.4
BDE 1.3472 BRA 3.5488 BC3 6.0274 FSP 2356 SG1 7362.8 SG2 315.1 THA 5.68 EL1 129.5 EL2 9.5 ALF 10.72

LAUNCH DATE APR 24 1971

FLIGHT TIME 272.00

ARRIVAL DATE JAN 21 1972

HELIOCENTRIC CONIC

DISTANCE 636.541

EARTH TO MARS

RL 150.45 LAL -.00 LOL 213.18 VL 32.380 GAL -4.03 AZL 90.58 HCA 203.23 SMA 185.43 ECC .20083 INC .5765 V1 29.616
RP 222.65 LAP .23 LOP 56.40 VP 21.827 GAP .32 AZP 89.47 TAL 335.51 TAP 178.74 RCA 148.19 APO 222.66 V2 24.696
RC 205.250 GL -4.85 GP -8.12 ZAL 135.35 ZAP 53.14 ETS 172.92 ZAE 92.46 ETE 180.67 ZAC 94.43 ETC 270.94 LVI -.77

PLANETOCENTRIC CONIC

C3 14.830 VHL 3.851 DLA -8.91 RAL 351.58 RAD 6640.4 VEL 11.614 PTH 6.65 VHP 3.523 DPA -31.71 RAP 292.12 ECC 1.2441
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 10 42 2886.93 -25.97 84.42 206.23 131.38 17 58 49 1886.9 -8.38 68.98
60.00 17 59 55 2756.02 -21.57 76.40 210.00 124.90 18 45 51 1756.0 -6.22 57.25
70.00 19 2 58 2570.66 -17.55 64.07 212.71 119.78 19 45 48 1570.7 -4.19 43.75
80.00 20 21 11 2325.80 -14.58 47.14 214.36 116.35 20 59 57 1325.8 -2.67 26.11
90.00 21 46 58 2049.00 -13.45 27.34 214.91 115.11 22 21 7 1049.0 -2.09 6.08
100.00 23 4 3 1800.28 -14.58 8.50 214.36 116.35 23 34 3 800.3 -2.67 347.48
110.00 0 6 20 1617.48 -17.55 352.99 212.71 119.78 0 33 17 617.5 -4.19 332.67

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3411 TRA 3.6627 TC3-6.0124 BAU 1.1950 SGT 7473.5 SGR 747.0 SG3 1256.2 ST 129.8 SR 25.3 SS 92.0
RDE .3271 RRA .3091 RC3 -.4198 FAU .14202 RRT .9020 RRF .9263 RTF .9769 CRT .9155 CRS -.9331 CST -.9987
FDE 3.2383 FRA 8.0618 FC3-8.2903 BSP 12771 SGB 7510.7 R23 .1006 R13 .9773 LSA 160.7 MSA 10.3 S8A 1.3
BDE 1.3804 BRA 3.6758 BC3 6.0271 FSP 2310 SG1 7503.8 SG2 321.2 THA 5.16 EL1 131.9 EL2 10.0 ALF 10.19

LAUNCH DATE APR 24 1971 FLIGHT TIME 274.00 ARRIVAL DATE JAN 23 1972

Heliocentric Conic: RL 150.45 LAL -.00 LOL 213.10 VL 32.389 GAL -4.12 AZL 90.64 HCA 204.32 SMA 185.57 ECC .20194 INC .6367 V1 29.616
 RP 223.04 LAP .26 LOP 57.50 VP 21.792 GAP .16 AZP 89.42 TAL 335.06 TAP 179.39 RCA 148.09 APO 223.04 V2 24.854
 RC 207.907 GL -5.30 GP -7.69 ZAL 135.79 ZAP 52.15 ETS 173.04 ZAE 91.30 ETE 180.50 ZAC 94.85 ETC 270.97 LVI -1.22

Planetocentric Conic: C3 15.162 VHL 3.894 DLA -9.14 RAL 352.19 RAD 6640.6 VEL 11.628 PTH 6.67 VHP 3.554 DPA -31.27 RAP 292.20 ECC 1.2495
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 14 3 2887.41 -25.99 84.45 207.10 131.36 18 2 10 1887.4 -8.40 67.00
 60.00 18 3 31 2755.84 -21.57 76.39 210.90 124.91 18 49 27 1755.8 -6.21 57.24
 70.00 19 6 51 2569.63 -17.51 64.01 213.62 119.80 19 49 41 1569.6 -4.15 43.69
 80.00 20 25 20 2323.94 -14.52 47.03 215.28 116.38 21 4 4 1323.9 -2.61 26.01
 90.00 21 51 15 2046.74 -13.39 27.21 215.84 115.14 22 25 22 1046.7 -2.02 5.96
 100.00 23 8 12 1798.41 -14.52 8.39 215.28 116.38 23 38 11 798.4 -2.61 347.38
 110.00 0 10 14 1616.45 -17.51 352.93 213.62 119.80 0 37 10 616.5 -4.15 332.61

Differential Corrections: TDE 1.3782 TRA 3.7956 TC3-6.0108 BAU 1.2209 SGT 7617.3 SGR 706.5 SG3 1228.0 ST 132.4 SR 24.9 SS 91.1
 RDE .3276 RRA .2823 RC3 -.3848 FAU .13818 RRT .8845 RRF .9095 RTF .9766 CRT .9040 CRS -.9245 CST -.9985
 FDE 3.2139 FRA 7.9930 FC3-7.8895 BSP 13023 SGB 7650.0 R23 .0943 R13 .9770 LSA 162.2 MSA 10.9 S8A 1.3
 BDE 1.4166 BRA 3.8061 BC3 6.0231 FSP 2264 SGI 7643.0 SG2 328.5 THA 4.70 EL1 134.3 EL2 10.5 ALF 9.72

LAUNCH DATE APR 24 1971 FLIGHT TIME 276.00 ARRIVAL DATE JAN 25 1972

Heliocentric Conic: RL 150.45 LAL -.00 LOL 213.10 VL 32.397 GAL -4.21 AZL 90.69 HCA 205.41 SMA 185.71 ECC .20307 INC .6923 V1 29.616
 RP 223.42 LAP .30 LOP 58.58 VP 21.757 GAP -.00 AZP 89.37 TAL 334.61 TAP 180.01 RCA 148.00 APO 223.42 V2 24.612
 RC 210.566 GL -5.69 GP -7.30 ZAL 136.23 ZAP 51.19 ETS 173.15 ZAE 90.17 ETE 180.35 ZAC 95.23 ETC 271.02 LVI -1.84

Planetocentric Conic: C3 15.505 VHL 3.938 DLA -9.31 RAL 352.80 RAD 6640.8 VEL 11.643 PTH 6.68 VHP 3.586 DPA -30.86 RAP 292.32 ECC 1.2552
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 17 8 2888.94 -26.06 84.53 207.96 131.33 18 5 17 1888.9 -8.48 67.06
 60.00 18 6 48 2756.84 -21.60 76.45 211.78 124.89 18 52 45 1756.8 -6.26 57.29
 70.00 19 10 22 2569.97 -17.52 64.03 214.52 119.79 19 53 12 1570.0 -4.17 43.71
 80.00 20 29 4 2323.61 -14.51 47.01 216.19 116.38 21 7 47 1323.6 -2.60 25.99
 90.00 21 55 4 2046.11 -13.37 27.17 216.76 115.15 22 29 11 1046.1 -2.00 5.92
 100.00 23 11 56 1798.09 -14.51 8.38 216.19 116.38 23 41 54 798.1 -2.60 347.36
 110.00 0 13 44 1616.79 -17.52 352.95 214.52 119.79 0 40 41 616.8 -4.17 332.63

Differential Corrections: TDE 1.4174 TRA 3.9305 TC3-6.0036 BAU 1.2487 SGT 7758.7 SGR 671.4 SG3 1199.8 ST 135.1 SR 24.6 SS 90.1
 RDE .3289 RRA .2574 RC3 -.3539 FAU .13437 RRT .8647 RRF .8902 RTF .9763 CRT .8925 CRS -.9158 CST -.9863
 FDE 3.1887 FRA 7.9208 FC3-7.5031 BSP 13277 SGB 7787.7 R23 .0883 R13 .9766 LSA 163.8 MSA 11.4 S8A 1.3
 BDE 1.4531 BRA 3.9389 BC3 6.0142 FSP 2217 SGI 7780.5 SG2 336.3 THA 4.29 EL1 136.8 EL2 11.0 ALF 9.29

LAUNCH DATE APR 24 1971 FLIGHT TIME 278.00 ARRIVAL DATE JAN 27 1972

Heliocentric Conic: RL 150.45 LAL -.00 LOL 213.10 VL 32.408 GAL -4.30 AZL 90.74 HCA 206.49 SMA 185.86 ECC .20424 INC .7434 V1 29.616
 RP 223.81 LAP .33 LOP 59.67 VP 21.723 GAP -.16 AZP 89.33 TAL 334.15 TAP 180.64 RCA 147.90 APO 223.82 V2 24.571
 RC 213.227 GL -6.05 GP -6.94 ZAL 136.67 ZAP 50.27 ETS 173.26 ZAE 89.05 ETE 180.21 ZAC 95.58 ETC 271.06 LVI -2.04

Planetocentric Conic: C3 15.858 VHL 3.982 DLA -9.44 RAL 353.39 RAD 6640.9 VEL 11.658 PTH 6.70 VHP 3.619 DPA -30.49 RAP 292.48 ECC 1.2610
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 19 59 2891.38 -26.17 84.66 208.82 131.26 18 8 11 1891.4 -8.60 67.17
 60.00 18 9 49 2758.88 -21.68 76.36 212.66 124.84 18 55 48 1758.9 -6.34 57.39
 70.00 19 13 32 2571.51 -17.58 64.12 215.41 119.77 19 56 24 1571.5 -4.22 43.79
 80.00 20 32 24 2324.65 -14.54 47.07 217.10 116.37 21 11 9 1324.6 -2.63 26.05
 90.00 21 58 29 2046.91 -13.39 27.22 217.67 115.14 22 32 36 1046.9 -2.02 5.96
 100.00 23 15 16 1799.12 -14.54 8.44 217.10 116.37 23 45 15 799.1 -2.63 347.41
 110.00 0 16 55 1618.33 -17.58 353.04 215.41 119.77 0 43 53 618.3 -4.22 332.71

Differential Corrections: TDE 1.4593 TRA 4.0669 TC3-5.9934 BAU 1.2725 SGT 7898.0 SGR 641.3 SG3 1171.9 ST 137.8 SR 24.4 SS 89.2
 RDE .3313 RRA .2341 RC3 -.3263 FAU .13059 RRT .8423 RRF .8684 RTF .9760 CRT .8812 CRS -.9072 CST -.9991
 FDE 3.1882 FRA 7.8486 FC3-7.1274 BSP 13535 SGB 7924.0 R23 .0831 R13 .9762 LSA 165.5 MSA 11.9 S8A 1.3
 BDE 1.4984 BRA 4.0736 BC3 6.0023 FSP 2171 SGI 7916.5 SG2 344.9 THA 3.92 EL1 139.5 EL2 11.4 ALF 8.92

LAUNCH DATE APR 24 1971 FLIGHT TIME 280.00 ARRIVAL DATE JAN 29 1972

Heliocentric Conic: RL 150.45 LAL -.00 LOL 213.10 VL 32.415 GAL -4.40 AZL 90.79 HCA 207.57 SMA 186.01 ECC .20542 INC .7903 V1 29.616
 RP 224.20 LAP .37 LOP 60.75 VP 21.688 GAP -.33 AZP 89.30 TAL 333.69 TAP 181.26 RCA 147.80 APO 224.22 V2 24.529
 RC 215.890 GL -6.36 GP -6.82 ZAL 137.11 ZAP 49.38 ETS 173.37 ZAE 87.96 ETE 180.09 ZAC 95.90 ETC 271.12 LVI -2.42

Planetocentric Conic: C3 16.221 VHL 4.028 DLA -9.54 RAL 353.98 RAD 6641.1 VEL 11.673 PTH 6.71 VHP 3.653 DPA -30.13 RAP 292.67 ECC 1.2670
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 22 38 2894.61 -26.32 84.83 209.67 131.18 18 10 53 1894.6 -8.76 67.31
 60.00 18 12 34 2761.83 -21.80 76.73 213.52 124.78 18 58 36 1761.8 -6.47 57.53
 70.00 19 16 25 2574.10 -17.68 64.27 216.29 119.72 19 59 19 1574.1 -4.32 43.93
 80.00 20 35 24 2326.87 -14.61 47.20 217.99 116.33 21 14 11 1326.9 -2.71 26.17
 90.00 22 1 32 2048.97 -13.45 27.34 218.56 115.11 22 35 41 1049.0 -2.09 6.08
 100.00 23 18 16 1801.34 -14.61 8.57 217.99 116.33 23 48 17 801.3 -2.71 347.54
 110.00 0 19 47 1620.92 -17.66 353.19 216.29 119.72 0 46 48 620.9 -4.32 332.85

Differential Corrections: TDE 1.5020 TRA 4.2034 TC3-5.9813 BAU 1.2988 SGT 8034.0 SGR 615.5 SG3 1143.9 ST 140.5 SR 24.2 SS 88.3
 RDE .3343 RRA .2120 RC3 -.3019 FAU .12684 RRT .8175 RRF .8442 RTF .9756 CRT .8700 CRS -.8986 CST -.9979
 FDE 3.1426 FRA 7.7680 FC3-6.7693 BSP 13777 SGB 8057.6 R23 .0784 R13 .9758 LSA 167.2 MSA 12.4 S8A 1.3
 BDE 1.5388 BRA 4.2087 BC3 5.9889 FSP 2123 SGI 8049.8 SG2 353.8 THA 3.59 EL1 142.1 EL2 11.8 ALF 8.59

LAUNCH DATE APR 25 1971

FLIGHT TIME 112.00

ARRIVAL DATE AUG 15 1971

HELIOCENTRIC CONIC

RL 150.49 LAL -.00 LOL 214.15 VL 34.949 GAL -4.40 AZL 91.92 HCA 105.81 SMA 244.98 ECC .39114 INC 1.9224 V1 29.608
RP 207.32 LAP -1.88 LOP 319.97 VP 27.160 GAP 21.38 AZP 69.48 TAL 344.30 TAP 90.12 RCA 148.91 APO 340.24 V2 26.420
RC 56.291 GL -10.86 GP 1.21 ZAL 120.43 ZAP 173.78 ETS 168.69 ZAE 173.53 ETE 106.85 ZAC 101.76 ETC 276.90 LVI -17.98

PLANETOCENTRIC CONIC

C3 38.462 VHL 6.202 DLA -19.68 RAL 341.23 RAD 6850.1 VEL 12.583 PTH 7.45 VHP 10.570 DPA -17.28 RAP 316.53 ECC 1.6330
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 8 48 2897.27 -28.44 84.97 207.33 131.12 17 57 5 1897.3 -8.90 67.42
60.00 18 11 47 2729.79 -20.54 74.95 212.40 125.47 18 57 17 1729.8 -5.07 55.98
70.00 19 31 26 2495.62 -14.96 59.80 216.24 121.07 20 13 2 1495.6 -1.33 39.82
80.00 21 6 33 2197.94 -10.59 39.74 218.78 118.08 21 43 11 1197.9 1.66 19.09
90.00 22 40 28 1895.00 -8.84 18.39 219.71 116.97 23 12 3 895.0 2.87 357.49
100.00 23 49 25 1672.41 -10.59 1.11 218.78 118.08 24 17 17 672.4 1.66 340.46
110.00 0 34 49 1542.43 -14.96 348.72 216.24 121.07 1 0 31 542.4 -1.33 328.74

DIFFERENTIAL CORRECTIONS

TDE -.5787 TRA-1.2290 TC3 -.0429 BAW .0512
RDE -.5707 RRA .1998 RC3 .0899 FAU .03576
FDE .3326 FRA 1.1708 FC3 -.8050 BSP 2174
BDE .8128 BRA 1.2451 BC3 .0996 FSP 174

MID-COURSE EXECUTION ACCURACY

SGT 1320.2 SGR 573.4 S63 134.2
RRT .0527 RRF -.0544 RTF -.7300
SGB 1439.3 R23 -.0071 R13 -.7301
SG1 1320.6 S62 572.4 THA 1.61

ORBIT DETERMINATION ACCURACY

ST 32.3 SR 26.5 SS 21.1
CRT .7611 CRS .5781 CST .9673
LSA 43.6 MSA 16.9 SSA 1.1
EL1 39.3 EL2 14.1 ALF 37.72

LAUNCH DATE APR 25 1971

FLIGHT TIME 114.00

ARRIVAL DATE AUG 17 1971

HELIOCENTRIC CONIC

RL 150.49 LAL -.00 LOL 214.15 VL 34.777 GAL -4.27 AZL 91.93 HCA 107.07 SMA 239.44 ECC .37786 INC 1.9341 V1 29.608
RP 207.22 LAP -1.85 LOP 321.23 VP 26.956 GAP 20.87 AZP 69.43 TAL 344.37 TAP 91.44 RCA 148.97 APO 329.91 V2 26.432
RC 56.455 GL -11.21 GP 1.25 ZAL 120.45 ZAP 172.93 ETS 169.73 ZAE 173.72 ETE 98.83 ZAC 101.75 ETC 276.99 LVI -18.14

PLANETOCENTRIC CONIC

C3 36.259 VHL 6.022 DLA -19.98 RAL 341.43 RAD 6649.3 VEL 12.496 PTH 7.38 VHP 10.242 DPA -17.12 RAP 316.92 ECC 1.5967
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 10 53 2876.15 -25.48 83.86 206.66 131.64 17 58 49 1876.2 -7.84 66.52
60.00 18 14 19 2707.48 -19.66 73.73 211.72 125.92 18 59 26 1707.5 -4.09 54.91
70.00 19 34 33 2471.60 -14.11 58.46 215.58 121.43 20 15 45 1471.6 -4.41 38.57
80.00 21 10 20 2171.85 -9.75 38.26 218.14 118.36 21 46 31 1171.8 2.54 17.66
90.00 22 44 36 1867.77 -8.00 16.83 219.08 117.22 23 15 44 867.8 3.74 355.96
100.00 23 53 12 1646.32 -9.75 359.63 218.14 118.36 24 20 38 646.3 2.54 339.03
110.00 0 37 55 1518.42 -14.11 347.37 215.58 121.43 1 3 14 518.4 -4.41 327.49

DIFFERENTIAL CORRECTIONS

TDE -.5735 TRA-1.2277 TC3 -.0303 BAW .0490
RDE -.5527 RRA .1908 RC3 .0964 FAU .03690
FDE .3434 FRA 1.2198 FC3 -.8809 BSP 2157
BDE .7965 BRA 1.2425 BC3 .1010 FSP 188

MID-COURSE EXECUTION ACCURACY

SGT 1358.0 SGR 572.1 S63 143.5
RRT .0549 RRF -.0594 RTF -.7426
SGB 1473.6 R23 -.0099 R13 -.7428
SG1 1358.4 S62 571.1 THA 1.61

ORBIT DETERMINATION ACCURACY

ST 33.0 SR 26.5 SS 21.9
CRT .7588 CRS .5746 CST .9672
LSA 44.5 MSA 17.1 SSA 1.1
EL1 39.8 EL2 14.3 ALF 36.77

LAUNCH DATE APR 25 1971

FLIGHT TIME 116.00

ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC

RL 150.49 LAL -.00 LOL 214.15 VL 34.820 GAL -4.14 AZL 91.95 HCA 108.34 SMA 234.80 ECC .36534 INC 1.9458 V1 29.608
RP 207.13 LAP -1.85 LOP 322.50 VP 26.763 GAP 20.38 AZP 69.39 TAL 344.44 TAP 92.78 RCA 149.02 APO 320.58 V2 26.443
RC 56.701 GL -11.56 GP 1.29 ZAL 120.45 ZAP 172.07 ETS 170.54 ZAE 173.79 ETE 90.75 ZAC 101.75 ETC 277.08 LVI -18.30

PLANETOCENTRIC CONIC

C3 34.228 VHL 5.850 DLA -20.29 RAL 341.62 RAD 6648.6 VEL 12.415 PTH 7.32 VHP 9.926 DPA -16.96 RAP 317.30 ECC 1.5633
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 12 59 2855.08 -24.53 82.77 206.00 132.14 18 0 34 1855.1 -6.79 65.62
60.00 18 16 53 2685.15 -18.76 72.52 211.07 126.35 19 1 38 1685.2 -3.11 53.84
70.00 19 37 44 2447.45 -13.25 57.11 214.94 121.77 20 18 32 1447.4 .51 37.31
80.00 21 14 14 2145.46 -8.89 36.77 217.52 118.62 21 49 59 1145.5 3.43 16.21
90.00 22 48 53 1840.14 -7.13 15.26 218.47 117.44 23 19 33 840.1 4.63 354.41
100.00 0 1 2 1619.93 -8.89 358.14 217.52 118.62 0 28 2 619.9 3.43 337.57
110.00 0 41 7 1494.27 -13.25 346.03 214.94 121.77 1 6 1 494.3 .51 326.23

DIFFERENTIAL CORRECTIONS

TDE -.5693 TRA-1.2184 TC3 -.0201 BAW .0481
RDE -.5353 RRA .1822 RC3 .1032 FAU .03810
FDE .3343 FRA 1.2689 FC3 -.9638 BSP 2214
BDE .7814 BRA 1.2320 BC3 .1051 FSP 203

MID-COURSE EXECUTION ACCURACY

SGT 1389.1 SGR 570.6 S63 153.3
RRT .0598 RRF -.0649 RTF -.7519
SGB 1501.8 R23 -.0109 R13 -.7521
SG1 1389.7 S62 569.3 THA 1.69

ORBIT DETERMINATION ACCURACY

ST 33.8 SR 26.4 SS 22.7
CRT .7592 CRS .5712 CST .9661
LSA 45.3 MSA 17.3 SSA 1.1
EL1 40.4 EL2 14.4 ALF 35.87

LAUNCH DATE APR 25 1971

FLIGHT TIME 118.00

ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC

RL 150.49 LAL -.00 LOL 214.15 VL 34.470 GAL -4.02 AZL 91.98 HCA 109.80 SMA 230.59 ECC .35355 INC 1.9878 V1 29.608
RP 207.05 LAP -1.84 LOP 323.78 VP 26.979 GAP 19.89 AZP 69.34 TAL 344.53 TAP 94.13 RCA 149.07 APO 312.12 V2 26.453
RC 57.030 GL -11.92 GP 1.34 ZAL 120.43 ZAP 171.19 ETS 171.20 ZAE 173.75 ETE 82.97 ZAC 101.75 ETC 277.16 LVI -18.46

PLANETOCENTRIC CONIC

C3 32.352 VHL 5.688 DLA -20.61 RAL 341.79 RAD 6647.9 VEL 12.340 PTH 7.27 VHP 9.619 DPA -16.81 RAP 317.67 ECC 1.5324
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 17 15 5 2834.05 -23.56 81.70 205.37 132.61 18 2 19 1834.1 -5.74 64.73
60.00 18 19 29 2662.80 -17.85 71.32 210.43 126.75 19 3 52 1662.8 -2.13 52.77
70.00 19 41 0 2423.16 -12.37 55.78 214.32 122.09 20 21 23 1423.2 1.44 36.04
80.00 21 18 18 2118.76 -8.02 35.27 216.92 118.86 21 53 35 1118.8 4.33 14.73
90.00 22 53 20 1812.09 -6.25 13.68 217.88 117.64 23 23 32 812.1 5.52 352.83
100.00 0 5 4 1593.23 -8.02 356.64 216.92 118.86 0 31 37 593.2 4.33 336.10
110.00 0 44 23 1469.97 -12.37 344.69 214.32 122.09 1 8 52 470.0 1.44 324.96

DIFFERENTIAL CORRECTIONS

TDE -.5574 TRA-1.2011 TC3 .0010 BAW .0477
RDE -.5183 RRA .1737 RC3 .1103 FAU .03929
FDE .3671 FRA 1.3241 FC3 -1.0515 BSP 2191
BDE .7812 BRA 1.2136 BC3 .1103 FSP 221

MID-COURSE EXECUTION ACCURACY

SGT 1409.3 SGR 568.6 S63 163.9
RRT .0644 RRF -.0712 RTF -.7672
SGB 1519.7 R23 -.0122 R13 -.7674
SG1 1409.9 S62 567.2 THA 1.78

ORBIT DETERMINATION ACCURACY

ST 34.1 SR 26.3 SS 23.5
CRT .7574 CRS .5690 CST .9662
LSA 45.8 MSA 17.5 SSA 1.1
EL1 40.6 EL2 14.4 ALF 35.36

LAUNCH DATE APR 25 1971 FLIGHT TIME 120.00 ARRIVAL DATE AUG 25 1971

EARTH TO MARS

HELIOCENTRIC CONIC DISTANCE 333.187
 RL 150.49 LAL -.00 LOL 214.18 VL 34.330 GAL -3.90 AZL 91.97 HCA 110.87 SMA 226.78 ECC .34244 INC 1.9700 V1 29.608
 RP 206.87 LAP -1.84 LOP 325.03 VP 26.405 GAP 19.41 AZP 89.30 TAL 344.63 TAP 95.90 RCA 149.12 APO 304.43 V2 26.462
 RC 57.440 GL -12.28 GP 1.39 ZAL 120.39 ZAP 170.29 ETS 171.74 ZAE 173.62 ETE 75.78 ZAC 101.75 ETC 277.24 LVI -18.81

PLANETOCENTRIC CONIC
 C3 30.623 VHL 5.534 DLA -20.94 RAL 341.95 RAD 6647.2 VEL 12.270 PTH 7.21 VHP 9.323 DPA -16.65 RAP 318.02 ECC 1.5040
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 17 12 2813.17 -22.60 80.65 204.77 133.06 18 4 5 1813.2 -4.69 63.85
 60.00 18 22 7 2840.53 -16.94 70.15 209.82 127.13 19 6 8 1640.5 -1.15 51.71
 70.00 19 44 21 2398.83 -11.49 54.45 213.72 122.39 20 24 19 1398.8 2.37 34.77
 80.00 21 22 26 2091.84 -7.13 33.76 216.35 119.07 21 57 18 1091.8 5.23 13.23
 90.00 22 57 58 1783.71 -5.35 12.07 217.32 117.81 23 27 41 783.7 6.42 351.23
 100.00 0 9 14 1566.31 -7.13 355.13 216.35 119.07 0 35 20 566.3 5.23 334.61
 110.00 0 47 43 1445.64 -11.49 343.36 213.72 122.39 1 11 48 445.6 2.37 323.69

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 1443.9 SGR 566.3 SG3 175.1 ST 35.0 SR 26.1 SS 24.3
 RRT .0709 RRF -.0777 RTF -.7730 CRT .7588 CRS .5648 CST .9643
 SGB 1551.0 R23 -.0130 R13 -.7732 LSA 46.8 MSA 17.6 S8A 1.2
 SGI 1444.5 SG2 564.6 THA 1.88 EL1 41.2 EL2 14.4 ALF 34.36

DIFFERENTIAL CORRECTIONS
 TDE -.5561 TRA-1.1943 TC3 .0100 BAU .0484
 RDE -.5020 RRA .1633 RC3 .1178 FAU .04069
 FDE .3777 FRA 1.3779 FC3-1.1503 B8P 2293
 BDE .7492 BRA 1.2057 BC3 .1182 F8P 238

LAUNCH DATE APR 25 1971 FLIGHT TIME 122.00 ARRIVAL DATE AUG 25 1971

EARTH TO MARS

HELIOCENTRIC CONIC DISTANCE 336.085
 RL 150.49 LAL -.00 LOL 214.15 VL 34.197 GAL -3.79 AZL 91.98 HCA 112.13 SMA 223.30 ECC .33197 INC 1.9823 V1 29.608
 RP 206.90 LAP -1.84 LOP 326.30 VP 26.240 GAP 18.94 AZP 89.25 TAL 344.74 TAP 96.87 RCA 149.17 APO 297.43 V2 26.469
 RC 57.930 GL -12.66 GP 1.44 ZAL 120.34 ZAP 169.38 ETS 172.19 ZAE 173.41 ETE 69.36 ZAC 101.75 ETC 277.32 LVI -18.76

PLANETOCENTRIC CONIC
 C3 29.026 VHL 5.388 DLA -21.29 RAL 342.09 RAD 6646.6 VEL 12.205 PTH 7.16 VHP 9.036 DPA -16.50 RAP 318.36 ECC 1.4777
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 19 20 2792.41 -21.63 79.63 204.19 133.47 18 5 52 1792.4 -3.65 62.98
 60.00 18 24 48 2618.30 -16.03 68.99 209.24 127.49 19 8 27 1318.3 -1.17 50.65
 70.00 19 47 46 2374.42 -10.60 53.12 213.15 122.66 20 27 20 1374.4 3.30 33.50
 80.00 21 26 44 2064.66 -6.23 32.25 215.80 119.26 22 1 9 1064.7 6.14 11.74
 90.00 23 2 46 1754.92 -4.43 10.46 216.78 117.96 23 32 1 754.9 7.32 349.60
 100.00 0 13 32 1539.13 -6.23 353.62 215.80 119.26 0 39 11 539.1 6.14 333.11
 110.00 0 51 8 1421.24 -10.60 342.04 213.15 122.66 1 14 49 421.2 3.30 322.41

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 1475.3 SGR 563.7 SG3 187.1 ST 35.7 SR 26.0 SS 25.1
 RRT .0777 RRF -.0847 RTF -.7793 CRT .7598 CRS .5602 CST .9625
 SGB 1579.3 R23 -.0139 R13 -.7795 LSA 47.6 MSA 17.7 S8A 1.2
 SGI 1476.0 SG2 561.7 THA 1.99 EL1 41.7 EL2 14.5 ALF 33.47

DIFFERENTIAL CORRECTIONS
 TDE -.5529 TRA-1.1853 TC3 .0213 BAU .0494
 RDE -.4861 RRA .1571 RC3 .1256 FAU .04216
 FDE .3883 FRA 1.4346 FC3-1.2575 B8P 2377
 BDE .7362 BRA 1.1958 BC3 .1274 F8P 257

LAUNCH DATE APR 25 1971 FLIGHT TIME 124.00 ARRIVAL DATE AUG 27 1971

EARTH TO MARS

HELIOCENTRIC CONIC DISTANCE 339.098
 RL 150.49 LAL -.00 LOL 214.15 VL 34.071 GAL -3.67 AZL 91.99 HCA 113.40 SMA 220.12 ECC .32210 INC 1.9949 V1 29.608
 RP 206.85 LAP -1.83 LOP 327.56 VP 26.083 GAP 18.48 AZP 89.21 TAL 344.85 TAP 98.25 RCA 149.22 APO 291.02 V2 26.476
 RC 58.496 GL -13.03 GP 1.49 ZAL 120.26 ZAP 168.46 ETS 172.57 ZAE 173.16 ETE 63.78 ZAC 101.76 ETC 277.39 LVI -18.91

PLANETOCENTRIC CONIC
 C3 27.551 VHL 5.249 DLA -21.64 RAL 342.23 RAD 6646.0 VEL 12.145 PTH 7.11 VHP 8.759 DPA -16.35 RAP 318.68 ECC 1.4534
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 21 29 2771.81 -20.66 78.62 203.64 133.87 18 7 40 1771.8 -2.62 62.12
 60.00 18 27 31 2596.16 -15.11 67.84 208.68 127.82 19 10 48 1596.2 .80 49.59
 70.00 19 51 16 2349.98 -9.70 51.80 212.61 122.91 20 30 26 1350.0 4.23 32.22
 80.00 21 31 12 2037.22 -5.32 30.73 215.28 119.42 22 5 9 1037.2 7.05 10.21
 90.00 23 7 46 1725.72 -3.50 8.82 216.28 118.08 23 36 32 725.7 8.23 347.94
 100.00 0 18 0 1511.70 -5.32 352.10 215.28 119.42 0 43 11 511.7 7.05 331.58
 110.00 0 54 38 1396.79 -9.70 340.72 212.61 122.91 1 17 55 396.8 4.23 321.13

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 1505.5 SGR 560.7 SG3 199.8 ST 36.4 SR 25.8 SS 25.0
 RRT .0848 RRF -.0923 RTF -.7861 CRT .7606 CRS .5560 CST .9609
 SGB 1606.5 R23 -.0151 R13 -.7864 LSA 48.4 MSA 17.9 S8A 1.2
 SGI 1506.4 SG2 558.3 THA 2.10 EL1 42.2 EL2 14.5 ALF 32.83

DIFFERENTIAL CORRECTIONS
 TDE -.5489 TRA-1.1757 TC3 .0344 BAU .0509
 RDE -.4708 RRA .1489 RC3 .1337 FAU .04369
 FDE .3998 FRA 1.4947 FC3-1.3728 B8P 2453
 BDE .7231 BRA 1.1831 BC3 .1381 F8P 277

LAUNCH DATE APR 25 1971 FLIGHT TIME 126.00 ARRIVAL DATE AUG 29 1971

EARTH TO MARS

HELIOCENTRIC CONIC DISTANCE 342.212
 RL 150.49 LAL -.00 LOL 214.18 VL 33.982 GAL -3.58 AZL 92.01 HCA 114.87 SMA 217.21 ECC .31279 INC 2.0078 V1 29.608
 RP 206.80 LAP -1.82 LOP 328.83 VP 25.933 GAP 18.03 AZP 89.16 TAL 344.98 TAP 99.69 RCA 149.27 APO 285.15 V2 26.482
 RC 59.137 GL -13.41 GP 1.58 ZAL 120.18 ZAP 167.51 ETS 172.89 ZAE 172.89 ETE 59.03 ZAC 101.78 ETC 277.46 LVI -19.08

PLANETOCENTRIC CONIC
 C3 26.189 VHL 5.118 DLA -22.01 RAL 342.35 RAD 6645.5 VEL 12.089 PTH 7.07 VHP 8.491 DPA -16.20 RAP 318.98 ECC 1.4310
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 23 38 2751.37 -19.89 77.84 203.12 134.23 18 9 30 1751.4 -1.59 61.26
 60.00 18 30 17 2574.12 -14.18 66.71 208.15 128.13 19 13 11 1574.1 1.77 48.54
 70.00 19 54 52 2325.50 -8.79 50.49 212.09 123.14 20 33 37 1325.5 5.15 30.93
 80.00 21 35 49 2009.53 -4.39 29.20 214.79 119.56 22 9 19 1009.5 7.97 8.66
 90.00 23 12 59 1696.10 -2.55 7.16 215.81 118.17 23 41 15 696.1 9.15 346.25
 100.00 0 22 37 1484.00 -4.39 350.57 214.79 119.56 0 47 21 484.0 7.97 330.03
 110.00 0 58 14 1372.32 -8.79 339.41 212.09 123.14 1 21 6 372.3 5.15 319.85

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 1533.1 SGR 557.4 SG3 213.4 ST 37.0 SR 25.7 SS 26.8
 RRT .0925 RRF -.1008 RTF -.7926 CRT .7612 CRS .5516 CST .9592
 SGB 1631.3 R23 -.0165 R13 -.7930 LSA 49.2 MSA 18.0 S8A 1.2
 SGI 1534.1 SG2 554.6 THA 2.22 EL1 42.7 EL2 14.4 ALF 31.87

DIFFERENTIAL CORRECTIONS
 TDE -.5437 TRA-1.1644 TC3 .0491 BAU .0527
 RDE -.4599 RRA .1408 RC3 .1422 FAU .04533
 FDE .4112 FRA 1.5370 FC3-1.4986 B8P 2518
 BDE .7096 BRA 1.1729 BC3 .1503 F8P 299

LAUNCH DATE APR 25 1971

FLIGHT TIME 120.00

ARRIVAL DATE AUG 31 1971

HELIOCENTRIC CONIC
 RL 150.49 LAL -.00 LOL 214.15 VL 33.040 GAL -3.45 AZL 92.02 HCA 115.03 SMA 214.54 ECC .30402 INC 2.0209 V1 29.608
 RP 206.78 LAP -1.82 LOP 330.10 VP 25.791 GAP 17.58 AZP 89.12 TAL 345.11 TAP 101.05 RCA 149.31 APO 279.78 V2 26.487
 RC 59.850 GL -13.80 GP 1.61 ZAL 120.07 ZAP 169.55 ETS 173.17 ZAE 172.61 ETE 55.03 ZAC 101.80 ETC 277.53 LVI -19.21

PLANETOCENTRIC CONIC
 C3 24.930 VHL 4.993 DLA -22.39 RAL 342.46 RAD 6645.0 VEL 12.038 PTH 7.02 VHP 8.231 DPA -16.05 RAP 319.27 ECC 1.4103
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 25 49 2731.14 -18.73 76.69 202.62 134.58 18 11 20 1731.1 -.58 60.42
 60.00 18 33 6 2532.21 -13.26 65.59 207.65 128.41 19 15 30 1552.2 2.74 47.49
 70.00 19 58 33 2301.01 -7.87 49.18 211.61 123.34 20 36 54 1301.0 6.08 29.64
 80.00 21 40 37 1981.58 -3.45 27.86 214.34 119.68 22 13 38 981.6 8.88 7.09
 90.00 23 18 26 1666.03 -1.58 5.48 215.37 118.24 23 46 12 666.0 10.07 344.52
 100.00 0 27 24 1456.05 -3.45 349.02 214.34 119.68 0 51 40 456.0 8.88 328.46
 110.00 1 1 55 1347.83 -7.87 338.10 211.61 123.34 1 24 23 347.8 6.08 318.56

DIFFERENTIAL CORRECTIONS
 TDE -.5383 TRA-1.1531 TC3 .0655 BAU .0549 SGT 1560.1 SGR 553.7 SG3 227.9 ST 37.6 SR 25.5 SS 27.6
 RDE -.4416 RRA .1327 RC3 .1511 FAU .04709 RRT .1009 RRF -.1099 RTF -.7992 CRT .7619 CRS .5470 CST .9574
 FDE .4229 FRA 1.6231 FC3-1.6353 BSP 2577 SGB 1655.4 R23 -.0179 R13 -.7995 LSA 50.0 MSA 18.1 S5A 1.2
 BDE .6963 BRA 1.1607 BC3 .1647 F8P 322 SG1 1561.2 SG2 550.5 THA 2.34 EL1 43.1 EL2 14.4 ALF 31.14

LAUNCH DATE APR 25 1971

FLIGHT TIME 130.00

ARRIVAL DATE SEP 2 1971

HELIOCENTRIC CONIC
 RL 150.49 LAL -.00 LOL 214.15 VL 33.734 GAL -3.35 AZL 92.03 HCA 117.20 SMA 212.09 ECC .29576 INC 2.0343 V1 29.608
 RP 206.72 LAP -1.81 LOP 331.37 VP 25.656 GAP 17.14 AZP 89.07 TAL 345.25 TAP 102.46 RCA 149.36 APO 274.81 V2 26.491
 RC 60.633 GL -14.19 GP 1.67 ZAL 119.95 ZAP 165.57 ETS 173.40 ZAE 172.34 ETE 51.72 ZAC 101.82 ETC 277.59 LVI -19.35

PLANETOCENTRIC CONIC
 C3 23.767 VHL 4.875 DLA -22.77 RAL 342.57 RAD 6644.5 VEL 11.989 PTH 6.98 VHP 7.979 DPA -15.90 RAP 319.53 ECC 1.3911
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 28 1 2711.12 -17.77 75.75 202.16 134.90 18 13 12 1711.1 .43 59.58
 60.00 18 35 57 2530.44 -12.34 64.50 207.18 128.68 19 18 8 1530.4 3.69 46.44
 70.00 20 2 20 2276.52 -6.96 47.88 211.15 123.52 20 40 18 1276.5 7.00 28.34
 80.00 21 45 35 1953.36 -2.49 26.10 213.91 119.76 22 18 8 953.4 9.80 5.50
 90.00 23 24 8 1635.48 -.60 3.78 214.96 118.27 23 51 24 635.5 10.99 342.75
 100.00 0 32 23 1427.83 -2.49 347.47 213.91 119.76 0 56 11 427.8 9.80 326.87
 110.00 1 5 42 1323.34 -6.96 336.80 211.15 123.52 1 27 45 323.3 7.00 317.26

DIFFERENTIAL CORRECTIONS
 TDE -.5326 TRA-1.1414 TC3 .0824 BAU .0573 SGT 1585.8 SGR 549.9 SG3 243.4 ST 38.2 SR 25.2 SS 28.5
 RDE -.4277 RRA .1247 RC3 .1604 FAU .04895 RRT .1100 RRF -.1201 RTF -.8054 CRT .7626 CRS .5428 CST .9557
 FDE .4354 FRA 1.6927 FC3-1.7829 BSP 2631 SGB 1678.5 R23 -.0197 R13 -.8056 LSA 50.7 MSA 18.2 S5A 1.2
 BDE .6831 BRA 1.1482 BC3 .1803 F8P 347 SG1 1587.1 SG2 546.1 THA 2.48 EL1 43.4 EL2 14.3 ALF 30.44

LAUNCH DATE APR 25 1971

FLIGHT TIME 132.00

ARRIVAL DATE SEP 4 1971

HELIOCENTRIC CONIC
 RL 150.49 LAL -.00 LOL 214.15 VL 33.634 GAL -3.25 AZL 92.05 HCA 118.47 SMA 209.83 ECC .28796 INC 2.0480 V1 29.608
 RP 206.70 LAP -1.80 LOP 332.64 VP 25.528 GAP 16.71 AZP 89.02 TAL 345.40 TAP 103.87 RCA 149.41 APO 270.25 V2 26.494
 RC 61.483 GL -14.59 GP 1.74 ZAL 119.82 ZAP 164.96 ETS 173.61 ZAE 172.10 ETE 49.01 ZAC 101.86 ETC 277.65 LVI -19.49

PLANETOCENTRIC CONIC
 C3 22.693 VHL 4.764 DLA -23.16 RAL 342.67 RAD 6644.0 VEL 11.945 PTH 6.95 VHP 7.736 DPA -15.76 RAP 319.77 ECC 1.3735
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 30 14 2691.35 -16.82 74.84 201.72 135.19 18 15 6 1691.3 1.42 58.76
 60.00 18 38 52 2508.84 -11.41 63.42 206.74 128.92 19 20 40 1508.8 4.64 45.41
 70.00 20 6 12 2252.06 -6.03 46.59 210.73 123.68 20 43 44 1252.1 7.92 27.04
 80.00 21 50 45 1924.87 -1.53 24.54 213.52 119.82 22 22 50 924.9 10.71 3.88
 90.00 23 30 7 1604.39 .40 2.04 214.60 118.28 23 56 51 604.4 11.92 340.94
 100.00 0 37 33 1399.34 -1.53 345.91 213.52 119.82 1 0 52 399.3 10.71 325.25
 110.00 1 9 35 1298.88 -6.03 335.51 210.73 123.68 1 31 14 298.9 7.92 315.96

DIFFERENTIAL CORRECTIONS
 TDE -.5262 TRA-1.1264 TC3 .1006 BAU .0599 SGT 1609.0 SGR 545.7 SG3 259.9 ST 38.6 SR 25.0 SS 29.4
 RDE -.4142 RRA .1168 RC3 .1700 FAU .05094 RRT .1198 RRF -.1310 RTF -.8112 CRT .7633 CRS .5379 CST .9537
 FDE .4472 FRA 1.7649 FC3-1.9434 BSP 2680 SGB 1699.1 R23 -.0215 R13 -.8117 LSA 51.4 MSA 18.3 S5A 1.2
 BDE .6697 BRA 1.1344 BC3 .1976 F8P 374 SG1 1610.5 SG2 541.3 THA 2.62 EL1 43.7 EL2 14.3 ALF 29.80

LAUNCH DATE APR 25 1971

FLIGHT TIME 134.00

ARRIVAL DATE SEP 6 1971

HELIOCENTRIC CONIC
 RL 150.49 LAL -.00 LOL 214.15 VL 33.540 GAL -3.15 AZL 92.06 HCA 119.74 SMA 207.75 ECC .28062 INC 2.0621 V1 29.608
 RP 206.68 LAP -1.79 LOP 333.91 VP 25.405 GAP 16.29 AZP 88.98 TAL 345.55 TAP 105.29 RCA 149.45 APO 266.05 V2 26.496
 RC 62.398 GL -14.99 GP 1.82 ZAL 119.68 ZAP 163.54 ETS 173.78 ZAE 171.89 ETE 46.82 ZAC 101.89 ETC 277.70 LVI -19.63

PLANETOCENTRIC CONIC
 C3 21.700 VHL 4.658 DLA -23.57 RAL 342.78 RAD 6643.6 VEL 11.904 PTH 6.91 VHP 7.500 DPA -15.61 RAP 319.99 ECC 1.3571
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 32 29 2671.83 -15.87 73.95 201.31 135.47 18 17 1 1671.8 2.40 57.94
 60.00 18 41 49 2487.43 -10.50 62.35 206.32 129.14 19 23 16 1487.4 5.58 44.38
 70.00 20 10 11 2227.62 -5.11 45.30 210.34 123.82 20 47 19 1227.6 8.83 25.74
 80.00 21 56 8 1896.08 -.55 22.96 213.17 119.85 22 27 44 896.1 11.63 2.24
 90.00 23 38 23 1572.71 1.43 .28 214.27 118.25 24 2 36 572.7 12.86 339.08
 100.00 0 42 55 1370.55 -.55 344.33 213.17 119.85 1 5 46 370.5 11.63 323.60
 110.00 1 13 34 1274.44 -5.11 334.22 210.34 123.82 1 34 48 274.4 8.83 314.66

DIFFERENTIAL CORRECTIONS
 TDE -.5200 TRA-1.1156 TC3 .1181 BAU .0624 SGT 1631.6 SGR 541.4 SG3 277.4 ST 39.1 SR 24.8 SS 30.3
 RDE -.4013 RRA .1089 RC3 .1800 FAU .05301 RRT .1305 RRF -.1429 RTF -.8166 CRT .7643 CRS .5334 CST .9516
 FDE .4599 FRA 1.8419 FC3-2.1151 BSP 2731 SGB 1719.1 R23 -.0235 R13 -.8171 LSA 52.1 MSA 18.4 S5A 1.2
 BDE .6568 BRA 1.1209 BC3 .2152 F8P 404 SG1 1633.4 SG2 536.2 THA 2.78 EL1 44.0 EL2 14.2 ALF 29.16

LAUNCH DATE APR 25 1971		FLIGHT TIME 136.00		ARRIVAL DATE SEP 8 1971	
HELIOCENTRIC CONIC					
RL	150.49 LAL	-0.00 LOL	214.15 VL	33.491 GAL	-3.06 AZL
RP	206.67 LAP	-1.76 LOP	335.16 VP	25.288 GAP	15.88 AZP
RC	63.376 GL	-15.40 GP	1.89 ZAL	119.53 ZAP	162.49 ETS
DISTANCE 359.000					
EARTH TO MARS					
PLANETOCENTRIC CONIC					
C3	20.782 VHL	4.559 DLA	-23.97 RAL	342.84 RAD	6643.2 VEL
L1	17 34 45	2652.59	-14.93	73.08	200.92
L2	18 44 50	2466.22	-9.58	81.31	205.94
L3	20 14 17	2203.23	-4.18	44.02	209.98
L4	22 1 44	1866.96	.43	21.36	212.86
L5	23 43 0	1540.34	2.47	358.47	213.98
L6	0 46 32	1341.43	.43	342.73	212.86
L7	1 17 39	1250.05	-4.18	332.94	209.98
MID-COURSE EXECUTION ACCURACY					
TDE	-.3136 TRA	-1.102D TC3	.1363 BAU	.0651	SGT 1652.2 SGR 536.8 SG3 296.2
RDE	-.3888 RRA	.1011 RC3	.1903 FAU	.05526	RRT .1424 RRF -.1559 RTF -.8215
FDE	.4727 FRA	1.9224 FC3	-2.3019 BSP	2776	SGB 1737.2 R23 -.0258 R13 -.8220
BDE	.6442 BRA	1.1066 BC3	.2341 FSP	434	SG1 1654.1 SG2 530.7 THA 2.95
ORBIT DETERMINATION ACCURACY					
ST	39.5 SR	24.5 SS	31.2		
CRT	.7656 CRS	.5288 CST	.9494		
LSA	52.8 MSA	18.5 SSA	1.2		
EL1	44.3 EL2	14.1 ALF	28.57		

LAUNCH DATE APR 25 1971		FLIGHT TIME 138.00		ARRIVAL DATE SEP 10 1971	
HELIOCENTRIC CONIC					
RL	150.49 LAL	-0.00 LOL	214.15 VL	33.367 GAL	-2.97 AZL
RP	206.68 LAP	-1.77 LOP	336.45 VP	25.177 GAP	15.48 AZP
RC	64.414 GL	-15.80 GP	1.97 ZAL	119.37 ZAP	161.42 ETS
DISTANCE 362.553					
EARTH TO MARS					
PLANETOCENTRIC CONIC					
C3	19.935 VHL	4.465 DLA	-24.38 RAL	342.92 RAD	6642.8 VEL
L1	17 37 3	2633.65	-14.01	72.23	200.57
L2	18 47 54	2445.24	-8.68	60.28	205.59
L3	20 16 29	2178.88	-3.26	42.74	209.66
L4	22 7 35	1837.47	1.43	19.74	212.58
L5	23 49 59	1507.17	3.53	356.61	213.74
L6	0 54 22	1311.95	1.43	341.11	212.58
L7	1 21 52	1225.70	-3.26	331.66	209.66
MID-COURSE EXECUTION ACCURACY					
TDE	-.5065 TRA	-1.0875 TC3	.1545 BAU	.0676	SGT 1670.1 SGR 532.1 SG3 316.0
RDE	-.3767 RRA	.0932 RC3	.2011 FAU	.05764	RRT .1549 RRF -.1701 RTF -.8259
FDE	.4851 FRA	2.0068 FC3	-2.5032 BSP	2820	SGB 1752.8 R23 -.0284 R13 -.8266
BDE	.6312 BRA	1.0915 BC3	.2536 FSP	467	SG1 1672.3 SG2 525.0 THA 3.14
ORBIT DETERMINATION ACCURACY					
ST	39.8 SR	24.2 SS	32.1		
CRT	.7668 CRS	.5238 CST	.9470		
LSA	53.4 MSA	18.6 SSA	1.2		
EL1	44.5 EL2	13.9 ALF	28.03		

LAUNCH DATE APR 25 1971		FLIGHT TIME 140.00		ARRIVAL DATE SEP 12 1971	
HELIOCENTRIC CONIC					
RL	150.49 LAL	-0.00 LOL	214.15 VL	33.288 GAL	-2.86 AZL
RP	206.69 LAP	-1.76 LOP	337.72 VP	25.071 GAP	15.08 AZP
RC	65.512 GL	-16.22 GP	2.06 ZAL	119.21 ZAP	160.32 ETS
DISTANCE 366.158					
EARTH TO MARS					
PLANETOCENTRIC CONIC					
C3	19.152 VHL	4.376 DLA	-24.00 RAL	343.00 RAD	6642.5 VEL
L1	17 39 23	2615.01	-13.10	71.40	200.25
L2	18 51 1	2424.48	-7.77	59.26	205.28
L3	20 22 49	2154.60	-2.33	41.47	209.37
L4	22 13 42	1807.97	2.44	18.10	212.35
L5	0 1 21	1473.04	4.62	354.70	213.55
L6	1 0 29	1282.04	2.44	339.47	212.35
L7	1 26 11	1201.41	-2.33	330.39	209.37
MID-COURSE EXECUTION ACCURACY					
TDE	-.5004 TRA	-1.0733 TC3	.1722 BAU	.0700	SGT 1687.6 SGR 527.3 SG3 337.3
RDE	-.3650 RRA	.0853 RC3	.2123 FAU	.06016	RRT .1692 RRF -.1859 RTF -.8300
FDE	.4991 FRA	2.0967 FC3	-2.7196 BSP	2835	SGB 1768.1 R23 -.0312 R13 -.8307
BDE	.6193 BRA	1.0767 BC3	.2734 FSP	502	SG1 1690.2 SG2 518.9 THA 3.34
ORBIT DETERMINATION ACCURACY					
ST	40.1 SR	24.0 SS	33.1		
CRT	.7688 CRS	.5198 CST	.9443		
LSA	54.1 MSA	18.7 SSA	1.3		
EL1	44.7 EL2	13.8 ALF	27.48		

LAUNCH DATE APR 25 1971		FLIGHT TIME 142.00		ARRIVAL DATE SEP 14 1971	
HELIOCENTRIC CONIC					
RL	150.49 LAL	-0.00 LOL	214.15 VL	33.213 GAL	-2.80 AZL
RP	206.71 LAP	-1.74 LOP	338.99 VP	24.969 GAP	14.70 AZP
RC	66.687 GL	-16.63 GP	2.15 ZAL	119.03 ZAP	159.20 ETS
DISTANCE 369.812					
EARTH TO MARS					
PLANETOCENTRIC CONIC					
C3	18.429 VHL	4.293 DLA	-25.22 RAL	343.07 RAD	6642.1 VEL
L1	17 41 45	2598.66	-12.19	70.59	199.96
L2	18 54 12	2403.94	-6.88	58.26	204.99
L3	20 27 16	2130.31	-1.41	40.20	209.12
L4	22 20 7	1777.12	3.47	16.42	212.15
L5	0 9 18	1437.67	5.75	352.71	213.40
L6	1 6 55	1251.59	3.47	337.79	212.15
L7	1 30 38	1177.13	-1.41	329.12	209.12
MID-COURSE EXECUTION ACCURACY					
TDE	-.4845 TRA	-1.0488 TC3	.2088 BAU	.0755	SGT 1686.7 SGR 522.4 SG3 359.7
RDE	-.3536 RRA	.0776 RC3	.2243 FAU	.06293	RRT .1846 RRF -.2027 RTF -.8391
FDE	.5106 FRA	2.1888 FC3	-2.9564 BSP	2779	SGB 1765.7 R23 -.0326 R13 -.8399
BDE	.5998 BRA	1.0517 BC3	.3064 FSP	538	SG1 1689.7 SG2 512.5 THA 3.60
ORBIT DETERMINATION ACCURACY					
ST	39.8 SR	23.7 SS	34.0		
CRT	.7679 CRS	.5142 CST	.9428		
LSA	54.3 MSA	18.8 SSA	1.2		
EL1	44.3 EL2	13.6 ALF	27.34		

LAUNCH DATE APR 28 1971

FLIGHT TIME 144.00

ARRIVAL DATE SEP 16 1971

HELIOCENTRIC CONIC

DISTANCE 373.509

EARTH TO MARS

RL 150.49 LAL -0.00 LOL 214.15 VL 33.143 GAL -2.72 AZL 92.14 HCA 126.09 SMA 199.48 ECC .24983 INC 2.1384 V1 29.608
 RP 206.73 LAP -1.73 LOP 340.26 VP 24.872 GAP 14.32 AZP 86.74 TAL 346.34 TAP 112.43 RCA 149.64 APO 249.31 V2 26.489
 RC 87.877 GL -17.04 GP 2.25 ZAL 118.86 ZAP 158.05 ETS 174.38 ZAE 171.57 ETE 42.32 ZAC 102.20 ETC 277.90 LVI -20.29

PLANETOCENTRIC CONIC

C3 17.763 VHL 4.215 DLA -25.63 RAL 343.14 RAD 6641.8 VEL 11.738 PTH 6.77 VHP 6.432 DPA -14.93 RAP 320.72 ECC 1.2923
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 44 8 2578.70 -11.31 69.80 199.70 136.53 18 27 7 1578.7 7.07 54.02
 60.00 18 57 27 2383.72 -6.00 57.28 204.74 129.93 19 37 11 1363.7 10.08 39.32
 70.00 20 31 51 2106.17 -4.48 38.94 208.91 124.15 21 6 57 1106.2 13.27 19.14
 80.00 22 26 52 1746.19 4.51 14.72 212.01 119.55 22 55 58 746.2 16.20 353.46
 90.00 0 17 51 1400.95 6.91 350.63 213.32 117.49 0 41 12 400.9 17.62 328.72
 100.00 1 13 39 1220.66 4.51 336.09 212.01 119.55 1 34 0 220.7 16.20 314.83
 110.00 1 35 13 1152.99 -4.48 327.86 208.91 124.15 1 54 26 153.0 13.27 308.06

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4821 TRA-1.0376 TC3 .2153 BAU .0759 SGT 1706.2 SGR 517.5 SG3 383.7 ST 40.3 SR 23.4 SS 35.0
 RDE -.3428 RRA .0695 RC3 .2362 FAU .06576 RRT .2010 RRF -.2214 RTF -.8393 CRT .7719 CRS .5106 CST .9393
 FDE .5253 FRA 2.2892 FC3-3.2051 BSP 2866 SGB 1782.9 R23 -.0371 R13 -.8402 LSA 55.1 MSA 18.9 SSA 1.2
 BDE .5915 BRA 1.0399 BC3 .3196 FSP 579 SG1 1709.6 SG2 805.9 THA 3.82 EL1 44.6 EL2 13.4 ALF 26.70

LAUNCH DATE APR 25 1971

FLIGHT TIME 146.00

ARRIVAL DATE SEP 18 1971

HELIOCENTRIC CONIC

DISTANCE 377.247

EARTH TO MARS

RL 150.49 LAL -0.00 LOL 214.15 VL 33.076 GAL -2.64 AZL 92.16 HCA 127.35 SMA 198.17 ECC .24472 INC 2.1551 V1 29.608
 RP 206.77 LAP -1.71 LOP 341.52 VP 24.779 GAP 13.95 AZP 88.69 TAL 346.50 TAP 113.86 RCA 149.68 APO 246.87 V2 26.485
 RC 69.140 GL -17.46 GP 2.35 ZAL 118.68 ZAP 156.87 ETS 174.46 ZAE 171.67 ETE 42.59 ZAC 102.29 ETC 277.92 LVI -20.41

PLANETOCENTRIC CONIC

C3 17.148 VHL 4.141 DLA -26.07 RAL 343.21 RAD 6641.5 VEL 11.712 PTH 6.74 VHP 6.239 DPA -14.81 RAP 320.78 ECC 1.2822
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 46 34 2581.09 -10.44 69.04 199.47 136.69 18 29 15 1561.1 7.95 53.27
 60.00 19 0 45 2363.77 -5.13 58.32 204.52 130.03 19 40 9 1363.8 10.94 38.33
 70.00 20 36 34 2082.07 .44 37.69 208.73 124.15 21 11 16 1082.1 14.13 17.80
 80.00 22 33 59 1714.55 5.57 12.97 211.91 119.38 23 2 34 714.5 17.12 351.56
 90.00 0 27 8 1362.30 8.12 348.44 213.29 117.18 0 49 51 362.3 16.61 326.32
 100.00 1 20 47 1189.02 5.57 334.34 211.91 119.38 1 40 36 189.0 17.12 312.93
 110.00 1 39 56 1128.89 .44 326.61 208.73 124.15 1 58 45 128.9 14.13 306.72

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4776 TRA-1.0230 TC3 .2251 BAU .0769 SGT 1718.9 SGR 512.7 SG3 409.1 ST 40.6 SR 23.0 SS 36.1
 RDE -.3323 RRA .0615 RC3 .2487 FAU .06876 RRT .2191 RRF -.2417 RTF -.8404 CRT .7759 CRS .5073 CST .9359
 FDE .5400 FRA 2.3938 FC3-3.4714 BSP 2922 SGB 1793.7 R23 -.0416 R13 -.8415 LSA 55.9 MSA 19.0 SSA 1.3
 BDE .5818 BRA 1.0248 BC3 .3355 FSP 623 SG1 1722.9 SG2 499.1 THA 4.08 EL1 44.8 EL2 13.2 ALF 26.18

LAUNCH DATE APR 25 1971

FLIGHT TIME 148.00

ARRIVAL DATE SEP 20 1971

HELIOCENTRIC CONIC

DISTANCE 381.022

EARTH TO MARS

RL 150.49 LAL -0.00 LOL 214.15 VL 33.014 GAL -2.57 AZL 92.17 HCA 128.82 SMA 196.96 ECC .23992 INC 2.1724 V1 29.608
 RP 206.81 LAP -1.70 LOP 342.79 VP 24.690 GAP 13.59 AZP 88.64 TAL 346.66 TAP 115.28 RCA 149.71 APO 244.21 V2 26.480
 RC 70.455 GL -17.88 GP 2.46 ZAL 118.50 ZAP 155.67 ETS 174.52 ZAE 171.83 ETE 43.29 ZAC 102.39 ETC 277.94 LVI -20.54

PLANETOCENTRIC CONIC

C3 18.582 VHL 4.072 DLA -26.50 RAL 343.29 RAD 6641.3 VEL 11.688 PTH 6.72 VHP 6.053 DPA -14.68 RAP 320.80 ECC 1.2729
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 49 2 2543.83 -9.58 68.29 199.27 136.83 18 31 26 1543.8 8.81 52.53
 60.00 19 4 8 2344.10 -4.28 55.38 204.34 130.11 19 43 12 1344.1 11.78 37.35
 70.00 20 41 25 2058.02 1.38 36.43 208.59 124.13 21 15 43 1058.0 14.98 16.45
 80.00 22 41 32 1682.04 6.65 11.16 211.86 119.17 23 9 34 682.0 18.04 349.58
 90.00 0 37 25 1321.05 9.39 346.08 213.33 116.80 0 59 26 321.1 19.62 323.72
 100.00 1 28 20 1156.51 6.65 332.53 211.86 119.17 1 47 37 156.5 16.04 310.95
 110.00 1 44 48 1104.84 1.38 325.35 208.59 124.13 2 3 12 104.8 14.98 303.37

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4714 TRA-1.0089 TC3 .2350 BAU .0780 SGT 1727.1 SGR 507.9 SG3 438.1 ST 40.8 SR 22.7 SS 37.1
 RDE -.3222 RRA .0533 RC3 .2618 FAU .07194 RRT .2382 RRF -.2836 RTF -.8417 CRT .7796 CRS .5038 CST .9323
 FDE .5344 FRA 2.5048 FC3-3.7559 BSP 2958 SGB 1800.2 R23 -.0468 R13 -.8430 LSA 56.5 MSA 19.1 SSA 1.3
 BDE .5710 BRA 1.0083 BC3 .3518 FSP 689 SG1 1731.7 SG2 492.0 THA 4.36 EL1 44.9 EL2 12.9 ALF 25.75

LAUNCH DATE APR 25 1971

FLIGHT TIME 150.00

ARRIVAL DATE SEP 22 1971

HELIOCENTRIC CONIC

DISTANCE 384.832

EARTH TO MARS

RL 150.49 LAL -0.00 LOL 214.15 VL 32.955 GAL -2.50 AZL 92.19 HCA 129.89 SMA 193.84 ECC .23540 INC 2.1903 V1 29.608
 RP 206.87 LAP -1.68 LOP 344.06 VP 24.605 GAP 13.23 AZP 88.59 TAL 346.82 TAP 116.70 RCA 149.74 APO 241.94 V2 26.474
 RC 71.818 GL -18.30 GP 2.58 ZAL 118.31 ZAP 154.43 ETS 174.58 ZAE 172.04 ETE 44.46 ZAC 102.50 ETC 277.95 LVI -20.66

PLANETOCENTRIC CONIC

C3 18.061 VHL 4.008 DLA -26.93 RAL 343.36 RAD 6641.0 VEL 11.666 PTH 6.70 VHP 5.873 DPA -14.56 RAP 320.80 ECC 1.2643
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 51 33 2526.93 -8.74 67.57 199.10 136.96 18 33 40 1526.9 9.65 51.81
 60.00 19 7 34 2324.71 -3.41 54.45 204.19 130.18 19 46 19 1324.7 12.61 36.38
 70.00 20 48 26 2034.01 2.27 35.18 208.50 124.09 21 20 20 1034.0 15.82 15.10
 80.00 22 49 37 1848.45 7.76 9.29 211.87 118.92 23 17 5 648.4 18.96 347.52
 90.00 0 49 1 1276.07 10.78 343.48 213.46 116.31 1 10 17 276.1 20.68 320.85
 100.00 1 36 24 1122.92 7.76 330.66 211.87 118.92 1 55 7 122.9 18.96 308.88
 110.00 1 49 48 1080.83 2.27 324.10 208.50 124.09 2 7 49 80.8 15.82 304.02

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4648 TRA -.9891 TC3 .2449 BAU .0791 SGT 1730.8 SGR 503.5 SG3 464.6 ST 40.9 SR 22.4 SS 38.2
 RDE -.3125 RRA .0450 RC3 .2754 FAU .07533 RRT .2591 RRF -.2877 RTF -.8429 CRT .7839 CRS .5009 CST .9286
 FDE .5693 FRA 2.6210 FC3-4.0806 BSP 2975 SGB 1802.5 R23 -.0524 R13 -.8443 LSA 57.1 MSA 19.2 SSA 1.3
 BDE .5601 BRA .9901 BC3 .3685 FSP 717 SG1 1736.1 SG2 484.8 THA 4.68 EL1 44.8 EL2 12.7 ALF 25.39

LAUNCH DATE APR 25 1971

FLIGHT TIME 152.00

ARRIVAL DATE SEP 24 1971

HELIOCENTRIC CONIC

DISTANCE 368.673

EARTH TO MARS

RL 150.49 LAL -.00 LOL 214.15 VL 32.900 GAL -2.44 AZL 92.21 HCA 131.15 SMA 194.79 ECC .23116 INC 2.2088 V1 29.608
RP 206.93 LAP -1.66 LOP 345.33 VP 24.523 GAP 12.89 AZP 88.55 TAL 346.97 TAP 118.12 RCA 149.76 APO 239.82 V2 26.466
RC 73.229 GL -18.72 GP 2.70 ZAL 118.13 ZAP 153.16 ETS 174.63 ZAE 172.29 ETE 46.18 ZAC 102.63 ETC 277.95 LVI -20.78

PLANETOCENTRIC CONIC

C3 15.581 VHL 3.947 DLA -27.36 RAL 343.44 RAD 6640.8 VEL 11.646 PTH 6.68 VHP 5.699 DPA -14.44 RAP 320.76 ECC 1.2564
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 54 6 2510.41 -7.92 66.86 198.97 137.07 18 35 56 1510.4 10.47 51.10
60.00 19 11 5 2305.63 -2.57 53.53 204.08 130.25 19 49 31 1305.6 13.41 35.41
70.00 20 51 37 2010.03 3.19 33.93 208.44 124.02 21 25 7 1010.0 16.65 15.73
80.00 22 58 18 1613.45 8.91 7.32 211.94 118.62 23 25 11 613.5 19.90 345.34
90.00 1 2 38 1225.16 12.28 340.52 213.70 115.68 1 23 3 225.2 21.82 317.55
100.00 1 45 6 1087.92 8.91 328.69 211.94 118.62 2 3 14 87.9 19.90 306.71
110.00 1 54 59 1056.85 3.19 322.84 208.44 124.02 2 12 36 56.8 16.65 302.65

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4580 TRA -.9706 TC3 .2527 BAU .0801 SGT 1731.5 SGR 499.3 SG3 495.0 ST 40.9 SR 22.0 SS 39.3
RDE -.3031 RRA .0365 RC3 .2896 FAU .07892 RRT .2817 RRF -.3138 RTF -.8438 CRT .7889 CR8 .4987 CST .9247
PDE .5849 FRA 2.7444 FC3-4.3850 BSP 2981 SGB 1802.0 R23 -.0589 R13 -.8454 LSA 57.7 MSA 19.3 SSA 1.3
BDE .5492 BRA .9713 BC3 .3843 FSP 768 SG1 1737.6 SG2 477.4 THA 5.02 EL1 44.8 EL2 12.4 ALF 25.06

LAUNCH DATE APR 25 1971

FLIGHT TIME 154.00

ARRIVAL DATE SEP 26 1971

HELIOCENTRIC CONIC

DISTANCE 392.544

EARTH TO MARS

RL 150.49 LAL -.00 LOL 214.15 VL 32.848 GAL -2.38 AZL 92.23 HCA 132.42 SMA 193.82 ECC .22718 INC 2.2280 V1 29.608
RP 207.00 LAP -1.64 LOP 346.59 VP 24.445 GAP 12.55 AZP 88.50 TAL 347.11 TAP 119.53 RCA 149.79 APO 237.85 V2 26.458
RC 74.683 GL -19.14 GP 2.83 ZAL 117.98 ZAP 151.85 ETS 174.67 ZAE 172.59 ETE 48.52 ZAC 102.76 ETC 277.95 LVI -20.89

PLANETOCENTRIC CONIC

C3 15.141 VHL 3.891 DLA -27.79 RAL 343.53 RAD 6640.6 VEL 11.627 PTH 6.67 VHP 5.532 DPA -14.33 RAP 320.68 ECC 1.2492
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 56 42 2494.28 -7.11 66.18 198.87 137.17 18 38 16 1494.3 11.26 50.39
60.00 19 14 41 2286.86 -1.75 52.63 204.01 130.27 19 52 48 1286.9 14.21 34.46
70.00 20 56 58 1986.05 4.10 32.67 208.43 123.94 21 30 4 986.0 17.47 12.36
80.00 23 7 45 1576.58 10.11 5.24 212.07 118.25 23 34 2 576.6 20.85 343.02
90.00 1 19 57 1162.94 14.08 336.84 214.10 114.78 1 39 20 162.9 23.10 313.44
100.00 1 54 33 1051.06 10.11 328.61 212.07 118.25 2 12 4 51.1 20.85 304.38
110.00 2 0 20 1032.66 4.10 321.59 208.43 123.94 2 17 33 32.9 17.47 301.27

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4504 TRA -.9503 TC3 .2582 BAU .0808 SGT 1726.8 SGR 495.6 SG3 527.0 ST 40.8 SR 21.7 SS 40.4
RDE -.2940 RRA .0278 RC3 .3044 FAU .08270 RRT .3056 RRF -.3418 RTF -.8441 CRT .7942 CR8 .4987 CST .9204
PDE .6000 FRA 2.8736 FC3-4.7288 BSP 2981 SGB 1796.5 R23 -.0663 R13 -.8461 LSA 58.2 MSA 19.4 SSA 1.3
BDE .5378 BRA .9507 BC3 .3992 FSP 823 SG1 1734.0 SG2 469.9 THA 5.41 EL1 44.6 EL2 12.0 ALF 24.80

LAUNCH DATE APR 25 1971

FLIGHT TIME 156.00

ARRIVAL DATE SEP 28 1971

HELIOCENTRIC CONIC

DISTANCE 398.443

EARTH TO MARS

RL 150.49 LAL -.00 LOL 214.15 VL 32.800 GAL -2.32 AZL 92.25 HCA 133.69 SMA 192.92 ECC .22344 INC 2.2481 V1 29.608
RP 207.08 LAP -1.63 LOP 347.86 VP 24.369 GAP 12.22 AZP 88.45 TAL 347.25 TAP 120.94 RCA 149.82 APO 236.03 V2 26.449
RC 76.180 GL -19.57 GP 2.97 ZAL 117.78 ZAP 150.51 ETS 174.70 ZAE 172.92 ETE 51.63 ZAC 102.91 ETC 277.94 LVI -21.01

PLANETOCENTRIC CONIC

C3 14.738 VHL 3.839 DLA -28.21 RAL 343.62 RAD 6640.4 VEL 11.610 PTH 6.65 VHP 5.370 DPA -14.22 RAP 320.57 ECC 1.2425
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 59 21 2478.54 -6.33 65.51 198.80 137.25 18 40 39 1478.5 12.04 49.71
60.00 19 18 21 2268.39 -.94 51.75 203.97 130.29 19 56 9 1268.4 14.98 33.51
70.00 21 2 31 1962.04 5.01 31.41 208.46 123.83 21 35 13 962.0 18.27 10.96
80.00 23 18 13 1537.12 11.37 2.99 212.28 117.80 23 43 51 537.1 21.83 340.49
90.00 1 49 39 1061.35 16.89 330.71 214.99 113.02 2 7 21 61.3 24.93 306.56
100.00 2 5 1 1011.59 11.37 324.36 212.28 117.80 2 21 53 11.6 21.83 301.86
110.00 2 5 53 1006.66 5.01 320.33 208.46 123.83 2 22 42 8.9 18.27 299.88

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4433 TRA -.9295 TC3 .2588 BAU .0811 SGT 1719.2 SGR 492.4 SG3 560.8 ST 40.6 SR 21.3 SS 41.3
RDE -.2852 RRA .0188 RC3 .3198 FAU .08668 RRT .3312 RRF -.3720 RTF -.3.36 CRT .8007 CR8 .4957 CST .9197
PDE .6160 FRA 3.0109 FC3-5.0907 BSP 2972 SGB 1788.4 R23 -.0750 R13 -.8459 LSA 58.7 MSA 19.5 SSA 1.2
BDE .5271 BRA .9297 BC3 .4114 FSP 880 SG1 1727.6 SG2 462.4 THA 5.84 EL1 44.4 EL2 11.7 ALF 24.57

LAUNCH DATE APR 25 1971

FLIGHT TIME 158.00

ARRIVAL DATE SEP 30 1971

HELIOCENTRIC CONIC

DISTANCE 400.366

EARTH TO MARS

RL 150.49 LAL -.00 LOL 214.15 VL 32.754 GAL -2.28 AZL 92.27 HCA 134.95 SMA 192.08 ECC .21994 INC 2.2690 V1 29.608
RP 207.17 LAP -1.61 LOP 349.12 VP 24.297 GAP 11.89 AZP 88.40 TAL 347.39 TAP 122.34 RCA 149.84 APO 234.33 V2 26.439
RC 77.718 GL -19.99 GP 3.12 ZAL 117.81 ZAP 149.13 ETS 174.73 ZAE 173.27 ETE 55.65 ZAC 103.07 ETC 277.92 LVI -21.12

PLANETOCENTRIC CONIC

C3 14.388 VHL 3.791 DLA -28.64 RAL 343.72 RAD 6640.2 VEL 11.594 PTH 6.64 VHP 5.215 DPA -14.11 RAP 320.42 ECC 1.2365
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 2 3 2463.15 -5.56 64.86 198.76 137.33 18 43 6 1463.2 12.80 49.03
60.00 19 22 6 2250.19 -.13 50.88 203.96 130.30 19 59 36 1250.2 15.74 32.57
70.00 21 8 17 1937.93 5.92 30.14 208.53 123.70 21 40 35 937.9 19.07 9.55
80.00 23 30 8 1493.66 12.73 .49 212.59 117.24 23 55 2 493.7 22.86 337.68
85.28 1 27 35 1128.39 18.69 336.40 215.42 112.10 1 48 23 128.4 26.17 311.78
100.00 2 16 56 6256.17 12.73 299.76 212.59 117.24 4 1 12 5256.2 22.86 276.95
110.00 2 11 39 6272.79 5.92 296.96 208.53 123.70 3 56 12 5272.8 19.07 278.37

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4290 TRA -.8994 TC3 .2789 BAU .0837 SGT 1692.3 SGR 490.1 SG3 596.1 ST 39.9 SR 20.9 SS 42.5
RDE -.2766 RRA .0098 RC3 .3366 FAU .09110 RRT .3600 RRF -.4044 RTF -.8466 CRT .8057 CR8 .4935 CST .9112
PDE .6277 FRA 3.1472 FC3-5.4895 BSP 2871 SGB 1761.8 R23 -.0814 R13 -.8494 LSA 58.7 MSA 19.6 SSA 1.2
BDE .5105 BRA .8994 BC3 .4359 FSP 936 SG1 1702.2 SG2 454.6 THA 6.41 EL1 43.6 EL2 11.3 ALF 24.67

LAUNCH DATE APR 25 1971

FLIGHT TIME 160.00

ARRIVAL DATE OCT 2 1971

HELIOCENTRIC CONIC
 RL 150.49 LAL -.00 LOL 214.15 VL 32.711 GAL -2.21 AZL 92.29 HCA 136.21 SMA 191.31 ECC .21667 INC 2.2908 V1 29.608
 RP 207.26 LAP -1.58 LOP 350.39 VP 24.227 GAP 11.98 AZP 88.35 TAL 347.51 TAP 123.73 RCA 149.86 APO 232.76 V2 26.428
 RC 79.295 GL -20.41 GP 3.28 ZAL 117.45 ZAP 147.72 ETS 174.75 ZAE 173.60 ETE 60.75 ZAC 103.25 ETC 277.90 LVI -21.24

DISTANCE 404.313
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 14.032 VHL 3.746 DLA -29.08 RAL 343.83 RAD 6640.1 VEL 11.580 PTH 6.82 VHP 5.065 DPA -14.00 RAP 320.23 ECC 1.2309
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 4 48 2448.22 -4.81 64.23 198.76 137.39 18 45 37 1448.2 13.53 48.37
 60.00 19 25 56 2232.38 .65 50.03 204.00 130.30 20 3 9 1232.4 16.47 31.65
 70.00 21 14 15 1913.81 6.83 28.86 208.65 123.54 21 46 9 913.8 19.86 8.12
 80.00 23 44 14 1443.97 14.26 357.59 213.01 116.51 24 8 18 444.0 23.96 334.40
 83.02 1 9 39 1182.44 19.09 340.54 215.30 112.34 1 29 21 182.4 26.63 315.87
 100.00 2 31 1 6206.49 14.26 296.87 213.01 116.51 4 14 28 5206.5 23.96 273.67
 110.00 2 17 37 6248.67 6.83 295.69 208.65 123.54 4 1 46 5248.7 19.86 274.95

DIFFERENTIAL CORRECTIONS
 TDE -.4287 TRA -.8824 TC3 .2520 BAU .0814 SGT 1688.2 SGR 488.7 SG3 633.8 ST 40.1 SR 20.6 SS 43.9
 RDE -.2687 RRA -.0000 RC3 .3531 FAU .09528 RRT .3873 RRF -.4392 RTF -.8407 CRT .8168 CRS .4980 CST .9055
 FDE .6510 FRA 3.3039 FC3-5.8783 BSP 2928 SGB 1757.5 R23 -.0965 R13 -.8442 LSA 59.7 MSA 19.7 SSA 1.2
 BDE .5060 BRA .8824 BC3 .4338 FSP 1006 SG1 1699.6 SG2 447.5 THA 6.88 EL1 43.8 EL2 10.9 ALF 24.29

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 25 1971

FLIGHT TIME 162.00

ARRIVAL DATE OCT 4 1971

HELIOCENTRIC CONIC
 RL 150.49 LAL -.00 LOL 214.15 VL 32.671 GAL -2.17 AZL 92.31 HCA 137.47 SMA 190.59 ECC .21361 INC 2.3136 V1 29.608
 RP 207.37 LAP -1.56 LOP 351.65 VP 24.159 GAP 11.27 AZP 88.29 TAL 347.63 TAP 125.11 RCA 149.88 APO 231.30 V2 26.415
 RC 80.909 GL -20.84 GP 3.43 ZAL 117.29 ZAP 146.27 ETS 174.77 ZAE 173.90 ETE 67.11 ZAC 103.45 ETC 277.86 LVI -21.35

DISTANCE 408.281
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 13.726 VHL 3.705 DLA -29.48 RAL 343.95 RAD 6639.9 VEL 11.567 PTH 6.61 VHP 4.921 DPA -13.89 RAP 320.00 ECC 1.2259
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 7 37 2433.66 -4.08 63.62 198.79 137.44 18 48 11 1433.7 14.24 47.72
 60.00 19 29 52 2214.84 1.42 49.20 204.08 130.28 20 6 47 1214.8 17.20 30.72
 70.00 21 20 29 1889.48 7.75 27.57 208.82 123.37 21 51 59 889.5 20.64 6.67
 80.00 0 6 41 1380.85 16.15 353.85 213.65 115.46 0 29 41 380.9 25.25 330.15
 81.31 0 56 36 1221.05 19.47 343.56 215.21 112.58 1 16 57 221.1 27.07 318.83
 100.00 2 49 32 6143.37 16.15 293.13 213.65 115.46 4 31 56 5143.4 25.25 269.43
 110.00 2 23 51 6224.33 7.75 294.40 208.82 123.37 4 7 36 5224.3 20.64 273.49

DIFFERENTIAL CORRECTIONS
 TDE -.4220 TRA -.8582 TC3 .2388 BAU .0810 SGT 1667.8 SGR 488.4 SG3 673.2 ST 39.8 SR 20.2 SS 45.1
 RDE -.2608 RRA -.0101 RC3 .3710 FAU .09991 RRT .4163 RRF -.4757 RTF -.8372 CRT .8264 CRS .5003 CST .8993
 FDE .6682 FRA 3.4627 FC3-6.3020 BSP 2903 SGB 1737.8 R23 -.1110 R13 -.8415 LSA 60.2 MSA 19.9 SSA 1.2
 BDE .4961 BRA .8582 BC3 .4412 FSP 1075 SG1 1681.0 SG2 440.6 THA 7.47 EL1 43.4 EL2 10.4 ALF 24.19

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 25 1971

FLIGHT TIME 164.00

ARRIVAL DATE OCT 6 1971

HELIOCENTRIC CONIC
 RL 150.49 LAL -.00 LOL 214.15 VL 32.634 GAL -2.12 AZL 92.34 HCA 138.73 SMA 189.92 ECC .21074 INC 2.3375 V1 29.608
 RP 207.48 LAP -1.54 LOP 352.91 VP 24.094 GAP 10.96 AZP 88.24 TAL 347.74 TAP 126.48 RCA 149.90 APO 229.94 V2 26.402
 RC 82.580 GL -21.27 GP 3.64 ZAL 117.14 ZAP 144.78 ETS 174.79 ZAE 174.13 ETE 74.81 ZAC 103.66 ETC 277.82 LVI -21.46

DISTANCE 412.269
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 13.448 VHL 3.667 DLA -29.90 RAL 344.08 RAD 6639.8 VEL 11.555 PTH 6.60 VHP 4.783 DPA -13.78 RAP 319.72 ECC 1.2213
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 10 31 2419.47 -3.37 63.02 198.86 137.49 18 50 50 1419.5 14.94 47.08
 60.00 19 33 55 2197.50 2.18 48.37 204.19 130.25 20 10 32 1197.6 17.90 29.81
 70.00 21 27 0 1864.88 8.66 26.26 209.04 123.17 21 58 5 864.9 21.41 5.18
 79.87 0 46 4 1251.97 19.85 346.03 215.16 112.82 1 6 56 252.0 27.51 321.23
 79.87 0 46 4 1251.97 19.85 346.03 215.16 112.82 1 6 56 252.0 27.51 321.23
 79.87 0 46 4 1251.97 19.85 346.03 215.16 112.82 1 6 56 252.0 27.51 321.23
 110.00 2 30 23 6199.74 8.66 293.08 209.04 123.17 4 13 42 5199.7 21.41 272.00

DIFFERENTIAL CORRECTIONS
 TDE -.4149 TRA -.8318 TC3 .2224 BAU .0807 SGT 1641.1 SGR 489.6 SG3 714.5 ST 39.4 SR 19.8 SS 46.3
 RDE -.2533 RRA -.0205 RC3 .3897 FAU .10473 RRT .4464 RRF -.5139 RTF -.8331 CRT .8373 CRS .5043 CST .8928
 FDE .6870 FRA 3.6291 FC3-6.7422 BSP 2858 SGB 1712.5 R23 -.1273 R13 -.8384 LSA 60.7 MSA 20.0 SSA 1.2
 BDE .4861 BRA .8318 BC3 .4487 FSP 1146 SG1 1656.6 SG2 434.0 THA 8.15 EL1 43.0 EL2 9.9 ALF 24.17

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 25 1971

FLIGHT TIME 166.00

ARRIVAL DATE OCT 8 1971

HELIOCENTRIC CONIC
 RL 150.49 LAL -.00 LOL 214.15 VL 32.598 GAL -2.09 AZL 92.36 HCA 139.99 SMA 189.30 ECC .20807 INC 2.3626 V1 29.608
 RP 207.60 LAP -1.52 LOP 354.17 VP 24.031 GAP 10.67 AZP 88.19 TAL 347.84 TAP 127.83 RCA 149.91 APO 228.69 V2 26.388
 RC 84.247 GL -21.70 GP 3.83 ZAL 117.00 ZAP 143.25 ETS 174.80 ZAE 174.24 ETE 83.76 ZAC 103.89 ETC 277.78 LVI -21.58

DISTANCE 416.277
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 13.197 VHL 3.633 DLA -30.31 RAL 344.23 RAD 6639.7 VEL 11.544 PTH 6.59 VHP 4.650 DPA -13.68 RAP 319.41 ECC 1.2172
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 13 28 2405.66 -2.67 62.44 198.97 137.52 18 53 34 1405.7 15.61 46.46
 60.00 19 38 3 2180.60 2.93 47.56 204.35 130.21 20 14 24 1180.6 18.59 28.90
 70.00 21 33 51 1839.90 9.59 24.92 209.31 122.94 22 4 31 839.9 22.19 3.65
 78.61 0 37 8 1278.16 20.22 348.14 215.15 113.07 0 58 26 278.2 27.95 323.28
 78.61 0 37 8 1278.16 20.22 348.14 215.15 113.07 0 58 26 278.2 27.95 323.28
 78.61 0 37 8 1278.16 20.22 348.14 215.15 113.07 0 58 26 278.2 27.95 323.28
 110.00 2 37 14 6174.76 9.59 291.74 209.31 122.94 4 20 8 5174.8 22.19 270.47

DIFFERENTIAL CORRECTIONS
 TDE -.4055 TRA -.8010 TC3 .2081 BAU .0811 SGT 1604.2 SGR 492.4 SG3 757.6 ST 38.8 SR 19.4 SS 47.5
 RDE -.2460 RRA -.0314 RC3 .4100 FAU .10994 RRT .4774 RRF -.5535 RTF -.8291 CRT .8487 CRS .5094 CST .8856
 FDE .7040 FRA 3.8004 FC3-7.2118 BSP 2776 SGB 1678.1 R23 -.1448 R13 -.8358 LSA 61.1 MSA 20.2 SSA 1.2
 BDE .4743 BRA .8016 BC3 .4598 FSP 1219 SG1 1622.6 SG2 427.8 THA 8.97 EL1 42.3 EL2 9.4 ALF 24.30

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 25 1971

FLIGHT TIME 166.00

ARRIVAL DATE OCT 10 1971

HELIOCENTRIC CONIC

RL 150.49 LAL -.00 LOL 214.15 VL 32.566 GAL -2.05 AZL 92.39 HCA 141.25 SMA 188.72 ECC .20559 INC 2.3891 V1 29.608
RP 207.73 LAP -1.50 LOP 355.42 VP 23.970 GAP 10.38 AZP 88.14 TAL 347.93 TAP 129.18 RCA 149.93 APO 227.52 V2 26.373
RC 85.969 GL -22.13 GP 4.04 ZAL 116.86 ZAP 141.68 ETS 174.81 ZAE 174.18 ETE 93.57 ZAC 104.13 ETC 277.72 LVI -21.69

PLANETOCENTRIC CONIC

C3 12.973 VHL 3.602 DLA -30.72 RAL 344.38 RAD 8639.5 VEL 11.534 PTH 6.58 VHP 4.523 DPA -13.57 RAP 319.04 ECC 1.2135
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 16 30 2392.25 -2.00 61.88 199.11 137.94 18 56 22 1392.2 16.26 45.85
60.00 19 42 19 2163.91 3.66 46.78 204.54 130.16 20 18 23 1163.9 19.26 28.01
70.00 21 41 4 1814.46 10.53 23.55 209.64 122.68 22 11 19 814.5 22.95 2.08
77.46 0 29 23 1301.04 20.58 350.02 215.18 113.33 0 51 4 301.0 28.38 325.10
77.46 0 29 23 1301.04 20.58 350.02 215.18 113.33 0 51 4 301.0 28.38 325.10
77.46 0 29 23 1301.04 20.58 350.02 215.18 113.33 0 51 4 301.0 28.38 325.10
110.00 2 44 27 6149.32 10.53 290.37 209.64 122.68 4 26 56 5149.3 22.95 266.90

DIFFERENTIAL CORRECTIONS

TDE -.4016 TRA -.7758 TC3 .1695 BAU .0802
RDE -.2391 RRA -.0431 RC3 .4304 FAU .11500
FDE .7278 FRA 3.9854 FC3-7.6745 BSP 2748
BDE .4674 BRA .7750 BC3 .4626 FSP 1300

MID-COURSE EXECUTION ACCURACY

SGT 1572.7 SGR 497.2 SG3 802.6
RRT .5054 RRF -.5939 RTF -.8197
SGB 1649.4 R23 -.1706 R13 -.8283
SG1 1594.2 SG2 423.3 THA 9.77

ORBIT DETERMINATION ACCURACY

ST 38.5 SR 19.1 SS 48.9
CRT .8631 CRS .5187 CST .8775
LSA 61.8 MSA 20.3 SSA 1.2
EL1 42.0 EL2 8.8 ALF 24.28

LAUNCH DATE APR 25 1971

FLIGHT TIME 170.00

ARRIVAL DATE OCT 12 1971

HELIOCENTRIC CONIC

RL 150.49 LAL -.00 LOL 214.15 VL 32.535 GAL -2.02 AZL 92.42 HCA 142.50 SMA 188.19 ECC .20327 INC 2.4170 V1 29.608
RP 207.86 LAP -1.47 LOP 356.68 VP 23.911 GAP 10.10 AZP 88.08 TAL 348.01 TAP 130.51 RCA 149.94 APO 226.45 V2 26.357
RC 87.725 GL -22.56 GP 4.26 ZAL 116.74 ZAP 140.07 ETS 174.81 ZAE 173.93 ETE 103.61 ZAC 104.40 ETC 277.65 LVI -21.80

PLANETOCENTRIC CONIC

C3 12.773 VHL 3.574 DLA -31.13 RAL 344.56 RAD 8639.4 VEL 11.526 PTH 6.57 VHP 4.402 DPA -13.46 RAP 318.64 ECC 1.2102
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 19 37 2379.18 -1.34 61.34 199.29 137.56 18 59 16 1379.2 16.89 45.25
60.00 19 46 42 2147.44 4.38 45.97 204.79 130.10 20 22 30 1147.4 19.92 27.11
70.00 21 48 45 1788.30 11.49 22.13 210.04 122.39 22 18 33 788.3 23.72 .44
76.41 0 22 33 1321.53 20.93 351.72 215.25 113.59 0 44 34 321.5 28.80 326.75
76.41 0 22 33 1321.53 20.93 351.72 215.25 113.59 0 44 34 321.5 28.80 326.75
76.41 0 22 33 1321.53 20.93 351.72 215.25 113.59 0 44 34 321.5 28.80 326.75
110.00 2 52 7 6123.15 11.49 288.95 210.04 122.39 4 34 10 5123.2 23.72 267.26

DIFFERENTIAL CORRECTIONS

TDE -.3949 TRA -.7418 TC3 .1354 BAU .0807
RDE -.2325 RRA -.0554 RC3 .4328 FAU .12051
FDE .7496 FRA 4.1743 FC3-8.1684 BSP 2672
BDE .4583 BRA .7439 BC3 .4726 FSP 1382

MID-COURSE EXECUTION ACCURACY

SGT 1529.9 SGR 504.4 SG3 849.4
RRT .5331 RRF -.6348 RTF -.8103
SGB 1610.9 R23 -.1979 R13 -.8216
SG1 1555.3 SG2 419.8 THA 10.76

ORBIT DETERMINATION ACCURACY

ST 37.9 SR 18.7 SS 50.2
CRT .8779 CRS .5288 CST .8688
LSA 62.3 MSA 20.5 SSA 1.1
EL1 41.5 EL2 8.2 ALF 24.44

LAUNCH DATE APR 25 1971

FLIGHT TIME 172.00

ARRIVAL DATE OCT 14 1971

HELIOCENTRIC CONIC

RL 150.49 LAL -.00 LOL 214.15 VL 32.507 GAL -1.99 AZL 92.45 HCA 143.76 SMA 187.70 ECC .20112 INC 2.4463 V1 29.608
RP 208.01 LAP -1.45 LOP 357.93 VP 23.853 GAP 9.82 AZP 88.03 TAL 348.08 TAP 131.83 RCA 149.95 APO 225.45 V2 26.340
RC 89.514 GL -23.00 GP 4.50 ZAL 116.63 ZAP 138.42 ETS 174.82 ZAE 173.46 ETE 113.15 ZAC 104.69 ETC 277.58 LVI -21.92

PLANETOCENTRIC CONIC

C3 12.596 VHL 3.549 DLA -31.54 RAL 344.75 RAD 8639.4 VEL 11.518 PTH 6.57 VHP 4.286 DPA -13.35 RAP 318.18 ECC 1.2073
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 22 50 2366.45 -.70 60.81 199.51 137.57 19 2 16 1366.5 17.50 44.66
60.00 19 51 15 2131.19 5.10 45.19 205.07 130.03 20 26 46 1131.2 20.57 26.22
70.00 21 58 57 1781.17 12.47 20.64 210.50 122.05 22 26 18 761.2 24.50 358.72
75.42 0 16 24 1340.29 21.27 353.30 215.37 113.85 0 38 44 340.3 29.21 328.27
75.42 0 16 24 1340.29 21.27 353.30 215.37 113.85 0 38 44 340.3 29.21 328.27
75.42 0 16 24 1340.29 21.27 353.30 215.37 113.85 0 38 44 340.3 29.21 328.27
110.00 3 0 19 6096.02 12.47 287.47 210.50 122.05 4 41 55 5096.0 24.50 285.54

DIFFERENTIAL CORRECTIONS

TDE -.3887 TRA -.7086 TC3 .0911 BAU .0816
RDE -.2261 RRA -.0684 RC3 .4760 FAU .12608
FDE .7725 FRA 4.3731 FC3-8.6641 BSP 2596
BDE .4497 BRA .7118 BC3 .4847 FSP 1468

MID-COURSE EXECUTION ACCURACY

SGT 1483.0 SGR 514.0 SG3 897.9
RRT .5573 RRF -.6752 RTF -.8180
SGB 1589.6 R23 -.2308 R13 -.8127
SG1 1512.8 SG2 418.4 THA 11.85

ORBIT DETERMINATION ACCURACY

ST 37.3 SR 18.4 SS 51.6
CRT .8938 CRS .5411 CST .8989
LSA 62.9 MSA 20.7 SSA 1.1
EL1 40.9 EL2 7.5 ALF 24.65

LAUNCH DATE APR 25 1971

FLIGHT TIME 174.00

ARRIVAL DATE OCT 16 1971

HELIOCENTRIC CONIC

RL 150.49 LAL -.00 LOL 214.15 VL 32.480 GAL -1.98 AZL 92.48 HCA 145.01 SMA 187.24 ECC .19912 INC 2.4776 V1 29.608
RP 208.16 LAP -1.42 LOP 359.19 VP 23.798 GAP 9.55 AZP 87.97 TAL 348.13 TAP 133.14 RCA 149.96 APO 224.53 V2 26.323
RC 91.337 GL -23.44 GP 4.76 ZAL 116.53 ZAP 136.72 ETS 174.83 ZAE 172.78 ETE 121.65 ZAC 105.00 ETC 277.50 LVI -22.03

PLANETOCENTRIC CONIC

C3 12.442 VHL 3.527 DLA -31.94 RAL 344.96 RAD 8639.3 VEL 11.512 PTH 6.56 VHP 4.176 DPA -13.23 RAP 317.68 ECC 1.2048
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 28 9 2354.05 -.08 60.29 199.77 137.58 19 5 23 1354.0 18.10 44.09
60.00 19 55 56 2115.10 5.80 44.41 205.41 129.95 20 31 11 1115.1 21.20 25.33
70.00 22 5 50 1732.67 13.50 19.07 211.03 121.68 22 34 42 732.7 25.30 356.88
74.49 0 10 52 1357.62 21.60 354.77 215.53 114.13 0 33 29 357.6 29.62 329.69
74.49 0 10 52 1357.62 21.60 354.77 215.53 114.13 0 33 29 357.6 29.62 329.69
74.49 0 10 52 1357.62 21.60 354.77 215.53 114.13 0 33 29 357.6 29.62 329.69
110.00 3 9 12 6067.53 13.50 285.90 211.03 121.68 4 50 19 5067.5 25.30 263.71

DIFFERENTIAL CORRECTIONS

TDE -.3816 TRA -.6719 TC3 .0444 BAU .0837
RDE -.2200 RRA -.0822 RC3 .5012 FAU .13197
FDE .7948 FRA 4.5763 FC3-9.1831 BSP 2487
BDE .4405 BRA .6769 BC3 .5032 FSP 1553

MID-COURSE EXECUTION ACCURACY

SGT 1428.1 SGR 526.8 SG3 947.9
RRT .5782 RRF -.7147 RTF -.7831
SGB 1522.2 R23 -.2679 R13 -.8028
SG1 1463.2 SG2 419.5 THA 13.14

ORBIT DETERMINATION ACCURACY

ST 36.5 SR 18.0 SS 52.9
CRT .9105 CRS .5552 CST .8469
LSA 63.4 MSA 20.9 SSA 1.1
EL1 40.1 EL2 6.8 ALF 24.9

LAUNCH DATE APR 25 1971

FLIGHT TIME 176.00

ARRIVAL DATE OCT 18 1971

HELIOCENTRIC CONIC
 RL 190.39 LAL -.00 LOL 214.15 VL 32.456 GAL -1.94 AZL 92.51 HCA 146.26 SMA 186.82 ECC .19728 INC 2.5108 V1 29.608
 RP 206.32 LAP -1.39 LOP .44 VP 23.743 GAP 9.28 AZP 87.91 TAL 348.17 TAP 134.43 RCA 149.97 APO 223.68 V2 26.304
 RC 93.190 GL -23.89 GP 5.03 ZAL 116.44 ZAP 134.98 ETS 174.81 ZAE 171.91 ETE 126.89 ZAC 105.33 ETC 277.40 LVI -22.16

PLANETOCENTRIC CONIC
 C3 12.309 VHL 3.508 DLA -32.35 RAL 345.19 RAD 6639.2 VEL 11.506 PTH 6.55 VHP 4.071 DPA -13.11 RAP 317.13 ECC 1.2026
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 29 35 2341.93 .53 59.78 200.08 137.57 19 8 37 1341.9 18.68 43.52
 60.00 20 0 49 2099.13 6.50 43.64 205.79 129.86 20 35 48 1099.1 21.82 24.44
 70.00 22 15 35 1702.24 14.58 17.38 211.65 121.23 22 43 57 702.2 26.12 354.90
 73.60 0 5 51 1373.87 21.92 356.17 215.73 114.41 0 28 45 373.9 30.02 331.03
 73.60 0 5 51 1373.87 21.92 356.17 215.73 114.41 0 28 45 373.9 30.02 331.03
 73.60 0 5 51 1373.87 21.92 356.17 215.73 114.41 0 28 45 373.9 30.02 331.03
 110.00 3 18 57 6037.10 14.58 284.20 211.65 121.23 4 59 34 5037.1 26.12 261.72

DIFFERENTIAL CORRECTIONS
 TDE -.3739 TRA -.6319 TC3 -.0083 BAU .0869 SGT 1365.6 SGR 542.7 SG3 999.0 ST 35.6 SR 17.7 SS 54.2
 RDE -.2141 RRA -.0968 RC3 .5280 FAU .13805 RRT .5936 RRF -.7523 RTF -.7643 CRT .9277 CRS .5712 CST .8334
 FDE .8167 FRA 4.7832 FC3-9.7092 BSP 2365 SGB 1469.5 R23 -.3099 R13 -.7911 LSA 63.9 MSA 21.1 S5A 1.1
 BDE .4309 BRA .6392 BC3 .5281 FSP 1640 SG1 1407.0 SG2 423.9 THA 14.63 EL1 39.3 EL2 6.0 ALF 25.41

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 25 1971

FLIGHT TIME 178.00

ARRIVAL DATE OCT 20 1971

HELIOCENTRIC CONIC
 RL 150.49 LAL -.00 LOL 214.15 VL 32.433 GAL -1.92 AZL 92.55 HCA 147.51 SMA 186.43 ECC .19557 INC 2.5462 V1 29.608
 RP 208.49 LAP -1.37 LOP 1.69 VP 23.691 GAP 9.02 AZP 87.85 TAL 348.20 TAP 135.71 RCA 149.97 APO 222.89 V2 26.284
 RC 95.074 GL -24.35 GP 5.32 ZAL 116.36 ZAP 135.20 ETS 174.84 ZAE 170.87 ETE 134.89 ZAC 105.69 ETC 277.30 LVI -22.28

PLANETOCENTRIC CONIC
 C3 12.198 VHL 3.493 DLA -32.76 RAL 345.45 RAD 6639.2 VEL 11.501 PTH 6.55 VHP 3.971 DPA -12.98 RAP 316.54 ECC 1.2007
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 33 9 2330.06 1.12 59.29 200.43 137.57 19 11 59 1330.1 19.25 42.96
 60.00 20 5 54 2083.20 7.19 42.87 206.23 129.76 20 40 37 1083.2 22.44 23.54
 70.00 22 26 32 1668.88 15.75 15.50 212.38 120.71 22 54 20 668.9 26.98 352.69
 72.74 0 1 15 1389.30 22.23 357.50 215.98 114.70 0 24 25 389.3 30.42 332.32
 72.74 0 1 15 1389.30 22.23 357.50 215.98 114.70 0 24 25 389.3 30.42 332.32
 72.74 0 1 15 1389.30 22.23 357.50 215.98 114.70 0 24 25 389.3 30.42 332.32
 110.00 3 29 54 6003.74 15.75 282.32 212.38 120.71 5 9 58 5003.7 26.98 259.51

DIFFERENTIAL CORRECTIONS
 TDE -.3626 TRA -.5865 TC3 -.0590 BAU .0914 SGT 1290.1 SGR 562.5 SG3 1051.5 ST 34.3 SR 17.4 SS 55.4
 RDE -.2082 RRA -.1122 RC3 .5578 FAU .14471 RRT .6045 RRF -.7877 RTF -.7435 CRT .9444 CRS .5871 CST .8173
 FDE .8311 FRA 4.9909 FC-10.2708 BSP 2191 SGB 1407.4 R23 -.3519 R13 -.7806 LSA 64.0 MSA 21.2 S5A 1.0
 BDE .4181 BRA .5972 BC3 .5605 FSP 1721 SG1 1339.6 SG2 431.5 THA 16.53 EL1 38.2 EL2 5.2 ALF 26.08

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 25 1971

FLIGHT TIME 180.00

ARRIVAL DATE OCT 22 1971

HELIOCENTRIC CONIC
 RL 150.45 LAL -.00 LOL 214.15 VL 32.412 GAL -1.91 AZL 92.58 HCA 148.75 SMA 186.08 ECC .19400 INC 2.5840 V1 29.608
 RP 208.67 LAP -1.34 LOP 2.93 VP 23.639 GAP 8.77 AZP 87.79 TAL 348.22 TAP 136.97 RCA 149.98 APO 222.17 V2 26.264
 RC 96.988 GL -24.82 GP 5.64 ZAL 116.29 ZAP 131.38 ETS 174.85 ZAE 169.68 ETE 139.77 ZAC 106.08 ETC 277.19 LVI -22.41

PLANETOCENTRIC CONIC
 C3 12.108 VHL 3.480 DLA -33.16 RAL 345.72 RAD 6639.1 VEL 11.497 PTH 6.55 VHP 3.877 DPA -12.83 RAP 315.89 ECC 1.1993
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 36 52 2318.48 1.71 58.80 200.83 137.55 19 15 31 1318.5 19.80 42.41
 60.00 20 11 13 2087.36 7.88 42.10 206.72 129.65 20 45 40 1067.4 23.04 22.64
 70.00 22 39 11 1631.16 17.05 13.35 213.24 120.05 23 6 22 631.2 27.91 350.15
 71.92 23 53 10 1404.02 22.54 358.79 216.28 115.00 24 16 34 404.0 30.82 333.55
 71.92 23 53 10 1404.02 22.54 358.79 216.28 115.00 24 16 34 404.0 30.82 333.55
 71.92 23 53 10 1404.02 22.54 358.79 216.28 115.00 24 16 34 404.0 30.82 333.55
 110.00 3 42 33 5986.02 17.05 280.17 213.24 120.05 5 21 59 4986.0 27.91 258.97

DIFFERENTIAL CORRECTIONS
 TDE -.3646 TRA -.5509 TC3 -.1539 BAU .0980 SGT 1243.4 SGR 586.3 SG3 1105.6 ST 34.1 SR 17.2 SS 57.2
 RDE -.2038 RRA -.1122 RC3 .5892 FAU .15006 RRT .5963 RRF -.8204 RTF -.7591 CRT .9626 CRS .6153 CST .8017
 FDE .8765 FRA 5.2322 FC-10.7288 BSP 2183 SGB 1374.7 R23 -.4185 R13 -.7583 LSA 65.3 MSA 21.6 S5A 1.0
 BDE .4177 BRA .5880 BC3 .6031 FSP 1834 SG1 1298.8 SG2 450.6 THA 17.94 EL1 38.0 EL2 4.2 ALF 26.24

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 25 1971

FLIGHT TIME 182.00

ARRIVAL DATE OCT 24 1971

HELIOCENTRIC CONIC
 RL 150.49 LAL -.00 LOL 214.15 VL 32.392 GAL -1.89 AZL 92.62 HCA 150.00 SMA 185.75 ECC .19256 INC 2.6246 V1 29.608
 RP 208.85 LAP -1.31 LOP 4.18 VP 23.589 GAP 8.52 AZP 87.73 TAL 348.22 TAP 138.22 RCA 149.98 APO 221.51 V2 26.243
 RC 98.929 GL -25.29 GP 5.98 ZAL 116.23 ZAP 129.52 ETS 174.87 ZAE 168.36 ETE 143.73 ZAC 106.49 ETC 277.07 LVI -22.56

PLANETOCENTRIC CONIC
 C3 12.039 VHL 3.470 DLA -33.57 RAL 346.03 RAD 6639.1 VEL 11.494 PTH 6.54 VHP 3.788 DPA -12.68 RAP 315.20 ECC 1.1981
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 40 46 2307.05 2.28 58.32 201.28 137.53 19 19 13 1307.0 20.34 41.86
 60.00 20 16 49 2051.36 8.58 41.31 207.28 129.53 20 51 0 1051.4 23.65 21.72
 70.00 22 54 53 1584.96 18.60 10.67 214.31 119.17 23 21 18 585.0 28.97 346.98
 71.11 23 49 19 1418.34 22.83 .05 216.64 115.31 24 12 57 418.3 31.21 334.77
 71.11 23 49 19 1418.34 22.83 .05 216.64 115.31 24 12 57 418.3 31.21 334.77
 71.11 23 49 19 1418.34 22.83 .05 216.64 115.31 24 12 57 418.3 31.21 334.77
 110.00 3 58 15 5919.82 18.60 277.49 214.31 119.17 5 36 55 4919.8 28.97 253.80

DIFFERENTIAL CORRECTIONS
 TDE -.3591 TRA -.5055 TC3 -.2343 BAU .1062 SGT 1175.5 SGR 614.5 SG3 1160.1 ST 33.2 SR 17.0 SS 58.6
 RDE -.1990 RRA -.1483 RC3 .6170 FAU .15632 RRT .5809 RRF -.8500 RTF -.6630 CRT .9777 CRS .6403 CST .7818
 FDE .8965 FRA 5.4620 FC-11.2414 BSP 2036 SGB 1326.4 R23 -.4743 R13 -.7353 LSA 66.0 MSA 21.8 S5A 1.0
 BDE .4106 BRA .5268 BC3 .6600 FSP 1929 SG1 1238.5 SG2 474.7 THA 19.95 EL1 37.2 EL2 3.2 ALF 26.81

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 25 1971

FLIGHT TIME 184.00

ARRIVAL DATE OCT 26 1971

Heliocentric Conic: RL 150.49 LAL -.00 LOL 214.15 VL 32.374 GAL -1.89 AZL 92.67 HCA 151.24 SMA 185.45 ECC .19124 INC 2.6883 V1 29.608
 RP 209.04 LAP -1.20 LOP 5.42 VP 23.540 GAP 8.28 AZP 87.66 TAL 348.21 TAP 139.45 RCA 149.98 APO 220.91 V2 26.221
 RC 100.898 GL -25.79 GP 6.35 ZAL 116.18 ZAP 127.62 ETS 174.89 ZAE 166.93 ETE 146.94 ZAC 106.94 ETC 276.94 LVI -22.71

Distance 452.976 Earth to Mars

Planetary Conic: C3 11.989 VHL 3.463 DLA -33.99 RAL 346.36 RAD 6639.1 VEL 11.492 PTH 6.54 VHP 3.705 DPA -12.50 RAP 314.47 ECC 1.1973
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 44 51 2295.75 2.85 57.85 201.78 137.51 19 23 6 1295.7 20.87 41.32
 60.00 20 22 43 2035.16 9.28 40.52 207.90 129.40 20 56 38 1035.2 24.26 20.78
 70.00 23 18 17 1516.20 20.83 6.58 215.80 117.70 23 43 34 516.2 30.39 342.13
 70.32 23 45 47 1432.30 23.12 1.28 217.04 115.63 24 9 40 432.3 31.60 335.96
 70.32 23 45 47 1432.30 23.12 1.28 217.04 115.63 24 9 40 432.3 31.60 335.96
 70.32 23 45 47 1432.30 23.12 1.28 217.04 115.63 24 9 40 432.3 31.60 335.96
 110.00 4 21 40 5851.06 20.83 273.41 215.80 117.70 5 59 11 4851.1 30.39 248.95

Differential Corrections: TDE -.3533 TRA -.4565 TC3 -.3235 BAU .1164 SGT 1105.4 SGR 647.2 SG3 1214.2 ST 32.3 SR 16.9 SS 60.1
 RDE -.1945 RRA -.1680 RC3 .6503 FAU .16242 RRT .5491 RRF -.8760 RTF -.6076 CRT .9897 CRS .6673 CST .7581
 FDE .9367 FRA 5.6941 FC-11.7280 B5P 1914 SGB 1280.9 R23 -.5335 R13 -.7111 LSA 66.7 MSA 22.1 S5A .9
 BDE .4033 BRA .4865 BC3 .7263 F5P 2030 S61 1175.6 S62 508.6 THA 22.19 EL1 36.4 EL2 2.1 ALF 27.47

LAUNCH DATE APR 25 1971

FLIGHT TIME 186.00

ARRIVAL DATE OCT 28 1971

Heliocentric Conic: RL 150.49 LAL -.00 LOL 214.15 VL 32.388 GAL -1.88 AZL 92.72 HCA 152.48 SMA 185.17 ECC .19003 INC 2.7153 V1 29.608
 RP 209.24 LAP -1.25 LOP 6.68 VP 23.491 GAP 8.04 AZP 87.59 TAL 348.18 TAP 140.66 RCA 149.98 APO 220.36 V2 26.198
 RC 102.893 GL -26.30 GP 6.74 ZAL 116.14 ZAP 125.68 ETS 174.91 ZAE 165.40 ETE 149.55 ZAC 107.41 ETC 276.80 LVI -22.87

Distance 457.107 Earth to Mars

Planetary Conic: C3 11.981 VHL 3.458 DLA -34.41 RAL 346.71 RAD 6639.0 VEL 11.491 PTH 6.54 VHP 3.627 DPA -12.31 RAP 313.69 ECC 1.1968
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 49 9 2284.50 3.41 57.38 202.34 137.48 19 27 13 1284.5 21.40 40.77
 60.00 20 29 1 2018.60 9.99 39.70 208.59 129.25 21 2 39 1018.6 24.87 19.81
 69.53 23 42 31 1446.12 23.40 2.51 217.51 115.98 24 6 37 446.1 31.99 337.15
 69.53 23 42 31 1446.12 23.40 2.51 217.51 115.98 24 6 37 446.1 31.99 337.15
 69.53 23 42 31 1446.12 23.40 2.51 217.51 115.98 24 6 37 446.1 31.99 337.15
 69.53 23 42 31 1446.12 23.40 2.51 217.51 115.98 24 6 37 446.1 31.99 337.15
 69.53 23 42 31 1446.12 23.40 2.51 217.51 115.98 24 6 37 446.1 31.99 337.15

Differential Corrections: TDE -.3473 TRA -.4041 TC3 -.4163 BAU .1204 SGT 1035.5 SGR 685.1 SG3 1268.3 ST 31.2 SR 16.8 SS 61.4
 RDE -.1903 RRA -.1893 RC3 .6865 FAU .16877 RRT .4977 RRF -.8987 RTF -.5356 CRT .9970 CRS .6957 CST .7299
 FDE .9661 FRA 5.9246 FC-12.2157 B5P 1784 SGB 1241.6 R23 -.5904 R13 -.6851 LSA 67.3 MSA 22.4 S5A .9
 BDE .3960 BRA .4462 BC3 .8028 F5P 2124 S61 1111.3 S62 553.7 THA 24.75 EL1 35.4 EL2 1.1 ALF 26.20

LAUNCH DATE APR 25 1971

FLIGHT TIME 188.00

ARRIVAL DATE OCT 30 1971

Heliocentric Conic: RL 150.49 LAL -.00 LOL 214.15 VL 32.343 GAL -1.88 AZL 92.77 HCA 153.72 SMA 184.92 ECC .18893 INC 2.7665 V1 29.608
 RP 209.44 LAP -1.22 LOP 7.09 VP 23.444 GAP 7.80 AZP 87.52 TAL 348.15 TAP 141.86 RCA 149.98 APO 219.86 V2 26.174
 RC 104.913 GL -26.83 GP 7.17 ZAL 116.11 ZAP 123.71 ETS 174.94 ZAE 163.78 ETE 151.68 ZAC 107.92 ETC 276.66 LVI -23.05

Distance 461.246 Earth to Mars

Planetary Conic: C3 11.953 VHL 3.457 DLA -34.84 RAL 347.10 RAD 6639.0 VEL 11.490 PTH 6.54 VHP 3.554 DPA -12.09 RAP 312.86 ECC 1.1987
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 53 43 2273.23 3.98 56.91 202.97 137.45 19 31 36 1273.2 21.93 40.22
 60.00 20 35 46 2001.48 10.73 38.86 209.36 129.08 21 9 7 1001.5 25.50 18.80
 68.74 23 39 27 1459.96 23.68 3.74 218.04 116.34 24 3 47 460.0 32.39 338.35
 68.74 23 39 27 1459.96 23.68 3.74 218.04 116.34 24 3 47 460.0 32.39 338.35
 68.74 23 39 27 1459.96 23.68 3.74 218.04 116.34 24 3 47 460.0 32.39 338.35
 68.74 23 39 27 1459.96 23.68 3.74 218.04 116.34 24 3 47 460.0 32.39 338.35
 68.74 23 39 27 1459.96 23.68 3.74 218.04 116.34 24 3 47 460.0 32.39 338.35

Differential Corrections: TDE -.3381 TRA -.3448 TC3 -.5023 BAU .1412 SGT 958.9 SGR 728.5 SG3 1321.6 ST 29.9 SR 16.7 SS 62.8
 RDE -.1861 RRA -.2117 RC3 .7272 FAU .17571 RRT .4235 RRF -.9182 RTF -.4330 CRT .9974 CRS .7238 CST .6943
 FDE .9875 FRA 6.1430 FC-12.7268 B5P 1624 SGB 1204.2 R23 -.6353 R13 -.6857 LSA 67.6 MSA 22.6 S5A .9
 BDE .3859 BRA .4046 BC3 .8838 F5P 2203 S61 1038.8 S62 609.1 THA 28.35 EL1 34.2 EL2 1.1 ALF 29.18

LAUNCH DATE APR 25 1971

FLIGHT TIME 190.00

ARRIVAL DATE NOV 1 1971

Heliocentric Conic: RL 150.49 LAL -.00 LOL 214.15 VL 32.329 GAL -1.88 AZL 92.82 HCA 154.95 SMA 184.69 ECC .18795 INC 2.8222 V1 29.608
 RP 209.66 LAP -1.19 LOP 9.13 VP 23.398 GAP 7.57 AZP 87.44 TAL 348.09 TAP 143.04 RCA 149.98 APO 219.41 V2 26.150
 RC 106.358 GL -27.38 GP 7.64 ZAL 116.09 ZAP 121.70 ETS 174.98 ZAE 162.07 ETE 153.41 ZAC 108.48 ETC 276.50 LVI -23.28

Distance 465.390 Earth to Mars

Planetary Conic: C3 11.987 VHL 3.459 DLA -35.29 RAL 347.53 RAD 6639.0 VEL 11.491 PTH 6.54 VHP 3.487 DPA -11.84 RAP 312.00 ECC 1.1970
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 58 35 2261.91 4.55 56.43 203.67 137.41 19 36 17 1261.9 22.46 39.66
 60.00 20 43 3 1983.68 11.49 37.97 210.23 128.90 21 16 6 983.7 26.14 17.73
 67.95 23 36 39 1473.83 23.95 4.99 218.63 116.73 24 1 12 473.8 32.79 339.56
 67.95 23 36 39 1473.83 23.95 4.99 218.63 116.73 24 1 12 473.8 32.79 339.56
 67.95 23 36 39 1473.83 23.95 4.99 218.63 116.73 24 1 12 473.8 32.79 339.56
 67.95 23 36 39 1473.83 23.95 4.99 218.63 116.73 24 1 12 473.8 32.79 339.56
 67.95 23 36 39 1473.83 23.95 4.99 218.63 116.73 24 1 12 473.8 32.79 339.56

Differential Corrections: TDE -.3383 TRA -.2920 TC3 -.6289 BAU .1584 SGT 924.3 SGR 777.9 SG3 1375.1 ST 29.4 SR 16.9 SS 64.3
 RDE -.1837 RRA -.2377 RC3 .7647 FAU .18087 RRT .3144 RRF -.9347 RTF -.3205 CRT .9883 CRS .7588 CST .6594
 FDE 1.0404 FRA 6.3948 FC-13.0845 B5P 1595 SGB 1208.1 R23 -.6923 R13 -.6286 LSA 68.9 MSA 23.0 S5A .8
 BDE .3850 BRA .3765 BC3 .9901 F5P 2320 S61 993.9 S62 686.8 THA 30.57 EL1 33.8 EL2 2.2 ALF 29.70

LAUNCH DATE APR 25 1971

FLIGHT TIME 192.00

ARRIVAL DATE NOV 3 1971

HELIOCENTRIC CONIC
 RL 150.49 LAL -.00 LOL 214.15 VL 32.317 GAL -1.88 AZL 92.88 HCA 156.18 SMA 184.49 ECC .18706 INC 2.8832 V1 29.608
 RP 209.87 LAP -1.16 LOP 10.36 VP 23.352 GAP 7.35 AZP 87.36 TAL 348.02 TAP 144.21 RCA 149.98 APO 219.00 V2 26.124
 RC 109.028 GL -27.96 GP 8.14 ZAL 116.07 ZAP 119.66 ETS 175.04 ZAE 160.29 ETE 154.82 ZAC 109.07 ETC 276.34 LVI -23.47

PLANETOCENTRIC CONIC
 C3 12.004 VHL 3.465 DLA -35.75 RAL 347.99 RAD 6639.1 VEL 11.493 PTH 6.54 VHP 3.426 DPA -11.56 RAP 311.09 ECC 1.1976
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 3 49 2250.35 5.12 55.95 204.44 137.37 19 41 19 1250.3 22.99 39.08
 60.00 20 51 1 1964.76 12.30 37.03 211.20 128.69 21 23 46 964.8 26.82 16.59
 67.15 23 34 1 1487.88 24.23 6.26 219.30 117.14 23 58 49 487.9 33.21 340.80
 67.15 23 34 1 1487.88 24.23 6.26 219.30 117.14 23 58 49 487.9 33.21 340.80
 67.15 23 34 1 1487.88 24.23 6.26 219.30 117.14 23 58 49 487.9 33.21 340.80
 67.15 23 34 1 1487.88 24.23 6.26 219.30 117.14 23 58 49 487.9 33.21 340.80

DIFFERENTIAL CORRECTIONS
 TDE -.3329 TRA -.2297 TC3 -.7399 BAU .1758 SGT 886.0 SGR 833.4 SG3 1426.0 ST 28.4 SR 17.0 SS 65.6
 RDE -.1811 RRA -.2650 RC3 .8079 FAU .18677 RRT -.1768 RRF -.9484 RTF -.1718 CRT .9670 CRS .7904 CST .6134
 FDE 1.0775 FRA 6.6223 FC-13.4701 BSP 1531 SGB 1216.4 R23 -.7162 R13 -.6217 LSA 69.7 MSA 23.4 SSA .8
 BDE .3789 BRA .3507 BC3 1.0955 FSP 2406 SG1 937.0 SG2 775.7 THA 35.46 EL1 32.9 EL2 3.7 ALF 30.55

LAUNCH DATE APR 25 1971

FLIGHT TIME 194.00

ARRIVAL DATE NOV 5 1971

HELIOCENTRIC CONIC
 RL 150.49 LAL -.00 LOL 214.15 VL 32.305 GAL -1.89 AZL 92.95 HCA 157.41 SMA 184.30 ECC .18627 INC 2.9501 V1 29.608
 RP 210.10 LAP -1.13 LOP 11.59 VP 23.308 GAP 7.13 AZP 87.28 TAL 347.94 TAP 145.35 RCA 149.97 APO 218.63 V2 26.098
 RC 111.121 GL -28.58 GP 8.69 ZAL 116.05 ZAP 117.60 ETS 175.10 ZAE 158.43 ETE 155.97 ZAC 109.71 ETC 276.17 LVI -23.72

PLANETOCENTRIC CONIC
 C3 12.065 VHL 3.474 DLA -36.24 RAL 348.50 RAD 6639.1 VEL 11.495 PTH 6.54 VHP 3.369 DPA -11.23 RAP 310.15 ECC 1.1986
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 9 28 2236.45 5.72 55.44 205.31 137.31 19 46 46 1238.4 23.54 38.49
 60.00 20 59 50 1944.37 13.16 36.00 212.30 128.44 21 32 14 944.4 27.53 15.33
 66.33 23 31 32 1502.38 24.50 7.57 220.05 117.59 23 56 34 502.4 33.63 342.09
 66.33 23 31 32 1502.38 24.50 7.57 220.05 117.59 23 56 34 502.4 33.63 342.09
 66.33 23 31 32 1502.38 24.50 7.57 220.05 117.59 23 56 34 502.4 33.63 342.09
 66.33 23 31 32 1502.38 24.50 7.57 220.05 117.59 23 56 34 502.4 33.63 342.09

DIFFERENTIAL CORRECTIONS
 TDE -.3296 TRA -.1661 TC3 -.8630 BAU .1957 SGT 877.8 SGR 895.8 SG3 1474.9 ST 27.7 SR 17.4 SS 67.0
 RDE -.1793 RRA -.2951 RC3 .8525 FAU .19211 RRT .0137 RRF -.9596 RTF -.0017 CRT .9311 CRS .8220 CST .5612
 FDE 1.1217 FRA 6.8501 FC-13.7843 BSP 1541 SGB 1254.2 R23 -.2860 R13 -.9160 LSA 70.6 MSA 23.8 SSA .7
 BDE .3752 BRA .3387 BC3 1.2131 FSP 2499 SG1 897.7 SG2 875.9 THA 72.96 EL1 32.2 EL2 5.4 ALF 31.28

LAUNCH DATE APR 25 1971

FLIGHT TIME 196.00

ARRIVAL DATE NOV 7 1971

HELIOCENTRIC CONIC
 RL 150.49 LAL -.00 LOL 214.15 VL 32.295 GAL -1.89 AZL 93.02 HCA 158.64 SMA 184.13 ECC .18557 INC 3.0244 V1 29.608
 RP 210.33 LAP -1.10 LOP 12.82 VP 23.264 GAP 6.91 AZP 87.18 TAL 347.85 TAP 146.48 RCA 149.96 APO 218.30 V2 26.071
 RC 113.239 GL -29.24 GP 9.30 ZAL 116.04 ZAP 115.51 ETS 175.17 ZAE 156.51 ETE 156.89 ZAC 110.41 ETC 276.00 LVI -24.01

PLANETOCENTRIC CONIC
 C3 12.153 VHL 3.486 DLA -36.76 RAL 349.06 RAD 6639.1 VEL 11.499 PTH 6.55 VHP 3.319 DPA -10.85 RAP 309.17 ECC 1.2000
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 15 38 2226.03 6.34 54.92 206.28 137.25 19 52 44 1226.0 24.11 37.86
 60.00 21 9 44 1921.90 14.11 34.86 213.54 128.15 21 41 46 921.9 28.30 15.93
 65.47 23 29 11 1517.40 24.77 8.94 220.89 118.07 23 54 29 517.4 34.07 343.43
 65.47 23 29 11 1517.40 24.77 8.94 220.89 118.07 23 54 29 517.4 34.07 343.43
 65.47 23 29 11 1517.40 24.77 8.94 220.89 118.07 23 54 29 517.4 34.07 343.43
 65.47 23 29 11 1517.40 24.77 8.94 220.89 118.07 23 54 29 517.4 34.07 343.43

DIFFERENTIAL CORRECTIONS
 TDE -.3257 TRA -.0980 TC3 -.9868 BAU .2169 SGT 894.6 SGR 965.5 SG3 1520.6 ST 27.0 SR 17.8 SS 68.3
 RDE -.1783 RRA -.3281 RC3 .8995 FAU .19702 RRT -.1614 RRF -.9687 RTF .772 CRT .8779 CRS .8522 CST .5002
 FDE 1.1694 FRA 7.0690 FC-14.0356 BSP 1610 SGB 1316.3 R23 .4316 R13 -.8662 LSA 71.6 MSA 24.2 SSA .7
 BDE .3713 BRA .3424 BC3 1.3353 FSP 2590 SG1 1010.2 SG2 843.9 THA 122.34 EL1 31.5 EL2 7.3 ALF 32.06

LAUNCH DATE APR 25 1971

FLIGHT TIME 198.00

ARRIVAL DATE NOV 9 1971

HELIOCENTRIC CONIC
 RL 150.49 LAL -.00 LOL 214.15 VL 32.286 GAL -1.91 AZL 93.11 HCA 159.86 SMA 183.99 ECC .18495 INC 3.1069 V1 29.608
 RP 210.57 LAP -1.07 LOP 14.04 VP 23.220 GAP 6.70 AZP 87.08 TAL 347.73 TAP 147.60 RCA 149.96 APO 218.01 V2 26.044
 RC 115.380 GL -29.95 GP 9.97 ZAL 116.02 ZAP 113.40 ETS 175.27 ZAE 154.53 ETE 157.62 ZAC 111.16 ETC 275.82 LVI -24.34

PLANETOCENTRIC CONIC
 C3 12.269 VHL 3.503 DLA -37.31 RAL 349.66 RAD 6639.2 VEL 11.504 PTH 6.55 VHP 3.274 DPA -10.42 RAP 308.15 ECC 1.2019
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 22 25 2212.89 7.00 54.36 207.36 137.18 19 59 18 1212.9 24.72 37.18
 60.00 21 21 5 1896.46 15.18 33.55 214.98 127.79 21 52 42 896.5 29.16 12.32
 64.58 23 26 57 1533.15 25.04 10.38 221.84 118.61 23 52 30 533.1 34.54 344.86
 64.58 23 26 57 1533.15 25.04 10.38 221.84 118.61 23 52 30 533.1 34.54 344.86
 64.58 23 26 57 1533.15 25.04 10.38 221.84 118.61 23 52 30 533.1 34.54 344.86
 64.58 23 26 57 1533.15 25.04 10.38 221.84 118.61 23 52 30 533.1 34.54 344.86

DIFFERENTIAL CORRECTIONS
 TDE -.3221 TRA -.0264 TC3-1.1115 BAU .2400 SGT 941.7 SGR 1043.6 SG3 1562.9 ST 26.4 SR 18.4 SS 69.5
 RDE -.1778 RRA -.3640 RC3 .9512 FAU .20201 RRT -.3307 RRF -.9760 RTF .3474 CRT .8055 CRS .8794 CST .4284
 FDE 1.2118 FRA 7.2704 FC-14.2544 BSP 1736 SGB 1405.7 R23 .4229 R13 -.8800 LSA 72.5 MSA 24.7 SSA .6
 BDE .3679 BRA .3650 BC3 1.4629 FSP 2662 SG1 1152.5 SG2 804.8 THA 126.36 EL1 30.8 EL2 9.3 ALF 32.71

LAUNCH DATE APR 25 1971 FLIGHT TIME 200.00 ARRIVAL DATE NOV 11 1971

EARTH TO MARS
 DISTANCE 488.197
 HELIOCENTRIC CONIC
 RL 130.49 LAL -.00 LOL 214.15 VL 32.270 GAL -1.92 AZL 93.20 HCA 161.00 SMA 183.85 ECC .18442 INC 3.1994 V1 29.608
 RP 210.82 LAP -1.04 LOP 15.26 VP 23.177 GAP 6.49 AZP 86.97 TAL 347.61 TAP 148.69 RCA 149.95 APO 217.76 V2 26.015
 RC 117.845 GL -30.73 GP 10.70 ZAL 115.99 ZAP 111.27 ETS 175.38 ZAE 152.50 ETE 158.18 ZAC 111.99 ETC 275.64 LVI -24.73
 PLANETOCENTRIC CONIC
 C3 12.419 VHL 3.524 DLA -37.90 RAL 350.33 RAD 6639.3 VEL 11.511 PTH 6.56 VHP 3.235 DPA -9.91 RAP 307.11 ECC 1.2044
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 29 57 2198.77 7.70 53.76 206.60 137.10 20 6 38 1198.8 25.36 36.45
 60.00 21 34 27 1866.65 16.41 32.00 216.66 127.34 22 5 33 866.6 30.13 10.40
 63.63 23 24 49 1549.71 25.32 11.90 222.90 119.20 23 50 39 549.7 35.03 346.38
 63.63 23 24 49 1549.71 25.32 11.90 222.90 119.20 23 50 39 549.7 35.03 346.38
 63.63 23 24 49 1549.71 25.32 11.90 222.90 119.20 23 50 39 549.7 35.03 346.38
 63.63 23 24 49 1549.71 25.32 11.90 222.90 119.20 23 50 39 549.7 35.03 346.38
 63.63 23 24 49 1549.71 25.32 11.90 222.90 119.20 23 50 39 549.7 35.03 346.38
 DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3193 TRA .0484 TC3-1.2387 BAU .2648 SGT 1020.6 SGR 1131.1 S63 1601.2 ST 26.0 SR 19.2 S8 70.7
 RDE -.1787 RRA -.4042 RC3 1.0043 FAU .20615 RRT -.4765 RRF -.9818 RTF .4921 CRT .7147 CRS .9046 CST .3499
 FDE 1.2655 FRA 7.4653 FC-14.3712 BSP 1932 SGB 1523.4 R23 .3966 R13 -.8986 LSA 73.6 MSA 25.2 S8A .6
 BDE .3659 BRA .4071 BC3 1.5947 FSP 2736 S61 1312.7 S62 773.1 THA 128.90 EL1 30.2 EL2 11.6 ALF 35.29

LAUNCH DATE APR 25 1971 FLIGHT TIME 202.00 ARRIVAL DATE NOV 13 1971

EARTH TO MARS
 DISTANCE 490.370
 HELIOCENTRIC CONIC
 RL 150.49 LAL -.00 LOL 214.15 VL 32.271 GAL -1.94 AZL 93.30 HCA 162.30 SMA 183.74 ECC .18397 INC 3.3040 V1 29.608
 RP 211.07 LAP -1.00 LOP 16.48 VP 23.135 GAP 6.28 AZP 86.85 TAL 347.47 TAP 149.77 RCA 149.94 APO 217.54 V2 25.986
 RC 119.734 GL -31.57 GP 11.52 ZAL 115.95 ZAP 109.14 ETS 175.51 ZAE 150.40 ETE 158.58 ZAC 112.90 ETC 275.45 LVI -25.19
 PLANETOCENTRIC CONIC
 C3 12.606 VHL 3.550 DLA -38.56 RAL 351.08 RAD 6639.4 VEL 11.519 PTH 6.57 VHP 3.202 DPA -9.32 RAP 306.04 ECC 1.2075
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 38 27 2183.32 8.47 53.10 210.00 137.00 20 14 51 1183.3 26.05 35.64
 60.00 21 50 50 1829.84 17.92 30.06 218.67 126.72 22 21 20 829.8 31.29 7.96
 62.62 23 22 47 1567.34 25.61 13.53 224.10 119.87 23 48 54 567.3 35.55 348.01
 62.62 23 22 47 1567.34 25.61 13.53 224.10 119.87 23 48 54 567.3 35.55 348.01
 62.62 23 22 47 1567.34 25.61 13.53 224.10 119.87 23 48 54 567.3 35.55 348.01
 62.62 23 22 47 1567.34 25.61 13.53 224.10 119.87 23 48 54 567.3 35.55 348.01
 62.62 23 22 47 1567.34 25.61 13.53 224.10 119.87 23 48 54 567.3 35.55 348.01
 DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3159 TRA .1279 TC3-1.3621 BAU .2911 SGT 1124.8 SGR 1228.4 S63 1633.4 ST 25.8 SR 20.1 S8 71.8
 RDE -.1805 RRA -.4482 RC3 1.0620 FAU .21006 RRT -.5971 RRF -.9864 RTF .6105 CRT .6047 CRS .9261 CST .2607
 FDE 1.3149 FRA 7.6307 FC-14.4259 BSP 2185 SGB 1665.5 R23 .3656 R13 -.9166 LSA 74.6 MSA 25.7 S8A .6
 BDE .3639 BRA .4660 BC3 1.7272 FSP 2796 S61 1490.3 S62 743.7 THA 130.60 EL1 29.6 EL2 14.0 ALF 33.71

LAUNCH DATE APR 25 1971 FLIGHT TIME 204.00 ARRIVAL DATE NOV 15 1971

EARTH TO MARS
 DISTANCE 494.547
 HELIOCENTRIC CONIC
 RL 150.49 LAL -.00 LOL 214.15 VL 32.265 GAL -1.96 AZL 93.42 HCA 163.52 SMA 183.64 ECC .18360 INC 3.4231 V1 29.608
 RP 211.33 LAP -.97 LOP 17.70 VP 23.093 GAP 6.08 AZP 86.72 TAL 347.32 TAP 150.84 RCA 149.92 APO 217.36 V2 25.957
 RC 121.945 GL -32.51 GP 12.45 ZAL 115.89 ZAP 106.99 ETS 175.67 ZAE 148.26 ETE 158.65 ZAC 113.90 ETC 275.27 LVI -25.73
 PLANETOCENTRIC CONIC
 C3 12.838 VHL 3.583 DLA -39.27 RAL 351.90 RAD 6639.5 VEL 11.529 PTH 6.58 VHP 3.176 DPA -8.62 RAP 304.95 ECC 1.2113
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 48 9 2166.07 9.33 52.36 211.62 136.87 20 24 15 1166.1 26.83 34.73
 60.00 22 12 29 1780.12 19.92 27.39 221.21 125.78 22 42 9 780.1 32.76 4.58
 61.53 23 20 52 1586.22 25.90 15.30 225.46 120.62 23 47 18 586.2 36.12 349.79
 61.53 23 20 52 1586.22 25.90 15.30 225.46 120.62 23 47 18 586.2 36.12 349.79
 61.53 23 20 52 1586.22 25.90 15.30 225.46 120.62 23 47 18 586.2 36.12 349.79
 61.53 23 20 52 1586.22 25.90 15.30 225.46 120.62 23 47 18 586.2 36.12 349.79
 61.53 23 20 52 1586.22 25.90 15.30 225.46 120.62 23 47 18 586.2 36.12 349.79
 DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3137 TRA .2102 TC3-1.4853 BAU .3195 SGT 1254.3 SGR 1337.7 S63 1659.7 ST 26.0 SR 21.3 S8 72.8
 RDE -.1840 RRA -.4077 RC3 1.1215 FAU .21297 RRT -.6879 RRF -.9899 RTF .5.88 CRT .4812 CRS .8444 CST .1874
 FDE 1.3701 FRA 7.7805 FC-14.3812 BSP 2488 SGB 1833.7 R23 .3374 R13 -.9310 LSA 75.7 MSA 26.3 S8A .5
 BDE .3637 BRA .5402 BC3 1.8612 FSP 2844 S61 1685.4 S62 722.5 THA 132.33 EL1 29.2 EL2 16.6 ALF 33.87

LAUNCH DATE APR 25 1971 FLIGHT TIME 206.00 ARRIVAL DATE NOV 17 1971

EARTH TO MARS
 DISTANCE 498.726
 HELIOCENTRIC CONIC
 RL 150.49 LAL -.00 LOL 214.15 VL 32.260 GAL -1.98 AZL 93.56 HCA 164.73 SMA 183.55 ECC .18330 INC 3.5601 V1 29.608
 RP 211.60 LAP -.94 LOP 18.91 VP 23.052 GAP 5.88 AZP 86.56 TAL 347.16 TAP 151.89 RCA 149.91 APO 217.20 V2 25.926
 RC 124.177 GL -33.55 GP 13.49 ZAL 115.81 ZAP 104.85 ETS 175.86 ZAE 146.06 ETE 158.98 ZAC 115.03 ETC 275.08 LVI -26.38
 PLANETOCENTRIC CONIC
 C3 13.126 VHL 3.623 DLA -40.07 RAL 352.83 RAD 6639.6 VEL 11.541 PTH 6.59 VHP 3.157 DPA -7.80 RAP 303.83 ECC 1.2160
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 59 25 2146.41 10.31 51.52 213.52 136.71 20 35 11 1146.4 27.70 33.67
 60.00 22 48 36 1692.31 23.34 17.23 224.99 123.84 23 16 49 692.3 35.11 358.32
 60.33 23 19 1 1606.73 26.20 17.23 227.01 121.47 23 45 47 606.7 36.74 351.75
 60.33 23 19 1 1606.73 26.20 17.23 227.01 121.47 23 45 47 606.7 36.74 351.75
 60.33 23 19 1 1606.73 26.20 17.23 227.01 121.47 23 45 47 606.7 36.74 351.75
 60.33 23 19 1 1606.73 26.20 17.23 227.01 121.47 23 45 47 606.7 36.74 351.75
 60.33 23 19 1 1606.73 26.20 17.23 227.01 121.47 23 45 47 606.7 36.74 351.75
 60.33 23 19 1 1606.73 26.20 17.23 227.01 121.47 23 45 47 606.7 36.74 351.75
 DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3128 TRA .2960 TC3-1.6047 BAU .3500 SGT 1403.8 SGR 1460.5 S63 1678.2 ST 26.4 SR 22.8 S8 73.7
 RDE -.1898 RRA -.5530 RC3 1.1844 FAU .21514 RRT -.7553 RRF -.9927 RTF .7635 CRT .3508 CRS .9596 CST .0740
 FDE 1.4327 FRA 7.8980 FC-14.1901 BSP 2830 SGB 2025.8 R23 .3115 R13 -.9428 LSA 77.0 MSA 27.0 S8A .5
 BDE .3658 BRA .6272 BC3 1.9944 FSP 2884 S61 1898.0 S62 708.0 THA 133.50 EL1 29.0 EL2 19.5 ALF 33.59

LAUNCH DATE APR 25 1971

FLIGHT TIME 200.00

ARRIVAL DATE NOV 19 1971

Heliocentric Conic: RL 180.49 LAL -0.00 LOL 214.18 VL 32.256 GAL -2.00 AZL 93.72 HCA 165.94 SMA 183.48 ECC .18307 INC 3.7202 V1 29.608
 RP 211.87 LAP -.90 LOP 20.12 VP 23.011 GAP 5.69 AZP 86.39 TAL 346.98 TAP 152.92 RCA 149.89 APO 217.07 V2 25.896
 RC 126.431 GL -34.73 GP 14.68 ZAL 115.88 ZAP 102.71 ETS 176.09 ZAE 143.80 ETE 158.97 ZAC 116.30 ETC 274.90 LVI -27.15

Planetocentric Conic: CS 13.482 VHL 3.672 DLA -40.98 RAL 353.89 RAD 6639.8 VEL 11.556 PTH 6.60 VHP 3.145 DPA -6.83 RAP 302.69 ECC 1.2219
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 12 46 2123.38 11.45 80.52 215.77 136.50 20 48 10 1123.4 28.71 32.40
 59.01 23 17 18 1629.09 26.52 19.36 228.80 122.46 23 44 27 629.1 37.42 353.93
 59.01 23 17 18 1629.09 26.52 19.36 228.80 122.46 23 44 27 629.1 37.42 353.93
 59.01 23 17 18 1629.09 26.52 19.36 228.80 122.46 23 44 27 629.1 37.42 353.93
 59.01 23 17 18 1629.09 26.52 19.36 228.80 122.46 23 44 27 629.1 37.42 353.93
 59.01 23 17 18 1629.09 26.52 19.36 228.80 122.46 23 44 27 629.1 37.42 353.93

Differential Corrections: TDE -.3108 TRA .3870 TC3-1.7111 BAU .3817 SGT 1566.6 SGR 1600.5 SG3 1689.1 ST 27.1 SR 24.7 SS 74.7
 RDE -.1992 RRA -.6168 RC3 1.2478 FAU .21585 RRT -.8058 RRF -.9948 RTF .8118 CRT .2164 CRS .9719 CST -.0190
 FDE 1.5124 FRA 7.9944 FC-13.8606 BSP 3233 SGB 2239.6 R23 .2861 R13 -.9529 LSA 78.5 MSA 27.7 S5A .4
 BDE .3692 BRA .7262 BC3 2.1177 FSP 2917 SG1 2128.1 SG2 697.7 THA 134.24 EL1 28.8 EL2 22.7 ALF 33.22

LAUNCH DATE APR 25 1971

FLIGHT TIME 210.00

ARRIVAL DATE NOV 21 1971

Heliocentric Conic: RL 150.49 LAL -0.00 LOL 214.15 VL 32.252 GAL -2.03 AZL 93.91 HCA 167.14 SMA 183.43 ECC .18291 INC 3.9088 V1 29.608
 RP 212.14 LAP -.87 LOP 21.32 VP 22.970 GAP 5.49 AZP 86.19 TAL 346.79 TAP 153.93 RCA 149.88 APO 216.98 V2 25.864
 RC 128.706 GL -36.07 GP 16.05 ZAL 115.50 ZAP 100.59 ETS 176.36 ZAE 141.48 ETE 158.82 ZAC 117.75 ETC 274.73 LVI -28.09

Planetocentric Conic: CS 13.927 VHL 3.732 DLA -42.01 RAL 355.10 RAD 6640.0 VEL 11.575 PTH 6.62 VHP 3.143 DPA -5.67 RAP 301.53 ECC 1.2292
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 29 2 2035.54 12.82 49.29 218.50 136.22 21 3 57 1095.5 29.91 30.83
 57.54 23 15 47 1653.74 26.84 21.73 230.90 123.62 23 43 21 653.7 38.17 356.39
 57.54 23 15 47 1653.74 26.84 21.73 230.90 123.62 23 43 21 653.7 38.17 356.39
 57.54 23 15 47 1653.74 26.84 21.73 230.90 123.62 23 43 21 653.7 38.17 356.39
 57.54 23 15 47 1653.74 26.84 21.73 230.90 123.62 23 43 21 653.7 38.17 356.39
 57.54 23 15 47 1653.74 26.84 21.73 230.90 123.62 23 43 21 653.7 38.17 356.39

Differential Corrections: TDE -.3099 TRA .4816 TC3-1.8068 BAU .4162 SGT 1742.2 SGR 1759.8 SG3 1689.0 ST 28.2 SR 26.9 SS 75.5
 RDE -.2121 RRA -.6888 RC3 1.3162 FAU .21599 RRT -.8436 RRF -.9963 RTF .8478 CRT .0867 CRS .9811 CST -.1071
 FDE 1.5939 FRA 8.0362 FC-13.4262 BSP 3665 SGB 2476.3 R23 .2625 R13 -.9612 LSA 80.0 MSA 28.5 S5A .4
 BDE .3755 BRA .8405 BC3 2.2354 FSP 2923 SG1 2377.5 SG2 692.5 THA 134.66 EL1 28.8 EL2 26.1 ALF 31.01

LAUNCH DATE APR 25 1971

FLIGHT TIME 212.00

ARRIVAL DATE NOV 23 1971

Heliocentric Conic: RL 150.49 LAL -0.00 LOL 214.15 VL 32.250 GAL -2.06 AZL 94.14 HCA 168.34 SMA 183.38 ECC .18281 INC 4.1351 V1 29.608
 RP 212.43 LAP -.83 LOP 22.53 VP 22.930 GAP 5.30 AZP 85.95 TAL 346.58 TAP 154.93 RCA 149.86 APO 216.90 V2 25.832
 RC 130.999 GL -37.62 GP 17.66 ZAL 115.24 ZAP 98.49 ETS 176.69 ZAE 139.09 ETE 158.52 ZAC 119.43 ETC 274.57 LVI -29.23

Planetocentric Conic: CS 14.492 VHL 3.807 DLA -43.20 RAL 356.52 RAD 6640.3 VEL 11.599 PTH 6.64 VHP 3.151 DPA -4.28 RAP 300.35 ECC 1.2385
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 49 33 2080.39 14.54 47.73 221.94 135.82 21 23 53 1060.4 31.39 28.80
 55.86 23 14 34 1681.16 27.17 24.40 233.38 124.98 23 42 35 681.2 39.01 359.20
 55.86 23 14 34 1681.16 27.17 24.40 233.38 124.98 23 42 35 681.2 39.01 359.20
 55.86 23 14 34 1681.16 27.17 24.40 233.38 124.98 23 42 35 681.2 39.01 359.20
 55.86 23 14 34 1681.16 27.17 24.40 233.38 124.98 23 42 35 681.2 39.01 359.20
 55.86 23 14 34 1681.16 27.17 24.40 233.38 124.98 23 42 35 681.2 39.01 359.20

Differential Corrections: TDE -.3089 TRA .9808 TC3-1.8858 BAU .4534 SGT 1927.6 SGR 1942.8 SG3 1675.9 ST 29.5 SR 29.6 SS 76.1
 RDE -.2309 RRA -.7718 RC3 1.3861 FAU .21466 RRT -.8718 RRF -.9975 RTF .5.46 CRT -.0356 CRS .9880 CST -.1873
 FDE 1.6907 FRA 8.0230 FC-12.8235 BSP 4141 SGB 2736.8 R23 .2406 R13 -.9681 LSA 81.7 MSA 29.3 S5A .3
 BDE .3857 BRA .9659 BC3 2.3404 FSP 2906 SG1 2647.6 SG2 693.0 THA 134.74 EL1 30.0 EL2 29.0 ALF 131.46

LAUNCH DATE APR 25 1971

FLIGHT TIME 214.00

ARRIVAL DATE NOV 25 1971

Heliocentric Conic: RL 150.49 LAL -0.00 LOL 214.15 VL 32.248 GAL -2.09 AZL 94.41 HCA 169.54 SMA 183.35 ECC .18277 INC 4.4118 V1 29.608
 RP 212.72 LAP -.80 LOP 23.73 VP 22.890 GAP 5.12 AZP 85.86 TAL 346.37 TAP 155.91 RCA 149.84 APO 216.86 V2 25.799
 RC 133.312 GL -39.43 GP 19.36 ZAL 114.88 ZAP 96.42 ETS 177.08 ZAE 136.61 ETE 158.05 ZAC 121.40 ETC 274.42 LVI -30.65

Planetocentric Conic: CS 15.224 VHL 3.902 DLA -44.60 RAL 358.21 RAD 6640.6 VEL 11.631 PTH 6.67 VHP 3.173 DPA -2.58 RAP 299.14 ECC 1.2505
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 17 1 2012.73 16.85 45.57 226.46 135.18 21 50 34 1012.7 33.34 25.93
 53.95 23 13 47 1712.14 27.48 27.45 236.36 126.62 23 42 20 712.1 39.93 2.45
 53.95 23 13 47 1712.14 27.48 27.45 236.36 126.62 23 42 20 712.1 39.93 2.45
 53.95 23 13 47 1712.14 27.48 27.45 236.36 126.62 23 42 20 712.1 39.93 2.45
 53.95 23 13 47 1712.14 27.48 27.45 236.36 126.62 23 42 20 712.1 39.93 2.45
 53.95 23 13 47 1712.14 27.48 27.45 236.36 126.62 23 42 20 712.1 39.93 2.45

Differential Corrections: TDE -.3076 TRA .6845 TC3-1.9435 BAU .4944 SGT 2120.6 SGR 2155.4 SG3 1646.8 ST 31.0 SR 32.9 SS 76.6
 RDE -.2567 RRA -.8685 RC3 1.4573 FAU .21181 RRT -.8930 RRF -.9983 RTF .8947 CRT -.1405 CRS .9928 CST -.2574
 FDE 1.8076 FRA 7.9359 FC-12.0450 BSP 4656 SGB 3023.6 R23 .2201 R13 -.9738 LSA 83.7 MSA 30.2 S5A .3
 BDE .4020 BRA 1.1058 BC3 2.4291 FSP 2860 SG1 2941.6 SG2 699.4 THA 134.48 EL1 34.4 EL2 29.5 ALF 123.51

LAUNCH DATE APR 25 1971

FLIGHT TIME 216.00

ARRIVAL DATE NOV 27 1971

HELIOCENTRIC CONIC

RL 150.49 LAL -.00 LOL 214.19 VL 32.246 GAL -2.13 AZL 94.76 HCA 170.74 SMA 183.33 ECC .18279 INC 4.7584 V1 29.608
RP 213.01 LAP -.76 LOP 24.92 VP 22.851 GAP 4.93 AZP 85.30 TAL 346.14 TAP 156.88 RCA 149.82 APO 216.84 V2 25.786
RC 135.643 GL -41.82 GP 21.85 ZAL 114.37 ZAP 94.40 ETS 177.57 ZAE 134.00 ETE 157.38 ZAC 123.75 ETC 274.30 LVI -32.41

PLANETOCENTRIC CONIC

C3 16.199 VHL 4.025 DLA -46.25 RAL .29 RAD 6641.1 VEL 11.672 PTH 6.71 VHP 3.214 DPA -.49 RAP 297.90 ECC 1.2666
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 58 45 1937.02 20.47 42.01 233.05 133.94 22 31 2 937.0 36.28 21.08
51.74 23 13 50 1747.47 27.75 30.97 240.04 128.62 23 42 57 747.5 40.95 6.30
51.74 23 13 50 1747.47 27.75 30.97 240.04 128.62 23 42 57 747.5 40.95 6.30
51.74 23 13 50 1747.47 27.75 30.97 240.04 128.62 23 42 57 747.5 40.95 6.30
51.74 23 13 50 1747.47 27.75 30.97 240.04 128.62 23 42 57 747.5 40.95 6.30
51.74 23 13 50 1747.47 27.75 30.97 240.04 128.62 23 42 57 747.5 40.95 6.30

DIFFERENTIAL CORRECTIONS

TDE -.3023 TRA .7955 TC3-1.9675 BAU .5390
RDE -.3019 RRA -.9834 RC3 1.5247 FAU .20662
FDE 1.9626 FRA 7.7606 FC-11.0427 BSP 5240
BDE .4272 BRA 1.2648 BC3 2.4891 FSP 2779

DISTANCE 519.842

EARTH TO MARS

MID-COURSE EXECUTION ACCURACY

SGT 2318.5 SGR 2406.2 SG3 1598.0
RRT -.9096 RRF -.9989 RTF .9104
SGB 3341.5 R23 .1999 R13 -.9787
SG1 3265.2 SG2 710.0 THA 133.83

ORBIT DETERMINATION ACCURACY

ST 32.7 SR 37.2 SS 77.1
CRT -.2362 CRS .9961 CST -.3204
LSA 86.3 MSA 31.1 SSA .2
EL1 39.5 EL2 30.0 ALF 120.66

LAUNCH DATE APR 25 1971

FLIGHT TIME 218.00

ARRIVAL DATE NOV 29 1971

HELIOCENTRIC CONIC

RL 150.49 LAL -.00 LOL 214.15 VL 32.245 GAL -2.17 AZL 95.21 HCA 171.93 SMA 183.31 ECC .18287 INC 5.2049 V1 29.608
RP 213.31 LAP -.73 LOP 26.11 VP 22.812 GAP 4.75 AZP 84.85 TAL 345.90 TAP 157.83 RCA 149.79 APO 216.84 V2 25.732
RC 137.991 GL -44.25 GP 24.66 ZAL 113.67 ZAP 92.45 ETS 178.17 ZAE 131.22 ETE 156.49 ZAC 126.62 ETC 274.22 LVI -34.64

PLANETOCENTRIC CONIC

C3 17.952 VHL 4.189 DLA -48.23 RAL 2.92 RAD 6641.7 VEL 11.730 PTH 6.76 VHP 3.283 DPA 2.13 RAP 296.62 ECC 1.2889
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
49.15 23 15 13 1788.65 27.91 35.08 244.66 131.08 23 45 1 788.6 42.04 10.93
49.15 23 15 13 1788.65 27.91 35.08 244.66 131.08 23 45 1 788.6 42.04 10.93
49.15 23 15 13 1788.65 27.91 35.08 244.66 131.08 23 45 1 788.6 42.04 10.93
49.15 23 15 13 1788.65 27.91 35.08 244.66 131.08 23 45 1 788.6 42.04 10.93
49.15 23 15 13 1788.65 27.91 35.08 244.66 131.08 23 45 1 788.6 42.04 10.93
49.15 23 15 13 1788.65 27.91 35.08 244.66 131.08 23 45 1 788.6 42.04 10.93

DIFFERENTIAL CORRECTIONS

TDE -.2922 TRA .9113 TC3-1.9574 BAU .5906
RDE -.3724 RRA-1.1223 RC3 1.5822 FAU .19840
FDE 2.1790 FRA 7.4653 FC3-9.7861 BSP 5881
BDE .4733 BRA 1.4457 BC3 2.5170 FSP 2660

DISTANCE 523.826

EARTH TO MARS

MID-COURSE EXECUTION ACCURACY

SGT 2920.0 SGR 2706.7 SG3 1523.8
RRT -.9210 RRF -.9993 RTF .9211
SGB 3698.2 R23 .1821 R13 -.9826
SG1 3624.9 SG2 733.0 THA 132.78

ORBIT DETERMINATION ACCURACY

ST 34.5 SR 43.0 SS 77.8
CRT -.3140 CRS .9982 CST -.3701
LSA 89.8 MSA 32.0 SSA .2
EL1 45.7 EL2 30.8 ALF 117.47

LAUNCH DATE APR 25 1971

FLIGHT TIME 220.00

ARRIVAL DATE DEC 1 1971

HELIOCENTRIC CONIC

RL 150.49 LAL -.00 LOL 214.15 VL 32.245 GAL -2.21 AZL 95.80 HCA 173.12 SMA 183.31 ECC .18300 INC 5.8028 V1 29.608
RP 213.61 LAP -.69 LOP 27.30 VP 22.773 GAP 4.57 AZP 84.24 TAL 345.66 TAP 156.77 RCA 149.77 APO 216.86 V2 25.697
RC 140.356 GL -47.49 GP 28.17 ZAL 112.67 ZAP 90.61 ETS 178.92 ZAE 128.20 ETE 155.32 ZAC 130.18 ETC 274.19 LVI -37.48

PLANETOCENTRIC CONIC

C3 19.532 VHL 4.419 DLA -50.82 RAL 6.36 RAD 6642.6 VEL 11.813 PTH 6.83 VHP 3.394 DPA 5.45 RAP 295.27 ECC 1.3214
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
46.09 23 19 2 1837.69 27.84 39.93 250.68 134.15 23 49 39 837.7 43.12 16.63
46.09 23 19 2 1837.69 27.84 39.93 250.68 134.15 23 49 39 837.7 43.12 16.63
46.09 23 19 2 1837.69 27.84 39.93 250.68 134.15 23 49 39 837.7 43.12 16.63
46.09 23 19 2 1837.69 27.84 39.93 250.68 134.15 23 49 39 837.7 43.12 16.63
46.09 23 19 2 1837.69 27.84 39.93 250.68 134.15 23 49 39 837.7 43.12 16.63
46.09 23 19 2 1837.69 27.84 39.93 250.68 134.15 23 49 39 837.7 43.12 16.63

DIFFERENTIAL CORRECTIONS

TDE -.2658 TRA 1.0358 TC3-1.8958 BAU .6525
RDE -.4888 RRA-1.2867 RC3 1.6282 FAU .18718
FDE 2.4549 FRA 6.9662 FC3-8.2957 BSP 6562
BDE .5562 BRA 1.6518 BC3 2.4988 FSP 2451

DISTANCE 528.009

EARTH TO MARS

MID-COURSE EXECUTION ACCURACY

SGT 2721.3 SGR 3063.8 SG3 1410.8
RRT -.9305 RRF -.9996 RTF .9300
SGB 4097.7 R23 .1640 R13 -.9881
SG1 4027.0 SG2 758.1 THA 131.36

ORBIT DETERMINATION ACCURACY

ST 36.2 SR 50.6 SS 78.2
CRT -.3884 CRS .9993 CST -.4213
LSA 94.5 MSA 32.6 SSA .1
EL1 53.7 EL2 31.4 ALF 114.34

LAUNCH DATE APR 25 1971

FLIGHT TIME 222.00

ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC

RL 150.49 LAL -.00 LOL 214.15 VL 32.246 GAL -2.25 AZL 96.85 HCA 174.30 SMA 183.32 ECC .18318 INC 6.6451 V1 29.608
RP 213.92 LAP -.66 LOP 28.49 VP 22.734 GAP 4.39 AZP 83.39 TAL 345.40 TAP 159.70 RCA 149.74 APO 216.90 V2 25.662
RC 142.739 GL -51.59 GP 32.64 ZAL 111.27 ZAP 88.94 ETS 179.87 ZAE 124.82 ETE 153.83 ZAC 134.69 ETC 274.28 LVI -41.15

PLANETOCENTRIC CONIC

C3 22.843 VHL 4.780 DLA -53.51 RAL 11.21 RAD 6644.0 VEL 11.943 PTH 6.95 VHP 3.579 DPA 9.74 RAP 293.82 ECC 1.3728
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
42.48 23 27 19 1898.13 27.27 45.70 258.78 138.00 23 58 57 898.1 43.98 23.81
42.48 23 27 19 1898.13 27.27 45.70 258.78 138.00 23 58 57 898.1 43.98 23.81
42.48 23 27 19 1898.13 27.27 45.70 258.78 138.00 23 58 57 898.1 43.98 23.81
42.48 23 27 19 1898.13 27.27 45.70 258.78 138.00 23 58 57 898.1 43.98 23.81
42.48 23 27 19 1898.13 27.27 45.70 258.78 138.00 23 58 57 898.1 43.98 23.81
42.48 23 27 19 1898.13 27.27 45.70 258.78 138.00 23 58 57 898.1 43.98 23.81

DIFFERENTIAL CORRECTIONS

TDE -.2036 TRA 1.1667 TC3-1.7755 BAU .7338
RDE -.7026 RRA-1.4826 RC3 1.6486 FAU .17155
FDE 2.8419 FRA 6.1996 FC3-6.5561 BSP 7232
BDE .7315 BRA 1.8866 BC3 2.4228 FSP 2134

DISTANCE 532.190

EARTH TO MARS

MID-COURSE EXECUTION ACCURACY

SGT 2914.3 SGR 3490.4 SG3 1246.4
RRT -.9370 RRF -.9998 RTF .9358
SGB 4547.1 R23 .1476 R13 -.9888
SG1 4477.3 SG2 793.6 THA 129.52

ORBIT DETERMINATION ACCURACY

ST 37.6 SR 61.8 SS 78.7
CRT -.4661 CRS .9999 CST -.4806
LSA 101.8 MSA 32.5 SSA .1
EL1 65.1 EL2 31.6 ALF 110.97

LAUNCH DATE APR 25 1971

FLIGHT TIME 224.00

ARRIVAL DATE DEC 5 1971

HELIOCENTRIC CONIC

RL 150.49 LAL -.00 LOL 214.15 VL 32.247 GAL -2.29 AZL 97.92 HCA 175.48 SMA 183.34 ECC .18341 INC 7.9234 V1 29.608
RP 214.24 LAP -.62 LOP 29.87 VP 22.698 GAP 4.21 AZP 82.10 TAL 345.13 TAP 160.61 RCA 149.71 APO 216.97 V2 25.027
RC 145.138 GL -36.88 GP 38.41 ZAL 109.27 ZAP 87.55 ETS 181.05 ZAE 120.91 ETE 151.99 ZAC 140.49 ETC 274.57 LVI -45.91

PLANETOCENTRIC CONIC

C3 28.133 VHL 5.304 DLA -56.93 RAL 18.44 RAD 8846.3 VEL 12.189 PTH 7.13 VHP 3.908 DPA 15.33 RAP 292.24 ECC 1.4630
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
38.29 23 44 24 1976.25 25.66 52.51 270.20 142.75 24 17 20 976.2 44.08 32.90
38.29 23 44 24 1976.25 25.66 52.51 270.20 142.75 24 17 20 976.2 44.08 32.90
38.29 23 44 24 1976.25 25.66 52.51 270.20 142.75 24 17 20 976.2 44.08 32.90
38.29 23 44 24 1976.25 25.66 52.51 270.20 142.75 24 17 20 976.2 44.08 32.90
38.29 23 44 24 1976.25 25.66 52.51 270.20 142.75 24 17 20 976.2 44.08 32.90
38.29 23 44 24 1976.25 25.66 52.51 270.20 142.75 24 17 20 976.2 44.08 32.90

DIFFERENTIAL CORRECTIONS

TDE -.0152 TRA 1.3321 TC3-1.5464 BAU .8289
RDE-1.1758 RRA-1.7385 RC3 1.5704 FAU .14485
FDE 3.4664 FRA 5.1425 FC3-4.4574 BSP 8272
BDE 1.1759 BRA 2.1902 BC3 2.2040 FSP 1772

DISTANCE 536.367

SGT 3105.8 SGR 4029.1 SG3 1022.4
RRT -.9420 RRF -.9999 RTF .9399
SGB 5087.2 R23 .1315 R13 -.9912
SG1 5017.9 SG2 836.7 THA 127.19

EARTH TO MARS

ST 39.6 SR 81.9 SS 81.6
CRT -.6149 CRS 1.0000 CST -.6162
LSA 118.3 MSA 30.5 SSA .1
EL1 86.0 EL2 29.8 ALF 108.94

LAUNCH DATE APR 25 1971

FLIGHT TIME 226.00

ARRIVAL DATE DEC 7 1971

HELIOCENTRIC CONIC

RL 150.49 LAL -.00 LOL 214.15 VL 32.249 GAL -2.33 AZL 100.09 HCA 176.65 SMA 183.36 ECC .18369 INC10.0874 V1 29.608
RP 214.55 LAP -.59 LOP 30.85 VP 22.657 GAP 4.03 AZP 79.93 TAL 344.86 TAP 161.51 RCA 149.68 APO 217.05 V2 25.591
RC 147.555 GL -63.90 GP 45.88 ZAL 106.41 ZAP 86.65 ETS 182.44 ZAE 116.28 ETE 149.80 ZAC 147.95 ETC 275.33 LVI -51.95

PLANETOCENTRIC CONIC

C3 39.507 VHL 6.285 DLA -60.67 RAL 30.25 RAD 6650.5 VEL 12.625 PTH 7.48 VHP 4.555 DPA 22.61 RAP 290.47 ECC 1.6502
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
33.79 0 23 49 2083.87 21.87 60.17 287.20 148.15 0 58 33 1083.9 42.13 43.92
33.79 0 23 49 2083.87 21.87 60.17 287.20 148.15 0 58 33 1083.9 42.13 43.92
33.79 0 23 49 2083.87 21.87 60.17 287.20 148.15 0 58 33 1083.9 42.13 43.92
33.79 0 23 49 2083.87 21.87 60.17 287.20 148.15 0 58 33 1083.9 42.13 43.92
33.79 0 23 49 2083.87 21.87 60.17 287.20 148.15 0 58 33 1083.9 42.13 43.92
33.79 0 23 49 2083.87 21.87 60.17 287.20 148.15 0 58 33 1083.9 42.13 43.92

DIFFERENTIAL CORRECTIONS

TDE .4917 TRA 1.5169 TC3-1.2353 BAU .9923
RDE-2.2678 RRA-2.0047 RC3 1.4154 FAU .11123
FDE 4.0919 FRA 3.5614 FC3-2.4375 BSP 8988
BDE 2.3205 BRA 2.5139 BC3 1.8787 FSP 1192

MID-COURSE EXECUTION ACCURACY

SGT 3253.2 SGR 4621.7 SG3 708.5
RRT -.9460 RRF -.9999 RTF .9426
SGB 5651.9 R23 .1175 R13 -.9930
SG1 5584.1 SG2 872.8 THA 124.63

ORBIT DETERMINATION ACCURACY

ST 48.0 SR 117.6 SS 83.2
CRT -.8321 CRS 1.0000 CST -.8284
LSA 149.6 MSA 25.7 SSA .0
EL1 124.5 EL2 25.1 ALF 109.58

LAUNCH DATE APR 25 1971

FLIGHT TIME 236.00

ARRIVAL DATE DEC 17 1971

HELIOCENTRIC CONIC

RL 150.49 LAL -.00 LOL 214.15 VL 32.264 GAL -2.62 AZL 80.94 HCA 182.57 SMA 183.61 ECC .18590 INC 9.0593 V1 29.608
RP 216.21 LAP -.41 LOP 36.69 VP 22.468 GAP 3.20 AZP 99.05 TAL 343.13 TAP 165.70 RCA 149.48 APO 217.74 V2 25.405
RC 159.881 GL 59.83 GP -51.39 ZAL 109.28 ZAP 82.28 ETS 168.93 ZAE 107.65 ETE 203.97 ZAC 51.01 ETC 272.54 LVI 37.12

PLANETOCENTRIC CONIC

C3 34.462 VHL 5.870 DLA 47.92 RAL 316.48 RAD 6648.7 VEL 12.424 PTH 7.33 VHP 5.407 DPA -72.36 RAP 321.47 ECC 1.5672
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
49.55 8 13 28 4593.98 -20.16 211.89 207.14 45.55 9 30 2 3594.0 -36.16 191.20
49.55 8 13 28 4593.98 -20.16 211.89 207.14 45.55 9 30 2 3594.0 -36.16 191.20
49.55 8 13 28 4593.98 -20.16 211.89 207.14 45.55 9 30 2 3594.0 -36.16 191.20
49.55 8 13 28 4593.98 -20.16 211.89 207.14 45.55 9 30 2 3594.0 -36.16 191.20
49.55 8 13 28 4593.98 -20.16 211.89 207.14 45.55 9 30 2 3594.0 -36.16 191.20
49.55 8 13 28 4593.98 -20.16 211.89 207.14 45.55 9 30 2 3594.0 -36.16 191.20

DIFFERENTIAL CORRECTIONS

TDE 3.8068 TRA .8236 TC3-1.7460 BAU 1.0828
RDE 3.8429 RRA 1.7841 RC3-1.5732 FAU .06865
FDE 3.9807 FRA 1.9893 FC3-1.7247 BSP 11079
BDE 5.4105 BRA 1.9650 BC3 2.3502 FSP 820

MID-COURSE EXECUTION ACCURACY

SGT 4411.2 SGR 4922.5 SG3 453.8
RRT .9600 RRF .9994 RTF .525
SGB 6809.8 R23 .1503 R13 .9884
SG1 6544.2 SG2 929.2 THA 48.26

ORBIT DETERMINATION ACCURACY

ST 186.8 SR 191.6 SS 93.0
CRT .9941 CRS -.9999 CST -.9924
LSA 282.8 MSA 15.7 SSA .1
EL1 267.1 EL2 14.5 ALF 45.75

LAUNCH DATE APR 25 1971

FLIGHT TIME 238.00

ARRIVAL DATE DEC 19 1971

HELIOCENTRIC CONIC

RL 150.49 LAL -.00 LOL 214.15 VL 32.268 GAL -2.68 AZL 84.31 HCA 183.72 SMA 183.68 ECC .18643 INC 5.6933 V1 29.608
RP 216.58 LAP -.37 LOP 37.85 VP 22.431 GAP 3.04 AZP 95.68 TAL 342.81 TAP 166.33 RCA 149.44 APO 217.92 V2 25.366
RC 162.390 GL 45.35 GP -42.53 ZAL 115.99 ZAP 79.12 ETS 168.70 ZAE 109.48 ETE 199.33 ZAC 59.90 ETC 272.00 LVI 29.54

PLANETOCENTRIC CONIC

C3 20.209 VHL 4.495 DLA 34.73 RAL 324.74 RAD 6642.9 VEL 11.841 PTH 6.86 VHP 4.322 DPA -64.63 RAP 309.26 ECC 1.3326
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 12 10 5 3878.47 -45.77 163.98 215.55 75.28 13 14 43 2878.5 -46.41 128.87
60.00 11 47 46 3938.10 -35.85 165.25 211.49 70.20 12 53 24 2938.1 -40.30 135.08
68.94 10 13 30 4218.33 -19.88 179.54 203.32 60.91 11 23 49 3218.3 -30.09 155.53
68.94 10 13 30 4218.33 -19.88 179.54 203.32 60.91 11 23 49 3218.3 -30.09 155.53
68.94 10 13 30 4218.33 -19.88 179.54 203.32 60.91 11 23 49 3218.3 -30.09 155.53
68.94 10 13 30 4218.33 -19.88 179.54 203.32 60.91 11 23 49 3218.3 -30.09 155.53

DIFFERENTIAL CORRECTIONS

TDE 2.5919 TRA 1.1879 TC3-2.8955 BAU .9596
RDE 2.1753 RRA 1.6842 RC3-2.0571 FAU .10673
FDE 4.6099 FRA 3.7635 FC3-4.5724 BSP 10357
BDE 3.3838 BRA 2.0610 BC3 3.5519 FSP 1414

MID-COURSE EXECUTION ACCURACY

SGT 4591.7 SGR 4234.5 SG3 798.8
RRT .9662 RRF .9997 RTF .9625
SGB 6246.2 R23 .1535 R13 .9879
SG1 6193.5 SG2 809.5 THA 42.60

ORBIT DETERMINATION ACCURACY

ST 167.5 SR 144.1 SS 114.5
CRT .9940 CRS -.9999 CST -.9923
LSA 248.5 MSA 14.3 SSA .1
EL1 220.6 EL2 12.0 ALF 40.67

LAUNCH DATE APR 25 1971

FLIGHT TIME 240.00

ARRIVAL DATE DEC 21 1971

HELIOCENTRIC CONIC
 RL 150.49 LAL -.00 LOL 214.15 VL 32.272 GAL -2.74 AZL 86.08 HCA 184.86 SMA 183.76 ECC .18701 INC 3.9181 V1 29.608
 RP 216.91 LAP -.33 LOP 39.00 VP 22.394 GAP 2.87 AZP 93.90 TAL 342.48 TAP 167.34 RCA 149.39 APO 218.12 V2 25.327
 RC 164.912 GL 34.15 GP -35.52 ZAL 120.69 ZAP 76.39 ETS 168.99 ZAE 110.16 ETE 195.55 ZAC 66.94 ETC 271.71 LVI 23.41

DISTANCE 569.865 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 13.401 VHL 3.924 DLA 24.49 RAL 330.00 RAD 6640.7 VEL 11.638 PTH 6.68 VHP 3.840 DPA -58.10 RAP 303.68 ECC 1.2535
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 29 45 3575.25 -47.14 135.16 205.44 97.33 14 29 20 2575.3 -36.80 103.83
 60.00 13 37 52 3553.62 -40.29 133.89 206.12 90.90 14 37 5 2553.6 -35.52 103.87
 70.00 13 51 26 3513.62 -33.69 130.40 205.87 85.49 14 50 0 2513.6 -32.21 101.60
 80.00 14 18 29 3428.77 -28.67 123.27 205.16 81.30 15 15 38 2428.8 -29.40 95.87
 90.00 15 18 37 3234.58 -26.41 108.58 204.73 79.51 16 12 31 2234.6 -28.17 81.71
 100.00 17 1 21 2903.24 -28.67 84.64 205.16 81.30 17 49 44 1903.2 -29.40 57.24
 110.00 18 50 53 2560.44 -33.89 59.32 205.87 85.49 19 33 33 1560.4 -32.21 30.71

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 4785.2 SGR 3620.7 SG3 1056.2 ST 150.5 SR 110.3 SS 119.6
 RRT .9703 RRF .9996 RTF .9679 CRT .9947 CRS -.9996 CST -.9926
 SGB 6000.6 R23 .1637 R13 .9862 LSA 221.3 MSA 12.6 SSA .2
 SGI 5959.3 SG2 703.0 THA 36.68 EL1 186.4 EL2 9.1 ALF 36.19

DIFFERENTIAL CORRECTIONS
 TDE 2.0058 TRA 1.4398 TC3-3.8193 BAU .9053
 RDE 1.4269 RRA 1.5070 RC3-2.1765 FAU .13297
 FDE 4.6322 FRA 5.1878 FC3-7.4746 BSP 10052
 BDE 2.4616 BRA 2.0842 BC3 4.3969 FSP 1883

LAUNCH DATE APR 25 1971

FLIGHT TIME 242.00

ARRIVAL DATE DEC 23 1971

HELIOCENTRIC CONIC
 RL 150.49 LAL -.00 LOL 214.15 VL 32.277 GAL -2.80 AZL 87.18 HCA 186.01 SMA 183.84 ECC .18762 INC 2.8215 V1 29.608
 RP 217.26 LAP -.30 LOP 40.15 VP 22.357 GAP 2.71 AZP 92.81 TAL 342.13 TAP 168.14 RCA 149.34 APO 218.33 V2 25.288
 RC 167.446 GL 25.69 GP -30.13 ZAL 123.81 ZAP 74.02 ETS 169.42 ZAE 110.02 ETE 192.54 ZAC 72.34 ETC 271.92 LVI 18.67

DISTANCE 574.025 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 13.413 VHL 3.662 DLA 16.78 RAL 333.71 RAD 6639.8 VEL 11.553 PTH 6.60 VHP 3.594 DPA -52.99 RAP 300.52 ECC 1.2207
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 18 55 3380.89 -43.93 117.60 199.39 110.50 15 15 16 2380.9 -31.47 91.20
 60.00 14 39 14 3326.80 -38.33 115.00 201.67 103.54 15 34 40 2326.8 -28.97 88.24
 70.00 15 9 17 3238.32 -33.30 109.02 202.85 98.07 16 3 15 2238.3 -26.61 82.37
 80.00 15 56 27 3090.53 -29.57 98.29 203.32 94.32 16 47 57 2090.5 -24.81 71.88
 90.00 17 8 18 2858.59 -28.14 81.35 203.43 92.94 17 55 56 1858.6 -24.10 55.06
 100.00 18 39 18 2565.00 -29.57 59.66 203.32 94.32 19 22 3 1565.0 -24.81 33.25
 110.00 20 8 43 2285.14 -33.30 37.94 202.85 98.07 20 46 48 1285.1 -26.61 11.29

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 4973.0 SGR 3098.9 SG3 1226.6 ST 136.5 SR 86.6 SS 117.9
 RRT .9725 RRF .9995 RTF .9708 CRT .9961 CRS -.9996 CST -.9934
 SGB 5859.5 R23 .1744 R13 .9842 LSA 199.8 MSA 10.7 SSA .3
 SGI 5827.0 SG2 616.1 THA 31.61 EL1 161.5 EL2 6.4 ALF 32.36

DIFFERENTIAL CORRECTIONS
 TDE 1.6672 TRA 1.6254 TC3-4.5020 BAU .8903
 RDE 1.0261 RRA 1.3230 RC3-2.0943 FAU .15099
 FDE 4.4478 FRA 6.1655 FC3-9.7460 BSP 9757
 BDE 1.9577 BRA 2.0958 BC3 4.9653 FSP 2181

LAUNCH DATE APR 25 1971

FLIGHT TIME 244.00

ARRIVAL DATE DEC 25 1971

HELIOCENTRIC CONIC
 RL 150.49 LAL -.00 LOL 214.15 VL 32.283 GAL -2.86 AZL 87.92 HCA 187.15 SMA 183.92 ECC .18828 INC 2.0770 V1 29.608
 RP 217.61 LAP -.28 LOP 41.30 VP 22.320 GAP 2.54 AZP 92.06 TAL 341.76 TAP 168.92 RCA 149.29 APO 218.55 V2 25.249
 RC 169.902 GL 19.30 GP -25.97 ZAL 125.89 ZAP 71.92 ETS 169.86 ZAE 109.37 ETE 190.18 ZAC 76.52 ETC 271.39 LVI 15.01

DISTANCE 578.183 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 12.521 VHL 3.538 DLA 10.99 RAL 336.52 RAD 6639.3 VEL 11.515 PTH 6.56 VHP 3.459 DPA -49.02 RAP 298.47 ECC 1.2061
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 53 6 3247.82 -40.19 107.02 196.83 117.98 15 47 14 2247.8 -25.69 83.81
 60.00 15 20 40 3174.48 -35.24 103.27 199.68 110.97 16 13 34 2174.5 -23.54 79.02
 70.00 15 59 21 3080.64 -30.81 95.78 201.42 105.52 16 50 22 2080.6 -21.54 71.07
 80.00 16 55 7 2885.96 -27.60 83.43 202.32 101.88 17 43 13 1886.0 -20.04 58.57
 90.00 18 11 1 2640.99 -26.38 65.70 202.59 100.56 18 55 2 1641.0 -19.47 40.81
 100.00 19 37 59 2360.43 -27.60 44.80 202.32 101.88 20 17 19 1360.4 -20.04 19.94
 110.00 20 58 47 2107.46 -30.81 24.70 201.42 105.52 21 33 55 1107.5 -21.54 359.99

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 5162.1 SGR 2674.9 SG3 1335.0 ST 126.4 SR 70.3 SS 114.4
 RRT .9739 RRF .9992 RTF .5.28 CRT .9979 CRS -.9992 CST -.9947
 SGB 5814.0 R23 .1816 R13 .9825 LSA 184.1 MSA 8.8 SSA .4
 SGI 5788.7 SG2 541.1 THA 27.03 EL1 144.5 EL2 4.0 ALF 29.03

DIFFERENTIAL CORRECTIONS
 TDE 1.4806 TRA 1.7881 TC3-4.9706 BAU .8917
 RDE .7916 RRA 1.1820 RC3-1.9163 FAU .16261
 FDE 4.2323 FRA 6.0716 FC-11.2435 BSP 9832
 BDE 1.6813 BRA 2.1808 BC3 5.3272 FSP 2386

LAUNCH DATE APR 25 1971

FLIGHT TIME 246.00

ARRIVAL DATE DEC 27 1971

HELIOCENTRIC CONIC
 RL 150.49 LAL -.00 LOL 214.15 VL 32.288 GAL -2.93 AZL 88.46 HCA 188.29 SMA 184.02 ECC .18897 INC 1.5388 V1 29.608
 RP 217.97 LAP -.22 LOP 42.44 VP 22.283 GAP 2.38 AZP 91.52 TAL 341.39 TAP 169.69 RCA 149.24 APO 218.79 V2 25.209
 RC 172.547 GL 14.41 GP -22.70 ZAL 127.32 ZAP 70.00 ETS 170.27 ZAE 108.41 ETE 188.33 ZAC 79.80 ETC 271.20 LVI 12.15

DISTANCE 582.342 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 12.130 VHL 3.483 DLA 6.61 RAL 338.74 RAD 6639.1 VEL 11.498 PTH 6.55 VHP 3.382 DPA -45.88 RAP 297.00 ECC 1.1996
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 18 30 3153.04 -36.94 100.28 196.07 122.43 16 11 3 2153.0 -21.32 79.02
 60.00 15 51 0 3066.56 -32.33 95.59 199.16 115.50 16 42 6 2066.6 -19.33 73.00
 70.00 16 35 20 2936.15 -28.21 87.03 201.17 110.10 17 24 16 1936.1 -17.49 63.69
 80.00 17 36 23 2744.90 -25.23 75.63 202.27 106.52 18 22 8 1744.9 -16.12 49.93
 90.00 18 54 40 2492.31 -24.12 55.41 202.62 105.23 19 36 12 1492.3 -15.60 31.61
 100.00 20 19 15 2219.37 -25.23 34.99 202.27 106.52 20 56 15 1219.4 -16.12 11.30
 110.00 21 34 46 1982.97 -28.21 15.95 201.17 110.10 22 7 49 983.0 -17.49 352.61

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 5348.2 SGR 2327.3 SG3 1399.0 ST 119.3 SR 58.4 SS 110.0
 RRT .9758 RRF .9987 RTF .9752 CRT .9993 CRS -.9985 CST -.9959
 SGB 5832.6 R23 .1818 R13 .9820 LSA 172.3 MSA 7.3 SSA .6
 SGI 5813.8 SG2 468.5 THA 23.17 EL1 132.8 EL2 2.0 ALF 26.09

DIFFERENTIAL CORRECTIONS
 TDE 1.3264 TRA 1.9301 TC3-5.2991 BAU .9039
 RDE .6398 RRA 1.0211 RC3-1.7283 FAU .17108
 FDE 4.0049 FRA 7.3070 FC-12.2097 BSP 9587
 BDE 1.4727 BRA 2.1835 BC3 5.5738 FSP 2443

LAUNCH DATE APR 25 1971

FLIGHT TIME 248.00

ARRIVAL DATE DEC 29 1971

HELIOCENTRIC CONIC

RL 150.49 LAL -.00 LOL 214.15 VL 32.294 GAL -3.00 AZL 88.87 HCA 189.43 SMA 184.11 ECC .18970 INC 1.1318 V1 29.608
 RP 218.33 LAP -.19 LOP 43.58 VP 22.246 GAP 2.22 AZP 91.12 TAL 341.01 TAP 170.45 RCA 149.19 APO 219.04 V2 25.169
 RC 175.114 GL 10.61 GP -20.09 ZAL 128.37 ZAP 68.24 ETP 170.64 ZAE 107.28 ETE 186.85 ZAC 82.42 ETC 271.20 LVI 9.86

DISTANCE 586.493

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 11.999 VHL 3.464 DLA 3.25 RAL 340.57 RAD 6839.1 VEL 11.492 PTH 6.54 VHP 3.340 DPA -43.37 RAP 295.90 ECC 1.1975
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 38 12 3083.61 -34.31 95.74 196.17 125.25 18 29 35 2083.6 -18.02 75.72
 60.00 16 14 20 2987.48 -29.89 90.32 199.41 118.40 17 4 7 1987.5 -16.11 68.81
 70.00 17 2 44 2845.12 -25.93 80.94 201.56 113.06 17 50 9 1845.1 -14.33 58.53
 80.00 18 7 32 2842.20 -23.07 86.77 202.79 109.90 18 51 34 1642.2 -13.02 43.89
 90.00 19 27 26 2384.34 -22.00 48.21 203.19 108.23 20 7 11 1384.3 -12.53 25.18
 100.00 20 50 24 2116.67 -23.07 28.14 202.79 109.50 21 25 40 1116.7 -13.02 5.25
 110.00 22 2 10 1891.94 -25.93 9.85 201.56 113.05 22 33 42 891.9 -14.33 347.44

DIFFERENTIAL CORRECTIONS

TDE 1.2900 TRA 2.0780 TC3-5.4978 BAU .9145
 RDE .5493 RRA .9133 RC3-1.5082 FAU .17237
 FDE 3.8912 FRA 7.6768 FC-12.4365 B8P 9822
 BDE 1.3654 BRA 2.2698 BC3 5.7009 F8P 2564

MID-COURSE EXECUTION ACCURACY

SGT 5834.8 SGR 2051.0 SG3 1439.1
 RRT .9749 RRF .9980 RTF .9753
 SGB 5902.6 R23 .1862 R13 .9806
 SG1 5887.0 SG2 429.1 THA 19.97

ORBIT DETERMINATION ACCURACY

ST 115.7 SR 50.8 SS 106.0
 CRT .9998 CRS -.9974 CST -.9973
 LSA 166.1 MSA 6.0 SSA .9
 EL1 126.4 EL2 .9 ALF 23.70

LAUNCH DATE APR 25 1971

FLIGHT TIME 250.00

ARRIVAL DATE DEC 31 1971

HELIOCENTRIC CONIC

RL 150.49 LAL -.00 LOL 214.15 VL 32.300 GAL -3.07 AZL 89.19 HCA 190.57 SMA 184.22 ECC .19046 INC .8123 V1 29.608
 RP 218.69 LAP -.15 LOP 44.72 VP 22.210 GAP 2.06 AZP 90.80 TAL 340.63 TAP 171.19 RCA 149.13 APO 219.30 V2 25.129
 RC 177.690 GL 7.59 GP -17.97 ZAL 129.19 ZAP 66.60 ETS 170.97 ZAE 106.06 ETE 185.67 ZAC 84.55 ETC 271.13 LVI 8.00

DISTANCE 590.641

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 12.013 VHL 3.466 DLA .63 RAL 342.13 RAD 6839.1 VEL 11.493 PTH 6.54 VHP 3.318 DPA -41.32 RAP 295.06 ECC 1.1977
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 53 59 3031.66 -32.22 92.55 196.72 127.12 16 44 30 2031.7 -15.51 73.33
 60.00 16 32 54 2928.13 -27.91 86.54 200.04 120.34 17 21 42 1928.1 -13.63 65.75
 70.00 17 24 24 2776.67 -24.03 76.53 202.30 115.03 18 10 40 1776.7 -11.88 54.75
 80.00 18 32 1 2564.93 -21.22 61.77 203.61 111.51 19 14 46 1564.9 -10.58 39.45
 90.00 19 53 9 2303.11 -20.17 42.95 204.04 110.25 20 31 32 1303.1 -10.09 20.46
 100.00 21 14 53 2039.40 -21.22 23.14 203.61 111.51 21 48 52 1039.4 -10.58 .81
 110.00 22 23 50 1823.49 -24.03 5.45 202.30 115.03 22 54 13 823.5 -11.88 343.66

DIFFERENTIAL CORRECTIONS

TDE 1.2046 TRA 2.2220 TC3-5.6309 BAU .9284
 RDE .4885 RRA .8227 RC3-1.3081 FAU .17080
 FDE 3.8179 FRA 7.9553 FC-12.3088 B8P 10116
 BDE 1.2999 BRA 2.3694 BC3 5.7808 F8P 2664

MID-COURSE EXECUTION ACCURACY

SGT 5717.9 SGR 1823.2 SG3 1460.1
 RRT .9730 RRF .9970 RTF .9747
 SGB 6001.5 R23 .1905 R13 .9789
 SG1 5988.1 SG2 401.9 THA 17.32

ORBIT DETERMINATION ACCURACY

ST 113.9 SR 45.3 SS 106.8
 CRT .9991 CRS -.9959 CST -.9984
 LSA 162.5 MSA 5.0 SSA 1.2
 EL1 122.6 EL2 1.8 ALF 21.65

LAUNCH DATE APR 25 1971

FLIGHT TIME 252.00

ARRIVAL DATE JAN 2 1972

HELIOCENTRIC CONIC

RL 150.49 LAL -.00 LOL 214.15 VL 32.307 GAL -3.14 AZL 89.44 HCA 191.70 SMA 184.32 ECC .19126 INC .5538 V1 29.608
 RP 219.06 LAP -.11 LOP 45.85 VP 22.173 GAP 1.90 AZP 90.54 TAL 340.23 TAP 171.93 RCA 149.07 APO 219.57 V2 25.089
 RC 180.275 GL 5.16 GP -16.21 ZAL 129.87 ZAP 65.05 ETS 171.27 ZAE 104.77 ETE 184.71 ZAC 86.31 ETC 271.07 LVI 6.47

DISTANCE 594.789

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 12.113 VHL 3.480 DLA -1.45 RAL 343.47 RAD 6839.1 VEL 11.497 PTH 6.55 VHP 3.311 DPA -39.63 RAP 294.38 ECC 1.1994
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 8 55 2992.14 -30.57 90.22 197.47 128.42 16 56 47 1992.1 -13.59 71.58
 60.00 16 48 2 2882.78 -26.32 83.76 200.86 121.70 17 36 5 1882.8 -11.70 63.47
 70.00 17 41 58 2724.15 -22.48 73.24 203.20 116.41 18 27 22 1724.2 -9.95 51.90
 80.00 18 51 48 2505.49 -19.69 58.02 204.57 112.91 19 33 34 1505.5 -8.66 36.08
 90.00 20 13 55 2240.55 -18.65 39.00 205.02 111.65 20 51 15 1240.5 -8.17 16.87
 100.00 21 34 40 1979.96 -19.69 19.39 204.57 112.91 22 7 40 980.0 -8.66 357.45
 110.00 22 41 25 1770.97 -22.48 2.16 203.20 116.41 23 10 56 771.0 -9.95 340.81

DIFFERENTIAL CORRECTIONS

TDE 1.1670 TRA 2.3489 TC3-5.7635 BAU .9522
 RDE .4371 RRA .7365 RC3-1.1848 FAU .17201
 FDE 3.6799 FRA 8.0726 FC-12.2938 B8P 10255
 BDE 1.2462 BRA 2.4616 BC3 5.8800 F8P 2644

MID-COURSE EXECUTION ACCURACY

SGT 5894.7 SGR 1826.7 SG3 1462.8
 RRT .9726 RRF .9956 RTF .5.58
 SGB 6115.0 R23 .1843 R13 .9789
 SG1 6104.1 SG2 365.0 THA 15.08

ORBIT DETERMINATION ACCURACY

ST 112.4 SR 40.3 SS 103.8
 CRT .9989 CRS -.9935 CST -.9991
 LSA 158.1 MSA 4.7 SSA 1.4
 EL1 119.4 EL2 3.0 ALF 19.70

LAUNCH DATE APR 25 1971

FLIGHT TIME 254.00

ARRIVAL DATE JAN 4 1972

HELIOCENTRIC CONIC

RL 150.49 LAL -.00 LOL 214.15 VL 32.313 GAL -3.21 AZL 89.66 HCA 192.82 SMA 184.43 ECC .19208 INC .3417 V1 29.608
 RP 219.43 LAP -.08 LOP 46.98 VP 22.137 GAP 1.74 AZP 90.34 TAL 339.83 TAP 172.66 RCA 149.01 APO 219.86 V2 25.048
 RC 182.871 GL 3.17 GP -14.74 ZAL 130.46 ZAP 63.58 ETS 171.53 ZAE 103.46 ETE 183.93 ZAC 87.79 ETC 271.03 LVI 5.18

DISTANCE 598.932

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 12.269 VHL 3.503 DLA -3.11 RAL 344.67 RAD 6839.2 VEL 11.504 PTH 6.55 VHP 3.314 DPA -38.20 RAP 293.84 ECC 1.2019
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 17 45 2961.82 -29.27 88.49 198.33 129.34 17 7 7 1961.8 -12.09 70.22
 60.00 17 0 37 2847.77 -25.05 81.67 201.78 122.57 17 48 5 1847.8 -10.20 61.73
 70.00 17 56 32 2683.39 -21.23 70.75 204.18 117.41 18 41 15 1683.4 -8.44 49.71
 80.00 19 8 9 2459.13 -18.44 55.15 205.60 113.91 19 49 8 1459.1 -7.13 33.49
 90.00 20 31 2 2191.69 -17.40 35.96 206.08 112.65 21 7 34 1191.7 -6.64 14.09
 100.00 21 51 1 1933.60 -18.44 16.52 205.60 113.91 22 23 14 933.6 -7.13 354.86
 110.00 22 55 58 1730.20 -21.23 359.66 204.18 117.41 23 24 48 730.2 -8.44 338.63

DIFFERENTIAL CORRECTIONS

TDE 1.1479 TRA 2.4769 TC3-5.8582 BAU .9758
 RDE .4008 RRA .6635 RC3-1.0357 FAU .17147
 FDE 3.5770 FRA 8.1496 FC-12.0991 B8P 10465
 BDE 1.2159 BRA 2.5642 BC3 5.9490 F8P 2626

MID-COURSE EXECUTION ACCURACY

SGT 6068.9 SGR 1462.1 SG3 1456.8
 RRT .9713 RRF .9937 RTF .9768
 SGB 6242.5 R23 .1769 R13 .9790
 SG1 6233.4 SG2 338.3 THA 13.21

ORBIT DETERMINATION ACCURACY

ST 112.1 SR 36.6 SS 101.6
 CRT .9932 CRS -.9904 CST -.9995
 LSA 155.5 MSA 4.8 SSA 1.6
 EL1 117.8 EL2 4.0 ALF 18.01

LAUNCH DATE APR 25 1971 FLIGHT TIME 256.00 ARRIVAL DATE JAN 6 1972

Table with columns for Heliocentric Conic, Planetary Conic, and Differential Corrections. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, and various orbital elements.

LAUNCH DATE APR 25 1971 FLIGHT TIME 258.00 ARRIVAL DATE JAN 8 1972

Table with columns for Heliocentric Conic, Planetary Conic, and Differential Corrections. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, and various orbital elements.

LAUNCH DATE APR 25 1971 FLIGHT TIME 260.00 ARRIVAL DATE JAN 10 1972

Table with columns for Heliocentric Conic, Planetary Conic, and Differential Corrections. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, and various orbital elements.

LAUNCH DATE APR 25 1971 FLIGHT TIME 262.00 ARRIVAL DATE JAN 12 1972

Table with columns for Heliocentric Conic, Planetary Conic, and Differential Corrections. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, and various orbital elements.

LAUNCH DATE APR 28 1971

FLIGHT TIME 264.00

ARRIVAL DATE JAN 14 1972

Heliocentric Conic

RL 150.49 LAL -.00 LOL 214.15 VL 32.350 GAL -3.61 AZL 90.33 HCA 198.40 SMA 188.04 ECC .19666 INC .3266 V1 29.608
 RP 221.31 LAP .10 LOP 52.55 VP 21.958 GAP .94 AZP 89.69 TAL 337.74 TAP 176.15 RCA 148.65 APO 221.43 V2 24.842
 RC 195.978 GL -2.89 GP -9.96 ZAL 132.89 ZAP 57.17 ETS 172.55 ZAE 96.98 ETE 181.36 ZAC 92.58 ETC 270.84 LVI .91

Planeto-centric Conic

C3 13.461 VHL 3.669 DLA -7.75 RAL 349.28 RAD 6639.8 VEL 11.553 PTH 6.60 VHP 3.402 DPA -33.53 RAP 292.47 ECC 1.2215
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 53 19 2888.87 -26.06 84.52 202.97 131.33 17 41 28 1888.9 -8.48 67.06
 60.00 17 41 15 2761.41 -21.78 76.70 206.63 124.78 18 27 16 1761.4 -6.46 57.51
 70.00 18 42 49 2580.39 -17.88 64.64 209.25 119.60 19 25 49 1580.4 -4.56 44.26
 80.00 19 59 39 2339.85 -15.00 47.96 210.83 116.12 20 38 39 1339.8 -3.14 26.88
 90.00 21 24 50 2065.02 -13.92 28.29 211.37 114.87 21 59 15 1065.0 -2.60 6.98
 100.00 22 42 31 1814.32 -15.00 9.33 210.83 116.12 23 12 45 814.3 -3.14 348.25
 110.00 23 42 15 1627.21 -17.88 353.55 209.25 119.60 24 9 22 627.2 -4.56 333.16

Differential Corrections

TDE 1.1886 TRA 3.1137 TC3-6.0849 BAU 1.1003 SGT 6889.4 SGR 933.2 SG3 1359.1 ST 118.6 SR 27.1 SS 94.7
 RDE .3232 RRA .4135 RC3 -.5963 FAU .16746 RRT .9470 RRF .9700 RTF .9773 CRT .9546 CRS -.9627 CST -.9994
 FDE 3.2983 FRA 8.1677 FC-10.1268 BSP 11740 SGB 6952.3 R23 .1333 R13 .9780 LSA 154.0 MSA 8.0 SSA 1.4
 BDE 1.2317 BRA 3.1410 BC3 6.1141 FSP 2473 SG1 6945.9 SG2 297.3 THA 7.32 EL1 121.4 EL2 7.9 ALF 12.34

LAUNCH DATE APR 25 1971

FLIGHT TIME 266.00

ARRIVAL DATE JAN 16 1972

Heliocentric Conic

RL 150.49 LAL -.00 LOL 214.15 VL 32.358 GAL -3.69 AZL 90.42 HCA 199.51 SMA 185.17 ECC .19767 INC .4163 V1 29.608
 RP 221.69 LAP .14 LOP 53.66 VP 21.922 GAP .78 AZP 89.61 TAL 337.31 TAP 176.82 RCA 148.57 APO 221.77 V2 24.801
 RC 198.621 GL -3.64 GP -9.32 ZAL 133.35 ZAP 56.03 ETS 172.71 ZAE 95.74 ETE 181.27 ZAC 93.22 ETC 270.95 LVI .32

Planeto-centric Conic

C3 13.747 VHL 3.708 DLA -8.25 RAL 350.03 RAD 6639.9 VEL 11.568 PTH 6.61 VHP 3.428 DPA -32.90 RAP 292.39 ECC 1.2262
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 58 10 2883.61 -25.82 84.25 203.89 131.46 17 46 13 1883.6 -8.22 66.84
 60.00 17 46 38 2754.71 -21.52 76.33 207.58 124.93 18 32 33 1754.7 -6.16 57.19
 70.00 18 48 49 2571.86 -17.59 64.14 210.22 119.76 19 31 41 1571.9 -4.24 43.81
 80.00 20 6 14 2329.51 -14.69 47.35 211.83 116.29 20 45 4 1329.5 -2.80 26.31
 90.00 21 31 40 2053.85 -13.60 27.63 212.37 115.04 22 5 54 1053.9 -2.25 6.35
 100.00 22 49 6 1803.98 -14.69 8.72 211.83 116.29 23 19 10 804.0 -2.80 347.68
 110.00 23 48 16 1618.68 -17.59 353.06 210.22 119.76 24 15 14 618.7 -4.24 332.73

Differential Corrections

TDE 1.2136 TRA 3.2426 TC3-6.1006 BAU 1.1256 SGT 7044.0 SGR 865.5 SG3 1332.9 ST 120.9 SR 26.1 SS 93.6
 RDE .3180 RRA .3776 RC3 -.5394 FAU .15382 RRT .9376 RRF .9610 RTF .9772 CRT .9439 CRS -.9550 CST -.9992
 FDE 3.2633 FRA 8.1251 FC3-9.6866 BSP 12011 SGB 7096.9 R23 .1241 R13 .9778 LSA 154.8 MSA 8.6 SSA 1.4
 BDE 1.2545 BRA 3.2645 BC3 6.1244 FSP 2431 SG1 7090.6 SG2 298.9 THA 6.58 EL1 123.4 EL2 8.5 ALF 11.59

LAUNCH DATE APR 25 1971

FLIGHT TIME 268.00

ARRIVAL DATE JAN 18 1972

Heliocentric Conic

RL 150.49 LAL -.00 LOL 214.15 VL 32.366 GAL -3.78 AZL 90.50 HCA 200.61 SMA 185.31 ECC .19869 INC .4959 V1 29.608
 RP 222.07 LAP .17 LOP 54.76 VP 21.887 GAP .62 AZP 89.54 TAL 336.87 TAP 177.48 RCA 148.49 APO 222.13 V2 24.759
 RC 201.270 GL -4.28 GP -8.75 ZAL 133.80 ZAP 54.94 ETS 172.85 ZAE 94.52 ETE 181.02 ZAC 93.78 ETC 270.97 LVI -.23

Planeto-centric Conic

C3 14.045 VHL 3.748 DLA -8.65 RAL 350.75 RAD 6640.1 VEL 11.580 PTH 6.62 VHP 3.456 DPA -32.33 RAP 292.36 ECC 1.2311
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 2 31 2880.28 -25.67 84.07 204.79 131.54 17 50 32 1880.3 -8.05 66.69
 60.00 17 51 26 2750.18 -21.34 76.07 208.51 125.03 18 37 17 1750.2 -5.96 56.97
 70.00 18 54 8 2565.83 -17.38 63.80 211.18 119.87 19 38 54 1565.8 -4.01 43.50
 80.00 20 12 2 2321.99 -14.46 46.91 212.81 116.41 20 50 44 1322.0 -2.94 25.90
 90.00 21 37 41 2045.65 -13.36 27.15 213.36 115.16 22 11 47 1045.7 -1.98 5.69
 100.00 22 54 54 1796.46 -14.46 8.28 212.81 116.41 23 24 30 796.5 -2.54 347.27
 110.00 23 53 35 1612.65 -17.38 352.71 211.18 119.87 24 20 27 612.7 -4.01 332.41

Differential Corrections

TDE 1.2415 TRA 3.3717 TC3-6.1119 BAU 1.1513 SGT 7195.5 SGR 806.7 SG3 1305.8 ST 123.2 SR 25.4 SS 92.8
 RDE .3147 RRA .3448 RC3 -.4899 FAU .15016 RRT .9376 RRF .9500 RTF .9771 CRT .9325 CRS -.9468 CST -.9989
 FDE 3.2315 FRA 8.0738 FC3-9.2560 BSP 12269 SGB 7240.5 R23 .1153 R13 .9778 LSA 155.9 MSA 9.2 SSA 1.4
 BDE 1.2808 BRA 3.3893 BC3 6.1315 FSP 2383 SG1 7234.2 SG2 302.6 THA 5.94 EL1 125.4 EL2 9.0 ALF 10.92

LAUNCH DATE APR 25 1971

FLIGHT TIME 270.00

ARRIVAL DATE JAN 20 1972

Heliocentric Conic

RL 150.49 LAL -.00 LOL 214.15 VL 32.374 GAL -3.86 AZL 90.57 HCA 201.71 SMA 185.45 ECC .19975 INC .5672 V1 29.608
 RP 222.46 LAP .21 LOP 55.86 VP 21.852 GAP .46 AZP 89.47 TAL 336.43 TAP 178.14 RCA 148.40 APO 222.49 V2 24.717
 RC 203.922 GL -4.85 GP -8.24 ZAL 134.24 ZAP 53.89 ETS 172.99 ZAE 93.32 ETE 180.81 ZAC 94.29 ETC 270.99 LVI -.75

Planeto-centric Conic

C3 14.354 VHL 3.789 DLA -8.97 RAL 351.43 RAD 6640.2 VEL 11.594 PTH 6.64 VHP 3.485 DPA -31.81 RAP 292.38 ECC 1.2362
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 6 28 2878.57 -25.59 83.98 205.69 131.58 17 54 27 1878.6 -7.96 66.62
 60.00 17 55 45 2747.50 -21.24 75.93 209.44 125.09 18 41 33 1747.5 -5.85 56.84
 70.00 18 58 52 2561.93 -17.25 63.57 212.13 119.94 19 41 34 1561.9 -3.86 43.29
 80.00 20 17 9 2316.87 -14.31 46.61 213.77 116.49 20 55 46 1316.9 -2.37 25.62
 90.00 21 42 59 2039.97 -13.19 26.81 214.33 115.24 22 16 59 1040.0 -1.80 5.58
 100.00 23 0 1 1791.33 -14.31 7.98 213.77 116.49 23 29 52 791.3 -2.37 346.99
 110.00 0 2 14 1608.75 -17.25 352.49 212.13 119.94 0 26 3 608.8 -3.86 332.21

Differential Corrections

TDE 1.2729 TRA 3.5018 TC3-6.1175 BAU 1.1771 SGT 7344.1 SGR 755.5 SG3 1278.3 ST 125.6 SR 24.8 SS 91.7
 RDE .3131 RRA .3148 RC3 -.4460 FAU .14634 RRT .9124 RRF .9368 RTF .9769 CRT .9207 CRS -.9382 CST -.9987
 FDE 3.2043 FRA 8.0174 FC3-8.8263 BSP 12539 SGB 7382.9 R23 .1075 R13 .9773 LSA 157.2 MSA 9.8 SSA 1.3
 BDE 1.3109 BRA 3.5159 BC3 6.1337 FSP 2345 SG1 7376.5 SG2 307.9 THA 5.37 EL1 127.7 EL2 9.5 ALF 10.34

LAUNCH DATE APR 25 1971

FLIGHT TIME 272.00

ARRIVAL DATE JAN 22 1972

HELIOCENTRIC CONIC

RL 150.49 LAL -0.00 LOL 214.15 VL 32.363 GAL -3.95 AZL 90.63 HCA 202.80 SMA 185.59 ECC .20083 INC .6315 V1 29.608
RP 222.84 LAP .25 LOP 56.95 VP 21.617 GAP .31 AZP 89.42 TAL 335.98 TAP 178.78 RCA 146.31 APO 222.86 V2 24.675
RC 206.578 GL -5.34 GP -7.79 ZAL 134.69 ZAP 52.88 ETS 173.13 ZAE 92.14 ETE 180.62 ZAC 94.75 ETC 271.02 LVI -1.20

PLANETOCENTRIC CONIC

C3 14.673 VHL 3.831 DLA -9.23 RAL 352.09 RAD 6640.4 VEL 11.607 PTH 6.65 VHP 3.515 DPA -31.34 RAP 292.43 ECC 1.2415
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 10 4 2870.24 -25.58 83.97 206.57 131.59 17 58 2 1878.2 -7.95 66.61
60.00 17 59 39 2746.39 -21.20 75.86 210.34 125.11 18 45 25 1746.4 -5.80 56.78
70.00 19 3 6 2559.84 -17.18 63.45 213.06 119.98 19 45 45 1559.8 -3.78 43.18
80.00 20 21 42 2313.79 -14.21 46.43 214.71 116.54 21 0 15 1313.8 -2.26 25.45
90.00 21 47 39 2036.44 -13.09 26.60 215.28 115.29 22 21 36 1036.4 -1.69 5.38
100.00 23 4 33 1788.26 -14.21 7.80 214.71 116.54 23 34 22 788.3 -2.26 346.82
110.00 0 6 26 1606.66 -17.18 352.37 213.06 119.98 0 33 15 606.7 -3.78 332.10

DIFFERENTIAL CORRECTIONS

TDE 1.3063 TRA 3.6322 TC3-6.1201 BAU 1.2032 SGT 7489.8 SGR 710.9 SG3 1250.1 ORBIT DETERMINATION ACCURACY
RDE .3127 RRA .2869 RC3 -.4077 FAU .14259 RRT .8962 RRF .9212 RTF .9766 CRT .9086 CRS -.9292 CST -.9984
FDE 3.1769 FRA 7.9526 FC3-8.4132 BSP 12785 SGB 7523.5 R23 .1002 R13 .9770 LSA 158.5 MSA 10.4 S8A 1.3
BDE 1.3432 BRA 3.6435 BC3 6.1337 FSP 2295 SG1 7516.9 SG2 314.3 THA 4.87 EL1 130.0 EL2 10.0 ALF 9.83

LAUNCH DATE APR 25 1971

FLIGHT TIME 274.00

ARRIVAL DATE JAN 24 1972

HELIOCENTRIC CONIC

RL 150.49 LAL -0.00 LOL 214.15 VL 32.391 GAL -4.04 AZL 90.69 HCA 203.89 SMA 185.73 ECC .20194 INC .6908 V1 29.608
RP 223.23 LAP .28 LOP 58.04 VP 21.782 GAP .15 AZP 89.37 TAL 335.53 TAP 179.42 RCA 148.22 APO 223.23 V2 24.633
RC 209.236 GL -5.77 GP -7.37 ZAL 135.14 ZAP 51.90 ETS 173.25 ZAE 90.98 ETE 180.46 ZAC 95.16 ETC 271.06 LVI -1.64

PLANETOCENTRIC CONIC

C3 15.002 VHL 3.873 DLA -9.43 RAL 352.72 RAD 6640.5 VEL 11.621 PTH 6.66 VHP 3.546 DPA -30.91 RAP 292.53 ECC 1.2469
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 13 22 2879.10 -25.62 84.01 207.44 131.57 18 1 21 1879.1 -7.99 66.64
60.00 18 3 10 2746.64 -21.21 75.86 211.24 125.11 18 48 57 1746.6 -5.81 56.80
70.00 19 6 53 2559.31 -17.16 63.42 213.97 119.99 19 49 32 1559.3 -3.76 43.15
80.00 20 25 44 2312.48 -14.17 46.35 215.64 116.56 21 4 16 1312.5 -2.22 25.38
90.00 21 51 48 2034.77 -13.04 26.50 216.21 115.32 22 25 43 1034.8 -1.63 5.29
100.00 23 8 36 1786.95 -14.17 7.72 215.64 116.56 23 38 23 787.0 -2.22 346.75
110.00 0 10 15 1606.13 -17.16 352.34 213.97 119.99 0 37 1 606.1 -3.76 332.07

DIFFERENTIAL CORRECTIONS

TDE 1.3440 TRA 3.7655 TC3-6.1136 BAU 1.2285 SGT 7633.2 SGR 672.6 SG3 1222.3 ORBIT DETERMINATION ACCURACY
RDE .3136 RRA .2613 RC3 -.3734 FAU .13867 RRT .8773 RRF .9031 RTF .9763 CRT .8967 CRS -.9203 CST -.9982
FDE 3.1559 FRA 7.8885 FC3-8.0023 BSP 13056 SGB 7662.8 R23 .0937 R13 .9766 LSA 160.1 MSA 11.0 S8A 1.3
BDE 1.3602 BRA 3.7746 BC3 6.1250 FSP 2253 SG1 7656.0 SG2 321.8 THA 4.43 EL1 132.6 EL2 10.5 ALF 9.38

LAUNCH DATE APR 25 1971

FLIGHT TIME 276.00

ARRIVAL DATE JAN 26 1972

HELIOCENTRIC CONIC

RL 150.49 LAL -0.00 LOL 214.15 VL 32.400 GAL -4.13 AZL 90.74 HCA 204.98 SMA 185.87 ECC .20307 INC .7446 V1 29.608
RP 223.62 LAP .31 LOP 59.13 VP 21.748 GAP -.01 AZP 89.32 TAL 335.08 TAP 180.05 RCA 148.13 APO 223.62 V2 24.591
RC 211.896 GL -6.16 GP -6.99 ZAL 135.59 ZAP 50.98 ETS 173.37 ZAE 89.85 ETE 180.31 ZAC 95.53 ETC 271.10 LVI -2.05

PLANETOCENTRIC CONIC

C3 15.342 VHL 3.917 DLA -9.59 RAL 353.33 RAD 6640.7 VEL 11.636 PTH 6.67 VHP 3.579 DPA -30.51 RAP 292.66 ECC 1.2525
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 17 16 23 2880.99 -25.70 84.11 208.31 131.52 18 4 24 1881.0 -8.08 66.72
60.00 18 0 22 2748.05 -21.26 75.96 212.13 125.08 18 52 10 1748.1 -5.87 56.88
70.00 19 10 17 2560.13 -17.19 63.47 214.88 119.98 19 52 57 1560.1 -3.79 43.20
80.00 20 29 20 2312.70 -14.18 46.37 216.56 116.55 21 7 52 1312.7 -2.23 25.39
90.00 21 55 29 2034.71 -13.04 26.50 217.13 115.32 22 29 24 1034.7 -1.63 5.28
100.00 23 12 11 1787.17 -14.18 7.73 216.56 116.55 23 41 59 787.2 -2.23 346.78
110.00 0 13 40 1606.94 -17.19 352.38 214.88 119.98 0 40 26 606.9 -3.79 332.11

DIFFERENTIAL CORRECTIONS

TDE 1.3827 TRA 3.8989 TC3-6.1064 BAU 1.2544 SGT 7773.6 SGR 639.5 SG3 1194.2 ORBIT DETERMINATION ACCURACY
RDE .3154 RRA .2372 RC3 -.3432 FAU .13488 RRT .8559 RRF .8822 RTF .9760 CRT .8846 CRS -.9112 CST -.9980
FDE 3.1317 FRA 7.8175 FC3-7.8103 BSP 13306 SGB 7799.9 R23 .0877 R13 .9763 LSA 161.7 MSA 11.9 S8A 1.3
BDE 1.4182 BRA 3.9061 BC3 6.1161 FSP 2204 SG1 7782.8 SG2 329.8 THA 4.03 EL1 135.1 EL2 10.9 ALF 8.97

LAUNCH DATE APR 25 1971

FLIGHT TIME 278.00

ARRIVAL DATE JAN 28 1972

HELIOCENTRIC CONIC

RL 150.49 LAL -0.00 LOL 214.15 VL 32.408 GAL -4.23 AZL 90.79 HCA 206.06 SMA 186.02 ECC .20423 INC .7941 V1 29.608
RP 224.01 LAP .35 LOP 60.21 VP 21.713 GAP -.17 AZP 89.29 TAL 334.62 TAP 180.68 RCA 148.03 APO 224.01 V2 24.550
RC 214.958 GL -6.49 GP -6.65 ZAL 136.04 ZAP 50.04 ETS 173.48 ZAE 88.75 ETE 180.19 ZAC 95.86 ETC 271.15 LVI -2.44

PLANETOCENTRIC CONIC

C3 15.691 VHL 3.961 DLA -9.70 RAL 353.92 RAD 6640.9 VEL 11.651 PTH 6.69 VHP 3.612 DPA -30.14 RAP 292.82 ECC 1.2582
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 19 11 2883.77 -25.83 84.25 209.17 131.45 18 7 14 1883.8 -8.22 66.84
60.00 18 9 18 2750.49 -21.36 76.09 213.01 125.03 18 55 8 1750.5 -5.98 56.98
70.00 19 13 22 2562.12 -17.26 63.58 215.77 119.94 19 56 4 1562.1 -3.87 43.30
80.00 20 32 33 2314.26 -14.23 46.46 217.46 116.53 21 11 7 1314.3 -2.26 25.48
90.00 21 58 46 2036.06 -13.08 26.58 218.04 115.30 22 32 42 1036.1 -1.67 5.36
100.00 23 15 24 1788.73 -14.23 7.83 217.46 116.53 23 45 13 788.7 -2.28 346.84
110.00 0 16 44 1608.94 -17.26 352.50 215.77 119.94 0 43 33 608.9 -3.87 332.22

DIFFERENTIAL CORRECTIONS

TDE 1.4241 TRA 4.0338 TC3-6.0938 BAU 1.2801 SGT 7911.3 SGR 611.3 SG3 1166.2 ORBIT DETERMINATION ACCURACY
RDE .3180 RRA .2147 RC3 -.3163 FAU .13100 RRT .8318 RRF .8587 RTF .9756 CRT .8726 CRS -.9022 CST -.9978
FDE 3.1109 FRA 7.7445 FC3-7.2279 BSP 13563 SGB 7934.8 R23 .0824 R13 .9759 LSA 163.4 MSA 12.0 S8A 1.3
BDE 1.4592 BRA 4.0395 BC3 6.1020 FSP 2159 SG1 7927.6 SG2 338.6 THA 3.68 EL1 137.7 EL2 11.3 ALF 8.62

LAUNCH DATE APR 25 1971

FLIGHT TIME 280.00

ARRIVAL DATE JAN 30 1972

HELIOCENTRIC CONIC

DISTANCE 652.336

EARTH TO MARS

RL 150.49 LAL -.00 LOL 214.15 VL 32.417 GAL -4.32 AZL 90.84 MCA 207.14 SMA 186.17 ECC .20541 INC .8395 V1 29.608
 AP 224.40 LAF .38 LOP 61.29 VP 21.679 GAP -.33 AZP 89.25 TAL 334.16 TAP 181.30 RCA 147.93 APO 224.41 V2 24.508
 RC 217.222 GL -6.79 GP -6.33 ZAL 136.48 ZAP 49.16 ETS 173.59 ZAE 87.66 ETE 180.07 ZAC 96.17 ETC 271.21 LVI -2.81

PLANETOCENTRIC CONIC

C3 16.031 VHL 4.006 DLA -9.78 RAL 354.50 RAD 6641.0 VEL 11.666 PTH 6.70 VHP 3.645 DPA -29.80 RAP 293.02 ECC 1.2642
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 21 46 2887.34 -25.99 84.44 210.02 131.37 18 9 53 1887.3 -8.40 67.00
 60.00 18 11 58 2753.82 -21.49 76.28 213.88 124.95 18 57 52 1753.8 -6.12 57.14
 70.00 19 16 8 2565.15 -17.36 63.76 216.66 119.88 19 58 54 1565.2 -3.98 43.46
 80.00 20 35 25 2316.98 -14.31 46.62 218.36 116.49 21 14 2 1317.0 -2.37 25.63
 90.00 22 1 41 2038.65 -13.16 26.73 218.93 115.26 22 35 40 1038.6 -1.76 5.90
 100.00 23 18 17 1791.45 -14.31 7.99 218.36 116.49 23 48 8 791.5 -2.37 346.99
 110.00 0 19 31 1611.97 -17.36 352.67 216.66 119.88 0 46 23 612.0 -3.98 332.38

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.4668 TRA 4.1694 TC3-6.0809 BAU 1.3064 SGT 8046.9 SGR 587.5 SG3 1138.5 ST 138.9 SR 23.4 SS 87.3
 RDE .3214 RRA .1935 RC3 -.2926 FAU .12726 RRT .8051 RRF .8328 RTF .9752 CRT .8613 CRS -.8935 CST -.9975
 FDE 3.0904 FRA 7.6689 FC3-6.8638 BSP 13803 SGB 8068.3 R23 .0778 R13 .9754 LSA 165.2 MSA 12.5 SSA 1.3
 BDE 1.5016 BRA 4.1739 BC3 6.0880 FSP 2112 SGI 8060.8 SG2 347.9 TMA 3.37 EL1 140.4 EL2 11.8 ALF 6.30

LAUNCH DATE APR 26 1971 FLIGHT TIME 110.00 ARRIVAL DATE AUG 14 1971

DISTANCE 319.889 EARTH TO MARS

HELIOCENTRIC CONIC
 RL 130.53 LAL -.00 LOL 215.13 VL 35.071 GAL -4.33 AZL 91.91 HCA 104.21 SMA 248.85 ECC .40113 INC 1.9082 V1 29.600
 RP 207.38 LAP -1.85 LOP 319.34 VP 27.324 GAP 21.72 AZP 89.53 TAL 344.81 TAP 89.02 RCA 149.03 APO 348.66 V2 26.414
 RC 56.241 GL -10.85 GP 1.10 ZAL 119.57 ZAP 174.45 ETS 188.40 ZAE 175.55 ETE 109.02 ZAC 101.66 ETC 276.91 LVI -17.89

PLANETOCENTRIC CONIC
 C3 39.700 VHL 6.301 DLA -19.46 RAL 341.21 RAD 6650.6 VEL 12.632 PTH 7.48 VHP 10.793 DPA -17.37 RAP 316.59 ECC 1.6534
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 3 49 2909.99 -27.00 85.65 207.80 130.79 17 52 19 1910.0 -9.53 67.97
 60.00 18 6 28 2743.38 -21.08 75.70 212.86 125.18 18 52 11 1743.4 -5.67 56.64
 70.00 19 25 41 2510.49 -15.48 60.64 216.69 120.83 20 7 32 1510.5 -1.90 40.60
 80.00 21 0 19 2214.35 -11.12 40.68 219.21 117.89 21 37 13 1214.3 1.10 19.99
 90.00 22 33 58 1912.24 -9.37 19.38 220.13 116.80 23 5 50 912.2 2.32 358.45
 100.00 23 43 11 1688.82 -11.12 2.04 219.21 117.89 24 11 20 688.8 1.10 341.36
 110.00 0 29 4 1557.31 -15.48 349.55 216.69 120.83 0 55 1 557.3 -1.90 329.52

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.5695 TRA-1.2226 TC3 -.0422 BAU .0506 SGT 1288.9 SGR 575.5 SG3 127.3 ST 31.4 SR 26.6 SS 20.2
 RDE -.5814 RRA .2075 RC3 .0854 FAU .03501 RRT .0432 RRF -.0468 RTF -.7208 CRT .7568 CRS .5748 CST .9678
 FDE .3161 FRA 1.1179 FC3 -.7635 BSP 2024 SGB 1411.6 R23 -.0080 R13 -.7210 LSA 42.6 MSA 16.8 SSA 1.1
 BDE .8139 BRA 1.2401 BC3 .0953 FSP 162 SG1 1289.2 SG2 574.8 THA 1.38 EL1 38.6 EL2 14.1 ALF 38.85

LAUNCH DATE APR 26 1971 FLIGHT TIME 112.00 ARRIVAL DATE AUG 16 1971

DISTANCE 321.840 EARTH TO MARS

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 34.896 GAL -4.21 AZL 91.92 HCA 105.47 SMA 243.28 ECC .38722 INC 1.9189 V1 29.600
 RP 207.27 LAP -1.85 LOP 320.60 VP 27.112 GAP 21.21 AZP 89.49 TAL 344.87 TAP 90.34 RCA 149.08 APO 337.48 V2 26.428
 RC 56.382 GL -10.99 GP 1.14 ZAL 119.60 ZAP 173.81 ETS 169.61 ZAE 173.77 ETE 100.91 ZAC 101.64 ETC 277.00 LVI -18.03

PLANETOCENTRIC CONIC
 C3 37.380 VHL 6.114 DLA -19.75 RAL 341.41 RAD 6649.7 VEL 12.541 PTH 7.42 VHP 10.457 DPA -17.21 RAP 316.99 ECC 1.6152
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 5 53 2888.75 -26.05 84.92 207.10 131.33 17 54 2 1888.7 -8.47 67.06
 60.00 18 8 57 2721.01 -20.20 74.46 212.16 125.65 18 54 18 1721.0 -4.69 55.56
 70.00 19 28 44 2486.48 -14.64 59.29 216.00 121.21 20 10 11 1486.5 -1.98 39.35
 80.00 21 3 59 2188.37 -10.28 39.20 218.54 118.19 21 40 28 1188.4 1.98 18.58
 90.00 22 37 58 1885.20 -8.54 17.83 219.47 117.06 23 9 24 885.2 3.19 356.94
 100.00 23 46 51 1662.84 -10.28 .56 218.54 118.19 24 14 34 662.8 1.98 339.93
 110.00 0 32 6 1533.30 -14.64 348.20 216.00 121.21 0 57 40 533.3 -1.98 328.26

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.5660 TRA-1.2139 TC3 -.0324 BAU .0486 SGT 1320.6 SGR 574.7 SG3 136.1 ST 32.1 SR 26.6 SS 21.0
 RDE -.5631 RRA .1989 RC3 .0917 FAU .03610 RRT .0475 RRF -.0512 RTF -.7317 CRT .7572 CRS .5713 CST .9667
 FDE .3261 FRA 1.1635 FC3 -.8360 BSP 2086 SGB 1440.2 R23 -.0083 R13 -.7319 LSA 43.4 MSA 17.0 SSA 1.1
 BDE .7984 BRA 1.2301 BC3 .0972 FSP 178 SG1 1320.9 SG2 573.9 THA 1.46 EL1 39.2 EL2 14.2 ALF 37.90

LAUNCH DATE APR 26 1971 FLIGHT TIME 114.00 ARRIVAL DATE AUG 18 1971

DISTANCE 324.190 EARTH TO MARS

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 34.731 GAL -4.08 AZL 91.93 HCA 106.73 SMA 238.28 ECC .37412 INC 1.9297 V1 29.600
 RP 207.18 LAP -1.85 LOP 321.87 VP 26.911 GAP 20.71 AZP 89.44 TAL 344.94 TAP 91.87 RCA 149.12 APO 327.40 V2 26.438
 RC 56.568 GL -11.33 GP 1.18 ZAL 119.61 ZAP 172.75 ETS 170.54 ZAE 173.88 ETE 92.63 ZAC 101.63 ETC 277.09 LVI -18.21

PLANETOCENTRIC CONIC
 C3 35.241 VHL 5.936 DLA -20.04 RAL 341.60 RAD 6649.0 VEL 12.456 PTH 7.35 VHP 10.133 DPA -17.06 RAP 317.38 ECC 1.5800
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 7 57 2867.55 -25.09 83.41 206.42 131.85 17 55 44 1867.5 -7.41 66.15
 60.00 18 11 28 2698.60 -19.30 73.24 211.48 126.09 18 56 27 1698.6 -3.71 54.48
 70.00 19 31 51 2462.33 -13.78 57.94 215.33 121.56 20 12 53 1462.3 -1.06 38.09
 80.00 21 7 46 2162.10 -9.44 37.71 217.89 118.46 21 43 48 1162.1 2.87 17.12
 90.00 22 42 7 1857.76 -7.68 16.26 218.83 117.30 23 13 5 857.8 4.07 355.40
 100.00 23 50 38 1636.57 -9.44 359.08 217.89 118.46 24 17 55 636.6 2.87 338.49
 110.00 0 35 13 1509.15 -13.78 346.86 215.33 121.56 1 0 22 509.2 -1.06 327.00

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.5612 TRA-1.2035 TC3 -.0226 BAU .0475 SGT 1350.1 SGR 573.6 SG3 145.4 ST 32.8 SR 26.5 SS 21.7
 RDE -.5484 RRA .1904 RC3 .0982 FAU .03725 RRT .0518 RRF -.0560 RTF -.7113 CRT .7574 CRS .5676 CST .9655
 FDE .3361 FRA 1.2109 FC3 -.9152 BSP 2141 SGB 1486.9 R23 -.0092 R13 -.7415 LSA 44.2 MSA 17.2 SSA 1.1
 BDE .7826 BRA 1.2184 BC3 .1008 FSP 190 SG1 1350.5 SG2 572.6 THA 1.54 EL1 39.7 EL2 14.3 ALF 37.03

LAUNCH DATE APR 26 1971 FLIGHT TIME 116.00 ARRIVAL DATE AUG 20 1971

DISTANCE 326.712 EARTH TO MARS

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 34.578 GAL -3.96 AZL 91.94 HCA 107.99 SMA 233.73 ECC .36177 INC 1.9407 V1 29.600
 RP 207.09 LAP -1.85 LOP 323.13 VP 26.719 GAP 20.22 AZP 89.40 TAL 345.03 TAP 93.02 RCA 149.17 APO 318.29 V2 26.448
 RC 56.858 GL -11.69 GP 1.22 ZAL 119.60 ZAP 171.88 ETS 171.28 ZAE 173.86 ETE 84.55 ZAC 101.62 ETC 277.17 LVI -18.36

PLANETOCENTRIC CONIC
 C3 33.266 VHL 5.768 DLA -20.36 RAL 341.78 RAD 6648.3 VEL 12.377 PTH 7.29 VHP 9.819 DPA -16.91 RAP 317.75 ECC 1.5475
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 10 1 2846.37 -24.13 82.32 205.78 132.34 17 57 27 1846.4 -6.36 65.25
 60.00 18 14 1 2676.15 -18.40 72.04 210.81 126.51 18 58 37 1676.1 -2.72 53.41
 70.00 19 35 2 2438.01 -12.91 56.59 214.68 121.90 20 15 40 1438.0 .87 36.82
 80.00 21 11 41 2135.49 -8.57 36.21 217.27 118.71 21 47 17 1135.5 3.77 15.66
 90.00 22 46 26 1829.88 -6.81 14.68 218.21 117.51 23 16 56 829.9 4.95 353.84
 100.00 23 54 33 1609.96 -8.57 357.58 217.27 118.71 24 21 23 610.0 3.77 337.02
 110.00 0 38 24 1484.83 -12.91 345.51 214.68 121.90 1 3 9 484.8 .87 325.74

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.5451 TRA-1.1821 TC3 .0026 BAU .0468 SGT 1364.6 SGR 572.0 SG3 155.5 ST 33.0 SR 26.4 SS 22.6
 RDE -.5282 RRA .1820 RC3 .1051 FAU .03833 RRT .0550 RRF -.0617 RTF -.7611 CRT .7541 CRS .5665 CST .9666
 FDE .3498 FRA 1.2640 FC3 -.9976 BSP 2056 SGB 1479.7 R23 -.0110 R13 -.7613 LSA 44.6 MSA 17.4 SSA 1.1
 BDE .7590 BRA 1.1961 BC3 .1051 FSP 210 SG1 1365.1 SG2 571.0 THA 1.60 EL1 39.7 EL2 14.4 ALF 36.73

LAUNCH DATE APR 26 1971

FLIGHT TIME 118.00

ARRIVAL DATE AUG 22 1971

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 34.429 GAL -3.84 AZL 91.95 HCA 109.26 SMA 229.63 ECC .35016 INC 1.9519 V1 29.600
 RP 207.01 LAP -1.84 LOP 324.40 VP 26.538 GAP 19.73 AZP 89.36 TAL 345.12 TAP 94.38 RCA 149.22 APO 310.03 V2 26.457
 RC 57.225 GL -12.04 GP 1.26 ZAL 119.57 ZAP 170.99 ETS 171.88 ZAE 173.74 ETE 77.00 ZAC 101.62 ETC 277.25 LVI -18.51

DISTANCE 329.390
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 31.449 VHL 5.608 DLA -20.68 RAL 341.94 RAD 6647.6 VEL 12.303 PTH 7.24 VHP 9.515 DPA -16.76 RAP 318.12 ECC 1.5176
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 12 5 2825.35 -23.16 81.26 205.13 132.80 17 59 11 1825.3 -5.30 64.37
 60.00 18 16 36 2653.78 -17.49 70.05 210.18 126.91 19 0 50 1853.8 -1.73 52.34
 70.00 19 38 17 2413.68 -12.03 55.26 214.06 122.21 20 18 30 1413.7 1.80 35.59
 80.00 21 15 43 2108.71 -7.69 34.71 216.66 118.94 21 50 52 1108.7 4.67 14.18
 90.00 22 50 53 1801.72 -5.92 13.09 217.62 117.70 23 20 55 801.7 5.85 352.25
 100.00 0 2 31 1583.18 -7.69 356.08 218.66 118.94 0 28 54 583.2 4.67 335.55
 110.00 0 41 39 1460.50 -12.03 344.18 214.06 122.21 1 5 59 460.5 1.80 324.47

DIFFERENTIAL CORRECTIONS
 TDE -.5455 TRA-1.1775 TC3 .0095 BAU .0474 SGT 1401.6 SGR 570.1 SG3 186.1 ST 33.9 SR 26.3 SS 23.3
 RDE -.5116 RRA .1737 RC3 .1123 FAU .03971 RRT .0609 RRF -.0672 RTF -.7654 CRT .7558 CRS .5612 CST .9643
 FDE .3587 FRA 1.3143 FC3-1.0933 BSP 2185 SGB 1513.1 R23 -.0114 R13 -.7656 LSA 45.5 MSA 17.5 S5A 1.1
 BDE .7478 BRA 1.1903 BC3 .1127 FSP 225 SG1 1402.1 S62 568.8 THA 1.70 EL1 40.4 EL2 14.4 ALF 35.62

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 26 1971

FLIGHT TIME 120.00

ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 34.290 GAL -3.73 AZL 91.96 HCA 110.52 SMA 225.90 ECC .33921 INC 1.9632 V1 29.600
 RP 206.94 LAP -1.84 LOP 325.66 VP 26.366 GAP 19.26 AZP 89.31 TAL 345.22 TAP 95.75 RCA 149.27 APO 302.52 V2 26.466
 RC 57.675 GL -12.41 GP 1.31 ZAL 119.52 ZAP 170.09 ETS 172.37 ZAE 173.54 ETE 70.20 ZAC 101.62 ETC 277.33 LVI -18.66

DISTANCE 332.205
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 29.772 VHL 5.456 DLA -21.02 RAL 342.08 RAD 6646.9 VEL 12.236 PTH 7.18 VHP 9.222 DPA -16.60 RAP 318.46 ECC 1.4900
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 14 10 2804.44 -22.19 80.22 204.53 133.23 18 0 55 1804.4 -4.26 63.49
 60.00 18 19 13 2631.46 -16.57 69.67 209.57 127.28 19 3 4 1631.5 -0.75 51.27
 70.00 19 41 36 2389.27 -11.14 53.93 213.46 122.50 20 21 25 1389.3 2.73 34.27
 80.00 21 19 53 2081.67 -6.80 33.20 216.08 119.14 21 54 35 1081.7 5.57 12.68
 90.00 22 55 32 1773.17 -5.02 11.48 217.06 117.87 23 25 5 773.2 6.75 350.64
 100.00 0 6 41 1556.14 -6.80 354.57 216.08 119.14 0 32 37 556.1 5.57 334.05
 110.00 0 44 58 1436.09 -11.14 342.84 213.46 122.50 1 8 54 436.1 2.73 323.19

DIFFERENTIAL CORRECTIONS
 TDE -.5436 TRA-1.1703 TC3 .0190 BAU .0483 SGT 1435.0 SGR 567.8 SG3 177.5 ST 34.7 SR 26.2 SS 24.1
 RDE -.4954 RRA .1656 RC3 .1198 FAU .04114 RRT .0669 RRF -.0732 RTF -.7712 CRT .7569 CRS .5561 CST .9623
 FDE .3683 FRA 1.3681 FC3-1.1962 BSP 2283 SGB 1543.3 R23 -.0121 R13 -.7714 LSA 46.4 MSA 17.7 S5A 1.2
 BDE .7355 BRA 1.1819 BC3 .1213 FSP 242 SG1 1435.6 S62 566.3 THA 1.80 EL1 41.0 EL2 14.5 ALF 34.64

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 26 1971

FLIGHT TIME 122.00

ARRIVAL DATE AUG 26 1971

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 34.158 GAL -3.61 AZL 91.97 HCA 111.79 SMA 222.50 ECC .32889 INC 1.9748 V1 29.600
 RP 206.87 LAP -1.83 LOP 326.93 VP 26.203 GAP 18.79 AZP 89.27 TAL 345.34 TAP 97.13 RCA 149.32 APO 295.67 V2 26.473
 RC 58.203 GL -12.78 GP 1.36 ZAL 119.46 ZAP 169.17 ETS 172.78 ZAE 173.29 ETE 64.25 ZAC 101.62 ETC 277.41 LVI -18.81

DISTANCE 335.142
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 28.223 VHL 5.313 DLA -21.37 RAL 342.22 RAD 6646.3 VEL 12.173 PTH 7.13 VHP 8.938 DPA -16.46 RAP 318.79 ECC 1.4645
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 16 16 2783.67 -21.22 79.20 203.95 133.64 18 2 40 1783.7 -3.21 62.62
 60.00 18 21 52 2609.21 -15.65 68.51 208.98 127.63 19 5 21 1609.2 .23 50.21
 70.00 19 45 0 2384.81 -10.24 52.60 212.89 122.75 20 24 25 1364.8 3.66 32.99
 80.00 21 24 12 2054.38 -5.89 31.68 215.53 119.32 21 58 26 1054.4 6.48 11.17
 90.00 23 0 21 1744.24 -4.09 9.86 216.52 118.01 23 29 25 744.2 7.66 348.99
 100.00 0 11 0 1528.85 -5.89 353.05 215.53 119.32 0 36 28 528.8 6.48 332.53
 110.00 0 48 23 1411.63 -10.24 341.52 212.89 122.76 1 11 54 411.6 3.66 321.91

DIFFERENTIAL CORRECTIONS
 TDE -.5400 TRA-1.1610 TC3 .0318 BAU .0498 SGT 1465.7 SGR 585.2 SG3 189.7 ST 35.4 SR 26.0 SS 24.8
 RDE -.4798 RRA .1575 RC3 .1277 FAU .04264 RRT .0732 RRF -.0799 RTF -.7778 CRT .7576 CRS .5515 CST .9806
 FDE .3789 FRA 1.4243 FC3-1.3081 BSP 2364 SGB 1570.9 R23 -.0131 R13 -.7780 LSA 47.2 MSA 17.8 S5A 1.2
 BDE .7223 BRA 1.1717 BC3 .1315 FSP 261 SG1 1466.4 S62 563.4 THA 1.90 EL1 41.5 EL2 14.5 ALF 33.78

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 26 1971

FLIGHT TIME 124.00

ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 34.034 GAL -3.50 AZL 91.99 HCA 113.06 SMA 219.39 ECC .31917 INC 1.9866 V1 29.600
 RP 206.82 LAP -1.83 LOP 328.20 VP 26.047 GAP 18.33 AZP 89.22 TAL 345.46 TAP 98.52 RCA 149.37 APO 289.41 V2 26.479
 RC 58.807 GL -13.15 GP 1.41 ZAL 119.37 ZAP 168.24 ETS 173.12 ZAE 173.00 ETE 59.17 ZAC 101.63 ETC 277.48 LVI -18.95

DISTANCE 338.189
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 26.793 VHL 5.176 DLA -21.73 RAL 342.34 RAD 6645.7 VEL 12.114 PTH 7.09 VHP 8.663 DPA -16.31 RAP 319.11 ECC 1.4409
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 18 23 2783.07 -20.25 78.20 203.39 134.03 18 4 26 1783.1 -2.18 61.75
 60.00 18 24 34 2587.06 -14.73 67.37 208.42 127.95 19 7 41 1587.1 1.20 49.15
 70.00 19 48 30 2340.32 -9.34 51.28 212.34 123.00 20 27 30 1340.3 4.59 31.71
 80.00 21 28 39 2026.85 -4.97 30.16 215.01 119.48 22 2 26 1026.8 7.39 9.63
 90.00 23 5 22 1714.92 -3.15 8.21 216.01 118.12 23 33 57 714.9 8.57 347.32
 100.00 0 15 27 1501.32 -4.97 351.52 215.01 119.48 0 40 28 501.3 7.39 331.00
 110.00 0 51 52 1387.14 -9.34 340.20 212.34 123.00 1 14 59 387.1 4.59 320.63

DIFFERENTIAL CORRECTIONS
 TDE -.5333 TRA-1.1511 TC3 .0460 BAU .0514 SGT 1494.9 SGR 562.2 SG3 202.6 ST 36.1 SR 25.9 SS 25.6
 RDE -.4647 RRA .1495 RC3 .1359 FAU .04422 RRT .0798 RRF -.0871 RTF -.7847 CRT .7580 CRS .5465 CST .9588
 FDE .3895 FRA 1.4840 FC3-1.4288 BSP 2432 SGB 1597.1 R23 -.0142 R13 -.7850 LSA 48.0 MSA 18.0 S5A 1.2
 BDE .7088 BRA 1.1626 BC3 .1434 FSP 281 SG1 1495.7 S62 560.1 THA 2.00 EL1 41.9 EL2 14.5 ALF 32.95

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 26 1971

FLIGHT TIME 126.00

ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC

RL 150.83 LAL -.00 LOL 218.13 VL 33.917 GAL -3.39 AZL 92.00 HCA 114.93 BMA 216.94 ECC .31000 INC 1.9088 V1 29.600
RP 206.77 LAP -1.82 LOP 329.46 VP 25.900 GAP 17.88 AZP 89.18 TAL 348.59 TAP 99.92 RCA 149.41 APO 283.67 V2 28.488
RC 89.485 GL -13.93 GP 1.46 ZAL 119.27 ZAP 167.28 ETS 173.42 ZAE 172.71 ETE 94.88 ZAC 101.64 ETC 277.56 LVI -19.09

PLANETOCENTRIC CONIC

C3 25.472 VHL 9.047 DLA -22.10 RAL 342.45 RAD 6643.2 VEL 12.060 PTH 7.04 VHP 8.397 DPA -16.16 RAP 319.40 ECC 1.4192
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 20 30 2742.67 -19.20 77.23 202.67 134.38 18 6 13 1742.7 -1.16 60.90
60.00 18 27 16 2968.03 -13.80 66.25 207.89 128.25 19 10 3 1965.0 2.17 46.10
70.00 19 32 4 2315.83 -8.43 49.97 211.82 123.22 20 30 40 1315.8 3.52 30.42
80.00 21 33 16 1999.00 -4.04 28.82 214.92 119.61 22 6 35 999.1 8.31 6.00
90.00 23 10 35 1683.18 -2.20 6.35 215.53 118.20 23 38 40 683.2 9.49 345.62
100.00 0 20 4 1473.55 -4.04 349.99 214.92 119.61 0 44 38 473.6 8.31 329.43
110.00 0 35 26 1362.64 -8.43 338.89 211.82 123.22 1 18 9 362.6 5.52 319.34

DIFFERENTIAL CORRECTIONS

TDE -.5304 TRA-1.1404 TC3 .0615 BAU .0534
RDE -.4501 RRA .1416 RC3 .1444 FAU .04591
PDE .4007 FRA 1.5464 FC3-1.5603 B8P 2496
BDE .6956 BRA 1.1491 BC3 .1369 F8P 304

MID-COURSE EXECUTION ACCURACY

SGT 1522.7 SGR 558.9 SG3 216.5
RRY .0872 RRF -.0951 RTF -.7913
SG8 1622.0 R23 -.0155 R13 -.7916
SG1 1523.6 SGT 556.3 THA 2.12

ORBIT DETERMINATION ACCURACY

BT 36.7 BR 25.7 SS 28.8
CRT .7586 CR8 .9418 CBT .9570
LSA 48.7 M8A 18.1 S8A 1.2
EL1 42.4 EL2 14.5 ALF 32.18

LAUNCH DATE APR 26 1971

FLIGHT TIME 128.00

ARRIVAL DATE SEP 1 1971

HELIOCENTRIC CONIC

RL 150.93 LAL -.00 LOL 218.13 VL 33.807 GAL -3.29 AZL 92.01 HCA 115.59 BMA 213.93 ECC .30137 INC 2.0107 V1 29.600
RP 206.74 LAP -1.81 LOP 330.73 VP 25.759 GAP 17.44 AZP 89.13 TAL 345.73 TAP 101.33 RCA 149.46 APO 276.40 V2 26.400
RC 80.233 GL -13.91 GP 1.92 ZAL 119.16 ZAP 166.31 ETS 173.67 ZAE 172.42 ETE 51.31 ZAC 101.66 ETC 277.61 LVI -19.23

PLANETOCENTRIC CONIC

C3 24.253 VHL 4.925 DLA -22.47 RAL 342.55 RAD 6644.7 VEL 12.010 PTH 7.00 VHP 8.140 DPA -16.02 RAP 319.60 ECC 1.3991
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 22 30 2722.48 -18.31 76.28 202.37 134.72 18 8 1 1722.5 -.14 60.06
60.00 18 30 4 2543.15 -12.87 65.14 207.30 128.53 19 12 27 1543.2 3.13 47.05
70.00 19 55 43 2291.34 -7.51 48.67 211.33 123.42 20 33 55 1291.3 6.45 29.13
80.00 21 38 3 1971.08 -3.09 27.08 214.06 119.71 22 10 54 971.1 9.22 6.30
90.00 23 16 3 1655.02 -1.23 4.87 215.09 118.26 23 43 38 655.0 10.40 343.68
100.00 0 24 51 1445.53 -3.09 348.45 214.06 119.71 0 48 57 445.5 9.22 327.87
110.00 0 59 6 1336.16 -7.51 337.59 211.33 123.42 1 21 24 336.2 6.45 318.05

DIFFERENTIAL CORRECTIONS

TDE -.5245 TRA-1.1287 TC3 .0786 BAU .0558
RDE -.4398 RRA .1338 RC3 .1533 FAU .04771
PDE .4114 FRA 1.6118 FC3-1.7029 B8P 2552
BDE .6820 BRA 1.1366 BC3 .1722 F8P 328

MID-COURSE EXECUTION ACCURACY

SGT 1548.5 SGR 553.3 SG3 231.2
RRY .0951 RRF -.1037 RTF -.7978
SG8 1645.0 R23 -.0168 R13 -.7981
SG1 1549.5 SGT 552.4 THA 2.24

ORBIT DETERMINATION ACCURACY

BT 37.2 BR 25.5 SS 27.3
CRT .7569 CR8 .9365 CBT .9551
LSA 49.5 M8A 18.2 S8A 1.2
EL1 42.7 EL2 14.5 ALF 31.46

LAUNCH DATE APR 26 1971

FLIGHT TIME 130.00

ARRIVAL DATE SEP 3 1971

HELIOCENTRIC CONIC

RL 150.93 LAL -.00 LOL 218.13 VL 33.703 GAL -3.19 AZL 92.02 HCA 116.88 BMA 211.53 ECC .29323 INC 2.0233 V1 29.600
RP 206.71 LAP -1.80 LOP 332.00 VP 25.625 GAP 17.00 AZP 89.09 TAL 345.88 TAP 102.74 RCA 149.50 APO 273.55 V2 26.482
RC 81.050 GL -14.30 GP 1.98 ZAL 119.03 ZAP 165.32 ETS 173.89 ZAE 172.15 ETE 48.36 ZAC 101.68 ETC 277.67 LVI -19.37

PLANETOCENTRIC CONIC

C3 23.126 VHL 4.808 DLA -22.86 RAL 342.64 RAD 6644.2 VEL 11.963 PTH 6.96 VHP 7.691 DPA -15.88 RAP 319.93 ECC 1.3806
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 24 48 2702.53 -17.35 75.35 201.90 135.03 18 9 30 1702.5 .86 59.22
60.00 18 32 53 2521.44 -11.95 64.05 206.91 128.78 19 14 55 1521.4 4.09 46.01
70.00 19 59 28 2266.88 -6.59 47.37 210.87 123.59 20 37 13 1266.9 7.36 27.83
80.00 21 43 1 1942.83 -2.14 25.53 213.63 119.79 22 15 24 942.8 10.14 4.90
90.00 23 21 45 1624.38 -.24 3.16 214.88 118.26 23 48 49 624.4 11.33 342.11
100.00 0 29 49 1417.30 -2.14 348.89 213.63 119.79 0 53 26 417.3 10.14 326.27
110.00 1 2 51 1313.70 -6.59 336.29 210.87 123.59 1 24 44 313.7 7.36 316.75

DIFFERENTIAL CORRECTIONS

TDE -.5188 TRA-1.1187 TC3 .0957 BAU .0583
RDE -.4222 RRA .1281 RC3 .1628 FAU .04981
PDE .4227 FRA 1.6806 FC3-1.6873 B8P 2608
BDE .6867 BRA 1.1238 BC3 .1886 F8P 353

MID-COURSE EXECUTION ACCURACY

SGT 1573.2 SGR 551.4 SG3 246.9
RRY .1038 RRF -.1131 RTF -.2337
SG8 1667.0 R23 -.0188 R13 -.8040
SG1 1574.4 SGT 548.1 THA 2.38

ORBIT DETERMINATION ACCURACY

BT 37.7 BR 25.3 SS 28.1
CRT .7594 CR8 .9313 CBT .9591
LSA 50.2 M8A 18.3 S8A 1.2
EL1 43.1 EL2 14.4 ALF 30.78

LAUNCH DATE APR 26 1971

FLIGHT TIME 132.00

ARRIVAL DATE SEP 5 1971

HELIOCENTRIC CONIC

RL 150.93 LAL -.00 LOL 218.13 VL 33.604 GAL -3.09 AZL 92.04 HCA 118.13 BMA 209.38 ECC .28556 INC 2.0380 V1 29.600
RP 206.69 LAP -1.80 LOP 333.27 VP 25.498 GAP 16.38 AZP 89.04 TAL 346.03 TAP 104.18 RCA 149.54 APO 269.09 V2 26.499
RC 81.933 GL -14.70 GP 1.65 ZAL 118.89 ZAP 164.31 ETS 174.07 ZAE 171.92 ETE 48.96 ZAC 101.71 ETC 277.73 LVI -19.50

PLANETOCENTRIC CONIC

C3 22.083 VHL 4.699 DLA -23.25 RAL 342.73 RAD 6643.8 VEL 11.920 PTH 6.93 VHP 7.690 DPA -15.74 RAP 320.17 ECC 1.3638
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 26 38 2682.84 -16.40 74.45 201.46 135.31 18 11 41 1682.8 1.89 58.40
60.00 18 35 45 2499.91 -11.03 62.97 206.46 129.01 19 17 25 1499.9 5.03 44.98
70.00 20 3 19 2242.46 -5.67 46.08 210.45 123.74 20 40 42 1242.5 8.28 26.53
80.00 21 48 10 1914.33 -1.17 23.96 213.24 119.84 22 20 4 914.3 11.05 3.28
90.00 23 27 43 1593.23 .76 1.42 214.31 118.27 23 54 16 593.2 12.25 340.29
100.00 0 34 58 1388.80 -1.17 345.33 213.24 119.84 0 58 7 388.8 11.05 324.65
110.00 1 6 42 1289.28 -5.67 335.00 210.45 123.74 1 28 11 289.3 8.28 315.45

DIFFERENTIAL CORRECTIONS

TDE -.5122 TRA-1.1043 TC3 .1141 BAU .0610
RDE -.4090 RRA .1184 RC3 .1721 FAU .05164
PDE .4345 FRA 1.7533 FC3-2.0241 B8P 2650
BDE .6555 BRA 1.1106 BC3 .2065 F8P 381

MID-COURSE EXECUTION ACCURACY

SGT 1596.5 SGR 547.3 SG3 263.7
RRY .1128 RRF -.1235 RTF -.8096
SG8 1687.7 R23 -.0204 R13 -.8099
SG1 1597.9 SGT 543.3 THA 2.50

ORBIT DETERMINATION ACCURACY

BT 38.2 BR 25.0 SS 29.0
CRT .7599 CR8 .9264 CBT .9511
LSA 50.8 M8A 18.5 S8A 1.2
EL1 43.4 EL2 14.3 ALF 30.12

LAUNCH DATE APR 26 1971

FLIGHT TIME 134.00

ARRIVAL DATE SEP 7 1971

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 33.911 GAL -2.89 AZL 92.05 HCA 119.40 SMA 207.28 ECC .27833 INC 2.0491 V1 29.600
 RP 206.68 LAP -1.79 LOP 334.84 VP 25.377 GAP 16.16 AZP 88.99 TAL 346.19 TAP 105.59 RCA 149.58 APO 264.97 V2 26.496
 RC 62.879 GL -15.09 GP 1.71 ZAL 118.74 ZAP 163.28 ETS 174.24 ZAE 171.72 ETE 44.04 ZAC 101.75 ETC 277.78 LVI -19.63

PLANETOCENTRIC CONIC
 C3 21.124 VHL 4.598 DLA -23.65 RAL 342.80 RAD 6643.3 VEL 11.880 PTH 6.89 VHP 7.416 DPA -15.60 RAP 320.38 ECC 1.3476
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 29 10 2663.42 -15.46 73.56 201.04 135.58 18 13 33 1663.4 2.83 57.59
 60.00 18 38 40 2476.60 -10.12 61.92 206.04 129.22 19 19 58 1478.6 5.96 43.95
 70.00 20 7 16 2218.10 -4.75 44.80 210.05 123.86 20 44 14 1218.1 9.19 25.23
 80.00 21 53 32 1885.55 -.20 22.38 212.88 119.86 22 24 57 885.5 11.96 1.63
 90.00 23 34 0 1561.50 1.79 359.65 213.98 118.23 24 0 1 561.5 13.18 338.42
 100.00 0 40 19 1360.02 -.20 343.75 212.88 119.86 1 2 59 360.0 11.96 323.00
 110.00 1 10 38 1264.92 -4.75 333.72 210.05 123.86 1 31 43 264.9 9.19 314.15

DIFFERENTIAL CORRECTIONS
 TDE -.5057 TRA-1.0909 TC3 .1329 BAU .0637 SGT 1617.6 SGR 542.9 SG3 281.5 ST 38.6 SR 24.8 SS 29.9
 RDE -.3962 RRA .1108 RC3 .1620 FAU .05381 RRT .1230 RRF -.1347 RTF -.8147 CRT .7607 CR8 .5208 CST .9487
 FDE .4457 FRA 1.8290 FC3-2.2053 B8P 2703 SGB 1706.2 R23 -.0222 R13 -.8152 LSA 51.5 MSA 18.6 S8A 1.2
 BDE .6425 BRA 1.0965 BC3 .2254 F8P 410 SG1 1619.1 S62 536.3 THA 2.66 EL1 43.6 EL2 14.2 ALF 29.51

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 26 1971

FLIGHT TIME 136.00

ARRIVAL DATE SEP 9 1971

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 33.424 GAL -2.90 AZL 92.06 HCA 120.67 SMA 205.39 ECC .27153 INC 2.0625 V1 29.600
 RP 206.67 LAP -1.77 LOP 335.81 VP 25.262 GAP 15.75 AZP 88.95 TAL 346.35 TAP 107.02 RCA 149.62 APO 261.16 V2 26.496
 RC 63.888 GL -15.49 GP 1.79 ZAL 118.59 ZAP 162.22 ETS 174.38 ZAE 171.58 ETE 42.55 ZAC 101.79 ETC 277.82 LVI -19.76

PLANETOCENTRIC CONIC
 C3 20.235 VHL 4.498 DLA -24.06 RAL 342.88 RAD 6642.9 VEL 11.842 PTH 6.86 VHP 7.191 DPA -15.46 RAP 320.57 ECC 1.3330
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 31 23 2644.30 -14.53 72.70 200.66 135.82 18 15 27 1644.3 3.78 56.79
 60.00 18 41 37 2457.90 -9.21 60.88 205.66 129.41 19 22 35 1457.5 6.88 42.93
 70.00 20 11 19 2193.80 -3.83 43.52 209.69 123.96 20 47 53 1193.8 10.08 23.92
 80.00 21 59 6 1858.47 .79 20.79 212.56 119.85 22 30 3 856.5 12.87 359.95
 90.00 23 40 36 1529.10 2.83 357.84 213.69 118.15 24 6 5 529.1 14.12 336.50
 100.00 0 45 54 1330.94 -.79 342.15 212.56 119.85 1 8 5 330.9 12.87 321.32
 110.00 1 14 41 1240.62 -3.83 332.44 209.69 123.96 1 35 22 240.6 10.08 312.84

DIFFERENTIAL CORRECTIONS
 TDE -.4992 TRA-1.0774 TC3 .1520 BAU .0663 SGT 1637.5 SGR 538.3 SG3 300.5 ST 39.0 SR 24.5 SS 30.8
 RDE -.3839 RRA .1032 RC3 .1923 FAU .05610 RRT .1341 RRF -.1471 RTF -.8198 CRT .7617 CR8 .5157 CST .9464
 FDE .4578 FRA 1.9093 FC3-2.4001 B8P 2751 SGB 1723.7 R23 -.0244 R13 -.8202 LSA 52.1 MSA 18.7 S8A 1.2
 BDE .6297 BRA 1.0823 BC3 .2452 F8P 442 SG1 1639.3 S62 532.9 THA 2.82 EL1 43.8 EL2 14.1 ALF 28.92

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 26 1971

FLIGHT TIME 138.00

ARRIVAL DATE SEP 11 1971

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 33.341 GAL -2.82 AZL 92.08 HCA 121.94 SMA 203.65 ECC .26512 INC 2.0764 V1 29.600
 RP 206.68 LAP -1.78 LOP 337.08 VP 25.151 GAP 15.35 AZP 88.90 TAL 346.51 TAP 108.45 RCA 149.66 APO 257.65 V2 26.496
 RC 64.958 GL -15.99 GP 1.86 ZAL 118.42 ZAP 161.14 ETS 174.58 ZAE 171.48 ETE 41.45 ZAC 101.84 ETC 277.86 LVI -19.89

PLANETOCENTRIC CONIC
 C3 19.415 VHL 4.406 DLA -24.47 RAL 342.94 RAD 6642.6 VEL 11.808 PTH 6.83 VHP 6.972 DPA -15.33 RAP 320.73 ECC 1.3195
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 33 38 2625.50 -13.61 71.86 200.30 136.04 18 17 23 1625.5 4.73 56.00
 60.00 18 44 38 2436.69 -8.30 59.86 205.31 129.58 19 25 15 1436.7 7.79 41.92
 70.00 20 19 28 2169.59 -2.90 42.26 209.36 124.05 20 51 38 1169.6 10.97 22.61
 80.00 22 4 55 1827.05 1.78 19.17 212.28 119.81 22 35 22 827.1 13.78 358.24
 90.00 23 47 35 1495.92 3.89 355.98 213.45 118.03 24 12 31 495.9 15.05 334.51
 100.00 0 51 43 1301.52 1.78 340.54 212.28 119.81 1 13 24 301.5 13.78 319.61
 110.00 1 18 51 1216.40 -2.90 331.17 209.36 124.05 1 39 7 216.4 10.97 311.53

DIFFERENTIAL CORRECTIONS
 TDE -.4923 TRA-1.0633 TC3 .1701 BAU .0680 SGT 1655.3 SGR 533.5 SG3 320.7 ST 39.3 SR 24.3 SS 31.7
 RDE -.3720 RRA .0956 RC3 .2030 FAU .05854 RRT .1460 RRF -.1604 RTF -.8240 CRT .7628 CR8 .5100 CST .9437
 FDE .4693 FRA 1.9937 FC3-2.6103 B8P 2788 SGB 1739.2 R23 -.0268 R13 -.8245 LSA 52.8 MSA 18.8 S8A 1.3
 BDE .6171 BRA 1.0676 BC3 .2649 F8P 475 SG1 1657.4 S62 527.2 THA 3.00 EL1 44.0 EL2 14.0 ALF 28.36

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 26 1971

FLIGHT TIME 140.00

ARRIVAL DATE SEP 13 1971

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 33.263 GAL -2.73 AZL 92.09 HCA 123.21 SMA 202.05 ECC .25909 INC 2.0905 V1 29.600
 RP 206.70 LAP -1.75 LOP 338.35 VP 25.046 GAP 14.96 AZP 88.85 TAL 346.67 TAP 109.88 RCA 149.70 APO 254.39 V2 26.494
 RC 66.082 GL -16.30 GP 1.94 ZAL 118.25 ZAP 160.03 ETS 174.61 ZAE 171.44 ETE 40.72 ZAC 101.90 ETC 277.90 LVI -20.01

PLANETOCENTRIC CONIC
 C3 18.658 VHL 4.319 DLA -24.89 RAL 343.01 RAD 6642.2 VEL 11.776 PTH 6.80 VHP 6.761 DPA -15.21 RAP 320.87 ECC 1.3071
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 35 54 2607.02 -12.70 71.05 199.98 136.25 18 19 21 1607.0 5.65 55.22
 60.00 18 47 42 2416.06 -7.41 58.85 204.98 129.73 19 27 58 1416.1 8.68 40.91
 70.00 20 19 44 2145.45 -1.98 40.99 209.07 124.10 20 55 30 1145.4 11.86 21.30
 80.00 22 11 0 1797.23 2.79 17.53 212.04 119.74 22 40 57 797.2 14.69 356.49
 90.00 23 55 0 1461.80 4.98 354.07 213.25 117.87 24 19 22 461.8 15.99 332.45
 100.00 0 57 48 1271.72 2.79 338.90 212.04 119.74 1 18 59 271.7 14.69 317.86
 110.00 1 23 7 1192.27 -1.98 329.91 209.07 124.10 1 42 59 192.3 11.86 310.21

DIFFERENTIAL CORRECTIONS
 TDE -.4852 TRA-1.0485 TC3 .1897 BAU .0714 SGT 1670.8 SGR 528.6 SG3 342.2 ST 39.6 SR 24.0 SS 32.6
 RDE -.3605 RRA .0881 RC3 .2142 FAU .06117 RRT .1591 RRF -.1751 RTF -.8281 CRT .7641 CR8 .5045 CST .9410
 FDE .4811 FRA 2.0822 FC3-2.8364 B8P 2821 SGB 1752.5 R23 -.0295 R13 -.8287 LSA 53.3 MSA 18.9 S8A 1.3
 BDE .6044 BRA 1.0522 BC3 .2861 F8P 510 SG1 1673.2 S62 521.1 THA 3.19 EL1 44.1 EL2 13.9 ALF 27.85

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 26 1971 FLIGHT TIME 142.00 ARRIVAL DATE SEP 18 1971

Table with columns for HELIOCENTRIC CONIC, PLANETOCENTRIC CONIC, DIFFERENTIAL CORRECTIONS, MID-COURSE EXECUTION ACCURACY, and ORBIT DETERMINATION ACCURACY. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT, INJ ABC, INJ AZMTH, INJ TIME, PO, CST, TIM, INJ 2, LAT, INJ 2, LONG, and various correction values.

LAUNCH DATE APR 26 1971 FLIGHT TIME 144.00 ARRIVAL DATE SEP 17 1971

Table with columns for HELIOCENTRIC CONIC, PLANETOCENTRIC CONIC, DIFFERENTIAL CORRECTIONS, MID-COURSE EXECUTION ACCURACY, and ORBIT DETERMINATION ACCURACY. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT, INJ ABC, INJ AZMTH, INJ TIME, PO, CST, TIM, INJ 2, LAT, INJ 2, LONG, and various correction values.

LAUNCH DATE APR 26 1971 FLIGHT TIME 146.00 ARRIVAL DATE SEP 19 1971

Table with columns for HELIOCENTRIC CONIC, PLANETOCENTRIC CONIC, DIFFERENTIAL CORRECTIONS, MID-COURSE EXECUTION ACCURACY, and ORBIT DETERMINATION ACCURACY. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT, INJ ABC, INJ AZMTH, INJ TIME, PO, CST, TIM, INJ 2, LAT, INJ 2, LONG, and various correction values.

LAUNCH DATE APR 26 1971 FLIGHT TIME 148.00 ARRIVAL DATE SEP 21 1971

Table with columns for HELIOCENTRIC CONIC, PLANETOCENTRIC CONIC, DIFFERENTIAL CORRECTIONS, MID-COURSE EXECUTION ACCURACY, and ORBIT DETERMINATION ACCURACY. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT, INJ ABC, INJ AZMTH, INJ TIME, PO, CST, TIM, INJ 2, LAT, INJ 2, LONG, and various correction values.

LAUNCH DATE APR 26 1971

FLIGHT TIME 150.00

ARRIVAL DATE SEP 23 1971

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 32.936 GAL -2.36 AZL 92.17 HCA 129.55 SMA 195.61 ECC .23389 INC 2.1683 V1 29.600
 RP 206.90 LAP -1.67 LOP 344.69 VP 24.585 GAP 13.12 AZP 88.62 TAL 347.48 TAP 117.03 RCA 149.85 APO 241.36 V2 26.470
 RC 72.517 GL -18.33 GP 2.43 ZAL 117.33 ZAP 154.08 ETS 174.98 ZAE 172.11 ETE 42.82 ZAC 102.32 ETC 278.00 LVI -20.59

DISTANCE 384.182 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 15.668 VHL 3.958 DLA -26.99 RAL 343.31 RAD 6640.8 VEL 11.650 PTH 6.69 VHP 5.806 DPA -14.62 RAP 321.11 ECC 1.2579
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 47 42 2520.04 -8.40 67.27 198.80 137.01 18 29 42 1520.0 9.99 51.51
 60.00 19 3 52 2317.48 -3.09 54.10 203.87 130.20 19 42 29 1317.5 12.91 36.01
 70.00 20 42 56 2026.15 2.57 34.77 208.16 124.07 21 16 42 1026.1 16.09 14.65
 80.00 22 46 33 1639.20 8.07 8.77 211.53 118.84 23 13 52 639.2 19.21 346.94
 90.00 0 46 31 1265.02 11.09 342.84 213.13 116.18 1 7 36 265.0 20.94 320.14
 100.00 1 33 21 1113.67 8.07 330.14 211.53 118.84 1 51 55 113.7 19.21 308.31
 110.00 1 46 19 1072.96 2.57 323.69 208.16 124.07 2 4 12 73.0 16.09 303.57

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.4500 TRA -.9648 TC3 .2607 BAU .0795 SGT 1709.6 SGR 503.7 SG3 471.4 ST 40.2 SR 22.4 SS 37.6
 RDE -.3086 RRA .0495 RC3 .2760 FAU .07669 RRT .2439 RRF -.2715 RTF -.8401 CRT .7781 CRS .4821 CST .9239
 FDE .5462 FRA 2.6043 FC3-4.2372 BSP 2934 SGB 1782.3 R23 -.0499 R13 -.8414 LSA 56.1 MSA 19.4 SSA 1.3
 BDE .5456 BRA .9661 BC3 .3796 FSP 729 SG1 1714.4 SG2 487.1 THA 4.47 EL1 44.2 EL2 12.8 ALF 25.74

LAUNCH DATE APR 26 1971

FLIGHT TIME 152.00

ARRIVAL DATE SEP 25 1971

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 32.882 GAL -2.30 AZL 92.19 HCA 130.81 SMA 194.58 ECC .22973 INC 2.1855 V1 29.600
 RP 206.96 LAP -1.65 LOP 345.96 VP 24.504 GAP 12.78 AZP 88.57 TAL 347.64 TAP 118.45 RCA 149.88 APO 239.28 V2 26.462
 RC 73.950 GL -18.74 GP 2.55 ZAL 117.15 ZAP 152.80 ETS 175.02 ZAE 172.41 ETE 44.85 ZAC 102.44 ETC 278.00 LVI -20.70

DISTANCE 388.034 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 15.205 VHL 3.899 DLA -27.41 RAL 343.38 RAD 6640.6 VEL 11.630 PTH 6.67 VHP 5.634 DPA -14.51 RAP 321.06 ECC 1.2502
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 50 10 2503.80 -7.59 66.58 198.66 137.11 18 31 54 1503.8 10.79 50.81
 60.00 19 7 16 2298.72 -2.27 53.20 203.75 130.25 19 45 35 1298.7 13.71 35.06
 70.00 20 48 0 2002.54 3.47 33.53 208.10 124.00 21 21 22 1002.5 16.90 13.31
 80.00 22 55 7 1604.59 9.20 6.82 211.59 118.53 23 21 52 604.6 20.13 344.78
 90.00 1 0 10 1214.03 12.61 339.86 213.36 115.53 1 20 24 214.0 22.06 316.82
 100.00 1 41 55 1079.06 9.20 328.19 211.59 118.53 1 59 54 79.1 20.13 306.15
 110.00 1 51 22 1049.36 3.47 322.45 208.10 124.00 2 8 51 49.4 16.90 302.22

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.4428 TRA -.9460 TC3 .2676 BAU .0802 SGT 1708.3 SGR 499.2 SG3 502.1 ST 40.1 SR 22.0 SS 38.6
 RDE -.2993 RRA .0414 RC3 .2898 FAU .08036 RRT .2650 RRF -.2960 RTF -.8406 CRT .7825 CRS .4783 CST .9195
 FDE .5593 FRA 2.7265 FC3-4.5753 BSP 2939 SGB 1779.7 R23 -.0562 R13 -.8422 LSA 56.6 MSA 19.6 SCA 1.3
 BDE .5344 BRA .9469 BC3 .3945 FSP 780 SG1 1713.8 SG2 479.7 THA 4.80 EL1 44.0 EL2 12.5 ALF 25.43

LAUNCH DATE APR 26 1971

FLIGHT TIME 154.00

ARRIVAL DATE SEP 27 1971

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 32.831 GAL -2.24 AZL 92.20 HCA 132.08 SMA 193.63 ECC .22580 INC 2.2033 V1 29.600
 RP 207.04 LAP -1.64 LOP 347.23 VP 24.426 GAP 12.44 AZP 88.52 TAL 347.78 TAP 119.86 RCA 149.90 APO 237.36 V2 26.454
 RC 75.426 GL -19.15 GP 2.67 ZAL 116.97 ZAP 151.48 ETS 175.06 ZAE 172.75 ETE 47.14 ZAC 102.57 ETC 277.99 LVI -20.81

DISTANCE 391.915 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 14.780 VHL 3.844 DLA -27.83 RAL 343.45 RAD 6640.4 VEL 11.612 PTH 6.65 VHP 5.469 DPA -14.41 RAP 320.98 ECC 1.2432
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 52 41 2487.97 -6.80 65.91 198.55 137.20 18 34 9 1488.0 11.58 50.12
 60.00 19 10 45 2280.30 -1.46 52.32 203.67 130.28 19 48 45 1280.3 14.48 34.12
 70.00 20 53 13 1978.99 4.37 32.30 208.07 123.91 21 26 12 979.0 17.70 11.95
 80.00 23 4 23 1968.21 10.37 4.76 211.71 118.15 23 30 33 568.2 21.06 342.48
 90.00 1 17 38 1151.29 14.42 338.15 213.76 114.60 1 38 49 151.3 23.33 312.86
 100.00 1 51 13 1042.68 10.37 326.13 211.71 118.15 2 8 36 42.7 21.06 303.83
 110.00 1 56 35 1025.81 4.37 321.22 208.07 123.91 2 13 41 25.8 17.70 300.87

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.4355 TRA -.9260 TC3 .2741 BAU .0809 SGT 1703.2 SGR 495.0 SG3 534.7 ST 40.0 SR 21.6 SS 39.7
 RDE -.2903 RRA .0332 RC3 .3044 FAU .08430 RRT .2881 RRF -.3230 RTF -.8409 CRT .7878 CRS .4737 CST .9150
 FDE .5735 FRA 2.8552 FC3-4.9378 BSP 2932 SGB 1773.7 R23 -.0632 R13 -.8428 LSA 57.1 MSA 19.7 SSA 1.3
 BDE .5234 BRA .9286 BC3 .4096 FSP 835 SG1 1709.7 SG2 472.2 THA 5.18 EL1 43.8 EL2 12.2 ALF 25.16

LAUNCH DATE APR 26 1971

FLIGHT TIME 156.00

ARRIVAL DATE SEP 29 1971

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 32.783 GAL -2.19 AZL 92.22 HCA 133.34 SMA 192.75 ECC .22217 INC 2.2210 V1 29.600
 RP 207.12 LAP -1.62 LOP 348.49 VP 24.351 GAP 12.11 AZP 88.47 TAL 347.93 TAP 121.27 RCA 149.93 APO 235.57 V2 26.444
 RC 76.244 GL -19.56 GP 2.80 ZAL 116.80 ZAP 150.13 ETS 175.09 ZAE 173.11 ETE 50.44 ZAC 102.71 ETC 277.98 LVI -20.91

DISTANCE 395.823 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 14.390 VHL 3.793 DLA -28.24 RAL 343.54 RAD 6640.2 VEL 11.598 PTH 6.64 VHP 5.309 DPA -14.31 RAP 320.85 ECC 1.2368
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 55 14 2472.56 -6.03 65.26 198.47 137.28 18 36 26 1472.6 12.34 49.44
 60.00 19 14 18 2262.22 -.66 51.46 203.82 130.30 19 52 0 1262.2 15.24 33.19
 70.00 20 58 36 1955.48 5.26 31.06 208.09 123.79 21 31 12 955.5 18.49 10.58
 80.00 23 14 42 1529.35 11.61 2.55 211.91 117.70 23 40 11 529.4 22.02 339.99
 90.00 1 49 42 1042.02 17.40 329.52 214.71 112.65 2 7 4 42.0 25.24 305.23
 100.00 2 1 29 1003.83 11.61 323.91 211.91 117.70 2 18 13 3.8 22.02 301.36
 110.00 2 1 59 1002.30 5.26 319.98 208.09 123.79 2 18 41 2.3 18.49 299.50

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.4286 TRA -.9051 TC3 .2734 BAU .0809 SGT 1694.1 SGR 491.3 SG3 568.9 ST 39.9 SR 21.3 SS 40.8
 RDE -.2816 RRA .0247 RC3 .3193 FAU .08833 RRT .3123 RRF -.3517 RTF -.8400 CRT .7941 CRS .4740 CST .9100
 FDE .5882 FRA 2.9913 FC3-5.3143 BSP 2923 SGB 1763.9 R23 -.0716 R13 -.8423 LSA 57.6 MSA 19.8 SSA 1.3
 BDE .5128 BRA .9054 BC3 .4204 FSP 894 SG1 1701.6 SG2 464.7 THA 5.59 EL1 43.6 EL2 11.8 ALF 24.92

LAUNCH DATE APR 26 1971 FLIGHT TIME 190.00 ARRIVAL DATE OCT 1 1971

DISTANCE 399.756 EARTH TO MARS

Heliocentric Conic
 RL 150.53 LAL -.00 LOL 215.13 VL 32.738 GAL -2.13 AZL 82.24 HCA 134.61 SMA 191.93 ECC .21874 INC 2.2412 V1 29.600
 RP 207.21 LAP -1.60 LOP 348.75 VP 24.279 GAP 11.79 AZP 86.43 TAL 348.06 TAP 122.67 RCA 149.85 APO 233.81 V2 26.433
 RC 78.502 GL -19.97 GP 2.04 ZAL 116.63 ZAP 148.74 ETS 175.12 ZAE 173.90 ETE 54.73 ZAC 102.87 ETC 277.96 LVI -21.01

Planetocentric Conic
 C3 14.033 VHL 3.746 DLA -20.66 RAL 343.62 RAD 6640.1 VEL 11.580 PTH 6.62 VHP 5.155 DPA -14.21 RAP 320.69 ECC 1.2309
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 57 50 2457.92 -5.27 64.62 198.43 137.35 18 38 47 1457.5 13.07 48.78
 60.00 19 17 56 2244.45 .12 50.61 203.60 130.30 19 55 20 1244.4 15.98 32.27
 70.00 21 4 11 1931.92 6.15 29.82 208.15 123.66 21 36 23 931.9 19.27 9.20
 80.00 23 26 20 1486.72 12.95 .09 212.19 117.14 23 51 7 486.7 23.02 337.22
 85.16 1 22 18 1126.29 18.83 336.31 214.98 112.01 1 41 4 126.3 26.26 311.65
 100.00 2 13 8 6249.24 12.95 299.36 212.19 117.14 3 57 17 5249.2 23.02 276.50
 110.00 2 7 34 6266.78 6.15 296.64 208.15 123.66 3 52 0 5266.6 19.27 276.02

Differential Corrections
 TDE -.4151 TRA -.8769 TC3 .2880 BAU .0830 SGT 1669.1 SGR 488.2 SG3 604.9 ST 39.2 SR 20.9 SS 41.9
 RDE -.2730 RRA .0181 RC3 .3356 FAU .09286 RRT .3393 RRF -.3927 RTF -.8424 CRT .7987 CRS .4702 CST .9049
 FDE .5979 FRA 3.1297 FC3-5.7290 BSP 2830 SGB 1739.0 R23 -.0783 R13 -.8451 LSA 57.6 MSA 19.9 SSA 1.2
 BDE .4968 BRA .8770 BC3 .4422 FSP 951 SG1 1677.9 SG2 456.8 THA 6.12 EL1 42.9 EL2 11.5 ALF 24.99

LAUNCH DATE APR 26 1971 FLIGHT TIME 160.00 ARRIVAL DATE OCT 3 1971

DISTANCE 403.710 EARTH TO MARS

Heliocentric Conic
 RL 150.53 LAL -.00 LOL 215.13 VL 32.696 GAL -2.09 AZL 92.26 HCA 135.87 SMA 191.17 ECC .21554 INC 2.2614 V1 29.600
 RP 207.31 LAP -1.57 LOP 351.02 VP 24.210 GAP 11.48 AZP 88.38 TAL 348.19 TAP 124.06 RCA 149.97 APO 232.38 V2 26.422
 RC 80.098 GL -20.38 GP 3.09 ZAL 116.47 ZAP 147.31 ETS 175.14 ZAE 173.87 ETE 60.21 ZAC 103.04 ETC 277.93 LVI -21.11

Planetocentric Conic
 C3 13.707 VHL 3.702 DLA -29.07 RAL 343.72 RAD 6639.9 VEL 11.566 PTH 6.61 VHP 5.008 DPA -14.12 RAP 320.49 ECC 1.2256
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 0 28 2442.96 -4.55 64.01 198.42 137.41 18 41 11 1443.0 13.79 48.14
 60.00 19 21 37 2227.08 .88 49.78 203.63 130.29 19 58 44 1227.1 16.69 31.37
 70.00 21 9 58 1908.43 7.04 28.58 208.25 123.51 21 41 46 908.4 20.03 7.80
 80.00 23 40 4 1438.19 14.44 357.25 212.59 116.42 24 4 2 438.2 24.09 334.02
 82.99 1 5 3 1178.04 19.22 340.28 214.85 112.23 1 24 41 178.0 26.70 315.56
 100.00 2 26 51 6200.70 14.44 296.53 212.59 116.42 4 10 12 5200.7 24.09 273.29
 110.00 2 13 20 6243.29 7.04 295.40 208.25 123.51 3 57 23 5243.3 20.03 274.63

Differential Corrections
 TDE -.4137 TRA -.8586 TC3 .2630 BAU .0805 SGT 1660.9 SGR 486.0 SG3 642.8 ST 39.3 SR 20.5 SS 43.1
 RDE -.2651 RRA .0089 RC3 .3515 FAU .09715 RRT .3652 RRF -.4160 RTF -.8363 CRT .8093 CRS .4731 CST .8987
 FDE .6180 FRA 3.2832 FC3-6.1359 BSP 2875 SGB 1730.6 R23 -.0927 R13 -.8396 LSA 58.5 MSA 20.1 SSA 1.2
 BDE .4914 BRA .8586 BC3 .4391 FSP 1022 SG1 1671.1 SG2 449.7 THA 6.58 EL1 42.9 EL2 11.0 ALF 24.63

LAUNCH DATE APR 26 1971 FLIGHT TIME 162.00 ARRIVAL DATE OCT 5 1971

DISTANCE 407.687 EARTH TO MARS

Heliocentric Conic
 RL 150.53 LAL -.00 LOL 215.13 VL 32.657 GAL -2.04 AZL 92.28 HCA 137.13 SMA 190.46 ECC .21253 INC 2.2825 V1 29.600
 RP 207.42 LAP -1.55 LOP 352.28 VP 24.143 GAP 11.17 AZP 88.33 TAL 348.31 TAP 125.44 RCA 149.98 APO 230.94 V2 26.409
 RC 81.730 GL -20.79 GP 3.25 ZAL 116.31 ZAP 145.85 ETS 175.16 ZAE 174.20 ETE 67.12 ZAC 103.22 ETC 277.90 LVI -21.21

Planetocentric Conic
 C3 13.410 VHL 3.662 DLA -29.47 RAL 343.83 RAD 6639.8 VEL 11.553 PTH 6.60 VHP 4.865 DPA -14.03 RAP 320.24 ECC 1.2207
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 3 10 2428.73 -3.83 63.41 198.43 137.46 18 43 39 1428.7 14.49 47.50
 60.00 19 25 24 2209.95 1.64 48.96 203.69 130.27 20 2 14 1210.0 17.40 30.47
 70.00 21 15 59 1884.69 7.93 27.32 208.40 123.33 21 47 24 884.7 20.79 6.36
 80.00 0 1 57 1376.80 16.27 353.61 213.19 115.39 0 24 53 376.8 25.33 329.88
 81.33 0 52 21 1215.43 19.60 343.21 214.75 112.46 1 12 36 215.4 27.14 318.43
 100.00 2 44 48 6139.31 16.27 292.89 213.19 115.39 4 27 8 5139.3 25.33 269.15
 110.00 2 19 21 6219.55 7.93 294.14 208.40 123.33 4 3 1 5219.5 20.79 273.20

Differential Corrections
 TDE -.3926 TRA -.8198 TC3 .2921 BAU .0846 SGT 1610.1 SGR 484.7 SG3 682.3 ST 37.8 SR 20.1 SS 43.9
 RDE -.2587 RRA -.0020 RC3 .3704 FAU .10255 RRT .3973 RRF -.4510 RTF -.8116 CRT .8133 CRS .4669 CST .8923
 FDE .6189 FRA 3.4260 FC3-6.6206 BSP 2683 SGB 1681.5 R23 -.0975 R13 -.8456 LSA 58.0 MSA 20.1 SSA 1.2
 BDE .4691 BRA .8198 BC3 .4717 FSP 1075 SG1 1622.5 SG2 441.4 THA 7.37 EL1 41.5 EL2 10.7 ALF 25.13

LAUNCH DATE APR 26 1971 FLIGHT TIME 164.00 ARRIVAL DATE OCT 7 1971

DISTANCE 411.682 EARTH TO MARS

Heliocentric Conic
 RL 150.53 LAL -.00 LOL 215.13 VL 32.680 GAL -2.00 AZL 92.30 HCA 138.39 SMA 189.81 ECC .20974 INC 2.3046 V1 29.600
 RP 207.54 LAP -1.53 LOP 353.54 VP 24.078 GAP 10.87 AZP 88.28 TAL 348.41 TAP 126.80 RCA 150.00 APO 229.82 V2 26.395
 RC 83.399 GL -21.20 GP 3.42 ZAL 116.17 ZAP 144.35 ETS 175.17 ZAE 174.44 ETE 75.51 ZAC 103.42 ETC 277.85 LVI -21.31

Planetocentric Conic
 C3 13.143 VHL 3.625 DLA -29.87 RAL 343.95 RAD 6639.6 VEL 11.542 PTH 6.59 VHP 4.729 DPA -13.94 RAP 319.96 ECC 1.2163
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 5 56 2415.03 -3.14 62.84 198.49 137.50 18 46 11 1415.0 13.15 46.88
 60.00 19 29 16 2193.32 2.37 48.17 203.79 130.24 20 5 49 1193.3 16.07 29.58
 70.00 21 22 13 1861.03 8.81 26.05 208.60 123.13 21 53 14 861.0 21.53 4.95
 79.95 0 42 10 1245.23 19.97 345.58 214.69 112.69 1 2 55 245.2 27.56 320.74
 79.95 0 42 10 1245.23 19.97 345.58 214.69 112.69 1 2 55 245.2 27.56 320.74
 79.95 0 42 10 1245.23 19.97 345.58 214.69 112.69 1 2 55 245.2 27.56 320.74
 110.00 2 25 35 6195.89 8.81 292.88 208.60 123.13 4 8 51 5195.9 21.53 271.77

Differential Corrections
 TDE -.4003 TRA -.8080 TC3 .2305 BAU .0791 SGT 1611.6 SGR 484.8 SG3 724.6 ST 38.6 SR 19.7 SS 45.6
 RDE -.2498 RRA -.0124 RC3 .3870 FAU .10685 RRT .4222 RRF -.4885 RTF -.8277 CRT .8295 CRS .4778 CST .8851
 FDE .6509 FRA 3.6077 FC3-7.0382 BSP 2797 SGB 1682.9 R23 -.1229 R13 -.8328 LSA 59.5 MSA 20.4 SSA 1.2
 BDE .4718 BRA .8081 BC3 .4504 FSP 1163 SG1 1625.6 SG2 435.7 THA 7.80 EL1 42.2 EL2 10.1 ALF 24.50

LAUNCH DATE APR 26 1971 FLIGHT TIME 174.00 ARRIVAL DATE OCT 17 1971

HELIOCENTRIC CONIC DISTANCE 431.905 EARTH TO MARS
RL 130.53 LAL -.00 LOL 215.13 VL 32.470 GAL -1.85 AZL 92.43 HCA 144.88 SMA 187.19 ECC .19639 INC 2.4330 V1 29.600
RP 208.24 LAP -1.41 LOP 359.91 VP 23.784 GAP 9.47 AZP 88.01 TAL 348.79 TAP 133.45 RCA 150.06 APO 224.33 V2 26.313
RC 92.259 GL -23.27 GP 4.47 ZAL 115.60 ZAP 136.22 ETS 175.22 ZAE 172.91 ETE 123.24 ZAC 104.70 ETC 277.51 LVI -21.79
PLANETOCENTRIC CONIC
C3 12.167 VHL 3.488 DLA -31.83 RAL 344.78 RAD 6639.1 VEL 11.500 PTH 6.55 VHP 4.131 DPA -13.48 RAP 317.87 ECC 1.2002
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 20 46 2392.13 .02 60.21 199.32 137.58 18 59 58 1352.1 18.19 44.00
60.00 19 50 9 2114.25 5.84 44.37 204.90 129.95 20 25 24 1114.3 21.23 25.28
70.00 21 58 47 1735.57 13.39 19.23 210.42 121.72 22 27 43 735.6 25.22 357.07
74.75 0 7 59 1347.28 21.66 354.02 214.99 113.91 0 30 27 347.3 29.58 328.89
74.75 0 7 59 1347.28 21.66 354.02 214.99 113.91 0 30 27 347.3 29.58 328.89
74.75 0 7 59 1347.28 21.66 354.02 214.99 113.91 0 30 27 347.3 29.58 328.89
110.00 3 2 9 6070.42 13.39 286.06 210.42 121.72 4 43 20 5070.4 25.22 263.89
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3683 TRA -.6494 TC3 .0357 BAU .0805 SGT 1393.8 SGR 512.8 SG3 960.1 ST 35.6 SR 17.9 SS 52.1
RDE -.2162 RRA -.0899 RC3 .4936 FAU .13453 RRT .5501 RRF -.6889 RTF -.7718 CRT .9031 CRS .5231 CST .8357
FDE .7487 FRA 4.5498 FC3-9.5718 BSP 2406 SGB 1485.1 R23 -.2655 R13 -.7908 LSA 62.0 MSA 21.2 SSA 1.1
BDE .4271 BRA .6531 BC3 .4949 FSP 1574 SG1 1424.8 SG2 418.9 THA 12.54 EL1 39.3 EL2 7.0 ALF 25.23

LAUNCH DATE APR 26 1971 FLIGHT TIME 176.00 ARRIVAL DATE OCT 19 1971

HELIOCENTRIC CONIC DISTANCE 435.990 EARTH TO MARS
RL 150.53 LAL -.00 LOL 215.13 VL 32.446 GAL -1.83 AZL 92.46 HCA 145.91 SMA 186.78 ECC .19659 INC 2.4643 V1 29.600
RP 208.41 LAP -1.38 LOP 1.06 VP 23.730 GAP 9.21 AZP 87.96 TAL 348.83 TAP 134.74 RCA 150.06 APO 223.50 V2 26.294
RC 94.128 GL -23.70 GP 4.72 ZAL 115.52 ZAP 134.47 ETS 175.23 ZAE 171.97 ETE 132.40 ZAC 105.01 ETC 277.41 LVI -21.88
PLANETOCENTRIC CONIC
C3 12.038 VHL 3.470 DLA -32.21 RAL 345.00 RAD 6639.1 VEL 11.494 PTH 6.54 VHP 4.027 DPA -13.38 RAI 317.31 ECC 1.1981
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 24 0 2340.60 .59 59.73 199.61 137.57 19 3 1 1340.6 18.74 43.46
60.00 19 54 44 2099.15 6.50 43.64 205.25 129.86 20 29 43 1099.1 21.82 24.44
70.00 22 7 44 1707.50 14.39 17.67 210.99 121.31 22 36 11 707.5 25.98 355.24
73.90 0 3 8 1362.95 21.96 355.35 215.18 114.17 0 25 51 362.9 29.97 330.18
73.90 0 3 8 1362.95 21.96 355.35 215.18 114.17 0 25 51 362.9 29.97 330.18
73.90 0 3 8 1362.95 21.96 355.35 215.18 114.17 0 25 51 362.9 29.97 330.18
110.00 3 11 6 6042.36 14.39 284.50 210.99 121.31 4 51 48 5042.4 25.98 262.07
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3604 TRA -.6092 TC3 -.0182 BAU .0837 SGT 1329.6 SGR 528.2 SG3 1011.6 ST 34.7 SR 17.5 SS 53.3
RDE -.2101 RRA -.0834 RC3 .5196 FAU .14086 RRT .5654 RRF -.7278 RTF -.7512 CRT .9206 CRS .5374 CST .8210
FDE .7663 FRA 4.7532 FC-10.1303 BSP 2278 SGB 1430.0 R23 -.3088 R13 -.7772 LSA 62.4 MSA 21.4 SSA 1.1
BDE .4172 BRA .6148 BC3 .5199 FSP 1661 SG1 1366.2 SG2 422.4 THA 13.98 EL1 38.4 EL2 6.2 ALF 25.66

LAUNCH DATE APR 26 1971 FLIGHT TIME 178.00 ARRIVAL DATE OCT 21 1971

HELIOCENTRIC CONIC DISTANCE 440.088 EARTH TO MARS
RL 150.53 LAL -.00 LOL 215.13 VL 32.424 GAL -1.81 AZL 92.50 HCA 147.16 SMA 186.40 ECC .19493 INC 2.4989 V1 29.600
RP 208.58 LAP -1.35 LOP 2.31 VP 23.677 GAP 8.95 AZP 87.90 TAL 348.86 TAP 136.02 RCA 150.02 APO 222.74 V2 26.274
RC 96.027 GL -24.13 GP 4.99 ZAL 115.45 ZAP 132.68 ETS 175.25 ZAE 170.87 ETE 138.22 ZAC 105.35 ETC 277.30 LVI -21.99
PLANETOCENTRIC CONIC
C3 11.929 VHL 3.454 DLA -32.59 RAL 345.24 RAD 6639.0 VEL 11.489 PTH 6.54 VHP 3.929 DPA -13.27 RAP 316.70 ECC 1.1963
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 27 22 2329.36 1.16 59.26 199.93 137.57 19 6 11 1329.4 19.28 42.93
60.00 19 59 29 2084.16 7.15 42.91 205.66 129.77 20 34 13 1084.2 22.40 23.60
70.00 22 17 36 1677.29 15.45 15.98 211.64 120.84 22 45 34 677.3 26.77 353.25
73.08 23 54 47 1377.70 22.26 356.63 215.41 114.44 24 17 45 377.7 30.34 331.41
73.08 23 54 47 1377.70 22.26 356.63 215.41 114.44 24 17 45 377.7 30.34 331.41
73.08 23 54 47 1377.70 22.26 356.63 215.41 114.44 24 17 45 377.7 30.34 331.41
110.00 3 20 59 6012.15 15.45 282.80 211.64 120.84 5 1 11 5012.1 26.77 260.07
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3488 TRA -.5638 TC3 -.0695 BAU .0881 SGT 1252.3 SGR 542.8 SG3 1064.0 ST 33.4 SR 17.2 SS 54.4
RDE -.2040 RRA -.0976 RC3 .5478 FAU .14756 RRT .5751 RRF -.7646 RTF -.7275 CRT .9377 CRS .5508 CST .8030
FDE .7751 FRA 4.9574 FC-10.7093 BSP 2090 SGB 1364.9 R23 -.3536 R13 -.7638 LSA 62.5 MSA 21.6 SSA 1.0
BDE .4040 BRA .5720 BC3 .5522 FSP 1740 SG1 1295.7 SG2 429.2 THA 15.77 EL1 37.1 EL2 5.4 ALF 26.34

LAUNCH DATE APR 26 1971 FLIGHT TIME 180.00 ARRIVAL DATE OCT 23 1971

HELIOCENTRIC CONIC DISTANCE 444.194 EARTH TO MARS
RL 150.53 LAL -.00 LOL 215.13 VL 32.403 GAL -1.80 AZL 92.53 HCA 148.40 SMA 186.06 ECC .19340 INC 2.5316 V1 29.600
RP 208.76 LAP -1.33 LOP 3.55 VP 23.626 GAP 8.70 AZP 87.84 TAL 348.87 TAP 137.27 RCA 150.07 APO 222.04 V2 26.254
RC 97.955 GL -24.57 GP 5.29 ZAL 115.40 ZAP 130.85 ETS 175.26 ZAE 169.63 ETE 142.89 ZAC 105.72 ETC 277.19 LVI -22.09
PLANETOCENTRIC CONIC
C3 11.841 VHL 3.441 DLA -32.97 RAL 345.50 RAD 6639.0 VEL 11.486 PTH 6.53 VHP 3.837 DPA -13.16 RAP 316.05 ECC 1.1949
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 30 50 2318.46 1.71 58.80 200.30 137.55 19 9 29 1318.5 19.80 42.41
60.00 20 4 26 2069.36 7.79 42.19 206.11 129.37 20 38 55 1069.4 22.97 22.76
70.00 22 28 43 1644.10 16.60 14.09 212.40 120.28 22 56 8 644.1 27.59 351.03
72.30 23 50 47 1391.82 22.55 357.85 215.69 114.72 24 13 59 391.8 30.71 332.59
72.30 23 50 47 1391.82 22.55 357.85 215.69 114.72 24 13 59 391.8 30.71 332.59
72.30 23 50 47 1391.82 22.55 357.85 215.69 114.72 24 13 59 391.8 30.71 332.59
110.00 3 32 6 5978.96 16.60 280.91 212.40 120.28 5 11 45 4978.0 27.59 257.65
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3518 TRA -.5289 TC3 -.1734 BAU .0949 SGT 1208.0 SGR 563.5 SG3 1116.8 ST 33.3 SR 17.0 SS 56.3
RDE -.1994 RRA -.1141 RC3 .5738 FAU .15296 RRT .5658 RRF -.7994 RTF -.6853 CRT .9571 CRS .5805 CST .7872
FDE .8231 FRA 5.2008 FC-11.1835 BSP 2060 SGB 1333.0 R23 -.4221 R13 -.7353 LSA 63.9 MSA 21.9 SSA 1.0
BDE .4044 BRA .5410 BC3 .5995 FSP 1857 SG1 1255.8 SG2 446.9 THA 17.00 EL1 37.1 EL2 4.4 ALF 26.42

LAUNCH DATE APR 26 1971

FLIGHT TIME 182.00

ARRIVAL DATE OCT 25 1971

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 32.384 GAL -1.79 AZL 92.57 HCA 149.85 SMA 185.74 ECC .19200 INC 2.5688 V1 29.600
 RP 208.84 LAP -1.30 LOP 4.80 VP 23.576 GAP 8.45 AZP 87.78 TAL 348.87 TAP 138.52 RCA 150.08 APO 221.40 V2 26.232
 RC 99.910 GL -25.02 GP 5.60 ZAL 115.35 ZAP 128.98 ETS 175.28 ZAE 168.27 ETE 146.64 ZAC 106.11 ETC 277.07 LVI -22.21

PLANETOCENTRIC CONIC
 C3 11.771 VHL 3.431 DLA -33.35 RAL 345.79 RAD 6638.9 VEL 11.483 PTH 6.53 VHP 3.749 DPA -13.03 RAP 315.36 ECC 1.1937
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 34 28 2307.75 2.25 58.35 200.72 137.54 19 12 56 1307.7 20.31 41.90
 60.00 20 9 36 2034.51 8.44 41.47 206.62 129.56 20 43 51 1054.5 23.93 21.90
 70.00 22 41 51 1605.52 17.91 11.87 213.31 119.58 23 8 37 605.5 28.51 348.40
 71.53 23 47 6 1405.47 22.83 359.05 216.02 115.00 24 10 32 405.5 31.08 333.74
 71.53 23 47 6 1405.47 22.83 359.05 216.02 115.00 24 10 32 405.5 31.08 333.74
 71.53 23 47 6 1405.47 22.83 359.05 216.02 115.00 24 10 32 405.5 31.08 333.74
 110.00 3 45 14 5940.37 17.91 278.69 213.31 119.58 5 24 14 4940.4 28.51 255.22

DIFFERENTIAL CORRECTIONS
 TDE -.3461 TRA -.4838 TC3 -.2590 BAU .1034 SGT 1140.8 SGR 588.0 SG3 1173.4 ST 32.3 SR 16.7 SS 57.6
 RDE -.1943 RRA -.1311 RC3 .6041 FAU .15929 RRT .5477 RRF -.8309 RTF -.6383 CRT .9732 CRS .6040 CST .7653
 FDE .8472 FRA 5.4294 FC-11.7157 B8P 1931 SGB 1283.5 R23 -.4856 R13 -.7089 LSA 64.5 MSA 22.2 SSA 1.0
 BDE .3970 BRA .5013 BC3 .6572 F8P 1954 SG1 1194.3 SG2 469.9 THA 18.78 EL1 36.2 EL2 3.4 ALF 26.95

LAUNCH DATE APR 26 1971

FLIGHT TIME 184.00

ARRIVAL DATE OCT 27 1971

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 32.367 GAL -1.78 AZL 92.61 HCA 150.89 SMA 185.44 ECC .19072 INC 2.6088 V1 29.600
 RP 209.14 LAP -1.27 LOP 6.04 VP 23.527 GAP 8.21 AZP 87.72 TAL 348.85 TAP 139.74 RCA 150.08 APO 220.81 V2 26.209
 RC 101.892 GL -25.48 GP 5.94 ZAL 115.32 ZAP 127.07 ETS 175.30 ZAE 166.80 ETE 149.66 ZAC 106.53 ETC 276.93 LVI -22.33

PLANETOCENTRIC CONIC
 C3 11.721 VHL 3.424 DLA -33.74 RAL 346.11 RAD 6638.9 VEL 11.480 PTH 6.53 VHP 3.668 DPA -12.89 RAP 314.61 ECC 1.1929
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 38 16 2297.21 2.77 57.91 201.19 137.51 19 16 33 1297.2 20.80 41.39
 60.00 20 15 3 2039.58 9.09 40.74 207.19 129.43 20 49 2 1039.6 24.09 21.04
 70.00 22 58 43 1556.39 19.54 8.99 214.45 118.58 23 24 40 556.4 29.58 344.98
 70.78 23 43 43 1418.83 23.10 .22 216.40 115.30 24 7 22 418.8 31.45 334.87
 70.78 23 43 43 1418.83 23.10 .22 216.40 115.30 24 7 22 418.8 31.45 334.87
 70.78 23 43 43 1418.83 23.10 .22 216.40 115.30 24 7 22 418.8 31.45 334.87
 110.00 4 2 6 5891.25 19.54 275.81 214.45 118.58 5 40 17 4891.2 29.58 251.80

DIFFERENTIAL CORRECTIONS
 TDE -.3412 TRA -.4349 TC3 -.3515 BAU .1139 SGT 1072.4 SGR 616.9 SG3 1227.7 ST 31.4 SR 16.5 SS 59.0
 RDE -.1897 RRA -.1492 RC3 .6359 FAU .16557 RRT .5129 RRF -.8592 RTF -.5768 CRT .9868 CRS .6316 CST .7402
 FDE .8777 FRA 5.6573 FC-12.2296 B8P 1799 SGB 1237.2 R23 -.5517 R13 -.6775 LSA 65.1 MSA 22.4 SSA 1.0
 BDE .3904 BRA .4598 BC3 .7266 F8P 2053 SG1 1130.6 SG2 502.3 THA 20.70 EL1 35.4 EL2 2.4 ALF 27.54

LAUNCH DATE APR 26 1971

FLIGHT TIME 186.00

ARRIVAL DATE OCT 29 1971

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 32.351 GAL -1.77 AZL 92.65 HCA 152.13 SMA 185.18 ECC .18955 INC 2.6519 V1 29.600
 RP 209.34 LAP -1.24 LOP 7.28 VP 23.479 GAP 7.97 AZP 87.66 TAL 348.82 TAP 140.95 RCA 150.08 APO 220.28 V2 26.186
 RC 103.900 GL -29.95 GP 6.30 ZAL 115.30 ZAP 125.12 ETS 175.33 ZAE 165.23 ETE 152.10 ZAC 106.97 ETC 276.79 LVI -22.46

PLANETOCENTRIC CONIC
 C3 11.690 VHL 3.417 DLA -34.13 RAL 346.45 RAD 6638.9 VEL 11.479 PTH 6.53 VHP 3.591 DPA -12.72 RAP 313.83 ECC 1.1924
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 42 18 2286.79 3.30 57.48 201.71 137.49 19 20 23 1286.8 21.29 40.88
 60.00 20 20 48 2024.44 9.74 39.99 207.83 129.30 20 54 33 1024.4 24.65 20.16
 70.00 23 30 38 1462.36 22.50 3.30 216.37 116.40 23 55 0 462.4 31.36 336.23
 70.05 23 40 37 1431.94 23.37 1.38 216.83 115.61 24 4 29 431.9 31.81 335.99
 70.05 23 40 37 1431.94 23.37 1.38 216.83 115.61 24 4 29 431.9 31.81 335.99
 70.05 23 40 37 1431.94 23.37 1.38 216.83 115.61 24 4 29 431.9 31.81 335.99
 110.00 4 34 0 5797.22 22.50 270.12 216.37 116.40 6 10 38 4797.2 31.36 245.06

DIFFERENTIAL CORRECTIONS
 TDE -.3359 TRA -.3834 TC3 -.4513 BAU .1262 SGT 1007.3 SGR 650.4 SG3 1282.2 ST 30.5 SR 15.4 SS 60.4
 RDE -.1852 RRA -.1688 RC3 .6700 FAU .17190 RRT .4558 RRF -.8841 RTF -.5766 CRT .9957 CRS .6605 CST .7103
 FDE .9062 FRA 5.8890 FC-12.7307 B8P 1660 SGB 1199.1 R23 -.6191 R13 -.6399 LSA 63.8 MSA 22.7 SSA .9
 BDE .3836 BRA .4190 BC3 .8078 F8P 2146 SG1 1067.3 SG2 546.4 THA 22.64 EL1 34.6 EL2 1.3 ALF 28.18

LAUNCH DATE APR 26 1971

FLIGHT TIME 188.00

ARRIVAL DATE OCT 31 1971

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 32.336 GAL -1.77 AZL 92.70 HCA 153.38 SMA 184.93 ECC .18849 INC 2.6987 V1 29.600
 RP 209.55 LAP -1.21 LOP 8.51 VP 23.432 GAP 7.74 AZP 87.59 TAL 348.78 TAP 142.14 RCA 150.08 APO 219.79 V2 26.182
 RC 105.933 GL -28.44 GP 6.70 ZAL 115.29 ZAP 123.14 ETS 175.36 ZAE 163.58 ETE 154.08 ZAC 107.45 ETC 276.64 LVI -22.60

PLANETOCENTRIC CONIC
 C3 11.678 VHL 3.417 DLA -34.53 RAL 346.82 RAD 6638.9 VEL 11.479 PTH 6.53 VHP 3.520 DPA -12.54 RAP 313.00 ECC 1.1922
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 46 29 2278.40 3.82 57.04 202.29 137.46 19 24 26 1276.4 21.78 40.37
 60.00 20 26 57 2008.91 10.41 39.23 208.54 129.16 21 0 26 1008.9 25.23 19.24
 69.31 23 37 43 1445.08 23.63 2.55 217.32 115.95 24 1 48 445.1 32.18 337.12
 69.31 23 37 43 1445.08 23.63 2.55 217.32 115.95 24 1 48 445.1 32.18 337.12
 69.31 23 37 43 1445.08 23.63 2.55 217.32 115.95 24 1 48 445.1 32.18 337.12
 69.31 23 37 43 1445.08 23.63 2.55 217.32 115.95 24 1 48 445.1 32.18 337.12
 69.31 23 37 43 1445.08 23.63 2.55 217.32 115.95 24 1 48 445.1 32.18 337.12

DIFFERENTIAL CORRECTIONS
 TDE -.3261 TRA -.3246 TC3 -.5414 BAU .1392 SGT 934.0 SGR 689.0 SG3 1335.6 ST 29.1 SR 16.2 SS 61.5
 RDE -.1805 RRA -.1894 RC3 .7088 FAU .17894 RRT .3742 RRF -.9057 RTF -.3946 CRT .9978 CRS .6876 CST .6712
 FDE .9194 FRA 6.1055 FC-13.2654 B8P 1497 SGB 1160.6 R23 -.6779 R13 -.6037 LSA 66.1 MSA 22.8 SSA .9
 BDE .3727 BRA .3758 BC3 .8919 F8P 2226 SG1 992.9 SG2 601.0 THA 25.23 EL1 33.3 EL2 .9 ALF 29.11

LAUNCH DATE APR 26 1971

FLIGHT TIME 190.00

ARRIVAL DATE NOV 2 1971

HELIOCENTRIC CONIC

RL 150.53 LAL -.00 LOL 215.13 VL 32.323 GAL -1.77 AZL 92.75 HCA 154.59 SMA 184.71 ECC .18753 INC 2.7495 V1 29.600
RP 209.76 LAP -1.18 LOP 9.75 VP 23.386 GAP 7.51 AZP 87.92 TAL 348.72 TAP 143.32 RCA 150.07 APO 219.35 V2 26.137
RC 107.990 GL -26.98 GP 7.13 ZAL 115.29 ZAP 121.13 ETS 175.40 ZAE 161.85 ETE 155.69 ZAC 107.97 ETC 276.48 LVI -22.76

PLANETOCENTRIC CONIC

C3 11.687 VHL 3.419 DLA -34.94 RAL 347.23 RAD 6638.9 VEL 11.479 PTH 6.53 VHP 3.454 DPA -12.33 RAP 312.13 ECC 1.1923
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 50 58 2266.04 4.34 56.61 202.93 137.43 19 28 44 1266.0 22.26 39.86
60.00 20 33 31 1992.95 11.09 38.43 209.33 129.00 21 6 44 992.9 25.81 18.29
66.57 23 35 3 1458.22 23.88 3.72 217.88 116.29 23 59 21 458.2 32.55 338.26
68.57 23 35 3 1458.22 23.88 3.72 217.88 116.29 23 59 21 458.2 32.55 338.26
68.57 23 35 3 1458.22 23.88 3.72 217.88 116.29 23 59 21 458.2 32.55 338.26
68.57 23 35 3 1458.22 23.88 3.72 217.88 116.29 23 59 21 458.2 32.55 338.26
68.57 23 35 3 1458.22 23.88 3.72 217.88 116.29 23 59 21 458.2 32.55 338.26

DIFFERENTIAL CORRECTIONS

TDE -.3274 TRA -.2723 TC3 -.6742 BAV .1589
RDE -.1778 RRA -.2132 RC3 .7441 FAU .18408
FDE .9781 FRA 6.3567 FC-13.6359 BSP 1460
BDE .3725 BRA .3458 BC3 1.0041 FSP 2342

MID-COURSE EXECUTION ACCURACY

SGT 907.4 SGR 733.3 SG3 1389.1
RRR .2580 RRF -.9242 RTF -.2628
SGB 1166.6 R23 -.7578 R13 -.5297
SG1 950.7 SG2 676.2 THA 25.12

ORBIT DETERMINATION ACCURACY

ST 28.7 SR 16.3 SS 63.2
CRT .9905 CRS .7255 CST .6355
LSA 67.4 MSA 23.3 SSA .8
EL1 32.9 EL2 1.9 ALF 20.47

LAUNCH DATE APR 26 1971

FLIGHT TIME 192.00

ARRIVAL DATE NOV 4 1971

HELIOCENTRIC CONIC

RL 150.53 LAL -.00 LOL 215.13 VL 32.311 GAL -1.78 AZL 92.81 HCA 155.83 SMA 184.51 ECC .18668 INC 2.8051 V1 29.600
RP 209.99 LAP -1.15 LOP 10.98 VP 23.340 GAP 7.29 AZP 87.44 TAL 348.65 TAP 144.48 RCA 150.07 APO 218.96 V2 26.111
RC 110.071 GL -27.50 GP 7.59 ZAL 115.29 ZAP 119.09 ETS 175.46 ZAE 160.05 ETE 157.00 ZAC 108.52 ETC 276.32 LVI -22.94

PLANETOCENTRIC CONIC

C3 11.717 VHL 3.423 DLA -35.36 RAL 347.68 RAD 6638.9 VEL 11.480 PTH 6.53 VHP 3.393 DPA -12.09 RAP 311.22 ECC 1.1928
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 55 46 2255.92 4.87 56.16 203.65 137.39 19 33 22 1255.5 22.75 39.34
60.00 20 40 39 1976.15 11.81 37.60 210.21 128.82 21 13 35 976.1 26.41 17.28
67.82 23 32 33 1471.59 24.13 4.91 218.51 116.67 23 57 5 471.6 32.93 339.42
67.82 23 32 33 1471.59 24.13 4.91 218.51 116.67 23 57 5 471.6 32.93 339.42
67.82 23 32 33 1471.59 24.13 4.91 218.51 116.67 23 57 5 471.6 32.93 339.42
67.82 23 32 33 1471.59 24.13 4.91 218.51 116.67 23 57 5 471.6 32.93 339.42
67.82 23 32 33 1471.59 24.13 4.91 218.51 116.67 23 57 5 471.6 32.93 339.42

DIFFERENTIAL CORRECTIONS

TDE -.3220 TRA -.2110 TC3 -.7909 BAV .1746
RDE -.1745 RRA -.2382 RC3 .7854 FAU .19012
FDE 1.0071 FRA 6.5845 FC-14.0482 BSP 1402
BDE .3663 BRA .3182 BC3 1.1146 FSP 2433

MID-COURSE EXECUTION ACCURACY

SGT 878.2 SGR 783.2 SG3 1440.6
RRR .1136 RRF -.9397 RTF -.1082
SGB 1176.7 R23 -.8462 R13 -.4085
SG1 896.3 SG2 762.5 THA 22.36

ORBIT DETERMINATION ACCURACY

ST 27.7 SR 16.4 SS 64.5
CRT .9709 CRS .7582 CST .5861
LSA 68.1 MSA 23.6 SSA .8
EL1 32.0 EL2 3.4 ALF 30.18

LAUNCH DATE APR 26 1971

FLIGHT TIME 194.00

ARRIVAL DATE NOV 6 1971

HELIOCENTRIC CONIC

RL 150.53 LAL -.00 LOL 215.13 VL 32.300 GAL -1.79 AZL 92.87 HCA 157.05 SMA 184.33 ECC .18592 INC 2.8660 V1 29.600
RP 210.22 LAP -1.12 LOP 12.20 VP 23.296 GAP 7.07 AZP 87.36 TAL 348.56 TAP 145.62 RCA 150.06 APO 218.60 V2 26.085
RC 112.177 GL -28.07 GP 8.10 ZAL 115.30 ZAP 117.02 ETS 175.52 ZAE 158.19 ETE 158.06 ZAC 109.12 ETC 276.15 LVI -23.15

PLANETOCENTRIC CONIC

C3 11.788 VHL 3.431 DLA -35.81 RAL 348.16 RAD 6638.9 VEL 11.483 PTH 6.53 VHP 3.338 DPA -11.81 RAP 310.28 ECC 1.1937
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 0 56 2244.76 5.40 55.71 204.45 137.34 19 38 21 1244.8 23.25 38.80
60.00 20 48 28 1958.27 12.57 36.70 211.19 128.61 21 21 6 958.3 27.04 16.19
67.06 23 30 13 1485.27 24.39 6.14 219.21 117.07 23 54 59 485.3 33.33 340.63
67.06 23 30 13 1485.27 24.39 6.14 219.21 117.07 23 54 59 485.3 33.33 340.63
67.06 23 30 13 1485.27 24.39 6.14 219.21 117.07 23 54 59 485.3 33.33 340.63
67.06 23 30 13 1485.27 24.39 6.14 219.21 117.07 23 54 59 485.3 33.33 340.63
67.06 23 30 13 1485.27 24.39 6.14 219.21 117.07 23 54 59 485.3 33.33 340.63

DIFFERENTIAL CORRECTIONS

TDE -.3188 TRA -.1475 TC3 -.9197 BAV .1947
RDE -.1720 RRA -.2655 RC3 .8276 FAU .19540
FDE 1.0463 FRA 6.8078 FC-14.3806 BSP 1410
BDE .3622 BRA .3038 BC3 1.2372 FSP 2524

MID-COURSE EXECUTION ACCURACY

SGT 879.8 SGR 839.0 SG3 1488.9
RRR -.0531 RRF -.9525 RTF .1083
SGB 1215.7 R23 .8508 R13 -.4286
SG1 889.7 SG2 828.5 THA 155.89

ORBIT DETERMINATION ACCURACY

ST 27.0 SR 16.6 SS 65.8
CRT .9360 CRS .7916 CST .5303
LSA 69.0 MSA 24.0 SSA .8
EL1 31.3 EL2 5.0 ALF 30.72

LAUNCH DATE APR 26 1971

FLIGHT TIME 196.00

ARRIVAL DATE NOV 8 1971

HELIOCENTRIC CONIC

RL 150.53 LAL -.00 LOL 215.13 VL 32.291 GAL -1.80 AZL 92.93 HCA 158.28 SMA 184.17 ECC .18524 INC 2.9333 V1 29.600
RP 210.43 LAP -1.09 LOP 13.43 VP 23.252 GAP 6.85 AZP 87.27 TAL 348.46 TAP 146.74 RCA 150.06 APO 218.29 V2 26.058
RC 114.307 GL -28.68 GP 8.85 ZAL 115.32 ZAP 114.93 ETS 175.80 ZAE 158.26 ETE 158.92 ZAC 109.76 ETC 275.97 LVI -23.39

PLANETOCENTRIC CONIC

C3 11.844 VHL 3.442 DLA -36.28 RAL 348.69 RAD 6639.0 VEL 11.486 PTH 6.53 VHP 3.288 DPA -11.49 RAP 309.30 ECC 1.1949
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 6 32 2233.60 5.98 55.24 205.33 137.29 19 43 46 1233.6 23.77 38.24
60.00 20 57 9 1938.87 13.39 35.72 212.31 128.37 21 29 27 938.9 27.72 14.99
66.27 23 28 0 1499.47 24.84 7.42 219.99 117.51 23 53 0 499.5 33.73 341.88
66.27 23 28 0 1499.47 24.84 7.42 219.99 117.51 23 53 0 499.5 33.73 341.88
66.27 23 28 0 1499.47 24.84 7.42 219.99 117.51 23 53 0 499.5 33.73 341.88
66.27 23 28 0 1499.47 24.84 7.42 219.99 117.51 23 53 0 499.5 33.73 341.88
66.27 23 28 0 1499.47 24.84 7.42 219.99 117.51 23 53 0 499.5 33.73 341.88

DIFFERENTIAL CORRECTIONS

TDE -.3155 TRA -.0807 TC3-1.0492 BAV .2161
RDE -.1700 RRA -.2955 RC3 .8731 FAU .20073
FDE 1.0879 FRA 7.0262 FC-14.6723 BSP 1481
BDE .3584 BRA .3064 BC3 1.3650 FSP 2611

MID-COURSE EXECUTION ACCURACY

SGT 908.4 SGR 902.1 SG3 1533.4
RRR -.2240 RRF -.9630 RTF .2430
SGB 1280.2 R23 .5894 R13 -.7620
SG1 1001.6 SG2 797.4 THA 135.88

ORBIT DETERMINATION ACCURACY

ST 26.4 SR 16.9 SS 67.1
CRT .8832 CRS .8245 CST .4859
LSA 69.9 MSA 24.4 SSA .7
EL1 30.6 EL2 6.8 ALF 31.19

LAUNCH DATE APR 26 1971

FLIGHT TIME 188.00

ARRIVAL DATE NOV 10 1971

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 32.262 GAL -1.81 AZL 93.01 HCA 159.50 SMA 184.03 ECC .18466 INC 3.0080 V1 29.600
 RP 210.70 LAP -1.05 LOP 14.65 VP 23.208 GAP 6.64 AZP 87.18 TAL 348.35 TAP 147.85 RCA 150.05 APO 218.01 V2 26.030
 RC 116.460 GL -29.33 GP 9.26 ZAL 115.33 ZAP 112.82 ETS 175.69 ZAE 154.28 ETE 159.60 ZAC 110.46 ETC 275.79 LVI -23.67

DISTANCE 481.503 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 11.946 VHL 3.456 DLA -36.78 RAL 349.26 RAD 6639.0 VEL 11.490 PTH 6.54 VHP 3.244 DPA -11.11 RAP 308.30 ECC 1.1966
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 12 40 2221.88 6.55 54.74 206.33 137.23 19 49 42 1221.9 24.30 37.64
 60.00 21 6 56 1917.34 14.30 34.62 213.58 128.09 21 38 53 917.3 28.46 13.65
 65.44 23 25 54 1514.31 24.89 8.76 220.87 117.99 23 51 8 514.3 34.15 343.21
 65.44 23 25 54 1514.31 24.89 8.76 220.87 117.99 23 51 8 514.3 34.15 343.21
 65.44 23 25 54 1514.31 24.89 8.76 220.87 117.99 23 51 8 514.3 34.15 343.21
 65.44 23 25 54 1514.31 24.89 8.76 220.87 117.99 23 51 8 514.3 34.15 343.21

DIFFERENTIAL CORRECTIONS
 TDE -.3122 TRA -.0101 TC3-1.1811 BAU .2393
 RDE -.1687 RRA -.3283 RC3 .9217 FAU .20564
 FDE 1.1287 FRA 7.2306 FC-14.9030 BSP 1619
 BDE .3548 BRA .3285 BC3 1.4982 FSP 2689

MID-COURSE EXECUTION ACCURACY
 SGT 966.9 SGR 972.5 SG3 1578.0
 RRT -.3842 RRF -.9714 RTF .4038
 SGB 1371.4 R23 .5057 R13 -.8301
 SG1 1140.9 SG2 760.9 THA 134.57

ORBIT DETERMINATION ACCURACY
 ST 25.9 SR 17.3 SS 68.3
 CRT .8104 CRS .8551 CST .3916
 LSA 70.8 MSA 24.8 SSA .7
 EL1 29.9 EL2 8.8 ALF 31.50

LAUNCH DATE APR 26 1971

FLIGHT TIME 200.00

ARRIVAL DATE NOV 12 1971

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 32.274 GAL -1.82 AZL 93.09 HCA 160.72 SMA 183.91 ECC .18415 INC 3.0916 V1 29.600
 RP 210.95 LAP -1.02 LOP 15.87 VP 23.166 GAP 6.44 AZP 87.08 TAL 346.22 TAP 148.94 RCA 150.04 APO 217.77 V2 26.001
 RC 118.637 GL -30.04 GP 9.93 ZAL 115.34 ZAP 110.69 ETS 175.81 ZAE 152.25 ETE 160.13 ZAC 111.22 ETC 275.60 LVI -24.00

DISTANCE 485.675 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 12.077 VHL 3.475 DLA -37.32 RAL 349.89 RAD 6639.1 VEL 11.496 PTH 6.54 VHP 3.205 DPA -10.67 RAP 307.26 ECC 1.1988
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 19 27 2209.35 7.17 54.21 207.44 137.16 19 56 17 1209.4 24.88 37.00
 60.00 21 18 12 1892.75 15.33 33.36 215.03 127.74 21 49 44 892.7 29.28 12.08
 64.57 23 23 52 1529.97 25.15 10.19 221.85 118.52 23 49 22 530.0 34.60 344.62
 64.57 23 23 52 1529.97 25.15 10.19 221.85 118.52 23 49 22 530.0 34.60 344.62
 64.57 23 23 52 1529.97 25.15 10.19 221.85 118.52 23 49 22 530.0 34.60 344.62
 64.57 23 23 52 1529.97 25.15 10.19 221.85 118.52 23 49 22 530.0 34.60 344.62

DIFFERENTIAL CORRECTIONS
 TDE -.3091 TRA .0643 TC3-1.3140 BAU .2639
 RDE -.1682 RRA -.3644 RC3 .9724 FAU .20989
 FDE 1.1727 FRA 7.4209 FC-15.0463 BSP 1821
 BDE .3519 BRA .3700 BC3 1.6346 FSP 2761

MID-COURSE EXECUTION ACCURACY
 SGT 1054.3 SGR 1050.8 SG3 1615.9
 RRT -.5204 RRF -.9782 RTF .5383
 SGB 1488.5 R23 .4515 R13 -.8685
 SG1 1297.8 SG2 728.9 THA 135.18

ORBIT DETERMINATION ACCURACY
 ST 25.6 SR 17.9 SS 69.4
 CRT .7173 CRS .8832 CST .3087
 LSA 71.8 MSA 25.3 SSA .6
 EL1 29.3 EL2 10.9 ALF 31.57

LAUNCH DATE APR 26 1971

FLIGHT TIME 202.00

ARRIVAL DATE NOV 14 1971

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 32.268 GAL -1.84 AZL 93.19 HCA 161.94 SMA 183.80 ECC .18373 INC 3.1860 V1 29.600
 RP 211.20 LAP -.99 LOP 17.09 VP 23.123 GAP 6.23 AZP 86.97 TAL 348.08 TAP 150.01 RCA 150.03 APO 217.57 V2 25.972
 RC 120.836 GL -30.82 GP 10.68 ZAL 115.34 ZAP 108.56 ETS 175.94 ZAE 150.17 ETE 160.31 ZAC 112.06 ETC 275.41 LVI -24.38

DISTANCE 489.850 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 12.241 VHL 3.499 DLA -37.90 RAL 350.39 RAD 6639.2 VEL 11.503 PTH 6.54 VHP 3.172 DPA -10.15 RAP 306.20 ECC 1.2015
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 27 3 2195.75 7.85 53.63 208.71 137.08 20 3 39 1195.7 25.49 36.29
 60.00 21 31 31 1863.65 16.54 31.85 216.74 127.29 22 2 35 863.7 30.23 10.20
 63.64 23 21 55 1546.66 25.42 11.71 222.95 119.12 23 47 41 546.7 35.08 346.15
 63.64 23 21 55 1546.66 25.42 11.71 222.95 119.12 23 47 41 546.7 35.08 346.15
 63.64 23 21 55 1546.66 25.42 11.71 222.95 119.12 23 47 41 546.7 35.08 346.15
 63.64 23 21 55 1546.66 25.42 11.71 222.95 119.12 23 47 41 546.7 35.08 346.15

DIFFERENTIAL CORRECTIONS
 TDE -.3068 TRA .1418 TC3-1.4468 BAU .2901
 RDE -.1693 RRA -.4030 RC3 1.0230 FAU .21334
 FDE 1.2293 FRA 7.6066 FC-15.0883 BSP 2083
 BDE .3504 BRA .4291 BC3 1.7729 FSP 2833

MID-COURSE EXECUTION ACCURACY
 SGT 1167.7 SGR 1139.3 SG3 1650.1
 RRT -.6270 RRF -.9836 RTF .5222
 SGB 1631.4 R23 .4091 R13 -.8951
 SG1 1471.6 SG2 704.2 THA 136.13

ORBIT DETERMINATION ACCURACY
 ST 25.5 SR 18.8 SS 70.7
 CRT .6066 CRS .9090 CST .2218
 LSA 73.0 MSA 25.8 SSA .8
 EL1 28.8 EL2 13.2 ALF 31.35

LAUNCH DATE APR 26 1971

FLIGHT TIME 204.00

ARRIVAL DATE NOV 16 1971

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 32.262 GAL -1.86 AZL 93.29 HCA 163.15 SMA 183.70 ECC .18338 INC 3.2930 V1 29.600
 RP 211.46 LAP -.95 LOP 18.30 VP 23.082 GAP 6.03 AZP 86.85 TAL 347.92 TAP 151.07 RCA 150.02 APO 217.39 V2 25.942
 RC 123.098 GL -31.87 GP 11.91 ZAL 115.32 ZAP 106.42 ETS 176.10 ZAE 148.04 ETE 160.77 ZAC 112.98 ETC 275.22 LVI -24.85

DISTANCE 494.028 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 12.445 VHL 3.528 DLA -38.55 RAL 351.36 RAD 6639.3 VEL 11.512 PTH 6.56 VHP 3.145 DPA -9.54 RAP 305.12 ECC 1.2048
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 35 39 2180.67 8.60 52.99 210.16 136.98 20 11 59 1180.7 26.17 35.50
 60.00 21 47 59 1827.32 18.03 29.93 218.80 126.68 22 18 26 827.3 31.36 7.80
 62.63 23 20 1 1564.55 25.70 13.36 224.20 119.79 23 46 6 564.5 35.60 347.80
 62.63 23 20 1 1564.55 25.70 13.36 224.20 119.79 23 46 6 564.5 35.60 347.80
 62.63 23 20 1 1564.55 25.70 13.36 224.20 119.79 23 46 6 564.5 35.60 347.80
 62.63 23 20 1 1564.55 25.70 13.36 224.20 119.79 23 46 6 564.5 35.60 347.80

DIFFERENTIAL CORRECTIONS
 TDE -.3043 TRA .2235 TC3-1.5746 BAU .3180
 RDE -.1708 RRA -.4493 RC3 1.0834 FAU .21675
 FDE 1.2738 FRA 7.7550 FC-15.0789 BSP 2386
 BDE .3489 BRA .5018 BC3 1.9113 FSP 2879

MID-COURSE EXECUTION ACCURACY
 SGT 1301.5 SGR 1237.7 SG3 1677.3
 RRT -.7109 RRF -.9878 RTF .7232
 SGB 1796.0 R23 .3709 R13 -.9160
 SG1 1661.6 SG2 681.8 THA 137.02

ORBIT DETERMINATION ACCURACY
 ST 25.7 SR 19.7 SS 71.5
 CRT .4793 CRS .9303 CST .1252
 LSA 74.0 MSA 26.3 SSA .5
 EL1 28.4 EL2 15.7 ALF 30.39

LAUNCH DATE APR 26 1971

FLIGHT TIME 206.00

ARRIVAL DATE NOV 18 1971

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 32.257 GAL -1.89 AZL 93.42 HCA 164.36 SMA 183.62 ECC .10310 INC 3.4156 V1 29.600
 RP 211.73 LAP -.92 LOP 19.51 VP 23.040 GAP 5.83 AZP 86.71 TAL 347.75 TAP 152.11 RCA 150.00 APO 217.24 V2 25.911
 RC 125.302 GL -32.62 GP 12.46 ZAL 115.29 ZAP 104.29 ETS 176.28 ZAE 145.87 ETE 160.90 ZAC 114.01 ETC 275.03 LVI -29.40

PLANETOCENTRIC CONIC
 C3 12.695 VHL 3.563 DLA -39.27 RAL 352.23 RAD 6639.4 VEL 11.522 PTH 6.57 VHP 3.125 DPA -8.82 RAP 304.02 ECC 1.2089
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 19 45 32 2165.61 9.45 52.26 211.84 136.85 20 21 36 1163.6 26.94 34.59
 60.00 22 9 35 1777.56 20.03 27.25 221.40 125.73 22 39 32 777.6 32.84 4.40
 61.53 23 18 12 1583.88 25.98 15.16 225.63 120.55 23 44 36 583.9 36.17 349.61
 61.53 23 18 12 1583.88 25.98 15.16 225.63 120.55 23 44 36 583.9 36.17 349.61
 61.53 23 18 12 1583.88 25.98 15.16 225.63 120.55 23 44 36 583.9 36.17 349.61
 61.53 23 18 12 1583.88 25.98 15.16 225.63 120.55 23 44 36 583.9 36.17 349.61

DIFFERENTIAL CORRECTIONS
 TDE -.3032 TRA .3078 TC3-1.7010 BAU .3480
 RDE -.1737 RRA -.4989 RC3 1.1448 FAU .21932
 FDE 1.3205 FRA 7.8787 FC-14.9562 BSP 2723
 BDE .3494 BRA .5867 BC3 2.0504 FSP 2915

MID-COURSE EXECUTION ACCURACY
 SGT 1454.6 SGR 1348.2 SG3 1697.4
 RRT -.7727 RRF -.9911 RTF .7821
 SGB 1983.3 R23 .3391 R13 -.9316
 SG1 1868.0 SG2 666.4 THA 137.81

ORBIT DETERMINATION ACCURACY
 ST 26.3 SR 20.9 SS 72.3
 CRT .3441 CRS .9482 CST .0290
 LSA 75.1 MSA 27.0 SSA .5
 EL1 28.1 EL2 18.4 ALF 28.20

LAUNCH DATE APR 26 1971

FLIGHT TIME 208.00

ARRIVAL DATE NOV 20 1971

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 32.253 GAL -1.91 AZL 93.56 HCA 165.57 SMA 183.56 ECC .18289 INC 3.5580 V1 29.600
 RP 212.01 LAP -.89 LOP 20.72 VP 23.000 GAP 5.64 AZP 86.55 TAL 347.57 TAP 153.13 RCA 149.99 APO 217.13 V2 25.880
 RC 127.566 GL -33.70 GP 13.53 ZAL 115.22 ZAP 102.16 ETS 176.50 ZAE 143.65 ETE 160.91 ZAC 115.16 ETC 274.65 LVI -26.07

PLANETOCENTRIC CONIC
 C3 13.004 VHL 3.606 DLA -40.09 RAL 353.20 RAD 6639.6 VEL 11.536 PTH 6.58 VHP 3.112 DPA -7.96 RAP 302.91 ECC 1.2140
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 19 57 8 2143.87 10.43 51.41 213.81 136.69 20 32 52 1143.9 27.81 33.53
 60.00 22 47 15 1687.19 23.53 17.14 227.26 121.43 23 43 13 605.0 36.80 351.63
 60.31 23 16 28 1605.00 26.29 17.14 227.26 121.43 23 43 13 605.0 36.80 351.63
 60.31 23 16 28 1605.00 26.29 17.14 227.26 121.43 23 43 13 605.0 36.80 351.63
 60.31 23 16 28 1605.00 26.29 17.14 227.26 121.43 23 43 13 605.0 36.80 351.63
 60.31 23 16 28 1605.00 26.29 17.14 227.26 121.43 23 43 13 605.0 36.80 351.63

DIFFERENTIAL CORRECTIONS
 TDE -.3028 TRA .3961 TC3-1.8192 BAU .3797
 RDE -.1796 RRA -.5553 RC3 1.2081 FAU .22071
 FDE 1.3843 FRA 7.9754 FC-14.6937 BSP 3103
 BDE .3520 BRA .6821 BC3 2.1638 FSP 2941

MID-COURSE EXECUTION ACCURACY
 SGT 1821.7 SGR 1473.2 SG3 1709.5
 RRT -.8182 RRF -.9936 RTF .8251
 SGB 2191.0 R23 .3113 R13 -.9438
 SG1 2090.1 SG2 657.2 THA 138.35

ORBIT DETERMINATION ACCURACY
 ST 27.1 SR 22.5 SS 73.2
 CRT .2088 CRS .9631 CST -.0613
 LSA 76.3 MSA 27.7 SSA .4
 EL1 28.1 EL2 21.2 ALF 23.91

LAUNCH DATE APR 26 1971

FLIGHT TIME 210.00

ARRIVAL DATE NOV 22 1971

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 32.250 GAL -1.94 AZL 93.73 HCA 166.77 SMA 183.50 ECC .18274 INC 3.7254 V1 29.600
 RP 212.29 LAP -.85 LOP 21.93 VP 22.959 GAP 5.45 AZP 86.37 TAL 347.37 TAP 154.14 RCA 149.97 APO 217.04 V2 25.848
 RC 129.850 GL -34.92 GP 14.77 ZAL 115.11 ZAP 100.05 ETS 176.77 ZAE 141.38 ETE 160.80 ZAC 116.47 ETC 274.67 LVI -26.89

PLANETOCENTRIC CONIC
 C3 13.387 VHL 3.659 DLA -41.02 RAL 354.31 RAD 6639.7 VEL 11.552 PTH 6.60 VHP 3.108 DPA -6.94 RAP 301.77 ECC 1.2203
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 20 11 1 2120.36 11.59 50.38 216.17 136.48 20 46 22 1120.4 28.84 32.23
 58.95 23 14 48 1628.35 26.60 19.35 229.15 122.46 23 41 56 628.3 37.49 353.90
 58.95 23 14 48 1628.35 26.60 19.35 229.15 122.46 23 41 56 628.3 37.49 353.90
 58.95 23 14 48 1628.35 26.60 19.35 229.15 122.46 23 41 56 628.3 37.49 353.90
 58.95 23 14 48 1628.35 26.60 19.35 229.15 122.46 23 41 56 628.3 37.49 353.90
 58.95 23 14 48 1628.35 26.60 19.35 229.15 122.46 23 41 56 628.3 37.49 353.90

DIFFERENTIAL CORRECTIONS
 TDE -.3025 TRA .4887 TC3-1.9244 BAU .4132
 RDE -.1890 RRA -.6198 RC3 1.2759 FAU .22131
 FDE 1.4492 FRA 8.0386 FC-14.3118 BSP 3518
 BDE .3561 BRA .7893 BC3 2.3090 FSP 2950

MID-COURSE EXECUTION ACCURACY
 SGT 1799.0 SGR 1616.6 SG3 1713.3
 RRT -.8529 RRF -.9955 RTF .8777
 SGB 2418.7 R23 .2851 R13 -.9539
 SG1 2329.2 SG2 652.0 THA 138.58

ORBIT DETERMINATION ACCURACY
 ST 28.2 SR 24.3 SS 73.9
 CRT .0757 CRS .9747 CST -.1488
 LSA 77.7 MSA 28.4 SSA .4
 EL1 28.4 EL2 24.1 ALF 13.39

LAUNCH DATE APR 26 1971

FLIGHT TIME 212.00

ARRIVAL DATE NOV 24 1971

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 32.247 GAL -1.97 AZL 93.93 HCA 167.97 SMA 183.48 ECC .18286 INC 3.9251 V1 29.600
 RP 212.57 LAP -.82 LOP 23.13 VP 22.919 GAP 5.26 AZP 86.16 TAL 347.16 TAP 155.14 RCA 149.95 APO 216.97 V2 25.815
 RC 132.153 GL -36.33 GP 16.21 ZAL 114.93 ZAP 97.96 ETS 177.08 ZAE 139.05 ETE 160.54 ZAC 117.99 ETC 274.50 LVI -27.89

PLANETOCENTRIC CONIC
 C3 13.868 VHL 3.724 DLA -42.10 RAL 355.60 RAD 6640.0 VEL 11.573 PTH 6.62 VHP 3.110 DPA -5.70 RAP 300.62 ECC 1.2282
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 20 28 10 2091.40 13.02 49.11 219.07 136.18 21 3 1 1091.4 30.60 30.60
 57.41 23 13 19 1654.29 26.93 21.84 231.38 123.68 23 40 53 654.3 38.27 356.48
 57.41 23 13 19 1654.29 26.93 21.84 231.38 123.68 23 40 53 654.3 38.27 356.48
 57.41 23 13 19 1654.29 26.93 21.84 231.38 123.68 23 40 53 654.3 38.27 356.48
 57.41 23 13 19 1654.29 26.93 21.84 231.38 123.68 23 40 53 654.3 38.27 356.48
 57.41 23 13 19 1654.29 26.93 21.84 231.38 123.68 23 40 53 654.3 38.27 356.48

DIFFERENTIAL CORRECTIONS
 TDE -.3029 TRA .5854 TC3-2.0145 BAU .4492
 RDE -.2010 RRA -.6936 RC3 1.3460 FAU .22C56
 FDE 1.5304 FRA 8.0481 FC-13.7688 BSP 3968
 BDE .3635 BRA .9077 BC3 2.4228 FSP 2939

MID-COURSE EXECUTION ACCURACY
 SGT 1985.5 SGR 1780.3 SG3 1704.6
 RRT -.8787 RRF -.9969 RTF .8820
 SGB 2666.8 R23 .2617 R13 -.9620
 SG1 2585.7 SG2 652.5 THA 138.54

ORBIT DETERMINATION ACCURACY
 ST 29.7 SR 26.6 SS 74.5
 CRT -.0456 CRS .9835 CST -.2251
 LSA 79.2 MSA 29.3 SSA .3
 EL1 29.8 EL2 26.5 ALF 168.71

LAUNCH DATE APR 26 1971

FLIGHT TIME 214.00

ARRIVAL DATE NOV 26 1971

HELIOCENTRIC CONIC

DISTANCE 514.943

EARTH TO MARS

RL 130.53 LAL -.00 LOL 215.13 VL 32.246 GAL -2.01 AZL 94.17 HCA 169.17 SMA 183.43 ECC .18264 INC 4.1879 V1 29.600
 RP 212.86 LAP -.78 LOP 24.32 VP 22.879 GAP 5.07 AZP 85.91 TAL 346.94 TAP 156.11 RCA 149.93 APO 216.94 V2 25.782
 RC 134.475 GL -37.99 GP 17.91 ZAL 114.67 ZAP 95.90 ETS 177.46 ZAE 136.65 ETE 160.13 ZAC 119.76 ETC 274.34 LVI -29.13

PLANETOCENTRIC CONIC

C3 14.484 VHL 3.806 DLA -43.37 RAL 357.12 RAD 6640.3 VEL 11.599 PTH 6.64 VHP 3.126 DPA -4.20 RAP 299.45 ECC 1.2384
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 50 13 2053.94 14.85 47.44 222.77 135.74 21 24 27 1053.9 31.66 28.42
 55.64 23 12 8 1683.45 27.26 24.68 234.05 125.13 23 40 12 683.5 39.15 359.47
 55.64 23 12 8 1683.45 27.26 24.68 234.05 125.13 23 40 12 683.5 39.15 359.47
 55.64 23 12 8 1683.45 27.26 24.68 234.05 125.13 23 40 12 683.5 39.15 359.47
 55.64 23 12 8 1683.45 27.26 24.68 234.05 125.13 23 40 12 683.5 39.15 359.47
 55.64 23 12 8 1683.45 27.26 24.68 234.05 125.13 23 40 12 683.5 39.15 359.47

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3024 TRA .6876 TC3-2.0815 BAU .4877 SGT 2178.3 SGR 1972.7 SG3 1684.0 ST 31.3 SR 29.5 SS 75.1
 RDE -.2209 RRA -.7811 RC3 1.4177 FAU .21826 RRT -.8986 RRF -.9979 RTF .9006 CRT -.1556 CRS .9899 CST -.2936
 FDE 1.6318 FRA 8.0117 FC-13.0454 BSP 4468 SGB 2938.8 R23 .2395 R13 -.9688 LSA 81.1 MSA 30.1 SSA .3
 BDE .3745 BRA 1.0406 BC3 2.5184 F8P 2909 SG1 2864.1 SG2 658.2 THA 138.15 EL1 32.8 EL2 27.7 ALF 145.68

LAUNCH DATE APR 26 1971

FLIGHT TIME 216.00

ARRIVAL DATE NOV 28 1971

HELIOCENTRIC CONIC

DISTANCE 519.128

EARTH TO MARS

RL 150.53 LAL -.00 LOL 215.13 VL 32.244 GAL -2.04 AZL 94.47 HCA 170.36 SMA 183.42 ECC .18268 INC 4.4688 V1 29.600
 RP 213.16 LAP -.75 LOP 25.52 VP 22.840 GAP 4.89 AZP 85.59 TAL 346.71 TAP 157.07 RCA 149.91 APO 216.92 V2 25.749
 RC 136.814 GL -39.95 GP 19.96 ZAL 114.29 ZAP 93.89 ETS 177.93 ZAE 134.16 ETE 159.54 ZAC 121.87 ETC 274.20 LVI -30.68

PLANETOCENTRIC CONIC

C3 15.294 VHL 3.911 DLA -44.87 RAL 358.96 RAD 6640.7 VEL 11.634 PTH 6.67 VHP 3.157 DPA -2.34 RAP 298.25 ECC 1.2517
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 20 35 2001.34 17.40 45.04 227.77 135.01 21 53 56 1001.3 33.80 25.22
 53.59 23 11 29 1716.71 27.58 27.96 237.29 126.91 23 40 6 716.7 40.13 2.98
 53.59 23 11 29 1716.71 27.58 27.96 237.29 126.91 23 40 6 716.7 40.13 2.98
 53.59 23 11 29 1716.71 27.58 27.96 237.29 126.91 23 40 6 716.7 40.13 2.98
 53.59 23 11 29 1716.71 27.58 27.96 237.29 126.91 23 40 6 716.7 40.13 2.98
 53.59 23 11 29 1716.71 27.58 27.96 237.29 126.91 23 40 6 716.7 40.13 2.98

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3028 TRA .7931 TC3-2.1261 BAU .5306 SGT 2377.0 SGR 2198.2 SG3 1645.3 ST 33.2 SR 33.1 SS 75.5
 RDE -.2513 RRA -.8843 RC3 1.4885 FAU .21391 RRT -.9128 RRF -.9986 RTF .9137 CRT -.2461 CRS .9943 CST -.3475
 FDE 1.7595 FRA 7.8944 FC-12.1091 BSP 5001 SGB 3237.6 R23 .2203 R13 -.9740 LSA 83.3 MSA 31.2 SSA .2
 BDE .3935 BRA 1.1878 BC3 2.5954 F8P 2851 SG1 3166.7 SG2 673.9 THA 137.45 EL1 37.0 EL2 28.8 ALF 135.48

LAUNCH DATE APR 26 1971

FLIGHT TIME 218.00

ARRIVAL DATE NOV 30 1971

HELIOCENTRIC CONIC

DISTANCE 523.313

EARTH TO MARS

RL 150.53 LAL -.00 LOL 215.13 VL 32.244 GAL -2.08 AZL 94.85 HCA 171.55 SMA 183.41 ECC .18277 INC 4.8531 V1 29.600
 RP 213.46 LAP -.71 LOP 26.71 VP 22.800 GAP 4.71 AZP 85.20 TAL 346.47 TAP 158.02 RCA 149.89 APO 216.93 V2 25.714
 RC 139.171 GL -42.32 GP 22.47 ZAL 113.74 ZAP 91.95 ETS 178.50 ZAE 131.54 ETE 158.74 ZAC 124.43 ETC 274.20 LVI -32.65

PLANETOCENTRIC CONIC

C3 16.395 VHL 4.049 DLA -46.67 RAL 1.25 RAD 6641.2 VEL 11.681 PTH 6.72 VHP 3.209 DPA -.02 RAP 297.02 ECC 1.2698
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 10 20 1909.57 21.76 40.67 235.49 133.42 22 42 9 909.6 37.28 19.23
 51.19 23 11 46 1755.23 27.84 31.78 241.35 129.10 23 41 1 755.2 41.22 7.19
 51.19 23 11 46 1755.23 27.84 31.78 241.35 129.10 23 41 1 755.2 41.22 7.19
 51.19 23 11 46 1755.23 27.84 31.78 241.35 129.10 23 41 1 755.2 41.22 7.19
 51.19 23 11 46 1755.23 27.84 31.78 241.35 129.10 23 41 1 755.2 41.22 7.19
 51.19 23 11 46 1755.23 27.84 31.78 241.35 129.10 23 41 1 755.2 41.22 7.19

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2976 TRA .9069 TC3-2.1287 BAU .5779 SGT 2578.1 SGR 2486.9 SG3 1583.6 ST 35.2 SR 37.7 SS 76.0
 RDE -.2995 RRA-1.0078 RC3 1.5580 FAU .20721 RRT -.9245 RRF -.9992 RTF .5247 CRT -.3263 CRS .9972 CST -.3961
 FDE 1.9279 FRA 7.6679 FC-10.9416 BSP 5603 SGB 3568.2 R23 .2005 R13 -.9798 LSA 86.0 MSA 32.1 SSA .2
 BDE .4222 BRA 1.3558 BC3 2.6387 F8P 2749 SG1 3500.4 SG2 692.4 THA 136.36 EL1 42.1 EL2 29.8 ALF 128.89

LAUNCH DATE APR 26 1971

FLIGHT TIME 220.00

ARRIVAL DATE DEC 2 1971

HELIOCENTRIC CONIC

DISTANCE 527.498

EARTH TO MARS

RL 150.53 LAL -.00 LOL 215.13 VL 32.244 GAL -2.12 AZL 95.36 HCA 172.74 SMA 183.41 ECC .18292 INC 5.3606 V1 29.600
 RP 213.77 LAP -.68 LOP 27.90 VP 22.762 GAP 4.53 AZP 84.88 TAL 346.21 TAP 158.95 RCA 149.86 APO 216.96 V2 25.680
 RC 141.545 GL -45.25 GP 25.80 ZAL 112.94 ZAP 90.10 ETS 179.22 ZAE 128.73 ETE 157.67 ZAC 127.61 ETC 274.04 LVI -35.17

PLANETOCENTRIC CONIC

C3 17.969 VHL 4.239 DLA -48.86 RAL 4.22 RAD 6641.9 VEL 11.747 PTH 6.78 VHP 3.295 DPA 2.92 RAP 295.74 ECC 1.2957
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 48.34 23 13 46 1800.76 27.96 36.32 246.58 131.85 23 43 47 800.8 42.37 12.35
 48.34 23 13 46 1800.76 27.96 36.32 246.58 131.85 23 43 47 800.8 42.37 12.35
 48.34 23 13 46 1800.76 27.96 36.32 246.58 131.85 23 43 47 800.8 42.37 12.35
 48.34 23 13 46 1800.76 27.96 36.32 246.58 131.85 23 43 47 800.8 42.37 12.35
 48.34 23 13 46 1800.76 27.96 36.32 246.58 131.85 23 43 47 800.8 42.37 12.35
 48.34 23 13 46 1800.76 27.96 36.32 246.58 131.85 23 43 47 800.8 42.37 12.35

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2820 TRA 1.0295 TC3-2.0812 BAU .6321 SGT 2780.6 SGR 2794.1 SG3 1492.2 ST 37.1 SR 44.1 SS 76.5
 RDE -.3816 RRA-1.1598 RC3 1.6102 FAU .19691 RRT -.9334 RRF -.9995 RTF .9329 CRT -.3957 CRS .9989 CST -.4389
 FDE 2.1684 FRA 7.3016 FC3-9.4870 BSP 6291 SGB 3942.0 R23 .1816 R13 -.9829 LSA 90.0 MSA 33.0 SSA .2
 BDE .4745 BRA 1.5508 BC3 2.6314 F8P 2601 SG1 3975.7 SG2 719.5 THA 134.85 EL1 48.7 EL2 30.9 ALF 123.13

LAUNCH DATE APR 26 1971

FLIGHT TIME 222.00

ARRIVAL DATE DEC 4 1971

HELIOCENTRIC CONIC

RL 150.53 LAL -.00 LOL 215.13 VL 32.245 GAL -2.16 AZL 96.06 HCA 175.92 SMA 103.42 ECC .18312 INC 6.0621 V1 28.600
RP 214.08 LAP -.84 LOP 29.08 VP 22.723 GAP 4.35 AZP 83.97 TAL 345.95 TAP 159.87 RCA 149.84 APO 217.01 V2 25.645
RC 143.936 GL -48.94 GP 29.59 ZAL 111.80 ZAP 88.41 ETS 180.12 ZAE 125.62 ETE 156.29 ZAC 131.65 ETC 274.06 LVI -38.46

PLANETOCENTRIC CONIC

C3 20.373 VHL 4.514 DLA -51.54 RAL 8.27 RAD 6643.0 VEL 11.848 PTH 6.86 VMP 3.436 DPA 6.74 RAP 294.37 ECC 1.3353
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
44.93 23 18 59 1856.12 27.75 41.75 253.55 135.35 23 49 55 856.1 43.48 18.84
44.93 23 18 59 1856.12 27.75 41.75 253.55 135.35 23 49 55 856.1 43.48 18.84
44.93 23 18 59 1856.12 27.75 41.75 253.55 135.35 23 49 55 856.1 43.48 18.84
44.93 23 18 59 1856.12 27.75 41.75 253.55 135.35 23 49 55 856.1 43.48 18.84
44.93 23 18 59 1856.12 27.75 41.75 253.55 135.35 23 49 55 856.1 43.48 18.84
44.93 23 18 59 1856.12 27.75 41.75 253.55 135.35 23 49 55 856.1 43.48 18.84
44.93 23 18 59 1856.12 27.75 41.75 253.55 135.35 23 49 55 856.1 43.48 18.84

DIFFERENTIAL CORRECTIONS

TDE -.2452 TRA 1.1585 TC3-1.9776 BAU .7014
RDE -.5260 RRA-1.3431 RC3 1.6494 FAU .18316
FDE 2.4914 FRA 6.6932 FC3-7.7834 BSP 6980
BDE .5803 BRA 1.7737 BC3 2.5752 FSP 2348

MID-COURSE EXECUTION ACCURACY

SGT 2979.1 8GR 3190.1 5G3 1355.4
RRT -.9398 RRF -.9997 RTF .9387
SGB 4364.0 R23 .1637 R13 -.9862
SG1 4299.0 5G2 755.1 THA 132.92

ORBIT DETERMINATION ACCURACY

ST 38.8 SR 53.0 SS 76.9
CRT -.4591 CRS .9997 CST -.4609
LSA 95.5 MSA 33.5 S5A .1
EL1 97.5 EL2 31.8 ALF 117.71

LAUNCH DATE APR 26 1971

FLIGHT TIME 224.00

ARRIVAL DATE DEC 6 1971

HELIOCENTRIC CONIC

RL 150.53 LAL -.00 LOL 215.13 VL 32.246 GAL -2.21 AZL 97.10 HCA 175.10 SMA 103.44 ECC .18336 INC 7.0971 V1 29.600
RP 214.39 LAP -.60 LOP 30.26 VP 22.684 GAP 4.18 AZP 82.93 TAL 345.67 TAP 160.77 RCA 149.81 APO 217.08 V2 25.609
RC 146.344 GL -53.70 GP 34.79 ZAL 110.14 ZAP 86.96 ETS 181.26 ZAE 122.08 ETE 154.53 ZAC 136.88 ETC 274.23 LVI -42.77

PLANETOCENTRIC CONIC

C3 24.408 VHL 4.940 DLA -54.82 RAL 14.18 RAD 6644.7 VEL 12.016 PTH 7.01 VMP 3.680 DPA 11.76 RAP 292.89 ECC 1.4017
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
40.87 23 30 32 1926.37 26.82 48.28 263.27 139.79 24 2 38 926.4 44.18 27.17
40.87 23 30 32 1926.37 26.82 48.28 263.27 139.79 24 2 38 926.4 44.18 27.17
40.87 23 30 32 1926.37 26.82 48.28 263.27 139.79 24 2 38 926.4 44.18 27.17
40.87 23 30 32 1926.37 26.82 48.28 263.27 139.79 24 2 38 926.4 44.18 27.17
40.87 23 30 32 1926.37 26.82 48.28 263.27 139.79 24 2 38 926.4 44.18 27.17
40.87 23 30 32 1926.37 26.82 48.28 263.27 139.79 24 2 38 926.4 44.18 27.17
40.87 23 30 32 1926.37 26.82 48.28 263.27 139.79 24 2 38 926.4 44.18 27.17

DIFFERENTIAL CORRECTIONS

TDE -.1394 TRA 1.3048 TC3-1.7857 BAU .7905
RDE -.8209 RRA-1.5699 RC3 1.8369 FAU .18234
FDE 2.9804 FRA 5.7745 FC3-5.7579 BSP 7789
BDE .8327 BRA 2.0414 BC3 2.4225 FSP 1992

MID-COURSE EXECUTION ACCURACY

SGT 3168.0 8GR 3675.2 5G3 1157.2
RRT -.9446 RRF -.9999 RTF .9427
SGB 4852.2 R23 .1463 R13 -.9891
SG1 4786.1 5G2 798.4 THA 130.52

ORBIT DETERMINATION ACCURACY

ST 40.3 SR 67.2 SS 78.1
CRT -.5495 CRS 1.0000 CST -.5549
LSA 105.7 MSA 32.8 S5A .1
EL1 71.7 EL2 31.5 ALF 112.91

LAUNCH DATE APR 26 1971

FLIGHT TIME 226.00

ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC

RL 150.53 LAL -.00 LOL 215.13 VL 32.248 GAL -2.25 AZL 98.78 HCA 176.27 SMA 103.47 ECC .18365 INC 8.7778 V1 29.600
RP 214.72 LAP -.57 LOP 31.44 VP 22.648 GAP 4.00 AZP 81.24 TAL 345.40 TAP 161.67 RCA 149.78 APO 217.17 V2 25.573
RC 148.770 GL -60.03 GP 41.65 ZAL 107.71 ZAP 85.94 ETS 182.66 ZAE 117.87 ETE 152.35 ZAC 143.75 ETC 274.73 LVI -48.44

PLANETOCENTRIC CONIC

C3 32.226 VHL 5.877 DLA -58.68 RAL 23.55 RAD 6647.9 VEL 12.335 PTH 7.26 VMP 4.143 DPA 18.45 RAP 291.23 ECC 1.5304
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
36.20 23 55 21 2021.11 24.29 55.98 277.59 145.21 24 29 2 1021.1 43.57 37.80
36.20 23 55 21 2021.11 24.29 55.98 277.59 145.21 24 29 2 1021.1 43.57 37.80
36.20 23 55 21 2021.11 24.29 55.98 277.59 145.21 24 29 2 1021.1 43.57 37.80
36.20 23 55 21 2021.11 24.29 55.98 277.59 145.21 24 29 2 1021.1 43.57 37.80
36.20 23 55 21 2021.11 24.29 55.98 277.59 145.21 24 29 2 1021.1 43.57 37.80
36.20 23 55 21 2021.11 24.29 55.98 277.59 145.21 24 29 2 1021.1 43.57 37.80
36.20 23 55 21 2021.11 24.29 55.98 277.59 145.21 24 29 2 1021.1 43.57 37.80

DIFFERENTIAL CORRECTIONS

TDE .1767 TRA 1.4878 TC3-1.4797 BAU .9116
RDE -1.5215 RRA-1.8552 RC3 1.5184 FAU .13034
FDE 3.6840 FRA 4.4382 FC3-3.5017 BSP 8807
BDE 1.5317 BRA 2.3781 BC3 2.1159 FSP 1516

MID-COURSE EXECUTION ACCURACY

SGT 3343.0 8GR 4276.2 5G3 880.3
RRT -.9482 RRF -.9999 RTF .5451
SGB 5427.8 R23 .1302 R13 -.9914
SG1 5361.3 5G2 847.4 THA 127.65

ORBIT DETERMINATION ACCURACY

ST 44.3 SR 93.9 SS 81.1
CRT -.7285 CRS 1.0000 CST -.7246
LSA 128.4 MSA 29.4 S5A .1
EL1 99.8 EL2 28.5 ALF 110.73

LAUNCH DATE APR 26 1971

FLIGHT TIME 236.00

ARRIVAL DATE DEC 20 1971

HELIOCENTRIC CONIC

RL 150.53 LAL -.00 LOL 215.13 VL 32.268 GAL -2.60 AZL 83.94 HCA 183.32 SMA 103.81 ECC .18643 INC 8.0567 V1 29.600
RP 216.73 LAP -.35 LOP 38.43 VP 22.420 GAP 3.01 AZP 96.05 TAL 343.34 TAP 166.66 RCA 149.54 APO 218.07 V2 25.347
RC 163.849 GL 47.47 GP -43.76 ZAL 114.59 ZAP 79.10 ETS 168.21 ZAE 108.77 ETE 199.42 ZAC 58.67 ETC 272.09 LVI 30.58

PLANETOCENTRIC CONIC

C3 21.315 VHL 4.617 DLA 36.73 RAL 323.81 RAD 6643.4 VEL 11.888 PTH 6.90 VMP 4.430 DPA -65.72 RAP 310.65 ECC 1.3508
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 11 47 45 3944.12 -44.48 189.76 217.01 70.98 12 53 29 2944.1 -47.16 135.03
60.00 11 13 0 4037.15 -33.32 172.44 211.36 65.88 12 20 18 3037.1 -39.95 143.48
65.51 9 46 52 4288.00 -20.46 185.45 203.83 58.81 10 58 20 3288.0 -31.46 161.63
65.51 9 46 52 4288.00 -20.46 185.45 203.83 58.81 10 58 20 3288.0 -31.46 161.63
65.51 9 46 52 4288.00 -20.46 185.45 203.83 58.81 10 58 20 3288.0 -31.46 161.63
65.51 9 46 52 4288.00 -20.46 185.45 203.83 58.81 10 58 20 3288.0 -31.46 161.63
65.51 9 46 52 4288.00 -20.46 185.45 203.83 58.81 10 58 20 3288.0 -31.46 161.63

DIFFERENTIAL CORRECTIONS

TDE 2.7531 TRA 1.1137 TC3-2.8154 BAU .9914
RDE 2.3254 RRA 1.6503 RC3-2.0439 FAU .10240
FDE 4.5270 FRA 3.3927 FC3-4.1593 BSP 10296
BDE 3.6037 BRA 1.9909 BC3 3.4791 FSP 1297

MID-COURSE EXECUTION ACCURACY

SGT 4626.6 8GR 4291.9 5G3 742.8
RRT .9656 RRF .9997 RTF .9614
SGB 6310.8 R23 .1560 R13 .9875
SG1 6256.5 5G2 825.7 THA 42.77

ORBIT DETERMINATION ACCURACY

ST 172.8 SR 149.3 SS 111.7
CRT .9940 CRS -.9999 CST -.9924
LSA 253.8 MSA 14.5 S5A .1
EL1 228.1 EL2 12.4 ALF 40.80

LAUNCH DATE APR 26 1971

FLIGHT TIME 240.00

ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC

RL 150.53 LAL -.00 LOL 215.13 VL 32.273 GAL -2.66 AZL 85.97 HCA 184.47 SMA 183.88 ECC .18701 INC 4.0311 V1 29.600
 RP 217.08 LAP -.31 LOP 39.58 VP 22.383 GAP 2.84 AZP 94.02 TAL 343.00 TAP 167.46 RCA 149.50 APO 218.27 V2 25.308
 RC 166.178 GL 38.13 GP -36.05 ZAL 119.74 ZAP 76.17 ETS 168.62 ZAE 109.64 ETE 195.44 ZAC 66.39 ETC 271.76 LVI 23.85

PLANETOCENTRIC CONIC

C3 15.529 VHL 3.941 DLA 25.46 RAL 329.74 RAD 6640.8 VEL 11.644 PTH 6.68 VHP 3.867 DPA -58.59 RAP 304.21 ECC 1.2556
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 20 3 3598.36 -47.32 137.36 206.30 95.64 14 20 1 2598.4 -39.65 105.51
 60.00 13 26 17 3581.74 -40.30 138.29 206.72 89.27 14 25 59 2581.7 -36.17 105.97
 70.00 13 36 58 3550.26 -33.66 133.24 206.22 83.83 14 36 8 2550.3 -32.69 104.54
 80.00 13 59 32 3479.45 -28.10 126.93 205.26 79.46 14 57 31 2479.5 -29.67 99.61
 90.00 14 56 11 3296.43 -25.57 112.91 204.69 77.50 15 51 8 2296.4 -28.28 86.23
 100.00 16 42 24 2953.92 -28.10 88.30 205.26 79.46 17 31 37 1953.9 -29.67 60.98
 110.00 18 36 24 2597.07 -33.66 62.16 206.22 83.83 19 19 42 1597.1 -32.69 33.46

DIFFERENTIAL CORRECTIONS

TDE 2.0561 TRA 1.3913 TC3-3.8635 BAU .9246 SGT 4819.5 SGR 3635.4 SG3 1026.7 ST 153.3 SR 111.9 SS 118.5
 RDE 1.4579 RRA 1.4792 RC3-2.2157 FAU .13172 RRT .9697 RRF .9997 RTF .9671 CRT .9946 CRS -.9998 CST -.9926
 FDE 4.5938 FRA 4.9329 FC3-7.3435 BSP 9973 SGB 6036.9 R23 .1665 R13 .9858 LSA 223.4 MSA 12.7 SSA .2
 BDE 2.5205 BRA 2.0307 BC3 4.4537 FSP 1813 SG1 5994.6 SG2 713.8 THA 36.79 EL1 189.5 EL2 9.4 ALF 36.08

LAUNCH DATE APR 26 1971

FLIGHT TIME 242.00

ARRIVAL DATE DEC 24 1971

HELIOCENTRIC CONIC

RL 150.53 LAL -.00 LOL 215.13 VL 32.278 GAL -2.72 AZL 87.16 HCA 185.61 SMA 183.97 ECC .18763 INC 2.8345 V1 29.600
 RP 217.43 LAP -.28 LOP 40.73 VP 22.346 GAP 2.68 AZP 92.82 TAL 342.64 TAP 168.25 RCA 149.45 APO 218.49 V2 25.289
 RC 166.717 GL 25.95 GP -30.24 ZAL 123.07 ZAP 73.69 ETS 169.17 ZAE 109.59 ETE 192.32 ZAC 72.23 ETC 271.57 LVI 18.72

PLANETOCENTRIC CONIC

C3 13.298 VHL 3.647 DLA 17.08 RAL 333.78 RAD 6639.7 VEL 11.548 PTH 6.59 VHP 3.595 DPA -53.07 RAP 300.79 ECC 1.2189
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 13 59 3385.39 -44.03 117.98 199.54 110.23 15 10 24 2385.4 -31.66 91.46
 60.00 14 33 53 3332.41 -38.42 115.45 201.79 103.25 15 29 25 2332.4 -29.16 88.60
 70.00 15 3 25 3245.46 -33.37 109.57 202.94 97.75 15 57 31 2245.5 -26.80 82.84
 80.00 15 50 2 3099.36 -29.62 98.94 203.39 93.98 16 41 42 2099.4 -24.98 72.48
 90.00 17 1 37 2868.29 -28.17 82.06 203.49 92.58 17 49 26 1868.3 -24.27 55.72
 100.00 18 32 54 2573.83 -29.62 60.31 203.39 93.98 19 15 48 1573.8 -24.98 33.85
 110.00 20 2 51 2292.28 -33.37 38.48 202.94 97.75 20 41 4 1292.3 -26.80 11.76

DIFFERENTIAL CORRECTIONS

TDE 1.6770 TRA 1.9928 TC3-4.6083 BAU .9033 SGT 5009.3 SGR 3082.7 SG3 1212.6 ST 137.8 SR 66.1 SS 116.8
 RDE 1.0181 RRA 1.2919 RC3-2.1397 FAU .15170 RRT .9726 RRF .9995 RTF .9707 CRT .9960 CRS -.9997 CST -.9934
 FDE 4.3987 FRA 6.0021 FC3-9.6737 BSP 9706 SGB 5881.9 R23 .1760 R13 .9839 LSA 199.7 MSA 10.7 SSA .2
 BDE 1.9619 BRA 2.0508 BC3 5.0808 FSP 2134 SG1 5849.8 SG2 613.7 THA 31.29 EL1 162.2 EL2 6.5 ALF 32.00

LAUNCH DATE APR 26 1971

FLIGHT TIME 244.00

ARRIVAL DATE DEC 26 1971

HELIOCENTRIC CONIC

RL 150.53 LAL -.00 LOL 215.13 VL 32.284 GAL -2.78 AZL 87.95 HCA 186.75 SMA 184.06 ECC .18829 INC 2.0433 V1 29.600
 RP 217.79 LAP -.24 LOP 41.87 VP 22.309 GAP 2.52 AZP 92.03 TAL 342.28 TAP 169.03 RCA 149.40 APO 218.71 V2 25.229
 RC 171.268 GL 19.13 GP -25.82 ZAL 125.23 ZAP 71.53 ETS 169.72 ZAE 108.97 ETE 189.92 ZAC 76.66 ETC 271.43 LVI 14.82

PLANETOCENTRIC CONIC

C3 12.344 VHL 3.513 DLA 10.91 RAL 336.77 RAD 6639.2 VEL 11.507 PTH 6.56 VHP 3.450 DPA -48.84 RAP 298.64 ECC 1.2031
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 50 28 3243.17 -40.04 106.67 196.79 118.21 19 44 32 2243.2 -25.47 83.56
 60.00 15 18 7 3169.58 -35.12 102.91 199.65 111.19 16 10 57 2169.6 -23.35 78.74
 70.00 15 56 55 3055.42 -30.72 95.41 201.40 105.72 16 47 51 2055.4 -21.38 70.76
 80.00 16 52 47 2880.41 -27.52 83.04 202.31 102.07 17 40 48 1880.4 -19.90 58.22
 90.00 18 8 44 2635.30 -26.31 65.30 202.58 100.75 18 52 39 1635.3 -19.33 40.45
 100.00 19 35 39 2394.88 -27.52 44.41 202.31 102.07 20 14 54 1354.9 -19.90 19.59
 110.00 20 56 22 2102.24 -30.72 24.32 201.40 103.72 21 31 24 1102.2 -21.38 359.67

DIFFERENTIAL CORRECTIONS

TDE 1.4482 TRA 1.7570 TC3-5.1148 BAU .9031 SGT 5197.1 SGR 2638.7 SG3 1328.4 ST 126.0 SR 68.9 SS 113.1
 RDE .7713 RRA 1.1283 RC3-1.9492 FAU .16384 RRT .9736 RRF .9992 RTF .524 CRT .9978 CRS -.9993 CST -.9947
 FDE 4.1728 FRA 6.7294 FC-11.4908 BSP 9570 SGB 5828.6 R23 .1847 R13 .9820 LSA 182.7 MSA 8.8 SSA .4
 BDE 1.6409 BRA 2.0881 BC3 5.4722 FSP 2338 SG1 5803.7 SG2 539.0 THA 26.55 EL1 143.6 EL2 4.0 ALF 28.64

LAUNCH DATE APR 26 1971

FLIGHT TIME 246.00

ARRIVAL DATE DEC 28 1971

HELIOCENTRIC CONIC

RL 150.53 LAL -.00 LOL 215.13 VL 32.289 GAL -2.85 AZL 88.51 HCA 187.89 SMA 184.15 ECC .18899 INC 1.4827 V1 29.600
 RP 218.15 LAP -.20 LOP 43.01 VP 22.272 GAP 2.36 AZP 91.47 TAL 341.91 TAP 169.80 RCA 149.35 APO 218.95 V2 25.189
 RC 173.828 GL 14.00 GP -22.41 ZAL 126.68 ZAP 69.60 ETS 170.21 ZAE 108.03 ETE 188.05 ZAC 80.08 ETC 271.33 LVI 11.81

PLANETOCENTRIC CONIC

C3 11.942 VHL 3.456 DLA 6.31 RAL 339.09 RAD 6639.0 VEL 11.490 PTH 6.54 VHP 3.371 DPA -45.56 RAP 297.15 ECC 1.1965
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 17 4 3143.76 -36.60 99.66 196.03 122.83 16 9 28 2143.8 -20.88 78.57
 60.00 15 49 54 3056.41 -32.03 94.90 199.14 115.89 16 40 50 2056.4 -18.92 72.45
 70.00 16 34 36 2924.92 -27.95 86.26 201.16 110.48 17 23 21 1924.9 -17.11 63.05
 80.00 17 38 0 2732.61 -24.99 72.79 202.27 106.89 18 21 33 1732.6 -15.76 49.20
 90.00 18 54 25 2479.54 -23.89 54.54 202.63 105.61 19 35 45 1479.5 -15.25 30.84
 100.00 20 18 52 2207.08 -24.99 34.16 202.27 106.89 20 55 39 1207.1 -15.76 10.57
 110.00 21 34 2 1971.74 -27.95 15.18 201.16 110.48 22 6 54 971.7 -17.11 351.96

DIFFERENTIAL CORRECTIONS

TDE 1.3029 TRA 1.9034 TC3-5.4562 BAU .9147 SGT 5382.3 SGR 2278.8 SG3 1395.1 ST 118.2 SR 56.6 SS 108.2
 RDE .6143 RRA .9844 RC3-1.7479 FAU .17317 RRT .9759 RRF .9988 RTF .9753 CRT .9993 CRS -.9986 CST -.9960
 FDE 3.9232 FRA 7.1724 FC3-12.5532 BSP 9522 SGB 5844.8 R23 .1835 R13 .9818 LSA 169.8 MSA 7.2 SSA .6
 BDE 1.4405 BRA 2.1429 BC3 5.7293 FSP 2412 SG1 5826.7 SG2 459.4 THA 22.60 EL1 131.0 EL2 2.0 ALF 25.58

LAUNCH DATE APR 26 1971 FLIGHT TIME 240.00 ARRIVAL DATE DEC 30 1971

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 32.295 GAL -2.92 AZL 88.93 HCA 189.03 SMA 184.25 ECC .18972 INC 1.0842 V1 29.600
 RP 218.31 LAP -.17 LOP 44.15 VP 22.236 GAP 2.19 AZP 91.05 TAL 341.52 TAP 170.55 RCA 149.29 APO 219.21 V2 25.149
 RC 178.400 GL 10.07 GP -19.72 ZAL 127.72 ZAP 67.83 EYS 170.65 ZAE 106.90 ETE 186.58 ZAC 82.78 ETC 271.24 LVI 9.45

PLANETOCENTRIC CONIC
 C3 11.816 VHL 3.437 DLA 2.83 RAL 340.98 RAD 6639.0 VEL 11.485 PTH 6.53 VHP 3.328 DPA -42.97 RAP 296.05 ECC 1.1945
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 37 27 3072.06 -33.85 95.02 196.20 125.68 16 28 39 2072.1 -17.47 75.18
 60.00 16 14 1 2974.75 -29.48 89.50 199.44 118.83 17 3 36 1974.7 -15.58 68.14
 70.00 17 2 55 2830.93 -25.55 80.01 201.61 113.47 17 50 6 1830.9 -13.63 57.74
 80.00 18 8 10 2826.60 -22.71 65.75 202.85 109.92 18 51 57 1626.6 -12.54 42.98
 90.00 19 28 17 2368.10 -21.65 47.15 203.25 108.65 20 7 45 1368.1 -12.05 24.23
 100.00 20 31 2 2101.07 -22.71 27.12 202.85 109.92 21 26 3 1101.1 -12.54 4.35
 110.00 22 2 21 1677.75 -25.55 8.93 201.61 113.47 22 33 39 877.7 -13.63 346.65

DIFFERENTIAL CORRECTIONS
 TDE 1.2229 TRA 2.0554 TC3-5.6482 BAU .9234 SGT 5587.7 SGR 1997.4 SG3 1436.8 ST 114.3 SR 49.0 SS 106.6
 RDE .5254 RRA .8784 RC3-1.5070 FAU .17357 RRT .9745 RRF .9981 RTF .9748 CRT .9998 CRS -.9974 CST -.9975
 FDE 3.8204 FRA 7.5692 FC-12.7173 BSP 9802 SGB 5915.1 R23 .1899 R13 .9799 LSA 163.7 MSA 5.7 SSA .9
 BDE 1.3310 BRA 2.2353 BC3 5.6457 FSP 2555 SGI 5900.0 SGI 423.2 THA 19.37 EL1 124.4 EL2 .9 ALF 23.21

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 26 1971 FLIGHT TIME 250.00 ARRIVAL DATE JAN 1 1972

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 32.302 GAL -2.99 AZL 89.26 HCA 190.18 SMA 184.35 ECC .19048 INC .7391 V1 29.600
 RP 218.88 LAP -.13 LOP 45.28 VP 22.199 GAP 2.03 AZP 90.73 TAL 341.13 TAP 171.29 RCA 149.24 APO 219.47 V2 25.109
 RC 178.981 GL 6.98 GP -17.55 ZAL 128.53 ZAP 66.19 ETS 171.03 ZAE 105.67 ETE 185.42 ZAC 84.96 ETC 271.18 LVI 7.54

PLANETOCENTRIC CONIC
 C3 11.837 VHL 3.440 DLA .15 RAL 342.58 RAD 6639.0 VEL 11.485 PTH 6.53 VHP 3.307 DPA -40.88 RAP 295.21 ECC 1.1948
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 53 35 3019.03 -31.70 91.79 196.80 127.54 16 43 54 2019.0 -14.90 72.76
 60.00 16 33 0 2914.16 -27.43 85.68 200.13 120.77 17 21 34 1914.2 -13.04 65.05
 70.00 17 25 4 2761.05 -23.58 75.54 202.40 115.45 18 11 5 1761.1 -11.31 53.89
 80.00 18 33 12 2547.72 -20.79 60.68 203.72 111.93 19 15 39 1547.7 -10.03 38.47
 90.00 19 54 34 2285.18 -19.75 41.81 204.16 110.66 20 32 39 1285.2 -9.55 19.42
 100.00 21 16 4 2022.19 -20.79 22.04 203.72 111.93 21 49 46 1022.2 -10.03 359.84
 110.00 22 24 30 1807.87 -23.58 4.46 202.40 115.45 22 54 38 807.9 -11.31 342.81

DIFFERENTIAL CORRECTIONS
 TDE 1.1624 TRA 2.1875 TC3-5.8138 BAU .9438 SGT 5748.5 SGR 1760.1 SG3 1453.0 ST 111.3 SR 42.7 SS 103.2
 RDE .4560 RRA .7791 RC3-1.3304 FAU .17602 RRT .9747 RRF .9971 RTF .9762 CRT .9990 CRS -.9956 CST -.9984
 FDE 3.6578 FRA 7.7651 FC-12.8739 BSP 9937 SGB 6010.0 R23 .1854 R13 .9799 LSA 157.6 MSA 4.9 SSA 1.2
 BDE 1.2487 BRA 2.3221 BC3 5.9640 FSP 2568 SGI 5998.2 SGI 378.8 THA 16.69 EL1 119.2 EL2 1.8 ALF 20.97

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 26 1971 FLIGHT TIME 252.00 ARRIVAL DATE JAN 3 1972

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 32.308 GAL -3.08 AZL 89.52 HCA 191.29 SMA 184.46 ECC .19128 INC .4806 V1 29.600
 RP 219.25 LAP -.09 LOP 46.41 VP 22.163 GAP 1.88 AZP 90.47 TAL 340.74 TAP 172.02 RCA 149.18 APO 219.75 V2 25.068
 RC 181.572 GL 4.51 GP -15.77 ZAL 129.19 ZAP 64.65 ETS 171.36 ZAE 104.39 ETE 184.49 ZAC 86.74 ETC 271.13 LVI 5.99

PLANETOCENTRIC CONIC
 C3 11.945 VHL 3.456 DLA -1.95 RAL 343.95 RAD 6639.0 VEL 11.490 PTH 6.54 VHP 3.300 DPA -39.16 RAP 294.55 ECC 1.1968
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 6 43 2979.20 -30.02 89.48 197.81 128.82 16 56 23 1979.2 -12.95 70.98
 60.00 16 48 22 2868.42 -25.80 82.90 201.01 122.10 17 36 11 1868.4 -11.09 62.75
 70.00 17 42 34 2708.06 -21.99 72.25 203.36 116.81 18 28 2 1708.1 -9.36 51.03
 80.00 18 53 17 2487.71 -19.22 56.91 204.74 113.30 19 34 44 1487.7 -8.08 35.08
 90.00 20 15 37 2222.01 -18.18 37.84 205.20 112.04 20 52 39 1222.0 -7.59 15.81
 100.00 21 36 9 1962.18 -19.22 18.28 204.74 113.30 22 8 51 962.2 -8.08 356.45
 110.00 22 42 21 1754.88 -21.99 1.17 203.36 116.81 23 11 35 754.9 -9.36 339.95

DIFFERENTIAL CORRECTIONS
 TDE 1.1358 TRA 2.3272 TC3-5.9019 BAU .9604 SGT 5923.7 SGR 1588.3 SG3 1458.8 ST 110.7 SR 38.5 SS 102.0
 RDE .4137 RRA .7011 RC3-1.1544 FAU .17358 RRT .9727 RRF .9956 RTF .5.59 CRT .9985 CRS -.9933 CST -.9982
 FDE 3.5929 FRA 7.9525 FC-12.5801 BSP 10261 SGB 6127.7 R23 .1852 R13 .9788 LSA 155.3 MSA 4.5 SSA 1.5
 BDE 1.2086 BRA 2.4305 BC3 6.0137 FSP 2626 SGI 6117.6 SGI 352.7 THA 14.49 EL1 117.2 EL2 3.1 ALF 19.12

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 26 1971 FLIGHT TIME 254.00 ARRIVAL DATE JAN 5 1972

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 32.315 GAL -3.13 AZL 89.73 HCA 192.41 SMA 184.58 ECC .19211 INC .2859 V1 29.600
 RP 219.62 LAP -.06 LOP 47.94 VP 22.127 GAP 1.72 AZP 90.26 TAL 340.33 TAP 172.74 RCA 149.12 APO 220.03 V2 25.028
 RC 184.172 GL 2.51 GP -14.30 ZAL 129.77 ZAP 63.20 ETS 171.86 ZAE 103.09 ETE 183.72 ZAC 88.23 ETC 271.08 LVI 4.69

PLANETOCENTRIC CONIC
 C3 12.109 VHL 3.480 DLA -3.61 RAL 345.17 RAD 6639.1 VEL 11.497 PTH 6.55 VHP 3.303 DPA -37.73 RAP 294.03 ECC 1.1993
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 17 39 2948.95 -28.72 87.77 198.52 129.72 17 6 48 1949.0 -11.46 68.66
 60.00 17 1 4 2835.47 -24.52 80.83 201.97 123.04 17 48 18 1835.5 -9.58 61.03
 70.00 17 57 34 2667.31 -20.72 69.77 204.39 117.78 18 42 2 1667.3 -7.84 48.85
 80.00 19 9 45 2441.34 -17.95 54.06 205.83 114.27 19 50 26 1441.3 -6.54 32.50
 90.00 20 32 53 2173.12 -16.91 34.82 206.30 113.01 21 9 6 1173.1 -6.05 13.04
 100.00 21 52 37 1915.81 -17.95 15.43 205.83 114.27 22 24 33 915.8 -6.54 353.86
 110.00 22 57 1 1714.13 -20.72 358.69 204.39 117.78 23 25 35 714.1 -7.84 337.77

DIFFERENTIAL CORRECTIONS
 TDE 1.1242 TRA 2.4643 TC3-5.9652 BAU .9792 SGT 6098.4 SGR 1408.7 SG3 1456.2 ST 111.0 SR 35.3 SS 101.3
 RDE .3842 RRA .6348 RC3-1.0034 FAU .16981 RRT .9694 RRF .9936 RTF .9750 CRT .9923 CRS -.9903 CST -.9996
 FDE 3.5559 FRA 8.0955 FC-12.1409 BSP 10597 SGB 6259.0 R23 .1854 R13 .9774 LSA 154.3 MSA 4.6 SSA 1.6
 BDE 1.1880 BRA 2.5447 BC3 6.0490 FSP 2678 SGI 6249.9 SGI 337.7 THA 12.66 EL1 116.4 EL2 4.2 ALF 17.55

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 26 1971

FLIGHT TIME 256.00

ARRIVAL DATE JAN 7 1972

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 32.322 GAL -3.21 AZL 89.91 HCA 193.53 SMA 184.89 ECC .19296 INC .0851 V1 29.600
 RP 219.99 LAP -.02 LOP 48.66 VP 22.091 GAP 1.56 AZP 90.09 TAL 339.92 TAP 173.46 RCA 149.05 APO 220.33 V2 24.987
 RC 186.781 GL .87 GP -13.05 ZAL 130.30 ZAP 61.82 ETS 171.92 ZAE 101.78 ZAC 89.48 ETC 271.05 LVI 3.59

DISTANCE 602.539 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 12.308 VHL 3.508 DLA -4.84 RAL 346.25 RAD 6639.2 VEL 11.506 PTH 6.55 VHP 3.313 DPA -36.52 RAP 293.61 ECC 1.2026
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 26 53 2929.82 -27.70 86.50 199.47 130.36 17 15 39 1925.8 -10.31 68.65
 60.00 17 11 44 2806.53 -23.51 79.26 202.97 123.73 17 58 30 1806.5 -8.42 59.70
 70.00 18 9 50 2635.68 -19.70 67.88 205.44 118.48 18 53 46 1635.7 -6.65 47.17
 80.00 19 23 29 2405.12 -16.92 51.86 206.92 114.97 20 3 34 1405.1 -5.34 30.49
 90.00 20 47 15 2134.84 -15.87 32.48 207.41 113.72 21 22 50 1134.8 -4.84 10.89
 100.00 22 6 21 1879.60 -16.92 13.23 206.92 114.97 22 37 40 879.6 -5.34 351.85
 110.00 23 9 17 1682.49 -19.70 356.80 205.44 118.48 23 37 19 682.5 -6.65 336.09

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.1091 TRA 2.5835 TC3-6.0547 BAU 1.0072 SGT 6266.2 SGR 1267.5 SG3 1440.5 ST 110.8 SR 32.2 SS 98.4
 RDE .3549 RRA .5689 RC3 -.9023 FAU .17035 RRT .9681 RRF .9908 RTF .9767 CRT .9865 CRS -.9859 CST -.9998
 FDE 3.4279 FRA 8.0912 FC-11.9828 BSP 10738 SGB 6393.1 R23 .1714 R13 .9784 LSA 151.5 MSA 5.2 SSA 1.6
 BDE 1.1645 BRA 2.6454 BC3 6.1215 FSP 2601 SG1 6385.5 SG2 311.5 THA 11.11 EL1 115.3 EL2 5.1 ALF 16.03

LAUNCH DATE APR 26 1971

FLIGHT TIME 258.00

ARRIVAL DATE JAN 9 1972

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 32.329 GAL -3.29 AZL 90.06 HCA 194.65 SMA 184.81 ECC .19385 INC .0271 V1 29.600
 RP 220.36 LAP .01 LOP 49.78 VP 22.055 GAP 1.40 AZP 89.95 TAL 339.51 TAP 174.16 RCA 148.99 APO 220.64 V2 24.946
 RC 189.399 GL -.51 GP -11.98 ZAL 130.80 ZAP 60.50 ETS 172.16 ZAE 100.47 ETE 182.58 ZAC 90.55 ETC 271.03 LVI 2.64

DISTANCE 606.671 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 12.533 VHL 3.540 DLA -6.02 RAL 347.24 RAD 6639.3 VEL 11.515 PTH 6.56 VHP 3.328 DPA -35.48 RAP 293.26 ECC 1.2063
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 34 49 2908.21 -26.92 85.55 200.43 130.83 17 23 17 1908.2 -9.44 67.89
 60.00 17 20 49 2785.83 -22.72 78.08 203.98 124.22 18 7 15 1785.8 -7.52 58.69
 70.00 18 20 14 2611.13 -18.90 66.43 206.50 118.99 19 3 45 1611.1 -5.73 45.88
 80.00 19 35 5 2376.82 -16.10 50.16 208.01 115.49 20 14 42 1376.8 -4.39 28.92
 90.00 20 59 23 2104.83 -15.04 30.67 208.52 114.23 21 34 28 1104.8 -3.88 9.20
 100.00 22 17 57 1851.29 -16.10 11.53 208.01 115.49 22 48 48 851.3 -4.39 350.29
 110.00 23 19 41 1657.95 -18.90 355.35 206.50 118.99 23 47 19 657.9 -5.73 334.79

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.1089 TRA 2.7080 TC3-6.1120 BAU 1.0329 SGT 6432.0 SGR 1149.7 SG3 1422.7 ST 111.6 SR 30.0 SS 96.8
 RDE .3363 RRA .5147 RC3 -.8038 FAU .16802 RRT .9644 RRF .9871 RTF .9769 CRT .9792 CRS -.9808 CST -.9998
 FDE 3.3610 FRA 8.1059 FC-11.6063 BSP 10966 SGB 6333.9 R23 .1626 R13 .9782 LSA 150.6 MSA 5.9 SSA 1.5
 BDE 1.1588 BRA 2.7565 BC3 6.1646 FSP 2568 SG1 6327.0 SG2 299.8 THA 9.80 EL1 115.5 EL2 5.9 ALF 14.77

LAUNCH DATE APR 26 1971

FLIGHT TIME 260.00

ARRIVAL DATE JAN 11 1972

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 32.337 GAL -3.37 AZL 90.18 HCA 195.77 SMA 184.84 ECC .19477 INC .1805 V1 29.600
 RP 220.74 LAP .05 LOP 50.89 VP 22.019 GAP 1.24 AZP 89.82 TAL 339.09 TAP 174.85 RCA 148.92 APO 220.96 V2 24.904
 RC 192.025 GL -1.66 GP -11.06 ZAL 131.28 ZAP 59.23 ETS 172.37 ZAE 99.17 ETE 182.14 ZAC 91.47 ETC 271.01 LVI 1.82

DISTANCE 610.799 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 12.778 VHL 3.575 DLA -6.89 RAL 348.16 RAD 6639.4 VEL 11.526 PTH 6.57 VHP 3.347 DPA -34.58 RAP 293.04 ECC 1.2103
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 41 41 2894.90 -26.33 84.84 201.39 131.18 17 29 56 1894.9 -8.78 67.32
 60.00 17 28 40 2769.99 -22.11 77.18 204.98 124.59 18 14 50 1770.0 -6.63 57.93
 70.00 18 29 9 2592.13 -18.27 65.32 207.54 119.37 19 12 21 1592.1 -5.01 44.88
 80.00 19 44 59 2354.72 -15.44 48.85 209.08 115.87 20 24 14 1354.7 -3.65 27.70
 90.00 21 9 43 2081.32 -14.38 29.27 209.60 114.62 21 44 25 1081.3 -3.13 7.69
 100.00 22 27 51 1829.19 -15.44 10.21 209.08 115.87 22 58 20 829.2 -3.65 349.07
 110.00 23 28 35 1638.95 -18.27 354.24 207.54 119.37 23 55 54 638.9 -5.01 333.79

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.1194 TRA 2.8334 TC3-6.1488 BAU 1.0572 SGT 6594.5 SGR 1049.0 SG3 1401.8 ST 113.2 SR 28.3 SS 95.5
 RDE .3231 RRA .4673 RC3 -.7173 FAU .16489 RRT .9594 RRF .9823 RTF .9770 CRT .9706 CRS -.9748 CST -.9998
 FDE 3.3115 FRA 8.1064 FC-11.1712 BSP 11243 SGB 6677.4 R23 .1529 R13 .9780 LSA 150.6 MSA 6.6 SSA 1.5
 BDE 1.1651 BRA 2.8737 BC3 6.1885 FSP 2538 SG1 6671.0 SG2 292.6 THA 8.69 EL1 116.5 EL2 6.6 ALF 13.67

LAUNCH DATE APR 26 1971

FLIGHT TIME 262.00

ARRIVAL DATE JAN 13 1972

HELIOCENTRIC CONIC
 RL 150.53 LAL -.00 LOL 215.13 VL 32.344 GAL -3.45 AZL 90.30 HCA 196.88 SMA 185.08 ECC .19571 INC .2945 V1 29.600
 RP 221.12 LAP .09 LOP 52.00 VP 21.983 GAP 1.08 AZP 89.72 TAL 338.66 TAP 175.54 RCA 148.84 APO 221.28 V2 24.863
 RC 194.859 GL -2.65 GP -10.26 ZAL 131.74 ZAP 58.02 ETS 172.57 ZAE 97.89 ETE 181.77 ZAC 92.27 ETC 271.01 LVI 1.09

DISTANCE 614.923 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 13.039 VHL 3.611 DLA -7.60 RAL 349.01 RAD 6639.6 VEL 11.537 PTH 6.58 VHP 3.369 DPA -33.79 RAP 292.86 ECC 1.2146
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 47 44 2885.04 -25.89 84.32 202.34 131.42 17 35 49 1885.0 -8.29 66.90
 60.00 17 35 29 2758.04 -21.85 76.51 205.97 124.86 18 21 27 1758.0 -6.31 57.35
 70.00 18 36 51 2577.58 -17.78 64.47 208.56 119.65 19 19 49 1577.6 -4.46 44.11
 80.00 19 53 31 2337.60 -14.93 47.83 210.14 116.16 20 32 28 1337.6 -3.07 26.76
 90.00 21 18 37 2063.03 -13.86 28.18 210.67 114.90 21 53 0 1063.0 -2.54 6.87
 100.00 22 36 23 1812.07 -14.93 9.20 210.14 116.16 23 6 35 812.1 -3.07 348.13
 110.00 23 38 18 1624.40 -17.78 353.39 208.56 119.65 24 3 22 624.4 -4.46 333.03

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.1355 TRA 2.9633 TC3-6.1732 BAU 1.0819 SGT 6754.5 SGR 962.2 SG3 1378.7 ST 115.0 SR 26.9 SS 94.4
 RDE .3136 RRA .4251 RC3 -.6424 FAU .16140 RRT .9528 RRF .9761 RTF .9770 CRT .9608 CRS -.9680 CST -.9994
 FDE 3.2708 FRA 8.0921 FC-10.7161 BSP 11522 SGB 6822.7 R23 .1434 R13 .9778 LSA 151.0 MSA 7.4 SSA 1.4
 BDE 1.1780 BRA 2.9938 BC3 6.2065 FSP 2503 SG1 6816.5 SG2 289.4 THA 7.74 EL1 117.9 EL2 7.3 ALF 12.72

LAUNCH DATE APR 26 1971 FLIGHT TIME 264.00 ARRIVAL DATE JAN 15 1972

MELIOCENTRIC CONIC DISTANCE 619.041 EARTH TO MARS
 RL 150.53 LAL -.00 LOL 215.13 VL 32.352 GAL -3.53 AZL 90.39 HCA 197.98 SMA 185.19 ECC .19669 INC .3920 V1 29.600
 RP 221.50 LAP .12 LOP 53.11 VP 21.948 GAP .93 AZP 89.63 TAL 338.23 TAP 176.21 RCA 148.77 APO 221.82 V2 24.821
 RC 197.299 GL -3.49 GP -9.56 ZAL 132.20 ZAP 56.86 ETS 172.75 ZAE 96.83 ETE 181.45 ZAC 92.97 ETC 271.01 LVI .44

PLANETOCENTRIC CONIC
 C3 13.313 VHL 3.649 DLA -8.18 RAL 349.81 RAD 6639.7 VEL 11.549 PTH 6.59 VHP 3.394 DPA -33.09 RAP 292.73 ECC 1.2191
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 53 4 2877.96 -25.57 83.95 203.28 131.80 17 41 2 1878.0 -7.93 66.60
 60.00 17 41 28 2749.25 -21.31 76.02 206.95 125.05 18 27 17 1749.3 -5.92 56.92
 70.00 18 43 34 2566.66 -17.41 63.84 209.57 119.86 19 26 21 1566.7 -4.04 43.54
 80.00 20 0 55 2324.55 -14.54 47.06 211.17 116.37 20 39 39 1324.6 -2.63 26.04
 90.00 21 26 19 2049.01 -13.46 27.34 211.71 115.11 22 0 28 1049.0 -2.09 6.08
 100.00 22 43 46 1799.03 -14.54 8.43 211.17 116.37 23 13 45 799.0 -2.63 347.41
 110.00 23 43 1 1613.47 -17.41 352.76 209.57 119.86 24 9 54 613.5 -4.04 332.46

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.1535 TRA 3.0877 TC3-6.2007 BAU 1.1084 SGT 6910.2 SGR 886.7 SG3 1353.2 ST 116.8 SR 25.8 SS 93.2
 RDE .3065 RRA .3865 RC3 -.5794 FAU .15822 RRT .9446 RRF .9683 RTF .9770 CRT .9499 CRS -.9603 CST -.9992
 FDE 3.2271 FRA 8.0538 FC3-10.2884 BSP 11760 SGB 6966.9 R23 .1332 R13 .9777 LSA 151.4 MSA 8.1 SSA 1.4
 BDE 1.1935 BRA 3.1118 BC3 6.2277 FSP 2459 SG1 6960.9 SG2 288.8 THA 6.92 EL1 119.4 EL2 7.9 ALF 11.89

LAUNCH DATE APR 26 1971 FLIGHT TIME 266.00 ARRIVAL DATE JAN 17 1972

MELIOCENTRIC CONIC DISTANCE 623.154 EARTH TO MARS
 RL 150.53 LAL -.00 LOL 215.13 VL 32.360 GAL -3.61 AZL 90.48 HCA 199.09 SMA 185.33 ECC .19769 INC .4788 V1 29.600
 RP 221.88 LAP .16 LOP 54.21 VP 21.912 GAP .77 AZP 89.55 TAL 337.80 TAP 176.88 RCA 148.69 APO 221.96 V2 24.780
 RC 199.945 GL -4.21 GP -8.94 ZAL 132.66 ZAP 55.74 ETS 172.91 ZAE 95.39 ETE 181.18 ZAC 93.59 ETC 271.02 LVI -.15

PLANETOCENTRIC CONIC
 C3 13.599 VHL 3.688 DLA -8.65 RAL 350.56 RAD 6639.8 VEL 11.561 PTH 6.61 VHP 3.420 DPA -32.47 RAP 292.67 ECC 1.2238
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 57 51 2873.18 -25.35 83.70 204.21 131.71 17 45 44 1873.2 -7.69 66.39
 60.00 17 46 46 2743.07 -21.07 75.68 207.90 125.19 18 32 29 1743.1 -5.65 56.62
 70.00 18 49 28 2558.72 -17.14 63.39 210.56 120.00 19 32 7 1558.7 -3.74 43.12
 80.00 20 7 22 2314.87 -14.25 46.49 212.17 116.52 20 45 56 1314.9 -2.30 25.51
 90.00 21 33 1 2038.53 -13.15 26.72 212.72 115.26 22 6 59 1038.5 -1.75 5.50
 100.00 22 50 13 1789.34 -14.25 7.86 212.17 116.52 23 20 3 789.3 -2.30 346.88
 110.00 23 48 54 1605.54 -17.14 392.30 210.56 120.00 24 15 40 605.5 -3.74 332.04

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.1774 TRA 3.2147 TC3-6.2163 BAU 1.1342 SGT 7063.3 SGR 821.6 SG3 1326.8 ST 119.0 SR 24.9 SS 92.2
 RDE .3020 RRA .3519 RC3 -.5234 FAU .15453 RRT .9343 RRF .9585 RTF .9769 CRT .9382 CRS -.9521 CST -.9989
 FDE 3.1943 FRA 8.0126 FC3-9.8373 BSP 12026 SGB 7110.9 R23 .1241 R13 .9774 LSA 152.3 MSA 8.7 SSA 1.4
 BDE 1.2155 BRA 3.2339 BC3 6.2383 FSP 2418 SG1 7104.9 SG2 291.1 THA 6.21 EL1 121.3 EL2 8.5 ALF 11.16

LAUNCH DATE APR 26 1971 FLIGHT TIME 268.00 ARRIVAL DATE JAN 19 1972

MELIOCENTRIC CONIC DISTANCE 627.262 EARTH TO MARS
 RL 150.53 LAL -.00 LOL 215.13 VL 32.368 GAL -3.70 AZL 90.56 HCA 200.18 SMA 185.46 ECC .19871 INC .5570 V1 29.600
 RP 222.27 LAP .19 LOP 55.31 VP 21.877 GAP .61 AZP 89.48 TAL 337.36 TAP 177.54 RCA 148.61 APO 222.32 V2 24.738
 RC 202.595 GL -4.84 GP -8.38 ZAL 133.11 ZAP 54.66 ETS 173.07 ZAE 94.18 ETE 180.95 ZAC 94.15 ETC 271.04 LVI -.69

PLANETOCENTRIC CONIC
 C3 13.898 VHL 3.728 DLA -9.03 RAL 351.28 RAD 6640.0 VEL 11.574 PTH 6.62 VHP 3.448 DPA -31.92 RAP 292.65 ECC 1.2287
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 2 8 2870.30 -25.22 83.55 205.12 131.78 17 49 58 1870.3 -7.55 66.27
 60.00 17 51 29 2739.06 -20.91 75.46 208.85 125.27 18 37 8 1739.1 -5.48 56.43
 70.00 18 54 40 2553.28 -16.96 63.07 211.53 120.10 19 37 13 1553.3 -3.53 42.84
 80.00 20 13 1 2308.00 -14.04 46.09 213.16 116.82 20 51 29 1308.0 -2.07 25.13
 90.00 21 38 52 2031.00 -12.93 26.28 213.71 115.37 22 12 43 1031.0 -1.51 5.08
 100.00 22 55 53 1782.47 -14.04 7.46 213.16 116.82 23 25 35 782.5 -2.07 346.50
 110.00 23 54 6 1600.10 -16.96 351.99 211.53 120.10 24 20 46 600.1 -3.53 331.75

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.2062 TRA 3.3437 TC3-6.2231 BAU 1.1595 SGT 7214.0 SGR 765.2 SG3 1299.9 ST 121.4 SR 24.2 SS 91.3
 RDE .2994 RRA .3204 RC3 -.4748 FAU .13079 RRT .9219 RRF .9466 RTF .9768 CRT .9261 CRS -.9434 CST -.9986
 FDE 3.1664 FRA 7.9637 FC3-9.3942 BSP 12299 SGB 7254.5 R23 .1130 R13 .9772 LSA 153.5 MSA 9.4 SSA 1.3
 BDE 1.2428 BRA 3.3590 BC3 6.2412 FSP 2374 SG1 7248.5 SG2 295.0 THA 5.59 EL1 123.4 EL2 9.0 ALF 10.52

LAUNCH DATE APR 26 1971 FLIGHT TIME 270.00 ARRIVAL DATE JAN 21 1972

MELIOCENTRIC CONIC DISTANCE 631.364 EARTH TO MARS
 RL 150.53 LAL -.00 LOL 215.13 VL 32.376 GAL -3.79 AZL 90.63 HCA 201.28 SMA 185.60 ECC .19977 INC .6261 V1 29.600
 RP 222.65 LAP .23 LOP 56.40 VP 21.842 GAP .45 AZP 89.42 TAL 336.91 TAP 178.19 RCA 148.52 APO 222.68 V2 24.696
 RC 205.250 GL -5.38 GP -7.89 ZAL 133.57 ZAP 53.62 ETS 173.21 ZAE 92.98 ETE 180.75 ZAC 94.64 ETC 271.07 LVI -1.18

PLANETOCENTRIC CONIC
 C3 14.203 VHL 3.769 DLA -9.33 RAL 351.96 RAD 6640.1 VEL 11.587 PTH 6.63 VHP 3.477 DPA -31.41 RAP 292.68 ECC 1.2337
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 6 0 2869.03 -25.16 83.49 206.02 131.81 17 53 49 1869.0 -7.49 66.21
 60.00 17 55 42 2736.88 -20.82 75.34 209.77 125.32 18 41 18 1736.9 -5.38 56.32
 70.00 18 59 16 2549.95 -16.84 62.88 212.48 120.16 19 41 46 1549.9 -3.40 42.66
 80.00 20 18 0 2303.52 -13.90 45.83 214.13 116.69 20 56 23 1303.5 -1.92 24.89
 90.00 21 44 1 2025.99 -12.79 25.99 214.69 115.44 22 17 47 1026.0 -1.35 4.80
 100.00 23 0 51 1777.99 -13.90 7.20 214.13 116.69 23 30 29 778.0 -1.92 345.25
 110.00 0 2 39 1596.76 -16.84 351.80 212.48 120.16 0 29 15 596.8 -3.40 331.58

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.2369 TRA 3.4728 TC3-6.2274 BAU 1.1853 SGT 7361.7 SGR 716.4 SG3 1272.4 ST 123.8 SR 23.7 SS 90.4
 RDE .2983 RRA .2915 RC3 -.4316 FAU .14691 RRT .9069 RRF .9322 RTF .9765 CRT .9135 CRS -.9342 CST -.9983
 FDE 3.1409 FRA 7.9097 FC3-8.9548 BSP 12557 SGB 7396.5 R23 .1072 R13 .9769 LSA 154.8 MSA 10.0 SSA 1.3
 BDE 1.2724 BRA 3.4850 BC3 6.2423 FSP 2330 SG1 7390.4 SG2 300.7 THA 5.05 EL1 125.7 EL2 9.5 ALF 9.96

LAUNCH DATE APR 26 1971

FLIGHT TIME 272.00

ARRIVAL DATE JAN 23 1972

HELIOCENTRIC CONIC

DISTANCE 635.461

EARTH TO MARS

RL 150.93 LAL -.00 LOL 215.13 VL 32.385 GAL -3.87 AZL 90.69 HCA 202.37 SMA 185.74 ECC .20005 INC .6888 V1 29.600
 RP 223.04 LAP .26 LOP 57.50 VP 21.807 GAP .29 AZP 89.36 TAL 336.46 TAP 178.83 RCA 148.44 APO 223.03 V2 24.654
 RC 207.907 GL -5.86 GP -7.44 ZAL 134.02 ZAP 92.62 ETS 173.35 ZAE 91.81 ETE 180.57 ZAC 95.08 ETC 271.10 LVI -1.64

PLANETOCENTRIC CONIC

C3 14.520 VHL 3.811 DLA -9.57 RAL 352.62 RAD 6640.3 VEL 11.601 PTH 6.64 VHP 3.507 DPA -30.96 RAP 292.74 ECC 1.2390
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 9 32 2869.12 -25.17 83.49 206.91 131.81 17 57 21 1869.1 -7.49 66.22
 60.00 17 59 29 2736.25 -20.80 75.30 210.69 125.33 18 45 6 1736.2 -5.36 56.29
 70.00 19 3 23 2548.41 -16.79 62.79 213.41 120.19 19 45 51 1548.4 -3.35 42.58
 80.00 20 22 23 2301.07 -13.83 45.69 215.08 116.73 21 0 45 1301.1 -1.83 24.75
 90.00 21 48 32 2023.11 -12.70 25.82 215.64 115.48 22 22 16 1023.1 -1.26 4.64
 100.00 23 5 15 1775.54 -13.83 7.05 215.08 116.73 23 34 51 775.5 -1.83 346.12
 110.00 0 6 45 1595.22 -16.79 351.71 213.41 120.19 0 33 20 595.2 -3.35 331.50

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.2699 TRA 3.6019 TC3-6.2285 BAU 1.2115 SGT 7506.2 SGR 674.1 S63 1244.3 ST 126.3 SR 23.2 SS 89.5
 RDE .2983 RRA 2.647 RC3 -.3943 FAU .14319 RRT .8893 RRF .9152 RTF .9763 CRT .9007 CRS -.9248 CST -.9980
 FDE 3.1149 FRA 7.8460 FC3-8.5373 BSP 12806 SGB 7536.4 R23 .0996 R13 .9766 LSA 156.2 MSA 10.5 SSA 1.3
 BDE 1.3045 BRA 3.6116 BC3 6.2410 FSP 2282 SG1 7530.2 S62 307.4 THA 4.57 EL1 128.0 EL2 10.0 ALF 9.47

LAUNCH DATE APR 26 1971

FLIGHT TIME 274.00

ARRIVAL DATE JAN 25 1972

HELIOCENTRIC CONIC

DISTANCE 639.552

EARTH TO MARS

RL 150.53 LAL -.00 LOL 215.13 VL 32.393 GAL -3.97 AZL 90.75 HCA 203.46 SMA 185.89 ECC .20195 INC .7457 V1 29.600
 RP 223.42 LAP .30 LOP 58.58 VP 21.773 GAP .13 AZP 89.32 TAL 336.01 TAP 179.47 RCA 148.35 APO 223.43 V2 24.612
 RC 210.566 GL -6.27 GP -7.04 ZAL 134.48 ZAP 51.65 ETS 173.48 ZAE 90.67 ETE 180.42 ZAC 95.48 ETC 271.14 LVI -2.07

PLANETOCENTRIC CONIC

C3 14.847 VHL 3.853 DLA -9.75 RAL 353.25 RAD 6640.5 VEL 11.615 PTH 6.66 VHP 3.539 DPA -30.54 RAP 292.85 ECC 1.2443
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 12 45 2870.38 -25.22 83.56 207.78 131.78 18 0 35 1870.4 -7.56 66.27
 60.00 18 2 55 2738.96 -20.83 75.34 211.59 125.32 18 48 32 1737.0 -5.39 56.33
 70.00 19 7 3 2548.41 -16.79 62.79 214.33 120.19 19 49 31 1548.4 -3.35 42.58
 80.00 20 26 17 2300.36 -13.80 45.64 216.01 116.74 21 4 38 1300.4 -1.81 24.71
 90.00 21 52 32 2022.08 -12.67 25.76 216.58 115.49 22 26 14 1022.1 -1.22 4.58
 100.00 23 9 9 1774.83 -13.80 7.01 216.01 116.74 23 38 44 774.8 -1.81 346.08
 110.00 0 10 25 1595.23 -16.79 351.71 214.33 120.19 0 37 0 595.2 -3.35 331.50

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3059 TRA 3.7327 TC3-6.2236 BAU 1.2374 SGT 7647.8 SGR 637.8 S63 1216.3 ST 128.9 SR 22.9 SS 88.6
 RDE .2996 RRA 2.399 RC3 -.3610 FAU .13931 RRT .8687 RRF .8954 RTF .9760 CRT .8879 CRS -.9133 CST -.9978
 FDE 3.0930 FRA 7.7809 FC3-8.1234 BSP 13054 SGB 7674.4 R23 .0931 R13 .9762 LSA 157.7 MSA 11.1 SSA 1.3
 BDE 1.3398 BRA 3.7404 BC3 6.2340 FSP 2233 SG1 7667.9 S62 315.1 THA 4.15 EL1 130.5 EL2 10.4 ALF 9.03

LAUNCH DATE APR 26 1971

FLIGHT TIME 276.00

ARRIVAL DATE JAN 27 1972

HELIOCENTRIC CONIC

DISTANCE 643.634

EARTH TO MARS

RL 150.53 LAL -.00 LOL 215.13 VL 32.402 GAL -4.06 AZL 90.80 HCA 204.54 SMA 186.03 ECC .20308 INC .7979 V1 29.600
 RP 223.81 LAP .33 LOP 59.67 VP 21.738 GAP -.02 AZP 89.27 TAL 335.55 TAP 180.10 RCA 148.25 APO 223.81 V2 24.571
 RC 213.227 GL -6.64 GP -6.67 ZAL 134.93 ZAP 50.72 ETS 173.60 ZAE 89.54 ETE 180.29 ZAC 95.84 ETC 271.18 LVI -2.47

PLANETOCENTRIC CONIC

C3 15.183 VHL 3.897 DLA -9.88 RAL 353.86 RAD 6640.6 VEL 11.629 PTH 6.67 VHP 3.571 DPA -30.15 RAP 292.99 ECC 1.2499
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 15 42 2872.65 -25.33 83.67 208.65 131.73 18 3 35 1872.7 -7.67 66.37
 60.00 18 6 2 2738.81 -20.90 75.44 212.48 125.28 18 51 41 1738.8 -5.47 56.42
 70.00 19 10 20 2549.74 -16.84 62.87 215.24 120.16 19 52 50 1549.7 -3.40 42.65
 80.00 20 29 45 2301.16 -13.83 45.69 216.93 116.73 21 8 6 1301.2 -1.84 24.76
 90.00 21 56 5 2022.64 -12.69 25.79 217.50 115.49 22 29 47 1022.6 -1.24 4.61
 100.00 23 12 37 1775.63 -13.83 7.06 216.93 116.73 23 42 12 775.6 -1.84 346.12
 110.00 0 13 43 1596.56 -16.84 351.79 215.24 120.16 0 40 19 596.6 -3.40 331.57

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3453 TRA 3.8657 TC3-6.2130 BAU 1.2629 SGT 7787.7 SGR 607.0 S63 1188.3 ST 131.6 SR 22.7 SS 87.8
 RDE .3018 RRA 2.188 RC3 -.3315 FAU .13537 RRT .8454 RRF .8728 RTF .5.56 CRT .8754 CRS -.9059 CST -.9975
 FDE 3.0738 FRA 7.7136 FC3-7.7189 BSP 13321 SGB 7811.3 R23 .0872 R13 .9758 LSA 159.4 MSA 11.6 SSA 1.3
 BDE 1.3787 BRA 3.8718 BC3 6.2218 FSP 2192 SG1 7804.6 S62 323.5 THA 3.78 EL1 133.1 EL2 10.9 ALF 8.65

LAUNCH DATE APR 26 1971

FLIGHT TIME 278.00

ARRIVAL DATE JAN 29 1972

HELIOCENTRIC CONIC

DISTANCE 647.716

EARTH TO MARS

RL 150.53 LAL -.00 LOL 215.13 VL 32.411 GAL -4.15 AZL 90.85 HCA 205.82 SMA 186.18 ECC .20423 INC .8455 V1 29.600
 RP 224.20 LAP .37 LOP 60.75 VP 21.704 GAP -.18 AZP 89.24 TAL 335.09 TAP 180.72 RCA 148.16 APO 224.21 V2 24.529
 RC 218.890 GL -6.96 GP -6.34 ZAL 135.39 ZAP 49.82 ETS 173.71 ZAE 88.44 ETE 180.17 ZAC 96.16 ETC 271.24 LVI -2.86

PLANETOCENTRIC CONIC

C3 15.929 VHL 3.941 DLA -9.98 RAL 354.46 RAD 6640.8 VEL 11.644 PTH 6.68 VHP 3.604 DPA -29.79 RAP 293.16 ECC 1.2556
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 18 26 2875.80 -25.47 83.84 209.51 131.65 18 8 22 1875.8 -7.83 66.50
 60.00 18 8 52 2741.87 -21.01 75.60 213.36 125.22 18 54 34 1741.7 -5.59 56.56
 70.00 19 13 18 2552.23 -16.92 63.01 216.13 120.12 19 55 50 1552.2 -3.49 42.78
 80.00 20 32 50 2303.28 -13.89 45.81 217.83 116.70 21 11 13 1303.3 -1.91 24.87
 90.00 21 59 13 2024.58 -12.74 25.90 218.41 115.46 22 32 57 1024.6 -1.30 4.72
 100.00 23 15 42 1777.75 -13.89 7.18 217.83 116.70 23 45 19 777.7 -1.91 346.24
 110.00 0 16 40 1599.05 -16.92 351.93 216.13 120.12 0 43 19 599.0 -3.49 331.70

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3858 TRA 3.9990 TC3-6.2012 BAU 1.2890 SGT 7924.7 SGR 580.9 S63 1160.5 ST 134.3 SR 22.6 SS 87.0
 RDE .3048 RRA 1.952 RC3 -.3055 FAU .13157 RRT .8192 RRF .8474 RTF .9752 CRT .8631 CRS -.8967 CST -.9973
 FDE 3.0545 FRA 7.6420 FC3-7.3351 BSP 13565 SGB 7945.9 R23 .0820 R13 .9754 LSA 161.2 MSA 12.1 SSA 1.3
 BDE 1.4189 BRA 4.0038 BC3 6.2087 FSP 2146 SG1 7939.0 S62 332.5 THA 3.44 EL1 135.7 EL2 11.3 ALF 8.31

LAUNCH DATE APR 28 1971

FLIGHT TIME 280.00

ARRIVAL DATE JAN 31 1972

HELIOCENTRIC CONIC

RL 150.93	LAL -1.00	LQL 219.13	VL 32.420	GAL -4.25	AZL 90.89	MCA 206.70	SMA 186.33	ECC .20541	INC .9899	V1 29.600
RP 224.99	LAP .40	LQP 61.82	VP 21.670	GAP -.34	AZP 89.20	TAL 334.83	TAP 181.35	RCA 148.03	APO 224.91	V2 24.487
RC 218.954	GL -7.24	GP -6.03	ZAL 135.84	ZAP 48.95	ETS 173.82	ZAE 87.36	ETE 130.06	ZAC 95.46	ETC 271.29	LVI -3.22

DISTANCE 651.749

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.865	VHL 3.986	DLA -10.04	RAL 359.03	RAD 8640.9	VEL 11.659	PTH 6.70	VHR 3.637	DPA -29.46	RAP 293.37	ECC 1.2614
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CRT TIM	INJ 2 LAT	INJ 2 LONG
50.00	17 20 57	2879.72	-25.65	84.04	210.37	131.55	18 8 57	1879.7	-8.02	66.67
60.00	18 11 28	2743.40	-21.16	75.81	214.23	125.14	18 57 23	1745.4	-5.76	56.74
70.00	19 15 58	2555.73	-17.04	63.21	217.02	120.06	19 58 34	1555.7	-3.62	42.97
80.00	20 35 35	2306.34	-13.99	46.01	218.72	116.65	21 14 1	1305.5	-2.02	25.05
90.00	22 2 0	2027.74	-12.84	26.09	219.31	115.42	22 35 47	1027.7	-1.40	4.89
100.00	23 18 26	1781.01	-13.99	7.37	218.72	116.65	23 48 7	781.0	-2.02	346.42
110.00	0 19 21	1602.55	-17.04	352.13	217.02	120.06	0 46 3	602.5	-3.62	331.88

DIFFERENTIAL CORRECTIONS

TDE 1.4302	TRA 4.1362	TC3 -6.1798	BAU 1.3138
RDE .3086	RRA .1751	RC3 -.2820	FAU .12755
FDE 3.0386	FRA 7.5735	FC3 -6.9513	BSP 13834
BDE 1.4631	BRA 4.1399	BC3 6.1863	FSP 2103

MID-COURSE EXECUTION ACCURACY

SGT 8059.7	SGR 559.1	SG3 1133.2
RR7 .7906	RRF .8194	RTF .9748
SG8 8079.0	R23 .0773	R13 .9749
SG1 8071.8	SG2 341.9	THA 3.14

ORBIT DETERMINATION ACCURACY

ST 137.2	SR 22.5	SS 86.2
CRT .9514	CRS -.8877	CST -.9971
LSA 163.1	MSA 12.6	SSA 1.3
EL1 138.6	EL2 11.7	ALF 8.01

LAUNCH DATE APR 27 1971

FLIGHT TIME 110.00

ARRIVAL DATE AUG 13 1971

HELIOCENTRIC CONIC

DISTANCE 318.453

EARTH TO MARS

RL 150.57 LAL -.00 LOL 216.10 VL 35.020 GAL -4.14 AZL 91.91 MCA 103.86 SMA 247.42 ECC .30703 INC 1.9052 V1 29.592
RP 207.32 LAP -1.85 LOP 319.97 VP 27.274 GAP 21.35 AZP 89.54 TAL 345.37 TAP 89.24 RCA 149.19 APO 345.65 V2 26.420
RC 56.291 GL -10.78 GP 1.04 ZAL 118.73 ZAP 174.28 ETS 169.43 ZAE 173.82 ETE 103.10 ZAC 101.54 ETC 277.00 LVI -17.98

PLANETOCENTRIC CONIC

C3 38.579 VHL 6.211 DLA -19.53 RAL 341.39 RAD 6650.2 VEL 12.588 PTH 7.45 VHP 10.679 DPA -17.30 RAP 317.06 ECC 1.6349
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 0 53 2901.35 -26.62 85.18 207.55 131.01 17 49 14 1901.3 -9.10 67.60
60.00 18 3 38 2734.48 -20.73 75.20 212.61 125.37 18 49 12 1734.5 -5.28 56.21
70.00 19 22 59 2501.21 -15.16 60.11 216.43 120.98 20 4 40 1501.2 -1.55 40.12
80.00 20 57 45 2204.61 -10.80 40.12 218.96 118.00 21 34 30 1204.6 1.43 19.46
90.00 22 31 29 1902.26 -9.07 18.80 219.87 116.90 23 3 11 902.3 2.64 357.89
100.00 23 40 37 1679.08 -10.80 1.49 218.96 118.00 24 8 36 679.1 1.43 340.83
110.00 0 26 21 1548.03 -15.16 349.03 216.43 120.98 0 52 9 548.0 -1.55 329.03

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9583 TRA-1.1989 TC3 -.0360 BAU .0486 SGT 1282.3 SGR 576.8 SG3 129.0 ST 31.2 SR 26.6 SS 20.0
RDE -.9736 RRA .2068 RC3 .0871 FAU .03531 RRT .0410 RRF -.0439 RTF -.7193 CRT .7560 CRS .5682 CST .9661
FDE .3095 FRA 1.1095 FC3 -.7924 BSP 2009 SGB 1406.1 R23 -.0070 R13 -.7195 LSA 42.4 MSA 16.9 S8A 1.1
BDE .8006 BRA 1.2166 BC3 .0942 FSP 165 SG1 1282.6 SG2 576.2 THA 1.32 EL1 38.5 EL2 14.1 ALF 39.06

LAUNCH DATE APR 27 1971

FLIGHT TIME 112.00

ARRIVAL DATE AUG 17 1971

HELIOCENTRIC CONIC

DISTANCE 320.669

EARTH TO MARS

RL 150.57 LAL -.00 LOL 216.10 VL 34.848 GAL -4.02 AZL 91.92 HCA 105.13 SMA 241.99 ECC .38332 INC 1.9152 V1 29.592
RP 207.22 LAP -1.85 LOP 321.23 VP 27.064 GAP 21.04 AZP 89.50 TAL 345.44 TAP 90.57 RCA 149.23 APO 334.75 V2 26.432
RC 56.455 GL -11.11 GP 1.07 ZAL 118.75 ZAP 173.43 ETS 170.50 ZAE 173.95 ETE 94.65 ZAC 101.52 ETC 277.00 LVI -18.12

PLANETOCENTRIC CONIC

C3 36.326 VHL 6.027 DLA -19.82 RAL 341.58 RAD 6649.4 VEL 12.499 PTH 7.39 VHP 10.346 DPA -17.15 RAP 317.45 ECC 1.5978
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 2 55 2880.02 -25.66 84.06 206.85 131.55 17 50 55 1880.0 -8.04 66.68
60.00 18 6 6 2711.99 -19.84 73.97 211.90 125.83 18 51 18 1712.0 -4.29 55.13
70.00 19 26 1 2477.05 -14.30 58.76 215.74 121.35 20 7 18 1477.1 -0.62 38.85
80.00 21 1 25 2178.44 -9.96 38.64 218.28 118.29 21 37 43 1178.4 2.32 18.02
90.00 22 35 30 1874.99 -8.22 17.23 219.21 117.15 23 6 45 875.0 3.51 356.37
100.00 23 44 18 1652.91 -9.96 .00 218.28 118.29 24 11 51 652.9 2.32 339.39
110.00 0 29 23 1523.67 -14.30 347.68 215.74 121.35 0 54 47 523.9 -0.62 327.77

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9532 TRA-1.1882 TC3 -.0254 BAU .0470 SGT 1311.1 SGR 576.1 SG3 137.9 ST 31.9 SR 26.6 SS 20.7
RDE -.9557 RRA .1983 RC3 .0934 FAU .03643 RRT .0448 RRF -.0481 RTF -.7301 CRT .7558 CRS .5644 CST .9651
FDE .3191 FRA 1.1546 FC3 -.8682 BSP 2063 SGB 1432.1 R23 -.0078 R13 -.7303 LSA 43.1 MSA 17.1 S8A 1.1
BDE .7840 BRA 1.2046 BC3 .0968 FSP 179 SG1 1311.4 SG2 575.4 THA 1.39 EL1 39.0 EL2 14.2 ALF 38.22

LAUNCH DATE APR 27 1971

FLIGHT TIME 114.00

ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC

DISTANCE 323.076

EARTH TO MARS

RL 150.57 LAL -.00 LOL 216.10 VL 34.686 GAL -3.90 AZL 91.93 HCA 106.39 SMA 237.10 ECC .37041 INC 1.9253 V1 29.592
RP 207.13 LAP -1.85 LOP 322.50 VP 26.865 GAP 20.55 AZP 89.46 TAL 345.52 TAP 91.91 RCA 149.28 APO 324.93 V2 26.443
RC 56.701 GL -11.46 GP 1.11 ZAL 118.75 ZAP 172.56 ETS 171.34 ZAE 173.98 ETE 88.29 ZAC 101.51 ETC 277.26 LVI -18.27

PLANETOCENTRIC CONIC

C3 34.250 VHL 5.852 DLA -20.12 RAL 341.76 RAD 6648.6 VEL 12.416 PTH 7.32 VHP 10.024 DPA -17.00 RAP 317.83 ECC 1.5837
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 4 57 2858.74 -24.69 82.95 206.17 132.05 17 52 36 1858.7 -6.97 65.78
60.00 18 8 36 2689.49 -18.94 72.75 211.21 126.26 18 53 25 1689.5 -3.30 54.05
70.00 19 29 7 2452.77 -13.44 57.41 215.07 121.70 20 10 0 1452.8 .31 37.59
80.00 21 5 14 2151.99 -9.11 37.14 217.63 118.56 21 41 6 1152.0 3.21 16.57
90.00 22 39 40 1847.35 -7.36 15.67 218.57 117.38 23 10 27 847.3 4.40 354.82
100.00 23 48 5 1626.46 -9.11 358.51 217.63 118.56 24 15 12 626.5 3.21 337.93
110.00 0 32 30 1499.59 -13.44 346.33 215.07 121.70 0 57 29 499.6 .31 326.51

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9486 TRA-1.1803 TC3 -.0131 BAU .0483 SGT 1342.9 SGR 575.0 SG3 147.4 ST 32.6 SR 26.9 SS 21.5
RDE -.9332 RRA .1900 RC3 .1000 FAU .03761 RRT .0481 RRF -.0526 RTF -.7399 CRT .7554 CRS .5602 CST .9640
FDE .3287 FRA 1.2019 FC3 -.9508 BSP 2128 SGB 1460.8 R23 -.0090 R13 -.7400 LSA 43.9 MSA 17.3 S8A 1.1
BDE .7685 BRA 1.1955 BC3 .1012 FSP 193 SG1 1343.2 SG2 574.1 THA 1.45 EL1 39.5 EL2 14.3 ALF 37.31

LAUNCH DATE APR 27 1971

FLIGHT TIME 116.00

ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC

DISTANCE 325.650

EARTH TO MARS

RL 150.57 LAL -.00 LOL 216.10 VL 34.532 GAL -3.78 AZL 91.94 HCA 107.68 SMA 238.88 ECC .35824 INC 1.9355 V1 29.592
RP 207.08 LAP -1.84 LOP 323.76 VP 26.676 GAP 20.06 AZP 89.41 TAL 345.61 TAP 93.27 RCA 149.33 APO 316.04 V2 26.433
RC 57.030 GL -11.91 GP 1.15 ZAL 118.75 ZAP 171.68 ETS 172.00 ZAE 173.86 ETE 78.39 ZAC 101.50 ETC 277.26 LVI -18.41

PLANETOCENTRIC CONIC

C3 32.334 VHL 5.686 DLA -20.44 RAL 341.92 RAD 6647.9 VEL 12.339 PTH 7.27 VHP 9.713 DPA -16.85 RAP 318.20 ECC 1.5321
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 7 0 2837.51 -23.72 81.87 205.50 132.53 17 54 17 1837.5 -5.91 64.88
60.00 18 11 8 2666.96 -18.02 71.55 210.54 126.68 18 55 34 1667.0 -2.31 52.97
70.00 19 32 18 2428.34 -12.56 56.06 214.41 122.02 20 12 46 1428.3 1.24 36.31
80.00 21 9 9 2125.22 -8.23 35.63 216.99 118.80 21 44 34 1125.2 4.11 15.09
90.00 22 44 0 1819.28 -6.48 14.08 217.94 117.59 23 14 19 819.3 5.29 353.24
100.00 23 52 1 1599.70 -8.23 357.00 216.99 118.80 24 18 40 599.7 4.11 336.46
110.00 0 35 40 1475.16 -12.56 344.98 214.41 122.02 1 0 15 475.2 1.24 325.23

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9337 TRA-1.1598 TC3 .0106 BAU .0465 SGT 1358.2 SGR 573.5 SG3 157.6 ST 32.8 SR 26.4 SS 22.3
RDE -.9212 RRA .1818 RC3 .1070 FAU .03875 RRT .0515 RRF -.0579 RTF -.7591 CRT .7524 CRS .5584 CST .9647
FDE .3413 FRA 1.2541 FC3 -1.0375 BSP 2053 SGB 1474.3 R23 -.0104 R13 -.7592 LSA 44.3 MSA 17.5 S8A 1.1
BDE .7480 BRA 1.1740 BC3 .1075 FSP 213 SG1 1358.6 SG2 572.5 THA 1.51 EL1 39.5 EL2 14.4 ALF 36.98

LAUNCH DATE APR 27 1971 FLIGHT TIME 110.00 ARRIVAL DATE AUG 23 1971

MELIOCENTRIC CONIC DISTANCE 328.374 EARTH TO MARS
 RL 130.97 LAL -.00 LOL 216.10 VL 34.387 GAL -3.88 AZL 91.98 HCA 108.92 SMA 226.67 ECC .34679 INC 1.9459 V1 29.592
 RP 206.97 LAP -1.84 LOP 323.03 VP 26.497 GAP 19.58 AZP 89.37 TAL 345.71 TAP 94.63 RCA 149.37 APO 307.98 V2 26.462
 RC 37.440 GL -12.17 GP 1.19 ZAL 110.69 ZAP 170.79 ETS 172.54 ZAE 173.67 ETE 71.21 ZAC 101.49 ETC 277.34 LVI -18.86

PLANETOCENTRIC CONIC
 C3 30.571 VHL 5.529 DLA -20.77 RAL 342.06 RAD 6647.2 VEL 12.268 PTH 7.21 VHP 9.412 DPA -16.70 RAP 318.56 ECC 1.5031
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 9 2 2816.45 -22.75 80.81 204.87 132.99 17 55 59 1616.4 -4.86 63.99
 60.00 18 13 41 2644.53 -17.11 70.36 209.90 127.06 18 57 45 1644.5 -1.33 51.90
 70.00 19 35 32 2403.91 -11.68 54.72 213.78 122.33 20 15 36 1403.9 2.17 35.04
 80.00 21 13 11 2098.30 -7.35 34.12 216.39 119.02 21 48 9 1098.3 5.02 13.60
 90.00 22 48 28 1790.95 -5.58 12.48 217.35 117.77 23 18 19 790.9 6.19 331.64
 100.00 23 58 3 1572.77 -7.35 355.49 216.39 119.02 24 22 16 572.0 8.02 334.97
 110.00 0 38 54 1450.73 -11.68 343.64 213.78 122.33 1 3 5 450.7 2.17 323.96

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.5335 TRA-1.1546 TC3 .0179 BAV .0473 SGT 1594.1 SGR 571.6 SG3 188.5 ST 33.7 SR 26.3 SS 23.0
 RDE -.5048 RRA .1737 RC3 .1142 FAU .04013 RRT .0570 RRF -.0630 RTF -.7636 CRT .7538 CR8 .5526 CST .9624
 FDE .3500 FRA 1.3047 FC3-1.1365 B8P 2173 SGB 1506.7 R23 -.0107 R13 -.7630 LSA 45.2 MSA 17.8 S8A 1.1
 BDE .7345 BRA 1.1676 BC3 .1156 F8P 228 SGT 1594.5 SGR 570.5 THA 1.61 EL1 40.2 EL2 14.5 ALP 38.88

LAUNCH DATE APR 27 1971 FLIGHT TIME 120.00 ARRIVAL DATE AUG 25 1971

MELIOCENTRIC CONIC DISTANCE 331.231 EARTH TO MARS
 RL 150.57 LAL -.00 LOL 216.10 VL 34.250 GAL -3.55 AZL 91.98 HCA 110.19 SMA 225.03 ECC .33800 INC 1.9564 V1 29.592
 RP 206.90 LAP -1.84 LOP 326.30 VP 26.327 GAP 19.10 AZP 89.32 TAL 345.83 TAP 96.01 RCA 149.42 APO 300.64 V2 26.469
 RC 37.930 GL -12.53 GP 1.23 ZAL 110.63 ZAP 189.88 ETS 172.98 ZAE 173.42 ETE 64.89 ZAC 101.49 ETC 277.42 LVI -18.70

PLANETOCENTRIC CONIC
 C3 28.944 VHL 5.380 DLA -21.11 RAL 342.20 RAD 6646.6 VEL 12.202 PTH 7.16 VHP 9.121 DPA -16.56 RAP 318.90 ECC 1.4763
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 1 5 2795.92 -21.77 79.78 204.26 133.41 17 57 41 1795.5 -3.81 63.11
 60.00 18 16 16 2622.17 -16.19 69.19 209.29 127.43 18 59 59 1622.2 -.34 50.83
 70.00 19 30 51 2379.43 -10.78 53.39 213.18 122.61 20 18 30 1379.4 3.11 33.76
 80.00 21 17 21 2071.12 -6.45 32.61 215.80 119.22 21 51 52 1071.1 5.93 12.10
 90.00 22 53 7 1762.22 -4.67 10.87 216.78 117.92 23 22 29 762.2 7.09 350.02
 100.00 0 4 9 1545.59 -6.45 353.98 215.80 119.22 0 29 55 545.6 5.93 333.46
 110.00 0 42 13 1426.25 -10.78 342.31 213.18 122.61 1 5 59 426.2 3.11 322.68

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.5309 TRA-1.1488 TC3 .0292 BAV .0485 SGT 1426.2 SGR 569.4 SG3 180.0 ST 34.4 SR 26.2 SS 23.8
 RDE -.4890 RRA .1657 RC3 .1218 FAU .04161 RRT .0628 RRF -.0688 RTF -.7696 CRT .7547 CR8 .9475 CST .9604
 FDE .3394 FRA 1.3577 FC3-1.2446 B8P 2266 SGB 1535.6 R23 -.0115 R13 -.7698 LSA 46.0 MSA 17.0 S8A 1.2
 BDE .7218 BRA 1.1583 BC3 .1253 F8P 248 SGT 1426.7 SGR 568.0 THA 1.71 EL1 40.7 EL2 14.5 ALP 34.94

LAUNCH DATE APR 27 1971 FLIGHT TIME 122.00 ARRIVAL DATE AUG 27 1971

MELIOCENTRIC CONIC DISTANCE 334.205 EARTH TO MARS
 RL 150.57 LAL -.00 LOL 216.10 VL 34.120 GAL -3.44 AZL 91.97 HCA 111.45 SMA 221.70 ECC .32584 INC 1.9671 V1 29.592
 RP 206.85 LAP -1.83 LOP 327.56 VP 26.165 GAP 18.64 AZP 89.28 TAL 345.95 TAP 97.40 RCA 149.46 APO 293.94 V2 26.476
 RC 38.498 GL -12.90 GP 1.28 ZAL 116.55 ZAP 186.95 ETS 173.35 ZAE 173.12 ETE 59.47 ZAC 101.49 ETC 277.49 LVI -18.84

PLANETOCENTRIC CONIC
 C3 27.442 VHL 5.239 DLA -21.46 RAL 342.32 RAD 6646.0 VEL 12.141 PTH 7.11 VHP 8.840 DPA -16.41 RAP 319.22 ECC 1.4516
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 13 9 2774.75 -20.80 78.77 203.68 133.81 17 59 24 1774.7 -2.77 62.24
 60.00 18 18 54 2599.90 -15.26 68.03 208.70 127.76 19 2 14 1599.9 .64 49.77
 70.00 19 42 14 2354.91 -9.88 52.07 212.60 122.86 20 21 29 1354.9 4.04 32.47
 80.00 21 21 40 2043.72 -5.53 31.09 215.25 119.39 21 55 44 1043.7 6.84 10.37
 90.00 22 57 57 1733.14 -3.74 9.24 216.24 118.05 23 26 50 733.1 8.00 348.36
 100.00 0 8 28 1516.19 -5.53 352.46 215.25 119.39 0 33 48 518.2 6.84 331.94
 110.00 0 45 36 1401.73 -9.88 340.99 212.60 122.86 1 8 58 401.7 4.04 321.39

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.5269 TRA-1.1374 TC3 .0422 BAV .0500 SGT 1456.2 SGR 566.7 SG3 192.3 ST 35.1 SR 26.0 SS 24.5
 RDE -.4736 RRA .1579 RC3 .1287 FAU .04314 RRT .0686 RRF -.0750 RTF -.7682 CRT .7551 CR8 .9419 CST .9584
 FDE .3689 FRA 1.4137 FC3-1.3809 B8P 2347 SGB 1562.6 R23 -.0123 R13 -.7764 LSA 46.8 MSA 17.9 S8A 1.2
 BDE .7085 BRA 1.1483 BC3 .1364 F8P 265 SGT 1456.9 SGR 565.2 THA 1.80 EL1 41.2 EL2 14.5 ALP 34.08

LAUNCH DATE APR 27 1971 FLIGHT TIME 124.00 ARRIVAL DATE AUG 29 1971

MELIOCENTRIC CONIC DISTANCE 337.286 EARTH TO MARS
 RL 130.57 LAL -.00 LOL 216.10 VL 33.998 GAL -3.33 AZL 91.98 HCA 112.72 SMA 218.88 ECC .31626 INC 1.9780 V1 29.592
 RP 206.80 LAP -1.82 LOP 328.83 VP 26.012 GAP 18.18 AZP 89.24 TAL 346.08 TAP 98.80 RCA 149.51 APO 287.82 V2 26.482
 RC 38.137 GL -13.27 GP 1.33 ZAL 118.46 ZAP 188.01 ETS 173.67 ZAE 172.82 ETE 54.88 ZAC 101.49 ETC 277.56 LVI -18.98

PLANETOCENTRIC CONIC
 C3 26.036 VHL 5.105 DLA -21.82 RAL 342.43 RAD 6645.4 VEL 12.084 PTH 7.06 VHP 8.568 DPA -16.27 RAP 319.53 ECC 1.4288
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 15 13 2754.16 -19.82 77.78 203.13 134.18 18 1 7 1754.2 -1.73 61.38
 60.00 18 21 34 2577.74 -14.33 66.89 208.14 128.08 19 4 31 1577.7 1.81 48.71
 70.00 19 45 42 2330.39 -8.97 50.75 212.05 125.09 20 24 32 1330.4 4.97 31.19
 80.00 21 26 7 2016.10 -4.61 29.56 214.72 119.53 21 59 43 1016.1 7.75 9.03
 90.00 23 2 59 1703.68 -2.79 7.59 215.72 118.15 23 31 22 703.7 8.92 346.68
 100.00 0 12 55 1490.57 -4.61 350.93 214.72 119.53 0 37 46 490.6 7.75 330.40
 110.00 0 49 4 1377.21 -8.97 339.67 212.05 125.09 1 12 1 377.2 4.97 320.10

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.5223 TRA-1.1273 TC3 .0575 BAV .0520 SGT 1484.9 SGR 563.8 SG3 205.5 ST 35.7 SR 25.9 SS 25.3
 RDE -.4567 RRA .1501 RC3 .1379 FAU .04477 RRT .0750 RRF -.0819 RTF -.7830 CRT .7555 CR8 .5367 CST .9565
 FDE .3792 FRA 1.4729 FC3-1.4875 B8P 2416 SGB 1588.3 R23 -.0134 R13 -.7833 LSA 47.5 MSA 18.1 S8A 1.2
 BDE .6951 BRA 1.1372 BC3 .1494 F8P 286 SGT 1485.6 SGR 561.9 THA 1.90 EL1 41.7 EL2 14.5 ALP 33.27

LAUNCH DATE APR 27 1971

FLIGHT TIME 126.00

ARRIVAL DATE AUG 31 1971

HELIOCENTRIC CONIC

DISTANCE 340.463

EARTH TO MARS

RL 150.57 LAL -.00 LOL 216.10 VL 33.683 GAL -3.23 AZL 91.99 HCA 113.99 SMA 215.88 ECC .30724 INC 1.9892 V1 29.592
 RP 206.75 LAP -1.82 LOP 330.10 VP 25.866 GAP 17.75 AZP 89.19 TAL 346.22 TAP 100.20 RCA 149.55 APO 282.20 V2 26.487
 RC 59.850 GL -13.65 GP 1.38 ZAL 118.35 ZAP 187.05 ETS 173.93 ZAE 172.51 ETE 51.04 ZAC 101.50 ETC 277.62 LVI -19.12

PLANETOCENTRIC CONIC

C3 24.776 VHL 4.978 DLA -22.19 RAL 342.53 RAD 6644.9 VEL 12.031 PTH 7.02 VHP 8.304 DPA -16.13 RAP 319.81 ECC 1.4078
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 17 18 2733.79 -18.85 76.81 202.80 134.53 18 2 52 1733.8 -.71 60.53
 60.00 18 24 15 2553.73 -13.41 65.77 207.60 128.37 19 6 51 1557.7 2.58 47.66
 70.00 19 49 15 2305.87 -8.06 49.44 211.53 123.30 20 27 41 1305.9 5.90 28.90
 80.00 21 30 44 1988.26 -3.67 28.02 214.23 119.65 22 3 52 988.3 8.66 7.47
 90.00 23 8 13 1673.83 -1.83 5.92 215.24 118.23 23 36 7 673.8 9.83 344.97
 100.00 0 17 32 1462.73 -3.67 349.39 214.23 119.65 0 41 55 462.7 8.66 328.84
 110.00 0 52 37 1352.69 -8.06 338.36 211.53 123.30 1 18 10 352.7 5.90 318.81

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5168 TRA-1.1161 TC3 .0742 BAU .0544 SGT 1511.5 SGR 860.5 S63 219.6 ST 36.3 SR 25.7 SS 26.1
 RDE -.4443 RRA .1424 RC3 .1465 FAU .04651 RRT .0818 RRF -.0894 RTF -.7897 CRT .7557 CRS .5313 CST .9546
 FDE .3894 FRA 1.5349 FC3-1.6252 B8P 2474 SGB 1612.1 R23 -.0146 R13 -.7900 LSA 48.3 MSA 18.2 SSA 1.2
 BDE .6815 BRA 1.1252 BC3 .1642 F8P 309 S61 1512.3 S62 558.4 THA 2.01 EL1 42.0 EL2 14.5 ALF 32.52

LAUNCH DATE APR 27 1971

FLIGHT TIME 128.00

ARRIVAL DATE SEP 2 1971

HELIOCENTRIC CONIC

DISTANCE 343.726

EARTH TO MARS

RL 150.57 LAL -.00 LOL 216.10 VL 33.774 GAL -3.12 AZL 92.00 HCA 115.26 SMA 213.32 ECC .29873 INC 2.0005 V1 29.592
 RP 206.72 LAP -1.81 LOP 331.37 VP 25.727 GAP 17.29 AZP 89.15 TAL 346.38 TAP 101.82 RCA 149.60 APO 277.05 V2 26.491
 RC 60.633 GL -14.03 GP 1.43 ZAL 118.22 ZAP 166.07 ETS 174.16 ZAE 172.22 ETE 47.86 ZAC 101.52 ETC 277.69 LVI -19.25

PLANETOCENTRIC CONIC

C3 23.595 VHL 4.857 DLA -22.57 RAL 342.61 RAD 6644.4 VEL 11.982 PTH 6.98 VHP 8.049 DPA -15.99 RAP 320.08 ECC 1.3883
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 19 24 2713.65 -17.89 75.87 202.10 134.86 18 4 38 1713.7 .30 59.69
 60.00 18 27 0 2533.89 -12.48 64.67 207.09 128.64 19 9 14 1533.9 3.54 46.81
 70.00 19 52 53 2281.39 -7.14 48.14 211.04 123.49 20 30 54 1281.4 6.82 28.60
 80.00 21 35 31 1980.20 -2.73 26.48 213.76 119.74 22 8 11 980.2 9.58 5.89
 90.00 23 13 41 1643.95 -.86 4.23 214.80 118.27 23 41 4 643.6 10.75 343.22
 100.00 0 22 19 1434.67 -2.73 347.85 213.76 119.74 0 46 13 434.7 9.58 327.26
 110.00 0 36 15 1328.21 -7.14 337.06 211.04 123.49 1 18 23 328.2 6.82 317.52

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5109 TRA-1.1045 TC3 .0915 BAU .0569 SGT 1536.8 SGR 556.9 S63 234.5 ST 36.8 SR 25.5 SS 26.8
 RDE -.4304 RRA .1349 RC3 .1553 FAU .04834 RRT .0892 RRF -.0974 RTF -.7960 CRT .7559 CRS .5255 CST .9525
 FDE .3996 FRA 1.5998 FC3-1.7736 B8P 2530 SGB 1634.6 R23 -.0159 R13 -.7963 LSA 48.9 MSA 18.4 SSA 1.2
 BDE .6681 BRA 1.1127 BC3 .1803 F8P 333 S61 1537.7 S62 554.4 THA 2.13 EL1 42.4 EL2 14.5 ALF 31.80

LAUNCH DATE APR 27 1971

FLIGHT TIME 130.00

ARRIVAL DATE SEP 4 1971

HELIOCENTRIC CONIC

DISTANCE 347.067

EARTH TO MARS

RL 150.57 LAL -.00 LOL 216.10 VL 33.671 GAL -3.03 AZL 92.01 HCA 116.52 SMA 210.97 ECC .29072 INC 2.0121 V1 29.592
 RP 206.70 LAP -1.80 LOP 332.04 VP 25.595 GAP 16.86 AZP 89.10 TAL 346.51 TAP 103.04 RCA 149.64 APO 272.30 V2 26.494
 RC 61.483 GL -14.41 GP 1.49 ZAL 118.09 ZAP 165.07 ETS 174.36 ZAE 171.96 ETE 45.25 ZAC 101.54 ETC 277.74 LVI -19.38

PLANETOCENTRIC CONIC

C3 22.503 VHL 4.744 DLA -22.96 RAL 342.69 RAD 6643.9 VEL 11.937 PTH 6.94 VHP 7.803 DPA -15.85 RAP 320.33 ECC 1.3703
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 21 31 2693.78 -16.93 74.95 201.82 135.16 18 6 24 1693.8 1.30 58.86
 60.00 18 29 46 2512.23 -11.56 63.59 206.61 128.88 19 11 39 1512.2 4.49 45.57
 70.00 19 56 36 2236.96 -6.22 46.85 210.57 123.65 20 34 13 1257.0 7.74 27.30
 80.00 21 40 28 1931.92 -1.77 24.93 213.33 119.81 22 12 40 931.9 10.49 4.28
 90.00 23 19 24 1612.83 .13 2.92 214.39 118.28 23 48 16 612.8 11.67 341.43
 100.00 0 27 16 1406.39 -1.77 346.29 213.33 119.81 0 50 42 406.4 10.49 325.65
 110.00 0 59 59 1303.78 -6.22 335.76 210.57 123.65 1 21 42 303.8 7.74 316.22

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5048 TRA-1.0923 TC3 .1097 BAU .0593 SGT 1560.4 SGR 553.0 S63 230.5 ST 37.3 SR 25.3 SS 27.8
 RDE -.4169 RRA .1274 RC3 .1645 FAU .05030 RRT .0970 RRF -.1062 RTF -.820 CRT .7561 CRS .5195 CST .9504
 FDE .4099 FRA 1.6683 FC3-1.9348 B8P 2579 SGB 1655.5 R23 -.0174 R13 -.8023 LSA 49.6 MSA 18.5 SSA 1.2
 BDE .6545 BRA 1.0997 BC3 .1978 F8P 339 S61 1561.5 S62 550.1 THA 2.25 EL1 42.7 EL2 14.5 ALF 31.14

LAUNCH DATE APR 27 1971

FLIGHT TIME 132.00

ARRIVAL DATE SEP 6 1971

HELIOCENTRIC CONIC

DISTANCE 380.480

EARTH TO MARS

RL 150.57 LAL -.00 LOL 216.10 VL 33.574 GAL -2.93 AZL 92.02 HCA 117.79 SMA 208.81 ECC .28318 INC 2.0240 V1 29.592
 RP 206.68 LAP -1.79 LOP 333.91 VP 25.489 GAP 16.44 AZP 89.06 TAL 346.67 TAP 104.47 RCA 149.68 APO 267.93 V2 26.486
 RC 62.398 GL -14.80 GP 1.53 ZAL 117.94 ZAP 164.05 ETS 174.54 ZAE 171.74 ETE 43.13 ZAC 101.56 ETC 277.80 LVI -19.51

PLANETOCENTRIC CONIC

C3 21.495 VHL 4.636 DLA -23.38 RAL 342.78 RAD 6643.5 VEL 11.895 PTH 6.91 VHP 7.584 DPA -15.72 RAP 320.56 ECC 1.3838
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 23 38 2674.17 -15.98 74.05 201.18 135.43 18 8 13 1674.2 2.29 58.04
 60.00 18 32 36 2490.79 -10.64 62.52 206.16 129.10 19 14 6 1490.8 5.43 44.54
 70.00 20 0 25 2232.60 -5.30 45.56 210.14 123.79 20 37 38 1232.6 8.65 26.01
 80.00 21 45 36 1903.41 -.80 23.36 212.94 119.85 22 17 20 903.4 11.40 2.66
 90.00 23 25 22 1581.61 1.14 .77 214.01 118.28 23 51 44 581.6 12.60 339.60
 100.00 0 32 24 1377.88 -.80 344.73 212.94 119.85 0 55 22 377.9 11.40 324.02
 110.00 1 3 47 1279.42 -5.30 334.48 210.14 123.79 1 25 7 279.4 8.65 314.92

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4984 TRA-1.0798 TC3 .1290 BAU .0623 SGT 1583.1 SGR 548.9 S63 267.5 ST 37.7 SR 25.1 SS 28.8
 RDE -.4039 RRA .1199 RC3 .1741 FAU .05239 RRT .1060 RRF -.1160 RTF -.8077 CRT .7565 CRS .5137 CST .9481
 FDE .4206 FRA 1.7402 FC3-2.1099 B8P 2632 SGB 1675.6 R23 -.0190 R13 -.8081 LSA 50.2 MSA 18.6 SSA 1.2
 BDE .6415 BRA 1.0865 BC3 .2167 F8P 386 S61 1584.3 S62 545.4 THA 2.39 EL1 43.0 EL2 14.4 ALF 30.48

LAUNCH DATE APR 27 1971

FLIGHT TIME 134.00

ARRIVAL DATE SEP 8 1971

HELIOCENTRIC CONIC

DISTANCE 393.957

EARTH TO MARS

RL 150.57 LAL -.00 LOL 216.10 VL 33.483 GAL -2.84 AZL 92.04 MCA 119.08 SMA 206.81 ECC .27607 INC 2.0361 V1 28.892
RP 206.67 LAP -1.78 LOP 338.18 VP 25.348 GAP 16.03 AZP 89.01 TAL 346.83 TAP 105.80 RCA 149.72 APO 263.90 V2 26.496
RC 83.378 GL -15.18 GP 1.61 ZAL 117.78 ZAP 163.00 ETS 174.68 ZAE 171.56 ETE 41.45 ZAC 101.60 ETC 277.63 LVI -19.63

PLANETOCENTRIC CONIC

C3 20.565 VML 4.535 DLA -23.75 RAL 342.83 RAD 6643.1 VEL 11.856 PTH 6.87 VMP 7.333 DPA -15.59 RAP 320.76 ECC 1.3384
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 25 47 2654.87 -15.05 73.18 200.76 135.69 18 10 2 1654.9 3.25 37.23
60.00 18 35 28 2489.57 -9.73 61.47 205.74 129.31 19 16 37 1489.6 6.36 43.51
70.00 20 4 19 2208.31 -4.38 44.29 209.74 123.91 20 41 8 1208.3 9.55 24.70
80.00 21 50 56 1874.64 .17 21.78 212.58 119.86 22 22 11 874.6 12.30 1.00
90.00 23 31 39 1549.82 2.16 359.00 213.68 118.20 23 57 29 549.8 15.52 337.73
100.00 0 37 44 1349.11 .17 343.15 212.58 119.86 1 0 13 349.1 12.30 322.37
110.00 1 7 42 1255.13 -4.38 333.20 209.74 123.91 1 28 37 255.1 9.55 313.82

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4916 TRA-1.0687 TC3 .1481 BAW .0649 SGT 1603.8 SGR 544.8 SCS 285.6 ST 38.1 SR 24.8 SB 29.8
RDE -.3913 RRA .1126 RC3 .1840 FAU .05460 RRT .1153 RRF -.1265 RTF -.8129 CRT .7969 CR8 .5073 CBT .9458
FDE .4312 FRA 1.8180 FC3-2.2983 B8P 2677 SGB 1693.7 R23 -.0209 R13 -.8133 LSA 50.8 MSA 16.8 SBA 1.2
BDE .6283 BRA 1.0727 BC3 .2361 F8P 416 SGI 1605.1 S62 540.4 THA 2.53 EL1 43.2 EL2 14.3 ALF 29.87

LAUNCH DATE APR 27 1971

FLIGHT TIME 136.00

ARRIVAL DATE SEP 10 1971

HELIOCENTRIC CONIC

DISTANCE 357.493

EARTH TO MARS

RL 150.57 LAL -.00 LOL 216.10 VL 33.398 GAL -2.75 AZL 92.05 MCA 120.33 SMA 204.97 ECC .26938 INC 2.0485 V1 29.592
RP 206.68 LAP -1.77 LOP 336.45 VP 25.235 GAP 15.62 AZP 88.96 TAL 347.00 TAP 107.33 RCA 149.75 APO 260.18 V2 26.496
RC 64.414 GL -15.58 GP 1.68 ZAL 117.61 ZAP 161.94 ETS 174.82 ZAE 171.43 ETE 40.15 ZAC 101.63 ETC 277.88 LVI -19.75

PLANETOCENTRIC CONIC

C3 19.705 VML 4.439 DLA -24.16 RAL 342.88 RAD 6642.7 VEL 11.820 PTH 6.84 VMP 7.109 DPA -15.46 RAP 320.94 ECC 1.3243
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 27 57 2635.88 -14.12 72.33 200.37 135.92 18 11 53 1635.9 4.21 56.44
60.00 18 38 22 2448.60 -8.82 60.44 205.36 129.49 19 19 11 1448.6 7.27 42.50
70.00 20 8 20 2184.12 -3.46 43.02 209.38 124.00 20 44 44 1184.1 10.44 23.40
80.00 21 56 30 1845.60 1.16 20.19 212.25 119.84 22 27 15 845.6 13.21 359.32
90.00 23 38 15 1517.38 3.21 357.19 213.39 118.11 24 3 33 517.4 14.45 335.80
100.00 0 43 17 1320.07 1.16 341.56 212.25 119.84 1 5 17 320.1 13.21 320.69
110.00 1 11 42 1230.94 -3.46 331.93 209.38 124.00 1 32 13 230.9 10.44 312.32

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4846 TRA-1.0533 TC3 .1679 BAW .0676 SGT 1622.9 SGR 539.8 SCS 304.9 ST 38.4 SR 24.8 SB 30.4
RDE -.3792 RRA .1053 RC3 .1942 FAU .05696 RRT .1255 RRF -.1379 RTF -.8178 CRT .7574 CR8 .5010 CBT .9430
FDE .4416 FRA 1.8959 FC3-2.5028 B8P 2718 SGB 1710.3 R23 -.0229 R13 -.8183 LSA 51.4 MSA 18.9 SBA 1.3
BDE .6153 BRA 1.0586 BC3 .2567 F8P 448 SGI 1624.4 S62 535.0 THA 2.88 EL1 43.3 EL2 14.2 ALF 29.29

LAUNCH DATE APR 27 1971

FLIGHT TIME 138.00

ARRIVAL DATE SEP 12 1971

HELIOCENTRIC CONIC

DISTANCE 361.083

EARTH TO MARS

RL 150.57 LAL -.00 LOL 216.10 VL 33.315 GAL -2.86 AZL 92.06 MCA 121.60 SMA 203.28 ECC .26308 INC 2.0613 V1 29.592
RP 206.69 LAP -1.78 LOP 337.72 VP 25.125 GAP 15.22 AZP 88.92 TAL 347.17 TAP 108.77 RCA 149.79 APO 256.73 V2 26.493
RC 65.312 GL -15.98 GP 1.75 ZAL 117.44 ZAP 160.85 ETS 174.93 ZAE 171.37 ETE 39.22 ZAC 101.68 ETC 277.93 LVI -19.87

PLANETOCENTRIC CONIC

C3 18.912 VML 4.349 DLA -24.57 RAL 342.94 RAD 6642.3 VEL 11.787 PTH 6.81 VMP 6.893 DPA -15.34 RAP 321.10 ECC 1.3112
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 30 8 2617.22 -13.20 71.50 200.01 136.14 18 13 48 1617.2 5.14 55.65
60.00 18 41 19 2427.90 -7.92 59.43 205.00 129.65 19 21 47 1427.9 8.17 41.49
70.00 20 12 26 2160.03 -2.54 41.76 209.05 124.07 20 48 26 1160.0 11.32 22.09
80.00 22 2 17 1818.24 2.15 18.58 211.97 119.79 22 32 33 818.2 14.11 357.61
90.00 23 45 14 1484.18 4.27 355.32 213.14 117.98 24 9 58 484.2 15.38 333.81
100.00 0 49 4 1290.72 2.15 339.95 211.97 119.79 1 10 35 290.7 14.11 318.98
110.00 1 15 48 1206.85 -2.54 330.67 209.05 124.07 1 35 55 206.9 11.32 311.01

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4781 TRA-1.0389 TC3 .1870 BAW .0701 SGT 1639.6 SGR 535.0 SCS 323.4 ST 38.7 SR 24.3 SB 31.3
RDE -.3674 RRA .1080 RC3 .2048 FAU .05947 RRT .1371 RRF -.1507 RTF -.8221 CRT .7586 CR8 .4955 CBT .9403
FDE .4331 FRA 1.9784 FC3-2.7226 B8P 2756 SGB 1724.7 R23 -.0252 R13 -.8226 LSA 52.0 MSA 19.0 SBA 1.3
BDE .6028 BRA 1.0436 BC3 .2773 F8P 482 SGI 1641.5 S62 529.3 THA 2.88 EL1 43.8 EL2 14.1 ALF 28.74

LAUNCH DATE APR 27 1971

FLIGHT TIME 140.00

ARRIVAL DATE SEP 14 1971

HELIOCENTRIC CONIC

DISTANCE 364.723

EARTH TO MARS

RL 150.57 LAL -.00 LOL 216.10 VL 33.238 GAL -2.58 AZL 92.07 MCA 122.87 SMA 201.68 ECC .25714 INC 2.0744 V1 29.592
RP 206.71 LAP -1.74 LOP 338.99 VP 25.021 GAP 14.83 AZP 88.87 TAL 347.34 TAP 110.21 RCA 149.82 APO 253.54 V2 26.493
RC 66.667 GL -16.37 GP 1.83 ZAL 117.26 ZAP 159.73 ETS 175.03 ZAE 171.36 ETE 38.64 ZAC 101.73 ETC 277.86 LVI -19.99

PLANETOCENTRIC CONIC

C3 18.177 VML 4.264 DLA -24.98 RAL 342.99 RAD 6642.0 VEL 11.756 PTH 6.78 VMP 6.684 DPA -15.22 RAP 321.22 ECC 1.2992
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 32 21 2598.85 -12.30 70.69 199.68 136.33 18 15 40 1598.8 6.06 54.88
60.00 18 44 20 2407.41 -7.03 58.43 204.67 129.79 19 24 27 1407.4 9.06 40.49
70.00 20 16 39 2135.97 -1.62 40.50 208.75 124.12 20 52 15 1136.0 12.20 20.76
80.00 22 8 20 1786.43 3.16 16.94 211.72 119.71 22 38 7 786.4 15.01 355.85
90.00 23 52 40 1449.92 5.36 353.40 212.93 117.81 24 16 50 449.9 16.32 331.73
100.00 0 55 8 1260.89 3.16 338.31 211.72 119.71 1 16 9 260.9 15.01 317.22
110.00 1 20 1 1182.79 -1.62 329.42 208.75 124.12 1 39 44 182.8 12.20 309.70

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4563 TRA-1.0097 TC3 .2382 BAW .0782 SGT 1630.3 SGR 529.9 SCS 347.2 ST 38.0 SR 24.0 SB 32.1
RDE -.3559 RRA .0909 RC3 .2161 FAU .06228 RRT .1493 RRF -.1643 RTF -.8357 CRT .7542 CR8 .4870 CBT .9393
FDE .4610 FRA 2.0648 FC3-2.9660 B8P 2613 SGB 1714.3 R23 -.0255 R13 -.8363 LSA 51.8 MSA 19.1 SBA 1.2
BDE .5787 BRA 1.0138 BC3 .3216 F8P 516 SGI 1632.4 S62 523.3 THA 3.10 EL1 42.7 EL2 14.0 ALF 28.87

LAUNCH DATE APR 27 1971

FLIGHT TIME 142.00

ARRIVAL DATE SEP 16 1971

HELIOCENTRIC CONIC
 RL 130.57 LAL -.00 LOL 216.10 VL 33.186 GAL -2.50 AZL 92.09 HCA 124.14 SMA 200.22 ECC .25156 INC 2.0079 V1 29.592
 RP 206.73 LAP -1.73 LOP 340.26 VP 24.922 GAP 14.45 AZP 88.83 TAL 347.50 TAP 111.64 RCA 149.85 APO 250.59 V2 26.400
 RC 67.877 GL -16.77 GP 1.91 ZAL 117.08 ZAP 158.59 ETS 175.12 ZAE 171.40 ETE 38.39 ZAC 101.80 ETC 277.99 LVI -20.10

DISTANCE 368.408
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 17.502 VHL 4.184 DLA -25.39 RAL 343.04 RAD 6641.7 VEL 11.727 PTH 6.76 VHP 6.482 DPA -15.10 RAP 321.32 ECC 1.2080
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 34 35 2580.93 -11.42 69.90 199.38 136.51 18 17 36 1580.9 6.86 54.12
 60.00 18 47 23 2367.32 -6.16 57.46 204.38 129.91 19 27 10 1387.3 9.93 39.80
 70.00 20 20 58 2112.16 -.71 39.26 208.49 124.15 20 56 10 1112.2 13.06 19.47
 80.00 22 14 39 1756.34 4.17 15.28 211.92 119.59 22 43 55 756.3 15.90 354.07
 90.00 0 4 31 1414.71 6.47 351.41 212.78 117.59 0 26 5 414.7 17.26 329.57
 100.00 1 1 27 1230.81 4.17 336.65 211.52 119.59 1 21 58 230.8 15.90 315.44
 110.00 1 24 20 1158.98 -.71 328.17 208.49 124.15 1 43 39 159.0 13.06 308.39

DIFFERENTIAL CORRECTIONS
 TDE -.4565 TRA-1.0016 TC3 .2401 BAU .0773 SGT 1654.3 SGR 524.8 SG3 370.4 ST 36.7 SR 23.7 SS 33.0
 RDE -.3450 RRA .0835 RC3 .2272 FAU .06504 RRT .1628 RRF -.1793 RTF -.8342 CRT .7584 CR8 .4819 C8T .9350
 FDE .4733 FRA 2.1592 FC3-3.2171 BSP 2729 SGB 1735.6 R23 -.0293 R13 -.8348 LSA 52.7 MSA 19.5 S8A 1.3
 BDE .5722 BRA 1.0051 BC3 .3306 FSP 556 SG1 1656.7 SG2 517.1 THA 3.28 EL1 43.2 EL2 13.8 ALF 26.03

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 27 1971

FLIGHT TIME 144.00

ARRIVAL DATE SEP 18 1971

HELIOCENTRIC CONIC
 RL 150.57 LAL -.00 LOL 216.10 VL 33.098 GAL -2.43 AZL 92.10 HCA 125.41 SMA 198.87 ECC .24632 INC 2.1018 V1 29.592
 RP 206.77 LAP -1.71 LOP 341.52 VP 24.027 GAP 14.08 AZP 88.78 TAL 347.67 TAP 113.08 RCA 149.89 APO 247.86 V2 26.485
 RC 69.140 GL -17.17 GP 1.99 ZAL 116.89 ZAP 157.41 ETS 175.19 ZAE 171.51 ETE 38.49 ZAC 101.87 ETC 278.02 LVI -20.21

DISTANCE 372.134
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 16.880 VHL 4.108 DLA -25.81 RAL 343.08 RAD 6641.4 VEL 11.701 PTH 6.73 VHP 6.287 DPA -14.99 RAP 321.39 ECC 1.2778
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 36 51 2563.37 -10.55 69.14 199.11 136.67 18 19 34 1563.4 7.83 53.37
 60.00 18 50 29 2367.53 -5.29 56.50 204.12 130.01 19 29 56 1367.5 10.78 38.52
 70.00 20 25 24 2088.45 .19 38.02 208.26 124.15 21 0 12 1088.5 13.91 18.16
 80.00 22 21 17 1725.74 5.20 13.59 211.36 119.44 22 50 3 725.7 16.80 352.23
 90.00 0 13 2 1378.04 7.62 349.33 212.68 117.31 0 38 0 378.0 18.21 327.30
 100.00 1 8 5 1200.21 5.20 334.96 211.36 119.44 1 28 5 200.2 16.80 313.60
 110.00 1 28 46 1135.27 .19 326.94 208.26 124.15 1 47 41 135.3 13.91 307.07

DIFFERENTIAL CORRECTIONS
 TDE -.4532 TRA -.9897 TC3 .2476 BAU .0776 SGT 1670.7 SGR 519.6 SG3 395.1 ST 39.1 SR 23.4 SS 34.0
 RDE -.3345 RRA .0835 RC3 .2388 FAU .06801 RRT .1771 RRF -.1957 RTF -.8343 CRT .7617 CR8 .4763 C8T .9309
 FDE .4850 FRA 2.2581 FC3-3.4881 BSP 2803 SGB 1749.6 R23 -.0332 R13 -.8350 LSA 53.4 MSA 19.4 S8A 1.3
 BDE .5632 BRA .9926 BC3 .3440 FSP 598 SG1 1673.5 SG2 510.5 THA 3.48 EL1 43.5 EL2 13.6 ALF 27.43

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 27 1971

FLIGHT TIME 146.00

ARRIVAL DATE SEP 20 1971

HELIOCENTRIC CONIC
 RL 150.57 LAL -.00 LOL 216.10 VL 33.034 GAL -2.38 AZL 92.12 HCA 126.68 SMA 197.62 ECC .24139 INC 2.1162 V1 29.592
 RP 206.81 LAP -1.70 LOP 342.79 VP 24.736 GAP 13.72 AZP 88.74 TAL 347.84 TAP 114.31 RCA 149.91 APO 245.32 V2 26.460
 RC 70.455 GL -17.57 GP 2.08 ZAL 116.70 ZAP 158.21 ETS 175.26 ZAE 171.88 ETE 38.97 ZAC 101.95 ETC 278.03 LVI -20.32

DISTANCE 375.899
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 16.305 VHL 4.038 DLA -26.22 RAL 343.13 RAD 6641.1 VEL 11.677 PTH 6.71 VHP 6.098 DPA -14.88 RAP 321.43 ECC 1.2683
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 39 8 2546.20 -9.70 68.40 198.87 136.81 18 21 34 1546.2 8.69 52.64
 60.00 18 53 38 2348.05 -4.44 55.57 203.89 130.10 19 32 46 1348.1 11.61 37.55
 70.00 20 29 56 2084.87 1.10 36.79 201.07 124.14 21 4 21 1064.9 14.74 18.84
 80.00 22 28 16 1694.51 6.24 11.86 211.25 119.26 22 56 30 694.5 17.69 350.34
 90.00 0 22 18 1339.45 8.82 347.13 212.65 116.98 0 44 37 339.4 19.18 324.69
 100.00 1 15 4 1168.98 6.24 333.22 211.25 119.26 1 34 33 169.0 17.69 311.71
 110.00 1 33 19 1111.68 1.10 323.71 208.07 124.14 1 51 50 111.7 14.74 303.76

DIFFERENTIAL CORRECTIONS
 TDE -.4478 TRA -.9753 TC3 .2585 BAU .0785 SGT 1681.3 SGR 514.4 SG3 421.3 ST 39.3 SR 23.1 SS 35.0
 RDE -.3243 RRA .0888 RC3 .2509 FAU .07119 RRT .1928 RRF -.2137 RTF -.8384 CRT .7647 CR8 .4708 C8T .9270
 FDE .4968 FRA 2.3624 FC3-3.7800 BSP 2845 SGB 1758.3 R23 -.0374 R13 -.8363 LSA 54.0 MSA 19.5 S8A 1.3
 BDE .5529 BRA .9777 BC3 .3602 FSP 642 SG1 1684.5 SG2 503.8 THA 3.71 EL1 43.6 EL2 13.4 ALF 26.92

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 27 1971

FLIGHT TIME 148.00

ARRIVAL DATE SEP 22 1971

HELIOCENTRIC CONIC
 RL 150.57 LAL -.00 LOL 216.10 VL 32.974 GAL -2.29 AZL 92.13 HCA 127.94 SMA 196.45 ECC .23876 INC 2.1310 V1 29.592
 RP 206.87 LAP -1.68 LOP 344.06 VP 24.648 GAP 13.36 AZP 88.69 TAL 348.00 TAP 115.94 RCA 149.94 APO 242.97 V2 26.474
 RC 71.818 GL -17.97 GP 2.18 ZAL 116.51 ZAP 154.98 ETS 175.32 ZAE 171.91 ETE 39.86 ZAC 102.04 ETC 278.04 LVI -20.42

DISTANCE 379.699
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 15.776 VHL 3.972 DLA -26.64 RAL 343.18 RAD 6640.9 VEL 11.654 PTH 6.69 VHP 5.916 DPA -14.78 RAP 321.44 ECC 1.2596
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 41 27 2529.43 -8.86 67.68 198.66 136.94 18 23 36 1529.4 9.52 51.92
 60.00 18 56 50 2328.92 -3.60 54.65 203.69 130.17 19 35 39 1328.9 12.43 36.59
 70.00 20 34 37 2041.40 1.99 35.57 207.92 124.10 21 8 38 1041.4 15.56 15.52
 80.00 22 35 40 1662.91 7.30 10.07 211.19 119.03 23 3 22 662.5 18.58 348.58
 90.00 0 32 33 1298.25 10.09 344.77 212.68 116.56 0 54 11 298.3 20.17 322.27
 100.00 1 22 27 1136.98 7.30 331.44 211.19 119.03 1 41 24 137.0 18.58 309.75
 110.00 1 37 59 1088.22 1.99 324.48 207.92 124.10 1 56 7 88.2 15.56 304.44

DIFFERENTIAL CORRECTIONS
 TDE -.4419 TRA -.9590 TC3 .2679 BAU .0792 SGT 1687.2 SGR 509.2 SG3 449.0 ST 39.4 SR 22.7 SS 36.0
 RDE -.3144 RRA .0614 RC3 .2633 FAU .07454 RRT .2099 RRF -.2334 RTF -.8363 CRT .7681 CR8 .4661 C8T .9229
 FDE .5093 FRA 2.4719 FC3-4.0903 BSP 2870 SGB 1762.4 R23 -.0422 R13 -.8373 LSA 54.6 MSA 19.6 S8A 1.3
 BDE .5423 BRA .9609 BC3 .3756 FSP 689 SG1 1690.9 SG2 496.7 THA 3.97 EL1 43.6 EL2 13.2 ALF 26.49

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 27 1971 FLIGHT TIME 150.00 ARRIVAL DATE SEP 24 1971

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCM AZMTH, LNCM TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT, ASC, INJ AZMTH, INJ TIME, PO, CST, TIM, INJ 2, LAT, INJ 2, LONG, TDE, RDE, FDE, BDE, SGT, RRT, SGB, SGI, ST, CRT, LSA, EL1, EL2.

LAUNCH DATE APR 27 1971 FLIGHT TIME 152.00 ARRIVAL DATE SEP 26 1971

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCM AZMTH, LNCM TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT, ASC, INJ AZMTH, INJ TIME, PO, CST, TIM, INJ 2, LAT, INJ 2, LONG, TDE, RDE, FDE, BDE, SGT, RRT, SGB, SGI, ST, CRT, LSA, EL1, EL2.

LAUNCH DATE APR 27 1971 FLIGHT TIME 154.00 ARRIVAL DATE SEP 28 1971

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCM AZMTH, LNCM TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT, ASC, INJ AZMTH, INJ TIME, PO, CST, TIM, INJ 2, LAT, INJ 2, LONG, TDE, RDE, FDE, BDE, SGT, RRT, SGB, SGI, ST, CRT, LSA, EL1, EL2.

LAUNCH DATE APR 27 1971 FLIGHT TIME 156.00 ARRIVAL DATE SEP 30 1971

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCM AZMTH, LNCM TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT, ASC, INJ AZMTH, INJ TIME, PO, CST, TIM, INJ 2, LAT, INJ 2, LONG, TDE, RDE, FDE, BDE, SGT, RRT, SGB, SGI, ST, CRT, LSA, EL1, EL2.

LAUNCH DATE APR 27 1971

FLIGHT TIME 156.00

ARRIVAL DATE OCT 2 1971

Heliocentric Conic: RL 150.57 LAL -.00 LOL 216.10 VL 32.723 GAL -2.01 AZL 92.21 HCA 134.27 SMA 191.78 ECC .21756 INC 2.2138 V1 29.592

Planetary Centric Conic (PLANETOCENTRIC CONIC): C3 13.708 VHL 3.702 DLA -20.60 RAL 343.50 RAD 6639.9 VEL 11.566 PTH 6.61 VHP 5.097 DPA -14.32 RAP 320.95 ECC 1.2256

Differential Corrections: TDE -.4009 TRA -.8536 TC3 .2991 BAU .0822

Mid-Course Execution Accuracy: SGT 1643.5 SGR 486.6 SG3 613.6

Orbit Determination Accuracy: ST 36.4 SR 20.9 SS 41.1

LAUNCH DATE APR 27 1971

FLIGHT TIME 160.00

ARRIVAL DATE OCT 4 1971

Heliocentric Conic: RL 150.57 LAL -.00 LOL 216.10 VL 32.682 GAL -1.96 AZL 92.23 HCA 135.53 SMA 191.03 ECC .21442 INC 2.2322 V1 29.892

Planetary Centric Conic (PLANETOCENTRIC CONIC): C3 13.394 VHL 3.660 DLA -29.08 RAL 343.59 RAD 6639.7 VEL 11.552 PTH 6.60 VHP 4.951 DPA -14.24 RAP 320.74 ECC 1.2204

Differential Corrections: TDE -.3993 TRA -.8394 TC3 .2732 BAU .0794

Mid-Course Execution Accuracy: SGT 1634.1 SGR 483.6 SG3 652.1

Orbit Determination Accuracy: ST 38.5 SR 20.5 SS 42.4

LAUNCH DATE APR 27 1971

FLIGHT TIME 162.00

ARRIVAL DATE OCT 6 1971

Heliocentric Conic: RL 150.57 LAL -.00 LOL 216.10 VL 32.643 GAL -1.92 AZL 92.25 HCA 136.79 SMA 190.34 ECC .21149 INC 2.2516 V1 29.592

Planetary Centric Conic (PLANETOCENTRIC CONIC): C3 13.107 VHL 3.620 DLA -29.47 RAL 343.68 RAD 6639.6 VEL 11.540 PTH 6.59 VHP 4.811 DPA -14.17 RAP 320.49 ECC 1.2187

Differential Corrections: TDE -.3957 TRA -.8042 TC3 .2791 BAU .0807

Mid-Course Execution Accuracy: SGT 1597.0 SGR 481.4 SG3 692.3

Orbit Determination Accuracy: ST 37.6 SR 20.1 SS 43.4

LAUNCH DATE APR 27 1971

FLIGHT TIME 164.00

ARRIVAL DATE OCT 8 1971

Heliocentric Conic: RL 150.57 LAL -.00 LOL 216.10 VL 32.607 GAL -1.88 AZL 92.27 HCA 138.05 SMA 189.70 ECC .20875 INC 2.2720 V1 29.592

Planetary Centric Conic (PLANETOCENTRIC CONIC): C3 12.848 VHL 3.584 DLA -29.86 RAL 343.79 RAD 6639.5 VEL 11.529 PTH 6.58 VHP 4.678 DPA -14.09 RAP 320.19 ECC 1.2114

Differential Corrections: TDE -.3880 TRA -.7842 TC3 .2367 BAU .0774

Mid-Course Execution Accuracy: SGT 1580.8 SGR 480.3 SG3 734.5

Orbit Determination Accuracy: ST 37.7 SR 19.7 SS 44.8

LAUNCH DATE APR 27 1971

FLIGHT TIME 166.00

ARRIVAL DATE OCT 10 1971

HELIOCENTRIC CONIC

RL 150.57 LAL -.00 LOL 216.10 VL 32.973 GAL -1.84 AZL 92.29 HCA 139.30 SMA 189.11 ECC .20620 INC 2.2933 V1 29.592
RP 207.73 LAP -1.50 LOP 355.42 VP 24.000 GAP 10.49 AZP 88.26 TAL 349.19 TAP 128.49 RCA 150.11 APO 228.10 V2 26.373
RC 85.969 GL -21.52 GP 3.37 ZAL 115.04 ZAP 142.35 ETS 175.57 ZAE 174.85 ETE 87.25 ZAC 103.39 ETC 277.82 LVI -21.22

PLANETOCENTRIC CONIC

C3 12.613 VHL 3.552 DLA -30.24 RAL 343.92 RAD 6639.4 VEL 11.919 PTH 6.57 VHP 4.547 DPA -14.02 RAP 319.85 ECC 1.2076
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 3 57 2397.64 -2.27 62.11 198.18 137.53 18 43 54 1397.6 16.00 46.10
60.00 19 28 19 2173.14 3.26 47.20 203.49 130.19 20 4 33 1173.1 18.89 28.50
70.00 21 23 38 1833.89 9.81 24.60 208.37 122.88 21 54 12 833.9 22.37 3.28
78.82 0 29 37 1263.41 20.43 347.14 214.17 112.79 0 50 40 263.4 28.02 322.20
78.82 0 29 37 1263.41 20.43 347.14 214.17 112.79 0 50 40 263.4 28.02 322.20
78.82 0 29 37 1263.41 20.43 347.14 214.17 112.79 0 50 40 263.4 28.02 322.20
110.00 2 27 0 6168.75 9.81 291.42 208.37 122.88 4 9 49 5168.8 22.37 270.10

DIFFERENTIAL CORRECTIONS

TDE -.3761 TRA -.7529 TC3 .2204 BAU .0773
RDE -.2391 RRA -.0139 RC3 .4020 FAU .11439
FDE .6257 FRA 3.7510 FC3 -7.8517 B8P 2633
BDE .4456 BRA .7531 BC3 .4584 F8P 1254

MID-COURSE EXECUTION ACCURACY

SGT 1539.3 SGR 480.5 SG3 778.5
RRR .4260 RRF -.4906 RTF -.8172
SGB 1812.6 R23 -.1346 R13 -.8232
SG1 1554.0 SG2 430.7 THA 8.21

ORBIT DETERMINATION ACCURACY

ST 36.9 SR 19.3 SS 45.9
CRT .8323 CR8 .4514 CST .8682
LSA 58.4 M8A 20.9 S8A 1.2
EL1 40.5 EL2 9.7 ALF 25.04

LAUNCH DATE APR 27 1971

FLIGHT TIME 166.00

ARRIVAL DATE OCT 12 1971

HELIOCENTRIC CONIC

RL 150.57 LAL -.00 LOL 216.10 VL 32.942 GAL -1.81 AZL 92.32 HCA 140.56 SMA 188.56 ECC .20383 INC 2.3157 V1 29.592
RP 207.86 LAP -1.47 LOP 356.68 VP 23.940 GAP 10.21 AZP 88.21 TAL 349.27 TAP 129.83 RCA 150.13 APO 226.99 V2 26.387
RC 87.725 GL -21.91 GP 3.55 ZAL 114.92 ZAP 140.75 ETS 175.58 ZAE 174.75 ETE 88.82 ZAC 103.62 ETC 277.76 LVI -21.30

PLANETOCENTRIC CONIC

C3 12.403 VHL 3.522 DLA -30.62 RAL 344.05 RAD 6639.3 VEL 11.510 PTH 6.56 VHP 4.424 DPA -13.95 RAP 319.47 ECC 1.2041
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 6 41 2385.18 -1.65 61.59 198.30 137.55 18 46 26 1385.2 16.60 45.53
60.00 19 32 11 2157.71 3.93 46.46 203.65 130.14 20 8 8 1157.7 19.51 27.67
70.00 21 30 8 1810.64 10.67 23.34 208.65 122.84 22 0 19 810.6 23.07 1.84
77.75 0 22 19 1284.76 20.77 348.89 214.18 113.01 0 43 44 284.8 28.42 323.89
77.75 0 22 19 1284.76 20.77 348.89 214.18 113.01 0 43 44 284.8 28.42 323.89
77.75 0 22 19 1284.76 20.77 348.89 214.18 113.01 0 43 44 284.8 28.42 323.89
110.00 2 33 30 6145.50 10.67 290.17 208.65 122.84 4 15 56 5145.5 23.07 268.66

DIFFERENTIAL CORRECTIONS

TDE -.3735 TRA -.7274 TC3 .1740 BAU .0755
RDE -.2322 RRA -.0242 RC3 .4207 FAU .11967
FDE .6469 FRA 3.9364 FC3 -8.3531 B8P 2606
BDE .4398 BRA .7278 BC3 .4553 F8P 1339

MID-COURSE EXECUTION ACCURACY

SGT 1508.4 SGR 482.3 SG3 824.6
RRR .4518 RRF -.5389 RTF -.8053
SGB 1803.6 R23 -.1608 R13 -.8131
SG1 1525.4 SG2 425.5 THA 8.92

ORBIT DETERMINATION ACCURACY

ST 36.7 SR 18.9 SS 47.3
CRT .8471 CR8 .4593 CST .8880
LSA 59.1 M8A 21.1 S8A 1.2
EL1 40.3 EL2 9.2 ALF 24.94

LAUNCH DATE APR 27 1971

FLIGHT TIME 170.00

ARRIVAL DATE OCT 14 1971

HELIOCENTRIC CONIC

RL 150.57 LAL -.00 LOL 216.10 VL 32.513 GAL -1.78 AZL 92.34 HCA 141.81 SMA 188.05 ECC .20162 INC 2.3393 V1 29.592
RP 208.01 LAP -1.45 LOP 357.93 VP 23.881 GAP 9.93 AZP 88.16 TAL 349.35 TAP 131.16 RCA 150.14 APO 225.98 V2 26.340
RC 89.514 GL -22.30 GP 3.75 ZAL 114.82 ZAP 139.11 ETS 175.59 ZAE 174.40 ETE 110.19 ZAC 103.86 ETC 277.89 LVI -21.38

PLANETOCENTRIC CONIC

C3 12.215 VHL 3.495 DLA -30.99 RAL 344.21 RAD 6639.2 VEL 11.502 PTH 6.55 VHP 4.306 DPA -13.88 RAP 319.04 ECC 1.2010
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 9 29 2373.12 -1.04 61.08 198.45 137.57 18 49 2 1373.1 17.18 44.97
60.00 19 36 7 2142.60 4.60 45.74 203.85 130.08 20 11 50 1142.6 20.11 26.85
70.00 21 36 57 1787.02 11.54 22.06 208.98 122.37 22 6 44 787.0 23.76 .36
76.77 0 15 52 1303.86 21.09 350.47 214.22 113.24 0 37 35 303.9 28.80 325.42
76.77 0 15 52 1303.86 21.09 350.47 214.22 113.24 0 37 35 303.9 28.80 325.42
76.77 0 15 52 1303.86 21.09 350.47 214.22 113.24 0 37 35 303.9 28.80 325.42
110.00 2 40 20 6121.87 11.54 288.88 208.98 122.37 4 22 21 5121.9 23.76 267.18

DIFFERENTIAL CORRECTIONS

TDE -.3679 TRA -.6985 TC3 .1298 BAU .0750
RDE -.2255 RRA -.0348 RC3 .4406 FAU .12518
FDE .6863 FRA 4.1250 FC3 -8.8720 B8P 2525
BDE .4316 BRA .6973 BC3 .4594 F8P 1422

MID-COURSE EXECUTION ACCURACY

SGT 1464.9 SGR 485.8 SG3 872.1
RRR .4773 RRF -.8791 RTF -.1332
SGB 1843.3 R23 -.1891 R13 -.8034
SG1 1484.7 SG2 421.2 THA 9.79

ORBIT DETERMINATION ACCURACY

ST 36.2 SR 18.5 SS 48.6
CRT .8621 CR8 .4679 CST .8489
LSA 59.7 M8A 21.2 S8A 1.2
EL1 39.7 EL2 8.5 ALF 25.03

LAUNCH DATE APR 27 1971

FLIGHT TIME 172.00

ARRIVAL DATE OCT 16 1971

HELIOCENTRIC CONIC

RL 150.57 LAL -.00 LOL 216.10 VL 32.486 GAL -1.76 AZL 92.38 HCA 143.08 SMA 187.58 ECC .19957 INC 2.3642 V1 29.592
RP 208.16 LAP -1.42 LOP 359.19 VP 23.624 GAP 9.65 AZP 88.11 TAL 349.41 TAP 132.47 RCA 150.14 APO 225.02 V2 26.323
RC 91.337 GL -22.70 GP 3.95 ZAL 114.72 ZAP 137.43 ETS 175.60 ZAE 173.80 ETE 120.43 ZAC 104.12 ETC 277.61 LVI -21.46

PLANETOCENTRIC CONIC

C3 12.049 VHL 3.471 DLA -31.35 RAL 344.38 RAD 6639.1 VEL 11.495 PTH 6.54 VHP 4.193 DPA -13.81 RAP 318.56 ECC 1.1983
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 12 22 2361.46 -.45 60.60 198.63 137.57 18 51 43 1361.5 17.74 44.43
60.00 19 40 10 2127.81 5.24 45.02 204.09 130.02 20 15 38 1127.8 20.70 26.03
70.00 21 44 9 1762.90 12.41 20.74 209.36 122.08 22 13 32 762.9 24.45 358.83
75.86 0 10 7 1321.23 21.41 351.93 214.31 113.47 0 32 8 321.2 29.18 326.82
75.86 0 10 7 1321.23 21.41 351.93 214.31 113.47 0 32 8 321.2 29.18 326.82
75.86 0 10 7 1321.23 21.41 351.93 214.31 113.47 0 32 8 321.2 29.18 326.82
110.00 2 47 31 6097.76 12.41 287.56 209.36 122.08 4 29 9 5097.8 24.45 265.65

DIFFERENTIAL CORRECTIONS

TDE -.3614 TRA -.6629 TC3 .0816 BAU .0756
RDE -.2190 RRA -.0461 RC3 .4621 FAU .13108
FDE .6826 FRA 4.3199 FC3 -9.4184 B8P 2429
BDE .4225 BRA .6645 BC3 .4693 F8P 1508

MID-COURSE EXECUTION ACCURACY

SGT 1414.6 SGR 491.4 SG3 921.5
RRR .5005 RRF -.6198 RTF -.7783
SGB 1497.5 R23 -.2225 R13 -.7919
SG1 1437.8 SG2 418.6 THA 10.79

ORBIT DETERMINATION ACCURACY

ST 35.5 SR 18.1 SS 49.9
CRT .8780 CR8 .4768 CST .8369
LSA 60.1 M8A 21.4 S8A 1.2
EL1 39.1 EL2 7.9 ALF 25.26

LAUNCH DATE APR 27 1971

FLIGHT TIME 174.00

ARRIVAL DATE OCT 18 1971

HELIOCENTRIC CONIC
 RL 150.57 LAL -.00 LOL 216.10 VL 32.460 GAL -1.73 AZL 92.39 HCA 144.31 SMA 187.18 ECC .19767 INC 2.3906 V1 29.592
 RP 208.32 LAP -1.39 LOP .44 VP 23.769 GAP 9.39 AZP 88.06 TAL 349.46 TAP 133.77 RCA 130.15 APO 224.14 V2 26.304
 RC 93.190 GL -23.10 GP 4.17 ZAL 114.64 ZAP 135.71 ETS 175.81 ZAE 172.99 ETE 129.06 ZAC 104.40 ETC 277.52 LVI -21.53

DISTANCE 431.344 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 11.903 VHL 3.490 DLA -31.72 RAL 344.57 RAD 6639.0 VEL 11.488 PTH 6.54 VHP 4.086 DPA -13.73 RAP 316.04 ECC 1.1959
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 18 19 19 2390.18 .11 60.13 198.85 137.58 18 54 29 1350.2 18.29 43.91
 60.00 19 44 20 2113.32 5.88 44.32 204.37 129.94 20 19 33 1113.3 21.27 25.23
 70.00 21 51 48 1739.07 13.30 19.37 209.81 121.75 22 20 46 736.1 23.15 357.23
 75.01 0 4 56 1337.28 21.71 353.28 214.43 113.71 0 27 13 337.3 29.55 328.12
 75.01 0 4 56 1337.28 21.71 353.28 214.43 113.71 0 27 13 337.3 29.55 328.12
 75.01 0 4 56 1337.28 21.71 353.28 214.43 113.71 0 27 13 337.3 29.55 328.12
 110.00 2 25 10 6072.93 13.30 286.19 209.81 121.75 4 36 23 5072.9 23.15 264.06

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3549 TRA -.6272 TC3 .0266 BAU .0773 8GT 1359.1 8GR 499.5 8G3 972.4 8T 34.7 8R 17.7 88 51.2
 RDE -.2126 RRA -.0580 RC3 .4850 FAU .13710 RRT .5199 RRF -.6608 RTF -.7597 CRT .8951 CR8 .4682 C8T .8233
 FDE .6995 FRA 4.5213 FC3-9.9778 B8P 2325 8GB 1447.9 R23 -.2620 R13 -.7779 L8A 60.6 M8A 21.6 88A 1.1
 BDE .4137 BRA .6299 BC3 .4857 F8P 1897 8G1 1386.2 8G2 418.3 THA 11.92 EL1 38.3 EL2 7.2 ALF 29.54

LAUNCH DATE APR 27 1971

FLIGHT TIME 176.00

ARRIVAL DATE OCT 20 1971

HELIOCENTRIC CONIC
 RL 150.57 LAL -.00 LOL 216.10 VL 32.437 GAL -1.72 AZL 92.42 HCA 145.56 SMA 186.75 ECC .19592 INC 2.4185 V1 29.592
 RP 208.49 LAP -1.37 LOP 1.69 VP 23.716 GAP 9.13 AZP 88.00 TAL 349.50 TAP 135.06 RCA 130.16 APO 223.33 V2 26.284
 RC 95.074 GL -23.50 GP 4.41 ZAL 114.57 ZAP 133.95 ETS 175.62 ZAE 171.99 ETE 136.05 ZAC 104.70 ETC 277.41 LVI -21.61

DISTANCE 435.435 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 11.777 VHL 3.432 DLA -32.08 RAL 344.78 RAD 6638.9 VEL 11.483 PTH 6.53 VHP 3.985 DPA -13.66 RAP 317.47 ECC 1.1938
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 18 18 22 2339.25 .66 59.67 199.11 137.57 18 57 21 1339.3 18.81 43.39
 60.00 19 48 37 2099.07 6.50 43.64 204.70 129.86 20 23 36 1099.1 21.82 24.44
 70.00 22 0 0 1712.20 14.23 17.93 210.32 121.38 22 28 32 712.2 23.85 355.55
 74.19 0 0 17 1352.19 22.01 354.55 214.60 113.95 0 22 49 352.2 29.91 329.35
 74.19 0 0 17 1352.19 22.01 354.55 214.60 113.95 0 22 49 352.2 29.91 329.35
 74.19 0 0 17 1352.19 22.01 354.55 214.60 113.95 0 22 49 352.2 29.91 329.35
 110.00 3 3 22 6047.06 14.23 284.76 210.32 121.38 4 44 9 5047.1 23.85 262.38

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3472 TRA -.5878 TC3 -.0321 BAU .0804 8GT 1294.8 8GR 510.2 8G3 1024.2 8T 33.8 8R 17.4 88 52.4
 RDE -.2065 RRA -.0705 RC3 .5093 FAU .14351 RRT .5342 RRF -.7004 RTF -.7388 CRT .9129 CR8 .5012 C8T .8075
 FDE .7148 FRA 4.7248 FC-10.5495 B8P 2186 8GB 1391.7 R23 -.3070 R13 -.7618 L8A 60.9 M8A 21.8 88A 1.1
 BDE .4039 BRA .5917 BC3 .5103 F8P 1684 8G1 1326.5 8G2 421.0 THA 13.25 EL1 37.4 EL2 6.4 ALF 25.85

LAUNCH DATE APR 27 1971

FLIGHT TIME 178.00

ARRIVAL DATE OCT 22 1971

HELIOCENTRIC CONIC
 RL 150.57 LAL -.00 LOL 216.10 VL 32.415 GAL -1.70 AZL 92.45 HCA 146.81 SMA 186.38 ECC .19430 INC 2.4483 V1 29.592
 RP 208.67 LAP -1.34 LOP 2.93 VP 23.683 GAP 8.87 AZP 87.95 TAL 349.52 TAP 136.33 RCA 130.16 APO 222.59 V2 26.284
 RC 96.988 GL -23.90 GP 4.66 ZAL 114.52 ZAP 132.15 ETS 175.64 ZAE 170.83 ETE 141.63 ZAC 105.02 ETC 277.31 LVI -21.69

DISTANCE 439.836 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 11.670 VHL 3.416 DLA -32.43 RAL 345.01 RAD 6638.9 VEL 11.478 PTH 6.53 VHP 3.888 DPA -13.57 RAP 316.86 ECC 1.1921
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 18 21 30 2328.64 1.20 59.23 199.41 137.56 19 0 19 1328.6 19.31 42.89
 60.00 19 53 2 2085.02 7.11 42.95 205.07 129.77 20 27 47 1089.0 22.37 23.64
 70.00 22 6 55 1684.80 15.19 16.40 210.91 120.96 22 37 0 684.8 26.97 353.75
 73.42 23 52 7 1366.32 22.29 355.77 214.82 114.19 24 14 53 366.3 30.26 330.51
 73.42 23 52 7 1366.32 22.29 355.77 214.82 114.19 24 14 53 366.3 30.26 330.51
 73.42 23 52 7 1366.32 22.29 355.77 214.82 114.19 24 14 53 366.3 30.26 330.51
 110.00 3 12 17 6019.66 15.19 283.22 210.91 120.96 4 52 37 5019.7 26.57 260.97

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3366 TRA -.5421 TC3 -.0874 BAU .0847 8GT 1217.6 8GR 524.0 8G3 1078.9 8T 32.5 8R 17.0 88 53.8
 RDE -.2003 RRA -.0836 RC3 .5361 FAU .15032 RRT .5434 RRF -.7387 RTF -.7500 CRT .9308 CR8 .5144 C8T .7886
 FDE .7243 FRA 4.9261 FC-11.1513 B8P 1995 8GB 1325.5 R23 -.3945 R13 -.7451 L8A 61.1 M8A 21.8 88A 1.1
 BDE .3916 BRA .5465 BC3 .5432 F8P 1763 8G1 1255.0 8G2 426.8 THA 14.93 EL1 36.3 EL2 5.6 ALF 26.61

LAUNCH DATE APR 27 1971

FLIGHT TIME 180.00

ARRIVAL DATE OCT 24 1971

HELIOCENTRIC CONIC
 RL 150.57 LAL -.00 LOL 216.10 VL 32.399 GAL -1.69 AZL 92.48 HCA 148.05 SMA 186.04 ECC .19282 INC 2.4800 V1 29.592
 RP 208.85 LAP -1.31 LOP 4.18 VP 23.612 GAP 8.62 AZP 87.90 TAL 349.53 TAP 137.58 RCA 130.17 APO 221.91 V2 26.243
 RC 98.929 GL -24.31 GP 4.93 ZAL 114.48 ZAP 130.31 ETS 175.65 ZAE 169.54 ETE 146.03 ZAC 105.36 ETC 277.19 LVI -21.77

DISTANCE 443.646 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 11.583 VHL 3.403 DLA -32.79 RAL 345.26 RAD 6638.8 VEL 11.475 PTH 6.52 VHP 3.797 DPA -13.48 RAP 316.20 ECC 1.1906
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 18 24 45 2318.41 1.71 58.80 199.76 137.55 19 3 24 1318.4 19.80 42.41
 60.00 19 57 37 2071.23 7.71 42.28 205.49 129.88 20 32 9 1071.2 22.89 22.86
 70.00 22 18 45 1655.41 16.21 14.73 211.58 120.48 22 46 20 655.4 27.32 351.79
 72.68 23 48 18 1379.72 22.56 356.93 215.08 114.44 24 11 18 379.7 30.61 331.63
 72.68 23 48 18 1379.72 22.56 356.93 215.08 114.44 24 11 18 379.7 30.61 331.63
 72.68 23 48 18 1379.72 22.56 356.93 215.08 114.44 24 11 18 379.7 30.61 331.63
 110.00 3 22 7 5990.27 16.21 281.56 211.58 120.48 5 1 57 4990.3 27.32 258.61

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3392 TRA -.5068 TC3 -.1939 BAU .0920 8GT 1172.0 8GR 541.4 8G3 1131.7 8T 32.4 8R 16.7 88 55.2
 RDE -.1954 RRA -.0986 RC3 .5613 FAU .15602 RRT .5324 RRF -.7753 RTF -.6632 CRT .9510 CR8 .5419 C8T .7706
 FDE .7651 FRA 5.1628 FC-11.6615 B8P 1960 8GB 1291.1 R23 -.4269 R13 -.7116 L8A 62.3 M8A 22.3 88A 1.0
 BDE .3914 BRA .5164 BC3 .5939 F8P 1880 8G1 1212.7 8G2 443.0 THA 16.01 EL1 36.1 EL2 4.6 ALF 26.64

LAUNCH DATE APR 27 1971

FLIGHT TIME 182.00

ARRIVAL DATE OCT 26 1971

HELIOCENTRIC CONIC

RL 150.57 LAL -.00 LOL 216.10 VL 32.377 GAL -1.68 AZL 92.51 HCA 149.29 SMA 185.73 ECC .19146 INC 2.5140 V1 29.582
RP 209.04 LAP -1.28 LOP 5.42 VP 23.562 GAP 8.30 AZP 87.84 TAL 349.52 TAP 136.82 RCA 150.17 APO 221.29 V2 26.221
RC 100.898 GL -24.73 GP 5.22 ZAL 114.45 ZAP 128.43 ETS 175.67 ZAE 168.13 ETE 149.54 ZAC 105.73 ETC 277.06 LVI -25.85

PLANETOCENTRIC CONIC

C3 11.513 VHL 3.393 DLA -33.14 RAL 345.54 RAD 6638.8 VEL 11.472 PTH 6.52 VHP 3.712 DPA -13.38 RAP 315.50 ECC 1.1895
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 18 28 8 2308.40 2.21 58.38 200.15 137.54 19 8 37 1308.4 20.28 41.93
60.00 20 2 24 2057.49 8.31 41.61 205.96 129.58 20 36 42 1057.5 23.42 22.08
70.00 22 29 58 1622.51 17.34 12.85 212.37 119.90 22 57 0 622.5 28.11 349.56
71.96 23 44 49 1392.68 22.82 358.06 215.38 114.71 24 8 1 392.7 30.96 332.72
71.96 23 44 49 1392.68 22.82 358.06 215.38 114.71 24 8 1 392.7 30.96 332.72
71.96 23 44 49 1392.68 22.82 358.06 215.38 114.71 24 8 1 392.7 30.96 332.72
110.00 3 33 20 5957.36 17.34 279.67 212.37 119.90 5 12 37 4957.4 28.11 256.38

DIFFERENTIAL CORRECTIONS

TDE -.3344 TRA -.4623 TC3 -.2863 BAU .1008
RDE -.1902 RRA -.1143 RC3 .5893 FAU .16220
FDE .7909 FRA 5.3924 FC-12.1987 B8P 1828
BDE .3847 BRA .4764 BC3 .6552 F8P 1980

MID-COURSE EXECUTION ACCURACY

SGT 1107.4 SGR 582.3 SG3 1186.4
RRT .5117 RRF -.8089 RTF -.6108
SGB 1242.0 R23 -.4961 R13 -.6787
SG1 1151.9 S62 464.5 THA 17.50

ORBIT DETERMINATION ACCURACY

ST 31.5 SR 18.4 SS 58.7
CRT .9884 CR8 .5660 C8T .7478
LSA 63.0 M8A 22.5 S8A 1.0
EL1 35.4 EL2 3.7 ALF 27.11

LAUNCH DATE APR 27 1971

FLIGHT TIME 184.00

ARRIVAL DATE OCT 28 1971

HELIOCENTRIC CONIC

RL 150.57 LAL -.00 LOL 216.10 VL 32.360 GAL -1.67 AZL 92.55 HCA 150.53 SMA 185.44 ECC .19021 INC 2.5505 V1 29.592
RP 209.24 LAP -1.23 LOP 6.86 VP 23.514 GAP 8.14 AZP 87.78 TAL 349.50 TAP 140.04 RCA 150.17 APO 220.72 V2 26.198
RC 102.893 GL -25.18 GP 5.53 ZAL 114.44 ZAP 128.51 ETS 175.70 ZAE 166.82 ETE 152.35 ZAC 106.12 ETC 276.82 LVI -21.84

PLANETOCENTRIC CONIC

C3 11.482 VHL 3.388 DLA -33.50 RAL 345.84 RAD 6638.8 VEL 11.469 PTH 6.52 VHP 3.631 DPA -13.27 RAP 314.75 ECC 1.1886
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 18 31 40 2298.62 2.70 57.97 200.58 137.92 19 9 59 1298.6 20.74 41.46
60.00 20 7 24 2043.78 8.90 40.94 206.49 129.47 20 41 28 1043.8 23.93 21.28
70.00 22 43 21 1583.73 18.64 10.60 213.31 119.15 23 9 49 883.7 29.00 346.89
71.25 23 41 37 1408.30 23.08 359.16 215.74 114.98 24 5 2 405.3 31.30 333.78
71.25 23 41 37 1408.30 23.08 359.16 215.74 114.98 24 5 2 405.3 31.30 333.78
71.25 23 41 37 1408.30 23.08 359.16 215.74 114.98 24 5 2 405.3 31.30 333.78
110.00 3 46 43 5918.58 18.64 277.42 213.31 119.15 5 28 22 4918.6 29.00 283.71

DIFFERENTIAL CORRECTIONS

TDE -.3295 TRA -.4142 TC3 -.3837 BAU .1117
RDE -.1852 RRA -.1309 RC3 .6195 FAU .16861
FDE .8171 FRA 5.6192 FC-12.7392 B8P 1685
BDE .3780 BRA .4344 BC3 .7287 F8P 2077

MID-COURSE EXECUTION ACCURACY

SGT 1041.7 SGR 587.2 SG3 1241.0
RRT .4728 RRF -.8395 RTF -.9425
SGB 1195.8 R23 -.5697 R13 -.6383
SG1 1086.5 S62 495.2 THA 19.00

ORBIT DETERMINATION ACCURACY

ST 30.6 SR 16.2 SS 58.0
CRT .9833 CR8 .5925 C8T .7207
LSA 63.6 M8A 22.7 S8A 1.0
EL1 34.5 EL2 2.6 ALF 27.64

LAUNCH DATE APR 27 1971

FLIGHT TIME 186.00

ARRIVAL DATE OCT 30 1971

HELIOCENTRIC CONIC

RL 150.57 LAL -.00 LOL 216.10 VL 32.344 GAL -1.67 AZL 92.59 HCA 151.77 SMA 185.18 ECC .18908 INC 2.5899 V1 29.592
RP 209.44 LAP -1.22 LOP 7.89 VP 23.466 GAP 7.90 AZP 87.72 TAL 349.47 TAP 141.24 RCA 150.17 APO 220.20 V2 26.174
RC 104.913 GL -25.60 GP 5.87 ZAL 114.43 ZAP 124.55 ETS 175.73 ZAE 165.03 ETE 154.61 ZAC 106.54 ETC 276.78 LVI -22.04

PLANETOCENTRIC CONIC

C3 11.429 VHL 3.381 DLA -33.86 RAL 346.17 RAD 6638.8 VEL 11.468 PTH 6.52 VHP 3.556 DPA -13.14 RAP 313.96 ECC 1.1881
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 18 35 22 2289.01 3.19 97.97 201.07 137.49 19 13 31 1289.0 21.19 40.99
60.00 20 12 39 2029.98 9.50 40.27 207.07 129.35 20 46 29 1030.0 24.45 20.48
70.00 23 1 11 1532.20 20.32 7.55 214.52 118.06 23 26 44 532.2 30.08 343.27
70.96 23 38 40 1417.76 23.33 .26 216.14 115.26 24 2 17 417.8 31.63 334.84
70.96 23 38 40 1417.76 23.33 .26 216.14 115.26 24 2 17 417.8 31.63 334.84
70.96 23 38 40 1417.76 23.33 .26 216.14 115.26 24 2 17 417.8 31.63 334.84
110.00 4 4 34 5867.06 20.32 274.37 214.52 118.06 5 42 21 4867.1 30.08 250.09

DIFFERENTIAL CORRECTIONS

TDE -.3241 TRA -.3628 TC3 -.4874 BAU .1244
RDE -.1805 RRA -.1489 RC3 .6517 FAU .17501
FDE .8421 FRA 5.8485 FC-13.2365 B8P 1543
BDE .3709 BRA .3922 BC3 .8138 F8P 2174

MID-COURSE EXECUTION ACCURACY

SGT 979.1 SGR 616.5 SG3 1293.8
RRT .4105 RRF -.8668 RTF -.7442
SGB 1157.0 R23 -.6461 R13 -.5878
SG1 1024.8 S62 537.1 THA 20.29

ORBIT DETERMINATION ACCURACY

ST 29.6 SR 16.0 SS 59.4
CRT .9938 CR8 .6210 C8T .6886
LSA 64.2 M8A 23.0 S8A .9
EL1 33.6 EL2 1.6 ALF 28.25

LAUNCH DATE APR 27 1971

FLIGHT TIME 188.00

ARRIVAL DATE NOV 1 1971

HELIOCENTRIC CONIC

RL 150.57 LAL -.00 LOL 216.10 VL 32.330 GAL -1.67 AZL 92.63 HCA 153.01 SMA 184.98 ECC .18806 INC 2.6324 V1 29.592
RP 209.66 LAP -1.19 LOP 9.13 VP 23.419 GAP 7.67 AZP 87.65 TAL 349.42 TAP 142.43 RCA 150.17 APO 219.73 V2 26.150
RC 106.988 GL -26.06 GP 6.23 ZAL 114.44 ZAP 122.58 ETS 175.76 ZAE 163.34 ETE 156.44 ZAC 106.99 ETC 276.82 LVI -22.15

PLANETOCENTRIC CONIC

C3 11.414 VHL 3.378 DLA -34.22 RAL 346.53 RAD 6638.8 VEL 11.467 PTH 6.52 VHP 3.486 DPA -13.00 RAP 313.12 ECC 1.1878
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 18 39 15 2279.48 3.66 57.17 201.60 137.47 19 17 15 1279.5 21.64 40.52
60.00 20 18 14 2015.96 10.10 39.37 207.72 129.22 20 51 50 1016.0 24.97 19.86
69.87 23 35 57 1430.10 23.57 1.34 216.60 115.56 23 59 47 430.1 31.98 335.89
69.87 23 35 57 1430.10 23.57 1.34 216.60 115.56 23 59 47 430.1 31.98 335.89
69.87 23 35 57 1430.10 23.57 1.34 216.60 115.56 23 59 47 430.1 31.98 335.89
69.87 23 35 57 1430.10 23.57 1.34 216.60 115.56 23 59 47 430.1 31.98 335.89
69.87 23 35 57 1430.10 23.57 1.34 216.60 115.56 23 59 47 430.1 31.98 335.89

DIFFERENTIAL CORRECTIONS

TDE -.3150 TRA -.3044 TC3 -.5825 BAU .1376
RDE -.1754 RRA -.1876 RC3 .6885 FAU .18220
FDE .8519 FRA 6.0602 FC-13.8196 B8P 1373
BDE .3605 BRA .3474 BC3 .9018 F8P 2251

MID-COURSE EXECUTION ACCURACY

SGT 911.0 SGR 650.4 SG3 1349.0
RRT .3212 RRF -.8908 RTF -.3414
SGB 1119.4 R23 -.7200 R13 -.5277
SG1 951.4 S62 589.8 THA 21.54

ORBIT DETERMINATION ACCURACY

ST 28.3 SR 15.8 SS 60.4
CRT .9979 CR8 .6476 C8T .6462
LSA 64.5 M8A 23.1 S8A .9
EL1 32.4 EL2 .9 ALF 29.07

LAUNCH DATE APR 27 1971

FLIGHT TIME 100.00

ARRIVAL DATE NOV 3 1971

HELIOCENTRIC CONIC
 RL 150.57 LAL -.00 LOL 216.10 VL 32.317 GAL -1.87 AZL 92.68 HCA 154.24 SMA 184.73 ECC .18714 INC 2.6786 V1 29.592
 RP 209.87 LAP -1.18 LOP 10.36 VP 23.373 GAP 7.48 AZP 87.59 TAL 349.36 TAP 143.60 RCA 150.16 APO 219.30 V2 26.124
 RC 109.029 GL -26.54 GP 6.62 ZAL 114.46 ZAP 120.54 ETS 175.81 ZAE 161.59 ETE 157.92 ZAC 107.47 ETC 276.46 LVI -22.20

PLANETOCENTRIC CONIC
 C3 11.418 VHL 3.379 DLA -34.59 RAL 346.92 RAD 6638.8 VEL 11.467 PTH 6.52 VHP 3.421 DPA -12.83 RAP 312.25 ECC 1.1879
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 43 23 2270.05 4.14 56.77 202.20 137.44 19 21 13 1270.1 22.08 40.06
 60.00 20 24 9 2001.70 10.72 38.07 208.44 129.09 20 57 31 1001.7 25.49 18.81
 69.19 23 33 27 1442.90 23.81 2.44 217.13 115.87 23 57 30 442.5 32.32 336.95
 69.19 23 33 27 1442.90 23.81 2.44 217.13 115.87 23 57 30 442.5 32.32 336.95
 69.19 23 33 27 1442.90 23.81 2.44 217.13 115.87 23 57 30 442.5 32.32 336.95
 69.19 23 33 27 1442.90 23.81 2.44 217.13 115.87 23 57 30 442.5 32.32 336.95

DIFFERENTIAL CORRECTIONS
 TDE -.3163 TRA -.2533 TC3 -.7226 BAU .1559
 RDE -.1723 RRA -.1896 RC3 .7213 FAU .18722
 FDE .9057 FRA 6.3165 FC-14.1952 B8P 1332
 BDE .3602 BRA .3164 BC3 1.0210 F8P 2370

MID-COURSE EXECUTION ACCURACY
 SGT 893.5 SGR 689.5 S63 1403.0
 RRT .1985 RRF -.9115 RTF -.2017
 SGB 1128.6 R23 -.6169 R13 -.4090
 S61 916.2 S62 659.0 THA 18.58

ORBIT DETERMINATION ACCURACY
 ST 27.9 SR 15.8 SS 62.1
 CRT .9926 CR8 .6871 C8T .6067
 L8A 65.8 M8A 23.5 S8A .9
 EL1 32.0 EL2 1.7 ALF 29.32

LAUNCH DATE APR 27 1971

FLIGHT TIME 102.00

ARRIVAL DATE NOV 5 1971

HELIOCENTRIC CONIC
 RL 150.57 LAL -.00 LOL 216.10 VL 32.308 GAL -1.68 AZL 92.73 HCA 155.47 SMA 184.94 ECC .18631 INC 2.7289 V1 29.592
 RP 210.10 LAP -1.13 LOP 11.59 VP 23.328 GAP 7.23 AZP 87.52 TAL 349.28 TAP 144.75 RCA 150.16 APO 218.92 V2 26.098
 RC 111.121 GL -27.03 GP 7.04 ZAL 114.49 ZAP 118.49 ETS 175.86 ZAE 159.78 ETE 159.12 ZAC 107.98 ETC 276.29 LVI -22.42

PLANETOCENTRIC CONIC
 C3 11.441 VHL 3.383 DLA -34.98 RAL 347.34 RAD 6638.8 VEL 11.468 PTH 6.52 VHP 3.362 DPA -12.63 RAP 311.35 ECC 1.1883
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 47 46 2260.53 4.61 56.37 202.86 137.41 19 25 26 1260.5 22.52 39.59
 60.00 20 30 32 1986.84 11.35 38.13 209.23 128.93 21 3 39 986.8 26.03 17.92
 68.50 23 31 7 1455.09 24.04 3.56 217.71 116.21 23 55 22 455.1 32.66 338.04
 68.50 23 31 7 1455.09 24.04 3.56 217.71 116.21 23 55 22 455.1 32.66 338.04
 68.50 23 31 7 1455.09 24.04 3.56 217.71 116.21 23 55 22 455.1 32.66 338.04
 68.50 23 31 7 1455.09 24.04 3.56 217.71 116.21 23 55 22 455.1 32.66 338.04

DIFFERENTIAL CORRECTIONS
 TDE -.3116 TRA -.1919 TC3 -.8446 BAU .1739
 RDE -.1685 RRA -.2120 RC3 .7605 FAU .19345
 FDE .9335 FRA 6.5329 FC-14.6380 B8P 1270
 BDE .3542 BRA .2859 BC3 1.1366 F8P 2455

MID-COURSE EXECUTION ACCURACY
 SGT 873.2 SGR 733.6 S63 1433.4
 RRT .0475 RRF -.9290 RTF -.0364
 SGB 1140.4 R23 -.9186 R13 -.1389
 S61 875.5 S62 730.8 THA 7.60

ORBIT DETERMINATION ACCURACY
 ST 27.1 SR 15.7 SS 63.3
 CRT .9748 CR8 .7208 C8T .5558
 L8A 66.5 M8A 23.8 S8A .8
 EL1 31.2 EL2 3.0 ALF 29.84

LAUNCH DATE APR 27 1971

FLIGHT TIME 104.00

ARRIVAL DATE NOV 7 1971

HELIOCENTRIC CONIC
 RL 150.57 LAL -.00 LOL 216.10 VL 32.295 GAL -1.89 AZL 92.78 HCA 156.89 SMA 184.37 ECC .18558 INC 2.7841 V1 29.592
 RP 210.33 LAP -1.10 LOP 12.82 VP 23.283 GAP 7.01 AZP 87.44 TAL 349.19 TAP 145.88 RCA 150.15 APO 218.58 V2 26.071
 RC 113.239 GL -27.56 GP 7.50 ZAL 114.52 ZAP 116.42 ETS 175.93 ZAE 157.90 ETE 160.10 ZAC 108.53 ETC 276.12 LVI -22.58

PLANETOCENTRIC CONIC
 C3 11.485 VHL 3.389 DLA -35.38 RAL 347.80 RAD 6638.8 VEL 11.470 PTH 6.52 VHP 3.307 DPA -12.39 RAP 310.40 ECC 1.1890
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 52 28 2250.87 5.10 55.97 203.59 137.37 19 29 39 1250.9 22.97 39.11
 60.00 20 37 28 1971.22 12.02 37.35 210.13 128.76 21 10 19 971.2 26.59 16.98
 67.79 23 28 57 1467.94 24.27 4.70 218.36 116.57 23 53 25 467.9 33.02 339.16
 67.79 23 28 57 1467.94 24.27 4.70 218.36 116.57 23 53 25 467.9 33.02 339.16
 67.79 23 28 57 1467.94 24.27 4.70 218.36 116.57 23 53 25 467.9 33.02 339.16
 67.79 23 28 57 1467.94 24.27 4.70 218.36 116.57 23 53 25 467.9 33.02 339.16

DIFFERENTIAL CORRECTIONS
 TDE -.3084 TRA -.1297 TC3 -.9778 BAU .1940
 RDE -.1654 RRA -.2371 RC3 .8005 FAU .19889
 FDE .9712 FRA 6.7829 FC-14.9928 B8P 1284
 BDE .3500 BRA .2703 BC3 1.2636 F8P 2548

MID-COURSE EXECUTION ACCURACY
 SGT 885.3 SGR 783.6 S63 1503.0
 RRT -.1175 RRF -.9437 RTF .1.68
 SGB 1182.4 R23 .8404 R13 -.4303
 S61 903.6 S62 762.5 THA 158.05

ORBIT DETERMINATION ACCURACY
 ST 26.4 SR 15.8 SS 64.7
 CRT .9416 CR8 .7569 C8T .4978
 L8A 67.4 M8A 24.2 S8A .8
 EL1 30.4 EL2 4.6 ALF 30.21

LAUNCH DATE APR 27 1971

FLIGHT TIME 106.00

ARRIVAL DATE NOV 9 1971

HELIOCENTRIC CONIC
 RL 150.57 LAL -.00 LOL 216.10 VL 32.286 GAL -1.70 AZL 92.85 HCA 157.92 SMA 184.21 ECC .18493 INC 2.8450 V1 29.592
 RP 210.57 LAP -1.07 LOP 14.04 VP 23.239 GAP 6.80 AZP 87.36 TAL 349.08 TAP 147.00 RCA 150.15 APO 218.28 V2 26.044
 RC 115.380 GL -28.12 GP 8.01 ZAL 114.56 ZAP 114.33 ETS 176.01 ZAE 155.96 ETE 160.90 ZAC 109.13 ETC 275.94 LVI -22.77

PLANETOCENTRIC CONIC
 C3 11.550 VHL 3.399 DLA -35.80 RAL 348.30 RAD 6638.8 VEL 11.473 PTH 6.52 VHP 3.258 DPA -12.12 RAP 309.43 ECC 1.1901
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 57 33 2240.92 5.60 55.55 204.41 137.32 19 34 54 1240.9 23.43 38.61
 60.00 20 45 4 1954.49 12.75 36.51 211.12 128.57 21 17 39 954.5 27.18 15.96
 67.06 23 26 54 1481.27 24.51 5.89 219.09 116.96 23 51 35 481.3 33.39 340.32
 67.06 23 26 54 1481.27 24.51 5.89 219.09 116.96 23 51 35 481.3 33.39 340.32
 67.06 23 26 54 1481.27 24.51 5.89 219.09 116.96 23 51 35 481.3 33.39 340.32
 67.06 23 26 54 1481.27 24.51 5.89 219.09 116.96 23 51 35 481.3 33.39 340.32

DIFFERENTIAL CORRECTIONS
 TDE -.3054 TRA -.0636 TC3 -1.1141 BAU .2157
 RDE -.1629 RRA -.2844 RC3 .8430 FAU .20408
 FDE 1.0118 FRA 6.9818 FC-15.2970 B8P 1366
 BDE .3462 BRA .2719 BC3 1.3971 F8P 2637

MID-COURSE EXECUTION ACCURACY
 SGT 925.2 SGR 840.1 S63 1549.6
 RRT -.2829 RRF -.9559 RTF .3060
 SGB 1249.7 R23 .6596 R13 -.6928
 S61 1006.6 S62 740.6 THA 144.43

ORBIT DETERMINATION ACCURACY
 ST 25.8 SR 16.0 SS 66.0
 CRT .8899 CR8 .7926 C8T .4309
 L8A 68.4 M8A 24.5 S8A .7
 EL1 29.7 EL2 6.4 ALF 30.44

LAUNCH DATE APR 27 1971 FLIGHT TIME 190.00 ARRIVAL DATE NOV 11 1971

HELIOCENTRIC CONIC DISTANCE 480.978 EARTH TO MARS
RL 190.97 LAL -.00 LOL 216.10 VL 32.278 GAL -1.71 AZL 92.91 HCA 159.14 SMA 184.00 ECC .18437 INC 2.9123 V1 29.592
RP 210.82 LAP -1.04 LOP 15.26 VP 23.196 GAP 6.59 AZP 87.28 TAL 348.98 TAP 148.10 RCA 150.14 APO 218.02 V2 26.015
RC 117.545 GL -20.72 GP 8.56 ZAL 114.61 ZAP 112.22 ETS 176.10 ZAE 153.98 ETE 161.53 ZAC 109.77 ETC 275.75 LVI -23.00
PLANETOCENTRIC CONIC
C3 11.639 VHL 3.412 DLA -36.25 RAL 348.85 RAD 6638.9 VEL 11.477 PTH 6.53 VHP 3.215 DPA -11.80 RAP 308.43 ECC 1.1915
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 3 6 2230.54 6.12 55.11 205.31 137.28 19 40 16 1230.8 23.91 38.08
60.00 20 53 33 1936.22 13.51 35.58 212.25 128.34 21 25 49 936.2 27.81 14.83
66.30 23 24 56 1495.21 24.74 7.13 219.90 117.39 23 49 51 495.2 33.77 341.55
66.30 23 24 56 1495.21 24.74 7.13 219.90 117.39 23 49 51 495.2 33.77 341.55
66.30 23 24 56 1495.21 24.74 7.13 219.90 117.39 23 49 51 495.2 33.77 341.55
66.30 23 24 56 1495.21 24.74 7.13 219.90 117.39 23 49 51 495.2 33.77 341.55
66.30 23 24 56 1495.21 24.74 7.13 219.90 117.39 23 49 51 495.2 33.77 341.55
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3025 TRA .0062 TC3-1.2530 BAU .2390 SGT 994.6 SGR 902.7 SG3 1591.7 ST 25.4 SR 16.3 SS 87.1
RDE -.1607 RRA -.2936 RC3 .8887 FAU .20904 RRT -.4336 RRF -.9657 RTF .4569 CRT .8173 CRS .8260 CST .3532
FDE 1.0471 FRA 7.1822 FC-15.5491 BSP 1515 SGB 1343.2 R23 .5588 R13 -.7887 LSA 69.2 MSA 25.0 SSA .7
BDE .3425 BRA .2939 BC3 1.5362 FSP 2715 SG1 1140.6 SG2 709.3 THA 141.31 EL1 29.1 EL2 8.2 ALF 30.40

LAUNCH DATE APR 27 1971 FLIGHT TIME 200.00 ARRIVAL DATE NOV 13 1971

HELIOCENTRIC CONIC DISTANCE 485.151 EARTH TO MARS
RL 150.57 LAL -.00 LOL 216.10 VL 32.270 GAL -1.73 AZL 92.99 HCA 160.36 SMA 183.96 ECC .18390 INC 2.9876 V1 29.592
RP 211.07 LAP -1.00 LOP 16.48 VP 23.154 GAP 6.38 AZP 87.19 TAL 348.83 TAP 149.19 RCA 150.13 APO 217.79 V2 25.986
RC 119.734 GL -29.37 GP 9.17 ZAL 114.65 ZAP 110.10 ETS 176.21 ZAE 151.95 ETE 162.02 ZAC 110.47 ETC 275.96 LVI -23.27
PLANETOCENTRIC CONIC
C3 11.753 VHL 3.420 DLA -36.74 RAL 349.45 RAD 6638.9 VEL 11.482 PTH 6.53 VHP 3.176 DPA -11.42 RAP 307.40 ECC 1.1834
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 9 11 2219.52 6.67 54.64 206.33 137.22 19 46 11 1219.5 24.41 37.52
60.00 21 3 8 1915.78 14.37 34.54 213.53 128.07 21 35 4 915.8 28.51 13.55
65.50 23 23 3 1509.91 24.98 8.46 220.81 117.86 23 48 12 509.9 34.18 342.86
65.50 23 23 3 1509.91 24.98 8.46 220.81 117.86 23 48 12 509.9 34.18 342.86
65.50 23 23 3 1509.91 24.98 8.46 220.81 117.86 23 48 12 509.9 34.18 342.86
65.50 23 23 3 1509.91 24.98 8.46 220.81 117.86 23 48 12 509.9 34.18 342.86
65.50 23 23 3 1509.91 24.98 8.46 220.81 117.86 23 48 12 509.9 34.18 342.86
65.50 23 23 3 1509.91 24.98 8.46 220.81 117.86 23 48 12 509.9 34.18 342.86
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.2998 TRA .0794 TC3-1.3917 BAU .2636 SGT 1090.4 SGR 973.2 SG3 1630.5 ST 25.2 SR 16.8 SS 68.2
RDE -.1592 RRA -.3264 RC3 .9372 FAU .21353 RRT -.5505 RRF -.8737 RTF .5796 CRT .7237 CRS .8577 CST .2681
FDE 1.0872 FRA 7.3746 FC-15.7285 BSP 1729 SGB 1461.5 R23 .4911 R13 -.8419 LSA 70.2 MSA 25.4 SSA .6
BDE .3394 BRA .3359 BC3 1.6779 FSP 2790 SG1 1293.4 SG2 680.6 THA 140.77 EL1 28.5 EL2 10.3 ALF 30.01

LAUNCH DATE APR 27 1971 FLIGHT TIME 202.00 ARRIVAL DATE NOV 15 1971

HELIOCENTRIC CONIC DISTANCE 489.328 EARTH TO MARS
RL 150.57 LAL -.00 LOL 216.10 VL 32.264 GAL -1.75 AZL 93.07 HCA 161.57 SMA 183.85 ECC .18349 INC 3.0722 V1 29.592
RP 211.33 LAP -.97 LOP 17.70 VP 23.111 GAP 6.18 AZP 87.08 TAL 348.68 TAP 150.25 RCA 150.12 APO 217.59 V2 25.957
RC 121.945 GL -30.07 GP 9.84 ZAL 114.68 ZAP 107.97 ETS 176.34 ZAE 149.88 ETE 162.38 ZAC 111.23 ETC 275.37 LVI -23.50
PLANETOCENTRIC CONIC
C3 11.897 VHL 3.449 DLA -37.26 RAL 350.11 RAD 6639.0 VEL 11.488 PTH 6.54 VHP 3.144 DPA -10.97 RAP 306.36 ECC 1.1958
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 19 57 2207.82 7.26 54.14 207.47 137.15 19 52 45 1207.6 24.96 36.91
60.00 21 14 14 1892.25 15.35 33.33 215.00 127.73 21 45 46 892.2 29.30 12.05
64.65 23 21 12 1525.56 25.22 9.87 221.83 118.39 23 48 38 525.6 34.61 344.27
64.65 23 21 12 1525.56 25.22 9.87 221.83 118.39 23 48 38 525.6 34.61 344.27
64.65 23 21 12 1525.56 25.22 9.87 221.83 118.39 23 48 38 525.6 34.61 344.27
64.65 23 21 12 1525.56 25.22 9.87 221.83 118.39 23 48 38 525.6 34.61 344.27
64.65 23 21 12 1525.56 25.22 9.87 221.83 118.39 23 48 38 525.6 34.61 344.27
64.65 23 21 12 1525.56 25.22 9.87 221.83 118.39 23 48 38 525.6 34.61 344.27
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.2977 TRA .1559 TC3-1.5311 BAU .2898 SGT 1210.8 SGR 1032.2 SG3 1664.8 ST 25.2 SR 17.4 SS 69.3
RDE -.1589 RRA -.3887 RC3 .9878 FAU .21728 RRT -.6559 RRF -.9801 RTF .1.37 CRT .8113 CRS .8871 CST .1790
FDE 1.1367 FRA 7.5563 FC-15.8098 BSP 1994 SGB 1604.1 R23 .4403 R13 -.8765 LSA 71.3 MSA 25.9 SSA .6
BDE .3374 BRA .3947 BC3 1.8221 FSP 2856 SG1 1463.2 SG2 657.2 THA 141.06 EL1 28.1 EL2 12.4 ALF 29.13

LAUNCH DATE APR 27 1971 FLIGHT TIME 204.00 ARRIVAL DATE NOV 17 1971

HELIOCENTRIC CONIC DISTANCE 493.507 EARTH TO MARS
RL 150.57 LAL -.00 LOL 216.10 VL 32.259 GAL -1.77 AZL 93.17 HCA 162.78 SMA 183.78 ECC .18317 INC 3.1680 V1 29.592
RP 211.60 LAP -.94 LOP 18.91 VP 23.070 GAP 5.98 AZP 86.97 TAL 348.52 TAP 151.30 RCA 150.11 APO 217.42 V2 25.926
RC 124.177 GL -30.85 GP 10.60 ZAL 114.71 ZAP 108.84 ETS 176.49 ZAE 147.78 ETE 162.63 ZAC 112.04 ETC 275.17 LVI -23.98
PLANETOCENTRIC CONIC
C3 12.075 VHL 3.475 DLA -37.84 RAL 350.83 RAD 6639.1 VEL 11.496 PTH 6.54 VHP 3.116 DPA -10.44 RAP 305.29 ECC 1.1987
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 23 34 2194.53 7.91 53.58 208.77 137.07 20 0 9 1194.5 25.55 36.23
60.00 21 27 25 1864.13 16.52 31.87 216.72 127.30 21 58 29 864.1 30.21 10.23
63.73 23 19 24 1542.38 25.48 11.40 222.98 118.98 23 45 7 542.4 35.08 345.79
63.73 23 19 24 1542.38 25.48 11.40 222.98 118.98 23 45 7 542.4 35.08 345.79
63.73 23 19 24 1542.38 25.48 11.40 222.98 118.98 23 45 7 542.4 35.08 345.79
63.73 23 19 24 1542.38 25.48 11.40 222.98 118.98 23 45 7 542.4 35.08 345.79
63.73 23 19 24 1542.38 25.48 11.40 222.98 118.98 23 45 7 542.4 35.08 345.79
63.73 23 19 24 1542.38 25.48 11.40 222.98 118.98 23 45 7 542.4 35.08 345.79
63.73 23 19 24 1542.38 25.48 11.40 222.98 118.98 23 45 7 542.4 35.08 345.79
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.2956 TRA .2360 TC3-1.6677 BAU .3175 SGT 1350.4 SGR 1140.2 SG3 1692.8 ST 25.5 SR 18.2 SS 70.2
RDE -.1591 RRA -.4025 RC3 1.0425 FAU .22060 RRT -.7312 RRF -.9851 RTF .7456 CRT .4829 CRS .9123 CST .0833
FDE 1.1788 FRA 7.7112 FC-15.8164 BSP 2302 SGB 1767.4 R23 .3977 R13 -.9020 LSA 72.3 MSA 26.4 SSA .5
BDE .3358 BRA .4666 BC3 1.9667 FSP 2908 SG1 1648.6 SG2 637.1 THA 141.55 EL1 27.7 EL2 14.7 ALF 27.30

LAUNCH DATE APR 27 1971

FLIGHT TIME 206.00

ARRIVAL DATE NOV 19 1971

HELIOCENTRIC CONIC
 RL 150.57 LAL -.00 LOL 216.10 VL 32.284 GAL -1.79 AZL 93.26 HCA 163.99 SMA 183.69 ECC .18291 INC 3.2774 V1 29.592
 RP 211.87 LAP -.80 LOP 20.12 VP 23.029 GAP 5.79 AZP 86.85 TAL 348.35 TAP 132.34 RCA 150.09 APO 217.29 V2 23.896
 RC 126.431 GL -31.72 GP 11.45 ZAL 114.72 ZAP 103.71 ETS 176.67 ZAE 145.61 ETE 162.77 ZAC 113.01 ETC 274.98 LVI -24.45

PLANETOCENTRIC CONIC
 C3 12.293 VHL 3.506 DLA -38.49 RAL 351.63 RAD 6639.2 VEL 11.505 PTH 6.55 VHP 3.095 DPA -9.81 RAP 304.21 ECC 1.2023
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 32 16 2179.83 8.65 52.95 210.26 136.97 20 8 36 1179.8 26.21 35.46
 60.00 21 43 46 1828.72 17.97 30.00 210.81 126.70 22 14 15 928.7 31.32 7.89
 62.72 23 17 39 1580.56 25.75 13.06 224.28 119.66 23 43 39 560.6 35.60 347.47
 62.72 23 17 39 1580.56 25.75 13.06 224.28 119.66 23 43 39 560.6 35.60 347.47
 62.72 23 17 39 1580.56 25.75 13.06 224.28 119.66 23 43 39 560.6 35.60 347.47
 62.72 23 17 39 1580.56 25.75 13.06 224.28 119.66 23 43 39 560.6 35.60 347.47

DIFFERENTIAL CORRECTIONS
 TDE -.2951 TRA .3188 TC3-1.8016 BAU .3468
 RDE -.1610 RRA -.4475 RC3 1.1002 FAU .22315
 FDE 1.2309 FRA 7.8909 FC-15.7151 B8P 2641
 BDE .3362 BRA .5495 BC3 2.1110 F8P 2952

MID-COURSE EXECUTION ACCURACY
 SGT 1507.3 SGR 1239.8 SG3 1715.3
 RRT -.7885 RRF -.9890 RTF .7975
 SGB 1931.7 R23 .3632 R13 -.9209
 SG1 1849.2 SG2 624.1 THA 142.02

ORBIT DETERMINATION ACCURACY
 ST 26.2 SR 19.3 SS 71.2
 CRT .3474 CR8 .9342 CST -.0089
 LSA 73.4 MSA 27.0 SSA .5
 EL1 27.8 EL2 17.1 ALF 24.06

LAUNCH DATE APR 27 1971

FLIGHT TIME 208.00

ARRIVAL DATE NOV 21 1971

HELIOCENTRIC CONIC
 RL 150.57 LAL -.00 LOL 216.10 VL 32.250 GAL -1.82 AZL 93.40 HCA 165.20 SMA 183.63 ECC .18272 INC 3.4041 V1 29.592
 RP 212.14 LAP -.87 LOP 21.32 VP 22.988 GAP 5.59 AZP 86.71 TAL 348.16 TAP 153.36 RCA 150.08 APO 217.10 V2 25.864
 RC 128.706 GL -32.69 GP 12.41 ZAL 114.71 ZAP 101.59 ETS 176.89 ZAE 143.43 ETE 162.79 ZAC 114.05 ETC 274.79 LVI -25.02

PLANETOCENTRIC CONIC
 C3 12.561 VHL 3.544 DLA -39.22 RAL 352.54 RAD 6639.3 VEL 11.517 PTH 6.56 VHP 3.081 DPA -9.06 RAP 303.11 ECC 1.2067
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 42 21 2182.94 9.49 52.23 211.99 136.85 20 18 24 1162.9 26.97 34.56
 60.00 22 5 38 1779.83 19.94 27.37 221.45 125.78 22 35 18 779.8 32.77 4.56
 61.61 23 15 53 1580.51 26.03 14.91 225.76 120.44 23 42 13 580.5 36.17 349.33
 61.61 23 15 53 1580.51 26.03 14.91 225.76 120.44 23 42 13 580.5 36.17 349.33
 61.61 23 15 53 1580.51 26.03 14.91 225.76 120.44 23 42 13 580.5 36.17 349.33
 61.61 23 15 53 1580.51 26.03 14.91 225.76 120.44 23 42 13 580.5 36.17 349.33

DIFFERENTIAL CORRECTIONS
 TDE -.2941 TRA .4080 TC3-1.9274 BAU .3777
 RDE -.1641 RRA -.4981 RC3 1.1598 FAU .22451
 FDE 1.2801 FRA 7.9624 FC-15.4744 B8P 3020
 BDE .3368 BRA .6426 BC3 2.2494 F8P 2987

MID-COURSE EXECUTION ACCURACY
 SGT 1676.4 SGR 1351.5 SG3 1729.5
 RRT -.8287 RRF -.9920 RTF .8368
 SGB 2153.4 R23 .3326 R13 -.9350
 SG1 2063.9 SG2 614.4 THA 142.34

ORBIT DETERMINATION ACCURACY
 ST 27.0 SR 20.5 SS 72.0
 CRT .2068 CR8 .9521 CST -.1014
 LSA 74.6 MSA 27.6 SSA .5
 EL1 27.7 EL2 19.6 ALF 18.22

LAUNCH DATE APR 27 1971

FLIGHT TIME 210.00

ARRIVAL DATE NOV 23 1971

HELIOCENTRIC CONIC
 RL 150.57 LAL -.00 LOL 216.10 VL 32.247 GAL -1.85 AZL 93.55 HCA 166.40 SMA 183.98 ECC .18259 INC 3.5521 V1 29.592
 RP 212.43 LAP -.83 LOP 22.53 VP 22.947 GAP 5.40 AZP 86.55 TAL 347.96 TAP 154.36 RCA 150.06 APO 217.10 V2 25.832
 RC 130.999 GL -33.80 GP 13.52 ZAL 114.68 ZAP 99.49 ETS 177.14 ZAE 141.20 ETE 162.71 ZAC 115.24 ETC 274.61 LVI -25.72

PLANETOCENTRIC CONIC
 C3 12.890 VHL 3.590 DLA -40.06 RAL 353.56 RAD 6639.5 VEL 11.531 PTH 6.58 VHP 3.073 DPA -8.16 RAP 302.00 ECC 1.2121
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 54 18 2143.07 10.47 51.37 214.04 136.68 20 29 59 1143.1 27.85 33.48
 60.00 22 42 30 1691.61 23.37 22.43 225.39 123.82 23 10 42 691.6 35.13 358.26
 60.36 23 14 10 1602.48 26.33 16.96 227.48 121.35 23 40 52 602.5 36.80 351.42
 60.36 23 14 10 1602.48 26.33 16.96 227.48 121.35 23 40 52 602.5 36.80 351.42
 60.36 23 14 10 1602.48 26.33 16.96 227.48 121.35 23 40 52 602.5 36.80 351.42
 60.36 23 14 10 1602.48 26.33 16.96 227.48 121.35 23 40 52 602.5 36.80 351.42

DIFFERENTIAL CORRECTIONS
 TDE -.2944 TRA .4987 TC3-2.0419 BAU .4104
 RDE -.1696 RRA -.5557 RC3 1.2250 FAU .22540
 FDE 1.3391 FRA 8.0412 FC-15.1380 B8P 3423
 BDE .3397 BRA .7434 BC3 2.3812 F8P 2998

MID-COURSE EXECUTION ACCURACY
 SGT 1855.5 SGR 1479.7 SG3 1736.2
 RRT -.8605 RRF -.9943 RTF .8362
 SGB 2373.3 R23 .3052 R13 -.9466
 SG1 2293.6 SG2 610.0 THA 142.43

ORBIT DETERMINATION ACCURACY
 ST 28.2 SR 22.1 SS 72.7
 CRT .0723 CR8 .9665 CST -.1893
 LSA 75.9 MSA 28.3 SSA .4
 EL1 28.4 EL2 21.9 ALF 8.08

LAUNCH DATE APR 27 1971

FLIGHT TIME 212.00

ARRIVAL DATE NOV 25 1971

HELIOCENTRIC CONIC
 RL 150.57 LAL -.00 LOL 216.10 VL 32.245 GAL -1.88 AZL 93.73 HCA 167.60 SMA 183.54 ECC .18253 INC 3.7279 V1 29.592
 RP 212.72 LAP -.80 LOP 23.73 VP 22.907 GAP 5.22 AZP 86.36 TAL 347.74 TAP 155.34 RCA 150.04 APO 217.05 V2 25.799
 RC 133.312 GL -35.07 GP 14.81 ZAL 114.56 ZAP 97.41 ETS 177.44 ZAE 138.93 ETE 162.50 ZAC 116.60 ETC 274.43 LVI -26.59

PLANETOCENTRIC CONIC
 C3 13.301 VHL 3.647 DLA -41.02 RAL 354.75 RAD 6639.7 VEL 11.548 PTH 6.59 VHP 3.073 DPA -7.08 RAP 300.88 ECC 1.2189
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 8 44 2118.99 11.86 50.32 216.51 136.46 20 44 3 1119.0 28.90 32.16
 58.95 23 12 31 1826.92 26.65 19.27 229.48 122.42 23 39 38 626.9 37.52 353.79
 58.95 23 12 31 1826.92 26.65 19.27 229.48 122.42 23 39 38 626.9 37.52 353.79
 58.95 23 12 31 1826.92 26.65 19.27 229.48 122.42 23 39 38 626.9 37.52 353.79
 58.95 23 12 31 1826.92 26.65 19.27 229.48 122.42 23 39 38 626.9 37.52 353.79
 58.95 23 12 31 1826.92 26.65 19.27 229.48 122.42 23 39 38 626.9 37.52 353.79

DIFFERENTIAL CORRECTIONS
 TDE -.2948 TRA .5918 TC3-2.1415 BAU .4448
 RDE -.1788 RRA -.6221 RC3 1.2924 FAU .22487
 FDE 1.4123 FRA 8.0819 FC-14.6371 B8P 3868
 BDE .3448 BRA .8587 BC3 2.5013 F8P 2999

MID-COURSE EXECUTION ACCURACY
 SGT 2042.9 SGR 1626.6 SG3 1732.6
 RRT -.8844 RRF -.9960 RTF .8883
 SGB 2611.4 R23 .2808 R13 -.9558
 SG1 2538.9 SG2 610.8 THA 142.28

ORBIT DETERMINATION ACCURACY
 ST 29.7 SR 24.0 SS 73.3
 CRT -.0522 CR8 .9777 CST -.2600
 LSA 77.4 MSA 29.1 SSA .4
 EL1 29.8 EL2 23.9 ALF 173.17

LAUNCH DATE APR 27 1971

FLIGHT TIME 214.00

ARRIVAL DATE NOV 27 1971

HELIOCENTRIC CONIC

RL 150.57 LAL -.00 LOL 216.10 VL 32.244 GAL -1.92 AZL 93.94 HCA 169.80 SMA 183.52 ECC .10253 INC 3.9399 V1 29.592
RP 213.01 LAP -.76 LOP 24.92 VP 22.868 GAP 5.03 AZP 86.13 TAL 347.52 TAP 156.31 RCA 150.02 APO 217.02 V2 25.766
RC 135.843 GL -36.56 GP 16.33 ZAL 114.39 ZAP 95.36 ETS 177.81 ZAE 136.61 ETE 162.15 ZAC 118.18 ETC 274.26 LVI -27.66

DISTANCE 514.426

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 13.820 VHL 3.717 DLA -42.16 RAL 356.10 RAD 6640.0 VEL 11.571 PTH 6.61 VHP 3.084 DPA -5.76 RAP 299.74 ECC 1.2274
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 26 50 2088.73 13.15 48.99 219.60 136.15 21 1 39 1088.7 30.20 30.45
57.33 23 11 2 1654.39 26.99 21.90 231.85 123.70 23 38 36 654.4 38.34 356.52
57.33 23 11 2 1654.39 26.99 21.90 231.85 123.70 23 38 36 654.4 38.34 356.52
57.33 23 11 2 1654.39 26.99 21.90 231.85 123.70 23 38 36 654.4 38.34 356.52
57.33 23 11 2 1654.39 26.99 21.90 231.85 123.70 23 38 36 654.4 38.34 356.52
57.33 23 11 2 1654.39 26.99 21.90 231.85 123.70 23 38 36 654.4 38.34 356.52

DIFFERENTIAL CORRECTIONS

TDE -.2964 TRA .6906 TC3-2.2234 BAU .4820
RDE -.1918 RRA -.6992 RC3 1.3652 FAU .22343
FDE 1.4873 FRA 8.0897 FC-13.9968 B8P 4332
BDE .3330 BRA .9828 BC3 2.6090 F8P 2973

MID-COURSE EXECUTION ACCURACY

SGT 2236.7 SGR 1797.5 SCS 1717.2
RRF -.9029 RRF -.9973 RTF .9053
SGB 2869.5 R23 .2584 R13 -.9633
SG2 2802.4 SG2 618.6 THA 141.86

ORBIT DETERMINATION ACCURACY

ST 31.5 SR 26.4 SS 73.8
CRT -.1635 CR8 .9859 CST -.3257
LSA 79.0 M8A 30.0 S8A .3
EL1 32.3 EL2 25.4 ALF 158.70

LAUNCH DATE APR 27 1971

FLIGHT TIME 216.00

ARRIVAL DATE NOV 29 1971

HELIOCENTRIC CONIC

RL 150.57 LAL -.00 LOL 216.10 VL 32.243 GAL -1.95 AZL 94.20 HCA 169.99 SMA 183.81 ECC .10258 INC 4.2009 V1 29.592
RP 213.31 LAP -.73 LOP 26.11 VP 22.828 GAP 4.85 AZP 85.86 TAL 347.28 TAP 157.27 RCA 150.00 APO 217.01 V2 25.732
RC 137.991 GL -38.33 GP 18.15 ZAL 114.12 ZAP 93.36 ETS 178.25 ZAE 134.22 ETE 161.63 ZAC 120.06 ETC 274.12 LVI -29.02

DISTANCE 518.612

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.492 VHL 3.807 DLA -43.50 RAL 357.73 RAD 6640.3 VEL 11.599 PTH 6.64 VHP 3.106 DPA -4.13 RAP 298.58 ECC 1.2385
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 50 36 2048.59 15.11 47.20 223.59 135.67 21 24 45 1048.6 31.88 28.10
55.45 23 9 52 1685.61 27.33 24.93 234.72 125.27 23 37 58 685.6 39.26 359.72
55.45 23 9 52 1685.61 27.33 24.93 234.72 125.27 23 37 58 685.6 39.26 359.72
55.45 23 9 52 1685.61 27.33 24.93 234.72 125.27 23 37 58 685.6 39.26 359.72
55.45 23 9 52 1685.61 27.33 24.93 234.72 125.27 23 37 58 685.6 39.26 359.72
55.45 23 9 52 1685.61 27.33 24.93 234.72 125.27 23 37 58 685.6 39.26 359.72

DIFFERENTIAL CORRECTIONS

TDE -.2986 TRA .7937 TC3-2.2809 BAU .5228
RDE -.2117 RRA -.7899 RC3 1.4399 FAU .22028
FDE 1.5804 FRA 7.9881 FC-13.1592 B8P 4832
BDE .3660 BRA 1.1198 BC3 2.6974 F8P 2922

MID-COURSE EXECUTION ACCURACY

SGT 2435.2 SGR 1997.4 SCS 1886.0
RRF -.9169 RRF -.9982 RTF .9181
SGB 3149.6 R23 .2379 R13 -.9695
SG1 3086.1 SG2 829.0 THA 141.14

ORBIT DETERMINATION ACCURACY

ST 33.5 SR 29.3 SS 74.1
CRT -.2581 CR8 .9917 CST -.3798
LSA 80.7 M8A 31.0 S8A .3
EL1 35.7 EL2 26.6 ALF 148.61

LAUNCH DATE APR 27 1971

FLIGHT TIME 216.00

ARRIVAL DATE DEC 1 1971

HELIOCENTRIC CONIC

RL 150.57 LAL -.00 LOL 216.10 VL 32.243 GAL -1.99 AZL 94.53 HCA 171.18 SMA 183.50 ECC .10269 INC 4.5310 V1 29.592
RP 213.61 LAP -.69 LOP 27.30 VP 7.789 GAP 4.67 AZP 85.32 TAL 347.03 TAP 158.21 RCA 149.98 APO 217.02 V2 25.697
RC 140.356 GL -40.46 GP 20.37 ZAL 113.71 ZAP 91.42 ETS 178.79 ZAE 131.73 ETE 160.93 ZAC 122.34 ETC 273.99 LVI -30.73

DISTANCE 522.797

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.391 VHL 3.923 DLA -45.13 RAL 359.74 RAD 6640.7 VEL 11.638 PTH 6.68 VHP 3.146 DPA -2.09 RAP 297.40 ECC 1.2533
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 21 24 29 1889.84 17.98 44.51 229.15 134.83 21 57 39 989.8 34.25 24.50
93.24 23 9 17 1721.67 27.66 28.48 238.27 127.20 23 37 59 721.7 40.32 3.53
93.24 23 9 17 1721.67 27.66 28.48 238.27 127.20 23 37 59 721.7 40.32 3.53
93.24 23 9 17 1721.67 27.66 28.48 238.27 127.20 23 37 59 721.7 40.32 3.53
93.24 23 9 17 1721.67 27.66 28.48 238.27 127.20 23 37 59 721.7 40.32 3.53
93.24 23 9 17 1721.67 27.66 28.48 238.27 127.20 23 37 59 721.7 40.32 3.53

DIFFERENTIAL CORRECTIONS

TDE -.2979 TRA .9040 TC3-2.3008 BAU .5665
RDE -.2446 RRA -.9000 RC3 1.5124 FAU .21460
FDE 1.7144 FRA 7.8315 FC-12.0782 B8P 5395
BDE .3855 BRA 1.2758 BC3 2.7532 F8P 2843

MID-COURSE EXECUTION ACCURACY

SGT 2636.2 SGR 2237.6 SCS 1836.7
RRF -.9278 RRF -.9989 RTF .5.81
SGB 3457.8 R23 .2181 R13 -.9748
SG1 3398.6 SG2 647.8 THA 140.03

ORBIT DETERMINATION ACCURACY

ST 35.6 SR 33.2 SS 74.5
CRT -.3387 CR8 .9957 CST -.4245
LSA 83.0 M8A 32.0 S8A .2
EL1 39.8 EL2 27.9 ALF 140.83

LAUNCH DATE APR 27 1971

FLIGHT TIME 220.00

ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC

RL 150.57 LAL -.00 LOL 216.10 VL 32.243 GAL -2.03 AZL 94.98 HCA 172.36 SMA 183.51 ECC .10285 INC 4.9605 V1 29.592
RP 213.92 LAP -.66 LOP 28.49 VP 22.750 GAP 4.49 AZP 85.08 TAL 346.77 TAP 159.13 RCA 149.95 APO 217.06 V2 25.662
RC 142.739 GL -43.08 GP 23.13 ZAL 113.10 ZAP 89.57 ETS 179.46 ZAE 129.09 ETE 159.98 ZAC 125.16 ETC 273.91 LVI -32.95

DISTANCE 526.981

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.648 VHL 4.080 DLA -47.12 RAL 362.29 RAD 6641.3 VEL 11.691 PTH 6.73 VHP 3.212 DPA .50 RAP 296.18 ECC 1.2740
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 26 56 1871.28 23.54 38.77 238.57 132.62 22 58 7 871.3 38.63 18.56
50.60 23 9 53 1763.96 27.91 32.68 242.80 129.64 23 39 17 764.0 41.49 8.18
50.60 23 9 53 1763.96 27.91 32.68 242.80 129.64 23 39 17 764.0 41.49 8.18
50.60 23 9 53 1763.96 27.91 32.68 242.80 129.64 23 39 17 764.0 41.49 8.18
50.60 23 9 53 1763.96 27.91 32.68 242.80 129.64 23 39 17 764.0 41.49 8.18
50.60 23 9 53 1763.96 27.91 32.68 242.80 129.64 23 39 17 764.0 41.49 8.18

DIFFERENTIAL CORRECTIONS

TDE -.2981 TRA 1.0153 TC3-2.2882 BAU .6207
RDE -.2938 RRA-1.0293 RC3 1.5944 FAU .20831
FDE 1.8600 FRA 7.5147 FC-10.8329 B8P 5919
BDE .4185 BRA 1.4457 BC3 2.7889 F8P 2876

MID-COURSE EXECUTION ACCURACY

SGT 2837.4 SGR 2524.7 SCS 1558.6
RRF -.9362 RRF -.9993 RTF .9358
SGB 3798.0 R23 .1992 R13 -.9793
SG1 3737.8 SG2 673.7 THA 138.56

ORBIT DETERMINATION ACCURACY

ST 37.9 SR 38.0 SS 74.1
CRT -.3996 CR8 .9980 CST -.4562
LSA 85.3 M8A 33.2 S8A .2
EL1 44.9 EL2 29.4 ALF 134.73

LAUNCH DATE APR 27 1971

FLIGHT TIME 222.00

ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC

RL 150.57 LAL -.00 LOL 216.10 VL 32.244 GAL -2.08 AZL 95.55 HCA 173.84 SMA 183.52 ECC .18306 INC 5.5462 V1 29.592
RP 214.24 LAP -.02 LOP 29.07 VP 22.711 GAP 4.32 AZP 84.49 TAL 346.50 TAP 180.04 RCA 149.93 APO 217.12 V2 25.627
RC 145.139 GL -46.38 GP 26.86 ZAL 112.19 ZAP 87.85 ETS 180.32 ZAE 126.23 ETE 158.73 ZAC 128.73 ETC 273.88 LVI -35.84

PLANETOCENTRIC CONIC

C3 18.510 VHL 4.302 DLA -49.57 RAL 5.69 RAD 6642.2 VEL 11.770 PTH 6.80 VHP 3.318 DPA 3.06 RAP 294.89 ECC 1.3046
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
47.42 23 12 41 1814.92 27.97 37.74 248.78 132.76 23 42 56 814.9 42.72 14.01
47.42 23 12 41 1814.92 27.97 37.74 248.78 132.76 23 42 56 814.9 42.72 14.01
47.42 23 12 41 1814.92 27.97 37.74 248.78 132.76 23 42 56 814.9 42.72 14.01
47.42 23 12 41 1814.92 27.97 37.74 248.78 132.76 23 42 56 814.9 42.72 14.01
47.42 23 12 41 1814.92 27.97 37.74 248.78 132.76 23 42 56 814.9 42.72 14.01
47.42 23 12 41 1814.92 27.97 37.74 248.78 132.76 23 42 56 814.9 42.72 14.01

DIFFERENTIAL CORRECTIONS

TDE -.2760 TRA 1.1444 TC3-2.1989 BAU .6783
RDE -.3932 RRA-1.1993 RC3 1.6393 FAU .19487
PDE 2.1498 FRA 7.0800 FC3-9.1141 B8P 6658
BDE .4804 BRA 1.6577 BC3 2.7411 F8P 2508

MID-COURSE EXECUTION ACCURACY

SGT 3030.3 SGR 2886.1 SG3 1448.6
RRF -.9422 RRF -.9998 RTF .9411
SGB 4190.6 R23 .1810 R13 -.9831
SG1 4129.8 SG2 711.5 THA 136.56

ORBIT DETERMINATION ACCURACY

ST 39.8 SR 45.3 SS 74.9
CRT -.4379 CR8 .9994 CST -.4892
LSA 90.0 MSA 34.0 BSA .1
EL1 51.8 EL2 31.0 ALF 127.13

LAUNCH DATE APR 27 1971

FLIGHT TIME 224.00

ARRIVAL DATE DEC 7 1971

HELIOCENTRIC CONIC

RL 150.57 LAL -.00 LOL 216.10 VL 32.245 GAL -2.12 AZL 96.39 HCA 174.72 SMA 183.55 ECC .18332 INC 6.3883 V1 29.592
RP 214.55 LAP -.59 LOP 30.85 VP 22.873 GAP 4.14 AZP 83.64 TAL 346.22 TAP 180.94 RCA 149.90 APO 217.19 V2 25.591
RC 147.555 GL -50.64 GP 31.28 ZAL 110.84 ZAP 86.34 ETS 181.40 ZAE 123.02 ETE 157.10 ZAC 133.38 ETC 273.96 LVI -39.69

PLANETOCENTRIC CONIC

C3 21.513 VHL 4.638 DLA -52.63 RAL 10.52 RAD 6643.5 VEL 11.896 PTH 6.91 VHP 3.499 DPA 6.31 RAP 293.50 ECC 1.3540
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
43.57 23 19 55 1878.52 27.55 43.90 257.02 136.79 23 51 13 878.5 43.82 21.52
43.57 23 19 55 1878.52 27.55 43.90 257.02 136.79 23 51 13 878.5 43.82 21.52
43.57 23 19 55 1878.52 27.55 43.90 257.02 136.79 23 51 13 878.5 43.82 21.52
43.57 23 19 55 1878.52 27.55 43.90 257.02 136.79 23 51 13 878.5 43.82 21.52
43.57 23 19 55 1878.52 27.55 43.90 257.02 136.79 23 51 13 878.5 43.82 21.52
43.57 23 19 55 1878.52 27.55 43.90 257.02 136.79 23 51 13 878.5 43.82 21.52

DIFFERENTIAL CORRECTIONS

TDE -.2221 TRA 1.2787 TC3-2.0385 BAU .7585
RDE -.5749 RRA-1.4019 RC3 1.6733 FAU .17854
PDE 2.5196 FRA 6.3199 FC3-7.1847 B8P 7329
BDE .6163 BRA 1.8975 BC3 2.6373 F8P 2185

MID-COURSE EXECUTION ACCURACY

SGT 3220.5 SGR 3324.8 SG3 1280.2
RRF -.9470 RRF -.9998 RTF .9453
SGB 4634.4 R23 .1824 R13 -.9865
SG1 4572.6 SG2 754.1 THA 134.11

ORBIT DETERMINATION ACCURACY

ST 41.5 SR 55.7 SS 75.0
CRT -.5156 CR8 .9999 CST -.5273
LSA 96.3 MSA 34.3 BSA .1
EL1 61.5 EL2 32.2 ALF 119.96

LAUNCH DATE APR 27 1971

FLIGHT TIME 226.00

ARRIVAL DATE DEC 9 1971

HELIOCENTRIC CONIC

RL 150.57 LAL -.00 LOL 216.10 VL 32.247 GAL -2.17 AZL 97.71 HCA 175.69 SMA 183.58 ECC .18362 INC 7.7072 V1 29.592
RP 214.88 LAP -.55 LOP 32.03 VP 22.835 GAP 3.97 AZP 82.31 TAL 345.94 TAP 181.83 RCA 149.87 APO 217.29 V2 25.554
RC 149.988 GL -56.30 GP 37.48 ZAL 108.83 ZAP 85.21 ETS 182.78 ZAE 119.24 ETE 155.01 ZAC 139.58 ETC 274.27 LVI -44.86

PLANETOCENTRIC CONIC

C3 26.993 VHL 5.195 DLA -56.38 RAL 17.97 RAD 6645.8 VEL 12.122 PTH 7.09 VHP 3.832 DPA 14.31 RAP 291.95 ECC 1.4442
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
38.96 23 36 29 1962.28 26.04 51.39 269.00 141.96 24 9 12 962.3 44.18 31.35
38.96 23 36 29 1962.28 26.04 51.39 269.00 141.96 24 9 12 962.3 44.18 31.35
38.96 23 36 29 1962.28 26.04 51.39 269.00 141.96 24 9 12 962.3 44.18 31.35
38.96 23 36 29 1962.28 26.04 51.39 269.00 141.96 24 9 12 962.3 44.18 31.35
38.96 23 36 29 1962.28 26.04 51.39 269.00 141.96 24 9 12 962.3 44.18 31.35
38.96 23 36 29 1962.28 26.04 51.39 269.00 141.96 24 9 12 962.3 44.18 31.35

DIFFERENTIAL CORRECTIONS

TDE -.0434 TRA 1.4429 TC3-1.7587 BAU .8624
RDE -1.0017 RRA-1.8662 RC3 1.8181 FAU .13139
PDE 3.1423 FRA 5.1979 FC3-4.8353 B8P 8213
BDE 1.0026 BRA 2.2040 BC3 2.3898 F8P 1768

MID-COURSE EXECUTION ACCURACY

SGT 3403.8 SGR 3680.8 SG3 1039.1
RRF -.9500 RRF -.9999 RTF .5-73
SGB 5163.4 R23 .1451 R13 -.9893
SG1 5099.5 SG2 809.4 THA 131.08

ORBIT DETERMINATION ACCURACY

ST 43.3 SR 74.4 SS 77.1
CRT -.6278 CR8 1.0000 CST -.6256
LSA 110.8 MSA 32.8 BSA .1
EL1 80.2 EL2 31.2 ALF 113.90

LAUNCH DATE APR 27 1971

FLIGHT TIME 228.00

ARRIVAL DATE DEC 11 1971

HELIOCENTRIC CONIC

RL 150.57 LAL -.00 LOL 216.10 VL 32.250 GAL -2.22 AZL 100.06 HCA 177.05 SMA 183.62 ECC .18396 INC10.0614 V1 29.592
RP 215.21 LAP -.51 LOP 33.20 VP 22.597 GAP 3.80 AZP 79.95 TAL 345.65 TAP 182.70 RCA 149.84 APO 217.40 V2 25.518
RC 152.438 GL -64.08 GP 45.75 ZAL 105.79 ZAP 84.73 ETS 184.40 ZAE 114.64 ETE 152.40 ZAC 147.86 ETC 275.14 LVI -51.69

PLANETOCENTRIC CONIC

C3 39.201 VHL 6.281 DLA -60.62 RAL 30.81 RAD 6650.4 VEL 12.612 PTH 7.47 VHP 4.530 DPA 22.44 RAP 290.20 ECC 1.6451
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
33.86 0 18 22 2081.64 21.97 60.04 287.67 148.06 0 53 3 1081.6 42.20 43.73
33.86 0 18 22 2081.64 21.97 60.04 287.67 148.06 0 53 3 1081.6 42.20 43.73
33.86 0 18 22 2081.64 21.97 60.04 287.67 148.06 0 53 3 1081.6 42.20 43.73
33.86 0 18 22 2081.64 21.97 60.04 287.67 148.06 0 53 3 1081.6 42.20 43.73
33.86 0 18 22 2081.64 21.97 60.04 287.67 148.06 0 53 3 1081.6 42.20 43.73
33.86 0 18 22 2081.64 21.97 60.04 287.67 148.06 0 53 3 1081.6 42.20 43.73

DIFFERENTIAL CORRECTIONS

TDE .5122 TRA 1.6325 TC3-1.3637 BAU 1.0461
RDE -2.1111 RRA-1.9572 RC3 1.4577 FAU .11405
PDE 3.8495 FRA 3.4748 FC3-2.5187 B8P 8733
BDE 2.1723 BRA 2.5487 BC3 1.9981 F8P 1119

MID-COURSE EXECUTION ACCURACY

SGT 3522.6 SGR 4515.7 SG3 693.2
RRF -.9517 RRF -.9999 RTF .9474
SGB 5727.1 R23 .1303 R13 -.9914
SG1 5661.8 SG2 862.2 THA 127.61

ORBIT DETERMINATION ACCURACY

ST 51.4 SR 111.1 SS 78.8
CRT -.8358 CR8 .9999 CST -.8295
LSA 143.0 MSA 27.0 BSA .0
EL1 119.5 EL2 26.0 ALF 112.26

LAUNCH DATE APR 27 1971 FLIGHT TIME 236.00 ARRIVAL DATE DEC 21 1971

DISTANCE 564.661 EARTH TO MARS

RL 150.57 LAL -.00 LOL 216.10 VL 32.269 GAL -2.52 AZL 83.48 HCA 182.92 SMA 103.93 ECC .18643 INC 6.5184 V1 20.592
 RP 216.91 LAP -.33 LOP 39.00 VP 22.409 GAP 2.98 AZP 96.51 TAL 343.87 TAP 166.79 RCA 149.64 APO 218.22 V2 25.327
 RC 184.912 GL 49.97 GP -45.20 ZAL 113.05 ZAP 79.16 ETS 167.70 ZAE 108.00 ETE 199.58 ZAC 57.21 ETC 272.19 LVI 31.80

PLANETOCENTRIC CONIC

C3 22.875 VHL 4.783 DLA 39.08 RAL 322.63 RAD 6644.1 VEL 11.952 PTH 6.95 VHP 4.571 DPA -67.00 RAP 312.41 ECC 1.3765

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	11 19 37	4027.35	-42.39	176.68	218.20	65.99	12 26 45	3027.3	-47.57	143.03
60.00	10 18 26	4191.88	-28.53	182.74	209.61	60.24	11 28 18	3191.9	-38.11	156.20
61.84	9 19 49	4358.58	-20.97	191.59	204.47	56.26	10 32 27	3358.6	-32.93	168.09
61.84	9 19 49	4358.58	-20.97	191.59	204.47	56.26	10 32 27	3358.6	-32.93	168.09
61.84	9 19 49	4358.58	-20.97	191.59	204.47	56.26	10 32 27	3358.6	-32.93	168.09
61.84	9 19 49	4358.58	-20.97	191.59	204.47	56.26	10 32 27	3358.6	-32.93	168.09
61.84	9 19 49	4358.58	-20.97	191.59	204.47	56.26	10 32 27	3358.6	-32.93	168.09

DIFFERENTIAL CORRECTIONS

TDE 2.9408 TRA 1.0086 TC3-2.7236 BAU 1.0386 SGT 4649.7 SGR 4350.3 SCS 876.7 ST 177.7 SR 155.1 SS 107.6
 RDE 2.3135 RRA 1.5997 RC3-2.0289 FAU .09784 RRT .9643 RRF .9997 RTF .9593 CRT .9940 CRS -.9999 CST -.9924
 FDE 4.4021 FRA 2.9690 FC3-3.7028 BSP 9978 SGB 6367.5 R23 .1599 R13 .9869 LSA 258.8 MSA 14.8 SSA .1
 BDE 3.8666 BRA 1.8911 BC3 3.3962 FSP 1146 SGI 6310.6 SG2 849.2 THA 43.02 EL1 235.5 EL2 12.8 ALF 41.08

LAUNCH DATE APR 27 1971 FLIGHT TIME 240.00 ARRIVAL DATE DEC 23 1971

DISTANCE 568.816 EARTH TO MARS

RL 150.57 LAL -.00 LOL 216.10 VL 32.274 GAL -2.58 AZL 85.83 HCA 184.07 SMA 104.01 ECC .18702 INC 6.1671 V1 20.592
 RP 217.26 LAP -.30 LOP 40.15 VP 22.372 GAP 2.82 AZP 94.16 TAL 343.52 TAP 167.59 RCA 149.60 APO 218.43 V2 25.288
 RC 167.446 GL 36.25 GP -36.68 ZAL 118.74 ZAP 75.97 ETS 168.21 ZAE 109.10 ETE 195.35 ZAC 65.76 ETC 271.82 LVI 24.36

PLANETOCENTRIC CONIC

C3 15.722 VHL 3.965 DLA 26.55 RAL 329.40 RAD 6640.9 VEL 11.652 PTH 6.69 VHP 3.901 DPA -59.15 RAP 304.81 ECC 1.2587

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	13 9 14	3625.51	-47.47	139.97	207.29	93.64	14 9 40	2625.5	-40.52	107.82
60.00	13 13 12	3614.95	-40.23	139.11	207.38	87.36	14 13 27	2615.0	-36.88	108.50
70.00	13 20 12	3594.31	-33.28	136.62	206.56	81.86	14 20 6	2594.3	-33.19	107.88
80.00	13 36 19	3543.71	-27.21	131.50	205.27	77.22	14 35 22	2543.7	-29.84	104.38
90.00	14 26 52	3380.35	-24.21	118.68	204.44	74.92	15 23 13	2380.3	-28.16	92.36
100.00	16 19 11	3018.18	-27.21	92.86	205.27	77.22	17 9 29	2018.2	-29.84	65.75
110.00	18 19 38	2641.13	-33.28	65.54	206.56	81.86	19 3 39	1641.1	-33.19	36.80

DIFFERENTIAL CORRECTIONS

TDE 2.1164 TRA 1.3393 TC3-3.8922 BAU .9456 SGT 4853.9 SGR 3656.1 SCS 994.1 ST 156.4 SR 113.7 SS 117.2
 RDE 1.4981 RRA 1.4509 RC3-2.2559 FAU .13044 RRT .9694 RRF .9997 RTF .9686 CRT .9944 CRS -.9999 CST -.9928
 FDE 4.5496 FRA 4.6621 FC3-7.1827 BSP 9877 SGB 6076.8 R23 .1685 R13 .9855 LSA 225.7 MSA 12.9 SSA .1
 BDE 2.5918 BRA 1.9748 BC3 4.4987 FSP 1729 SGI 6033.8 SG2 721.7 THA 36.75 EL1 193.1 EL2 9.7 ALF 35.97

LAUNCH DATE APR 27 1971 FLIGHT TIME 242.00 ARRIVAL DATE DEC 25 1971

DISTANCE 572.974 EARTH TO MARS

RL 150.57 LAL -.00 LOL 216.10 VL 32.279 GAL -2.64 AZL 87.15 HCA 185.21 SMA 104.10 ECC .18785 INC 6.8499 V1 20.592
 RP 217.81 LAP -.26 LOP 41.30 VP 22.335 GAP 2.65 AZP 92.84 TAL 343.17 TAP 168.37 RCA 149.55 APO 218.64 V2 25.249
 RC 169.992 GL 26.22 GP -30.35 ZAL 122.32 ZAP 73.36 ETS 168.92 ZAE 109.15 ETE 192.11 ZAC 72.10 ETC 271.61 LVI 18.77

PLANETOCENTRIC CONIC

C3 13.191 VHL 3.632 DLA 17.40 RAL 333.83 RAD 6639.6 VEL 11.544 PTH 6.59 VHP 3.596 DPA -53.15 RAP 301.06 ECC 1.2171

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	14 8 55	3390.28	-44.15	118.39	199.69	109.92	15 5 25	2390.3	-31.86	91.75
60.00	14 26 22	3338.48	-38.51	115.94	201.90	102.93	15 24 0	2338.5	-29.36	88.99
70.00	14 57 21	3253.13	-33.44	110.15	203.03	97.41	15 31 35	2253.1	-26.99	83.35
80.00	15 43 24	3108.84	-29.66	99.84	203.46	93.62	16 33 13	2108.8	-25.17	73.12
90.00	16 54 42	2876.69	-28.20	82.62	203.94	92.20	17 42 40	1876.7	-24.45	56.43
100.00	18 26 16	2583.32	-29.66	61.01	203.46	93.62	19 9 19	1583.3	-25.17	34.49
110.00	19 56 48	2299.95	-33.44	39.07	203.03	97.41	20 35 8	1300.0	-26.99	12.27

DIFFERENTIAL CORRECTIONS

TDE 1.6893 TRA 1.5607 TC3-4.7094 BAU .9147 SGT 5046.0 SGR 3069.4 SCS 1199.1 ST 138.9 SR 85.9 SS 116.1
 RDE 1.0138 RRA 1.2642 RC3-2.1744 FAU .15156 RRT .9722 RRF .9996 RTF .5.03 CRT .9958 CRS -.9997 CST -.9933
 FDE 4.3634 FRA 5.8333 FC3-9.9472 BSP 9888 SGB 5906.2 R23 .1788 R13 .9835 LSA 200.0 MSA 10.8 SSA .2
 BDE 1.9702 BRA 2.0085 BC3 5.1871 FSP 2104 SGI 5873.9 SG2 616.9 THA 30.98 EL1 163.2 EL2 6.7 ALF 31.70

LAUNCH DATE APR 27 1971 FLIGHT TIME 244.00 ARRIVAL DATE DEC 27 1971

DISTANCE 577.130 EARTH TO MARS

RL 150.57 LAL -.00 LOL 216.10 VL 32.284 GAL -2.70 AZL 87.99 HCA 186.38 SMA 104.19 ECC .18831 INC 6.0074 V1 20.592
 RP 217.97 LAP -.22 LOP 42.44 VP 22.298 GAP 2.49 AZP 92.00 TAL 342.80 TAP 169.18 RCA 149.50 APO 218.87 V2 25.209
 RC 172.847 GL 18.93 GP -25.65 ZAL 124.58 ZAP 71.14 ETS 169.59 ZAE 108.87 ETE 189.64 ZAC 76.82 ETC 271.47 LVI 14.61

PLANETOCENTRIC CONIC

C3 12.165 VHL 3.488 DLA 10.79 RAL 337.01 RAD 6639.1 VEL 11.500 PTH 6.55 VHP 3.441 DPA -48.85 RAP 298.81 ECC 1.2002

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	14 48 0	3237.65	-39.86	106.27	196.73	118.49	15 41 58	2237.6	-25.22	83.28
60.00	15 15 47	3163.69	-34.97	102.47	199.59	111.45	16 8 31	2163.7	-23.13	78.41
70.00	15 54 45	3049.05	-30.60	94.95	201.36	105.97	16 45 34	2049.1	-21.6	70.37
80.00	16 50 46	2873.56	-27.42	82.55	202.27	102.31	17 38 40	1873.6	-19.72	57.79
90.00	18 6 47	2628.22	-26.22	64.80	202.55	100.99	18 50 36	1628.2	-19.16	40.00
100.00	19 33 38	2348.03	-27.42	43.92	202.27	102.31	20 12 46	1348.0	-19.72	19.16
110.00	20 54 11	2095.87	-30.60	23.87	201.36	105.97	21 29 7	1095.9	-21.18	359.29

DIFFERENTIAL CORRECTIONS

TDE 1.4404 TRA 1.7352 TC3-5.2414 BAU .9105 SGT 5233.2 SGR 2601.3 SCS 1322.9 ST 126.2 SR 67.6 SS 112.1
 RDE .7518 RRA 1.0962 RC3-1.9661 FAU .16457 RRT .9738 RRF .9993 RTF .9724 CRT .9977 CRS -.9993 CST -.9947
 FDE 4.1197 FRA 6.6023 FC-11.7113 BSP 9598 SGB 5844.1 R23 .1865 R13 .9818 LSA 181.6 MSA 8.7 SSA .4
 BDE 1.6248 BRA 2.0325 BC3 5.5980 FSP 2324 SGI 5819.8 SG2 532.3 THA 26.06 EL1 143.1 EL2 4.0 ALF 28.16

LAUNCH DATE APR 27 1971

FLIGHT TIME 246.00

ARRIVAL DATE DEC 20 1971

MELIOCENTRIC CONIC
 RL 150.57 LAL -.00 LOL 216.10 VL 32.290 GAL -2.77 AZL 88.57 HCA 187.49 SMA 184.29 ECC .18901 INC 1.4236 V1 29.592
 RP 218.33 LAP -.19 LOP 43.58 VP 22.261 GAP 2.33 AZP 91.41 TAL 342.42 TAP 169.90 RCA 149.45 APO 219.12 V2 25.169
 RC 175.114 GL 13.53 GP -22.08 ZAL 126.02 ZAP 69.19 ETS 170.17 ZAE 107.64 ETE 187.76 ZAC 80.40 ETC 271.37 LVI 11.45

PLANETOCENTRIC CONIC
 C3 11.755 VHL 3.428 DLA 5.95 RAL 339.45 RAD 8630.9 VEL 11.482 PTH 6.53 VHP 3.359 DPA -45.21 RAP 297.29 ECC 1.1955
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 15 55 3133.27 -36.21 98.96 195.98 123.27 16 8 8 2133.3 -20.39 78.07
 60.00 15 49 8 3044.88 -31.69 94.12 199.10 116.33 16 39 53 2044.9 -18.46 71.84
 70.00 16 34 17 2912.09 -27.64 85.39 201.14 110.91 17 22 49 1912.1 -16.67 62.31
 80.00 17 36 5 2718.51 -24.71 71.84 202.27 107.32 18 21 24 1718.5 -15.34 48.36
 90.00 18 54 41 2464.87 -23.61 53.58 202.83 106.03 19 35 46 1464.9 -14.84 29.06
 100.00 20 18 97 2192.99 -24.71 33.21 202.27 107.32 20 55 30 1193.0 -15.34 9.73
 110.00 21 33 43 1958.91 -27.64 14.31 201.14 110.91 22 6 22 958.9 -16.67 361.23

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.2964 TRA 1.8979 TC3-5.5548 BAU .9138 SGT 5419.5 SGR 2235.5 SG3 1396.9 ST 118.6 SR 55.8 SS 108.9
 RDE .6012 RRA .9607 RC3-1.7145 FAU .17041 RRT .9742 RRF .9989 RTF .9736 CRT .9993 CR8 -.9987 CST -.9963
 FDE 3.9363 FRA 7.1433 FC-12.5508 B8P 9754 SGB 8862.4 R23 .1917 R13 .9803 LSA 170.2 NS8 6.9 S8A .6
 BDE 1.4290 BRA 2.1272 BC3 5.8134 F8P 2491 SGI 5843.7 SG2 468.1 THA 22.04 EL1 131.0 EL2 1.9 ALF 25.19

LAUNCH DATE APR 27 1971

FLIGHT TIME 246.00

ARRIVAL DATE DEC 31 1971

MELIOCENTRIC CONIC
 RL 150.57 LAL -.00 LOL 216.10 VL 32.296 GAL -2.84 AZL 89.00 HCA 188.82 SMA 184.39 ECC .18975 INC .9934 V1 29.592
 RP 218.69 LAP -.15 LOP 44.72 VP 22.225 GAP 2.17 AZP 90.98 TAL 342.03 TAP 170.65 RCA 149.40 APO 219.37 V2 25.129
 RC 177.690 GL 9.46 GP -19.30 ZAL 127.08 ZAP 67.42 ETS 170.68 ZAE 106.52 ETE 188.31 ZAC 83.19 ETC 271.29 LVI 8.99

PLANETOCENTRIC CONIC
 C3 11.634 VHL 3.411 DLA 2.35 RAL 341.41 RAD 8636.9 VEL 11.477 PTH 6.53 VHP 3.315 DPA -42.53 RAP 296.19 ECC 1.1915
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 15 36 59 3059.20 -33.34 94.22 196.22 126.15 16 27 58 2059.2 -16.85 74.99
 60.00 16 14 4 2960.52 -29.01 88.59 199.47 119.30 17 3 25 1960.5 -14.99 67.41
 70.00 17 3 32 2815.03 -25.12 78.98 201.66 113.94 17 50 27 1815.0 -13.26 56.85
 80.00 18 9 18 2609.07 -22.30 64.61 202.91 110.39 18 52 48 1609.1 -11.99 41.97
 90.00 19 29 39 2349.84 -21.25 49.98 203.32 109.12 20 8 48 1349.8 -11.50 23.16
 100.00 20 52 10 2083.54 -22.30 25.98 202.91 110.39 21 26 54 1083.5 -11.99 3.34
 110.00 22 2 59 1861.85 -25.12 7.90 201.66 113.94 22 34 0 861.8 -13.26 345.77

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.2008 TRA 2.0408 TC3-5.7774 BAU .9282 SGT 5600.7 SGR 1940.7 SG3 1435.7 ST 113.4 SR 47.3 SS 105.4
 RDE .5022 RRA .8442 RC3-1.4952 FAU .17408 RRT .9743 RRF .9982 RTF .9746 CRT .9998 CR8 -.9975 CST -.9977
 FDE 3.7605 FRA 7.4793 FC-12.9543 B8P 9882 SGB 5927.4 R23 .1925 R13 .9795 LSA 161.8 NS8 5.5 S8A .9
 BDE 1.3013 BRA 2.2082 BC3 5.9678 F8P 2566 SGI 5913.0 SG2 414.1 THA 18.75 EL1 122.8 EL2 .9 ALF 22.63

LAUNCH DATE APR 27 1971

FLIGHT TIME 250.00

ARRIVAL DATE JAN 2 1972

MELIOCENTRIC CONIC
 RL 150.57 LAL -.00 LOL 216.10 VL 32.303 GAL -2.81 AZL 89.33 HCA 189.75 SMA 184.48 ECC .19051 INC .8621 V1 29.592
 RP 219.06 LAP -.11 LOP 45.85 VP 22.188 GAP 2.01 AZP 90.66 TAL 341.65 TAP 171.39 RCA 149.35 APO 219.64 V2 25.089
 RC 180.275 GL 6.30 GP -17.09 ZAL 127.84 ZAP 65.78 ETS 171.11 ZAE 105.29 ETE 185.16 ZAC 85.41 ETC 271.23 LVI 7.05

PLANETOCENTRIC CONIC
 C3 11.683 VHL 3.415 DLA -.39 RAL 343.04 RAD 8638.9 VEL 11.478 PTH 6.53 VHP 3.295 DPA -40.39 RAP 295.35 ECC 1.1919
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 15 53 28 3005.17 -31.12 90.98 196.86 128.00 16 43 33 2005.2 -14.22 72.14
 60.00 16 33 26 2898.77 -26.89 84.73 200.22 121.23 17 21 47 1898.8 -12.38 64.87
 70.00 17 26 10 2743.79 -23.07 74.46 202.91 115.91 18 11 54 1743.8 -10.68 52.96
 80.00 18 34 52 2528.65 -20.30 59.47 203.85 112.38 19 17 1 1528.7 -9.41 37.39
 90.00 19 56 29 2265.30 -19.27 40.55 204.28 111.11 20 34 15 1265.3 -8.94 18.28
 100.00 21 17 44 2003.12 -20.30 20.84 203.85 112.38 21 51 7 1003.1 -9.41 358.76
 110.00 22 25 36 1790.81 -23.07 3.38 202.91 115.91 22 55 27 790.6 -10.68 341.87

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.1208 TRA 2.1582 TC3-5.9903 BAU .9574 SGT 5776.1 SGR 1694.8 SG3 1447.1 ST 108.7 SR 40.1 SS 99.7
 RDE .4236 RRA .7350 RC3-1.3469 FAU .18123 RRT .9768 RRF .9971 RTF .5.81 CRT .9998 CR8 -.9955 CST -.9989
 FDE 3.4978 FRA 7.5787 FC-13.4524 B8P 9793 SGB 8019.6 R23 .1783 R13 .9812 LSA 152.8 NS8 4.7 S8A 1.1
 BDE 1.1982 BRA 2.2780 BC3 6.1399 F8P 2469 SGI 6009.5 SG2 349.1 THA 16.05 EL1 115.0 EL2 1.8 ALF 20.22

LAUNCH DATE APR 27 1971

FLIGHT TIME 252.00

ARRIVAL DATE JAN 4 1972

MELIOCENTRIC CONIC
 RL 150.57 LAL -.00 LOL 216.10 VL 32.309 GAL -2.98 AZL 89.80 HCA 190.88 SMA 184.60 ECC .19131 INC .4011 V1 29.592
 RP 219.43 LAP -.08 LOP 46.98 VP 22.152 GAP 1.85 AZP 90.40 TAL 341.24 TAP 172.12 RCA 149.29 APO 219.92 V2 25.048
 RC 182.871 GL 3.81 GP -15.30 ZAL 128.50 ZAP 64.25 ETS 171.48 ZAE 104.02 ETE 184.25 ZAC 87.21 ETC 271.18 LVI 5.47

PLANETOCENTRIC CONIC
 C3 11.782 VHL 3.432 DLA -2.51 RAL 344.44 RAD 8638.9 VEL 11.483 PTH 6.53 VHP 3.289 DPA -38.68 RAP 294.71 ECC 1.1939
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 16 6 48 2983.12 -29.42 88.68 197.76 129.24 16 56 13 1983.1 -12.25 70.36
 60.00 16 49 2 2832.76 -25.23 81.96 201.16 122.53 17 36 35 1832.8 -10.41 61.98
 70.00 17 44 14 2690.45 -21.45 71.17 203.53 117.24 18 29 5 1690.4 -8.70 50.09
 80.00 18 55 13 2468.20 -18.69 55.71 204.93 113.72 19 36 21 1468.2 -7.43 33.99
 90.00 20 17 49 2201.66 -17.86 36.38 205.39 112.45 20 54 31 1201.7 -6.95 14.66
 100.00 21 38 5 1942.68 -18.69 17.08 204.93 113.72 22 10 28 942.7 -7.43 355.36
 110.00 22 43 41 1737.27 -21.45 .09 203.53 117.24 23 12 38 737.3 -8.70 339.00

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.1017 TRA 2.3058 TC3-6.0438 BAU .9687 SGT 5953.0 SGR 1507.1 SG3 1455.8 ST 108.8 SR 36.8 SS 100.2
 RDE .3900 RRA .6652 RC3-1.1400 FAU .17523 RRT .9726 RRF .9956 RTF .9759 CRT .9958 CR8 -.9930 CST -.9994
 FDE 3.5059 FRA 7.8387 FC-12.8762 B8P 10263 SGB 6140.8 R23 .1862 R13 .9786 LSA 152.3 NS8 4.2 S8A 1.5
 BDE 1.1687 BRA 2.3998 BC3 6.1503 F8P 2610 SGI 6131.4 SG2 340.4 THA 13.88 EL1 114.7 EL2 3.2 ALF 18.53

LAUNCH DATE APR 27 1971

FLIGHT TIME 262.00

ARRIVAL DATE JAN 14 1972

Heliocentric Conic: RL 150.57 LAL -.00 LOL 216.10 VL 32.346 GAL -3.37 AZL 90.37 HCA 196.46 SMA 185.21 ECC .19374 INC .3651 V1 29.592
 RP 221.31 LAP .10 LOP 52.96 VP 21.973 GAP 1.07 AZP 89.65 TAL 339.15 TAP 175.61 RCA 148.96 APO 221.47 V2 24.842
 RC 195.978 GL -3.30 GP -9.82 ZAL 131.03 ZAP 57.70 ETS 172.78 ZAE 97.53 ETE 181.85 ZAC 92.70 ETC 271.08 LVI .58

Distance 614.385

Planetary Conic: C3 12.898 VHL 3.591 DLA -8.08 RAL 349.53 RAD 6639.5 VEL 11.531 PTH 6.58 VHP 3.361 DPA -33.32 RAP 293.10 ECC 1.2122
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 47 42 2872.98 -25.34 83.69 202.64 131.72 17 35 35 1873.0 -7.69 66.38
 60.00 17 36 0 2744.55 -21.12 75.76 206.28 125.15 18 21 44 1744.6 -5.72 56.70
 70.00 18 37 59 2562.30 -17.26 63.59 208.89 119.94 19 20 41 1562.3 -3.87 43.31
 80.00 19 55 12 2320.55 -14.42 46.83 210.47 116.43 20 33 53 1320.5 -2.49 25.82
 90.00 21 20 33 2045.17 -13.34 27.12 211.01 113.17 21 54 39 1045.2 -1.97 5.67
 100.00 22 38 4 1795.04 -14.42 6.20 210.47 116.43 23 7 59 795.0 -2.49 347.19
 110.00 23 37 25 1609.12 -17.26 352.51 208.89 119.94 24 4 14 609.1 -3.87 332.23

Differential Corrections: TDE 1.0987 TRA 2.9382 TC3-6.2911 BAU 1.0900 SGT 6775.6 SGR 911.4 S63 1372.8 ORBIT DETERMINATION ACCURACY
 RDE .2960 RRA .3964 RC3 -.6223 FAU .16218 RRT .9508 RRF .9747 RTF .9767 CRT .9562 CR8 -.9658 CST -.9992
 PDE 3.1945 FRA 7.9790 FC-10.6872 BSP 11549 SGB 6836.6 R23 .1434 R13 .9775 LSA 148.3 MSA 7.5 S8A 1.4
 BDE 1.1379 BRA 2.9648 BC3 6.3210 F8P 2492 SGI 6830.9 S62 280.1 THA 7.30 EL1 115.6 EL2 7.3 ALF 12.22

LAUNCH DATE APR 27 1971

FLIGHT TIME 264.00

ARRIVAL DATE JAN 16 1972

Heliocentric Conic: RL 150.57 LAL -.00 LOL 216.10 VL 32.354 GAL -3.45 AZL 90.46 HCA 197.56 SMA 185.34 ECC .19872 INC .4898 V1 29.592
 RP 221.89 LAP .14 LOP 53.86 VP 21.938 GAP .81 AZP 89.56 TAL 338.72 TAP 176.28 RCA 148.88 APO 221.80 V2 24.801
 RC 196.621 GL -4.11 GP -9.14 ZAL 131.50 ZAP 56.55 ETS 172.97 ZAE 96.28 ETE 181.36 ZAC 93.39 ETC 271.08 LVI -.06

Distance 618.802

Planetary Conic: C3 13.171 VHL 3.629 DLA -8.84 RAL 350.33 RAD 6639.6 VEL 11.543 PTH 6.59 VHP 3.386 DPA -32.64 RAP 292.89 ECC 1.2160
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 52 58 2868.43 -25.04 83.35 203.59 131.87 17 40 45 1866.4 -7.36 66.10
 60.00 17 41 53 2736.36 -20.80 75.31 207.26 125.33 18 27 29 1736.4 -5.36 56.30
 70.00 18 44 34 2592.04 -16.92 63.00 209.90 120.12 19 27 6 1552.0 -3.48 42.77
 80.00 20 2 27 2308.23 -14.04 46.10 211.51 116.62 20 40 55 1308.2 -2.08 25.14
 90.00 21 28 6 2031.91 -12.96 26.33 212.06 115.36 22 1 58 1031.9 -1.84 5.13
 100.00 22 45 19 1782.70 -14.04 7.47 211.51 116.62 23 15 1 782.7 -2.08 346.51
 110.00 23 44 0 1598.86 -16.92 381.92 209.90 120.12 24 10 39 598.9 -3.48 331.89

Differential Corrections: TDE 1.1162 TRA 3.0616 TC3-6.3170 BAU 1.1167 SGT 6930.4 SGR 838.7 S63 1347.1 ORBIT DETERMINATION ACCURACY
 RDE .2897 RRA .3592 RC3 -.5800 FAU .15890 RRT .9418 RRF .9861 RTF .9767 CRT .9442 CR8 -.9575 CST -.9989
 PDE 3.1539 FRA 7.9421 FC-10.4444 BSP 11783 SGB 6980.9 R23 .1332 R13 .9773 LSA 148.8 MSA 8.2 S8A 1.4
 BDE 1.1532 BRA 3.0828 BC3 6.3418 F8P 2446 SGI 6975.3 S62 280.2 THA 6.51 EL1 117.1 EL2 7.9 ALF 11.41

LAUNCH DATE APR 27 1971

FLIGHT TIME 266.00

ARRIVAL DATE JAN 18 1972

Heliocentric Conic: RL 150.57 LAL -.00 LOL 216.10 VL 32.362 GAL -3.84 AZL 90.58 HCA 198.66 SMA 185.48 ECC .19771 INC .5457 V1 29.592
 RP 222.07 LAP .17 LOP 54.78 VP 21.902 GAP .78 AZP 89.48 TAL 338.28 TAP 176.95 RCA 148.81 APO 222.18 V2 24.759
 RC 201.870 GL -4.81 GP -8.83 ZAL 131.96 ZAP 55.44 ETS 173.14 ZAE 95.05 ETE 181.10 ZAC 93.99 ETC 271.10 LVI -.63

Distance 622.613

Planetary Conic: C3 13.458 VHL 3.668 DLA -9.08 RAL 351.09 RAD 6639.8 VEL 11.555 PTH 6.60 VHP 3.412 DPA -32.03 RAP 292.84 ECC 1.2218
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 57 39 2882.16 -24.85 83.13 204.83 131.97 17 49 21 1882.2 -7.13 68.92
 60.00 17 47 4 2730.76 -20.58 75.00 208.23 125.45 18 32 39 1730.8 -5.12 58.03
 70.00 18 50 19 2544.77 -16.87 62.59 210.90 120.28 19 32 44 1544.8 -3.21 42.39
 80.00 20 8 45 2289.29 -13.77 49.58 212.53 116.76 20 47 4 1299.3 -1.77 24.68
 90.00 21 34 38 2022.19 -12.67 25.78 213.08 115.49 22 8 20 1022.2 -1.23 4.88
 100.00 22 51 38 1773.76 -13.77 6.95 212.53 116.76 23 21 10 773.8 -1.77 346.02
 110.00 23 49 48 1591.59 -16.87 381.50 210.90 120.28 24 16 17 591.8 -3.21 331.31

Differential Corrections: TDE 1.1424 TRA 3.1908 TC3-6.3224 BAU 1.1410 SGT 7083.0 SGR 776.4 S63 1321.1 ORBIT DETERMINATION ACCURACY
 RDE .2861 RRA .3263 RC3 -.5041 FAU .15486 RRT .9305 RRF .9554 RTF .5.68 CRT .9318 CR8 -.9487 CST -.9999
 PDE 3.1282 FRA 7.9089 FC3-9.9635 BSP 12078 SGB 7125.4 R23 .1238 R13 .9770 LSA 149.9 MSA 8.9 S8A 1.3
 BDE 1.1777 BRA 3.2072 BC3 6.3425 F8P 2409 SGI 7119.8 S62 282.9 THA 5.83 EL1 119.3 EL2 8.4 ALF 10.70

LAUNCH DATE APR 27 1971

FLIGHT TIME 268.00

ARRIVAL DATE JAN 20 1972

Heliocentric Conic: RL 150.57 LAL -.00 LOL 216.10 VL 32.370 GAL -3.82 AZL 90.62 HCA 199.76 SMA 185.62 ECC .19874 INC .6211 V1 29.592
 RP 222.46 LAP .21 LOP 55.86 VP 21.867 GAP .59 AZP 89.42 TAL 337.84 TAP 177.80 RCA 148.73 APO 222.51 V2 24.717
 RC 203.922 GL -5.42 GP -7.99 ZAL 132.42 ZAP 54.38 ETS 173.30 ZAE 93.84 ETE 180.88 ZAC 94.53 ETC 271.12 LVI -1.16

Distance 626.720

Planetary Conic: C3 13.782 VHL 3.708 DLA -9.43 RAL 351.81 RAD 6639.9 VEL 11.568 PTH 6.61 VHP 3.440 DPA -31.49 RAP 292.93 ECC 1.2263
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 1 51 2899.79 -24.74 83.01 203.45 132.03 17 49 31 1899.8 -7.03 69.82
 60.00 17 51 40 2727.32 -20.45 74.81 209.18 125.52 18 37 7 1727.3 -4.96 55.86
 70.00 18 55 23 2538.98 -16.50 62.31 211.87 120.34 19 37 43 1540.0 -3.02 42.14
 80.00 20 14 14 2293.14 -13.58 48.22 213.92 116.85 20 52 27 1293.1 -1.57 24.32
 90.00 21 40 19 2013.42 -12.48 25.36 214.08 115.59 22 13 54 1015.4 -1.01 4.21
 100.00 22 57 6 1767.61 -13.58 6.59 213.92 116.85 23 26 34 767.6 -1.57 345.68
 110.00 23 54 49 1586.80 -16.50 351.23 211.87 120.34 24 21 16 586.8 -3.02 331.06

Differential Corrections: TDE 1.1708 TRA 3.3181 TC3-6.3278 BAU 1.1664 SGT 7232.3 SGR 722.6 S63 1293.9 ORBIT DETERMINATION ACCURACY
 RDE .2842 RRA .2960 RC3 -.4562 FAU .15100 RRT .9168 RRF .9424 RTF .9763 CRT .9187 CR8 -.9395 CST -.9982
 PDE 3.1038 FRA 7.8607 FC3-9.5063 BSP 12348 SGB 7268.3 R23 .1149 R13 .9767 LSA 151.2 MSA 9.5 S8A 1.3
 BDE 1.2048 BRA 3.3313 BC3 6.3442 F8P 2368 SGI 7262.8 S62 287.4 THA 5.24 EL1 121.5 EL2 9.0 ALF 10.09

LAUNCH DATE APR 27 1971

FLIGHT TIME 270.00

ARRIVAL DATE JAN 22 1972

HELIOCENTRIC CONIC

RL 150.57 LAL -.00 LOL 216.10 VL 32.378 GAL -3.71 AZL 90.69 HCA 200.85 SMA 185.78 ECC .19979 INC .6878 V1 29.592
RP 222.84 LAP .25 LOP 56.95 VP 21.832 GAP .44 AZP 89.36 TAL 337.40 TAP 178.25 RCA 148.65 APO 222.87 V2 24.673
RC 206.578 GL -5.94 GP -7.51 ZAL 132.88 ZAP 53.35 ETS 173.45 ZAE 92.65 ETE 180.69 ZAC 95.00 ETC 271.15 LVI -1.64

DISTANCE 630.821

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.057 VHL 3.749 DLA -9.71 RAL 352.49 RAD 6640.1 VEL 11.581 PTH 6.62 VHP 3.470 DPA -31.00 RAP 292.97 ECC 1.2313
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 5 39 2858.99 -24.71 82.97 206.35 132.05 17 53 18 1859.0 -6.99 65.79
60.00 17 55 46 2725.68 -20.38 74.72 210.12 125.55 18 41 12 1725.7 -4.89 55.79
70.00 18 59 51 2537.27 -16.41 62.16 212.83 120.38 19 42 9 1537.3 -2.92 42.00
80.00 20 19 3 2289.36 -13.47 45.00 214.49 116.90 20 57 12 1289.4 -1.44 24.11
90.00 21 45 17 2011.14 -12.35 25.11 215.06 113.84 22 18 48 1011.1 -.87 3.97
100.00 23 1 55 1763.83 -13.47 6.37 214.49 116.90 23 31 19 763.8 -1.44 345.48
110.00 0 3 14 1584.09 -16.41 351.07 212.83 120.38 0 29 38 584.1 -2.92 330.92

DIFFERENTIAL CORRECTIONS

TDE 1.1994 TRA 3.4437 TC3-6.3352 BAU 1.1931
RDE .2834 RRA .2679 RC3 -.4132 FAU .14739
FDE 3.0753 FRA 7.8013 FC3-9.0772 BSP 12582
SDE 1.2324 BRA 3.4541 BC3 6.3488 PSP 2317

MID-COURSE EXECUTION ACCURACY

SGT 7377.8 SGR 676.1 SG3 1266.0
RRR .9003 RRF .9266 RTF .9761
SGB 7408.7 R23 .1065 R13 .9765
SG1 7402.9 SG2 293.2 THA 4.72

ORBIT DETERMINATION ACCURACY

ST 121.9 SR 22.5 SS 89.0
CRT .9051 CR8 -.9298 C8T -.9979
LSA 152.3 MSA 10.1 SSA 1.3
EL1 123.6 EL2 9.5 ALF 9.55

LAUNCH DATE APR 27 1971

FLIGHT TIME 272.00

ARRIVAL DATE JAN 24 1972

HELIOCENTRIC CONIC

RL 150.57 LAL -.00 LOL 216.10 VL 32.387 GAL -3.80 AZL 90.75 HCA 201.94 SMA 185.90 ECC .20086 INC .7484 V1 29.592
RP 223.23 LAP .28 LOP 58.04 VP 21.798 GAP .28 AZP 89.31 TAL 336.94 TAP 178.89 RCA 148.56 APO 223.24 V2 24.633
RC 209.236 GL -6.40 GP -7.08 ZAL 133.34 ZAP 52.36 ETS 173.59 ZAE 91.49 ETE 180.53 ZAC 95.43 ETC 271.18 LVI -2.09

DISTANCE 634.916

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.371 VHL 3.791 DLA -9.93 RAL 353.15 RAD 6640.2 VEL 11.594 PTH 6.64 VHP 3.500 DPA -30.55 RAP 293.05 ECC 1.2365
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 9 5 2859.54 -24.73 83.00 207.25 132.04 17 56 45 1859.5 -7.01 65.81
60.00 17 59 28 2725.57 -20.38 74.71 211.03 125.55 18 44 53 1725.6 -4.89 55.78
70.00 19 3 50 2536.33 -16.38 62.10 213.77 120.40 19 46 6 1536.3 -2.89 41.95
80.00 20 23 17 2287.58 -13.41 44.90 215.44 116.93 21 1 25 1287.6 -1.38 24.01
90.00 21 49 39 2008.98 -12.29 24.99 216.01 115.67 22 23 7 1009.0 -.80 3.85
100.00 23 6 9 1762.05 -13.41 6.27 215.44 116.93 23 35 31 762.1 -1.38 345.38
110.00 0 7 12 1583.15 -16.38 351.02 213.77 120.40 0 33 35 583.1 -2.89 330.87

DIFFERENTIAL CORRECTIONS

TDE 1.2328 TRA 3.5726 TC3-6.3333 BAU 1.2190
RDE .2840 RRA .2423 RC3 -.3789 FAU .14360
FDE 3.0516 FRA 7.7413 FC3-8.6504 BSP 12638
SDE 1.2651 BRA 3.5808 BC3 6.3446 PSP 2270

MID-COURSE EXECUTION ACCURACY

SGT 7521.9 SGR 636.3 SG3 1238.2
RRR .8810 RRF .9079 RTF .9759
SGB 7548.7 R23 .0987 R13 .9762
SG1 7542.8 SG2 300.2 THA 4.27

ORBIT DETERMINATION ACCURACY

ST 124.5 SR 22.2 SS 88.2
CRT .8915 CR8 -.9196 C8T -.9978
LSA 153.8 MSA 10.7 SSA 1.3
EL1 126.0 EL2 9.9 ALF 9.06

LAUNCH DATE APR 27 1971

FLIGHT TIME 274.00

ARRIVAL DATE JAN 26 1972

HELIOCENTRIC CONIC

RL 150.57 LAL -.00 LOL 216.10 VL 32.398 GAL -3.89 AZL 90.80 HCA 203.03 SMA 186.05 ECC .20196 INC .8035 V1 29.592
RP 223.62 LAP .31 LOP 59.13 VP 21.763 GAP .12 AZP 89.26 TAL 336.49 TAP 179.52 RCA 148.47 APO 223.62 V2 24.592
RC 211.896 GL -6.79 GP -6.69 ZAL 133.80 ZAP 51.41 ETS 173.72 ZAE 90.35 ETE 180.39 ZAC 95.81 ETC 271.22 LVI -2.51

DISTANCE 639.006

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.695 VHL 3.833 DLA -10.09 RAL 353.78 RAD 6640.4 VEL 11.608 PTH 6.65 VHP 3.531 DPA -30.15 RAP 293.16 ECC 1.2418
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 12 14 2861.24 -24.81 83.08 208.13 132.00 17 59 55 1861.2 -7.10 65.88
60.00 18 2 47 2726.77 -20.42 74.78 211.94 125.53 18 48 14 1726.8 -4.94 55.84
70.00 19 7 22 2536.91 -16.40 62.14 214.69 120.39 19 49 39 1536.9 -2.91 41.98
80.00 20 27 2 2287.53 -13.41 44.90 216.38 116.93 21 5 9 1287.5 -1.38 24.01
90.00 21 53 28 2008.84 -12.28 24.97 216.95 115.68 22 26 57 1008.6 -.79 3.83
100.00 23 9 54 1762.00 -13.41 6.26 216.38 116.93 23 39 16 762.0 -1.38 345.38
110.00 0 10 44 1583.73 -16.40 351.05 214.69 120.39 0 37 8 583.7 -2.91 330.90

DIFFERENTIAL CORRECTIONS

TDE 1.2701 TRA 3.7032 TC3-6.3251 BAU 1.2448
RDE .2858 RRA .2188 RC3 -.3468 FAU .13962
FDE 3.0364 FRA 7.6791 FC3-8.2252 BSP 13104
SDE 1.3019 BRA 3.7098 BC3 6.3348 PSP 2228

MID-COURSE EXECUTION ACCURACY

SGT 7683.2 SGR 602.8 SG3 1210.4
RRR .8868 RRF .8862 RTF .9756
SGB 7686.9 R23 .0924 R13 .9758
SG1 7680.7 SG2 308.3 THA 3.87

ORBIT DETERMINATION ACCURACY

ST 127.2 SR 21.9 SS 87.5
CRT .8782 CR8 -.9009 C8T -.9973
LSA 155.5 MSA 11.2 SSA 1.3
EL1 128.6 EL2 10.4 ALF 8.87

LAUNCH DATE APR 27 1971

FLIGHT TIME 276.00

ARRIVAL DATE JAN 28 1972

HELIOCENTRIC CONIC

RL 150.57 LAL -.00 LOL 216.10 VL 32.404 GAL -3.98 AZL 90.88 HCA 204.11 SMA 186.19 ECC .20308 INC .8538 V1 29.592
RP 224.01 LAP .38 LOP 60.21 VP 21.729 GAP -.04 AZP 89.22 TAL 336.03 TAP 180.14 RCA 148.38 APO 224.01 V2 24.580
RC 214.888 GL -7.14 GP -6.34 ZAL 134.26 ZAP 50.49 ETS 173.84 ZAE 89.23 ETE 180.28 ZAC 96.16 ETC 271.27 LVI -2.91

DISTANCE 643.090

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.028 VHL 3.877 DLA -10.20 RAL 354.39 RAD 6640.8 VEL 11.622 PTH 6.66 VHP 3.563 DPA -29.77 RAP 293.32 ECC 1.2473
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 15 6 2863.92 -24.93 83.22 209.00 131.93 18 2 50 1863.9 -7.23 66.00
60.00 18 5 48 2729.10 -20.52 74.91 212.83 125.48 18 51 17 1729.1 -5.04 55.95
70.00 19 10 32 2538.79 -16.48 62.24 215.60 120.36 19 52 51 1538.8 -2.98 42.08
80.00 20 30 20 2289.98 -13.45 44.98 217.30 116.91 21 8 29 1289.0 -1.42 24.09
90.00 21 56 31 2009.86 -12.31 25.04 217.88 115.66 22 30 21 1009.9 -.83 3.90
100.00 23 13 12 1763.43 -13.45 6.35 217.30 116.91 23 42 38 763.4 -1.42 345.45
110.00 0 13 54 1585.61 -16.48 351.16 215.60 120.36 0 40 20 585.6 -2.98 331.00

DIFFERENTIAL CORRECTIONS

TDE 1.3092 TRA 3.8356 TC3-6.3124 BAU 1.2699
RDE .2984 RRA .1965 RC3 -.3180 FAU .13564
FDE 3.0192 FRA 7.6154 FC3-7.8138 BSP 13366
SDE 1.3406 BRA 3.8408 BC3 6.3204 PSP 2184

MID-COURSE EXECUTION ACCURACY

SGT 7802.2 SGR 574.1 SG3 1182.8
RRR .8330 RRF .8615 RTF .9752
SGB 7823.3 R23 .0864 R13 .9754
SG1 7816.9 SG2 317.0 THA 3.51

ORBIT DETERMINATION ACCURACY

ST 129.9 SR 21.8 SS 86.7
CRT .8652 CR8 -.9001 C8T -.9970
LSA 157.3 MSA 11.7 SSA 1.3
EL1 131.3 EL2 10.8 ALF 8.31

LAUNCH DATE APR 27 1971

FLIGHT TIME 270.00

ARRIVAL DATE JAN 30 1972

HELIOCENTRIC CONIC										DISTANCE 647.167										EARTH TO MARS																																																																																																																																					
RL	150.57	LAL	-.00	LOL	216.10	VL	32.413	GAL	-4.07	AZL	90.90	HCA	205.19	SMA	186.34	ECC	.20424	INC	.8986	V1	29.592	RP	224.40	LAP	.38	LOP	61.29	VP	21.693	GAP	-.20	AZP	89.19	TAL	335.57	TAP	180.76	RCA	148.29	APO	224.40	V2	24.508	RC	217.222	GL	-7.44	GP	-6.02	ZAL	134.72	ZAP	49.60	ETS	173.96	ZAE	88.13	ETE	180.15	ZAC	96.47	ETC	271.32	LVI	-3.20																																																																																								
PLANETOCENTRIC CONIC																																																																																																																																																									
C3	15.371	VNL	3.921	DLA	-10.28	RAL	354.99	RAD	6640.7	VEL	11.637	PTH	6.68	VHP	3.596	DPA	-29.42	RAP	293.50	ECC	1.2530	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																																																																										
50.00	17	17	46	2867.48		-25.09		83.40		209.86		131.85		18	5	33	1867.5		-7.41		66.15	60.00	18	8	32	2732.41		-20.65		75.09		213.71		125.41		18	54	5	1732.4		-5.19		56.11	70.00	19	13	22	2541.80		-16.56		62.42		216.50		120.30		19	55	44	1541.8		-3.09		42.24	80.00	20	33	16	2291.68		-13.54		45.14		218.20		116.87		21	11	28	1291.7		-1.52		24.24	90.00	21	59	49	2012.44		-12.39		25.19		218.78		113.63		22	33	22	1012.4		-.91		4.04	100.00	23	16	8	1766.15		-13.54		6.51		218.20		116.87		23	45	34	766.2		-1.52		345.60	110.00	0	16	44	1588.62		-16.56		351.33		216.50		120.30		0	43	13	588.6		-3.09		331.15
DIFFERENTIAL CORRECTIONS										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																																																					
TDE	1.3490	TRA	3.9676	TC3	-6.3008	BAU	1.2962	SGT	7938.6	SGR	550.2	SG3	1155.1	ST	132.6	SR	21.7	SS	85.9	RDE	.2917	RRA	.1758	RC3	-.2931	FAU	.13186	RRT	.8046	RRF	.8338	RTF	.9748	CRT	.8523	CR8	-.8904	CST	-.9968	PDE	3.0001	FRA	7.9458	FC3	-7.4269	BSP	13604	SG8	7957.7	R23	.0811	R13	.9750	L8A	159.0	M8A	12.2	88A	1.3	BDE	1.3682	BRA	3.9715	BC3	6.3076	F8P	2136	SG1	7951.0	SG2	326.2	THA	3.20	EL1	133.9	EL2	11.2	ALF	7.98																																																																										
RDE	.2917	RRA	.1758	RC3	-.2931	FAU	.13186	RRT	.8046	RRF	.8338	RTF	.9748	CRT	.8523	CR8	-.8904	CST	-.9968	PDE	3.0001	FRA	7.9458	FC3	-7.4269	BSP	13604	SG8	7957.7	R23	.0811	R13	.9750	L8A	159.0	M8A	12.2	88A	1.3	BDE	1.3682	BRA	3.9715	BC3	6.3076	F8P	2136	SG1	7951.0	SG2	326.2	THA	3.20	EL1	133.9	EL2	11.2	ALF	7.98																																																																																														
PDE	3.0001	FRA	7.9458	FC3	-7.4269	BSP	13604	SG8	7957.7	R23	.0811	R13	.9750	L8A	159.0	M8A	12.2	88A	1.3	BDE	1.3682	BRA	3.9715	BC3	6.3076	F8P	2136	SG1	7951.0	SG2	326.2	THA	3.20	EL1	133.9	EL2	11.2	ALF	7.98																																																																																																																		
BDE	1.3682	BRA	3.9715	BC3	6.3076	F8P	2136	SG1	7951.0	SG2	326.2	THA	3.20	EL1	133.9	EL2	11.2	ALF	7.98																																																																																																																																						

LAUNCH DATE APR 27 1971

FLIGHT TIME 280.00

ARRIVAL DATE FEB 1 1972

HELIOCENTRIC CONIC										DISTANCE 651.239										EARTH TO MARS																																																																																																																																					
RL	150.57	LAL	-.00	LOL	216.10	VL	32.422	GAL	-4.17	AZL	90.94	HCA	206.26	SMA	186.50	ECC	.20541	INC	.9417	V1	29.592	RP	224.79	LAP	.42	LOP	62.36	VP	21.661	GAP	-.35	AZP	89.16	TAL	335.11	TAP	181.37	RCA	148.19	APO	224.80	V2	24.466	RC	219.886	GL	-7.71	GP	-5.72	ZAL	135.19	ZAP	48.74	ETS	174.07	ZAE	87.06	ETE	180.05	ZAC	96.75	ETC	271.38	LVI	-3.64																																																																																								
PLANETOCENTRIC CONIC																																																																																																																																																									
C3	15.723	VNL	3.965	DLA	-10.32	RAL	355.56	RAD	6640.9	VEL	11.652	PTH	6.69	VHP	3.629	DPA	-29.10	RAP	293.71	ECC	1.2588	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																																																																										
50.00	17	20	13	2871.74		-25.28		83.63		210.72		131.75		18	8	4	1871.7		-7.62		66.33	60.00	18	11	2	2736.57		-20.81		75.32		214.59		125.32		18	56	39	1736.6		-5.37		56.31	70.00	19	15	55	2545.80		-16.70		62.64		217.38		120.23		19	58	21	1545.8		-3.25		42.45	80.00	20	35	53	2295.52		-13.66		45.36		219.10		116.81		21	14	8	1295.5		-1.65		24.45	90.00	22	2	27	2016.20		-12.50		25.41		219.68		115.57		22	36	3	1016.2		-1.03		4.25	100.00	23	18	45	1769.99		-13.66		6.73		219.10		116.81		23	48	15	770.0		-1.65		345.81	110.00	0	19	18	1592.62		-16.70		351.56		217.38		120.23		0	45	50	592.6		-3.25		331.36
DIFFERENTIAL CORRECTIONS										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																																																					
TDE	1.3914	TRA	4.1013	TC3	-6.2842	BAU	1.3222	SGT	8072.4	SGR	530.5	SG3	1127.8	ST	135.4	SR	21.6	SS	85.1	RDE	.2957	RRA	.1563	RC3	-.2710	FAU	.12810	RRT	.7736	RRF	.8035	RTF	.9744	CRT	.8401	CR8	-.8811	CST	-.9965	PDE	2.9831	FRA	7.4742	FC3	-7.0533	BSP	13647	SG8	8089.8	R23	.0764	R13	.9745	L8A	160.8	M8A	12.7	88A	1.3	BDE	1.4225	BRA	4.1043	BC3	6.2900	F8P	2090	SG1	8082.9	SG2	335.7	THA	2.92	EL1	136.6	EL2	11.6	ALF	7.70																																																																										
RDE	.2957	RRA	.1563	RC3	-.2710	FAU	.12810	RRT	.7736	RRF	.8035	RTF	.9744	CRT	.8401	CR8	-.8811	CST	-.9965	PDE	2.9831	FRA	7.4742	FC3	-7.0533	BSP	13647	SG8	8089.8	R23	.0764	R13	.9745	L8A	160.8	M8A	12.7	88A	1.3	BDE	1.4225	BRA	4.1043	BC3	6.2900	F8P	2090	SG1	8082.9	SG2	335.7	THA	2.92	EL1	136.6	EL2	11.6	ALF	7.70																																																																																														
PDE	2.9831	FRA	7.4742	FC3	-7.0533	BSP	13647	SG8	8089.8	R23	.0764	R13	.9745	L8A	160.8	M8A	12.7	88A	1.3	BDE	1.4225	BRA	4.1043	BC3	6.2900	F8P	2090	SG1	8082.9	SG2	335.7	THA	2.92	EL1	136.6	EL2	11.6	ALF	7.70																																																																																																																		
BDE	1.4225	BRA	4.1043	BC3	6.2900	F8P	2090	SG1	8082.9	SG2	335.7	THA	2.92	EL1	136.6	EL2	11.6	ALF	7.70																																																																																																																																						

LAUNCH DATE APR 28 1971

FLIGHT TIME 108.00

ARRIVAL DATE AUG 14 1971

HELIOCENTRIC CONIC

DISTANCE 315.161

EARTH TO MARS

RL 150.61 LAL -.00 LOL 217.07 VL 35.150 GAL -4.07 AZL 91.89 HCA 102.26 SMA 251.90 ECC .40733 INC 1.8930 V1 29.584
RP 207.38 LAP -1.85 LOP 319.34 VP 27.442 GAP 21.89 AZP 89.60 TAL 345.89 TAP 88.15 RCA 149.29 APO 354.51 V2 26.414
RC 56.241 GL -10.57 GP .94 ZAL 117.85 ZAP 174.95 ETS 169.15 ZAE 173.85 ETE 103.36 ZAC 101.44 ETC 277.01 LVI -17.88

PLANETOCENTRIC CONIC

C3 39.864 VHL 6.314 DLA -19.32 RAL 341.34 RAD 8650.6 VEL 12.639 PTH 7.49 VHP 10.906 DPA -17.38 RAP 317.12 ECC 1.6561
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 55 53 2913.96 -27.18 85.86 208.02 130.68 17 44 27 1914.0 -9.72 68.14
60.00 17 38 20 2747.91 -21.26 75.95 213.06 125.08 18 44 8 1747.9 -5.87 56.86
70.00 19 17 17 2515.80 -15.67 60.94 216.88 120.74 19 59 13 1515.8 -2.10 40.88
80.00 20 51 37 2220.60 -11.31 41.03 219.38 117.82 21 28 37 1220.6 .89 20.33
90.00 22 23 6 1919.00 -9.58 19.76 220.29 116.74 22 57 5 919.0 2.10 358.83
100.00 23 34 28 1695.07 -11.31 2.40 219.38 117.82 24 2 43 695.1 .89 341.70
110.00 0 20 40 1562.62 -15.67 349.85 216.88 120.74 0 46 42 562.6 -2.10 329.79

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5496 TRA-1.1850 TC3 -.0377 BAU .0484 SGT 1244.8 SGR 578.3 SG3 122.3 ST 30.2 SR 26.7 88 19.1
RDE -.5843 RRA .2143 RC3 .0827 FAU .03459 RRT .0342 RRF -.0374 RTF -.7078 CRT .7538 CR8 .5652 C8T .9659
FDE .2937 FRA 1.0578 FC3 -.7502 B8P 1923 SGB 1372.6 R23 -.0066 R13 -.7079 L8A 41.4 M8A 16.7 88A 1.1
BDE .6021 BRA 1.2043 BC3 .0909 F8P 155 SGI 1245.0 SGI 577.9 THA 1.16 EL1 37.8 EL2 14.0 ALP 40.29

LAUNCH DATE APR 28 1971

FLIGHT TIME 110.00

ARRIVAL DATE AUG 16 1971

HELIOCENTRIC CONIC

DISTANCE 317.231

EARTH TO MARS

RL 150.61 LAL -.00 LOL 217.07 VL 34.970 GAL -3.95 AZL 91.90 HCA 103.52 SMA 246.01 ECC .39297 INC 1.9021 V1 29.584
RP 207.27 LAP -1.85 LOP 320.60 VP 27.224 GAP 21.38 AZP 89.55 TAL 345.95 TAP 89.47 RCA 149.34 APO 342.69 V2 26.426
RC 56.362 GL -10.90 GP .97 ZAL 117.88 ZAP 174.10 ETS 170.42 ZAE 174.02 ETE 96.80 ZAC 101.42 ETC 277.10 LVI -18.03

PLANETOCENTRIC CONIC

C3 37.488 VHL 6.123 DLA -19.60 RAL 341.54 RAD 8649.8 VEL 12.545 PTH 7.42 VHP 10.564 DPA -17.24 RAP 317.52 ECC 1.6170
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 57 54 2892.50 -26.22 84.72 207.29 131.24 17 48 7 1892.5 -8.66 67.22
60.00 18 0 46 2725.33 -20.37 74.70 212.33 129.56 18 46 11 1725.3 -4.88 55.77
70.00 19 20 18 2491.63 -14.82 59.57 216.16 121.13 20 1 47 1491.6 -1.18 39.62
80.00 20 55 12 2194.51 -10.48 39.54 218.68 118.12 21 31 48 1194.5 1.78 18.90
90.00 22 29 1 1891.88 -8.74 18.21 219.60 117.00 23 0 33 891.9 2.97 357.31
100.00 23 38 3 1668.98 -10.48 .91 218.68 118.12 24 5 52 669.0 1.78 340.27
110.00 0 23 38 1538.45 -14.82 348.49 216.16 121.13 0 49 18 538.4 -1.18 328.53

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5451 TRA-1.1747 TC3 -.0285 BAU .0467 SGT 1274.0 SGR 578.1 SG3 130.8 ST 30.9 SR 26.7 88 19.8
RDE -.5680 RRA .2039 RC3 .0888 FAU .03563 RRT .0376 RRF -.0409 RTF -.7184 CRT .7539 CR8 .5608 C8T .9646
FDE .3025 FRA 1.1006 FC3 -.8228 B8P 1979 SGB 1399.0 R23 -.0069 R13 -.7185 L8A 42.1 M8A 16.9 88A 1.1
BDE .7858 BRA 1.1926 BC3 .0933 F8P 167 SGI 1274.2 SGI 577.6 THA 1.23 EL1 38.3 EL2 14.1 ALP 38.40

LAUNCH DATE APR 28 1971

FLIGHT TIME 112.00

ARRIVAL DATE AUG 18 1971

HELIOCENTRIC CONIC

DISTANCE 319.510

EARTH TO MARS

RL 150.61 LAL -.00 LOL 217.07 VL 34.800 GAL -3.83 AZL 91.91 HCA 104.79 SMA 240.73 ECC .37945 INC 1.9113 V1 29.584
RP 207.18 LAP -1.85 LOP 321.87 VP 27.016 GAP 20.84 AZP 89.51 TAL 346.02 TAP 90.81 RCA 149.38 APO 332.07 V2 26.436
RC 56.568 GL -11.24 GP 1.00 ZAL 117.88 ZAP 173.24 ETS 171.37 ZAE 174.06 ETE 88.20 ZAC 101.40 ETC 277.16 LVI -18.18

PLANETOCENTRIC CONIC

C3 35.300 VHL 5.941 DLA -19.90 RAL 341.72 RAD 8649.0 VEL 12.458 PTH 7.36 VHP 10.235 DPA -17.09 RAP 317.91 ECC 1.5810
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 59 54 2871.08 -25.25 83.59 206.58 131.76 17 47 46 1871.1 -7.59 66.30
60.00 18 3 13 2702.73 -19.47 73.47 211.62 126.01 18 48 15 1702.7 -3.89 54.68
70.00 19 23 18 2467.32 -13.96 58.22 215.46 121.49 20 4 25 1467.3 -.25 38.35
80.00 20 58 53 2168.14 -9.63 38.05 218.00 118.40 21 35 1 1168.1 2.87 17.45
90.00 22 33 3 1864.38 -7.89 16.64 218.93 117.24 23 4 8 864.4 3.85 355.77
100.00 23 41 45 1642.61 -9.63 359.42 218.00 118.40 24 9 8 642.6 2.67 338.82
110.00 0 26 40 1514.14 -13.96 347.13 215.46 121.49 0 51 54 514.1 -.25 327.28

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5412 TRA-1.1689 TC3 -.0178 BAU .0457 SGT 1305.7 SGR 577.4 SG3 139.8 ST 31.7 SR 26.6 88 20.8
RDE -.5483 RRA .1976 RC3 .0932 FAU .03678 RRT .0412 RRF -.0480 RTF -.7293 CRT .7537 CR8 .5870 C8T .9639
FDE .3120 FRA 1.1456 FC3 -.9016 B8P 2030 SGB 1427.7 R23 -.0077 R13 -.7294 L8A 42.8 M8A 17.1 88A 1.1
BDE .7704 BRA 1.1835 BC3 .0988 F8P 182 SGI 1306.0 SGI 576.8 THA 1.30 EL1 38.8 EL2 14.3 ALP 38.48

LAUNCH DATE APR 28 1971

FLIGHT TIME 114.00

ARRIVAL DATE AUG 20 1971

HELIOCENTRIC CONIC

DISTANCE 321.973

EARTH TO MARS

RL 150.61 LAL -.00 LOL 217.07 VL 34.640 GAL -3.71 AZL 91.92 HCA 106.05 SMA 238.98 ECC .36872 INC 1.9207 V1 29.584
RP 207.09 LAP -1.85 LOP 323.13 VP 26.819 GAP 20.38 AZP 89.47 TAL 346.11 TAP 92.18 RCA 149.43 APO 322.49 V2 26.448
RC 56.886 GL -11.56 GP 1.04 ZAL 117.87 ZAP 172.37 ETS 172.11 ZAE 173.98 ETE 79.95 ZAC 101.38 ETC 277.27 LVI -18.32

PLANETOCENTRIC CONIC

C3 33.288 VHL 5.769 DLA -20.21 RAL 341.89 RAD 8648.3 VEL 12.377 PTH 7.29 VHP 9.916 DPA -16.94 RAP 318.28 ECC 1.5478
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
80.00 17 1 55 2849.74 -24.28 82.49 205.89 132.26 17 49 25 1849.7 -6.52 65.40
90.00 18 5 41 2680.14 -18.56 72.25 210.93 126.44 18 50 22 1680.1 -2.89 53.60
70.00 19 26 23 2442.91 -13.09 56.86 214.78 121.83 20 7 6 1442.9 .68 37.07
80.00 21 2 41 2141.51 -8.77 36.59 217.34 118.66 21 38 23 1141.5 3.57 15.99
90.00 22 37 14 1836.92 -7.02 15.06 218.28 117.46 23 7 51 836.5 4.74 354.21
100.00 23 48 33 1615.98 -8.77 357.92 217.34 118.66 24 12 29 616.0 3.57 337.38
110.00 0 29 45 1489.73 -13.09 345.78 214.78 121.83 0 54 35 489.7 .68 325.99

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5367 TRA-1.1566 TC3 -.0062 BAU .0454 SGT 1335.0 SGR 576.4 SG3 149.5 ST 32.4 SR 26.5 88 21.3
RDE -.5311 RRA .1895 RC3 .1019 FAU .03789 RRT .0452 RRF -.0491 RTF -.7389 CRT .7539 CR8 .5923 C8T .9621
FDE .3210 FRA 1.1927 FC3 -.9876 B8P 2108 SGB 1454.1 R23 -.0081 R13 -.7390 L8A 43.6 M8A 17.3 88A 1.1
BDE .7550 BRA 1.1720 BC3 .1020 F8P 197 SGI 1335.3 SGI 575.6 THA 1.37 EL1 39.3 EL2 14.4 ALP 37.59

LAUNCH DATE APR 28 1971

FLIGHT TIME 116.00

ARRIVAL DATE AUG 22 1971

HELIOCENTRIC CONIC
RL 150.61 LAL -.00 LOL 217.07 VL 34.488 GAL -3.60 AZL 91.93 HCA 107.31 SNA 231.64 ECC .38472 INC 1.9301 V1 29.884
RP 207.01 LAP -1.84 LOP 324.40 VP 26.633 GAP 19.90 AZP 89.43 TAL 346.21 TAP 93.52 RCA 149.47 APO 313.81 V2 26.457
RC 57.225 GL -11.93 GP 1.07 ZAL 117.83 ZAP 171.48 ETS 172.70 ZAE 173.80 ETE 72.39 ZAC 101.37 ETC 277.35 LVI -18.46

DISTANCE 324.597
EARTH TO MARS
EARTH TIME INC 1.9301 V1 29.884
APO 313.81 V2 26.457
ZAC 101.37 ETC 277.35 LVI -18.46

PLANETOCENTRIC CONIC
C3 31.427 VHL 5.606 DLA -20.83 RAL 342.03 RAD 6647.6 VEL 12.303 PTH 7.24 VHP 9.607 DPA -16.80 RAP 318.64 ECC 1.5172
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

50.00 17 3 55 2020.45 -23.30 81.41 203.23 132.73 17 51 4 1826.5 -5.46 64.50
60.00 18 8 12 2657.53 -17.64 71.05 210.26 126.84 18 52 29 1657.5 -1.90 52.92
70.00 19 29 33 2418.38 -12.20 55.51 214.12 122.15 20 9 51 1418.4 1.62 35.79
80.00 21 6 37 2114.99 -7.88 35.04 216.70 118.89 21 41 51 1114.6 4.47 14.50
90.00 22 41 35 1808.26 -6.13 13.46 217.65 117.86 23 11 43 808.3 5.64 352.62
100.00 23 49 29 1589.06 -7.88 356.40 216.70 118.89 24 15 58 589.1 4.47 335.87
110.00 0 32 55 1465.19 -12.20 344.43 214.12 122.15 0 57 20 465.2 1.62 324.71

DIFFERENTIAL CORRECTIONS
TDE -.5217 TRA-1.1367 TC3 .0192 BAW .0468 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
RDE -.5144 RRA .1815 RC3 .1069 FAU .03917 SGT 1390.4 SGR 574.9 S63 159.8 ST 32.5 SR 26.5 88 22.1
FDE .3328 FRA 1.2441 FC3-1.0789 BSP 2043 RRT .0480 RRF -.0540 RTF -.7572 CRT .7503 CR8 .5496 C8T .9627
BDE .7328 BRA 1.1511 BC3 .1106 F8P 216 SGB 1467.7 R23 -.0097 R13 -.7573 LSA 44.0 MSA 17.5 88A 1.1
SG1 1350.8 S62 574.1 THA 1.43 EL1 39.3 EL2 14.4 ALF 37.27

LAUNCH DATE APR 28 1971

FLIGHT TIME 118.00

ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC
RL 150.61 LAL -.00 LOL 217.07 VL 34.345 GAL -3.49 AZL 91.94 HCA 108.58 SNA 227.73 ECC .34344 INC 1.9397 V1 29.884
RP 206.94 LAP -1.84 LOP 325.66 VP 26.455 GAP 19.42 AZP 89.38 TAL 346.32 TAP 94.90 RCA 149.52 APO 305.94 VE 26.466
RC 57.675 GL -12.29 GP 1.11 ZAL 117.78 ZAP 170.58 ETS 173.18 ZAE 173.55 ETE 65.70 ZAC 101.36 ETC 277.43 LVI -18.61

DISTANCE 327.368
EARTH TO MARS
EARTH TIME INC 1.9397 V1 29.884
APO 305.94 VE 26.466
ZAC 101.36 ETC 277.43 LVI -18.61

PLANETOCENTRIC CONIC
C3 29.717 VHL 5.451 DLA -20.86 RAL 342.17 RAD 6646.9 VEL 12.233 PTH 7.18 VHP 9.310 DPA -16.68 RAP 318.99 ECC 1.4891
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

50.00 17 9 56 2007.36 -22.32 80.36 204.59 133.17 17 52 44 1807.4 -4.40 63.61
60.00 18 10 44 2635.05 -16.72 69.86 209.61 127.22 18 54 39 1635.1 -.91 51.44
70.00 19 32 47 2393.85 -11.31 54.18 213.49 122.44 20 12 40 1393.9 2.56 34.51
80.00 21 10 40 2087.51 -6.99 33.52 216.09 119.10 21 45 27 1087.5 5.38 13.01
90.00 22 46 4 1779.73 -5.23 11.85 217.05 117.83 23 15 44 779.7 6.54 351.01
100.00 23 53 31 1561.98 -6.99 354.89 216.09 119.10 24 19 33 562.0 5.38 334.37
110.00 0 36 9 1440.67 -11.31 343.09 213.49 122.44 1 0 9 440.7 2.56 323.43

DIFFERENTIAL CORRECTIONS
TDE -.5210 TRA-1.1311 TC3 .0278 BAW .0475 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
RDE -.4983 RRA .1736 RC3 .1162 FAU .04060 SGT 1385.4 SGR 573.1 S63 170.8 ST 33.4 SR 26.3 88 22.8
FDE .3408 FRA 1.2942 FC3-1.1827 BSP 2161 RRT .0532 RRF -.0588 RTF -.7619 CRT .7518 CR8 .5435 C8T .9802
BDE .7209 BRA 1.1443 BC3 .1194 F8P 232 SGB 1499.2 R23 -.0100 R13 -7.620 LSA 44.8 MSA 17.7 88A 1.2
SG1 1385.8 S62 572.1 THA 1.52 EL1 40.0 EL2 14.5 ALF 36.19

LAUNCH DATE APR 28 1971

FLIGHT TIME 120.00

ARRIVAL DATE AUG 26 1971

HELIOCENTRIC CONIC
RL 150.61 LAL -.00 LOL 217.07 VL 34.210 GAL -3.37 AZL 91.95 HCA 109.85 SNA 224.17 ECC .33282 INC 1.9495 V1 29.884
RP 206.87 LAP -1.83 LOP 326.93 VP 26.287 GAP 18.95 AZP 89.34 TAL 346.44 TAP 98.28 RCA 149.58 APO 298.78 V2 26.473
RC 58.203 GL -12.65 GP 1.15 ZAL 117.71 ZAP 169.66 ETS 173.58 ZAE 173.25 ETE 59.92 ZAC 101.36 ETC 277.50 LVI -18.74

DISTANCE 330.283
EARTH TO MARS
EARTH TIME INC 1.9495 V1 29.884
APO 298.78 V2 26.473
ZAC 101.36 ETC 277.50 LVI -18.74

PLANETOCENTRIC CONIC
C3 28.139 VHL 5.305 DLA -21.20 RAL 342.29 RAD 6646.3 VEL 12.169 PTH 7.13 VHP 9.021 DPA -16.51 RAP 319.32 ECC 1.4631
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

50.00 17 7 57 2786.41 -21.35 79.33 203.98 133.59 17 54 24 1786.4 -3.35 62.73
60.00 18 13 18 2612.65 -15.79 68.69 208.99 127.57 18 56 50 1612.7 .08 50.38
70.00 19 36 4 2369.29 -10.41 52.84 212.88 122.71 20 15 34 1369.3 3.49 33.23
80.00 21 14 30 2060.20 -6.08 32.00 215.51 119.29 21 49 10 1060.2 6.29 11.49
90.00 22 50 44 1750.85 -4.31 10.23 216.48 117.98 23 19 55 750.6 7.45 349.37
100.00 0 1 38 1534.68 -6.08 353.37 215.51 119.29 0 27 13 534.7 6.29 332.86
110.00 0 39 27 1418.11 -10.41 341.76 212.88 122.71 1 3 3 416.1 3.49 322.15

DIFFERENTIAL CORRECTIONS
TDE -.5182 TRA-1.1229 TC3 .0398 BAW .0489 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
RDE -.4926 RRA .1858 RC3 .1238 FAU .04209 SGT 1416.9 SGR 570.9 S63 182.6 ST 34.1 SR 26.2 88 23.5
FDE .3496 FRA 1.3470 FC3-1.2949 BSP 2249 RRT .0586 RRF -.0642 RTF -.7680 CRT .7524 CR8 .5378 C8T .9901
BDE .7081 BRA 1.1331 BC3 .1300 F8P 249 SGB 1527.5 R23 -.0106 R13 -7.682 LSA 45.6 MSA 17.9 88A 1.2
SG1 1417.3 S62 569.7 THA 1.61 EL1 40.5 EL2 14.6 ALF 35.26

LAUNCH DATE APR 28 1971

FLIGHT TIME 122.00

ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC
RL 150.61 LAL -.00 LOL 217.07 VL 34.083 GAL -3.27 AZL 91.96 HCA 111.11 SNA 220.92 ECC .32281 INC 1.9594 V1 29.884
RP 206.82 LAP -1.83 LOP 328.20 VP 26.128 GAP 18.49 AZP 89.29 TAL 346.57 TAP 97.68 RCA 149.60 APO 292.23 V2 26.479
RC 58.807 GL -13.02 GP 1.19 ZAL 117.82 ZAP 168.73 ETS 173.92 ZAE 172.93 ETE 55.02 ZAC 101.35 ETC 277.57 LVI -18.86

DISTANCE 333.275
EARTH TO MARS
EARTH TIME INC 1.9594 V1 29.884
APO 292.23 V2 26.479
ZAC 101.35 ETC 277.57 LVI -18.86

PLANETOCENTRIC CONIC
C3 26.684 VHL 5.166 DLA -21.56 RAL 342.40 RAD 6645.7 VEL 12.110 PTH 7.08 VHP 8.743 DPA -16.37 RAP 319.64 ECC 1.4391
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

50.00 17 9 59 2765.64 -20.37 78.33 203.40 133.98 17 56 4 1765.6 -2.31 61.86
60.00 18 15 53 2590.36 -14.86 67.54 208.40 127.90 18 59 4 1590.4 1.06 49.31
70.00 19 39 27 2344.73 -9.50 51.52 212.30 122.96 20 18 31 1344.7 4.42 31.94
80.00 21 19 9 2032.69 -5.16 30.48 214.95 119.45 21 53 2 1032.7 7.20 9.96
90.00 22 55 35 1721.61 -3.37 8.59 215.93 118.10 23 24 17 721.6 8.36 347.71
100.00 0 5 57 1507.16 -5.16 351.85 214.95 119.45 0 31 4 507.2 7.20 331.53
110.00 0 42 49 1391.54 -9.50 340.44 212.30 122.96 1 6 0 391.5 4.42 320.86

DIFFERENTIAL CORRECTIONS
TDE -.5139 TRA-1.1136 TC3 .0537 BAW .0507 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
RDE -.4675 RRA .1582 RC3 .1317 FAU .04367 SGT 1446.4 SGR 568.3 S63 195.1 ST 34.8 SR 26.1 88 24.2
FDE .3587 FRA 1.4028 FC3-1.4167 BSP 2327 RRT .0640 RRF -.0700 RTF -.7746 CRT .7526 CR8 .5318 C8T .9560
BDE .6947 BRA 1.1248 BC3 .1422 F8P 269 SGB 1554.0 R23 -.0115 R13 -7.748 LSA 46.4 MSA 18.1 88A 1.2
SG1 1446.9 S62 566.9 THA 1.70 EL1 40.9 EL2 14.6 ALF 34.41

LAUNCH DATE APR 28 1971

FLIGHT TIME 124.00

ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC

RL 150.61 LAL -0.00 LOL 217.07 VL 33.982 GAL -3.16 AZL 91.97 HCA 112.38 SMA 217.95 ECC .31338 INC 1.9894 V1 29.584
RP 206.77 LAP -1.82 LOP 329.47 VP 25.976 GAP 18.03 AZP 89.25 TAL 346.70 TAP 99.08 RCA 149.65 APO 286.25 V2 26.485
RC 59.485 GL -13.39 GP 1.24 ZAL 117.92 ZAP 167.78 ETS 174.20 ZAE 172.60 ETE 50.92 ZAC 101.36 ETC 277.64 LVI -19.01

PLANETOCENTRIC CONIC

C3 25.340 VHL 5.034 DLA -21.92 RAL 342.49 RAD 6645.1 VEL 12.054 PTH 7.04 VHP 8.473 DPA -16.23 RAP 319.94 ECC 1.4170
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 17 12 1 2745.08 -19.39 77.35 202.84 134.34 17 57 46 1745.1 -1.28 61.00
60.00 18 18 31 2566.21 -13.93 66.41 207.83 128.21 19 1 19 1566.2 2.03 48.25
70.00 19 42 54 2320.17 -8.59 50.20 211.74 123.18 20 21 34 1320.2 5.36 30.65
80.00 21 23 36 2004.97 -4.23 28.95 214.42 118.18 21 57 1 1005.0 8.12 8.41
90.00 23 0 38 1692.01 -2.42 6.93 215.42 116.18 23 26 50 692.0 9.28 346.01
100.00 0 10 24 1479.45 -4.23 350.31 214.42 119.58 0 35 3 479.4 8.12 329.78
110.00 0 46 16 1366.99 -8.59 339.12 211.74 123.18 1 9 3 367.0 5.36 319.57

DIFFERENTIAL CORRECTIONS

TDE -.5090 TRA-1.1032 TC3 .0696 BAV .0529
RDE -.4528 RRA .1506 RC3 .1399 FAU .04533
FDE .3681 FRA 1.4612 FC3-1.5487 B8P 2394
BDE .6813 BRA 1.1134 BC3 .1563 F8P 291

MID-COURSE EXECUTION ACCURACY

SGT 1474.0 SGR 565.4 S63 208.4
RRT .0700 RRF -.0765 RTF -.7813
S6B 1578.7 R23 -.0124 R13 -.7815
S61 1474.6 S62 565.7 THA 1.80

ORBIT DETERMINATION ACCURACY

ST 35.4 SR 25.9 SS 25.0
CRT .7528 CR8 .5259 C8T .9540
LSA 47.1 MSA 18.2 SSA 1.2
EL1 41.4 EL2 14.6 ALF 33.61

LAUNCH DATE APR 28 1971

FLIGHT TIME 126.00

ARRIVAL DATE SEP 1 1971

HELIOCENTRIC CONIC

RL 150.61 LAL -0.00 LOL 217.07 VL 33.848 GAL -3.06 AZL 91.98 HCA 113.65 SMA 215.22 ECC .30449 INC 1.9797 V1 29.584
RP 206.74 LAP -1.81 LOP 330.73 VP 25.831 GAP 17.59 AZP 89.21 TAL 346.85 TAP 100.50 RCA 149.69 APO 280.75 V2 26.489
RC 60.233 GL -13.76 GP 1.29 ZAL 117.40 ZAP 166.81 ETS 174.44 ZAE 172.29 ETE 47.50 ZAC 101.36 ETC 277.70 LVI -19.14

PLANETOCENTRIC CONIC

C3 24.101 VHL 4.909 DLA -22.30 RAL 342.58 RAD 6644.6 VEL 12.003 PTH 7.00 VHP 8.212 DPA -16.10 RAP 320.22 ECC 1.3968
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 17 14 3 2724.75 -18.42 78.39 202.31 134.68 17 59 28 1724.8 -.26 60.15
60.00 18 21 11 2546.23 -13.01 65.29 207.29 128.49 19 3 37 1546.2 3.00 47.20
70.00 19 46 25 2295.65 -7.67 48.90 211.22 123.38 20 24 41 1295.6 6.28 29.36
80.00 21 28 13 1977.06 -3.29 27.41 213.92 119.69 22 1 10 977.1 9.03 6.84
90.00 23 5 53 1662.03 -1.45 5.26 214.94 118.25 23 35 35 662.0 10.19 344.29
100.00 0 15 1 1451.53 -3.29 348.78 213.92 119.69 0 39 12 451.5 9.03 328.21
110.00 0 49 47 1342.46 -7.67 337.61 211.22 123.38 1 12 10 342.5 6.28 316.87

DIFFERENTIAL CORRECTIONS

TDE -.5034 TRA-1.0922 TC3 .0872 BAV .0555
RDE -.4387 RRA .1432 RC3 .1485 FAU .04712
FDE .3777 FRA 1.5231 FC3-1.6926 B8P 2459
BDE .6677 BRA 1.1016 BC3 .1722 F8P 314

MID-COURSE EXECUTION ACCURACY

SGT 1500.2 SGR 562.1 S63 222.8
RRT .0765 RRF -.0835 RTF -.7881
S6B 1602.1 R23 -.0135 R13 -.7883
S61 1501.0 S62 560.2 THA 1.91

ORBIT DETERMINATION ACCURACY

ST 35.9 SR 25.7 SS 25.8
CRT .7528 CR8 .5199 C8T .9519
LSA 47.7 MSA 18.4 SSA 1.2
EL1 41.7 EL2 14.6 ALF 32.87

LAUNCH DATE APR 28 1971

FLIGHT TIME 128.00

ARRIVAL DATE SEP 3 1971

HELIOCENTRIC CONIC

RL 150.61 LAL -0.00 LOL 217.07 VL 33.741 GAL -2.98 AZL 91.99 HCA 114.92 SMA 212.72 ECC .29812 INC 1.9902 V1 29.584
RP 206.71 LAP -1.80 LOP 332.00 VP 25.894 GAP 17.15 AZP 89.16 TAL 347.00 TAP 101.92 RCA 149.73 APO 275.71 V2 26.492
RC 61.050 GL -14.14 GP 1.34 ZAL 117.26 ZAP 165.82 ETS 174.65 ZAE 172.00 ETE 44.68 ZAC 101.37 ETC 277.76 LVI -19.27

PLANETOCENTRIC CONIC

C3 22.956 VHL 4.791 DLA -22.68 RAL 342.65 RAD 6644.1 VEL 11.956 PTH 6.96 VHP 7.959 DPA -15.96 RAP 320.48 ECC 1.3778
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 17 16 6 2704.67 -17.46 75.45 201.80 134.99 18 1 11 1704.7 .75 59.31
60.00 18 23 53 2524.43 -12.08 64.20 206.78 128.75 19 5 57 1524.4 3.98 46.16
70.00 19 50 1 2271.18 -6.76 47.60 210.72 123.56 20 27 53 1271.2 7.20 26.06
80.00 21 32 59 1948.98 -2.34 25.86 213.45 119.77 22 5 28 948.9 9.94 5.25
90.00 23 11 21 1631.65 -.47 3.57 214.49 118.28 23 38 33 631.7 11.11 342.53
100.00 0 19 47 1423.42 -2.34 347.23 213.45 119.77 0 43 30 423.4 9.94 326.62
110.00 0 53 24 1318.00 -6.76 336.52 210.72 123.56 1 15 22 318.0 7.20 318.98

DIFFERENTIAL CORRECTIONS

TDE -.4972 TRA-1.0806 TC3 .1052 BAV .0581
RDE -.4250 RRA .1398 RC3 .1573 FAU .04900
FDE .3870 FRA 1.5875 FC3-1.8478 B8P 2509
BDE .6540 BRA 1.0892 BC3 .1893 F8P 338

MID-COURSE EXECUTION ACCURACY

SGT 1524.9 SGR 558.5 S63 237.9
RRT .0831 RRF -.0910 RTF -.7543
S6B 1623.9 R23 -.0149 R13 -.7546
S61 1525.7 S62 556.3 THA 2.01

ORBIT DETERMINATION ACCURACY

ST 36.4 SR 25.5 SS 26.6
CRT .7528 CR8 .5134 C8T .9497
LSA 48.4 MSA 18.5 SSA 1.2
EL1 42.0 EL2 14.6 ALF 32.17

LAUNCH DATE APR 28 1971

FLIGHT TIME 130.00

ARRIVAL DATE SEP 5 1971

HELIOCENTRIC CONIC

RL 150.61 LAL -0.00 LOL 217.07 VL 33.640 GAL -2.86 AZL 92.00 HCA 116.19 SMA 210.42 ECC .28824 INC 2.0009 V1 29.584
RP 206.69 LAP -1.80 LOP 333.27 VP 25.863 GAP 16.72 AZP 89.12 TAL 347.16 TAP 103.35 RCA 149.77 APO 271.07 V2 26.498
RC 61.933 GL -14.52 GP 1.39 ZAL 117.12 ZAP 164.81 ETS 174.83 ZAE 171.75 ETE 42.37 ZAC 101.39 ETC 277.82 LVI -19.39

PLANETOCENTRIC CONIC

C3 21.900 VHL 4.680 DLA -23.07 RAL 342.71 RAD 6643.7 VEL 11.912 PTH 6.92 VHP 7.715 DPA -15.83 RAP 320.72 ECC 1.3804
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 17 18 10 2684.87 -16.50 74.54 201.32 135.28 18 2 55 1684.9 1.75 58.49
60.00 18 26 37 2502.83 -11.16 63.12 206.30 128.98 19 8 20 1502.8 4.90 45.12
70.00 19 53 43 2246.78 -5.84 46.31 210.26 123.71 20 31 10 1246.8 8.12 26.76
80.00 21 37 56 1920.63 -1.39 24.31 213.01 119.83 22 9 56 920.6 10.85 3.64
90.00 23 17 5 1600.83 -.52 1.85 214.07 118.28 23 43 45 600.8 12.03 340.73
100.00 0 24 43 1395.10 -1.39 345.67 213.01 119.83 0 47 59 395.1 10.85 325.01
110.00 0 57 5 1293.60 -5.84 335.23 210.26 123.71 1 18 39 293.6 8.12 315.68

DIFFERENTIAL CORRECTIONS

TDE -.4910 TRA-1.0685 TC3 .1249 BAV .0609
RDE -.4117 RRA .1296 RC3 .1665 FAU .05101
FDE .3966 FRA 1.6556 FC3-2.0165 B8P 2560
BDE .6407 BRA 1.0762 BC3 .2081 F8P 365

MID-COURSE EXECUTION ACCURACY

SGT 1548.2 SGR 554.7 S63 254.1
RRT .0907 RRF -.0992 RTF -.8005
S6B 1644.5 R23 -.0161 R13 -.8008
S61 1549.1 S62 552.0 THA 2.13

ORBIT DETERMINATION ACCURACY

ST 36.9 SR 25.3 SS 27.4
CRT .7527 CR8 .5068 C8T .9473
LSA 49.0 MSA 18.0 SSA 1.2
EL1 42.5 EL2 14.5 ALF 31.50

LAUNCH DATE APR 28 1971

FLIGHT TIME 132.00

ARRIVAL DATE SEP 7 1971

HELIOCENTRIC CONIC

DISTANCE 349.689

EARTH TO MARS

RL 150.61 LAL -.00 LOL 217.07 VL 33.844 GAL -2.77 AZL 92.01 HCA 117.46 SNA 208.30 ECC .28082 INC 2.0110 V1 28.884
RP 206.68 LAP -1.79 LOP 334.54 VP 25.439 GAP 16.30 AZP 89.07 TAL 347.32 TAP 104.78 RCA 149.81 APO 266.79 V2 26.498
RC 62.879 GL -14.90 GP 1.45 ZAL 116.98 ZAP 163.78 ETS 174.99 ZAE 171.55 ETE 40.50 ZAC 101.42 ETC 277.87 LVI -19.91

PLANETOCENTRIC CONIC

C3 20.924 VHL 4.574 DLA -23.46 RAL 342.77 RAD 8643.2 VEL 11.871 PTH 6.88 VHP 7.479 DPA -19.71 RAP 320.94 ECC 1.3444
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 20 15 2665.37 -15.96 73.85 200.86 135.55 18 4 40 1665.4 2.73 57.67
60.00 18 29 24 2481.47 -10.24 62.06 203.85 129.19 19 10 45 1481.5 5.84 44.09
70.00 19 57 30 2222.47 -4.92 45.03 209.82 123.84 20 34 32 1222.5 9.02 25.46
80.00 21 43 3 1892.11 -.42 22.74 212.61 119.86 22 14 35 892.1 11.76 2.01
90.00 23 23 4 1569.53 1.53 .10 213.70 118.24 23 49 13 569.5 12.95 338.89
100.00 0 29 51 1366.58 -.42 344.11 212.81 119.86 0 52 37 366.6 11.78 323.38
110.00 1 0 52 1269.29 -4.92 333.95 209.82 123.84 1 22 1 269.3 9.02 314.58

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4842 TRA-1.0357 TC3 .1443 BAU .0637 SGT 1569.4 SGR 550.5 SCS 271.4 ST 37.2 SR 23.1 SS 28.2
RDE -.3989 RRA .1214 RC3 .1760 FAU .05315 RRT .0987 RRF -.1082 RTF -.8059 CRT .7527 CRS .5000 CST .9448
FDE .4060 FRA 1.7266 FC3-2.1991 B8P 2604 SGB 1663.2 R23 -.0177 R13 -.8062 LSA 49.6 MSA 18.8 S8A 1.2
BDE .6273 BRA 1.0627 BC3 .2275 F8P 393 SGI 1570.5 SGI 547.4 THA 2.26 EL1 42.5 EL2 14.5 ALF 30.87

LAUNCH DATE APR 28 1971

FLIGHT TIME 134.00

ARRIVAL DATE SEP 9 1971

HELIOCENTRIC CONIC

DISTANCE 353.187

EARTH TO MARS

RL 150.61 LAL -.00 LOL 217.07 VL 33.454 GAL -2.68 AZL 92.02 HCA 118.73 SNA 206.34 ECC .27383 INC 2.0230 V1 28.884
RP 206.67 LAP -1.77 LOP 335.81 VP 25.320 GAP 15.89 AZP 89.03 TAL 347.49 TAP 106.21 RCA 149.84 APO 282.85 V2 26.498
RC 83.888 GL -15.29 GP 1.51 ZAL 116.79 ZAP 162.72 ETS 175.13 ZAE 171.39 ETE 39.03 ZAC 101.44 ETC 277.91 LVI -19.63

PLANETOCENTRIC CONIC

C3 20.023 VHL 4.475 DLA -23.86 RAL 342.82 RAD 8642.8 VEL 11.834 PTH 6.85 VHP 7.250 DPA -15.58 RAP 321.14 ECC 1.3288
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 22 21 2646.18 -14.82 72.79 200.46 135.80 18 6 27 1646.2 3.89 56.87
60.00 18 32 13 2460.36 -9.33 61.02 205.42 129.39 19 13 13 1460.4 6.76 43.07
70.00 20 1 22 2198.27 -4.00 43.76 209.42 123.95 20 38 0 1198.3 9.92 24.18
80.00 21 48 22 1863.35 .55 21.16 212.25 119.85 22 19 28 863.4 12.66 .35
90.00 23 29 21 1537.67 2.55 358.32 213.36 118.17 23 54 59 537.7 13.87 337.01
100.00 0 35 10 1337.82 .55 342.53 212.25 119.85 0 57 28 337.8 12.66 321.72
110.00 1 4 44 1245.09 -4.00 332.68 209.42 123.95 1 25 29 245.1 9.92 313.08

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4773 TRA-1.0427 TC3 .1645 BAU .0664 SGT 1589.5 SGR 546.0 SCS 289.8 ST 37.6 SR 24.9 SS 29.0
RDE -.3865 RRA .1143 RC3 .1858 FAU .05543 RRT .1075 RRF -.1181 RTF -.8111 CRT .7528 CRS .4931 CST .9422
FDE .4157 FRA 1.8020 FC3-2.3968 B8P 2645 SGB 1680.6 R23 -.0195 R13 -.8115 LSA 50.1 MSA 18.9 S8A 1.3
BDE .6141 BRA 1.0490 BC3 .2481 F8P 423 SGI 1590.7 SGI 542.5 THA 2.39 EL1 42.7 EL2 14.4 ALF 30.26

LAUNCH DATE APR 28 1971

FLIGHT TIME 136.00

ARRIVAL DATE SEP 11 1971

HELIOCENTRIC CONIC

DISTANCE 356.743

EARTH TO MARS

RL 150.61 LAL -.00 LOL 217.07 VL 33.389 GAL -2.59 AZL 92.03 HCA 119.99 SNA 204.54 ECC .26725 INC 2.0345 V1 29.584
RP 206.68 LAP -1.78 LOP 337.08 VP 25.207 GAP 15.49 AZP 88.98 TAL 347.66 TAP 107.63 RCA 149.88 APO 259.20 V2 26.498
RC 64.956 GL -15.67 GP 1.57 ZAL 116.62 ZAP 161.65 ETS 175.25 ZAE 171.30 ETE 37.91 ZAC 101.48 ETC 277.98 LVI -19.74

PLANETOCENTRIC CONIC

C3 19.192 VHL 4.381 DLA -24.26 RAL 342.87 RAD 8642.5 VEL 11.799 PTH 6.82 VHP 7.029 DPA -15.46 RAP 321.31 ECC 1.3188
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 24 27 2627.32 -13.70 71.94 200.06 136.02 18 8 14 1627.3 4.64 56.08
60.00 18 35 4 2439.53 -8.43 60.00 203.03 129.36 19 15 43 1439.5 7.67 42.06
70.00 20 5 19 2174.19 -3.08 42.90 209.05 124.03 20 41 33 1174.2 10.81 22.86
80.00 21 53 54 1834.35 1.54 19.57 211.92 119.82 22 24 28 834.3 13.56 358.67
90.00 23 35 58 1505.18 3.80 356.50 213.06 118.07 24 1 3 505.2 14.79 335.07
100.00 0 40 42 1308.82 1.94 340.94 211.92 119.82 1 2 31 308.8 13.56 320.03
110.00 1 8 41 1221.01 -3.08 331.41 209.05 124.03 1 29 2 221.0 10.81 311.78

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4707 TRA-1.0294 TC3 .1839 BAU .0689 SGT 1608.1 SGR 541.3 SCS 309.3 ST 37.9 SR 24.6 SS 29.9
RDE -.3745 RRA .1073 RC3 .1958 FAU .05783 RRT .1171 RRF -.1288 RTF -.8157 CRT .7533 CRS .4882 CST .9393
FDE .4256 FRA 1.8813 FC3-2.6089 B8P 2693 SGB 1696.7 R23 -.0214 R13 -.8162 LSA 50.7 MSA 19.1 S8A 1.3
BDE .6015 BRA 1.0350 BC3 .2686 F8P 456 SGI 1609.5 SGI 537.2 THA 2.54 EL1 42.9 EL2 14.3 ALF 29.67

LAUNCH DATE APR 28 1971

FLIGHT TIME 138.00

ARRIVAL DATE SEP 13 1971

HELIOCENTRIC CONIC

DISTANCE 360.351

EARTH TO MARS

RL 150.61 LAL -.00 LOL 217.07 VL 33.289 GAL -2.51 AZL 92.05 HCA 121.26 SNA 202.87 ECC .26106 INC 2.0462 V1 29.584
RP 206.70 LAP -1.75 LOP 338.35 VP 25.099 GAP 15.10 AZP 88.94 TAL 347.83 TAP 109.09 RCA 149.91 APO 255.83 V2 26.494
RC 66.082 GL -16.06 GP 1.84 ZAL 116.44 ZAP 160.55 ETS 175.35 ZAE 171.25 ETE 37.12 ZAC 101.52 ETC 277.99 LVI -19.85

PLANETOCENTRIC CONIC

C3 18.424 VHL 4.292 DLA -24.67 RAL 342.91 RAD 8642.1 VEL 11.766 PTH 6.79 VHP 6.819 DPA -15.35 RAP 321.45 ECC 1.3032
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 26 35 2608.82 -12.79 71.13 199.70 136.23 18 10 4 1608.8 5.56 55.30
60.00 18 37 58 2418.97 -7.54 58.99 204.67 129.71 19 18 17 1419.0 8.56 41.05
70.00 20 9 22 2150.23 -2.17 41.24 208.71 124.09 20 45 12 1150.2 11.68 21.56
80.00 21 59 40 1805.05 2.53 17.96 211.64 119.78 22 29 45 805.1 14.45 356.95
90.00 23 42 57 1471.94 4.66 354.64 212.81 117.92 24 7 29 471.9 15.72 335.07
100.00 0 46 27 1279.53 2.53 339.33 211.64 119.78 1 7 47 279.5 14.45 318.32
110.00 1 12 44 1187.05 -2.17 330.16 208.71 124.09 1 32 41 197.1 11.68 310.48

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4635 TRA-1.0190 TC3 .2034 BAU .0713 SGT 1623.6 SGR 536.4 SCS 330.1 ST 38.2 SR 24.3 SS 30.8
RDE -.3630 RRA .1003 RC3 .2063 FAU .06041 RRT .1275 RRF -.1405 RTF -.8199 CRT .7539 CRS .4790 CST .9362
FDE .4351 FRA 1.9641 FC3-2.8388 B8P 2728 SGB 1709.9 R23 -.0236 R13 -.8203 LSA 51.2 MSA 19.2 S8A 1.3
BDE .5887 BRA 1.0199 BC3 .2897 F8P 490 SGI 1625.2 SGI 531.5 THA 2.70 EL1 43.0 EL2 14.2 ALF 29.14

LAUNCH DATE APR 28 1971

FLIGHT TIME 140.00

ARRIVAL DATE SEP 15 1971

HELIOCENTRIC CONIC
 RL 150.61 LAL -.00 LOL 217.07 VL 33.214 GAL -2.43 AZL 92.06 HCA 122.93 SMA 201.32 ECC .25522 INC 2.0503 V1 29.564
 RP 206.72 LAP -1.74 LOP 339.62 VP 24.996 GAP 14.71 AZP 88.89 TAL 348.00 TAP 110.54 RCA 149.94 APO 252.71 V2 26.491
 RC 67.265 GL -16.45 GP 1.71 ZAL 116.25 ZAP 159.42 ETS 175.44 ZAE 171.27 ETE 36.66 ZAC 101.57 ETC 276.02 LVI -19.96

PLANETOCENTRIC CONIC
 C3 17.714 VHL 4.209 DLA -25.06 RAL 342.94 RAD 6641.6 VEL 11.736 PTH 6.77 VHP 6.608 DPA -15.24 RAP 321.57 ECC 1.2915
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 28 44 2590.63 -11.90 70.33 199.36 136.42 18 11 54 1590.6 6.47 54.53
 60.00 18 40 54 2398.67 -6.65 58.01 204.34 129.84 19 20 53 1398.7 9.44 40.06
 70.00 20 13 32 2126.35 -1.25 40.00 208.41 124.13 20 48 58 1126.3 12.55 20.25
 80.00 22 5 41 1775.33 3.53 16.33 211.38 119.67 22 35 16 775.3 15.34 355.20
 90.00 23 50 23 1437.66 5.75 332.71 212.60 117.74 24 14 20 437.7 16.65 330.98
 100.00 0 52 29 1249.80 3.53 337.69 211.38 119.67 1 13 18 249.8 15.34 316.57
 110.00 1 16 54 1173.16 -1.25 328.92 208.41 124.13 1 36 27 173.2 12.55 309.17

DIFFERENTIAL CORRECTIONS
 TDE -.4432 TRA -.9871 TC3 .2527 BAU .0789 SGT 1615.8 SGR 531.3 SG3 352.3 ST 37.5 SR 24.0 SS 31.6
 RDE -.3516 RRA .0934 RC3 .2174 FAU .06327 RRT .1591 RRF -.1533 RTF -.8330 CRT .7496 CRS .4703 CST .9351
 FDE .4428 FRA 2.0498 FC3-3.0923 B8P 2591 SGB 1700.9 R23 -.0240 R13 -.8335 LSA 51.0 MSA 19.4 SSA 1.2
 BDE .9658 BRA .9915 BC3 .3333 F8P 524 SG1 1617.7 S62 525.6 THA 2.93 EL1 42.2 EL2 14.1 ALF 29.24

LAUNCH DATE APR 28 1971

FLIGHT TIME 142.00

ARRIVAL DATE SEP 17 1971

HELIOCENTRIC CONIC
 RL 150.61 LAL -.00 LOL 217.07 VL 33.143 GAL -2.38 AZL 92.07 HCA 123.80 SMA 199.80 ECC .24975 INC 2.0707 V1 29.584
 RP 206.75 LAP -1.72 LOP 340.89 VP 24.898 GAP 14.33 AZP 88.85 TAL 348.18 TAP 111.98 RCA 149.97 APO 249.82 V2 26.487
 RC 68.502 GL -16.64 GP 1.78 ZAL 116.06 ZAP 159.26 ETS 175.52 ZAE 171.36 ETE 36.52 ZAC 101.63 ETC 278.05 LVI -20.06

PLANETOCENTRIC CONIC
 C3 17.061 VHL 4.131 DLA -25.49 RAL 342.98 RAD 6641.5 VEL 11.709 PTH 6.74 VHP 6.408 DPA -15.13 RAP 321.66 ECC 1.2808
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 30 54 2572.90 -11.02 69.55 199.06 136.58 18 13 47 1572.9 7.36 53.78
 60.00 18 43 53 2376.78 -5.78 57.05 204.04 129.95 19 23 32 1378.8 10.29 39.08
 70.00 20 17 46 2102.73 -.35 38.77 208.14 124.15 20 52 49 1102.7 13.40 18.95
 80.00 22 11 57 1745.37 4.84 14.67 211.18 119.54 22 41 2 745.4 16.23 353.41
 90.00 0 2 13 1402.42 6.86 390.72 212.45 117.50 0 25 36 402.4 17.56 326.82
 100.00 0 58 45 1219.84 4.54 338.04 211.18 119.54 1 19 5 219.8 16.23 314.78
 110.00 1 21 9 1149.54 -.35 327.88 208.14 124.15 1 40 18 149.5 13.40 307.87

DIFFERENTIAL CORRECTIONS
 TDE -.4422 TRA -.9782 TC3 .2559 BAU .0782 SGT 1637.2 SGR 526.1 SG3 375.8 ST 38.1 SR 23.7 SS 32.8
 RDE -.3409 RRA .0864 RC3 .2283 FAU .06612 RRT .1513 RRF -.1671 RTF -.8314 CRT .7531 CRS .4634 CST .9304
 FDE .4528 FRA 2.1428 FC3-3.3550 B8P 2703 SGB 1719.8 R23 -.0278 R13 -.8320 LSA 51.8 MSA 19.5 SSA 1.3
 BDE .5583 BRA .9820 BC3 .3429 F8P 565 SG1 1639.3 S62 519.4 THA 3.09 EL1 42.6 EL2 13.9 ALF 28.46

LAUNCH DATE APR 28 1971

FLIGHT TIME 144.00

ARRIVAL DATE SEP 19 1971

HELIOCENTRIC CONIC
 RL 150.61 LAL -.00 LOL 217.07 VL 33.076 GAL -2.28 AZL 92.08 HCA 125.07 SMA 198.87 ECC .24480 INC 2.0839 V1 29.594
 RP 206.79 LAP -1.71 LOP 342.16 VP 24.804 GAP 13.98 AZP 88.80 TAL 348.35 TAP 113.42 RCA 150.00 APO 247.14 V2 26.493
 RC 69.791 GL -17.83 GP 1.86 ZAL 115.87 ZAP 157.08 ETS 175.59 ZAE 171.50 ETE 36.71 ZAC 101.70 ETC 276.07 LVI -20.16

PLANETOCENTRIC CONIC
 C3 16.499 VHL 4.057 DLA -25.80 RAL 343.01 RAD 6641.2 VEL 11.683 PTH 6.72 VHP 6.219 DPA -15.02 RAP 321.72 ECC 1.2709
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 33 5 2385.56 -10.16 68.80 198.78 136.74 18 15 41 1355.6 8.22 53.04
 60.00 18 46 54 2359.21 -4.93 66.10 203.77 130.05 19 26 14 1359.2 11.13 38.10
 70.00 20 22 8 2079.25 .55 37.54 207.91 124.15 20 56 47 1079.2 14.23 17.64
 80.00 22 18 32 1714.92 5.96 12.99 211.02 119.38 22 47 7 714.9 17.11 351.58
 90.00 0 10 44 1365.73 8.01 348.63 212.34 117.21 0 33 30 365.7 18.52 326.54
 100.00 1 5 19 1189.39 5.56 334.36 211.02 119.38 1 25 9 189.4 17.11 312.95
 110.00 1 25 30 1126.07 .55 326.46 207.91 124.15 1 44 16 126.1 14.23 306.56

DIFFERENTIAL CORRECTIONS
 TDE -.4386 TRA -.9657 TC3 .2648 BAU .0786 SGT 1651.9 SGR 520.8 SG3 400.8 ST 36.4 SR 23.4 SS 33.4
 RDE -.3305 RRA .0794 RC3 .2397 FAU .06918 RRT .1648 RRF -.1826 RTF -.8317 CRT .7582 CRS .4873 CST .9261
 FDE .4635 FRA 2.2407 FC3-3.6390 B8P 2769 SGB 1732.0 R23 -.0312 R13 -.8324 LSA 52.5 MSA 19.6 SSA 1.3
 BDE .5492 BRA .9690 BC3 .3571 F8P 608 SG1 1654.3 S62 512.9 THA 3.29 EL1 42.8 EL2 13.7 ALF 27.85

LAUNCH DATE APR 28 1971

FLIGHT TIME 146.00

ARRIVAL DATE SEP 21 1971

HELIOCENTRIC CONIC
 RL 150.61 LAL -.00 LOL 217.07 VL 33.013 GAL -2.21 AZL 92.10 HCA 126.34 SMA 197.34 ECC .23976 INC 2.0987 V1 29.584
 RP 206.84 LAP -1.69 LOP 343.43 VP 24.713 GAP 13.60 AZP 88.78 TAL 348.51 TAP 114.85 RCA 150.03 APO 244.66 V2 26.477
 RC 71.130 GL -17.62 GP 1.95 ZAL 118.68 ZAP 155.67 ETS 175.65 ZAE 171.71 ETE 37.27 ZAC 101.77 ETC 276.09 LVI -20.26

PLANETOCENTRIC CONIC
 C3 16.904 VHL 3.988 DLA -26.31 RAL 343.08 RAD 6641.0 VEL 11.660 PTH 6.70 VHP 6.028 DPA -14.93 RAP 321.78 ECC 1.2617
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 35 18 2336.62 -9.32 66.07 198.54 136.87 18 17 36 1336.6 9.07 52.31
 60.00 18 49 39 2339.99 -4.08 55.18 203.54 130.13 19 28 59 1340.0 11.96 37.15
 70.00 20 26 35 2095.93 1.44 36.32 207.71 124.13 21 0 51 1055.9 15.06 16.34
 80.00 22 25 27 1683.69 6.59 11.27 210.90 119.19 22 53 31 683.9 17.98 349.69
 90.00 0 20 1 1327.11 9.20 346.43 212.30 116.86 0 42 8 327.1 19.48 324.11
 100.00 1 12 15 1158.36 6.59 332.63 210.90 119.19 1 31 33 156.4 17.98 311.06
 110.00 1 29 58 1102.75 1.44 325.24 207.71 124.13 1 48 20 102.7 15.06 305.25

DIFFERENTIAL CORRECTIONS
 TDE -.4334 TRA -.9514 TC3 .2746 BAU .0792 SGT 1661.6 SGR 515.3 SG3 427.4 ST 36.6 SR 23.1 SS 34.4
 RDE -.3204 RRA .0784 RC3 .2514 FAU .07243 RRT .1795 RRF -.1993 RTF -.8324 CRT .7590 CRS .4308 CST .9217
 FDE .4739 FRA 2.3445 FC3-3.9427 B8P 2816 SGB 1739.7 R23 -.0352 R13 -.8332 LSA 53.1 MSA 19.8 SSA 1.3
 BDE .5390 BRA .9542 BC3 .3723 F8P 653 SG1 1664.4 S62 506.1 THA 3.51 EL1 42.9 EL2 13.5 ALF 27.33

LAUNCH DATE APR 28 1971

FLIGHT TIME 148.00

ARRIVAL DATE SEP 23 1971

HELIOCENTRIC CONIC

DISTANCE 379.039

EARTH TO MARS

RL 150.61 LAL -.00 LOL 217.07 VL 32.954 GAL -2.15 AZL 92.11 HCA 127.60 SMA 196.20 ECC .23622 INC 2.1103 V1 29.594
RP 206.90 LAP -1.67 LOP 344.69 VP 24.627 GAP 13.25 AZP 88.71 TAL 348.68 TAP 116.28 RCA 150.05 APO 242.35 V2 26.470
RC 72.917 GL -18.00 GP 2.03 ZAL 115.49 ZAP 154.63 ETS 175.71 ZAE 171.97 ETE 38.25 ZAC 101.86 ETC 278.09 LVI -20.35

PLANETOCENTRIC CONIC

C3 15.593 VHL 3.923 DLA -26.72 RAL 343.08 RAD 6640.7 VEL 11.638 PTH 6.68 VHP 5.848 DPA -14.83 RAP 321.75 ECC 1.2533
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 37 32 2522.10 -8.50 67.38 198.32 136.99 18 19 34 1822.1 9.89 51.60
60.00 18 53 5 2321.14 -3.26 54.27 203.33 130.19 19 31 47 1321.1 12.76 36.20
70.00 20 31 10 2032.77 2.32 35.11 207.55 124.08 21 5 2 1032.8 15.86 15.03
80.00 22 32 46 1652.14 7.64 9.49 210.83 118.95 23 0 18 652.1 18.86 347.74
90.00 0 30 17 1285.84 10.46 344.05 212.33 116.42 0 51 43 285.8 20.46 321.48
100.00 1 19 34 1126.61 7.64 330.86 210.83 118.95 1 38 20 126.6 18.86 309.11
110.00 1 34 32 1079.59 2.32 324.03 207.55 124.08 1 52 32 79.6 15.86 303.95

DIFFERENTIAL CORRECTIONS

TDE -.4269 TRA -.9347 TC3 .2882 BAW .0789
RDE -.3107 RRA .0653 RC3 .2635 FAU .07589
FDE .4844 FRA 2.4530 FC3-4.2681 BSP 2834
BDE .5280 BRA .9370 BC3 .3683 FSP 701

MID-COURSE EXECUTION ACCURACY

SGT 1665.6 SGR 509.9 SG3 459.6
RRT .1954 RRF -.2177 RTF -.8334
SGB 1741.9 R23 -.0395 R13 -.8344
SG1 1668.9 SG2 499.1 THA 3.76

ORBIT DETERMINATION ACCURACY

ST 38.7 SR 22.7 SS 35.3
CRT .7619 CR8 .4446 CST .9172
LSA 53.5 MSA 19.9 SSA 1.3
EL1 42.9 EL2 13.3 ALF 26.92

LAUNCH DATE APR 28 1971

FLIGHT TIME 150.00

ARRIVAL DATE SEP 25 1971

HELIOCENTRIC CONIC

DISTANCE 382.884

EARTH TO MARS

RL 150.61 LAL -.00 LOL 217.07 VL 32.898 GAL -2.09 AZL 92.14 HCA 128.87 SMA 195.18 ECC .23095 INC 2.1244 V1 29.584
RP 206.96 LAP -1.65 LOP 345.96 VP 24.544 GAP 12.90 AZP 88.67 TAL 348.84 TAP 117.71 RCA 150.08 APO 240.22 V2 26.462
RC 73.950 GL -18.39 GP 2.13 ZAL 115.30 ZAP 153.38 ETS 175.75 ZAE 172.30 ETE 39.71 ZAC 101.95 ETC 278.10 LVI -20.44

PLANETOCENTRIC CONIC

C3 14.922 VHL 3.863 DLA -27.12 RAL 343.12 RAD 6640.5 VEL 11.618 PTH 6.66 VHP 5.674 DPA -14.74 RAP 321.71 ECC 1.2496
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 39 48 2506.02 -7.70 66.88 198.13 137.10 18 21 34 1506.0 10.88 50.90
60.00 18 56 15 2302.65 -2.44 53.39 203.17 130.24 19 34 38 1302.7 13.54 35.26
70.00 20 35 51 2009.78 3.20 33.91 207.43 124.02 21 9 21 1009.8 16.66 13.72
80.00 22 40 32 1619.46 8.71 7.66 210.81 118.67 23 7 32 619.5 19.74 345.71
90.00 0 41 56 1240.66 11.82 341.43 212.44 115.88 1 2 37 240.7 21.48 318.56
100.00 1 27 20 1093.93 8.71 329.03 210.81 118.67 1 45 34 93.9 19.74 307.08
110.00 1 39 13 1056.60 3.20 322.83 207.43 124.02 1 56 50 56.6 16.66 302.64

DIFFERENTIAL CORRECTIONS

TDE -.4208 TRA -.9176 TC3 .2930 BAW .0803
RDE -.3013 RRA .0581 RC3 .2761 FAU .07951
FDE .4963 FRA 2.5686 FC3-4.6131 BSP 2845
BDE .5175 BRA .9195 BC3 .4026 FSP 752

MID-COURSE EXECUTION ACCURACY

SGT 1667.1 SGR 504.5 SG3 485.4
RRT .2128 RRF -.2379 RTF -.8340
SGB 1741.8 R23 -.0445 R13 -.8351
SG1 1670.9 SG2 491.9 THA 4.04

ORBIT DETERMINATION ACCURACY

ST 38.7 SR 22.4 SS 36.4
CRT .7656 CR8 .4398 CST .9127
LSA 54.1 MSA 20.0 SSA 1.3
EL1 42.8 EL2 13.0 ALF 26.53

LAUNCH DATE APR 28 1971

FLIGHT TIME 152.00

ARRIVAL DATE SEP 27 1971

HELIOCENTRIC CONIC

DISTANCE 386.758

EARTH TO MARS

RL 150.61 LAL -.00 LOL 217.07 VL 32.848 GAL -2.03 AZL 92.14 HCA 130.13 SMA 194.18 ECC .22695 INC 2.1390 V1 29.584
RP 207.04 LAP -1.64 LOP 347.23 VP 24.465 GAP 12.58 AZP 88.62 TAL 349.00 TAP 119.13 RCA 150.10 APO 236.23 V2 26.454
RC 75.426 GL -18.78 GP 2.23 ZAL 115.11 ZAP 152.05 ETS 175.79 ZAE 172.67 ETE 41.75 ZAC 102.06 ETC 278.09 LVI -20.53

PLANETOCENTRIC CONIC

C3 14.489 VHL 3.806 DLA -27.53 RAL 343.17 RAD 6640.3 VEL 11.599 PTH 6.64 VHP 5.508 DPA -14.68 RAP 321.64 ECC 1.2385
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 42 5 2490.37 -6.92 66.01 197.98 137.19 18 23 36 1490.4 11.46 50.22
60.00 18 59 28 2284.56 -1.65 52.53 203.03 130.27 19 37 32 1284.6 14.30 34.34
70.00 20 40 40 1986.96 4.07 32.72 207.35 123.94 21 13 47 987.0 17.43 12.41
80.00 22 48 52 1585.60 9.81 5.75 210.84 118.34 23 13 18 585.6 20.62 343.59
90.00 0 55 47 1189.01 13.34 338.39 212.66 115.17 1 15 36 189.0 22.58 315.17
100.00 1 35 40 1060.07 9.81 327.12 210.84 118.34 1 53 20 80.1 20.62 304.95
110.00 1 44 2 1033.78 4.07 321.63 207.35 123.94 2 1 16 33.8 17.43 301.33

DIFFERENTIAL CORRECTIONS

TDE -.4136 TRA -.8988 TC3 .2993 BAW .0806
RDE -.2922 RRA .0509 RC3 .2891 FAU .08339
FDE .5070 FRA 2.6895 FC3-4.9822 BSP 2845
BDE .5064 BRA .9002 BC3 .4161 FSP 805

MID-COURSE EXECUTION ACCURACY

SGT 1663.4 SGR 499.3 SG3 517.0
RRT .2314 RRF -.2598 RTF -.8342
SGB 1736.7 R23 -.0502 R13 -.8355
SG1 1667.7 SG2 484.5 THA 4.34

ORBIT DETERMINATION ACCURACY

ST 38.6 SR 22.0 SS 37.4
CRT .7695 CR8 .4344 CST .9078
LSA 54.5 MSA 20.2 SSA 1.3
EL1 42.6 EL2 12.8 ALF 26.22

LAUNCH DATE APR 28 1971

FLIGHT TIME 154.00

ARRIVAL DATE SEP 29 1971

HELIOCENTRIC CONIC

DISTANCE 390.659

EARTH TO MARS

RL 150.61 LAL -.00 LOL 217.07 VL 32.797 GAL -1.97 AZL 92.15 HCA 131.40 SMA 193.25 ECC .22320 INC 2.1541 V1 29.584
RP 207.12 LAP -1.62 LOP 348.49 VP 24.388 GAP 12.23 AZP 88.57 TAL 349.15 TAP 120.55 RCA 150.12 APO 236.39 V2 26.444
RC 76.944 GL -19.18 GP 2.34 ZAL 114.93 ZAP 150.71 ETS 175.82 ZAE 173.09 ETE 44.52 ZAC 102.17 ETC 278.08 LVI -20.61

PLANETOCENTRIC CONIC

C3 14.092 VHL 3.754 DLA -27.93 RAL 343.22 RAD 6640.1 VEL 11.582 PTH 6.63 VHP 5.344 DPA -14.58 RAP 321.53 ECC 1.2319
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 44 24 2475.17 -6.16 65.37 197.85 137.27 18 25 40 1475.2 12.21 49.56
60.00 19 2 43 2268.87 -0.87 51.68 202.93 130.29 19 40 30 1266.9 15.04 33.43
70.00 20 45 36 1984.29 4.93 31.53 207.30 123.84 21 18 21 964.3 18.20 11.09
80.00 22 57 53 1550.13 10.95 3.73 210.94 117.95 23 23 43 550.1 21.51 341.33
90.00 1 14 0 1123.89 15.19 334.50 213.06 114.15 1 32 43 123.9 23.84 310.82
100.00 1 44 41 1024.60 10.95 325.10 210.94 117.95 2 1 46 24.6 21.51 302.70
110.00 1 48 59 1011.11 4.93 320.44 207.30 123.84 2 5 50 11.1 18.20 300.01

DIFFERENTIAL CORRECTIONS

TDE -.4060 TRA -.8787 TC3 .3011 BAW .0804
RDE -.2833 RRA .0435 RC3 .3026 FAU .08743
FDE .5163 FRA 2.8160 FC3-5.3709 BSP 2839
BDE .4950 BRA .8798 BC3 .4269 FSP 862

MID-COURSE EXECUTION ACCURACY

SGT 1655.0 SGR 494.2 SG3 550.1
RRT .2508 RRF -.2831 RTF -.8335
SGB 1727.2 R23 -.0570 R13 -.8351
SG1 1660.1 SG2 476.9 THA 4.67

ORBIT DETERMINATION ACCURACY

ST 38.4 SR 21.7 SS 38.4
CRT .7738 CR8 .4286 CST .9022
LSA 54.8 MSA 20.3 SSA 1.3
EL1 42.3 EL2 12.5 ALF 25.96

LAUNCH DATE APR 28 1971

FLIGHT TIME 156.00

ARRIVAL DATE OCT 1 1971

HELIOCENTRIC CONIC

DISTANCE 394.885

EARTH TO MARS

RL 150.81 LAL -.00 LOL 217.07 VL 32.751 GAL -1.92 AZL 92.17 HCA 132.66 SMA 192.41 ECC .21969 INC 2.1698 V1 29.584
RP 207.21 LAP -1.80 LOP 349.75 VP 24.314 GAP 11.91 AZP 88.53 TAL 349.29 TAP 121.95 RCA 150.14 APO 234.68 V2 26.433
RC 78.502 GL -19.54 GP 2.45 ZAL 114.76 ZAP 149.33 ETS 175.85 ZAE 173.54 ETE 48.22 ZAC 102.30 ETC 278.06 LVI -20.69

PLANETOCENTRIC CONIC

C3 13.728 VHL 3.705 DLA -28.32 RAL 343.28 RAD 6639.9 VEL 11.567 PTH 6.61 VHP 5.189 DPA -14.51 RAP 321.39 ECC 1.2259
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 46 46 2460.42 -5.42 64.74 197.76 137.34 18 27 46 1460.4 12.93 48.91
60.00 19 6 1 2249.58 -.11 50.85 202.86 130.30 19 43 31 1249.6 15.76 32.54
70.00 20 50 41 1941.78 5.78 30.34 207.29 123.72 21 23 3 941.8 18.95 9.78
80.00 23 7 48 1512.42 12.15 1.57 211.10 117.49 23 33 0 512.4 22.42 338.90
88.42 1 40 9 1033.80 18.74 329.49 214.23 111.63 1 97 23 33.8 26.02 304.82
100.00 1 54 36 6274.93 12.15 300.85 211.10 117.49 3 39 11 5274.9 22.42 278.17
110.00 1 54 3 6276.64 5.78 297.17 207.29 123.72 3 38 40 5276.6 18.95 276.60

DIFFERENTIAL CORRECTIONS

TDE -.3992 TRA -.8581 TC3 .2998 BAU .0800
RDE -.2748 RRA .0360 RC3 .3166 FAU .09174
FDE .5276 FRA 2.9511 FC3-5.7855 BSP 2819
BDE .4847 BRA .8589 BC3 .4360 FSP 922

MID-COURSE EXECUTION ACCURACY

SGT 1644.0 SGR 489.5 SG3 585.5
RRT .2725 RRF -.3091 RTF -.8321
SGB 1715.4 R23 -.0647 R13 -.8340
SG1 1649.9 SG2 469.3 THA 5.05

ORBIT DETERMINATION ACCURACY

ST 38.3 SR 21.3 SS 39.5
CRT .7796 CRS .4247 CST .8963
LSA 55.3 MSA 20.5 SSA 1.3
EL1 42.1 EL2 12.1 ALP 25.72

LAUNCH DATE APR 28 1971

FLIGHT TIME 158.00

ARRIVAL DATE OCT 3 1971

HELIOCENTRIC CONIC

DISTANCE 398.534

EARTH TO MARS

RL 150.81 LAL -.00 LOL 217.07 VL 32.707 GAL -1.88 AZL 92.19 HCA 133.92 SMA 191.62 ECC .21640 INC 2.1661 V1 29.584
RP 207.31 LAP -1.57 LOP 351.02 VP 24.244 GAP 11.99 AZP 88.48 TAL 349.43 TAP 123.35 RCA 150.16 APO 235.09 V2 26.422
RC 80.098 GL -19.92 GP 2.57 ZAL 114.59 ZAP 147.91 ETS 175.88 ZAE 173.99 ETE 55.10 ZAC 102.44 ETC 278.03 LVI -20.77

PLANETOCENTRIC CONIC

C3 13.395 VHL 3.660 DLA -28.71 RAL 343.34 RAD 6639.7 VEL 11.553 PTH 6.60 VHP 5.039 DPA -14.44 RAP 321.21 ECC 1.2204
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 49 9 2446.12 -4.70 64.14 197.69 137.40 18 29 55 1446.1 13.63 48.28
60.00 19 9 23 2232.67 .64 50.05 202.82 130.30 19 46 35 1232.7 16.46 31.66
70.00 20 55 54 1919.37 6.62 29.16 207.33 123.58 21 27 54 919.4 19.68 8.45
80.00 23 18 58 1471.29 13.43 359.19 211.35 116.92 23 43 30 471.3 23.36 336.21
84.83 1 10 34 1125.03 19.13 336.34 214.04 111.83 1 29 19 125.0 26.45 311.60
100.00 2 5 46 6233.80 13.43 298.46 211.35 116.92 3 49 40 5233.8 23.36 275.48
110.00 1 59 17 6254.23 6.62 295.98 207.33 123.58 3 43 31 5254.2 19.68 275.28

DIFFERENTIAL CORRECTIONS

TDE -.3879 TRA -.8309 TC3 .3065 BAU .0808
RDE -.2664 RRA .0284 RC3 .3315 FAU .09638
FDE .5357 FRA 3.0868 FC3-6.2292 BSP 2734
BDE .4708 BRA .8314 BC3 .4514 FSP 981

MID-COURSE EXECUTION ACCURACY

SGT 1618.3 SGR 485.2 SG3 622.1
RRT .2963 RRF -.3369 RTF -.8328
SGB 1689.4 R23 -.0716 R13 -.8350
SG1 1625.2 SG2 481.4 THA 5.92

ORBIT DETERMINATION ACCURACY

ST 37.6 SR 20.9 SS 40.5
CRT .7846 CRS .4198 CST .8903
LSA 55.3 MSA 20.6 SSA 1.3
EL1 41.4 EL2 11.8 ALP 25.74

LAUNCH DATE APR 28 1971

FLIGHT TIME 160.00

ARRIVAL DATE OCT 8 1971

HELIOCENTRIC CONIC

DISTANCE 402.505

EARTH TO MARS

RL 150.81 LAL -.00 LOL 217.07 VL 32.667 GAL -1.83 AZL 92.20 HCA 135.18 SMA 190.90 ECC .21333 INC 2.2032 V1 29.584
RP 207.42 LAP -1.55 LOP 352.28 VP 24.175 GAP 11.29 AZP 88.44 TAL 349.55 TAP 124.74 RCA 150.17 APO 231.62 V2 26.409
RC 81.730 GL -20.30 GP 2.70 ZAL 114.44 ZAP 148.46 ETS 175.90 ZAE 174.43 ETE 59.47 ZAC 102.60 ETC 278.00 LVI -20.84

PLANETOCENTRIC CONIC

C3 13.091 VHL 3.618 DLA -29.09 RAL 343.42 RAD 6639.6 VEL 11.539 PTH 6.59 VHP 4.895 DPA -14.37 RAP 320.98 ECC 1.2155
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 51 34 2432.31 -4.01 63.96 197.66 137.45 18 32 6 1432.3 14.31 47.66
60.00 19 12 47 2216.24 1.36 49.26 202.82 130.28 19 49 43 1216.2 17.14 30.80
70.00 21 1 17 1897.14 7.46 27.98 207.40 123.43 21 32 54 897.1 20.40 7.13
80.00 23 32 2 1424.82 14.84 356.47 211.71 116.21 23 55 47 424.8 24.37 333.12
82.86 0 54 59 1171.29 19.50 339.90 213.89 112.03 1 14 30 171.3 26.87 319.10
100.00 2 18 50 6187.33 14.84 295.74 211.71 116.21 4 1 57 5187.3 24.37 272.40
110.00 2 4 39 6231.99 7.46 294.80 207.40 123.43 3 48 31 5232.0 20.40 273.99

DIFFERENTIAL CORRECTIONS

TDE -.3855 TRA -.8120 TC3 .2821 BAU .0782
RDE -.2586 RRA .0203 RC3 .3463 FAU .10094
FDE .5519 FRA 3.2392 FC3-6.6752 BSP 2760
BDE .4642 BRA .8122 BC3 .4466 FSP 1053

MID-COURSE EXECUTION ACCURACY

SGT 1606.1 SGR 481.4 SG3 661.1
RRT .3196 RRF -.3672 RTF -.8265
SGB 1676.7 R23 -.0846 R13 -.8293
SG1 1614.1 SG2 453.9 THA 5.94

ORBIT DETERMINATION ACCURACY

ST 37.7 SR 20.5 SS 41.7
CRT .7943 CRS .4204 CST .8833
LSA 56.1 MSA 20.8 SSA 1.3
EL1 41.4 EL2 11.3 ALP 25.40

LAUNCH DATE APR 28 1971

FLIGHT TIME 162.00

ARRIVAL DATE OCT 7 1971

HELIOCENTRIC CONIC

DISTANCE 406.496

EARTH TO MARS

RL 150.81 LAL -.00 LOL 217.07 VL 32.629 GAL -1.79 AZL 92.22 HCA 136.44 SMA 190.22 ECC .21046 INC 2.2210 V1 29.584
RP 207.54 LAP -1.53 LOP 353.54 VP 24.109 GAP 10.98 AZP 88.39 TAL 349.67 TAP 126.11 RCA 150.19 APO 230.25 V2 26.399
RC 83.399 GL -20.66 GP 2.84 ZAL 114.29 ZAP 144.97 ETS 175.92 ZAE 174.81 ETE 67.67 ZAC 102.76 ETC 277.96 LVI -20.91

PLANETOCENTRIC CONIC

C3 12.815 VHL 3.580 DLA -29.47 RAL 343.51 RAD 6639.5 VEL 11.528 PTH 6.57 VHP 4.756 DPA -14.31 RAP 320.72 ECC 1.2109
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 54 1 2418.94 -3.34 63.00 197.66 137.49 18 34 20 1418.9 14.96 47.06
60.00 19 16 15 2200.18 2.07 48.49 202.86 130.26 19 52 55 1200.2 17.80 29.95
70.00 21 6 49 1874.94 8.29 26.80 207.52 123.25 21 38 4 874.9 21.10 5.79
80.00 23 48 48 1367.21 16.54 353.04 212.24 115.21 24 11 35 367.2 25.51 329.22
81.33 0 43 15 1205.49 19.86 342.50 213.77 112.24 1 3 20 205.5 27.28 317.72
100.00 2 35 36 6129.72 16.54 292.31 212.24 115.21 4 17 45 5129.7 25.51 268.50
110.00 2 10 12 6209.80 8.29 293.62 207.52 123.25 3 53 41 5209.8 21.10 272.61

DIFFERENTIAL CORRECTIONS

TDE -.3768 TRA -.7858 TC3 .2710 BAU .0775
RDE -.2507 RRA .0120 RC3 .3623 FAU .10600
FDE .5612 FRA 3.3939 FC3-7.1615 BSP 2697
BDE .4526 BRA .7859 BC3 .4525 FSP 1123

MID-COURSE EXECUTION ACCURACY

SGT 1577.5 SGR 478.4 SG3 702.1
RRT .3451 RRF -.3994 RTF -.8231
SGB 1648.4 R23 -.0965 R13 -.8266
SG1 1586.8 SG2 446.3 THA 6.49

ORBIT DETERMINATION ACCURACY

ST 37.1 SR 20.1 SS 42.8
CRT .8023 CRS .4179 CST .8756
LSA 56.3 MSA 20.9 SSA 1.3
EL1 40.8 EL2 10.9 ALP 25.39

LAUNCH DATE APR 28 1971

FLIGHT TIME 164.00

ARRIVAL DATE OCT 9 1971

HELIOCENTRIC CONIC

RL 130.61 LAL -.00 LOL 217.07 VL 32.994 GAL -1.75 AZL 92.24 HCA 137.70 SMA 189.59 ECC .20779 INC 2.2396 VI 29.584	DISTANCE 410.503	EARTH TO MARS
RP 207.68 LAP -1.51 LOP 354.80 VP 24.045 GAP 10.69 AZP 88.34 TAL 349.78 TAP 127.48 RCA 150.20 APO 228.99 V2 26.381		
RC 85.104 GL -21.05 GP 2.99 ZAL 114.15 ZAP 143.45 ETS 175.93 ZAE 175.07 ETE 77.82 ZAC 102.95 ETC 277.91 LVI -20.98		

PLANETOCENTRIC CONIC

C3 12.564 VHL 3.545 DLA -29.84 RAL 343.61 RAD 6639.3 VEL 11.517 PTH 6.56 VHP 4.024 DPA -14.25 RAP 320.41 ECC 1.2060		
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG		
50.00 17 56 31 2406.05 -2.69 62.46 197.69 137.52 18 36 37 1406.1 15.59 46.40		
60.00 19 19 46 2184.56 2.75 47.75 202.93 130.22 19 56 11 1184.6 18.43 29.12		
70.00 21 12 33 1852.82 9.11 25.61 207.68 123.06 21 43 25 852.8 21.79 4.44		
80.00 0 25 55 1257.96 19.59 346.35 213.42 113.00 0 46 53 258.0 27.35 321.63		
80.04 0 33 41 1233.14 20.20 344.78 213.69 112.45 0 54 14 233.1 27.67 319.87		
100.00 3 8 47 6020.47 19.59 285.83 213.42 113.00 4 49 7 5020.5 27.35 260.91		
110.00 2 15 55 6187.68 9.11 292.44 207.68 123.06 3 59 3 5187.7 21.79 271.27		

DIFFERENTIAL CORRECTIONS

TOE -.3721 TRA -.7614 TC3 .2408 BAU .0754	MID-COURSE EXECUTION ACCURACY	ORBIT DETERMINATION ACCURACY
RDE -.2433 RRA .0034 RC3 .3786 FAU .11103	SGT 1550.7 SGR 476.2 SG3 744.6	ST 36.8 SR 19.7 SS 44.0
FDE .5761 FRA 3.5898 FC3-7.6507 BSP 2688	RRT .3703 RRF -.4338 RTF -.8154	CRT .8134 CR8 .4198 C8T .8673
BDE .4446 BRA .7814 BC3 .4487 F8P 1199	SG8 1822.1 R23 -.1135 R13 -.8199	LSA 56.9 M8A 21.1 88A 1.2
	SG1 1561.5 SG2 439.3 THA 7.05	EL1 40.4 EL2 10.4 ALF 28.27

LAUNCH DATE APR 28 1971

FLIGHT TIME 166.00

ARRIVAL DATE OCT 11 1971

HELIOCENTRIC CONIC

RL 130.61 LAL -.00 LOL 217.07 VL 32.561 GAL -1.72 AZL 92.26 HCA 138.96 SMA 189.01 ECC .20529 INC 2.2390 VI 29.584	DISTANCE 414.531	EARTH TO MARS
RP 207.80 LAP -1.48 LOP 356.05 VP 23.984 GAP 10.40 AZP 88.30 TAL 349.87 TAP 128.83 RCA 150.21 APO 227.82 V2 26.368		
RC 86.843 GL -21.42 GP 3.14 ZAL 114.03 ZAP 141.88 ETS 175.95 ZAE 175.18 ETE 89.67 ZAC 103.14 ETC 277.85 LVI -21.04		

PLANETOCENTRIC CONIC

C3 12.337 VHL 3.512 DLA -30.21 RAL 343.72 RAD 6639.2 VEL 11.507 PTH 6.55 VHP 4.497 DPA -14.20 RAP 320.08 ECC 1.2030		
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG		
50.00 17 59 4 2393.59 -2.07 61.94 197.76 137.54 18 38 58 1393.6 16.19 45.81		
60.00 19 23 22 2169.31 3.42 47.02 203.03 130.18 19 59 31 1169.3 19.05 28.30		
70.00 21 18 29 1830.63 9.93 24.42 207.88 122.85 21 48 59 830.6 22.47 3.08		
78.90 0 25 31 1256.71 20.54 346.69 213.65 112.65 0 46 28 256.7 26.06 321.71		
78.90 0 25 31 1256.71 20.54 346.69 213.65 112.65 0 46 28 256.7 26.06 321.71		
78.90 0 25 31 1256.71 20.54 346.69 213.65 112.65 0 46 28 256.7 26.06 321.71		
110.00 2 21 51 6165.49 9.93 291.25 207.88 122.85 4 4 38 5165.5 22.47 269.90		

DIFFERENTIAL CORRECTIONS

TDE -.3622 TRA -.7301 TC3 .2236 BAU .0751	MID-COURSE EXECUTION ACCURACY	ORBIT DETERMINATION ACCURACY
RDE -.2359 RRA -.0054 RC3 .3985 FAU .11687	SGT 1507.6 SGR 475.2 SG3 789.1	ST 36.1 SR 19.2 SS 45.1
FDE .5845 FRA 3.7245 FC3-8.1875 BSP 2557	RRT .3982 RRF -.4703 RTF -.8102	CRT .8238 CR8 .4196 C8T .8580
BDE .4322 BRA .7301 BC3 .4552 F8P 1271	SG8 1580.7 R23 -.1295 R13 -.8158	LSA 57.0 M8A 21.2 88A 1.2
	SG1 1520.5 SG2 432.2 THA 7.79	EL1 39.6 EL2 9.9 ALF 25.45

LAUNCH DATE APR 28 1971

FLIGHT TIME 168.00

ARRIVAL DATE OCT 13 1971

HELIOCENTRIC CONIC

RL 130.61 LAL -.00 LOL 217.07 VL 32.530 GAL -1.69 AZL 92.28 HCA 140.21 SMA 188.48 ECC .20297 INC 2.2795 VI 29.584	DISTANCE 418.573	EARTH TO MARS
RP 207.94 LAP -1.46 LOP 357.31 VP 23.924 GAP 10.12 AZP 88.25 TAL 349.95 TAP 130.17 RCA 150.22 APO 226.73 V2 26.349		
RC 88.616 GL -21.80 GP 3.31 ZAL 113.92 ZAP 140.27 ETS 175.96 ZAE 175.00 ETE 102.20 ZAC 103.36 ETC 277.78 LVI -21.10		

PLANETOCENTRIC CONIC

C3 12.133 VHL 3.483 DLA -30.57 RAL 343.85 RAD 6639.1 VEL 11.498 PTH 6.55 VHP 4.375 DPA -14.15 RAP 319.68 ECC 1.1997		
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG		
50.00 18 1 40 2381.61 -1.47 61.44 197.86 137.56 18 41 21 1381.6 16.77 48.36		
60.00 19 27 1 2134.52 4.07 48.31 203.17 130.13 20 2 59 1134.5 19.64 27.80		
70.00 21 24 38 1808.45 10.75 23.22 208.13 122.61 21 54 48 808.4 23.13 1.70		
77.88 0 18 29 1277.16 20.86 348.38 213.64 112.88 0 39 46 277.2 28.44 323.33		
77.88 0 18 29 1277.16 20.86 348.38 213.64 112.88 0 39 46 277.2 28.44 323.33		
77.88 0 18 29 1277.16 20.86 348.38 213.64 112.88 0 39 46 277.2 28.44 323.33		
110.00 2 28 0 6143.31 10.75 290.05 208.13 122.61 4 10 23 5143.3 23.13 268.53		

DIFFERENTIAL CORRECTIONS

TDE -.3804 TRA -.7045 TC3 .1734 BAU .0728	MID-COURSE EXECUTION ACCURACY	ORBIT DETERMINATION ACCURACY
RDE -.2291 RRA -.0150 RC3 .4143 FAU .12202	SGT 1475.5 SGR 475.5 SG3 835.5	ST 35.9 SR 18.9 SS 46.4
FDE .6049 FRA 3.9074 FC3-8.7065 BSP 2536	RRT .4828 RRF -.5088 RTF -.5168	CRT .8309 CR8 .4271 C8T .8481
BDE .4270 BRA .7046 BC3 .4491 F8P 1358	SG8 1530.3 R23 -.1554 R13 -.8042	LSA 57.8 M8A 21.5 88A 1.2
	SG1 1490.4 SG2 426.6 THA 8.48	EL1 39.4 EL2 9.3 ALF 25.32

LAUNCH DATE APR 28 1971

FLIGHT TIME 170.00

ARRIVAL DATE OCT 15 1971

HELIOCENTRIC CONIC

RL 130.61 LAL -.00 LOL 217.07 VL 32.502 GAL -1.66 AZL 92.30 HCA 141.47 SMA 187.98 ECC .20082 INC 2.3011 VI 29.584	DISTANCE 422.630	EARTH TO MARS
RP 208.08 LAP -1.43 LOP 358.58 VP 23.868 GAP 9.84 AZP 88.20 TAL 350.03 TAP 131.49 RCA 150.23 APO 225.73 V2 26.332		
RC 90.421 GL -22.17 GP 3.49 ZAL 113.82 ZAP 138.62 ETS 175.97 ZAE 174.59 ETE 114.17 ZAC 103.58 ETC 277.70 LVI -21.16		

PLANETOCENTRIC CONIC

C3 11.951 VHL 3.457 DLA -30.92 RAL 343.99 RAD 6639.0 VEL 11.490 PTH 6.54 VHP 4.259 DPA -14.10 RAP 319.22 ECC 1.1967		
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG		
50.00 18 4 18 2370.06 -.89 60.96 197.99 137.57 18 43 49 1370.1 17.33 44.83		
60.00 19 30 44 2140.09 4.71 45.61 203.36 130.07 20 6 24 1140.1 19.21 26.71		
70.00 21 31 3 1786.06 11.57 22.01 208.43 122.36 22 0 49 786.1 23.79 .30		
76.94 0 12 16 1295.47 21.18 349.88 213.68 113.08 0 33 51 295.5 28.81 324.79		
76.94 0 12 16 1295.47 21.18 349.88 213.68 113.08 0 33 51 295.5 28.81 324.79		
76.94 0 12 16 1295.47 21.18 349.88 213.68 113.08 0 33 51 295.5 28.81 324.79		
110.00 2 34 25 6120.91 11.57 288.83 208.43 122.36 4 16 26 5120.9 23.79 267.12		

DIFFERENTIAL CORRECTIONS

TDE -.3543 TRA -.6735 TC3 .1285 BAU .0722	MID-COURSE EXECUTION ACCURACY	ORBIT DETERMINATION ACCURACY
RDE -.2223 RRA -.0249 RC3 .4334 FAU .12775	SGT 1430.4 SGR 477.4 SG3 883.6	ST 35.3 SR 18.4 SS 47.7
FDE .6204 FRA 4.0948 FC3-9.2544 BSP 2448	RRT .4474 RRF -.5482 RTF -.7839	CRT .8536 CR8 .4335 C8T .8370
BDE .4183 BRA .6740 BC3 .4520 F8P 1442	SG8 1507.9 R23 -.1832 R13 -.7935	LSA 58.2 M8A 21.6 88A 1.2
	SG1 1447.7 SG2 421.8 THA 9.29	EL1 38.8 EL2 8.7 ALF 25.44

LAUNCH DATE APR 28 1971

FLIGHT TIME 172.00

ARRIVAL DATE OCT 17 1971

HELIOCENTRIC CONIC
 RL 150.61 LAL -.00 LOL 217.07 VL 32.475 GAL -1.64 AZL 92.32 HCA 142.72 SMA 187.52 ECC .19882 INC 2.3238 V1 29.584
 RP 208.24 LAP -1.41 LOP 359.81 VP 23.810 GAP 9.57 AZP 88.15 TAL 350.09 TAP 132.80 RCA 150.24 APO 224.80 V2 26.313
 RC 92.259 GL -22.54 GP 3.68 ZAL 113.73 ZAP 136.92 ETS 175.98 ZAE 173.92 ETE 124.58 ZAC 103.83 ETC 277.62 LVI -21.22

PLANETOCENTRIC CONIC
 C3 11.790 VHL 3.434 DLA -31.27 RAL 344.15 RAD 8639.0 VEL 11.483 PTH 6.53 VHP 4.148 DPA -14.04 RAP 318.74 ECC 1.1940
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 18 7 1 2359.93 -.33 80.49 198.16 137.58 18 48 20 1358.9 17.87 44.31
 60.00 19 34 33 2126.03 5.32 44.94 203.57 130.01 20 9 59 1126.0 20.77 25.94
 70.00 21 37 46 1763.38 12.39 20.77 208.78 122.08 22 7 9 763.4 24.44 358.86
 76.07 0 6 45 1312.05 21.48 391.26 213.75 113.29 0 28 37 312.0 29.16 326.12
 76.07 0 6 45 1312.05 21.48 391.26 213.75 113.29 0 28 37 312.0 29.16 326.12
 76.07 0 6 45 1312.05 21.48 391.26 213.75 113.29 0 28 37 312.0 29.16 326.12
 110.00 2 41 8 6098.23 12.39 287.59 208.78 122.08 4 22 48 5098.2 24.44 265.88

DIFFERENTIAL CORRECTIONS
 TDE -.3488 TRA -.6400 TC3 .0787 BAW .0725
 RDE -.2158 RRA -.0352 RC3 .4536 FAU .13371
 FDE .6364 FRA 4.2864 FC3-9.8183 B8P 2348
 BDE .4099 BRA .6409 BC3 .4599 F8P 1529

MID-COURSE EXECUTION ACCURACY
 8GT 1379.1 8GR 481.0 8G3 933.0
 RRT .4695 RRF -.5887 RTF -.7870
 8GB 1460.6 R23 -.2171 R13 -.7799
 8G1 1399.3 8G2 418.6 THA 10.23

ORBIT DETERMINATION ACCURACY
 8T 34.6 8R 18.0 88 49.0
 CRT .8699 CR8 .4422 C8T .8243
 LSA 58.7 M8A 21.8 88A 1.2
 EL1 38.2 EL2 8.1 ALF 25.63

LAUNCH DATE APR 28 1971

FLIGHT TIME 174.00

ARRIVAL DATE OCT 19 1971

HELIOCENTRIC CONIC
 RL 150.61 LAL -.00 LOL 217.07 VL 32.450 GAL -1.62 AZL 92.35 HCA 143.97 SMA 187.10 ECC .19897 INC 2.3479 V1 29.584
 RP 208.41 LAP -1.38 LOP 1.06 VP 23.755 GAP 9.31 AZP 88.10 TAL 350.13 TAP 134.10 RCA 150.24 APO 223.95 V2 26.294
 RC 94.128 GL -22.92 GP 3.88 ZAL 113.66 ZAP 135.19 ETS 175.99 ZAE 173.03 ETE 133.08 ZAC 104.09 ETC 277.52 LVI -21.27

PLANETOCENTRIC CONIC
 C3 11.848 VHL 3.413 DLA -31.61 RAL 344.33 RAD 8638.9 VEL 11.477 PTH 6.53 VHP 4.043 DPA -13.99 RAP 318.21 ECC 1.1917
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 18 9 48 2348.22 .21 80.04 198.36 137.58 18 48 58 1348.2 18.38 43.81
 60.00 19 38 26 2112.32 5.92 44.28 203.83 129.94 20 13 39 1112.3 21.31 25.18
 70.00 21 44 50 1740.24 13.23 19.49 209.18 121.78 22 13 51 740.2 25.09 357.37
 75.25 0 1 46 1327.41 21.77 352.56 213.86 113.51 0 23 53 327.4 29.51 327.37
 75.25 0 1 46 1327.41 21.77 352.56 213.86 113.51 0 23 53 327.4 29.51 327.37
 75.25 0 1 46 1327.41 21.77 352.56 213.86 113.51 0 23 53 327.4 29.51 327.37
 110.00 2 48 13 6075.10 13.23 288.31 209.18 121.78 4 29 28 5075.1 25.09 264.20

DIFFERENTIAL CORRECTIONS
 TDE -.3427 TRA -.6051 TC3 .0143 BAW .0740
 RDE -.2094 RRA -.0463 RC3 .4748 FAU .13975
 FDE .6530 FRA 4.4890 FC-10.3871 B8P 2232
 BDE .4016 BRA .6069 BC3 .4750 F8P 1617

MID-COURSE EXECUTION ACCURACY
 8GT 1324.3 8GR 486.8 8G3 984.3
 RRT .4675 RRF -.6294 RTF -.7460
 8GB 1411.0 R23 -.2579 R13 -.7633
 8G1 1347.7 8G2 417.7 THA 11.25

ORBIT DETERMINATION ACCURACY
 8T 33.9 8R 17.6 88 50.3
 CRT .8873 CR8 .4529 C8T .8101
 LSA 59.2 M8A 22.0 88A 1.1
 EL1 37.5 EL2 7.4 ALF 25.67

LAUNCH DATE APR 28 1971

FLIGHT TIME 176.00

ARRIVAL DATE OCT 21 1971

HELIOCENTRIC CONIC
 RL 150.61 LAL -.00 LOL 217.07 VL 32.427 GAL -1.60 AZL 92.37 HCA 145.21 SMA 186.71 ECC .19527 INC 2.3734 V1 29.584
 RP 208.58 LAP -1.38 LOP 2.31 VP 23.701 GAP 9.08 AZP 88.05 TAL 350.17 TAP 135.38 RCA 150.25 APO 223.16 V2 26.274
 RC 96.027 GL -23.29 GP 4.09 ZAL 113.61 ZAP 133.42 ETS 176.00 ZAE 171.97 ETE 139.80 ZAC 104.38 ETC 277.42 LVI -21.33

PLANETOCENTRIC CONIC
 C3 11.525 VHL 3.395 DLA -31.98 RAL 344.53 RAD 8638.8 VEL 11.472 PTH 6.52 VHP 3.943 DPA -13.94 RAP 317.83 ECC 1.1897
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 18 12 39 2337.88 .73 59.61 198.60 137.57 18 51 37 1337.9 18.87 43.33
 60.00 19 42 26 2098.92 6.51 43.63 204.13 129.86 20 17 25 1099.9 21.83 24.43
 70.00 21 52 21 1716.42 14.08 18.17 209.64 121.44 22 20 58 716.4 25.74 355.83
 74.48 23 53 23 1341.61 22.05 353.77 214.01 113.73 24 15 45 341.6 29.85 328.53
 74.48 23 53 23 1341.61 22.05 353.77 214.01 113.73 24 15 45 341.6 29.85 328.53
 74.48 23 53 23 1341.61 22.05 353.77 214.01 113.73 24 15 45 341.6 29.85 328.53
 110.00 2 55 43 6051.28 14.08 284.99 209.64 121.44 4 36 35 5051.3 25.74 282.85

DIFFERENTIAL CORRECTIONS
 TDE -.3553 TRA -.5886 TC3 -.0465 BAW .0771
 RDE -.2032 RRA -.0878 RC3 .4980 FAU .14828
 FDE .6889 FRA 4.6908 FC-10.9878 B8P 2097
 BDE .3921 BRA .5685 BC3 .5001 F8P 1708

MID-COURSE EXECUTION ACCURACY
 8GT 1289.6 8GR 493.1 8G3 1036.7
 RRT .8015 RRF -.6701 RTF -.7109
 8GB 1393.4 R23 -.3038 R13 -.7447
 8G1 1288.8 8G2 419.3 THA 12.80

ORBIT DETERMINATION ACCURACY
 8T 32.9 8R 17.2 88 51.8
 CRT .9054 CR8 .4644 C8T .7930
 LSA 59.5 M8A 22.2 88A 1.1
 EL1 36.6 EL2 6.6 ALF 26.27

LAUNCH DATE APR 28 1971

FLIGHT TIME 178.00

ARRIVAL DATE OCT 23 1971

HELIOCENTRIC CONIC
 RL 150.61 LAL -.00 LOL 217.07 VL 32.408 GAL -1.59 AZL 92.40 HCA 146.46 SMA 186.35 ECC .19389 INC 2.4005 V1 29.584
 RP 208.76 LAP -1.33 LOP 3.88 VP 23.649 GAP 8.80 AZP 88.00 TAL 350.19 TAP 136.64 RCA 150.25 APO 222.44 V2 26.254
 RC 97.888 GL -23.67 GP 4.33 ZAL 113.56 ZAP 131.60 ETS 176.02 ZAE 170.75 ETE 145.08 ZAC 104.68 ETC 277.30 LVI -21.38

PLANETOCENTRIC CONIC
 C3 11.481 VHL 3.379 DLA -32.28 RAL 344.78 RAD 8638.8 VEL 11.468 PTH 6.52 VHP 3.848 DPA -13.88 RAP 317.00 ECC 1.1880
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 18 18 35 2387.80 1.23 59.20 198.88 137.56 18 54 23 1327.9 19.35 42.88
 60.00 19 46 33 2088.78 7.08 42.99 204.47 129.78 20 21 19 1085.8 22.34 23.69
 70.00 22 0 25 1891.56 14.95 16.78 210.17 121.07 22 28 37 691.6 26.40 354.20
 73.75 23 49 21 1354.99 22.32 354.92 214.21 113.95 24 11 56 355.0 30.19 329.63
 73.75 23 49 21 1354.99 22.32 354.92 214.21 113.95 24 11 56 355.0 30.19 329.63
 73.75 23 49 21 1354.99 22.32 354.92 214.21 113.95 24 11 56 355.0 30.19 329.63
 110.00 3 3 47 6026.42 14.95 283.60 210.17 121.07 4 44 14 5026.4 26.40 261.02

DIFFERENTIAL CORRECTIONS
 TDE -.3248 TRA -.5204 TC3 -.1041 BAW .0815
 RDE -.1969 RRA -.0889 RC3 .8234 FAU .19328
 FDE .6712 FRA 4.8888 FC-11.6202 B8P 1900
 BDE .3796 BRA .8251 BC3 .5336 F8P 1787

MID-COURSE EXECUTION ACCURACY
 8GT 1181.9 8GR 506.1 8G3 1089.9
 RRT .5097 RRF -.7097 RTF -.6913
 8GB 1285.7 R23 -.3535 R13 -.7249
 8G1 1213.8 8G2 424.0 THA 14.06

ORBIT DETERMINATION ACCURACY
 8T 31.7 8R 16.8 88 52.6
 CRT .9235 CR8 .4752 C8T .7724
 LSA 59.6 M8A 22.3 88A 1.1
 EL1 35.4 EL2 5.8 ALF 26.93

LAUNCH DATE APR 26 1971

FLIGHT TIME 180.00

ARRIVAL DATE OCT 25 1971

HELIOCENTRIC CONIC

DISTANCE 443.097

EARTH TO MARS

RL 150.61 LAL -.00 LOL 217.07 VL 32.387 GAL -1.98 AZL 92.43 MCA 147.70 SMA 186.02 ECC .19225 INC 2.4294 V1 29.584
RP 208.94 LAP -1.30 LOP 4.80 VP 23.899 GAP 8.93 AZP 87.95 TAL 350.19 TAP 137.89 RCA 150.26 APO 221.78 V2 26.232
RC 99.910 GL -24.05 GP 4.57 ZAL 113.54 ZAP 129.78 ETS 176.04 ZAE 169.40 ETE 149.16 ZAC 105.00 ETC 277.18 LVI -21.44

PLANETOCENTRIC CONIC

C3 11.338 VHL 3.367 DLA -32.61 RAL 344.99 RAD 6638.7 VEL 11.464 PTH 6.51 VHP 3.759 DPA -13.82 RAP 316.34 ECC 1.1865
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 18 37 2318.33 1.71 58.80 199.20 137.55 18 37 15 1318.3 19.80 42.40
60.00 19 50 48 2072.98 7.64 42.37 204.86 129.69 20 25 21 1073.0 22.63 22.96
70.00 22 9 8 1665.46 15.87 15.31 210.77 120.65 22 36 53 665.5 27.07 352.46
73.05 23 45 43 1367.74 22.57 356.01 214.45 114.18 24 8 31 367.7 30.51 330.69
73.05 23 45 43 1367.74 22.57 356.01 214.45 114.18 24 8 31 367.7 30.51 330.69
73.05 23 45 43 1367.74 22.57 356.01 214.45 114.18 24 8 31 367.7 30.51 330.69
110.00 3 12 30 6000.32 15.87 282.13 210.77 120.65 4 52 31 5000.3 27.07 259.28

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3277 TRA -.4884 TC3 -.2203 BAU .0893 SGT 1139.5 SGR 920.1 S63 1144.8 ST 31.5 SR 16.5 SS 54.3
RDE -.1918 RRA -.0837 RC3 .5463 FAU .15874 RRT .4936 RRF -.7477 RTF -.6389 CRT .9446 CR8 .5028 CST .7537
PDE .7112 FRA 5.1286 FC-12.1246 BSP 1870 SGB 1852.6 R23 -.4307 R13 -.6849 LSA 60.9 MSA 22.6 S8A 1.1
BDE .3797 BRA .4935 BC3 .5891 F8P 1910 S61 1173.2 S62 438.7 THA 14.87 EL1 35.3 EL2 4.8 ALF 26.88

LAUNCH DATE APR 28 1971

FLIGHT TIME 182.00

ARRIVAL DATE OCT 27 1971

HELIOCENTRIC CONIC

DISTANCE 447.221

EARTH TO MARS

RL 150.61 LAL -.00 LOL 217.07 VL 32.369 GAL -1.97 AZL 92.46 MCA 148.94 SMA 185.72 ECC .19093 INC 2.4603 V1 29.584
RP 209.14 LAP -1.27 LOP 6.04 VP 23.549 GAP 8.31 AZP 87.89 TAL 350.18 TAP 139.12 RCA 150.26 APO 221.17 V2 26.209
RC 101.892 GL -24.45 GP 4.84 ZAL 113.52 ZAP 127.86 ETS 176.06 ZAE 167.95 ETE 152.41 ZAC 105.35 ETC 277.05 LVI -21.50

PLANETOCENTRIC CONIC

C3 11.266 VHL 3.356 DLA -32.93 RAL 345.26 RAD 6638.7 VEL 11.461 PTH 6.51 VHP 3.674 DPA -13.74 RAP 315.63 ECC 1.1854
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 21 45 2309.02 2.18 58.41 199.56 137.54 19 0 14 1309.0 20.25 41.96
60.00 19 55 12 2060.32 8.19 41.75 205.29 129.60 20 29 32 1060.3 23.31 22.24
70.00 22 18 49 1637.07 16.84 13.69 211.46 120.16 22 46 6 637.1 27.76 350.55
72.37 23 42 25 1379.98 22.82 357.08 214.73 114.42 24 5 25 380.0 30.83 331.70
72.37 23 42 25 1379.98 22.82 357.08 214.73 114.42 24 5 25 380.0 30.83 331.70
72.37 23 42 25 1379.98 22.82 357.08 214.73 114.42 24 5 25 380.0 30.83 331.70
110.00 3 22 11 5971.93 16.84 280.51 211.46 120.16 5 1 43 4971.9 27.76 257.37

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3232 TRA -.4416 TC3 -.3145 BAU .0985 SGT 1075.0 SGR 537.6 S63 1199.5 ST 30.7 SR 16.2 SS 55.7
RDE -.1864 RRA -.0980 RC3 .5731 FAU .16523 RRT .4731 RRF -.7836 RTF -.5810 CRT .9631 CR8 .5255 CST .7290
PDE .7346 FRA 5.3526 FC-12.6973 BSP 1718 SGB 1202.0 R23 -.5046 R13 -.6452 LSA 61.5 MSA 22.8 S8A 1.0
BDE .3731 BRA .4524 BC3 .6537 F8P 2005 S61 1111.2 S62 458.2 THA 16.12 EL1 34.5 EL2 3.9 ALF 27.32

LAUNCH DATE APR 28 1971

FLIGHT TIME 184.00

ARRIVAL DATE OCT 29 1971

HELIOCENTRIC CONIC

DISTANCE 451.333

EARTH TO MARS

RL 150.61 LAL -.00 LOL 217.07 VL 32.393 GAL -1.97 AZL 92.49 MCA 150.18 SMA 185.44 ECC .18973 INC 2.4934 V1 29.584
RP 209.34 LAP -1.24 LOP 7.28 VP 23.500 GAP 8.07 AZP 87.84 TAL 350.18 TAP 140.34 RCA 150.26 APO 220.62 V2 26.168
RC 103.900 GL -24.84 GP 5.12 ZAL 113.52 ZAP 125.93 ETS 176.08 ZAE 166.40 ETE 154.99 ZAC 105.71 ETC 276.91 LVI -21.56

PLANETOCENTRIC CONIC

C3 11.214 VHL 3.349 DLA -33.26 RAL 345.55 RAD 6638.7 VEL 11.459 PTH 6.51 VHP 3.595 DPA -13.66 RAP 314.87 ECC 1.1846
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 25 1 2299.98 2.64 58.03 199.96 137.52 19 3 21 1300.0 20.67 41.92
60.00 19 59 48 2047.78 8.73 41.14 203.77 129.90 20 33 54 1047.8 23.78 21.92
70.00 22 29 52 1605.23 17.92 11.85 212.26 119.97 22 56 37 605.2 28.51 348.38
71.72 23 39 25 1391.82 23.06 358.11 215.06 114.66 24 2 37 391.8 31.14 332.70
71.72 23 39 25 1391.82 23.06 358.11 215.06 114.66 24 2 37 391.8 31.14 332.70
71.72 23 39 25 1391.82 23.06 358.11 215.06 114.66 24 2 37 391.8 31.14 332.70
110.00 3 33 14 5940.09 17.92 276.67 212.26 119.97 5 12 14 4940.1 28.51 259.20

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3189 TRA -.3940 TC3 -.4170 BAU .1097 SGT 1012.5 SGR 558.7 S63 1254.4 ST 29.8 SR 15.9 SS 57.0
RDE -.1813 RRA -.1133 RC3 .6014 FAU .17169 RRT .4302 RRF -.8165 RTF -.5558 CRT .9793 CR8 .5510 CST .7001
PDE .7578 FRA 5.5788 FC-13.2530 BSP 1569 SGB 1156.4 R23 -.5892 R13 -.5945 LSA 62.1 MSA 23.0 S8A 1.0
BDE .3665 BRA .4100 BC3 .7319 F8P 2102 S61 1048.9 S62 486.8 THA 17.16 EL1 33.7 EL2 2.9 ALF 27.80

LAUNCH DATE APR 28 1971

FLIGHT TIME 186.00

ARRIVAL DATE OCT 31 1971

HELIOCENTRIC CONIC

DISTANCE 459.493

EARTH TO MARS

RL 150.61 LAL -.00 LOL 217.07 VL 32.338 GAL -1.96 AZL 92.53 MCA 151.42 SMA 185.18 ECC .18863 INC 2.5289 V1 29.584
RP 209.55 LAP -1.21 LOP 8.51 VP 23.453 GAP 7.84 AZP 87.78 TAL 350.12 TAP 141.54 RCA 150.26 APO 220.12 V2 26.162
RC 105.933 GL -25.23 GP 5.43 ZAL 113.54 ZAP 123.96 ETS 176.11 ZAE 164.77 ETE 157.06 ZAC 106.11 ETC 276.76 LVI -21.63

PLANETOCENTRIC CONIC

C3 11.179 VHL 3.343 DLA -33.59 RAL 345.88 RAD 6638.6 VEL 11.457 PTH 6.51 VHP 3.522 DPA -13.57 RAP 314.08 ECC 1.1840
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 28 26 2291.16 3.08 57.66 200.41 137.50 19 6 37 1291.2 21.09 41.09
60.00 20 4 33 2035.28 9.27 40.53 206.31 129.40 20 38 29 1035.3 24.25 20.79
70.00 22 43 9 1587.32 19.18 9.63 213.21 118.81 23 9 16 587.3 29.35 343.75
71.08 23 36 42 1403.44 23.29 359.12 215.44 114.91 24 0 5 403.4 31.46 333.68
71.08 23 36 42 1403.44 23.29 359.12 215.44 114.91 24 0 5 403.4 31.46 333.68
71.08 23 36 42 1403.44 23.29 359.12 215.44 114.91 24 0 5 403.4 31.46 333.68
110.00 3 46 31 5902.17 19.18 276.46 213.21 118.81 5 24 53 4902.2 29.35 252.97

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3136 TRA -.3432 TC3 -.5269 BAU .1229 SGT 954.9 SGR 583.7 S63 1308.8 ST 28.9 SR 15.6 SS 58.3
RDE -.1762 RRA -.1295 RC3 .6317 FAU .17821 RRT .3619 RRF -.8464 RTF -.4075 CRT .9915 CR8 .5786 CST .6653
PDE .7797 FRA 5.8030 FC-13.8013 BSP 1421 SGB 1119.1 R23 -.6713 R13 -.5268 LSA 62.7 MSA 23.3 S8A 1.0
BDE .3599 BRA .3668 BC3 .8226 F8P 2196 S61 987.8 S62 526.0 THA 17.62 EL1 32.8 EL2 1.8 ALF 28.30

LAUNCH DATE APR 28 1971 FLIGHT TIME 188.00 ARRIVAL DATE NOV 2 1971

HELIOCENTRIC CONIC DISTANCE 459.640 EARTH TO MARS
RL 130.61 LAL -.00 LOL 217.07 VL 32.324 GAL -1.56 AZL 92.57 MCA 182.65 SMA 184.98 ECC .18764 INC 2.5474 V1 29.584
RP 209.76 LAP -1.18 LOP 9.75 VP 23.406 GAP 7.61 AZP 87.72 TAL 350.07 TAP 142.72 RCA 150.25 APO 219.67 V2 26.137
RC 107.990 GL -25.67 GP 5.76 ZAL 113.56 ZAP 121.97 ETS 176.15 ZAE 163.06 ETE 158.73 ZAC 106.52 ETC 276.60 LVI -21.70
PLANETOCENTRIC CONIC
CS 11.161 VHL 3.341 DLA -33.92 RAL 346.21 RAD 6638.6 VEL 11.456 PTH 6.51 VHP 3.453 DPA -13.45 RAP 313.24 ECC 1.1837
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 18 32 1 2282.48 3.51 57.30 200.91 137.48 19 10 3 1282.5 21.60 40.67
60.00 20 9 36 2022.69 9.82 39.91 206.90 129.29 20 43 18 1022.7 24.72 20.05
70.00 23 1 18 1515.34 20.86 6.53 214.45 117.68 23 26 34 515.3 30.41 342.07
70.44 23 34 9 1415.11 23.51 .14 215.87 115.18 23 57 44 415.1 31.77 334.66
70.44 23 34 9 1415.11 23.51 .14 215.87 115.18 23 57 44 415.1 31.77 334.66
70.44 23 34 9 1415.11 23.51 .14 215.87 115.18 23 57 44 415.1 31.77 334.66
110.00 4 4 41 5880.20 20.86 273.36 214.45 117.68 5 42 11 4690.2 30.41 248.89
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3052 TRA -.2856 TC3 -.6278 BAU .1368 SGT 893.4 SGR 813.1 SCS 1362.8 ST 27.6 SR 15.4 SS 59.3
RDE -.1710 RRA -.1468 RC3 .6661 FAU .18544 RRT .2639 RRF -.8729 RTF -.2848 CRT .9975 CR8 .6047 CBT .6205
FDE .7877 FRA 6.0137 FC-14.3862 B8P 1244 SGB 1083.5 R23 -.7572 R13 -.4376 LBA 63.0 MSA 23.4 S8A .9
BDE .3498 BRA .3210 BC3 .9152 F8P 2271 SGI 918.4 SGI 374.9 THA 17.30 EL1 31.6 EL2 1.0 ALF 29.04

LAUNCH DATE APR 28 1971 FLIGHT TIME 190.00 ARRIVAL DATE NOV 4 1971

HELIOCENTRIC CONIC DISTANCE 463.791 EARTH TO MARS
RL 150.61 LAL -.00 LOL 217.07 VL 32.311 GAL -1.57 AZL 92.61 MCA 153.88 SMA 184.78 ECC .18675 INC 2.6092 V1 29.584
RP 209.99 LAP -1.15 LOP 10.98 VP 23.380 GAP 7.39 AZP 87.66 TAL 350.00 TAP 143.88 RCA 150.25 APO 219.26 V2 26.111
RC 110.071 GL -26.11 GP 6.11 ZAL 113.60 ZAP 119.94 ETS 176.20 ZAE 161.29 ETE 160.08 ZAC 106.97 ETC 276.44 LVI -21.79
PLANETOCENTRIC CONIC
CS 11.161 VHL 3.341 DLA -34.26 RAL 346.58 RAD 6638.6 VEL 11.456 PTH 6.51 VHP 3.390 DPA -13.32 RAP 312.37 ECC 1.1837
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 18 35 47 2273.96 3.94 56.94 201.46 137.45 19 13 41 1274.0 21.89 40.25
60.00 20 14 55 2010.01 10.36 39.28 207.55 129.17 20 48 25 1010.0 25.19 19.31
69.81 23 31 53 1426.59 23.73 1.15 216.36 115.46 23 55 39 426.6 32.08 335.64
69.81 23 31 53 1426.59 23.73 1.15 216.36 115.46 23 55 39 426.6 32.08 335.64
69.81 23 31 53 1426.59 23.73 1.15 216.36 115.46 23 55 39 426.6 32.08 335.64
69.81 23 31 53 1426.59 23.73 1.15 216.36 115.46 23 55 39 426.6 32.08 335.64
69.81 23 31 53 1426.59 23.73 1.15 216.36 115.46 23 55 39 426.6 32.08 335.64
69.81 23 31 53 1426.59 23.73 1.15 216.36 115.46 23 55 39 426.6 32.08 335.64
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3070 TRA -.2347 TC3 -.7736 BAU .1954 SGT 884.0 SGR 647.0 SCS 1415.9 ST 27.3 SR 15.3 SS 61.0
RDE -.1674 RRA -.1684 RC3 .6969 FAU .19054 RRT .1576 RRF -.8961 RTF -.1369 CRT .9944 CR8 .6452 CBT .5809
FDE .8398 FRA 6.2642 FC-14.7799 B8P 1204 SGB 1095.5 R23 -.8563 R13 -.2645 LBA 64.3 MSA 23.8 S8A .9
BDE .3497 BRA .2877 BC3 1.0412 F8P 2394 SGI 893.2 SGI 634.2 THA 11.72 EL1 31.3 EL2 1.4 ALF 29.14

LAUNCH DATE APR 28 1971 FLIGHT TIME 192.00 ARRIVAL DATE NOV 6 1971

HELIOCENTRIC CONIC DISTANCE 467.949 EARTH TO MARS
RL 150.61 LAL -.00 LOL 217.07 VL 32.300 GAL -1.58 AZL 92.65 MCA 155.11 SMA 184.57 ECC .18596 INC 2.6547 V1 29.584
RP 210.22 LAP -1.12 LOP 12.20 VP 23.315 GAP 7.17 AZP 87.59 TAL 349.92 TAP 145.03 RCA 150.25 APO 218.89 V2 26.085
RC 112.177 GL -26.57 GP 6.50 ZAL 113.65 ZAP 117.89 ETS 176.25 ZAE 159.46 ETE 161.19 ZAC 107.45 ETC 276.27 LVI -21.89
PLANETOCENTRIC CONIC
CS 11.178 VHL 3.343 DLA -34.60 RAL 346.99 RAD 6638.6 VEL 11.457 PTH 6.51 VHP 3.331 DPA -13.16 RAP 311.46 ECC 1.1840
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 18 39 48 2265.42 4.37 56.58 202.07 137.42 19 17 33 1265.4 22.29 39.63
60.00 20 20 37 1996.94 10.92 38.63 208.28 129.04 20 53 54 996.9 25.66 18.53
69.17 23 29 43 1438.37 23.94 2.19 216.91 115.76 23 53 42 438.4 32.39 336.65
69.17 23 29 43 1438.37 23.94 2.19 216.91 115.76 23 53 42 438.4 32.39 336.65
69.17 23 29 43 1438.37 23.94 2.19 216.91 115.76 23 53 42 438.4 32.39 336.65
69.17 23 29 43 1438.37 23.94 2.19 216.91 115.76 23 53 42 438.4 32.39 336.65
69.17 23 29 43 1438.37 23.94 2.19 216.91 115.76 23 53 42 438.4 32.39 336.65
69.17 23 29 43 1438.37 23.94 2.19 216.91 115.76 23 53 42 438.4 32.39 336.65
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3022 TRA -.1743 TC3 -.9027 BAU .1737 SGT 874.2 SGR 685.6 SCS 1466.8 ST 26.9 SR 15.2 SS 62.3
RDE -.1633 RRA -.1871 RC3 .7326 FAU .19648 RRT -.0157 RRF -.9160 RTF .1116 CRT .9790 CR8 .6802 CBT .5259
FDE .8665 FRA 6.4882 FC-15.2170 B8P 1148 SGB 1111.0 R23 .9146 R13 -.0545 LBA 65.0 MSA 24.1 S8A .8
BDE .3435 BRA .2537 BC3 1.1626 F8P 2486 SGI 874.4 SGI 685.4 THA 178.17 EL1 30.4 EL2 2.7 ALF 29.57

LAUNCH DATE APR 28 1971 FLIGHT TIME 194.00 ARRIVAL DATE NOV 8 1971

HELIOCENTRIC CONIC DISTANCE 472.112 EARTH TO MARS
RL 150.61 LAL -.00 LOL 217.07 VL 32.290 GAL -1.59 AZL 92.70 MCA 156.33 SMA 184.40 ECC .18525 INC 2.7045 V1 29.584
RP 210.49 LAP -1.09 LOP 13.43 VP 23.271 GAP 6.95 AZP 87.52 TAL 349.82 TAP 146.18 RCA 150.24 APO 218.58 V2 26.058
RC 114.307 GL -27.03 GP 6.92 ZAL 113.71 ZAP 115.81 ETS 176.32 ZAE 157.56 ETE 162.08 ZAC 107.96 ETC 276.09 LVI -22.02
PLANETOCENTRIC CONIC
CS 11.214 VHL 3.349 DLA -34.98 RAL 347.43 RAD 6638.7 VEL 11.459 PTH 6.51 VHP 3.278 DPA -12.97 RAP 310.52 ECC 1.1848
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 18 44 4 2256.81 4.80 56.22 202.75 137.39 19 21 41 1256.8 22.69 39.41
60.00 20 26 45 1983.36 11.50 37.96 209.08 128.90 20 59 48 983.4 26.15 17.71
68.53 23 27 44 1450.39 24.16 3.25 217.51 116.08 23 51 54 450.4 32.71 337.68
68.53 23 27 44 1450.39 24.16 3.25 217.51 116.08 23 51 54 450.4 32.71 337.68
68.53 23 27 44 1450.39 24.16 3.25 217.51 116.08 23 51 54 450.4 32.71 337.68
68.53 23 27 44 1450.39 24.16 3.25 217.51 116.08 23 51 54 450.4 32.71 337.68
68.53 23 27 44 1450.39 24.16 3.25 217.51 116.08 23 51 54 450.4 32.71 337.68
68.53 23 27 44 1450.39 24.16 3.25 217.51 116.08 23 51 54 450.4 32.71 337.68
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.2993 TRA -.1123 TC3 -1.0396 BAU .1940 SGT 895.6 SGR 729.8 SCS 1516.2 ST 25.9 SR 15.2 SS 63.5
RDE -.1597 RRA -.2093 RC3 .7709 FAU .20228 RRT -.1789 RRF -.9329 RTF .2042 CRT .9479 CR8 .7175 CBT .4643
FDE .9000 FRA 6.7091 FC-15.6180 B8P 1167 SGB 1155.3 R23 .8206 R13 -.4454 LBA 65.9 MSA 24.4 S8A .8
BDE .3393 BRA .2377 BC3 1.2942 F8P 2575 SGI 919.6 SGI 699.2 THA 159.52 EL1 29.7 EL2 4.2 ALF 29.74

LAUNCH DATE APR 28 1971

FLIGHT TIME 198.00

ARRIVAL DATE NOV 10 1971

HELIOCENTRIC CONIC

DISTANCE 476.280

EARTH TO MARS

RL 190.61 LAL -.00 LOL 217.07 VL 32.201 GAL -1.60 AZL 92.76 HCA 157.56 SMA 184.25 ECC .18464 INC 2.7592 V1 29.984
RP 210.70 LAP -1.05 LOP 14.65 VP 23.227 GAP 6.74 AZP 87.45 TAL 349.71 TAP 147.27 RCA 150.23 APO 218.27 V2 26.030
RC 116.460 GL -27.56 GP 7.37 ZAL 113.78 ZAP 113.72 ETS 176.39 ZAE 155.62 ETE 162.81 ZAC 108.50 ETC 275.90 LVI -22.16

PLANETOCENTRIC CONIC

C3 11.270 VHL 3.357 DLA -35.34 RAL 347.81 RAD 8638.7 VEL 11.461 PTH 6.51 VHP 3.230 DPA -12.74 RAP 309.55 ECC 1.1855
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 48 40 2248.02 5.24 55.85 203.49 137.36 19 26 8 1248.0 23.10 38.97
60.00 20 33 26 1969.00 12.12 37.24 209.98 128.74 21 6 15 969.0 26.67 16.84
67.86 23 25 52 1462.77 24.37 4.34 218.19 116.43 23 50 14 462.8 33.04 338.75
67.86 23 25 52 1462.77 24.37 4.34 218.19 116.43 23 50 14 462.8 33.04 338.75
67.86 23 25 52 1462.77 24.37 4.34 218.19 116.43 23 50 14 462.8 33.04 338.75
67.86 23 25 52 1462.77 24.37 4.34 218.19 116.43 23 50 14 462.8 33.04 338.75
67.86 23 25 52 1462.77 24.37 4.34 218.19 116.43 23 50 14 462.8 33.04 338.75

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2961 TRA -.0467 TC3-1.1823 BAU .2160 SGT 946.0 SGR 779.1 SCS 1561.9 ST 25.3 SR 15.3 SS 84.7
RDE -.1565 RRA -.2340 RC3 .8104 FAU .20741 RRT -.3379 RRF -.9469 RTF .3686 CRT .8979 CR8 .7849 C8T .3934
FDE .9336 FRA 6.9232 FC-15.9329 B8P 1262 SGB 1225.6 R23 .6841 R13 -.6566 L8A 66.7 M8A 24.7 S8A .8
BDE .3349 BRA .2386 BC3 1.4333 F8P 2861 SGI 1019.2 SGI 680.7 THA 150.01 EL1 29.0 EL2 5.9 ALP 29.75

LAUNCH DATE APR 28 1971

FLIGHT TIME 198.00

ARRIVAL DATE NOV 12 1971

HELIOCENTRIC CONIC

DISTANCE 480.451

EARTH TO MARS

RL 190.61 LAL -.00 LOL 217.07 VL 32.273 GAL -1.61 AZL 92.82 HCA 158.78 SMA 184.12 ECC .18411 INC 2.8198 V1 29.884
RP 210.95 LAP -1.02 LOP 15.87 VP 23.184 GAP 6.53 AZP 87.37 TAL 349.58 TAP 148.38 RCA 150.22 APO 218.02 V2 26.001
RC 118.637 GL -26.11 GP 7.87 ZAL 113.88 ZAP 111.61 ETS 176.48 ZAE 153.63 ETE 163.39 ZAC 109.09 ETC 275.71 LVI -22.34

PLANETOCENTRIC CONIC

C3 11.347 VHL 3.368 DLA -35.74 RAL 348.43 RAD 8638.7 VEL 11.464 PTH 6.51 VHP 3.187 DPA -12.48 RAP 308.58 ECC 1.1867
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 53 39 2236.91 5.70 55.46 204.32 137.32 19 30 8 1236.9 23.52 38.81
60.00 20 40 47 1953.84 12.77 36.48 210.98 128.55 21 13 20 953.8 27.21 15.80
67.17 23 24 4 1475.75 24.58 5.49 218.95 116.80 23 48 40 475.8 33.39 339.89
67.17 23 24 4 1475.75 24.58 5.49 218.95 116.80 23 48 40 475.8 33.39 339.89
67.17 23 24 4 1475.75 24.58 5.49 218.95 116.80 23 48 40 475.8 33.39 339.89
67.17 23 24 4 1475.75 24.58 5.49 218.95 116.80 23 48 40 475.8 33.39 339.89
67.17 23 24 4 1475.75 24.58 5.49 218.95 116.80 23 48 40 475.8 33.39 339.89

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2939 TRA .0218 TC3-1.3279 BAU .2395 SGT 1025.8 SGR 834.8 SCS 1604.8 ST 25.0 SR 15.4 SS 85.8
RDE -.1537 RRA -.2605 RC3 .8534 FAU .21249 RRT -.4771 RRF -.9585 RTF .5055 CRT .8271 CR8 .7916 C8T .3146
FDE .9687 FRA 7.1237 FC-16.2124 B8P 1428 SGB 1322.6 R23 .5976 R13 -.7593 L8A 67.6 M8A 25.1 S8A .7
BDE .3316 BRA .2614 BC3 1.5785 F8P 2735 SGI 1149.0 SGI 655.0 THA 146.75 EL1 28.4 EL2 7.7 ALP 29.38

LAUNCH DATE APR 28 1971

FLIGHT TIME 200.00

ARRIVAL DATE NOV 14 1971

HELIOCENTRIC CONIC

DISTANCE 484.626

EARTH TO MARS

RL 190.61 LAL -.00 LOL 217.07 VL 32.266 GAL -1.63 AZL 92.89 HCA 159.99 SMA 184.01 ECC .18365 INC 2.8870 V1 29.584
RP 211.20 LAP -.99 LOP 17.09 VP 23.141 GAP 6.33 AZP 87.29 TAL 349.48 TAP 149.44 RCA 150.22 APO 217.80 V2 25.972
RC 120.836 GL -26.70 GP 8.42 ZAL 113.92 ZAP 109.49 ETS 176.59 ZAE 151.60 ETE 163.84 ZAC 109.73 ETC 275.52 LVI -22.58

PLANETOCENTRIC CONIC

C3 11.447 VHL 3.383 DLA -36.17 RAL 349.00 RAD 8638.8 VEL 11.469 PTH 6.52 VHP 3.149 DPA -12.16 RAP 307.83 ECC 1.1884
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 59 6 2229.32 6.18 55.06 205.24 137.27 19 36 16 1229.3 23.96 38.02
60.00 20 49 0 1936.53 13.49 35.80 212.11 128.34 21 21 16 936.5 27.80 14.85
66.44 23 22 20 1489.49 24.80 6.71 219.79 117.22 23 47 10 489.5 33.75 341.09
66.44 23 22 20 1489.49 24.80 6.71 219.79 117.22 23 47 10 489.5 33.75 341.09
66.44 23 22 20 1489.49 24.80 6.71 219.79 117.22 23 47 10 489.5 33.75 341.09
66.44 23 22 20 1489.49 24.80 6.71 219.79 117.22 23 47 10 489.5 33.75 341.09
66.44 23 22 20 1489.49 24.80 6.71 219.79 117.22 23 47 10 489.5 33.75 341.09

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2918 TRA .0934 TC3-1.4752 BAU .2642 SGT 1130.8 SGR 897.6 SCS 1644.3 ST 24.9 SR 15.8 SS 87.1
RDE -.1518 RRA -.2803 RC3 .8978 FAU .21684 RRT -.5896 RRF -.9880 RTF .5.48 CRT .7348 CR8 .8278 C8T .2504
FDE 1.0128 FRA 7.3260 FC-16.3847 B8P 1634 SGB 1443.8 R23 .5187 R13 -.8191 L8A 68.7 M8A 25.5 S8A .7
BDE .3288 BRA .3049 BC3 1.7288 F8P 2818 SGI 1286.4 SGI 631.4 THA 145.78 EL1 27.8 EL2 9.6 ALP 28.68

LAUNCH DATE APR 28 1971

FLIGHT TIME 202.00

ARRIVAL DATE NOV 16 1971

HELIOCENTRIC CONIC

DISTANCE 488.804

EARTH TO MARS

RL 190.61 LAL -.00 LOL 217.07 VL 32.260 GAL -1.65 AZL 92.96 HCA 161.21 SMA 183.81 ECC .18327 INC 2.9825 V1 29.584
RP 211.48 LAP -.95 LOP 18.30 VP 23.089 GAP 6.13 AZP 87.19 TAL 349.29 TAP 150.80 RCA 150.20 APO 217.82 V2 25.942
RC 123.058 GL -28.34 GP 9.03 ZAL 113.99 ZAP 107.38 ETS 176.72 ZAE 149.54 ETE 164.18 ZAC 110.43 ETC 275.32 LVI -22.81

PLANETOCENTRIC CONIC

C3 11.572 VHL 3.402 DLA -36.84 RAL 349.61 RAD 8638.8 VEL 11.474 PTH 6.52 VHP 3.117 DPA -11.78 RAP 306.82 ECC 1.1905
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 8 8 2219.02 6.69 54.62 206.27 137.22 19 42 7 1219.0 24.44 37.50
60.00 20 58 20 1917.33 14.30 34.62 213.39 128.09 21 30 17 917.3 28.46 13.68
65.67 23 20 38 1504.12 25.02 8.01 220.73 117.69 23 45 43 504.1 34.14 342.38
65.67 23 20 38 1504.12 25.02 8.01 220.73 117.69 23 45 43 504.1 34.14 342.38
65.67 23 20 38 1504.12 25.02 8.01 220.73 117.69 23 45 43 504.1 34.14 342.38
65.67 23 20 38 1504.12 25.02 8.01 220.73 117.69 23 45 43 504.1 34.14 342.38
65.67 23 20 38 1504.12 25.02 8.01 220.73 117.69 23 45 43 504.1 34.14 342.38

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2893 TRA .1881 TC3-1.6204 BAU .2903 SGT 1256.5 SGR 967.4 SCS 1678.2 ST 25.0 SR 16.2 SS 88.0
RDE -.1500 RRA -.3223 RC3 .9461 FAU .22076 RRT -.6801 RRF -.9788 RTF .7013 CRT .6215 CR8 .8600 C8T .1387
FDE 1.0470 FRA 7.5011 FC-16.5155 B8P 1927 SGB 1585.7 R23 .4823 R13 -.8806 L8A 69.6 M8A 25.8 S8A .6
BDE .3299 BRA .3840 BC3 1.8784 F8P 2880 SGI 1464.3 SGI 608.8 THA 145.82 EL1 27.5 EL2 11.6 ALP 27.18

LAUNCH DATE APR 28 1971 FLIGHT TIME 204.00 ARRIVAL DATE NOV 18 1971

Table with columns for HELIOCENTRIC CONIC, PLANETOCENTRIC CONIC, DIFFERENTIAL CORRECTIONS, MID-COURSE EXECUTION ACCURACY, and ORBIT DETERMINATION ACCURACY. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT, INJ ASC, INJ AZMTH, INJ TIME, PO, CST, TIM, INJ 2, LAT, INJ 2, LONG, DPA, RAP, 305.44, ECC, 1.1930, etc.

LAUNCH DATE APR 28 1971 FLIGHT TIME 206.00 ARRIVAL DATE NOV 20 1971

Table with columns for HELIOCENTRIC CONIC, PLANETOCENTRIC CONIC, DIFFERENTIAL CORRECTIONS, MID-COURSE EXECUTION ACCURACY, and ORBIT DETERMINATION ACCURACY. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT, INJ ASC, INJ AZMTH, INJ TIME, PO, CST, TIM, INJ 2, LAT, INJ 2, LONG, DPA, RAP, 304.38, ECC, 1.1961, etc.

LAUNCH DATE APR 28 1971 FLIGHT TIME 208.00 ARRIVAL DATE NOV 22 1971

Table with columns for HELIOCENTRIC CONIC, PLANETOCENTRIC CONIC, DIFFERENTIAL CORRECTIONS, MID-COURSE EXECUTION ACCURACY, and ORBIT DETERMINATION ACCURACY. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT, INJ ASC, INJ AZMTH, INJ TIME, PO, CST, TIM, INJ 2, LAT, INJ 2, LONG, DPA, RAP, 303.30, ECC, 1.1999, etc.

LAUNCH DATE APR 28 1971 FLIGHT TIME 210.00 ARRIVAL DATE NOV 24 1971

Table with columns for HELIOCENTRIC CONIC, PLANETOCENTRIC CONIC, DIFFERENTIAL CORRECTIONS, MID-COURSE EXECUTION ACCURACY, and ORBIT DETERMINATION ACCURACY. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT, INJ ASC, INJ AZMTH, INJ TIME, PO, CST, TIM, INJ 2, LAT, INJ 2, LONG, DPA, RAP, 302.21, ECC, 1.2046, etc.

LAUNCH DATE APR 28 1971

FLIGHT TIME 212.00

ARRIVAL DATE NOV 26 1971

HELIOCENTRIC CONIC

RL 150.61 LAL -.00 LOL 217.07 VL 32.243 GAL -1.79 AZL 93.54 HCA 167.23 SMA 183.62 ECC .18241 INC 3.5416 V1 29.584
RP 212.86 LAP -.78 LOP 24.32 VP 22.696 GAP 5.17 AZP 86.55 TAL 348.33 TAP 195.56 RCA 150.13 APO 217.12 V2 25.782
RC 134.475 GL -33.84 GP 13.46 ZAL 114.14 ZAP 96.84 ETS 177.77 ZAE 138.73 ETE 164.37 ZAC 115.25 ETC 274.37 LVI -25.32

PLANETOCENTRIC CONIC

C3 12.783 VHL 3.575 DLA -39.96 RAL 353.89 RAD 8639.4 VEL 11.526 PTH 6.57 VHP 3.040 DPA -8.41 RAP 301.12 ECC 1.2104
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 19 50 47 2144.08 10.42 51.41 214.20 136.69 20 26 32 1144.1 27.80 33.54
60.00 22 34 47 1704.29 22.88 23.16 225.22 124.13 23 3 12 704.3 34.81 359.19
60.50 23 12 11 1598.94 26.34 16.66 227.66 121.21 23 38 50 598.9 36.76 351.10
60.50 23 12 11 1598.94 26.34 16.66 227.66 121.21 23 38 50 598.9 36.76 351.10
60.50 23 12 11 1598.94 26.34 16.66 227.66 121.21 23 38 50 598.9 36.76 351.10
60.50 23 12 11 1598.94 26.34 16.66 227.66 121.21 23 38 50 598.9 36.76 351.10
60.50 23 12 11 1598.94 26.34 16.66 227.66 121.21 23 38 50 598.9 36.76 351.10

DIFFERENTIAL CORRECTIONS

TDE -.2878 TRA .5968 TC3-2.2737 BAU .4422
RDE -.1597 RRA -.5531 RC3 1.2358 FAU .22937
FDE 1.2932 FRA 8.0789 FC-15.5346 B8P 3778
BDE .3289 BRA .8137 BC3 2.5878 F8P 3043

DISTANCE 509.720

EARTH TO MARS

MID-COURSE EXECUTION ACCURACY

SGT 2100.7 SGR 1477.6 SG3 1755.9
RRT -.0897 RRF -.9950 RTF .8944
SGB 2568.3 R23 .2967 R13 -.8499
SG1 2505.3 SG2 565.7 THA 145.99

ORBIT DETERMINATION ACCURACY

BT 29.8 SR 21.6 SS 72.0
CRT -.0515 CR8 .9897 CBT -.2932
LSA 75.6 MSA 26.9 S8A .4
EL1 29.8 EL2 21.5 ALF 175.53

LAUNCH DATE APR 28 1971

FLIGHT TIME 214.00

ARRIVAL DATE NOV 28 1971

HELIOCENTRIC CONIC

RL 150.61 LAL -.00 LOL 217.07 VL 32.248 GAL -1.83 AZL 93.73 HCA 168.42 SMA 183.60 ECC .18242 INC 3.7263 V1 29.584
RP 213.16 LAP -.75 LOP 25.52 VP 22.856 GAP 4.99 AZP 86.35 TAL 348.10 TAP 196.52 RCA 150.11 APO 217.10 V2 25.748
RC 136.814 GL -35.17 GP 14.80 ZAL 114.05 ZAP 94.80 ETS 178.12 ZAE 136.47 ETE 164.08 ZAC 116.66 ETC 274.19 LVI -26.24

PLANETOCENTRIC CONIC

C3 13.220 VHL 3.636 DLA -40.97 RAL 355.13 RAD 8639.7 VEL 11.545 PTH 6.59 VHP 3.046 DPA -7.26 RAP 300.01 ECC 1.2176
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 20 5 51 2119.33 11.65 50.34 216.79 136.47 20 41 10 1119.3 28.88 32.17
59.02 23 10 30 1824.71 26.67 19.09 229.77 122.33 23 37 34 824.7 37.50 353.59
59.02 23 10 30 1824.71 26.67 19.09 229.77 122.33 23 37 34 824.7 37.50 353.59
59.02 23 10 30 1824.71 26.67 19.09 229.77 122.33 23 37 34 824.7 37.50 353.59
59.02 23 10 30 1824.71 26.67 19.09 229.77 122.33 23 37 34 824.7 37.50 353.59
59.02 23 10 30 1824.71 26.67 19.09 229.77 122.33 23 37 34 824.7 37.50 353.59
59.02 23 10 30 1824.71 26.67 19.09 229.77 122.33 23 37 34 824.7 37.50 353.59

DIFFERENTIAL CORRECTIONS

TDE -.2898 TRA .6932 TC3-2.3878 BAU .4779
RDE -.1683 RRA -.8212 RC3 1.3059 FAU .22826
FDE 1.3583 FRA 8.0948 FC-14.9480 B8P 4223
BDE .3351 BRA .9308 BC3 2.7041 F8P 3024

DISTANCE 513.907

EARTH TO MARS

MID-COURSE EXECUTION ACCURACY

SGT 2294.9 SGR 1628.8 SG3 1745.5
RRT -.9089 RRF -.9968 RTF .9098
SGB 2814.2 R23 .2746 R13 -.9581
SG1 2755.5 SG2 571.7 THA 145.54

ORBIT DETERMINATION ACCURACY

BT 31.6 SR 23.6 SS 72.8
CRT -.1649 CR8 .9804 CBT -.3558
LSA 77.0 MSA 29.7 S8A .3
EL1 32.1 EL2 22.9 ALF 168.49

LAUNCH DATE APR 28 1971

FLIGHT TIME 216.00

ARRIVAL DATE NOV 30 1971

HELIOCENTRIC CONIC

RL 150.61 LAL -.00 LOL 217.07 VL 32.241 GAL -1.87 AZL 93.99 HCA 169.81 SMA 183.59 ECC .18249 INC 3.9519 V1 29.584
RP 213.48 LAP -.71 LOP 26.71 VP 22.817 GAP 4.81 AZP 86.11 TAL 347.88 TAP 197.47 RCA 150.09 APO 217.10 V2 25.714
RC 139.171 GL -36.75 GP 16.41 ZAL 113.88 ZAP 92.80 ETS 178.53 ZAE 134.16 ETE 163.64 ZAC 118.33 ETC 274.04 LVI -27.41

PLANETOCENTRIC CONIC

C3 13.780 VHL 3.712 DLA -42.17 RAL 356.58 RAD 8639.9 VEL 11.569 PTH 6.61 VHP 3.083 DPA -5.84 RAP 298.89 ECC 1.2268
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 20 29 1 2087.95 13.21 48.94 220.07 138.14 20 59 49 1087.6 30.23 30.38
57.31 23 8 57 1694.00 27.02 21.89 232.30 123.70 23 36 31 654.0 38.36 356.50
57.31 23 8 57 1694.00 27.02 21.89 232.30 123.70 23 36 31 654.0 38.36 356.50
57.31 23 8 57 1694.00 27.02 21.89 232.30 123.70 23 36 31 654.0 38.36 356.50
57.31 23 8 57 1694.00 27.02 21.89 232.30 123.70 23 36 31 654.0 38.36 356.50
57.31 23 8 57 1694.00 27.02 21.89 232.30 123.70 23 36 31 654.0 38.36 356.50
57.31 23 8 57 1694.00 27.02 21.89 232.30 123.70 23 36 31 654.0 38.36 356.50

DIFFERENTIAL CORRECTIONS

TDE -.2940 TRA .7930 TC3-2.4412 BAU .5169
RDE -.1808 RRA -.7003 RC3 1.3829 FAU .22625
FDE 1.4231 FRA 8.0438 FC-14.2144 B8P 4684
BDE .3451 BRA 1.0580 BC3 2.8057 F8P 2978

DISTANCE 518.093

EARTH TO MARS

MID-COURSE EXECUTION ACCURACY

SGT 2493.6 SGR 1809.2 SG3 1721.1
RRT -.9203 RRF -.9977 RTF .5219
SGB 3078.5 R23 .2540 R13 -.9849
SG1 3022.8 SG2 582.6 THA 144.83

ORBIT DETERMINATION ACCURACY

BT 33.7 SR 28.0 SS 72.7
CRT -.2824 CR8 .9880 CBT -.4078
LSA 78.4 MSA 30.7 S8A .3
EL1 35.1 EL2 24.1 ALF 157.53

LAUNCH DATE APR 28 1971

FLIGHT TIME 218.00

ARRIVAL DATE DEC 2 1971

HELIOCENTRIC CONIC

RL 150.61 LAL -.00 LOL 217.07 VL 32.241 GAL -1.91 AZL 94.24 HCA 170.80 SMA 183.59 ECC .18261 INC 4.2350 V1 29.584
RP 213.77 LAP -.68 LOP 27.90 VP 22.777 GAP 4.63 AZP 85.82 TAL 347.80 TAP 198.40 RCA 150.07 APO 217.12 V2 25.680
RC 141.543 GL -38.65 GP 18.36 ZAL 113.60 ZAP 90.86 ETS 179.04 ZAE 131.79 ETE 163.04 ZAC 120.34 ETC 275.90 LVI -28.89

PLANETOCENTRIC CONIC

C3 14.515 VHL 3.810 DLA -43.82 RAL 358.34 RAD 8640.3 VEL 11.600 PTH 6.64 VHP 3.093 DPA -4.07 RAP 297.76 ECC 1.2389
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 20 50 45 2044.24 15.33 47.00 224.40 135.61 21 24 50 1044.2 32.06 27.84
55.29 23 7 45 1687.66 27.38 25.15 235.41 125.39 23 35 52 687.7 39.36 359.95
55.29 23 7 45 1687.66 27.38 25.15 235.41 125.39 23 35 52 687.7 39.36 359.95
55.29 23 7 45 1687.66 27.38 25.15 235.41 125.39 23 35 52 687.7 39.36 359.95
55.29 23 7 45 1687.66 27.38 25.15 235.41 125.39 23 35 52 687.7 39.36 359.95
55.29 23 7 45 1687.66 27.38 25.15 235.41 125.39 23 35 52 687.7 39.36 359.95
55.29 23 7 45 1687.66 27.38 25.15 235.41 125.39 23 35 52 687.7 39.36 359.95

DIFFERENTIAL CORRECTIONS

TDE -.2947 TRA .9017 TC3-2.4745 BAU .5567
RDE -.2048 RRA -.7994 RC3 1.4517 FAU .22058
FDE 1.5508 FRA 7.9641 FC-13.1562 B8P 5249
BDE .3589 BRA 1.2050 BC3 2.8689 F8P 2945

DISTANCE 522.278

EARTH TO MARS

MID-COURSE EXECUTION ACCURACY

SGT 2694.5 SGR 2019.0 SG3 1683.5
RRT -.9301 RRF -.9986 RTF .9306
SGB 3367.0 R23 .2357 R13 -.9704
SG1 3312.5 SG2 603.2 THA 143.73

ORBIT DETERMINATION ACCURACY

BT 35.9 SR 29.3 SS 73.4
CRT -.3451 CR8 .9935 CBT -.4495
LSA 80.8 MSA 31.7 S8A .2
EL1 36.7 EL2 25.5 ALF 150.26

LAUNCH DATE APR 28 1971 FLIGHT TIME 220.00 ARRIVAL DATE DEC 4 1971

HELIOCENTRIC CONIC DISTANCE 526.463 EARTH TO MARS
 RL 150.61 LAL -.00 LOL 217.07 VL 32.242 GAL -1.95 AZL 94.60 HCA 171.98 SMA 183.60 ECC .18279 INC 4.5989 V1 29.584
 RP 214.08 LAP -.64 LOP 29.08 VP 22.739 GAP 4.45 AZP 85.45 TAL 347.33 TAP 159.32 RCA 150.04 APO 217.16 V2 25.645
 RC 143.936 GL -40.99 GP 20.79 ZAL 113.15 ZAP 89.01 ETS 179.67 ZAE 129.30 ETE 162.21 ZAC 122.02 ETC 273.79 LVI -30.61

PLANETOCENTRIC CONIC
 C3 15.521 VHL 3.940 DLA -45.40 RAL .54 RAD 6640.8 VEL 11,643 PTH 6.68 VHP 3.142 DPA -1.81 RAP 296.59 ECC 1.2554
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 21 28 56 1977.76 18.33 43.94 230.64 134.64 22 1 54 977.8 34.73 23.74
 52.87 23 7 13 1727.07 27.72 29.03 239.32 127.52 23 36 1 727.1 40.50 4.13
 52.87 23 7 13 1727.07 27.72 29.03 239.32 127.52 23 36 1 727.1 40.50 4.13
 52.87 23 7 13 1727.07 27.72 29.03 239.32 127.52 23 36 1 727.1 40.50 4.13
 52.87 23 7 13 1727.07 27.72 29.03 239.32 127.52 23 36 1 727.1 40.50 4.13
 52.87 23 7 13 1727.07 27.72 29.03 239.32 127.52 23 36 1 727.1 40.50 4.13
 52.87 23 7 13 1727.07 27.72 29.03 239.32 127.52 23 36 1 727.1 40.50 4.13

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2988 TRA 1.0110 TC3-2.4788 BAU .6053 SGT 2896.2 SGR 2273.7 SCS 1620.3 ST 38.3 SR 33.2 SS 73.0
 RDE -.2367 RRA -.9137 RC3 1.5385 FAU .21550 RRT -.9386 RRF -.9991 RTF .9384 CRT -.4107 CR8 .9968 CST -.4828
 FDE 1.6583 FRA 7.7276 FC-12.0204 BSP 5753 SGB 3682.1 R23 .2160 R13 -.9755 LSA 82.6 MSA 32.0 SSA .2
 BDE .3812 BRA 1.3627 BC3 2.9173 FSP 2803 SG1 3628.5 S62 626.1 THA 142.30 EL1 42.9 EL2 27.1 ALF 144.54

LAUNCH DATE APR 28 1971 FLIGHT TIME 222.00 ARRIVAL DATE DEC 6 1971

HELIOCENTRIC CONIC DISTANCE 530.648 EARTH TO MARS
 RL 150.61 LAL -.00 LOL 217.07 VL 32.243 GAL -1.99 AZL 95.09 HCA 173.18 SMA 183.62 ECC .18301 INC 5.0875 V1 29.584
 RP 214.39 LAP -.80 LOP 30.26 VP 22.700 GAP 4.28 AZP 84.95 TAL 347.06 TAP 180.22 RCA 150.02 APO 217.23 V2 25.609
 RC 146.344 GL -43.92 GP 23.88 ZAL 112.46 ZAP 87.26 ETS 180.46 ZAE 126.65 ETE 161.10 ZAC 125.95 ETC 273.73 LVI -33.33

PLANETOCENTRIC CONIC
 C3 16.971 VHL 4.120 DLA -47.62 RAL 3.42 RAD 6641.5 VEL 11,705 PTH 6.74 VHP 3.223 DPA 1.11 RAP 293.37 ECC 1.2793
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 49.95 23 8 11 1774.09 27.96 33.71 244.43 130.25 23 37 45 774.1 41.77 9.34
 49.95 23 8 11 1774.09 27.96 33.71 244.43 130.25 23 37 45 774.1 41.77 9.34
 49.95 23 8 11 1774.09 27.96 33.71 244.43 130.25 23 37 45 774.1 41.77 9.34
 49.95 23 8 11 1774.09 27.96 33.71 244.43 130.25 23 37 45 774.1 41.77 9.34
 49.95 23 8 11 1774.09 27.96 33.71 244.43 130.25 23 37 45 774.1 41.77 9.34
 49.95 23 8 11 1774.09 27.96 33.71 244.43 130.25 23 37 45 774.1 41.77 9.34

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2862 TRA 1.1369 TC3-2.4093 BAU .6558 SGT 3098.9 SGR 2597.2 SCS 1832.5 ST 40.8 SR 39.2 SS 73.7
 RDE -.3032 RRA -1.0659 RC3 1.5968 FAU .20390 RRT -.9444 RRF -.9995 RTF .9435 CRT -.4675 CR8 .9986 CST -.5098
 FDE 1.8896 FRA 7.4184 FC-10.4014 BSP 6469 SGB 4043.3 R23 .1979 R13 -.8797 LSA 86.4 MSA 34.0 SSA .2
 BDE .4183 BRA 1.9584 BC3 2.8904 FSP 2686 SG1 3988.5 S62 663.2 THA 140.32 EL1 46.4 EL2 29.1 ALF 137.18

LAUNCH DATE APR 28 1971 FLIGHT TIME 224.00 ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC DISTANCE 534.828 EARTH TO MARS
 RL 150.61 LAL -.00 LOL 217.07 VL 32.245 GAL -2.04 AZL 95.78 HCA 174.34 SMA 183.65 ECC .18328 INC 5.7750 V1 29.584
 RP 214.72 LAP -.57 LOP 31.44 VP 22.662 GAP 4.11 AZP 84.25 TAL 346.77 TAP 161.11 RCA 149.99 APO 217.31 V2 25.573
 RC 148.770 GL -47.70 GP 27.92 ZAL 111.39 ZAP 85.71 ETS 181.48 ZAE 123.73 ETE 159.64 ZAC 130.04 ETC 273.75 LVI -36.70

PLANETOCENTRIC CONIC
 C3 19.225 VHL 4.385 DLA -50.41 RAL 7.39 RAD 6642.5 VEL 11,800 PTH 6.82 VHP 3.357 DPA 5.00 RAP 294.07 ECC 1.3164
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 46.36 23 12 8 1831.97 27.92 39.43 251.38 133.84 23 42 38 832.0 43.08 16.02
 46.36 23 12 8 1831.97 27.92 39.43 251.38 133.84 23 42 38 832.0 43.08 16.02
 46.36 23 12 8 1831.97 27.92 39.43 251.38 133.84 23 42 38 832.0 43.08 16.02
 46.36 23 12 8 1831.97 27.92 39.43 251.38 133.84 23 42 38 832.0 43.08 16.02
 46.36 23 12 8 1831.97 27.92 39.43 251.38 133.84 23 42 38 832.0 43.08 16.02
 46.36 23 12 8 1831.97 27.92 39.43 251.38 133.84 23 42 38 832.0 43.08 16.02

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2638 TRA 1.2656 TC3-2.2806 BAU .7242 SGT 3294.3 SGR 2999.3 SCS 1395.1 ST 42.7 SR 47.2 SS 73.8
 RDE -.4184 RRA -1.2488 RC3 1.6546 FAU .19027 RRT -.9489 RRF -.9997 RTF .5.74 CRT -.5119 CR8 .9997 CST -.9316
 FDE 2.1759 FRA 6.8311 FC3-8.5681 BSP 7123 SGB 4452.4 R23 .1794 R13 -.9835 LSA 90.8 MSA 35.0 SSA .1
 BDE .4946 BRA 1.7787 BC3 2.8176 FSP 2422 SG1 4395.7 S62 708.1 THA 137.07 EL1 55.8 EL2 31.2 ALF 129.40

LAUNCH DATE APR 28 1971 FLIGHT TIME 226.00 ARRIVAL DATE DEC 10 1971

HELIOCENTRIC CONIC DISTANCE 539.006 EARTH TO MARS
 RL 150.61 LAL -.00 LOL 217.07 VL 32.247 GAL -2.09 AZL 96.82 HCA 175.51 SMA 183.69 ECC .18359 INC 6.8180 V1 29.584
 RP 215.04 LAP -.53 LOP 32.61 VP 22.623 GAP 3.93 AZP 83.20 TAL 346.48 TAP 161.99 RCA 149.96 APO 217.41 V2 25.536
 RC 151.211 GL -52.72 GP 33.37 ZAL 109.77 ZAP 84.46 ETS 182.80 ZAE 120.36 ETE 157.70 ZAC 135.51 ETC 273.92 LVI -41.30

PLANETOCENTRIC CONIC
 C3 23.126 VHL 4.809 DLA -53.94 RAL 13.33 RAD 6644.2 VEL 11,963 PTH 6.96 VHP 3.595 DPA 10.28 RAP 292.64 ECC 1.3806
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 41.95 23 22 25 1906.54 27.18 46.51 261.36 138.57 23 54 11 906.5 44.10 24.85
 41.95 23 22 25 1906.54 27.18 46.51 261.36 138.57 23 54 11 906.5 44.10 24.85
 41.95 23 22 25 1906.54 27.18 46.51 261.36 138.57 23 54 11 906.5 44.10 24.85
 41.95 23 22 25 1906.54 27.18 46.51 261.36 138.57 23 54 11 906.5 44.10 24.85
 41.95 23 22 25 1906.54 27.18 46.51 261.36 138.57 23 54 11 906.5 44.10 24.85
 41.95 23 22 25 1906.54 27.18 46.51 261.36 138.57 23 54 11 906.5 44.10 24.85

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1679 TRA 1.4190 TC3-2.0350 BAU .8106 SGT 3481.3 SGR 3507.2 SCS 1192.9 ST 44.3 SR 60.6 SS 74.6
 RDE -.6755 RRA -1.4923 RC3 1.6534 FAU .16798 RRT -.9523 RRF -.9999 RTF .9499 CRT -.5790 CR8 1.0000 CST -.5611
 FDE 2.6690 FRA 5.9273 FC3-6.2885 BSP 7961 SGB 4941.7 R23 .1604 R13 -.9869 LSA 100.0 MSA 34.7 SSA .1
 BDE .6961 BRA 2.0593 BC3 2.6220 FSP 2063 SG1 4882.3 S62 763.5 THA 134.78 EL1 67.8 EL2 32.3 ALF 120.59

LAUNCH DATE APR 28 1971

FLIGHT TIME 228.00

ARRIVAL DATE DEC 12 1971

HELIOCENTRIC CONIC

DISTANCE 543.182

EARTH TO MARS

RL 150.61 LAL -.00 LOL 217.07 VL 32.249 GAL -2.13 AZL 98.59 HCA 176.67 SNA 183.73 ECC .18395 INC 8.5861 V1 29.584
RP 213.37 LAP -.50 LOP 33.78 VP 22.583 GAP 3.76 AZP 81.43 TAL 346.19 TAP 162.86 RCA 149.93 APO 217.53 V2 25.499
RC 133.889 GL -59.62 GP 40.87 ZAL 107.25 ZAP 83.77 ETS 184.46 ZAE 116.26 ETE 155.20 ZAC 143.01 ETC 274.46 LVI -47.59

PLANETOCENTRIC CONIC

C3 31.113 VHL 5.578 DLA -58.26 RAL 23.21 RAD 6847.4 VEL 12.290 PTH 7.23 VHP 4.073 DPA 17.62 RAP 291.00 ECC 1.5120
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
36.68 23 47 21 2009.85 24.67 55.15 276.68 144.62 24 20 51 1009.9 43.74 36.61
36.68 23 47 21 2009.85 24.67 55.15 276.68 144.62 24 20 51 1009.9 43.74 36.61

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .1446 TRA 1.6017 TC3-1.6555 BAU .9478 SGT 3835.0 SGR 4130.7 SG3 887.8 ST 47.6 SR 85.8 SS 76.4
RDE -1.3220 RRA -1.7866 RC3 1.5856 FAU .13594 RRT -.9548 RRF -.9999 RTF .9512 CRT -.7270 CR8 .9999 C8T -.7194
FDE 3.3740 FRA 4.4577 FC3-3.7827 BSP 8727 SGB 5302.3 R23 .1423 R13 -.9898 LSA 120.3 MSA 31.4 S8A .0
BDE 1.3299 BRA 2.3994 BC3 2.2785 F8P 1489 SG1 5440.8 S62 820.3 THA 131.10 EL1 93.4 EL2 30.0 ALF 114.88

LAUNCH DATE APR 28 1971

FLIGHT TIME 238.00

ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC

DISTANCE 564.135

EARTH TO MARS

RL 150.61 LAL -.00 LOL 217.07 VL 32.289 GAL -2.43 AZL 82.87 HCA 182.53 SNA 184.05 ECC .18645 INC 7.1318 V1 29.584
RP 217.08 LAP -.31 LOP 39.58 VP 22.398 GAP 2.95 AZP 97.13 TAL 344.40 TAP 186.82 RCA 149.74 APO 218.37 V2 25.308
RC 166.178 GL 52.95 GP -46.94 ZAL 111.32 ZAP 79.33 ETS 167.17 ZAE 107.18 ETE 199.85 ZAC 55.47 ETC 272.32 LVI 33.28

PLANETOCENTRIC CONIC

C3 25.158 VHL 5.016 DLA 41.83 RAL 321.08 RAD 6843.1 VEL 12.047 PTH 7.03 VHP 4.762 DPA -66.51 RAP 314.74 ECC 1.4140
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 10 41 35 4138.77 -38.95 185.13 218.57 60.16 11 50 33 3138.8 -47.16 153.76
57.79 8 51 28 4432.99 -21.31 198.19 205.26 53.11 10 5 21 3433.0 -34.49 175.24

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 3.2749 TRA .9838 TC3-2.4613 BAU 1.0403 SGT 4719.4 SGR 4484.8 SG3 808.3 ST 188.4 SR 166.3 SS 104.9
RDE 2.8381 RRA 1.8089 RC3-1.8739 FAU .08637 RRT .9842 RRF .9998 RTF .9583 CRT .9944 CR8 -.9999 C8T -.9928
FDE 4.3380 FRA 2.6156 FC3-2.9790 BSP 10907 SGB 6310.5 R23 .1614 R13 .9887 LSA 271.9 MSA 15.0 S8A .1
BDE 4.3358 BRA 1.8737 BC3 3.0935 F8P 1094 SG1 6452.1 S62 869.4 THA 43.49 EL1 250.9 EL2 13.2 ALF 41.41

LAUNCH DATE APR 28 1971

FLIGHT TIME 240.00

ARRIVAL DATE DEC 24 1971

HELIOCENTRIC CONIC

DISTANCE 568.288

EARTH TO MARS

RL 150.61 LAL -.00 LOL 217.07 VL 32.274 GAL -2.49 AZL 85.86 HCA 183.67 SNA 184.14 ECC .18704 INC 4.3367 V1 29.584
RP 217.43 LAP -.28 LOP 40.73 VP 22.361 GAP 2.79 AZP 94.33 TAL 344.05 TAP 167.72 RCA 149.70 APO 218.58 V2 25.269
RC 168.717 GL 37.58 GP -37.41 ZAL 117.88 ZAP 75.81 ETS 167.79 ZAE 108.55 ETE 195.29 ZAC 65.02 ETC 271.87 LVI 24.98

PLANETOCENTRIC CONIC

C3 16.005 VHL 4.001 DLA 27.82 RAL 328.96 RAD 6841.0 VEL 11.664 PTH 6.70 VHP 3.944 DPA -59.81 RAP 303.50 ECC 1.2634
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 12 56 58 3698.02 -47.58 143.11 208.47 91.22 13 57 54 2658.0 -41.51 110.01
60.00 12 58 3 3659.05 -40.05 142.50 208.13 85.06 13 58 58 2655.1 -37.66 111.63

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 2.2229 TRA 1.3146 TC3-3.8259 BAU .9480 SGT 4902.8 SGR 3702.5 SG3 981.8 ST 182.4 SR 117.7 SS 117.4
RDE 1.5679 RRA 1.4448 RC3-2.2342 FAU .12843 RRT .9896 RRF .9997 RTF .5064 CRT .9945 CR8 -.9999 C8T -.9928
FDE 4.5866 FRA 4.4388 FC3-6.7849 BSP 10273 SGB 6143.8 R23 .1891 R13 .9854 LSA 232.0 MSA 13.1 S8A .1
BDE 2.7202 BRA 1.9531 BC3 4.4304 F8P 1713 SG1 6100.4 S62 728.7 THA 36.82 EL1 200.3 EL2 10.0 ALF 35.87

LAUNCH DATE APR 28 1971

FLIGHT TIME 242.00

ARRIVAL DATE DEC 26 1971

HELIOCENTRIC CONIC

DISTANCE 572.444

EARTH TO MARS

RL 150.61 LAL -.00 LOL 217.07 VL 32.280 GAL -2.58 AZL 87.13 HCA 184.81 SNA 184.23 ECC .18767 INC 2.8721 V1 29.584
RP 217.79 LAP -.24 LOP 41.87 VP 22.324 GAP 2.63 AZP 92.88 TAL 343.69 TAP 168.50 RCA 149.65 APO 218.80 V2 25.229
RC 171.288 GL 28.92 GP -30.48 ZAL 121.55 ZAP 73.04 ETS 168.66 ZAE 108.71 ETE 191.89 ZAC 71.97 ETC 271.85 LVI 18.83

PLANETOCENTRIC CONIC

C3 13.091 VHL 3.818 DLA 17.74 RAL 333.88 RAD 6839.6 VEL 11.539 PTH 6.59 VHP 3.599 DPA -53.25 RAP 301.34 ECC 1.2154
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 14 3 40 3395.69 -44.27 118.85 199.84 109.59 15 0 15 2395.7 -32.09 92.07
60.00 14 22 39 3345.13 -38.61 116.48 202.02 102.58 15 18 24 2345.1 -29.58 89.42

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.7288 TRA 1.5534 TC3-4.7353 BAU .9116 SGT 5089.8 SGR 3066.3 SG3 1188.4 ST 142.3 SR 86.8 SS 116.7
RDE 1.0228 RRA 1.2491 RC3-2.1698 FAU .14868 RRT .9725 RRF .9996 RTF .9704 CRT .9958 CR8 -.9997 C8T -.9935
FDE 4.5837 FRA 5.7177 FC3-9.8329 BSP 10039 SGB 5942.0 R23 .1796 R13 .9834 LSA 203.2 MSA 10.9 S8A .2
BDE 2.0066 BRA 1.9933 BC3 5.2087 F8P 2132 SG1 5910.2 S62 614.6 THA 30.73 EL1 166.6 EL2 6.8 ALF 31.33

LAUNCH DATE APR 28 1971

FLIGHT TIME 244.00

ARRIVAL DATE DEC 28 1971

Heliocentric Conic: RL 150.61 LAL -0.00 LOL 217.07 VL 32.285 GAL -2.62 AZL 88.03 HCA 185.94 SMA 184.32 ECC .18834 INC 1.9664 V1 29.584
 RP 218.15 LAP -.20 LOP 43.01 VP 22.287 GAP 2.47 AZP 91.96 TAL 343.32 TAP 169.26 RCA 149.61 APO 219.04 V2 25.189
 RC 173.829 GL 16.67 GP -25.45 ZAL 123.88 ZAP 70.75 ETS 169.47 ZAE 108.18 ETE 189.36 ZAC 77.01 ETC 271.51 LVI 14.36

Planetocentric Conic: C3 11.985 VHL 3.482 DLA 10.62 RAL 337.27 RAD 6839.1 VEL 11.492 PTH 6.54 VHP 3.432 DPA -48.42 RAP 298.97 ECC 1.1972
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 45 44 3231.10 -39.65 105.78 196.64 118.82 15 39 35 2231.1 -24.93 82.94
 60.00 15 13 43 3156.82 -34.79 101.96 199.52 111.76 16 6 19 2156.6 -22.86 78.00
 70.00 15 52 54 3041.33 -30.45 94.39 201.29 106.27 16 43 35 2041.3 -20.93 69.90
 80.00 16 49 8 2865.16 -27.29 81.96 202.22 102.60 17 36 53 1865.2 -19.49 57.27
 90.00 18 5 15 2619.50 -26.11 64.19 202.50 101.27 18 48 55 1619.5 -18.94 39.45
 100.00 19 32 0 2339.63 -27.29 43.33 202.22 102.60 20 11 0 1339.6 -19.49 18.64
 110.00 20 52 20 2088.15 -30.45 23.31 201.29 106.27 21 27 8 1088.1 -20.93 358.82

Differential Corrections: TDE 1.4294 TRA 1.7122 TC3-5.3751 BAU .9181 SGT 5268.7 SGR 2561.7 SG3 1318.3
 RDE .7313 RRA 1.0641 RC3-1.9840 FAU .16527 RRT .9737 RRF .9994 RTF .9723 CRT .9976 CRS -.9994 CST -.9947
 FDE 4.0669 FRA 6.4831 FC-11.9381 BSP 9624 SGB 5858.5 R23 .1890 R13 .9813 LSA 180.4 MSA 8.7 S3A .4
 BDE 1.6056 BRA 2.0159 BC3 5.7296 FSP 2316 SG1 5834.7 SG2 527.4 THA 25.56 EL1 142.4 EL2 4.0 ALF 27.69

LAUNCH DATE APR 28 1971

FLIGHT TIME 246.00

ARRIVAL DATE DEC 30 1971

Heliocentric Conic: RL 150.61 LAL -0.00 LOL 217.07 VL 32.291 GAL -2.69 AZL 88.64 HCA 187.08 SMA 184.42 ECC .18904 INC 1.3558 V1 29.584
 RP 218.51 LAP -.17 LOP 44.15 VP 22.250 GAP 2.31 AZP 91.35 TAL 342.94 TAP 170.02 RCA 149.56 APO 219.28 V2 25.149
 RC 176.400 GL 12.99 GP -21.70 ZAL 125.36 ZAP 68.77 ETS 170.15 ZAE 107.26 ETE 187.46 ZAC 80.77 ETC 271.41 LVI 11.04

Planetocentric Conic: C3 11.566 VHL 3.401 DLA 5.52 RAL 339.83 RAD 6638.8 VEL 11.474 PTH 6.52 VHP 3.346 DPA -44.81 RAP 297.42 ECC 1.1903
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 15 4 3121.29 -35.76 98.17 195.92 123.76 16 7 6 2121.3 -19.82 77.49
 60.00 15 48 46 3031.66 -31.29 93.23 199.05 116.82 16 39 17 2031.7 -17.92 71.13
 70.00 16 34 26 2897.34 -27.28 84.40 201.11 111.40 17 22 43 1897.3 -16.16 61.47
 80.00 17 36 43 2702.25 -24.38 70.75 202.25 107.80 18 21 45 1702.2 -14.86 47.40
 90.00 18 55 32 2447.92 -23.29 52.42 202.62 106.51 19 36 20 1447.9 -14.36 28.95
 100.00 20 19 35 2176.72 -24.38 32.12 202.25 107.80 20 55 52 1176.7 -14.86 8.77
 110.00 21 33 52 1944.16 -27.28 13.32 201.11 111.40 22 6 16 944.2 -16.16 350.39

Differential Corrections: TDE 1.2695 TRA 1.8744 TC3-5.7115 BAU .9225 SGT 5452.7 SGR 2179.1 SG3 1394.4
 RDE .9736 RRA .9229 RC3-1.7237 FAU .17232 RRT .9744 RRF .9989 RTF .9737 CRT .9993 CRS -.9987 CST -.9964
 FDE 3.8521 FRA 7.0242 FC-12.6992 BSP 9726 SGB 5872.0 R23 .1932 R13 .9801 LSA 167.5 MSA 6.7 S3A .6
 BDE 1.3931 BRA 2.0893 BC3 5.9660 FSP 2470 SG1 5854.2 SG2 456.6 THA 21.41 EL1 128.9 EL2 1.8 ALF 24.62

LAUNCH DATE APR 28 1971

FLIGHT TIME 248.00

ARRIVAL DATE JAN 1 1972

Heliocentric Conic: RL 150.61 LAL -0.00 LOL 217.07 VL 32.298 GAL -2.76 AZL 89.08 HCA 188.21 SMA 184.52 ECC .18978 INC .9138 V1 29.584
 RP 218.88 LAP -.13 LOP 45.28 VP 22.214 GAP 2.15 AZP 90.91 TAL 342.55 TAP 170.76 RCA 149.50 APO 219.54 V2 25.109
 RC 178.981 GL 8.77 GP -18.84 ZAL 126.36 ZAP 66.99 ETS 170.73 ZAE 106.14 ETE 186.02 ZAC 83.65 ETC 271.34 LVI 8.50

Planetocentric Conic: C3 11.453 VHL 3.384 DLA 1.79 RAL 341.85 RAD 6638.8 VEL 11.469 PTH 6.52 VHP 3.302 DPA -42.04 RAP 296.31 ECC 1.1885
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 36 51 3044.85 -32.76 93.34 196.23 126.68 16 27 36 2044.9 -16.15 73.93
 60.00 16 14 32 2944.80 -28.47 87.58 199.49 119.82 17 3 36 1944.6 -14.32 66.59
 70.00 17 4 39 2797.17 -24.62 77.83 201.70 114.46 17 51 17 1797.2 -12.62 55.87
 80.00 18 11 2 2589.34 -21.83 63.33 202.97 110.90 18 54 11 1589.3 -11.36 40.84
 90.00 19 31 37 2329.27 -20.78 44.63 203.38 109.62 20 10 27 1329.3 -10.89 21.97
 100.00 20 53 53 2063.81 -21.83 24.70 202.97 110.90 21 28 17 1063.8 -11.36 2.21
 110.00 22 4 6 1843.99 -24.62 6.75 201.70 114.46 22 34 50 844.0 -12.62 344.79

Differential Corrections: TDE 1.1888 TRA 2.0176 TC3-5.9382 BAU .9372 SGT 5632.4 SGR 1877.3 SG3 1433.6
 RDE .4740 RRA .8052 RC3-1.4924 FAU .17827 RRT .9745 RRF .9982 RTF .5.48 CRT .9998 CRS -.9975 CST -.9978
 FDE 3.8635 FRA 7.3825 FC-13.3244 BSP 9846 SGB 5937.0 R23 .1935 R13 .9793 LSA 158.5 MSA 5.2 S3A .9
 BDE 1.2592 BRA 2.1723 BC3 6.1209 FSP 2341 SG1 5923.5 SG2 400.4 THA 18.08 EL1 120.2 EL2 .9 ALF 22.02

LAUNCH DATE APR 28 1971

FLIGHT TIME 250.00

ARRIVAL DATE JAN 3 1972

Heliocentric Conic: RL 150.61 LAL -0.00 LOL 217.07 VL 32.304 GAL -2.83 AZL 89.42 HCA 189.34 SMA 184.63 ECC .19055 INC .5820 V1 29.584
 RP 219.23 LAP -.09 LOP 46.41 VP 22.178 GAP 1.99 AZP 90.57 TAL 342.15 TAP 171.49 RCA 149.45 APO 219.81 V2 25.068
 RC 181.572 GL 5.55 GP -16.98 ZAL 127.15 ZAP 65.36 ETS 171.22 ZAE 104.92 ETE 184.90 ZAC 85.91 ETC 271.28 LVI 8.51

Planetocentric Conic: C3 11.495 VHL 3.390 DLA -1.00 RAL 343.52 RAD 6638.8 VEL 11.471 PTH 6.52 VHP 3.282 DPA -39.86 RAP 295.49 ECC 1.1892
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 53 42 2989.99 -30.48 90.10 196.98 128.48 16 43 32 1990.0 -13.48 71.46
 60.00 16 34 21 2881.88 -26.29 83.71 200.33 121.72 17 22 22 1881.9 -11.66 63.43
 70.00 17 27 46 2724.79 -22.50 73.28 202.64 116.40 18 13 10 1724.8 -9.98 51.93
 80.00 18 37 7 2507.61 -19.75 58.15 203.99 112.86 19 18 55 1507.6 -8.73 36.20
 90.00 19 59 1 2243.34 -18.72 39.17 204.43 111.59 20 36 25 1243.3 -8.26 17.03
 100.00 21 19 59 1982.08 -19.75 19.52 203.99 112.86 21 53 1 982.1 -8.73 357.57
 110.00 22 27 12 1771.61 -22.50 2.20 202.64 116.40 22 56 44 771.6 -9.98 340.85

Differential Corrections: TDE 1.1072 TRA 2.1583 TC3-6.0694 BAU .9535 SGT 5809.2 SGR 1637.4 SG3 1451.0
 RDE .4102 RRA .7096 RC3-1.2874 FAU .17698 RRT .9740 RRF .9972 RTF .9757 CRT .9985 CRS -.9955 CST -.9989
 FDE 3.5299 FRA 7.5942 FC-13.3289 BSP 10092 SGB 6035.6 R23 .1909 R13 .9789 LSA 153.1 MSA 4.3 S3A 1.3
 BDE 1.1808 BRA 2.2720 BC3 6.2044 FSP 2588 SG1 6025.0 SG2 357.4 THA 15.41 EL1 115.4 EL2 2.0 ALF 19.77

LAUNCH DATE APR 28 1971

FLIGHT TIME 252.00

ARRIVAL DATE JAN 9 1972

HELIOCENTRIC CONIC
 RL 150.61 LAL -.00 LOL 217.07 VL 32.311 GAL -2.90 AZL 89.68 HCA 190.47 SMA 104.74 ECC .19135 INC .3191 V1 29.584
 RP 219.62 LAP -.06 LOP 47.54 VP 22.141 GAP 1.83 AZP 90.32 TAL 341.75 TAP 172.22 RCA 149.39 APO 220.09 VE 23.028
 RC 184.172 GL 3.04 GP -14.77 ZAL 127.79 ZAP 83.85 ETS 171.83 ZAE 103.64 ETE 184.02 ZAC 87.73 ETC 271.23 LVI 4.91

DISTANCE 593.194 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 11.623 VHL 3.409 DLA -3.14 RAL 344.95 RAD 6638.9 VEL 11.476 PTH 6.53 VHP 3.277 DPA -38.11 RAP 294.86 ECC 1.1913
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 7 10 2949.81 -26.75 87.82 197.91 129.69 16 36 20 1949.8 -11.50 69.69
 60.00 16 50 5 2835.67 -24.60 80.96 201.33 122.99 17 37 21 1835.7 -9.68 61.13
 70.00 17 48 1 2671.17 -20.84 70.01 203.72 117.69 18 30 33 1671.2 -7.98 49.06
 80.00 18 57 41 2448.81 -18.10 54.39 205.13 114.16 19 38 28 1446.8 -6.73 32.60
 90.00 20 20 35 2179.31 -17.07 35.20 205.60 112.89 20 56 54 1179.3 -6.25 13.39
 100.00 21 40 33 1921.28 -18.10 15.76 205.13 114.16 22 12 34 921.3 -6.73 354.17
 110.00 22 45 28 1717.99 -20.84 358.92 203.72 117.69 23 14 6 718.0 -7.98 337.98

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.0710 TRA 2.2918 TC3-6.1642 BAU .9733 SGT 5982.0 SGR 1443.4 SG3 1454.1 ST 107.2 SR 34.8 SS 99.9
 RDE .3681 RRA .6310 RC3-1.1099 FAU .17524 RRT .9718 RRF .9956 RTF .9754 CRT .9951 CR8 -.9928 CST -.9995
 FDE 3.4424 FRA 7.7597 FC-13.0527 B8P 10355 SGB 6153.7 R23 .1899 R13 .9779 L8A 149.9 M8A 4.0 S8A 1.6
 BDE 1.1329 BRA 2.3770 BC3 6.2633 F8P 2626 SGI 6144.7 SG2 331.3 THA 13.24 EL1 112.6 EL2 3.3 ALF 17.93

LAUNCH DATE APR 28 1971

FLIGHT TIME 254.00

ARRIVAL DATE JAN 7 1972

HELIOCENTRIC CONIC
 RL 150.61 LAL -.00 LOL 217.07 VL 32.318 GAL -2.98 AZL 89.89 HCA 191.59 SMA 184.86 ECC .19218 INC .1018 V1 29.584
 RP 219.99 LAP -.02 LOP 48.66 VP 22.105 GAP 1.67 AZP 90.11 TAL 341.34 TAP 172.93 RCA 149.33 APO 220.39 VE 24.987
 RC 186.781 GL 1.03 GP -13.29 ZAL 128.35 ZAP 82.42 ETS 171.98 ZAE 102.34 ETE 183.31 ZAC 89.21 ETC 271.20 LVI 3.59

DISTANCE 597.332 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 11.802 VHL 3.435 DLA -4.79 RAL 346.19 RAD 6639.0 VEL 11.484 PTH 6.53 VHP 3.282 DPA -36.67 RAP 294.37 ECC 1.1942
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 18 12 2919.97 -27.44 86.18 198.92 130.52 17 6 52 1920.0 -10.02 68.40
 60.00 17 2 53 2801.12 -23.31 78.95 202.39 123.66 17 49 35 1801.1 -8.18 59.44
 70.00 18 0 49 2630.79 -19.54 67.59 204.84 118.58 18 44 40 1630.8 -6.47 46.91
 80.00 19 14 17 2400.76 -16.79 51.60 206.31 115.06 19 54 18 1400.8 -5.19 30.24
 90.00 20 37 59 2130.71 -15.76 32.23 206.79 113.79 21 13 30 1130.7 -4.71 10.66
 100.00 21 57 9 1875.23 -16.79 12.97 206.31 115.06 22 28 24 875.2 -5.19 351.61
 110.00 23 0 18 1677.61 -19.54 356.51 204.84 118.58 23 28 13 677.6 -6.47 335.63

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.0508 TRA 2.4212 TC3-6.2354 BAU .9955 SGT 6152.0 SGR 1283.6 SG3 1447.5 ST 106.8 SR 31.6 SS 97.4
 RDE .3380 RRA .5637 RC3 -.9832 FAU .17297 RRT .9690 RRF .9933 RTF .9752 CRT .9897 CR8 -.9882 CST -.9997
 FDE 3.3679 FRA 7.8617 FC-12.6885 B8P 10614 SGB 6284.4 R23 .1859 R13 .9771 L8A 147.9 M8A 4.5 S8A 1.6
 BDE 1.1039 BRA 2.4659 BC3 6.3096 F8P 2637 SGI 6278.8 SG2 310.7 THA 11.46 EL1 111.3 EL2 4.3 ALF 16.32

LAUNCH DATE APR 28 1971

FLIGHT TIME 256.00

ARRIVAL DATE JAN 9 1972

HELIOCENTRIC CONIC
 RL 150.61 LAL -.00 LOL 217.07 VL 32.325 GAL -3.05 AZL 90.06 HCA 192.71 SMA 184.98 ECC .19304 INC .0420 V1 29.584
 RP 220.36 LAP .01 LOP 49.78 VP 22.069 GAP 1.52 AZP 89.94 TAL 340.93 TAP 173.63 RCA 149.27 APO 220.69 VE 24.946
 RC 189.399 GL -.60 GP -12.06 ZAL 128.87 ZAP 81.07 ETS 172.29 ZAE 101.03 ETE 182.73 ZAC 90.45 ETC 271.17 LVI 2.50

DISTANCE 601.468 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 12.013 VHL 3.466 DLA -6.10 RAL 347.29 RAD 6639.1 VEL 11.493 PTH 6.54 VHP 3.294 DPA -35.47 RAP 293.99 ECC 1.1977
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 27 25 2897.68 -26.45 84.99 199.94 131.11 17 15 43 1897.7 -8.92 67.44
 60.00 17 13 31 2775.07 -22.31 77.47 203.46 124.47 17 59 46 1775.1 -7.05 58.17
 70.00 18 13 2 2600.10 -18.53 65.79 205.97 119.21 18 56 22 1600.1 -5.31 45.30
 80.00 19 27 57 2365.52 -15.76 49.49 207.47 115.69 20 7 23 1365.5 -4.01 28.30
 90.00 20 52 17 2093.41 -14.72 29.99 207.98 114.42 21 27 11 1093.4 -3.52 8.56
 100.00 22 10 49 1839.99 -15.76 10.86 207.47 115.69 22 41 29 840.0 -4.01 349.67
 110.00 23 12 28 1646.92 -18.53 354.70 205.97 119.21 23 39 55 646.9 -5.31 334.21

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.0391 TRA 2.5395 TC3-6.3139 BAU 1.0233 SGT 6317.3 SGR 1147.9 SG3 1431.4 ST 106.6 SR 28.8 SS 94.9
 RDE .3131 RRA .5023 RC3 -.8565 FAU .17246 RRT .9666 RRF .9902 RTF .5.62 CRT .9823 CR8 -.9841 CST -.9997
 FDE 3.2596 FRA 7.8702 FC-12.4293 B8P 10770 SGB 6420.7 R23 .1738 R13 .9776 L8A 145.5 M8A 5.2 S8A 1.5
 BDE 1.0814 BRA 2.5887 BC3 6.3717 F8P 2575 SGI 6414.2 SG2 289.6 THA 9.98 EL1 110.3 EL2 5.2 ALF 14.87

LAUNCH DATE APR 28 1971

FLIGHT TIME 258.00

ARRIVAL DATE JAN 11 1972

HELIOCENTRIC CONIC
 RL 150.61 LAL -.00 LOL 217.07 VL 32.332 GAL -3.13 AZL 90.21 HCA 193.82 SMA 185.10 ECC .19392 INC .2038 V1 29.584
 RP 220.74 LAP .05 LOP 50.89 VP 22.034 GAP 1.36 AZP 89.80 TAL 340.51 TAP 174.32 RCA 149.21 APO 221.00 VE 24.904
 RC 192.025 GL -1.93 GP -11.02 ZAL 129.36 ZAP 59.78 ETS 172.56 ZAE 99.73 ETE 182.26 ZAC 91.49 ETC 271.15 LVI 1.56

DISTANCE 605.598 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 12.249 VHL 3.499 DLA -7.13 RAL 348.29 RAD 6639.2 VEL 11.503 PTH 6.55 VHP 3.310 DPA -34.45 RAP 293.70 ECC 1.2015
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 35 15 2881.10 -25.71 84.12 200.96 131.52 17 23 16 1881.1 -8.09 66.73
 60.00 17 22 29 2755.49 -21.55 76.37 204.53 124.92 18 8 24 1755.5 -6.20 57.22
 70.00 18 23 18 2576.77 -17.75 64.43 207.08 119.67 19 6 12 1576.8 -4.42 44.07
 80.00 19 39 22 2338.51 -14.96 47.89 208.62 116.14 20 18 21 1338.5 -3.10 26.81
 90.00 21 4 13 2064.72 -13.91 28.28 209.14 114.87 21 38 38 1064.7 -2.60 6.96
 100.00 22 22 14 1812.98 -14.96 9.25 208.62 116.14 22 52 27 813.0 -3.10 348.18
 110.00 23 22 42 1623.59 -17.75 353.35 207.08 119.67 23 49 46 623.6 -4.42 332.99

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.0361 TRA 2.6642 TC3-6.3561 BAU 1.0479 SGT 6480.2 SGR 1035.4 SG3 1412.8 ST 107.6 SR 26.8 SS 93.6
 RDE .2974 RRA .4516 RC3 -.7560 FAU .16953 RRT .9620 RRF .9859 RTF .9763 CRT .9731 CR8 -.9781 CST -.9995
 FDE 3.2038 FRA 7.8904 FC-11.9849 B8P 11032 SGB 6562.4 R23 .1647 R13 .9774 L8A 145.0 M8A 6.0 S8A 1.5
 BDE 1.0779 BRA 2.7022 BC3 6.4009 F8P 2551 SGI 6556.4 SG2 279.3 THA 8.76 EL1 110.8 EL2 6.0 ALF 13.66

LAUNCH DATE APR 28 1971

FLIGHT TIME 269.00

ARRIVAL DATE JAN 21 1972

HELIOCENTRIC CONIC
 RL 150.61 LAL -.00 LOL 217.07 VL 32.372 GAL -3.35 AZL 90.69 HCA 199.33 SMA 105.77 ECC .19977 INC .6870 V1 29.584
 RP 222.65 LAP .23 LOP 58.40 VP 21.857 GAP .50 AZP 89.35 TAL 338.33 TAP 177.86 RCA 148.85 APO 222.70 V2 24.698
 RC 205.250 GL -6.03 GP -7.58 ZAL 131.70 ZAP 84.09 ETS 173.56 ZAE 93.50 ETE 180.82 ZAC 94.93 ETC 271.19 LVI -1.65

DISTANCE 626.176 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 13.613 VHL 3.690 DLA -9.87 RAL 352.34 RAD 6639.9 VEL 11.562 PTH 6.61 VHP 3.433 DPA -31.04 RAP 293.21 ECC 1.2240
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 1 43 2848.72 -24.24 82.44 205.78 132.28 17 49 11 1848.7 -6.47 65.35
 60.00 17 52 1 2714.91 -19.95 74.13 209.53 125.77 18 37 16 1714.9 -4.42 55.27
 70.00 18 56 19 2525.89 -16.02 61.51 212.23 120.58 19 38 25 1525.9 -2.49 41.40
 80.00 20 15 43 2277.35 -13.10 44.30 213.89 117.07 20 53 40 1277.4 -1.03 23.45
 90.00 21 42 2 1998.85 -11.99 24.39 214.46 115.81 22 15 21 998.8 -.47 3.28
 100.00 22 58 34 1751.82 -13.10 5.67 213.89 117.07 23 27 46 751.8 -1.03 344.82
 110.00 23 55 45 1572.70 -16.02 350.43 212.23 120.58 24 21 58 572.7 -2.49 330.32

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.1314 TRA 3.2898 TC3-6.4403 BAU 1.1748 SGT 7250.0 SGR 678.6 SCS 1287.7 ST 117.5 SR 21.8 SS 88.6
 RDE .2687 RRA .2709 RC3 -.4373 FAU .15168 RRT .9107 RRF .9372 RTF .9760 CRT .9097 CRS -.9346 CST -.9977
 FDE 3.0328 FRA 7.7509 FC3-9.6463 B8P 12365 SGB 7281.7 R23 .1138 R13 .9764 LSA 148.5 MSA 9.7 S8A 1.3
 BDE 1.1628 BRA 3.3009 BC3 6.4552 F8P 2351 SGI 7276.3 SGI 279.3 THA 4.88 EL1 119.2 EL2 8.9 ALF 9.64

LAUNCH DATE APR 28 1971

FLIGHT TIME 270.00

ARRIVAL DATE JAN 23 1972

HELIOCENTRIC CONIC
 RL 150.61 LAL -.00 LOL 217.07 VL 32.381 GAL -3.63 AZL 90.75 HCA 200.43 SMA 105.91 ECC .19982 INC .7521 V1 29.584
 RP 223.04 LAP .26 LOP 57.50 VP 21.822 GAP .42 AZP 89.30 TAL 337.88 TAP 178.31 RCA 148.76 APO 223.06 V2 24.684
 RC 207.907 GL -6.53 GP -7.12 ZAL 132.17 ZAP 53.08 ETS 173.71 ZAE 92.32 ETE 180.64 ZAC 95.36 ETC 271.22 LVI -2.12

DISTANCE 630.275 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 13.916 VHL 3.730 DLA -10.13 RAL 353.02 RAD 6640.0 VEL 11.575 PTH 6.62 VHP 3.462 DPA -30.56 RAP 293.26 ECC 1.2290
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 5 24 2848.48 -24.22 82.43 206.69 132.29 17 52 53 1848.4 -6.48 65.34
 60.00 17 56 0 2713.87 -19.91 74.07 210.46 125.79 18 41 14 1713.9 -4.38 55.22
 70.00 19 0 38 2523.86 -15.95 61.39 213.19 120.61 19 42 42 1523.9 -2.41 41.30
 80.00 20 20 21 2274.34 -13.00 44.13 214.87 117.12 20 58 15 1274.3 -.93 23.28
 90.00 21 46 48 1995.38 -11.88 24.19 215.44 115.85 22 20 4 995.4 -.36 3.09
 100.00 23 3 12 1748.81 -13.00 5.50 214.87 117.12 23 32 21 748.8 -.93 344.85
 110.00 0 4 0 1570.68 -15.95 350.31 213.19 120.61 0 30 11 570.7 -2.41 330.22

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.1628 TRA 3.4170 TC3-6.4390 BAU 1.2008 SGT 7395.3 SGR 835.0 SCS 1259.9 ST 120.1 SR 21.4 SS 87.8
 RDE .2687 RRA .2442 RC3 -.3987 FAU .14772 RRT .8924 RRF .9197 RTF .9758 CRT .8954 CRS -.9244 CST -.9973
 FDE 3.0130 FRA 7.6972 FC3-9.1897 B8P 12631 SGB 7422.5 R23 .1035 R13 .9761 LSA 149.9 MSA 10.3 S8A 1.3
 BDE 1.1934 BRA 3.4257 BC3 6.4512 F8P 2307 SGI 7417.0 SGI 285.7 THA 4.38 EL1 121.6 EL2 9.4 ALF 9.13

LAUNCH DATE APR 28 1971

FLIGHT TIME 272.00

ARRIVAL DATE JAN 25 1972

HELIOCENTRIC CONIC
 RL 150.61 LAL -.00 LOL 217.07 VL 32.389 GAL -3.72 AZL 90.81 HCA 201.51 SMA 106.08 ECC .20089 INC .8099 V1 29.584
 RP 223.42 LAP .30 LOP 58.58 VP 21.788 GAP .27 AZP 89.25 TAL 337.43 TAP 178.94 RCA 148.68 APO 223.43 V2 24.612
 RC 210.966 GL -6.96 GP -6.70 ZAL 132.64 ZAP 52.11 ETS 173.85 ZAE 91.16 ETE 180.40 ZAC 95.79 ETC 271.26 LVI -2.88

DISTANCE 634.369 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 14.228 VHL 3.772 DLA -10.32 RAL 353.88 RAD 6640.2 VEL 11.588 PTH 6.63 VHP 3.493 DPA -30.13 RAP 293.35 ECC 1.2342
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 8 49 2849.49 -24.27 82.48 207.99 132.27 17 56 14 1849.5 -6.51 65.39
 60.00 17 59 34 2714.33 -19.93 74.10 211.38 125.78 18 44 49 1714.3 -4.40 55.24
 70.00 19 4 27 2523.58 -15.94 61.38 214.13 120.62 19 48 31 1523.8 -2.40 41.28
 80.00 20 24 24 2273.31 -12.97 44.07 215.82 117.13 21 2 17 1273.3 -.89 23.23
 90.00 21 50 58 1994.00 -11.84 24.11 216.39 115.87 22 24 12 994.0 -.32 3.01
 100.00 23 7 18 1747.78 -12.97 5.44 215.82 117.13 23 38 24 747.8 -.89 344.80
 110.00 0 7 49 1570.40 -15.94 350.30 214.13 120.62 0 34 0 570.4 -2.40 330.20

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.1943 TRA 3.5430 TC3-6.4408 BAU 1.2271 SGT 7538.1 SGR 997.8 SCS 1252.1 ST 122.5 SR 21.1 SS 86.9
 RDE .2697 RRA .2196 RC3 -.3821 FAU .14407 RRT .8710 RRF .8990 RTF .9759 CRT .8808 CRS -.9137 CST -.9970
 FDE 2.9893 FRA 7.6382 FC3-8.7682 B8P 12868 SGB 7561.7 R23 .0978 R13 .9768 LSA 151.3 MSA 10.9 S8A 1.3
 BDE 1.2244 BRA 3.5498 BC3 6.4510 F8P 2287 SGI 7556.1 SGI 293.0 THA 3.98 EL1 123.9 EL2 9.9 ALF 8.88

LAUNCH DATE APR 28 1971

FLIGHT TIME 274.00

ARRIVAL DATE JAN 27 1972

HELIOCENTRIC CONIC
 RL 150.61 LAL -.00 LOL 217.07 VL 32.398 GAL -3.81 AZL 90.88 HCA 202.60 SMA 106.20 ECC .20199 INC .8630 V1 29.584
 RP 223.81 LAP .33 LOP 59.67 VP 21.753 GAP .11 AZP 89.20 TAL 336.97 TAP 179.87 RCA 148.59 APO 223.81 V2 24.571
 RC 213.227 GL -7.34 GP -6.33 ZAL 133.11 ZAP 51.16 ETS 173.98 ZAE 90.02 ETE 180.36 ZAC 96.16 ETC 271.31 LVI -2.97

DISTANCE 638.458 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 14.549 VHL 3.814 DLA -10.45 RAL 354.31 RAD 6640.3 VEL 11.602 PTH 6.64 VHP 3.524 DPA -29.74 RAP 293.48 ECC 1.2394
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 11 48 2851.65 -24.37 82.59 208.47 132.22 17 59 20 1851.6 -6.62 65.48
 60.00 18 2 47 2716.07 -20.00 74.19 212.20 125.75 18 48 3 1716.1 -4.47 55.32
 70.00 19 7 51 2524.78 -15.98 61.45 215.05 120.60 19 49 55 1524.8 -2.45 41.35
 80.00 20 27 58 2273.96 -12.99 44.11 216.75 117.12 21 5 52 1274.0 -.92 23.26
 90.00 21 54 37 1994.40 -11.86 24.13 217.33 115.86 22 27 52 994.4 -.33 3.03
 100.00 23 10 50 1748.44 -12.99 5.48 216.75 117.12 23 39 58 748.4 -.92 344.83
 110.00 0 11 13 1571.60 -15.98 350.36 215.05 120.60 0 37 25 571.6 -2.45 330.26

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.2313 TRA 3.6731 TC3-6.4302 BAU 1.2524 SGT 7678.6 SGR 566.7 SCS 1204.5 ST 125.3 SR 20.9 SS 86.2
 RDE .2719 RRA .1970 RC3 -.3310 FAU .14008 RRT .8462 RRF .8750 RTF .9752 CRT .8668 CRS -.9034 CST -.9967
 FDE 2.9743 FRA 7.5769 FC3-8.3355 B8P 13137 SGB 7699.5 R23 .0911 R13 .9754 LSA 153.0 MSA 11.4 S8A 1.3
 BDE 1.2610 BRA 3.6783 BC3 6.4387 F8P 2216 SGI 7693.6 SGI 301.3 THA 3.58 EL1 126.6 EL2 10.3 ALF 8.29

LAUNCH DATE APR 28 1971 FLIGHT TIME 276.00 ARRIVAL DATE JAN 29 1972

HELIOCENTRIC CONIC DISTANCE 642.539 EARTH TO MARS

RL 150.61 LAL -.00 LOL 217.07 VL 32.407 GAL -3.90 AZL 90.91 HCA 203.68 SMA 186.35 ECC .20311 INC .9110 V1 29.584
 RP 224.20 LAP .37 LOP 60.75 VP 21.719 GAP -.05 AZP 89.17 TAL 336.51 TAP 180.19 RCA 148.50 APO 224.20 V2 24.529
 RC 215.890 GL -7.66 GP -5.99 ZAL 133.58 ZAP 50.25 ETS 174.10 ZAE 88.91 ETE 180.24 ZAC 96.49 ETC 271.35 LVI -3.36

PLANETOCENTRIC CONIC

C3 14.879 VHL 3.857 DLA -10.55 RAL 354.92 RAD 6640.5 VEL 11.616 PTH 6.66 VHP 3.556 DPA -29.38 RAP 293.64 ECC 1.2449
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 14 36 2854.77 -24.51 82.75 209.35 132.15 18 2 10 1854.8 -6.78 65.61
 60.00 18 5 41 2718.90 -20.11 74.35 213.19 125.69 18 51 0 1718.9 -4.60 55.46
 70.00 19 10 52 2527.25 -16.06 61.59 215.96 120.55 19 52 59 1527.3 -2.54 41.48
 80.00 20 31 7 2276.07 -13.06 44.23 217.67 117.09 21 9 3 1276.1 -.99 23.38
 90.00 21 57 49 1996.34 -11.91 24.25 218.26 115.84 22 31 5 996.3 -.39 3.14
 100.00 23 13 58 1750.54 -13.06 5.60 217.67 117.09 23 43 9 750.5 -.99 344.75
 110.00 0 14 14 1574.07 -16.06 350.50 215.96 120.55 0 40 28 574.1 -2.54 330.39

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE 1.2689 TRA 3.8025 TC3-6.4199 BAU 1.2784 SGT 7815.9 SGR 540.5 SG3 1176.7 ST 127.9 SR 20.8 SS 85.4
 RDE .2748 RRA .1758 RC3 -.3039 FAU .13624 RRT .8182 RRF .8478 RTF .9748 CRT .8530 CRS -.8930 CST -.9964
 FDE 2.9583 FRA 7.5112 FC3-7.3274 BSP 13381 SGB 7834.6 R23 .0851 R13 .9750 LSA 154.7 MSA 11.9 SSA 1.3
 BDE 1.2983 BRA 3.8066 BC3 6.4271 FSP 2189 SG1 7828.5 SG2 310.2 THA 3.24 EL1 129.1 EL2 10.8 ALF 7.95

LAUNCH DATE APR 28 1971 FLIGHT TIME 276.00 ARRIVAL DATE JAN 31 1972

HELIOCENTRIC CONIC DISTANCE 646.617 EARTH TO MARS

RL 150.61 LAL -.00 LOL 217.07 VL 32.416 GAL -4.00 AZL 90.96 HCA 204.75 SMA 186.50 ECC .20425 INC .9551 V1 29.584
 RP 224.59 LAP .40 LOP 61.82 VP 21.685 GAP -.21 AZP 89.13 TAL 336.05 TAP 180.80 RCA 148.41 APO 224.60 V2 24.487
 RC 218.554 GL -7.94 GP -5.68 ZAL 134.05 ZAP 49.38 ETS 174.22 ZAE 87.82 ETE 180.14 ZAC 96.79 ETC 271.41 LVI -3.72

PLANETOCENTRIC CONIC

C3 15.217 VHL 3.901 DLA -10.60 RAL 355.32 RAD 6640.6 VEL 11.630 PTH 6.67 VHP 3.588 DPA -29.04 RAP 293.83 ECC 1.2504
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 17 10 2858.72 -24.69 82.95 210.21 132.05 18 4 48 1858.7 -6.97 65.78
 60.00 18 8 19 2722.69 -20.26 74.56 214.07 125.61 18 53 41 1722.7 -4.76 55.64
 70.00 19 13 34 2530.83 -16.19 61.79 216.86 120.49 19 55 45 1530.8 -2.68 41.66
 80.00 20 33 53 2279.43 -13.16 44.42 218.58 117.04 21 11 52 1279.4 -1.10 23.56
 90.00 22 0 37 1999.60 -12.01 24.44 219.16 115.80 22 33 57 999.6 -.50 3.32
 100.00 23 16 45 1753.90 -13.16 5.79 218.58 117.04 23 45 59 753.9 -1.10 344.93
 110.00 0 16 57 1577.65 -16.19 350.71 216.86 120.49 0 43 14 577.6 -2.68 330.58

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE 1.3095 TRA 3.9341 TC3-6.4044 BAU 1.3042 SGT 7951.3 SGR 519.0 SG3 1149.1 ST 130.7 SR 20.8 SS 84.7
 RDE .2785 RRA .1560 RC3 -.2799 FAU .13235 RRT .7871 RRF .8175 RTF .9744 CRT .8398 CRS -.8831 CST -.9961
 FDE 2.9415 FRA 7.4437 FC3-7.5294 BSP 13628 SGB 7968.2 R23 .0798 R13 .9746 LSA 156.6 MSA 12.4 SSA 1.3
 BDE 1.3388 BRA 3.9371 BC3 6.4105 FSP 2122 SG1 7961.8 SG2 319.7 THA 2.95 EL1 131.9 EL2 11.2 ALF 7.65

LAUNCH DATE APR 28 1971 FLIGHT TIME 280.00 ARRIVAL DATE FEB 2 1972

HELIOCENTRIC CONIC DISTANCE 650.687 EARTH TO MARS

RL 150.61 LAL -.00 LOL 217.07 VL 32.425 GAL -4.09 AZL 91.00 HCA 205.83 SMA 186.66 ECC .20542 INC .9955 V1 29.584
 RP 224.98 LAP .43 LOP 62.90 VP 21.651 GAP -.36 AZP 89.10 TAL 335.58 TAP 181.41 RCA 148.32 APO 225.00 V2 24.445
 RC 221.219 GL -8.19 GP -5.40 ZAL 134.52 ZAP 48.53 ETS 174.33 ZAE 86.75 ETE 180.04 ZAC 97.06 ETC 271.47 LVI -4.07

PLANETOCENTRIC CONIC

C3 15.565 VHL 3.945 DLA -10.62 RAL 356.09 RAD 6640.8 VEL 11.645 PTH 6.68 VHP 3.622 DPA -28.73 RAP 294.05 ECC 1.2562
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 19 32 2863.40 -24.91 83.19 211.07 131.95 18 7 16 1863.4 -7.21 65.98
 60.00 18 10 43 2727.31 -20.45 74.81 214.94 125.52 18 56 10 1727.3 -4.96 55.86
 70.00 19 16 0 2535.36 -16.34 62.05 217.75 120.42 19 58 15 1535.4 -2.85 41.90
 80.00 20 36 20 2283.88 -13.30 44.68 219.47 116.98 21 14 24 1283.9 -1.25 23.81
 90.00 22 3 5 2004.01 -12.14 24.70 220.06 115.74 22 36 29 1004.0 -.64 3.57
 100.00 23 19 12 1758.36 -13.30 6.05 219.47 116.98 23 48 30 758.4 -1.25 345.18
 110.00 0 19 22 1582.18 -16.34 350.97 217.75 120.42 0 45 44 582.2 -2.85 330.82

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE 1.3317 TRA 4.0872 TC3-6.3868 BAU 1.3301 SGT 8084.9 SGR 501.6 SG3 1122.1 ST 133.5 SR 20.8 SS 83.9
 RDE .2828 RRA .1374 RC3 -.2588 FAU .12858 RRT .7535 RRF .7845 RTF .9740 CRT .8272 CRS -.8734 CST -.9959
 FDE 2.9263 FRA 7.3755 FC3-7.1515 BSP 13671 SGB 8100.4 R23 .0751 R13 .9742 LSA 158.5 MSA 12.8 SSA 1.3
 BDE 1.3810 BRA 4.0895 BC3 6.3920 FSP 2076 SG1 8093.7 SG2 329.4 THA 2.68 EL1 134.6 EL2 11.6 ALF 7.39

LAUNCH DATE APR 29 1971 FLIGHT TIME 108.00 ARRIVAL DATE AUG 15 1971

HELIOCENTRIC CONIC DISTANCE 313.883 EARTH TO MARS
 RL 150.83 LAL -.00 LOL 218.04 VL 35.097 GAL -3.88 AZL 91.89 HCA 101.92 SMA 250.36 ECC .40309 INC 1.8905 V1 29.877
 RP 207.32 LAP -1.85 LOP 319.97 VP 27.389 GAP 21.72 AZP 89.61 TAL 346.46 TAP 88.38 RCA 149.45 APO 351.28 V2 26.420
 RC 56.281 GL -10.70 GP .87 ZAL 116.98 ZAP 174.77 ETS 170.26 ZAE 174.07 ETE 99.08 ZAC 101.32 ETC 277.10 LVI -17.98

PLANETOCENTRIC CONIC
 C3 38.734 VHL 6.224 DLA -19.40 RAL 341.49 RAD 6650.2 VEL 12.594 PTH 7.46 VHP 10.789 DPA -17.32 RAP 317.58 ECC 1.6375
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 52 53 2905.01 -26.78 85.38 207.73 130.92 17 41 18 1905.0 -9.28 67.75
 60.00 17 53 27 2738.64 -20.89 75.43 212.77 125.28 18 41 5 1738.6 -5.46 56.41
 70.00 19 14 33 2306.08 -15.33 60.39 216.59 120.90 19 56 19 1506.1 -1.73 40.37
 80.00 20 49 3 2210.34 -10.99 40.45 219.10 117.94 21 25 53 1210.3 1.24 19.77
 90.00 22 22 38 1908.45 -9.26 19.16 220.01 116.84 22 54 27 908.5 2.44 358.24
 100.00 23 31 53 1684.81 -10.99 1.82 219.10 117.94 24 0 0 684.8 1.24 341.14
 110.00 0 17 56 1552.90 -15.33 349.31 216.59 120.90 0 43 49 552.9 -1.73 329.29

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.5381 TRA-1.1613 TC3 -.0308 BAU .0465 SGT 1237.6 SGR 579.6 SG3 123.9 ST 30.0 SR 26.7 88 18.9
 RDE -.5764 RRA .2132 RC3 .0843 FAU .03485 RRT .0320 RRF -.0345 RTF -.7063 CRT .7527 CRS .5575 CST .9639
 FDE .2866 FRA 1.0490 FC3 -.7790 BSP 1907 SGB 1366.6 R23 -.0056 R13 -.7064 LSA 41.1 MSA 16.8 SSA 1.1
 BDE .7986 BRA 1.1807 BC3 .0898 FSP 157 SGI 1237.8 SG2 579.2 THA 1.10 EL1 37.7 EL2 14.0 ALF 40.56

LAUNCH DATE APR 29 1971 FLIGHT TIME 110.00 ARRIVAL DATE AUG 17 1971

HELIOCENTRIC CONIC DISTANCE 316.022 EARTH TO MARS
 RL 150.65 LAL -.00 LOL 218.04 VL 34.920 GAL -3.76 AZL 91.90 HCA 103.18 SMA 244.63 ECC .38892 INC 1.8988 V1 29.577
 RP 207.22 LAP -1.85 LOP 321.23 VP 27.173 GAP 21.21 AZP 89.57 TAL 346.53 TAP 89.71 RCA 149.49 APO 379.77 V2 26.432
 RC 56.455 GL -11.03 GP .90 ZAL 117.00 ZAP 173.92 ETS 171.37 ZAE 174.14 ETE 90.24 ZAC 101.29 ETC 277.19 LVI -18.09

PLANETOCENTRIC CONIC
 C3 36.427 VHL 6.035 DLA -19.69 RAL 341.67 RAD 6649.4 VEL 12.503 PTH 7.39 VHP 10.451 DPA -17.18 RAP 317.97 ECC 1.5995
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 54 52 2883.45 -25.81 84.24 207.00 131.46 17 42 56 1883.4 -8.21 66.83
 60.00 17 57 51 2715.94 -19.99 74.19 212.04 125.75 18 43 7 1715.9 -4.47 55.32
 70.00 19 17 31 2481.75 -14.47 59.02 215.86 121.28 19 58 53 1481.7 -.80 39.10
 80.00 20 52 39 2184.04 -10.14 38.95 218.39 118.23 21 29 3 1184.0 2.13 18.33
 90.00 22 26 34 1881.09 -8.41 17.59 219.31 117.10 22 57 55 881.1 3.32 356.71
 100.00 23 35 31 1658.51 -10.14 .32 218.39 118.23 24 3 9 658.5 2.13 339.70
 110.00 0 20 54 1528.57 -14.47 347.94 215.86 121.28 0 46 22 528.6 -.60 328.02

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.5341 TRA-1.1505 TC3 -.0193 BAU .0451 SGT 1266.2 SGR 579.4 SG3 132.6 ST 30.8 SR 26.7 88 19.6
 RDE -.5584 RRA .2050 RC3 .0905 FAU .03997 RRT .0361 RRF -.0381 RTF -.7179 CRT .7531 CRS .5535 CST .9625
 FDE .2955 FRA 1.0917 FC3 -.8548 BSP 1993 SGB 1392.5 R23 -.0054 R13 -.7180 LSA 41.9 MSA 17.0 SSA 1.1
 BDE .7727 BRA 1.1687 BC3 .0925 FSP 170 SGI 1266.5 SG2 578.9 THA 1.20 EL1 38.2 EL2 14.1 ALF 39.86

LAUNCH DATE APR 29 1971 FLIGHT TIME 112.00 ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC DISTANCE 318.363 EARTH TO MARS
 RL 150.65 LAL -.00 LOL 218.04 VL 34.752 GAL -3.64 AZL 91.91 HCA 104.48 SMA 239.48 ECC .37560 INC 1.9073 V1 29.577
 RP 207.13 LAP -1.85 LOP 322.50 VP 26.968 GAP 20.71 AZP 89.52 TAL 346.81 TAP 91.06 RCA 149.53 APO 329.43 V2 26.443
 RC 56.701 GL -11.37 GP .93 ZAL 116.99 ZAP 173.05 ETS 172.21 ZAE 174.09 ETE 81.68 ZAC 101.27 ETC 277.27 LVI -18.23

PLANETOCENTRIC CONIC
 C3 34.304 VHL 5.857 DLA -19.99 RAL 341.84 RAD 6648.6 VEL 12.418 PTH 7.33 VHP 10.124 DPA -17.03 RAP 318.35 ECC 1.5848
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 58 51 2881.95 -24.84 83.12 206.28 131.98 17 44 33 1881.9 -7.13 69.91
 60.00 18 0 17 2693.23 -19.09 72.95 211.32 126.19 18 45 11 1693.2 -3.47 54.23
 70.00 19 20 33 2457.30 -13.60 57.66 215.16 121.63 20 1 30 1457.3 .13 37.82
 80.00 20 56 21 2157.48 -9.29 37.45 217.71 118.50 21 32 18 1157.5 3.03 16.87
 90.00 22 30 38 1853.38 -7.55 16.01 218.64 117.33 23 1 31 853.4 4.21 393.15
 100.00 23 39 13 1631.93 -9.29 358.81 217.71 118.50 24 6 25 631.9 3.03 338.23
 110.00 0 23 55 1504.12 -13.60 346.58 215.16 121.63 0 48 59 504.1 .13 326.74

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.5298 TRA-1.1433 TC3 -.0102 BAU .0447 SGT 1298.1 SGR 578.8 SG3 141.8 ST 31.5 SR 26.6 88 20.3
 RDE -.5410 RRA .1989 RC3 .0969 FAU .03712 RRT .0385 RRF -.0416 RTF -.7172 CRT .7525 CRS .5487 CST .9613
 FDE .3041 FRA 1.1364 FC3 -.9368 BSP 2020 SGB 1421.3 R23 -.0067 R13 -.7273 LSA 42.6 MSA 17.2 SSA 1.1
 BDE .7572 BRA 1.1601 BC3 .0975 FSP 184 SGI 1298.3 SG2 578.2 THA 1.23 EL1 38.7 EL2 14.3 ALF 38.73

LAUNCH DATE APR 29 1971 FLIGHT TIME 114.00 ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC DISTANCE 320.880 EARTH TO MARS
 RL 150.65 LAL -.00 LOL 218.04 VL 34.594 GAL -3.53 AZL 91.92 HCA 105.71 SMA 234.83 ECC .36305 INC 1.9159 V1 29.577
 RP 207.05 LAP -1.84 LOP 323.78 VP 26.774 GAP 20.22 AZP 89.48 TAL 346.71 TAP 92.42 RCA 149.57 APO 327.09 V2 26.453
 RC 57.030 GL -11.71 GP .96 ZAL 116.98 ZAP 172.17 ETS 172.86 ZAE 173.93 ETE 73.75 ZAC 101.26 ETC 277.35 LVI -18.37

PLANETOCENTRIC CONIC
 C3 32.349 VHL 5.688 DLA -20.30 RAL 341.99 RAD 6647.9 VEL 12.340 PTH 7.27 VHP 9.808 DPA -16.89 RAP 318.72 ECC 1.5324
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 58 50 2840.54 -23.86 82.02 205.59 132.47 17 48 10 1840.5 -6.06 65.01
 60.00 18 2 45 2670.55 -18.17 71.74 210.62 126.61 18 47 15 1670.5 -2.47 53.14
 70.00 19 23 38 2432.76 -12.72 56.30 214.47 121.97 20 4 11 1432.8 1.07 36.54
 80.00 21 0 10 2130.66 -8.41 35.94 217.04 118.75 21 35 40 1130.7 3.93 15.39
 90.00 22 34 50 1825.29 -6.67 14.42 217.98 117.55 23 5 15 825.3 5.10 353.58
 100.00 23 43 1 1605.14 -8.41 357.31 217.04 118.75 24 9 47 605.1 3.93 336.76
 110.00 0 27 0 1479.58 -12.72 345.22 214.47 121.97 0 51 40 479.6 1.07 325.46

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.5243 TRA-1.1334 TC3 .0023 BAU .0448 SGT 1327.0 SGR 577.8 SG3 151.6 ST 32.1 SR 26.6 88 21.0
 RDE -.5241 RRA .1890 RC3 .1037 FAU .03837 RRT .0418 RRF -.0457 RTF -.7372 CRT .7519 CRS .5439 CST .9601
 FDE .3129 FRA 1.1631 FC3 -1.0269 BSP 2092 SGB 1447.3 R23 -.0076 R13 -.7373 LSA 43.3 MSA 17.4 SSA 1.1
 BDE .7413 BRA 1.1491 BC3 .1037 FSP 200 SGI 1327.3 SG2 577.1 THA 1.29 EL1 39.1 EL2 14.4 ALF 37.90

LAUNCH DATE APR 29 1971 FLIGHT TIME 116.00 ARRIVAL DATE AUG 23 1971

EARTH TO MARS

HELIOCENTRIC CONIC DISTANCE 323.554

RL 150.65 LAL -.00 LOL 218.04 VL 34.445 GAL -3.42 AZL 91.92 HCA 106.97 SMA 230.62 ECC .35124 INC 1.9246 V1 29.577
 RP 206.97 LAP -1.84 LOP 323.03 VP 26.589 GAP 19.74 AZP 89.44 TAL 346.81 TAP 93.79 RCA 149.62 APO 311.62 V2 26.462
 RC 57.440 GL -12.06 GP 1.00 ZAL 116.92 ZAP 171.27 ETS 173.39 ZAE 173.66 ETE 66.68 ZAC 101.24 ETC 277.43 LVI -18.31

PLANETOCENTRIC CONIC

C3 30.346 VHL 5.327 DLA -20.63 RAL 342.13 RAD 6647.2 VEL 12.267 PTH 7.21 VHP 9.502 DPA -16.75 RAP 319.08 ECC 1.5027
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 0 46 2819.21 -22.88 80.95 204.93 132.93 17 47 47 1819.2 -5.00 64.11
 60.00 18 5 14 2647.88 -17.25 70.53 209.95 127.01 18 49 22 1647.9 -1.48 52.06
 70.00 19 26 47 2408.12 -11.83 54.95 213.81 122.28 20 6 55 1408.1 2.01 35.26
 80.00 21 4 6 2103.58 -7.52 34.42 216.40 118.98 21 39 9 1103.6 4.84 13.89
 90.00 22 39 11 1796.82 -5.77 12.81 217.35 117.73 23 9 8 796.8 6.00 351.97
 100.00 23 46 58 1578.05 -7.52 355.79 216.40 118.98 24 13 16 578.0 4.84 335.26
 110.00 0 30 9 1454.94 -11.83 343.87 213.81 122.28 0 54 24 454.9 2.01 324.18

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.5101 TRA-1.1141 TC3 .0277 BAU .0466 SGT 1342.9 SGR 576.3 S63 162.1 ST 32.3 SR 26.5 S8 21.8
 RDE -.5076 RRA .1811 RC3 .1107 FAU .03960 RRT .0445 RRF -.0502 RTF -.7548 CRT .7487 CRS .5404 CST .9603
 FDE .3235 FRA 1.2335 FC3-1.1224 BSP 2040 SGB 1461.4 R23 -.0090 R13 -.7550 LSA 43.7 MSA 17.6 S8A 1.1
 BDE .7197 BRA 1.1287 BC3 .1142 FSP 218 SG1 1343.2 S62 575.6 THA 1.34 EL1 39.2 EL2 14.5 ALF 37.55

LAUNCH DATE APR 29 1971 FLIGHT TIME 118.00 ARRIVAL DATE AUG 25 1971

EARTH TO MARS

HELIOCENTRIC CONIC DISTANCE 326.367

RL 150.65 LAL -.00 LOL 218.04 VL 34.304 GAL -3.31 AZL 91.93 HCA 108.24 SMA 226.80 ECC .34013 INC 1.9334 V1 29.577
 RP 206.90 LAP -1.84 LOP 326.30 VP 26.414 GAP 19.26 AZP 89.39 TAL 346.93 TAP 95.17 RCA 149.66 APO 303.94 V2 26.469
 RC 57.930 GL -12.41 GP 1.03 ZAL 116.85 ZAP 170.36 ETS 173.82 ZAE 173.38 ETE 60.54 ZAC 101.23 ETC 277.51 LVI -18.65

PLANETOCENTRIC CONIC

C3 26.888 VHL 5.375 DLA -20.96 RAL 342.25 RAD 6646.6 VEL 12.200 PTH 7.16 VHP 9.207 DPA -16.61 RAP 319.42 ECC 1.4754
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 2 47 2798.09 -21.89 79.90 204.29 133.36 17 49 25 1798.1 -3.94 63.22
 60.00 18 7 44 2625.35 -16.32 69.35 209.30 127.38 18 51 29 1625.3 -.48 50.98
 70.00 19 30 0 2383.51 -10.93 53.61 213.17 122.56 20 9 44 1383.5 2.95 33.97
 80.00 21 8 9 2076.35 -6.62 32.90 215.78 119.18 21 42 45 1076.3 5.75 12.39
 90.00 22 43 42 1768.11 -4.86 11.20 216.74 117.69 23 13 10 768.1 6.91 350.35
 100.00 23 51 1 1550.82 -6.62 354.27 215.78 119.18 24 16 51 550.8 5.75 333.75
 110.00 0 33 22 1430.33 -10.93 342.53 213.17 122.56 0 57 13 430.3 2.95 322.89

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.5088 TRA-1.1081 TC3 .0361 BAU .0479 SGT 1376.9 SGR 574.5 S63 173.2 ST 33.1 SR 26.4 S8 22.5
 RDE -.4917 RRA .1734 RC3 .1181 FAU .04106 RRT .0494 RRF -.0546 RTF -.7601 CRT .7496 CRS .5336 CST .9378
 FDE .3311 FRA 1.2831 FC3-1.2305 BSP 2151 SGB 1492.0 R23 -.0092 R13 -.7603 LSA 44.5 MSA 17.8 S8A 1.2
 BDE .7076 BRA 1.1216 BC3 .1241 FSP 235 SG1 1377.3 S62 573.7 THA 1.43 EL1 39.7 EL2 14.5 ALF 36.51

LAUNCH DATE APR 29 1971 FLIGHT TIME 120.00 ARRIVAL DATE AUG 27 1971

EARTH TO MARS

HELIOCENTRIC CONIC DISTANCE 329.303

RL 150.65 LAL -.00 LOL 218.04 VL 34.171 GAL -3.20 AZL 91.94 HCA 109.51 SMA 223.32 ECC .32966 INC 1.9423 V1 29.577
 RP 206.85 LAP -1.83 LOP 327.56 VP 26.248 GAP 18.79 AZP 89.35 TAL 347.06 TAP 96.56 RCA 149.70 APO 296.94 V2 26.476
 RC 58.496 GL -12.77 GP 1.07 ZAL 116.77 ZAP 169.44 ETS 174.17 ZAE 173.05 ETE 55.32 ZAC 101.22 ETC 277.58 LVI -18.78

PLANETOCENTRIC CONIC

C3 27.359 VHL 5.231 DLA -21.31 RAL 342.35 RAD 6646.0 VEL 12.137 PTH 7.11 VHP 8.922 DPA -16.47 RAP 319.75 ECC 1.4503
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 4 46 2777.13 -20.91 78.88 203.68 133.77 17 51 3 1777.1 -2.89 62.34
 60.00 18 10 18 2602.92 -15.39 68.19 208.68 127.72 18 53 39 1602.9 .50 49.91
 70.00 19 33 17 2358.88 -10.03 52.28 212.56 122.82 20 12 36 1358.9 3.89 32.68
 80.00 21 12 19 2048.91 -5.71 31.38 215.19 119.36 21 46 28 1048.9 6.66 10.86
 90.00 22 48 23 1739.05 -3.93 9.57 216.17 118.03 23 17 22 739.1 7.82 348.70
 100.00 23 55 11 1523.39 -5.71 352.75 215.19 119.36 24 20 35 523.4 6.66 332.23
 110.00 0 36 39 1405.70 -10.03 341.20 212.56 122.82 1 0 5 405.7 3.89 321.60

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.5055 TRA-1.0996 TC3 .0505 BAU .0496 SGT 1407.5 SGR 572.4 S63 185.1 ST 33.8 SR 26.3 S8 23.2
 RDE -.4764 RRA .1659 RC3 .1237 FAU .04259 RRT .0543 RRF -.0596 RTF -.761 CRT .7500 CRS .5272 CST .9553
 FDE .3392 FRA 1.3355 FC3-1.3478 BSP 2236 SGB 1519.4 R23 -.0098 R13 -.7662 LSA 45.2 MSA 18.0 S8A 1.2
 BDE .6946 BRA 1.1121 BC3 .1355 FSP 253 SG1 1407.9 S62 571.4 THA 1.51 EL1 40.2 EL2 14.6 ALF 35.60

LAUNCH DATE APR 29 1971 FLIGHT TIME 122.00 ARRIVAL DATE AUG 29 1971

EARTH TO MARS

HELIOCENTRIC CONIC DISTANCE 332.351

RL 150.65 LAL -.00 LOL 218.04 VL 34.045 GAL -3.09 AZL 91.95 HCA 110.78 SMA 220.14 ECC .31980 INC 1.9514 V1 29.577
 RP 206.80 LAP -1.82 LOP 328.83 VP 26.090 GAP 18.34 AZP 89.31 TAL 347.19 TAP 97.97 RCA 149.74 APO 290.54 V2 26.482
 RC 59.137 GL -13.14 GP 1.11 ZAL 116.67 ZAP 168.50 ETS 174.47 ZAE 172.71 ETE 50.94 ZAC 101.22 ETC 277.65 LVI -18.91

PLANETOCENTRIC CONIC

C3 25.948 VHL 5.094 DLA -21.87 RAL 342.45 RAD 6645.4 VEL 12.079 PTH 7.06 VHP 8.648 DPA -16.33 RAP 320.06 ECC 1.4270
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 6 43 2756.37 -19.93 77.88 203.09 134.15 17 52 41 1756.4 -1.84 61.47
 60.00 18 12 50 2580.62 -14.46 67.04 208.08 128.04 18 55 51 1580.6 1.49 48.85
 70.00 19 36 38 2334.26 -9.11 50.96 211.97 123.06 20 15 33 1334.3 4.82 31.39
 80.00 21 16 38 2021.29 -4.78 29.85 214.63 119.51 21 50 20 1021.3 7.58 9.32
 90.00 22 53 15 1709.65 -2.99 7.92 215.62 118.13 23 21 45 709.7 8.73 347.02
 100.00 0 3 26 1493.76 -4.78 351.22 214.63 119.51 24 28 22 495.8 7.58 330.69
 110.00 0 40 1 1381.08 -9.11 339.88 211.97 123.06 1 3 2 381.1 4.82 320.31

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.5008 TRA-1.0901 TC3 .0663 BAU .0518 SGT 1436.1 SGR 569.8 S63 197.9 ST 34.4 SR 26.1 S8 23.9
 RDE -.4615 RRA .1584 RC3 .1337 FAU .04423 RRT .0594 RRF -.0651 RTF -.7730 CRT .7499 CRS .5208 CST .9534
 FDE .3478 FRA 1.3910 FC3-1.4757 BSP 2305 SGB 1545.1 R23 -.0106 R13 -.7732 LSA 45.9 MSA 18.2 S8A 1.2
 BDE .6810 BRA 1.1015 BC3 .1492 FSP 273 SG1 1436.6 S62 568.6 THA 1.60 EL1 40.7 EL2 14.6 ALF 34.77

LAUNCH DATE APR 29 1971 FLIGHT TIME 124.00 ARRIVAL DATE AUG 31 1971

HELIOCENTRIC CONIC DISTANCE 335.497 EARTH TO MARS
RL 150.65 LAL -.00 LOL 218.04 VL 33.926 GAL -2.99 AZL 91.96 HCA 112.04 SMA 217.24 ECC .31052 INC 1.9806 V1 29.577
RP 206.75 LAP -1.82 LOP 330.10 VP 25.940 GAP 17.88 AZP 89.26 TAL 347.34 TAP 99.38 RCA 149.78 APO 284.89 V2 26.487
RC 59.850 GL -13.50 GP 1.15 ZAL 116.55 ZAP 167.54 ETS 174.73 ZAE 172.37 ETE 47.28 ZAC 101.22 ETC 277.72 LVI -19.03

PLANETOCENTRIC CONIC
C3 24.647 VHL 4.965 DLA -22.04 RAL 342.53 RAD 6644.8 VEL 12.026 PTH 7.02 VHP 8.378 DPA -16.20 RAP 320.35 ECC 1.4056
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 8 44 2733.84 -18.95 76.91 202.53 134.50 17 54 20 1735.8 -.81 60.62
60.00 18 15 26 2558.47 -13.52 65.91 207.51 128.33 18 58 4 1558.5 2.46 47.79
70.00 19 40 4 2309.87 -8.20 49.64 211.42 123.27 20 18 34 1309.7 5.75 30.10
80.00 21 21 6 1993.47 -3.85 28.31 214.09 119.63 21 54 19 993.5 8.49 7.78
90.00 22 58 19 1679.91 -2.03 6.26 215.10 118.21 23 26 19 679.9 9.65 345.32
100.00 0 7 54 1467.95 -3.85 349.88 214.09 119.63 0 32 22 467.9 8.49 329.13
110.00 0 43 26 1356.49 -8.20 338.56 211.42 123.27 1 6 3 356.5 5.75 319.01

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4953 TRA-1.0797 TC3 .0833 BAU .0542 SGT 1463.1 SGR 566.9 SG3 211.5 ST 35.0 SR 26.0 SS 24.7
RDE -.4470 RRA .1511 RC3 .1419 FAU .04594 RRT .0648 RRF -.0708 RTF -.7798 CRT .7496 CRS .5136 CST .9511
PDE .3559 FRA 1.4492 FC3-1.6138 B8P 2368 SGB 1569.1 R23 -.0115 R13 -.7800 LSA 46.5 MSA 18.4 S8A 1.2
BDE .6672 BRA 1.0902 BC3 .1646 F8P 295 SG1 1463.6 SG2 565.5 THA 1.69 EL1 41.0 EL2 14.6 ALF 34.00

LAUNCH DATE APR 29 1971 FLIGHT TIME 126.00 ARRIVAL DATE SEP 2 1971

HELIOCENTRIC CONIC DISTANCE 338.734 EARTH TO MARS
RL 150.65 LAL -.00 LOL 218.04 VL 33.814 GAL -2.89 AZL 91.97 HCA 113.31 SMA 214.57 ECC .30177 INC 1.9701 V1 29.577
RP 206.72 LAP -1.81 LOP 331.37 VP 25.797 GAP 17.44 AZP 89.22 TAL 347.49 TAP 100.80 RCA 149.82 APO 279.32 V2 26.491
RC 60.633 GL -13.87 GP 1.20 ZAL 116.42 ZAP 166.56 ETS 174.94 ZAE 172.06 ETE 44.24 ZAC 101.22 ETC 277.78 LVI -19.16

PLANETOCENTRIC CONIC
C3 23.446 VHL 4.842 DLA -22.41 RAL 342.60 RAD 6644.3 VEL 11.976 PTH 6.97 VHP 8.120 DPA -16.07 RAP 320.62 ECC 1.3859
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 10 44 2715.56 -17.98 75.96 201.99 134.83 17 56 0 1715.6 .21 59.77
60.00 18 18 4 2536.92 -12.59 64.80 206.97 128.61 19 0 20 1536.5 3.43 46.74
70.00 19 43 34 2285.15 -7.28 48.34 210.89 123.46 20 21 39 1285.1 6.68 28.80
80.00 21 25 42 1965.49 -2.90 26.77 213.59 119.73 21 58 28 965.5 9.40 6.19
90.00 23 3 35 1649.80 -1.06 4.58 214.61 118.26 23 31 4 649.8 10.56 343.58
100.00 0 12 30 1439.96 -2.90 348.14 213.59 119.73 0 36 30 440.0 9.40 327.55
110.00 0 46 56 1331.96 -7.28 337.26 210.89 123.46 1 9 8 332.0 6.68 317.72

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4897 TRA-1.0687 TC3 .1009 BAU .0568 SGT 1488.8 SGR 563.7 SG3 225.9 ST 35.5 SR 25.8 S8 25.4
RDE -.4331 RRA .1439 RC3 .1504 FAU .04775 RRT .0707 RRF -.0773 RTF -.7863 CRT .7495 CRS .5070 CST .9488
PDE .3648 FRA 1.5101 FC3-1.7631 B8P 2430 SGB 1591.9 R23 -.0125 R13 -.7865 LSA 47.2 MSA 18.5 S8A 1.2
BDE .6538 BRA 1.0783 BC3 .1811 F8P 319 SG1 1489.4 SG2 562.1 THA 1.79 EL1 41.4 EL2 14.6 ALF 33.25

LAUNCH DATE APR 29 1971 FLIGHT TIME 128.00 ARRIVAL DATE SEP 4 1971

HELIOCENTRIC CONIC DISTANCE 323.052 EARTH TO MARS
RL 150.65 LAL -.00 LOL 218.04 VL 33.709 GAL -2.79 AZL 91.98 HCA 114.58 SMA 212.12 ECC .29354 INC 1.9797 V1 29.577
RP 206.70 LAP -1.80 LOP 332.64 VP 25.661 GAP 17.01 AZP 89.18 TAL 347.65 TAP 102.23 RCA 149.86 APO 274.39 V2 26.494
RC 61.483 GL -14.25 GP 1.24 ZAL 116.28 ZAP 185.56 ETS 175.13 ZAE 171.78 ETE 41.74 ZAC 101.25 ETC 277.84 LVI -19.28

PLANETOCENTRIC CONIC
C3 22.337 VHL 4.726 DLA -22.79 RAL 342.66 RAD 6643.9 VEL 11.930 PTH 6.93 VHP 7.870 DPA -15.94 RAP 320.87 ECC 1.3678
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 12 45 2695.55 -17.02 75.03 201.49 135.13 17 57 40 1695.5 1.21 58.93
60.00 18 20 43 2514.77 -11.67 63.71 206.45 128.85 19 2 38 1514.8 4.38 45.69
70.00 19 47 9 2260.69 -6.36 47.04 210.39 123.63 20 24 49 1260.7 7.60 27.50
80.00 21 30 28 1937.32 -1.95 25.22 213.12 119.80 22 2 46 937.3 10.31 4.59
90.00 23 9 4 1619.30 -.08 2.88 214.16 118.28 23 36 3 619.3 11.48 341.81
100.00 0 17 16 1411.79 -1.95 346.59 213.12 119.80 0 40 48 411.8 10.31 325.98
110.00 0 50 31 1307.51 -6.36 335.96 210.39 123.63 1 12 18 307.5 7.60 316.42

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4835 TRA-1.0589 TC3 .1199 BAU .0593 SGT 1512.6 SGR 560.1 SG3 241.4 ST 36.0 SR 25.6 S8 26.2
RDE -.4196 RRA .1387 RC3 .1592 FAU .04970 RRT .0771 RRF -.0844 RTF -.7824 CRT .7492 CRS .9000 CST .9464
PDE .3734 FRA 1.5741 FC3-1.9260 B8P 2484 SGB 1613.0 R23 -.0137 R13 -.7927 LSA 47.8 MSA 18.7 S8A 1.2
BDE .6402 BRA 1.0657 BC3 .1993 F8P 344 SG1 1513.3 SG2 558.2 THA 1.89 EL1 41.6 EL2 14.6 ALF 32.56

LAUNCH DATE APR 29 1971 FLIGHT TIME 130.00 ARRIVAL DATE SEP 6 1971

HELIOCENTRIC CONIC DISTANCE 345.443 EARTH TO MARS
RL 150.65 LAL -.00 LOL 218.04 VL 33.809 GAL -2.70 AZL 91.99 HCA 115.85 SMA 209.87 ECC .28578 INC 1.9895 V1 29.577
RP 206.68 LAP -1.79 LOP 333.91 VP 25.532 GAP 16.58 AZP 89.13 TAL 347.81 TAP 103.66 RCA 149.89 APO 269.85 V2 26.486
RC 62.398 GL -14.62 GP 1.29 ZAL 116.12 ZAP 164.54 ETS 175.30 ZAE 171.55 ETE 39.70 ZAC 101.25 ETC 277.89 LVI -19.39

PLANETOCENTRIC CONIC
C3 21.315 VHL 4.617 DLA -23.18 RAL 342.71 RAD 6643.4 VEL 11.888 PTH 6.90 VHP 7.628 DPA -15.82 RAP 321.11 ECC 1.3508
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 14 46 2675.83 -16.06 74.13 201.01 135.41 17 59 22 1675.8 2.20 58.11
60.00 18 23 25 2493.25 -10.75 62.64 205.97 129.08 19 4 58 1493.2 5.32 44.66
70.00 19 50 48 2236.34 -5.44 45.78 209.92 123.77 20 28 5 1236.3 8.51 26.20
80.00 21 35 24 1908.97 -.99 23.67 212.68 119.84 22 7 13 909.0 11.22 2.97
90.00 23 14 48 1588.38 .92 1.15 213.74 118.27 23 41 16 588.4 12.40 340.00
100.00 0 22 12 1383.44 -.99 345.03 212.68 119.84 0 45 16 383.4 11.22 324.34
110.00 0 54 10 1283.15 -5.44 334.68 209.92 123.77 1 15 34 283.2 8.51 315.12

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4769 TRA-1.0448 TC3 .1397 BAU .0623 SGT 1535.1 SGR 556.3 SG3 257.8 ST 36.4 SR 25.4 S8 27.0
RDE -.4066 RRA .1297 RC3 .1683 FAU .05174 RRT .0839 RRF -.0920 RTF -.7995 CRT .7489 CRS .4927 CST .9439
PDE .3822 FRA 1.6417 FC3-2.1017 B8P 2535 SGB 1632.7 R23 -.0150 R13 -.7987 LSA 48.4 MSA 18.8 S8A 1.2
BDE .6267 BRA 1.0528 BC3 .2188 F8P 371 SG1 1535.9 SG2 554.0 THA 2.00 EL1 41.9 EL2 14.6 ALF 31.90

ARRIVAL DATE SEP 8 1971

LAUNCH DATE APR 29 1971

FLIGHT TIME 132.00

HELIOCENTRIC CONIC
 RL 150.65 LAL -0.00 LOL 218.04 VL 33.515 GAL -2.61 AZL 92.00 HCA 117.12 SMA 207.80 ECC .27848 INC 1.9995 V1 29.577
 RP 206.67 LAP -1.78 LOP 335.18 VP 25.409 GAP 16.17 AZP 89.09 TAL 347.98 TAP 105.10 RCA 149.83 APO 265.67 V2 26.496
 RC 63.376 GL -15.00 GP 1.34 ZAL 115.95 ZAP 163.50 ETS 175.44 ZAE 171.36 ETE 38.06 ZAC 101.27 ETC 277.94 LVI -19.51

PLANETOCENTRIC CONIC
 C3 20.370 VHL 4.513 DLA -23.58 RAL 342.75 RAD 6643.0 VEL 11.848 PTH 6.86 VHP 7.394 DPA -15.70 RAP 321.32 ECC 1.3352
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 16 47 2656.43 -15.12 73.25 200.55 135.67 18 1 4 1656.4 3.18 57.30
 60.00 18 26 9 2471.98 -9.83 61.59 205.51 129.28 19 7 21 1472.0 6.25 43.63
 70.00 19 54 33 2212.09 -4.52 44.48 209.48 123.89 20 31 25 1212.1 9.41 24.91
 80.00 21 40 31 1880.43 -0.02 22.10 212.28 119.86 22 11 52 880.4 12.12 1.34
 90.00 23 20 48 1556.98 1.93 359.40 213.36 -118.22 23 46 45 557.0 13.31 338.15
 100.00 0 27 19 1354.90 -0.02 343.47 212.28 119.86 0 49 54 354.9 12.12 322.70
 110.00 0 57 55 1256.91 -4.52 333.40 209.48 123.89 1 18 54 258.9 9.41 313.82

DIFFERENTIAL CORRECTIONS
 TDE -.4700 TRA-1.0319 TC3 .1603 BAU .0652
 RDE -.3940 RRA .1228 RC3 .1777 FAU .05396
 FDE .3907 FRA 1.7124 FC3-2.2931 BSP 2580
 BDE .6133 BRA 1.0392 BC3 .2394 FSP 399

MID-COURSE EXECUTION ACCURACY
 SGT 1555.6 SGR 552.1 SG3 275.3
 RRT .0914 RRF -.1004 RTF -.8039
 SGB 1650.7 R23 -.0165 R13 -.8042
 SG1 1556.6 SG2 549.4 THA 2.12

ORBIT DETERMINATION ACCURACY
 ST 36.7 SR 25.1 SS 27.8
 CRT .7487 CRS .4851 CST .9411
 LSA 48.9 MSA 19.0 SSA 1.3
 EL1 42.1 EL2 14.6 ALF 31.28

ARRIVAL DATE SEP 10 1971

LAUNCH DATE APR 29 1971

FLIGHT TIME 134.00

HELIOCENTRIC CONIC
 RL 150.65 LAL -0.00 LOL 218.04 VL 33.426 GAL -2.52 AZL 92.01 HCA 118.39 SMA 205.88 ECC .27161 INC 2.0098 V1 29.577
 RP 206.68 LAP -1.77 LOP 336.45 VP 25.292 GAP 15.76 AZP 89.04 TAL 348.15 TAP 106.54 RCA 149.96 APO 261.80 V2 26.496
 RC 64.414 GL -15.38 GP 1.40 ZAL 115.78 ZAP 162.44 ETS 175.56 ZAE 171.23 ETE 36.77 ZAC 101.29 ETC 277.98 LVI -19.62

PLANETOCENTRIC CONIC
 C3 19.499 VHL 4.416 DLA -23.87 RAL 342.79 RAD 6642.6 VEL 11.812 PTH 6.83 VHP 7.167 DPA -15.58 RAP 321.50 ECC 1.3209
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 18 50 2637.36 -14.19 72.39 200.13 135.91 18 2 47 1637.4 4.13 56.50
 60.00 18 28 54 2450.99 -8.92 60.56 205.08 129.47 19 9 45 1451.0 7.17 42.61
 70.00 19 58 22 2187.98 -3.60 43.22 209.07 123.99 20 34 50 1188.0 10.30 23.61
 80.00 21 45 49 1851.69 .95 20.52 211.91 119.84 22 16 41 851.7 13.02 359.66
 90.00 23 27 6 1525.05 2.96 357.61 213.02 118.14 23 32 31 525.1 14.23 336.26
 100.00 0 32 37 1326.16 .95 341.89 211.91 119.84 0 54 43 326.2 13.02 321.04
 110.00 1 1 44 1234.80 -3.60 332.14 209.07 123.99 1 22 19 234.8 10.30 312.53

DIFFERENTIAL CORRECTIONS
 TDE -.4637 TRA-1.0190 TC3 .1806 BAU .0678
 RDE -.3818 RRA .1160 RC3 .1874 FAU .05629
 FDE .3998 FRA 1.7871 FC3-2.4994 BSP 2621
 BDE .6007 BRA 1.0256 BC3 .2602 FSP 430

MID-COURSE EXECUTION ACCURACY
 SGT 1575.3 SGR 547.6 SG3 294.0
 RRT .0999 RRF -.1096 RTF -.8089
 SGB 1667.7 R23 -.0180 R13 -.8092
 SG1 1576.3 SG2 544.5 THA 2.26

ORBIT DETERMINATION ACCURACY
 ST 37.1 SR 24.9 SS 28.6
 CRT .7489 CRS .4777 CST .9382
 LSA 49.5 MSA 19.1 SSA 1.3
 EL1 42.3 EL2 14.5 ALF 30.66

ARRIVAL DATE SEP 12 1971

LAUNCH DATE APR 29 1971

FLIGHT TIME 136.00

HELIOCENTRIC CONIC
 RL 150.65 LAL -0.00 LOL 218.04 VL 33.342 GAL -2.44 AZL 92.02 HCA 119.66 SMA 204.12 ECC .26514 INC 2.0202 V1 29.577
 RP 206.69 LAP -1.76 LOP 337.72 VP 25.180 GAP 15.36 AZP 89.00 TAL 348.33 TAP 107.98 RCA 150.00 APO 258.24 V2 26.495
 RC 65.512 GL -15.78 GP 1.48 ZAL 115.59 ZAP 161.35 ETS 175.67 ZAE 171.16 ETE 35.80 ZAC 101.32 ETC 278.02 LVI -19.72

PLANETOCENTRIC CONIC
 C3 18.695 VHL 4.324 DLA -24.38 RAL 342.82 RAD 6642.3 VEL 11.778 PTH 6.80 VHP 6.948 DPA -15.47 RAP 321.67 ECC 1.3077
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 20 53 2618.65 -13.27 71.56 199.73 136.12 18 4 32 1618.7 5.07 59.71
 60.00 18 31 42 2430.29 -8.03 59.54 204.69 129.63 19 12 13 1430.3 8.07 41.60
 70.00 20 2 17 2184.01 -2.69 41.96 208.70 124.06 20 38 21 1164.0 11.18 22.31
 80.00 21 51 20 1822.71 1.93 18.93 211.58 119.80 22 21 42 822.7 13.91 357.99
 90.00 23 33 43 1492.49 4.00 355.79 212.72 118.02 23 58 35 492.5 15.15 334.31
 100.00 0 38 8 1297.19 1.93 340.50 211.58 119.80 0 59 45 297.2 13.91 319.36
 110.00 1 9 38 1210.63 -2.69 330.88 208.70 124.06 1 25 50 210.8 11.18 311.23

DIFFERENTIAL CORRECTIONS
 TDE -.4568 TRA-1.0055 TC3 .2009 BAU .0704
 RDE -.3700 RRA .1092 RC3 .1973 FAU .05877
 FDE .4087 FRA 1.8857 FC3-2.7217 BSP 2682
 BDE .5879 BRA 1.0114 BC3 .2816 FSP 463

MID-COURSE EXECUTION ACCURACY
 SGT 1592.6 SGR 542.9 SG3 313.9
 RRT .1089 RRF -.1198 RTF -.835
 SGB 1682.6 R23 -.0197 R13 -.8139
 SG1 1593.9 SG2 539.3 THA 2.40

ORBIT DETERMINATION ACCURACY
 ST 37.4 SR 24.6 SS 29.4
 CRT .7491 CRS .4701 CST .9351
 LSA 50.0 MSA 19.3 SSA 1.3
 EL1 42.4 EL2 14.4 ALF 30.09

ARRIVAL DATE SEP 14 1971

LAUNCH DATE APR 29 1971

FLIGHT TIME 138.00

HELIOCENTRIC CONIC
 RL 150.65 LAL -0.00 LOL 218.04 VL 33.284 GAL -2.36 AZL 92.03 HCA 120.93 SMA 202.48 ECC .25906 INC 2.0310 V1 29.577
 RP 206.71 LAP -1.74 LOP 338.99 VP 25.073 GAP 14.97 AZP 88.96 TAL 348.50 TAP 109.43 RCA 150.03 APO 254.94 V2 26.493
 RC 66.867 GL -16.14 GP 1.52 ZAL 115.41 ZAP 160.24 ETS 175.76 ZAE 171.15 ETE 35.14 ZAC 101.38 ETC 278.05 LVI -19.82

PLANETOCENTRIC CONIC
 C3 17.952 VHL 4.237 DLA -24.78 RAL 342.85 RAD 6641.9 VEL 11.746 PTH 6.78 VHP 6.737 DPA -15.36 RAP 321.80 ECC 1.2954
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 22 57 2600.31 -12.37 70.75 199.37 136.32 18 6 17 1600.3 5.99 54.94
 60.00 18 34 33 2409.90 -7.14 58.55 204.32 129.77 19 14 43 1409.9 8.95 40.61
 70.00 20 6 17 2140.20 -1.78 40.72 208.36 124.11 20 41 57 1140.2 12.05 21.01
 80.00 21 57 4 1793.21 2.92 17.33 211.28 119.73 22 26 57 793.2 14.80 356.27
 90.00 23 40 43 1459.19 5.06 353.92 212.47 117.86 24 5 2 459.2 16.07 332.29
 100.00 0 43 51 1267.96 2.92 338.69 211.28 119.73 1 4 59 268.0 14.80 317.64
 110.00 1 9 39 1187.02 -1.78 329.64 208.36 124.11 1 29 26 187.0 12.05 309.93

DIFFERENTIAL CORRECTIONS
 TDE -.4497 TRA -.9917 TC3 .2206 BAU .0727
 RDE -.3586 RRA .1025 RC3 .2076 FAU .06142
 FDE .4189 FRA 1.9488 FC3-2.9619 BSP 2700
 BDE .5752 BRA .9969 BC3 .3029 FSP 499

MID-COURSE EXECUTION ACCURACY
 SGT 1608.2 SGR 538.0 SG3 335.1
 RRT .1183 RRF -.1304 RTF -.8175
 SGB 1695.8 R23 -.0218 R13 -.8179
 SG1 1609.6 SG2 533.7 THA 2.55

ORBIT DETERMINATION ACCURACY
 ST 37.6 SR 24.4 SS 30.3
 CRT .7493 CRS .4617 CST .9317
 LSA 50.4 MSA 19.4 SSA 1.3
 EL1 42.5 EL2 14.3 ALF 29.55

LAUNCH DATE APR 29 1971 FLIGHT TIME 156.00 ARRIVAL DATE OCT 2 1971

HELIOCENTRIC CONIC DISTANCE 393.966 EARTH TO MARS
 RL 150.65 LAL -.00 LOL 210.04 VL 32.734 GAL -1.79 AZL 92.14 HCA 132.32 SMA 192.24 ECC .21848 INC 2.1438 V1 29.577
 RP 207.26 LAP -1.58 LOP 350.39 VP 24.298 GAP 11.81 AZP 88.56 TAL 349.98 TAP 122.31 RCA 150.24 APO 234.24 V2 26.428
 RC 79.295 GL -19.52 GP 2.27 ZAL 113.70 ZAP 148.91 ETS 176.23 ZAE 173.77 ETE 47.18 ZAC 102.10 ETC 278.10 LVI -20.57

PLANETOCENTRIC CONIC
 C3 13.415 VHL 3.663 DLA -28.37 RAL 343.10 RAD 6639.6 VEL 11.553 PTH 6.60 VHP 5.129 DPA -14.61 RAP 321.65 ECC 1.2208
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 42 24 2454.30 -5.11 64.49 197.37 137.37 18 23 18 1454.3 13.23 48.64
 60.00 19 1 47 2243.14 .18 30.55 202.44 130.30 19 39 10 1243.1 16.03 32.21
 70.00 20 46 40 1934.69 6.05 29.97 206.67 123.68 21 18 54 934.7 19.18 9.36
 80.00 23 4 26 1503.27 12.43 1.04 210.68 117.36 23 29 29 503.3 22.63 338.30
 87.66 1 29 13 1049.21 18.90 330.68 213.73 111.56 1 46 42 49.2 26.13 305.97
 100.00 1 51 14 6265.78 12.43 300.32 210.68 117.36 3 35 39 5265.8 22.63 277.58
 110.00 1 50 2 6269.55 6.05 296.79 206.67 123.68 3 34 31 5269.5 19.18 276.18

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3833 TRA -.8347 TC3 .3121 BAU .0794 SGT 1618.0 SGR 488.9 SG3 593.8 ST 37.5 SR 21.3 SS 36.8
 RDE -.2716 RRA .0414 RC3 .3143 FAU .09350 RRT .2521 RRF -.2870 RTF -.8276 CRT .7724 CR8 .3982 CST .8882
 FDE .4963 FRA 2.9275 FC3-6.0343 B8P 2776 SGB 1690.2 R23 -.0609 R13 -.8293 LSA 54.1 MSA 20.8 SSA 1.3
 BDE .4714 BRA .8358 BC3 .4430 F8P 938 SG1 1623.1 SG2 471.6 THA 4.76 EL1 41.3 EL2 12.3 ALF 26.16

LAUNCH DATE APR 29 1971 FLIGHT TIME 150.00 ARRIVAL DATE OCT 4 1971

HELIOCENTRIC CONIC DISTANCE 397.924 EARTH TO MARS
 RL 150.65 LAL -.00 LOL 210.04 VL 32.692 GAL -1.75 AZL 92.14 HCA 133.58 SMA 191.47 ECC .21528 INC 2.1587 V1 29.877
 RP 207.37 LAP -1.56 LOP 351.65 VP 24.225 GAP 11.50 AZP 88.51 TAL 350.12 TAP 123.70 RCA 150.25 APO 232.69 V2 26.415
 RC 80.909 GL -19.89 GP 2.38 ZAL 113.54 ZAP 147.49 ETS 176.25 ZAE 174.26 ETE 52.40 ZAC 102.23 ETC 276.07 LVI -20.64

PLANETOCENTRIC CONIC
 C3 13.093 VHL 3.618 DLA -28.75 RAL 343.16 RAD 6639.6 VEL 11.540 PTH 6.59 VHP 4.981 DPA -14.56 RAP 321.45 ECC 1.2195
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 44 40 2440.36 -4.41 63.90 197.29 137.42 18 25 21 1440.4 13.92 48.02
 60.00 19 5 0 2226.68 .90 49.76 202.40 130.29 19 42 7 1226.7 16.71 31.35
 70.00 20 51 42 1912.86 6.87 28.81 206.89 123.54 21 23 35 912.9 19.89 8.07
 80.00 23 18 23 1462.84 13.69 358.70 210.91 116.80 23 59 46 462.8 23.55 335.65
 84.62 1 4 11 1125.64 19.27 336.44 213.54 111.75 1 22 56 125.6 26.55 311.67
 100.00 2 2 11 6225.35 13.69 297.97 210.91 116.80 3 45 56 5225.3 23.55 274.93
 110.00 1 55 4 6247.72 6.87 295.64 206.89 123.54 3 39 12 5247.7 19.89 274.69

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3744 TRA -.8090 TC3 .3184 BAU .0798 SGT 1993.4 SGR 484.0 SG3 631.2 ST 36.9 SR 20.9 SS 39.7
 RDE -.2633 RRA .0343 RC3 .3285 FAU .09829 RRT .2739 RRF -.3131 RTF -.8275 CRT .7766 CR8 .3913 CST .8818
 FDE .5018 FRA 3.0637 FC3-6.4989 BSP 2697 SGB 1685.2 R23 -.0680 R13 -.8296 LSA 54.1 MSA 21.0 SSA 1.3
 BDE .4577 BRA .8098 BC3 .4561 F8P 998 SG1 1599.4 SG2 483.7 THA 5.19 EL1 40.7 EL2 11.9 ALF 26.16

LAUNCH DATE APR 29 1971 FLIGHT TIME 160.00 ARRIVAL DATE OCT 6 1971

HELIOCENTRIC CONIC DISTANCE 401.902 EARTH TO MARS
 RL 150.65 LAL -.00 LOL 210.04 VL 32.653 GAL -1.70 AZL 92.17 HCA 134.84 SMA 190.76 ECC .21226 INC 2.1743 V1 29.877
 RP 207.48 LAP -1.54 LOP 352.91 VP 24.198 GAP 11.81 AZP 88.47 TAL 350.25 TAP 125.09 RCA 150.27 APO 231.25 V2 26.402
 RC 82.960 GL -20.25 GP 2.50 ZAL 113.38 ZAP 146.02 ETS 176.27 ZAE 174.73 ETE 59.31 ZAC 102.36 ETC 278.03 LVI -20.70

PLANETOCENTRIC CONIC
 C3 12.800 VHL 3.378 DLA -29.12 RAL 343.23 RAD 6639.5 VEL 11.527 PTH 6.57 VHP 4.839 DPA -14.51 RAP 321.21 ECC 1.2107
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 46 59 2426.95 -3.74 63.34 197.25 137.46 18 27 26 1427.0 14.57 47.42
 60.00 19 8 16 2210.72 1.60 49.00 202.39 130.27 19 45 8 1210.7 17.37 30.51
 70.00 20 38 52 1891.27 7.68 27.67 206.95 123.58 21 28 23 891.3 20.58 8.77
 80.00 23 28 10 1417.27 15.07 356.02 211.25 116.08 23 51 47 417.3 24.52 332.62
 82.76 0 49 29 1188.98 19.63 339.79 213.38 111.94 1 8 58 189.0 26.95 314.95
 100.00 2 14 58 6179.78 15.07 295.30 211.25 116.08 3 57 57 5179.6 24.52 271.89
 110.00 2 0 14 6226.13 7.68 294.49 206.95 123.58 3 44 1 5226.1 20.58 273.60

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3717 TRA -.7892 TC3 .2905 BAU .0789 SGT 1978.1 SGR 479.5 SG3 670.4 ST 36.8 SR 20.5 SS 40.9
 RDE -.2585 RRA .0267 RC3 .3426 FAU .10292 RRT .2956 RRF -.3414 RTF -.8208 CRT .7863 CR8 .3907 CST .8739
 FDE .5186 FRA 3.2139 FC3-6.9613 B8P 2703 SGB 1649.3 R23 -.0803 R13 -.8234 LSA 54.8 MSA 21.2 SSA 1.3
 BDE .4510 BRA .7896 BC3 .4492 F8P 1069 SG1 1585.0 SG2 456.1 THA 5.60 EL1 40.5 EL2 11.5 ALF 25.84

LAUNCH DATE APR 29 1971 FLIGHT TIME 162.00 ARRIVAL DATE OCT 8 1971

HELIOCENTRIC CONIC DISTANCE 408.900 EARTH TO MARS
 RL 150.65 LAL -.00 LOL 210.04 VL 32.618 GAL -1.67 AZL 92.19 HCA 136.10 SMA 189.10 ECC .20945 INC 2.1905 V1 29.877
 RP 207.60 LAP -1.52 LOP 354.17 VP 24.092 GAP 10.89 AZP 88.42 TAL 350.36 TAP 126.46 RCA 150.28 APO 229.91 V2 26.388
 RC 84.247 GL -20.61 GP 2.63 ZAL 113.24 ZAP 144.52 ETS 176.29 ZAE 175.13 ETE 68.31 ZAC 102.53 ETC 277.98 LVI -20.79

PLANETOCENTRIC CONIC
 C3 12.532 VHL 3.540 DLA -29.48 RAL 343.30 RAD 6639.3 VEL 11.515 PTH 6.56 VHP 4.703 DPA -14.46 RAP 320.94 ECC 1.2083
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 49 19 2414.00 -3.09 62.79 197.24 137.50 18 29 33 1414.0 15.20 46.84
 60.00 19 11 34 2195.18 2.29 48.26 202.41 130.25 19 48 9 1195.2 18.00 29.68
 70.00 21 2 11 1869.82 8.48 26.52 207.04 123.21 21 33 21 869.8 21.26 5.48
 80.00 23 44 27 1361.16 16.72 352.67 213.75 115.10 24 7 8 361.2 25.62 326.81
 81.31 0 38 17 1201.43 19.98 342.34 213.25 112.14 0 58 18 201.4 27.35 317.44
 100.00 2 31 15 6123.67 16.72 291.95 211.75 115.10 4 13 19 5123.7 25.62 268.09
 110.00 2 5 33 6204.67 8.48 293.35 207.04 123.21 3 48 58 5204.7 21.26 272.30

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3650 TRA -.7648 TC3 .2714 BAU .0752 SGT 1551.6 SGR 475.6 SG3 711.7 ST 36.4 SR 20.1 SS 42.0
 RDE -.2478 RRA .0190 RC3 .3576 FAU .10799 RRT .3189 RRF -.3719 RTF -.8155 CRT .7950 CR8 .3883 CST .8657
 FDE .5254 FRA 3.3688 FC3-7.4597 B8P 2658 SGB 1622.9 R23 -.0929 R13 -.8187 LSA 55.1 MSA 21.3 SSA 1.3
 BDE .4412 BRA .7650 BC3 .4489 F8P 1141 SG1 1559.7 SG2 448.5 THA 6.09 EL1 40.1 EL2 11.1 ALF 25.75

LAUNCH DATE APR 29 1971

FLIGHT TIME 164.00

ARRIVAL DATE OCT 10 1971

HELIOCENTRIC CONIC
 RL 150.65 LAL -.00 LOL 218.04 VL 32.581 GAL -1.63 AZL 92.21 HCA 137.36 SMA 189.49 ECC .20884 INC 2.2074 V1 29.577
 RP 207.73 LAP -1.30 LOP 355.42 VP 24.029 GAP 10.60 AZP 88.38 TAL 350.47 TAP 127.83 RCA 150.29 APO 228.68 V2 26.373
 RC 85.969 GL -20.97 GP 2.76 ZAL 113.11 ZAP 142.98 ETS 176.30 ZAE 175.39 ETE 79.57 ZAC 102.71 ETC 277.93 LVI -20.80

PLANETOCENTRIC CONIC
 C3 12.290 VHL 3.506 DLA -29.84 RAL 343.39 RAD 6639.2 VEL 11.505 PTH 6.55 VHP 4.572 DPA -14.42 RAP 320.62 ECC 1.2023
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 51 41 2401.54 -2.47 62.27 197.26 137.53 18 31 43 1401.5 15.81 46.26
 60.00 19 14 55 2180.10 2.95 47.53 202.46 130.21 19 51 15 1180.1 16.61 26.88
 70.00 21 7 39 1848.50 9.27 25.38 207.18 123.02 21 38 27 848.5 21.92 4.18
 80.00 0 19 14 1259.30 19.55 346.44 212.82 113.03 0 40 13 259.3 27.33 321.73
 80.07 0 29 5 1227.85 20.32 344.44 213.16 112.33 0 49 33 227.9 27.73 319.49
 100.00 3 2 6 6021.81 19.55 285.71 212.82 113.03 4 42 28 5021.8 27.33 261.00
 110.00 2 11 1 6183.36 9.27 292.21 207.18 123.02 3 54 4 5183.4 21.92 271.00

MID-COURSE EXECUTION ACCURACY
 SGT 1519.7 SGR 472.5 SG3 754.6
 RRT .3431 RRF -.4046 RTF -.8084
 SGB 1591.4 R23 -.1082 R13 -.8125
 SGI 1529.1 SGI2 441.1 TMA 6.64

ORBIT DETERMINATION ACCURACY
 ST 36.0 SR 19.7 SS 43.2
 CRT .8052 CR8 .3880 CST .8567
 LSA 55.5 MSA 21.5 S8A 1.3
 EL1 39.6 EL2 10.6 ALF 25.71

LAUNCH DATE APR 29 1971

FLIGHT TIME 166.00

ARRIVAL DATE OCT 12 1971

HELIOCENTRIC CONIC
 RL 150.65 LAL -.00 LOL 218.04 VL 32.549 GAL -1.60 AZL 92.23 HCA 138.61 SMA 188.92 ECC .20440 INC 2.2251 V1 29.577
 RP 207.86 LAP -1.47 LOP 356.68 VP 23.967 GAP 10.31 AZP 88.33 TAL 350.56 TAP 129.18 RCA 150.30 APO 227.53 V2 26.357
 RC 87.725 GL -21.32 GP 2.91 ZAL 112.99 ZAP 141.39 ETS 176.31 ZAE 175.45 ETE 92.63 ZAC 102.89 ETC 277.87 LVI -20.85

PLANETOCENTRIC CONIC
 C3 12.070 VHL 3.474 DLA -30.19 RAL 343.49 RAD 6639.1 VEL 11.496 PTH 6.54 VHP 4.447 DPA -14.38 RAP 320.26 ECC 1.1986
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 54 6 2389.53 -1.86 61.77 197.31 137.55 18 33 55 1389.5 16.39 45.72
 60.00 19 18 19 2165.44 3.59 46.83 202.55 130.17 19 54 25 1165.4 19.20 28.09
 70.00 21 13 17 1827.24 10.06 24.24 207.36 122.81 21 43 44 827.2 22.57 2.87
 78.98 0 21 14 1250.34 20.64 346.26 213.11 112.53 0 42 5 250.3 28.10 321.25
 78.98 0 21 14 1250.34 20.64 346.26 213.11 112.53 0 42 5 250.3 28.10 321.25
 78.98 0 21 14 1250.34 20.64 346.26 213.11 112.53 0 42 5 250.3 28.10 321.25
 110.00 2 16 39 6162.10 10.06 291.06 207.36 122.81 3 59 21 5162.1 22.57 269.69

MID-COURSE EXECUTION ACCURACY
 SGT 1474.6 SGR 470.3 SG3 799.7
 RRT .3693 RRF -.4394 RTF -.8030
 SGB 1547.8 R23 -.1235 R13 -.8082
 SGI 1485.8 SGI2 433.8 TMA 7.35

ORBIT DETERMINATION ACCURACY
 ST 35.1 SR 19.2 SS 44.2
 CRT .8148 CR8 .3852 CST .8466
 LSA 55.6 MSA 21.6 S8A 1.2
 EL1 38.7 EL2 10.1 ALF 25.92

LAUNCH DATE APR 29 1971

FLIGHT TIME 168.00

ARRIVAL DATE OCT 14 1971

HELIOCENTRIC CONIC
 RL 150.65 LAL -.00 LOL 218.04 VL 32.519 GAL -1.57 AZL 92.24 HCA 139.87 SMA 188.39 ECC .20214 INC 2.2437 V1 29.577
 RP 208.01 LAP -1.45 LOP 357.93 VP 23.908 GAP 10.03 AZP 88.28 TAL 350.64 TAP 130.51 RCA 150.31 APO 226.48 V2 26.340
 RC 89.514 GL -21.67 GP 3.08 ZAL 112.89 ZAP 139.77 ETS 176.33 ZAE 175.24 ETE 106.16 ZAC 103.09 ETC 277.79 LVI -20.89

PLANETOCENTRIC CONIC
 C3 11.873 VHL 3.446 DLA -30.53 RAL 343.61 RAD 6639.0 VEL 11.487 PTH 6.54 VHP 4.327 DPA -14.35 RAP 319.85 ECC 1.1954
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 56 33 2378.05 -1.29 61.29 197.40 137.56 18 36 11 1378.0 16.95 45.20
 60.00 19 21 47 2151.29 4.22 46.15 202.68 130.12 19 57 38 1151.3 19.77 27.32
 70.00 21 19 5 1806.12 10.84 23.10 207.59 122.59 21 49 11 806.1 23.20 1.56
 78.00 0 14 27 1269.94 20.96 347.86 213.09 112.72 0 35 37 269.9 28.46 322.79
 78.00 0 14 27 1269.94 20.96 347.86 213.09 112.72 0 35 37 269.9 28.46 322.79
 78.00 0 14 27 1269.94 20.96 347.86 213.09 112.72 0 35 37 269.9 28.46 322.79
 110.00 2 22 28 6140.98 10.84 289.92 207.59 122.59 4 4 49 5141.0 23.20 268.38

MID-COURSE EXECUTION ACCURACY
 SGT 1443.3 SGR 469.2 SG3 846.4
 RRT .3924 RRF -.4765 RTF -.7777
 SGB 1517.7 R23 -.1495 R13 -.7945
 SGI 1456.1 SGI2 427.8 TMA 7.96

ORBIT DETERMINATION ACCURACY
 ST 35.0 SR 18.8 SS 45.6
 CRT .8305 CR8 .3930 CST .8361
 LSA 56.4 MSA 21.8 S8A 1.2
 EL1 38.6 EL2 9.5 ALF 25.73

LAUNCH DATE APR 29 1971

FLIGHT TIME 170.00

ARRIVAL DATE OCT 16 1971

HELIOCENTRIC CONIC
 RL 150.65 LAL -.00 LOL 218.04 VL 32.491 GAL -1.54 AZL 92.26 HCA 141.12 SMA 187.91 ECC .20004 INC 2.2633 V1 29.577
 RP 208.16 LAP -1.42 LOP 359.19 VP 23.850 GAP 9.76 AZP 88.24 TAL 350.71 TAP 131.83 RCA 150.32 APO 225.50 V2 26.323
 RC 91.337 GL -22.03 GP 3.22 ZAL 112.79 ZAP 138.11 ETS 176.34 ZAE 174.75 ETE 118.61 ZAC 103.31 ETC 277.71 LVI -20.94

PLANETOCENTRIC CONIC
 C3 11.697 VHL 3.420 DLA -30.86 RAL 343.75 RAD 6638.9 VEL 11.479 PTH 6.53 VHP 4.212 DPA -14.32 RAP 319.40 ECC 1.1925
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 59 3 2367.00 -.73 60.83 197.52 137.57 18 38 30 1367.0 17.48 44.69
 60.00 19 25 17 2137.53 4.82 45.49 202.84 130.06 20 0 55 1137.5 20.31 26.57
 70.00 21 25 7 1784.93 11.61 21.94 207.86 122.35 21 54 52 784.9 23.82 .23
 77.10 0 8 30 1287.38 21.26 349.30 213.11 112.92 0 29 57 287.4 28.81 324.18
 77.10 0 8 30 1287.38 21.26 349.30 213.11 112.92 0 29 57 287.4 28.81 324.18
 77.10 0 8 30 1287.38 21.26 349.30 213.11 112.92 0 29 57 287.4 28.81 324.18
 110.00 2 28 29 6119.79 11.61 288.77 207.86 122.35 4 10 29 5119.8 23.62 267.05

MID-COURSE EXECUTION ACCURACY
 SGT 1396.6 SGR 469.4 SG3 894.9
 RRT .4151 RRF -.5149 RTF -.7731
 SGB 1473.4 R23 -.1775 R13 -.7820
 SGI 1411.5 SGI2 422.6 TMA 8.73

ORBIT DETERMINATION ACCURACY
 ST 34.4 SR 18.4 SS 46.8
 CRT .8450 CR8 .3975 CST .8239
 LSA 56.8 MSA 22.0 S8A 1.2
 EL1 38.0 EL2 8.9 ALF 25.85

LAUNCH DATE APR 20 1971 FLIGHT TIME 172.00 ARRIVAL DATE OCT 18 1971

Heliocentric Conic: RL 150.85 LAL -.00 LOL 218.04 VL 32.465 GAL -1.52 AZL 92.28 HCA 142.37 SMA 187.46 ECC .19809 INC 2.2839 V1 29.577
 RP 208.32 LAP -1.39 LOP .44 VP 23.794 GAP 9.49 AZP 88.19 TAL 350.77 TAP 133.14 RCA 150.33 APO 224.60 V2 26.304
 RC 93.190 GL -22.38 GP 3.40 ZAL 112.72 ZAP 136.40 ETS 176.35 ZAE 173.99 ETE 129.01 ZAC 103.54 ETC 277.62 LVI -20.97

Planetary Conic: C3 11.541 VHL 3.397 DLA -31.19 RAL 343.90 RAD 6638.8 VEL 11.473 PTH 6.52 VHP 4.104 DPA -14.29 RAP 318.90 ECC 1.1899
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 1 35 2356.41 -2.20 60.39 197.67 137.58 18 40 52 1356.4 17.99 44.20
 60.00 19 28 51 2124.20 5.40 44.85 203.04 130.00 20 4 16 1124.2 20.84 25.83
 70.00 21 31 22 1763.65 12.38 20.78 208.17 122.09 22 0 46 763.7 24.43 358.87
 76.27 0 3 11 1303.24 21.54 350.63 213.17 113.11 0 24 54 303.2 29.15 325.45
 76.27 0 3 11 1303.24 21.54 350.63 213.17 113.11 0 24 54 303.2 29.15 325.45
 76.27 0 3 11 1303.24 21.54 350.63 213.17 113.11 0 24 54 303.2 29.15 325.45
 110.00 2 34 44 6098.51 12.38 287.60 208.17 122.09 4 16 23 5098.5 24.43 265.70

Differential Corrections: TDE -.3363 TRA -.6185 TC3 .0644 BAU .0691 MID-COURSE EXECUTION ACCURACY SGT 1345.6 SGR 471.2 8G3 944.6 ORBIT DETERMINATION ACCURACY ST 33.7 SR 18.0 SS 48.1
 RDE -.2128 RRA -.0247 RC3 .4435 FAU .13623 RRT .4357 RRF -.9546 RTF -.7541 CRT .8615 CR8 .4082 C8T .8104
 FDE .5887 FRA 4.2538 FC-10.2194 B8P 2271 8GB 1425.8 R23 -.2118 R13 -.7861 L8A 57.3 M8A 22.2 88A 1.2
 BDE .3980 BRA .6190 BC3 .4482 F8P 1550 8G1 1382.9 8G2 418.8 THA 9.59 EL1 37.3 EL2 8.2 ALF 26.01

LAUNCH DATE APR 20 1971 FLIGHT TIME 174.00 ARRIVAL DATE OCT 20 1971

Heliocentric Conic: RL 150.85 LAL -.00 LOL 218.04 VL 32.441 GAL -1.50 AZL 92.31 HCA 143.62 SMA 187.05 ECC .19629 INC 2.3057 V1 29.577
 RP 208.49 LAP -1.37 LOP 1.69 VP 23.740 GAP 9.23 AZP 88.14 TAL 350.81 TAP 134.43 RCA 150.33 APO 223.76 V2 26.284
 RC 95.074 GL -22.73 GP 3.58 ZAL 112.66 ZAP 134.65 ETS 176.36 ZAE 173.03 ETE 137.23 ZAC 103.79 ETC 277.53 LVI -21.01

Planetary Conic: C3 11.403 VHL 3.377 DLA -31.51 RAL 344.07 RAD 6638.8 VEL 11.467 PTH 6.52 VHP 4.000 DPA -14.26 RAP 318.36 ECC 1.1877
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 4 12 2346.26 .31 59.96 197.85 137.58 18 43 18 1346.3 18.47 43.72
 60.00 19 32 30 2111.27 5.97 44.23 203.27 129.93 20 7 41 1111.3 21.35 25.12
 70.00 21 37 54 1742.14 13.16 19.60 208.54 121.80 22 6 56 742.1 25.04 357.50
 75.50 23 54 31 1317.75 21.82 351.85 213.27 113.31 24 16 29 317.8 29.48 326.63
 75.50 23 54 31 1317.75 21.82 351.85 213.27 113.31 24 16 29 317.8 29.48 326.63
 75.50 23 54 31 1317.75 21.82 351.85 213.27 113.31 24 16 29 317.8 29.48 326.63
 110.00 2 41 16 6077.00 13.16 286.42 208.54 121.80 4 22 33 5077.0 25.04 264.32

Differential Corrections: TDE -.3308 TRA -.5831 TC3 .0027 BAU .0707 MID-COURSE EXECUTION ACCURACY SGT 1289.0 SGR 475.0 8G3 998.2 ORBIT DETERMINATION ACCURACY ST 33.0 SR 17.6 SS 49.4
 RDE -.2065 RRA -.0348 RC3 .4637 FAU .14258 RRT .4533 RRF -.9955 RTF -.7311 CRT .8792 CR8 .4147 C8T .7950
 FDE .6032 FRA 4.4508 FC-10.8238 B8P 2148 8GB 1373.7 R23 -.2524 R13 -.7474 L8A 57.7 M8A 22.4 88A 1.2
 BDE .3899 BRA .5841 BC3 .4637 F8P 1639 8G1 1308.9 8G2 416.9 THA 10.57 EL1 36.6 EL2 7.9 ALF 26.24

LAUNCH DATE APR 20 1971 FLIGHT TIME 176.00 ARRIVAL DATE OCT 22 1971

Heliocentric Conic: RL 150.85 LAL -.00 LOL 218.04 VL 32.418 GAL -1.49 AZL 92.33 HCA 144.87 SMA 186.87 ECC .19463 INC 2.3267 V1 29.577
 RP 208.67 LAP -1.34 LOP 2.93 VP 23.687 GAP 8.97 AZP 88.10 TAL 350.84 TAP 138.71 RCA 150.34 APO 223.00 V2 26.284
 RC 96.988 GL -23.08 GP 3.78 ZAL 112.61 ZAP 132.87 ETS 176.37 ZAE 171.89 ETE 143.58 ZAC 104.06 ETC 277.42 LVI -21.04

Planetary Conic: C3 11.283 VHL 3.359 DLA -31.82 RAL 344.28 RAD 6638.7 VEL 11.462 PTH 6.51 VHP 3.902 DPA -14.23 RAP 317.77 ECC 1.1857
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 6 51 2336.52 .80 59.56 198.08 137.57 18 45 48 1336.5 18.94 43.26
 60.00 19 38 13 2098.71 6.52 43.82 203.55 129.88 20 11 12 1098.7 21.84 24.42
 70.00 21 44 46 1720.26 13.94 18.38 208.95 121.50 22 13 26 720.3 25.84 356.09
 74.77 23 50 17 1331.23 22.08 353.00 213.41 113.51 24 12 28 331.2 29.80 327.73
 74.77 23 50 17 1331.23 22.08 353.00 213.41 113.51 24 12 28 331.2 29.80 327.73
 74.77 23 50 17 1331.23 22.08 353.00 213.41 113.51 24 12 28 331.2 29.80 327.73
 110.00 2 46 8 6093.11 13.94 283.21 208.95 121.50 4 29 4 5055.1 25.84 262.90

Differential Corrections: TDE -.3238 TRA -.5448 TC3 -.0689 BAU .0738 MID-COURSE EXECUTION ACCURACY SGT 1225.8 SGR 480.7 8G3 1049.0 ORBIT DETERMINATION ACCURACY ST 32.1 SR 17.1 SS 50.6
 RDE -.2001 RRA -.0458 RC3 .4881 FAU .14806 RRT .4648 RRF -.6363 RTF -.7129 CRT .8973 CR8 .4237 C8T .7768
 FDE .6122 FRA 4.6538 FC-11.4368 B8P 2011 8GB 1316.7 R23 -.3008 R13 -.7249 L8A 58.1 M8A 22.6 88A 1.1
 BDE .3804 BRA .5467 BC3 .4889 F8P 1730 8G1 1248.8 8G2 417.8 THA 11.85 EL1 35.7 EL2 6.8 ALF 26.82

LAUNCH DATE APR 20 1971 FLIGHT TIME 178.00 ARRIVAL DATE OCT 24 1971

Heliocentric Conic: RL 150.85 LAL -.00 LOL 218.04 VL 32.398 GAL -1.48 AZL 92.35 HCA 146.11 SMA 186.52 ECC .19310 INC 2.3533 V1 29.577
 RP 208.85 LAP -1.31 LOP 4.18 VP 23.638 GAP 8.72 AZP 88.05 TAL 350.86 TAP 138.97 RCA 150.34 APO 222.30 V2 26.243
 RC 98.829 GL -23.44 GP 3.99 ZAL 112.58 ZAP 131.04 ETS 176.39 ZAE 170.61 ETE 148.46 ZAC 104.34 ETC 277.30 LVI -21.07

Planetary Conic: C3 11.181 VHL 3.344 DLA -32.13 RAL 344.47 RAD 6638.6 VEL 11.457 PTH 6.51 VHP 3.808 DPA -14.19 RAP 317.14 ECC 1.1840
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 9 36 2327.15 1.27 59.17 198.33 137.56 18 48 23 1327.2 19.39 42.82
 60.00 19 40 2 2086.47 7.05 43.02 203.86 129.78 20 14 48 1086.5 22.31 23.73
 70.00 21 52 3 1697.73 14.74 17.12 209.43 121.16 22 20 21 697.7 26.24 354.60
 74.08 23 46 28 1343.86 22.34 354.08 213.58 113.72 24 8 52 343.9 30.11 328.76
 74.08 23 46 28 1343.86 22.34 354.08 213.58 113.72 24 8 52 343.9 30.11 328.76
 74.08 23 46 28 1343.86 22.34 354.08 213.58 113.72 24 8 52 343.9 30.11 328.76
 110.00 2 55 25 6032.58 14.74 283.95 209.43 121.16 4 35 58 5032.6 26.24 261.43

Differential Corrections: TDE -.3130 TRA -.4992 TC3 -.1241 BAU .0783 MID-COURSE EXECUTION ACCURACY SGT 1146.6 SGR 489.0 8G3 1102.5 ORBIT DETERMINATION ACCURACY ST 30.8 SR 16.7 SS 51.6
 RDE -.1937 RRA -.0564 RC3 .5092 FAU .15632 RRT .4726 RRF -.6770 RTF -.6697 CRT .9159 CR8 .4324 C8T .7537
 FDE .6140 FRA 4.6472 FC-12.1036 B8P 1798 8GB 1246.5 R23 -.3518 R13 -.7015 L8A 58.1 M8A 22.6 88A 1.1
 BDE .3681 BRA .5023 BC3 .5241 F8P 1806 8G1 1173.2 8G2 421.2 THA 13.12 EL1 34.5 EL2 6.0 ALF 27.29

LAUNCH DATE APR 29 1971 FLIGHT TIME 180.00 ARRIVAL DATE OCT 28 1971

Heliocentric Conic: RL 150.65 LAL -0.00 LOL 218.04 VL 32.379 GAL -1.47 AZL 92.38 HCA 147.35 SMA 186.00 ECC .10171 INC 2.3793 V1 29.577
 RP 209.04 LAP -1.28 LOP 5.42 VP 23.585 GAP 8.48 AZP 88.00 TAL 350.86 TAP 138.21 RCA 150.34 APO 221.65 V2 26.221
 RC 100.898 GL -23.70 GP 4.21 ZAL 112.57 ZAP 129.18 ETS 176.41 ZAE 169.22 ETE 152.24 ZAC 104.64 ETC 277.17 LVI -21.10

Planetocentric Conic: C3 11.097 VHL 3.331 DLA -32.43 RAL 344.70 RAD 6638.6 VEL 11.454 PTH 6.50 VHP 3.721 DPA -14.15 RAP 316.47 ECC 1.1828
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 12 25 2318.25 1.72 58.79 198.63 137.55 18 51 3 1318.2 19.81 42.40
 60.00 19 43 56 2074.65 7.56 42.45 204.21 129.70 20 18 31 1074.6 22.76 23.06
 70.00 21 59 47 1674.52 15.55 15.82 209.96 120.80 22 27 42 674.5 26.84 353.07
 73.42 23 43 3 1355.81 22.58 355.10 213.81 113.92 24 5 39 355.8 30.41 329.75
 73.42 23 43 3 1355.81 22.58 355.10 213.81 113.92 24 5 39 355.8 30.41 329.75
 73.42 23 43 3 1355.81 22.58 355.10 213.81 113.92 24 5 39 355.8 30.41 329.75
 110.00 3 3 10 6009.38 15.55 282.64 209.96 120.80 4 43 19 5009.4 26.84 259.89

Differential Corrections: TDE -.3174 TRA -.4663 TC3 -.2473 BAU .0868 SGT 1108.1 SGR 500.0 SG3 1157.5 ORBIT DETERMINATION ACCURACY ST 30.8 SR 16.4 SS 53.3
 RDE -.1886 RRA -.0692 RC3 .5303 FAU .16175 RRT .4565 RRF -.7165 RTF -.6119 CRT .9381 CRS .4609 CST .7349
 FDE .6568 FRA 5.0883 FC-12.6196 BSP 1762 SGB 1215.7 R23 -.4326 R13 -.6548 LSA 59.4 MSA 23.0 SSA 1.1
 BDE .3692 BRA .4714 BC3 .5851 FSP 1929 SG1 1135.5 SG2 434.1 THA 13.67 EL1 34.5 EL2 5.1 ALF 27.13

LAUNCH DATE APR 29 1971 FLIGHT TIME 182.00 ARRIVAL DATE OCT 28 1971

Heliocentric Conic: RL 150.65 LAL -.00 LOL 218.04 VL 32.361 GAL -1.46 AZL 92.41 HCA 148.59 SMA 185.70 ECC .19042 INC 2.4072 V1 29.577
 RP 209.24 LAP -1.25 LOP 6.66 VP 23.535 GAP 8.24 AZP 87.95 TAL 350.84 TAP 139.43 RCA 150.34 APO 221.07 V2 26.198
 RC 102.893 GL -24.15 GP 4.46 ZAL 112.57 ZAP 127.27 ETS 176.43 ZAE 167.72 ETE 155.21 ZAC 104.97 ETC 277.04 LVI -21.14

Planetocentric Conic: C3 11.028 VHL 3.321 DLA -32.73 RAL 344.96 RAD 6638.6 VEL 11.451 PTH 6.50 VHP 3.638 DPA -14.11 RAP 315.75 ECC 1.1815
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 15 19 2309.63 2.15 58.43 198.96 137.54 18 53 49 1309.6 20.22 41.99
 60.00 19 47 58 2063.03 8.07 41.88 204.61 129.62 20 22 21 1063.0 23.21 22.39
 70.00 22 8 12 1649.88 16.40 14.42 210.57 120.38 22 35 42 649.9 27.45 351.42
 72.79 23 39 58 1367.27 22.81 356.10 214.07 114.14 24 2 45 367.3 30.71 330.70
 72.79 23 39 58 1367.27 22.81 356.10 214.07 114.14 24 2 45 367.3 30.71 330.70
 72.79 23 39 58 1367.27 22.81 356.10 214.07 114.14 24 2 45 367.3 30.71 330.70
 110.00 3 11 34 5984.74 16.40 281.24 210.57 120.38 4 51 19 4984.7 27.45 258.24

Differential Corrections: TDE -.3123 TRA -.4213 TC3 -.3448 BAU .0964 SGT 1043.8 SGR 513.9 SG3 1212.5 ORBIT DETERMINATION ACCURACY ST 29.9 SR 16.0 SS 54.6
 RDE -.1830 RRA -.0821 RC3 .5555 FAU .16843 RRT .4309 RRF -.7542 RTF -.5476 CRT .9573 CRS .4806 CST .7074
 FDE .6727 FRA 5.3086 FC-13.2226 BSP 1607 SGB 1163.5 R23 -.5110 R13 -.6070 LSA 59.9 MSA 23.2 SSA 1.1
 BDE .3619 BRA .4293 BC3 .6537 FSP 2026 SG1 1072.3 SG2 451.4 THA 14.63 EL1 33.7 EL2 4.1 ALF 27.56

LAUNCH DATE APR 29 1971 FLIGHT TIME 184.00 ARRIVAL DATE OCT 30 1971

Heliocentric Conic: RL 150.65 LAL -.00 LOL 218.04 VL 32.345 GAL -1.46 AZL 92.44 HCA 149.83 SMA 185.44 ECC .18926 INC 2.4371 V1 29.577
 RP 209.44 LAP -1.22 LOP 7.89 VP 23.487 GAP 8.00 AZP 87.89 TAL 350.81 TAP 140.64 RCA 150.34 APO 220.53 V2 26.174
 RC 104.913 GL -24.92 GP 4.71 ZAL 112.58 ZAP 125.33 ETS 176.46 ZAE 166.14 ETE 157.55 ZAC 105.31 ETC 276.90 LVI -21.17

Planetocentric Conic: C3 10.976 VHL 3.313 DLA -33.03 RAL 345.23 RAD 6638.5 VEL 11.448 PTH 6.50 VHP 3.561 DPA -14.05 RAP 314.99 ECC 1.1806
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 18 20 2301.33 2.57 58.09 199.33 137.52 18 56 41 1301.3 20.61 41.59
 60.00 19 52 9 2031.63 8.56 41.33 205.05 129.53 20 26 20 1051.6 23.64 21.74
 70.00 22 17 29 1623.25 17.32 12.89 211.26 119.91 22 44 32 623.3 26.09 349.61
 72.18 23 37 11 1378.33 23.03 357.05 214.38 114.35 24 0 9 378.3 30.99 331.62
 72.18 23 37 11 1378.33 23.03 357.05 214.38 114.35 24 0 9 378.3 30.99 331.62
 72.18 23 37 11 1378.33 23.03 357.05 214.38 114.35 24 0 9 378.3 30.99 331.62
 110.00 3 20 51 5958.11 17.32 279.72 211.26 119.91 5 0 9 4958.1 26.09 256.43

Differential Corrections: TDE -.3088 TRA -.3744 TC3 -.4566 BAU .1044 SGT 986.5 SGR 531.0 SG3 1266.8 ORBIT DETERMINATION ACCURACY ST 29.1 SR 15.7 SS 56.0
 RDE -.1777 RRA -.0960 RC3 .5811 FAU .17465 RRT .3829 RRF -.7894 RTF -.5300 CRT .9749 CRS .5065 CST .6773
 FDE .6980 FRA 5.3318 FC-13.7756 BSP 1455 SGB 1120.4 R23 -.5991 R13 -.5426 LSA 60.7 MSA 23.4 SSA 1.0
 BDE .3563 BRA .3866 BC3 .7391 FSP 2125 SG1 1013.5 SG2 477.5 THA 15.07 EL1 32.9 EL2 3.1 ALF 27.95

LAUNCH DATE APR 29 1971 FLIGHT TIME 186.00 ARRIVAL DATE NOV 1 1971

Heliocentric Conic: RL 150.65 LAL -.00 LOL 218.04 VL 32.331 GAL -1.46 AZL 92.47 HCA 151.06 SMA 185.19 ECC .18820 INC 2.4692 V1 29.577
 RP 209.66 LAP -1.19 LOP 9.13 VP 23.439 GAP 7.77 AZP 87.84 TAL 350.77 TAP 141.83 RCA 150.34 APO 220.05 V2 26.150
 RC 106.958 GL -24.90 GP 4.99 ZAL 112.61 ZAP 123.38 ETS 176.49 ZAE 164.48 ETE 159.43 ZAC 105.87 ETC 276.74 LVI -21.21

Planetocentric Conic: C3 10.939 VHL 3.307 DLA -33.32 RAL 345.54 RAD 6638.5 VEL 11.447 PTH 6.50 VHP 3.488 DPA -13.99 RAP 314.19 ECC 1.1800
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 21 28 2293.28 2.97 57.75 199.75 137.51 18 59 42 1293.3 20.99 41.20
 60.00 19 56 29 2040.36 9.05 40.78 205.54 129.44 20 30 29 1040.4 24.06 21.09
 70.00 22 28 3 1593.41 18.32 11.16 212.05 119.34 22 54 37 593.4 28.78 347.56
 71.59 23 34 40 1389.15 23.24 358.00 214.73 114.58 23 57 49 389.2 31.28 332.52
 71.59 23 34 40 1389.15 23.24 358.00 214.73 114.58 23 57 49 389.2 31.28 332.52
 71.59 23 34 40 1389.15 23.24 358.00 214.73 114.58 23 57 49 389.2 31.28 332.52
 110.00 3 31 25 5928.27 18.32 277.99 212.05 119.34 5 10 14 4928.3 28.78 254.38

Differential Corrections: TDE -.3038 TRA -.3239 TC3 -.5708 BAU .1221 SGT 932.9 SGR 551.8 SG3 1321.2 ORBIT DETERMINATION ACCURACY ST 28.2 SR 15.3 SS 57.2
 RDE -.1725 RRA -.1108 RC3 .6094 FAU .18126 RRT .3094 RRF -.8218 RTF -.3560 CRT .9886 CRS .5323 CST .6400
 FDE .7155 FRA 5.7527 FC-14.3449 BSP 1303 SGB 1083.9 R23 -.6915 R13 -.4568 LSA 61.2 MSA 23.6 SSA 1.0
 BDE .3494 BRA .3423 BC3 .8348 FSP 2223 SG1 955.0 SG2 512.6 THA 14.69 EL1 32.0 EL2 2.0 ALF 28.41

LAUNCH DATE APR 29 1971

FLIGHT TIME 188.00

ARRIVAL DATE NOV 3 1971

HELIOCENTRIC CONIC

RL 130.85 LAL -.00 LOL 218.04 VL 32.318 GAL -1.48 AZL 92.50 HCA 152.29 SMA 184.97 ECC .18724 INC 2.3038 V1 29.577
RP 209.07 LAP -1.16 LOP 10.36 VP 23.393 GAP 7.55 AZP 87.78 TAL 350.72 TAP 143.01 RCA 150.34 APO 219.61 V2 26.124
RC 109.028 GL -25.29 GP 5.29 ZAL 112.66 ZAP 121.36 ETS 176.52 ZAE 162.74 ETE 160.95 ZAC 106.06 ETC 276.58 LVI -21.25

PLANETOCENTRIC CONIC

C3 10.919 VHL 3.304 DLA -33.62 RAL 345.87 RAD 8638.5 VEL 11.446 PTH 6.50 VHP 3.421 DPA -13.91 RAP 313.34 ECC 1.1797
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 24 45 2285.43 3.37 57.42 200.21 137.49 19 2 51 1285.4 21.36 40.82
60.00 20 1 2 2029.13 9.54 40.22 206.08 129.34 20 34 51 1029.1 24.48 20.43
70.00 22 40 44 1557.63 19.49 9.07 212.99 118.62 23 6 42 557.8 29.55 345.08
71.01 23 32 21 1399.91 23.45 358.93 215.13 114.81 23 55 41 399.9 31.56 333.43
71.01 23 32 21 1399.91 23.45 358.93 215.13 114.81 23 55 41 399.9 31.56 333.43
71.01 23 32 21 1399.91 23.45 358.93 215.13 114.81 23 55 41 399.9 31.56 333.43
110.00 3 44 6 5892.69 19.49 275.90 212.99 118.62 5 22 19 4892.7 29.55 251.90

DIFFERENTIAL CORRECTIONS

TDE -.2963 TRA -.2872 TC3 -.6781 BAU .1362
RDE -.1671 RRA -.1262 RC3 .6412 FAU .18852
FDE .7245 FRA 5.9611 FC-14.9479 B8P 1125
BDE .3402 BRA .2955 BC3 .9333 F8P 2297

MID-COURSE EXECUTION ACCURACY

SGT 880.1 SGR 576.7 SG3 1375.0
RRY .2073 RRF -.8512 RTF -.2232
SG8 1032.2 R23 -.7838 R13 -.3355
SG1 893.5 SG2 555.7 THA 12.73

ORBIT DETERMINATION ACCURACY

ST 27.0 SR 15.0 SS 58.2
CRT .9966 CRS .5563 C8T .3931
LSA 61.5 MSA 23.7 88A .9
EL1 30.9 EL2 1.1 ALP 29.04

LAUNCH DATE APR 29 1971

FLIGHT TIME 190.00

ARRIVAL DATE NOV 5 1971

HELIOCENTRIC CONIC

RL 130.85 LAL -.00 LOL 218.04 VL 32.306 GAL -1.47 AZL 92.54 HCA 153.92 SMA 184.77 ECC .18638 INC 2.5414 V1 29.877
RP 210.10 LAP -1.13 LOP 11.59 VP 23.347 GAP 7.32 AZP 87.72 TAL 350.64 TAP 144.17 RCA 150.33 APO 219.21 V2 26.068
RC 111.121 GL -25.69 GP 5.61 ZAL 112.72 ZAP 119.33 ETS 176.57 ZAE 160.95 ETE 162.17 ZAC 106.47 ETC 276.41 LVI -21.31

PLANETOCENTRIC CONIC

C3 10.919 VHL 3.304 DLA -33.92 RAL 346.23 RAD 8638.5 VEL 11.446 PTH 6.50 VHP 3.359 DPA -13.81 RAP 312.47 ECC 1.1798
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 28 12 2277.79 3.75 57.10 200.72 137.46 19 6 10 1277.8 21.72 40.44
60.00 20 5 48 2017.94 10.02 39.67 206.68 129.24 20 39 26 1017.9 24.89 19.77
70.00 22 57 45 1509.89 21.03 6.20 214.19 117.55 23 22 55 509.9 30.51 341.68
70.43 23 30 16 1410.61 23.65 359.86 215.59 115.06 23 53 47 410.6 31.84 334.33
70.43 23 30 16 1410.61 23.65 359.86 215.59 115.06 23 53 47 410.6 31.84 334.33
70.43 23 30 16 1410.61 23.65 359.86 215.59 115.06 23 53 47 410.6 31.84 334.33
110.00 4 1 7 5844.78 21.03 273.03 214.19 117.55 5 38 32 4844.8 30.51 246.50

DIFFERENTIAL CORRECTIONS

TDE -.2981 TRA -.2165 TC3 -.8280 BAU .1554
RDE -.1632 RRA -.1441 RC3 .6700 FAU .19374
FDE .7738 FRA 6.2076 FC-15.3669 B8P 1078
BDE .3398 BRA .2601 BC3 1.0691 F8P 2420

MID-COURSE EXECUTION ACCURACY

SGT 878.2 SGR 605.6 SG3 1428.2
RRY .0759 RRF -.8773 RTF -.0695
SG8 1066.8 R23 -.8679 R13 -.1283
SG1 880.5 SG2 602.3 THA 5.84

ORBIT DETERMINATION ACCURACY

ST 26.7 SR 14.9 SS 59.9
CRT .9958 CRS .5991 C8T .5513
LSA 62.8 MSA 24.1 88A .9
EL1 30.6 EL2 1.2 ALP 29.03

LAUNCH DATE APR 29 1971

FLIGHT TIME 192.00

ARRIVAL DATE NOV 7 1971

HELIOCENTRIC CONIC

RL 130.85 LAL -.00 LOL 218.04 VL 32.295 GAL -1.47 AZL 92.88 HCA 154.75 SMA 184.98 ECC .18582 INC 2.9821 V1 29.877
RP 210.33 LAP -1.10 LOP 12.82 VP 23.302 GAP 7.11 AZP 87.86 TAL 350.56 TAP 148.31 RCA 150.33 APO 218.86 V2 26.071
RC 113.239 GL -26.10 GP 5.98 ZAL 112.79 ZAP 117.27 ETS 176.62 ZAE 159.09 ETE 163.18 ZAC 106.81 ETC 276.24 LVI -21.37

PLANETOCENTRIC CONIC

C3 10.927 VHL 3.308 DLA -34.23 RAL 346.82 RAD 8638.8 VEL 11.446 PTH 6.50 VHP 3.302 DPA -13.89 RAP 311.58 ECC 1.1798
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 31 30 2270.18 4.13 56.78 201.89 137.44 19 9 41 1270.2 22.07 40.07
60.00 20 10 52 2008.54 10.51 39.11 207.34 129.13 20 44 19 1008.5 25.31 19.10
69.85 23 28 20 1421.50 23.84 .81 216.10 115.33 23 52 1 421.5 32.12 335.26
69.85 23 28 20 1421.50 23.84 .81 216.10 115.33 23 52 1 421.5 32.12 335.26
69.85 23 28 20 1421.50 23.84 .81 216.10 115.33 23 52 1 421.5 32.12 335.26
69.85 23 28 20 1421.50 23.84 .81 216.10 115.33 23 52 1 421.5 32.12 335.26
69.85 23 28 20 1421.50 23.84 .81 216.10 115.33 23 52 1 421.5 32.12 335.26
69.85 23 28 20 1421.50 23.84 .81 216.10 115.33 23 52 1 421.5 32.12 335.26

DIFFERENTIAL CORRECTIONS

TDE -.2936 TRA -.1872 TC3 -.9628 BAU .1742
RDE -.1586 RRA -.1626 RC3 .7036 FAU .19990
FDE .7938 FRA 6.4273 FC-18.8376 B8P 1027
BDE .3337 BRA .2262 BC3 1.1923 F8P 2509

MID-COURSE EXECUTION ACCURACY

SGT 879.0 SGR 638.9 SG3 1479.2
RRY -.0779 RRF -.8899 RTF .0511
SG8 1086.8 R23 .8829 R13 -.1768
SG1 881.9 SG2 634.8 THA 173.25

ORBIT DETERMINATION ACCURACY

ST 25.9 SR 14.7 SS 61.1
CRT .9930 CRS .6332 C8T .4929
LSA 63.4 MSA 24.3 88A .9
EL1 29.7 EL2 2.4 ALP 29.30

LAUNCH DATE APR 29 1971

FLIGHT TIME 194.00

ARRIVAL DATE NOV 9 1971

HELIOCENTRIC CONIC

RL 130.85 LAL -.00 LOL 218.04 VL 32.288 GAL -1.49 AZL 92.83 HCA 158.97 SMA 184.43 ECC .18495 INC 8.8286 V1 29.877
RP 210.57 LAP -1.07 LOP 14.04 VP 23.258 GAP 6.89 AZP 87.80 TAL 350.45 TAP 148.43 RCA 150.32 APO 218.54 V2 26.044
RC 115.380 GL -26.54 GP 6.34 ZAL 112.87 ZAP 115.19 ETS 176.69 ZAE 157.19 ETE 163.99 ZAC 107.38 ETC 276.05 LVI -21.48

PLANETOCENTRIC CONIC

C3 10.957 VHL 3.310 DLA -34.55 RAL 347.04 RAD 8638.5 VEL 11.447 PTH 6.50 VHP 3.250 DPA -13.54 RAP 310.62 ECC 1.1803
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 35 43 2262.62 4.51 56.46 201.91 137.41 19 13 25 1262.6 22.42 39.89
60.00 20 16 17 1994.83 11.01 36.53 208.08 129.02 20 40 32 994.6 25.74 18.40
69.27 23 26 32 1432.62 24.03 1.78 216.66 115.61 23 50 25 432.6 32.41 336.20
69.27 23 26 32 1432.62 24.03 1.78 216.66 115.61 23 50 25 432.6 32.41 336.20
69.27 23 26 32 1432.62 24.03 1.78 216.66 115.61 23 50 25 432.6 32.41 336.20
69.27 23 26 32 1432.62 24.03 1.78 216.66 115.61 23 50 25 432.6 32.41 336.20
69.27 23 26 32 1432.62 24.03 1.78 216.66 115.61 23 50 25 432.6 32.41 336.20
69.27 23 26 32 1432.62 24.03 1.78 216.66 115.61 23 50 25 432.6 32.41 336.20

DIFFERENTIAL CORRECTIONS

TDE -.2916 TRA -.0962 TC3 -1.1075 BAU .1950
RDE -.1547 RRA -.1828 RC3 .7388 FAU .20564
FDE .8294 FRA 6.4443 FC-16.2486 B8P 1058
BDE .3301 BRA .2065 BC3 1.3313 F8P 2595

MID-COURSE EXECUTION ACCURACY

SGT 912.8 SGR 877.2 SG3 1928.1
RRY -.2358 RRF -.9194 RTF .2688
SG8 1136.5 R23 .7966 R13 -.4621
SG1 939.8 SG2 639.2 THA 161.05

ORBIT DETERMINATION ACCURACY

ST 25.4 SR 14.6 SS 62.3
CRT .9549 CRS .6727 C8T .4300
LSA 64.3 MSA 24.6 88A .8
EL1 29.1 EL2 3.8 ALP 29.26

LAUNCH DATE APR 29 1971 FLIGHT TIME 196.00 ARRIVAL DATE NOV 11 1971

Heliocentric Conic: RL 150.65 LAL -0.00 LOL 218.04 VL 32.277 GAL -1.50 AZL 92.68 HCA 157.20 SMA 184.29 ECC .18436 INC 2.6755 V1 29.577
 RP 210.82 LAP -1.04 LOP 15.26 VP 23.214 GAP 6.68 AZP 87.53 TAL 350.34 TAP 147.53 RCA 150.32 APO 218.27 V2 26.015
 RC 117.543 GL -27.01 GP 6.75 ZAL 112.96 ZAP 113.09 ETS 176.76 ZAE 155.24 ETE 164.65 ZAC 107.88 ETC 275.87 LVI -21.55

Planetocentric Conic: C3 11.004 VHL 3.317 DLA -34.88 RAL 347.90 RAD 6638.6 VEL 11.449 PTH 6.50 VHP 3.203 DPA -13.37 RAP 309.65 ECC 1.1811
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 39 52 2254.94 4.89 56.14 202.59 137.38 19 17 27 1254.9 22.78 39.31
 60.00 20 22 8 1982.60 11.54 37.92 208.87 128.89 20 55 10 982.6 26.18 17.67
 68.67 23 24 53 1444.04 24.22 2.78 217.29 115.91 23 48 57 444.0 32.70 337.18
 68.67 23 24 53 1444.04 24.22 2.78 217.29 115.91 23 48 57 444.0 32.70 337.18
 68.67 23 24 53 1444.04 24.22 2.78 217.29 115.91 23 48 57 444.0 32.70 337.18
 68.67 23 24 53 1444.04 24.22 2.78 217.29 115.91 23 48 57 444.0 32.70 337.18
 68.67 23 24 53 1444.04 24.22 2.78 217.29 115.91 23 48 57 444.0 32.70 337.18

Differential Corrections: TDE -.2891 TRA -.0317 TC3-1.2572 BAU .2173
 RDE -.1511 RRA -.2048 RC3 .7754 FAU .21077
 FDE .8630 FRA 6.8590 FC-16.5825 BSP 1170
 BDE .3262 BRA .2073 BC3 1.4771 FSP 2680

Mid-Course Execution Accuracy: SGT 974.4 SGR 720.2 SG3 1573.9
 RRT -.3846 RRF -.9357 RTF .4207
 SGB 1211.7 R23 .6887 R13 -.6368
 SG1 1039.0 SG2 623.5 THA 154.30

Orbit Determination Accuracy: ST 25.0 SR 14.6 SS 63.8
 CRT .9080 CR8 .7124 CST .3580
 LSA 65.2 MSA 24.9 SSA .8
 EL1 28.5 EL2 5.4 ALF 29.03

LAUNCH DATE APR 29 1971 FLIGHT TIME 198.00 ARRIVAL DATE NOV 13 1971

Heliocentric Conic: RL 150.65 LAL -0.00 LOL 218.04 VL 32.269 GAL -1.52 AZL 92.73 HCA 158.41 SMA 184.17 ECC .18385 INC 2.7297 V1 29.577
 RP 211.07 LAP -1.00 LOP 16.48 VP 23.171 GAP 6.48 AZP 87.46 TAL 350.21 TAP 148.62 RCA 150.31 APO 218.03 V2 25.986
 RC 119.734 GL -27.50 GP 7.19 ZAL 113.06 ZAP 110.98 ETS 176.85 ZAE 153.24 ETE 165.18 ZAC 108.42 ETC 275.67 LVI -21.66

Planetocentric Conic: C3 11.070 VHL 3.327 DLA -35.24 RAL 347.99 RAD 6638.6 VEL 11.452 PTH 6.50 VHP 3.160 DPA -13.15 RAP 308.66 ECC 1.1822
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 44 20 2247.05 5.29 55.81 203.35 137.35 19 21 47 1247.0 23.15 38.92
 60.00 20 28 30 1969.60 12.09 37.27 209.76 128.74 21 1 20 969.6 26.64 16.88
 68.04 23 23 19 1455.97 24.41 3.83 218.00 116.24 23 47 34 456.0 33.01 338.21
 68.04 23 23 19 1455.97 24.41 3.83 218.00 116.24 23 47 34 456.0 33.01 338.21
 68.04 23 23 19 1455.97 24.41 3.83 218.00 116.24 23 47 34 456.0 33.01 338.21
 68.04 23 23 19 1455.97 24.41 3.83 218.00 116.24 23 47 34 456.0 33.01 338.21
 68.04 23 23 19 1455.97 24.41 3.83 218.00 116.24 23 47 34 456.0 33.01 338.21

Differential Corrections: TDE -.2984 TRA .0361 TC3-1.4089 BAU .2408
 RDE -.1479 RRA -.2289 RC3 .8138 FAU .21540
 FDE .8996 FRA 7.0666 FC-16.8454 BSP 1356
 BDE .3223 BRA .2317 BC3 1.6271 FSP 2764

Mid-Course Execution Accuracy: SGT 1062.1 SGR 768.8 SG3 1616.5
 RRT -.5129 RRF -.9493 RTF .5475
 SGB 1311.1 R23 .6006 R13 -.7386
 SG1 1184.9 SG2 601.7 THA 151.33

Orbit Determination Accuracy: ST 24.7 SR 14.7 SS 64.8
 CRT .8398 CR8 .7524 CST .2782
 LSA 66.2 MSA 25.2 SSA .7
 EL1 27.9 EL2 7.1 ALF 28.49

LAUNCH DATE APR 29 1971 FLIGHT TIME 200.00 ARRIVAL DATE NOV 15 1971

Heliocentric Conic: RL 150.65 LAL -0.00 LOL 218.04 VL 32.262 GAL -1.54 AZL 92.79 HCA 159.63 SMA 184.08 ECC .18342 INC 2.7896 V1 29.577
 RP 211.33 LAP -.97 LOP 17.70 VP 23.129 GAP 6.28 AZP 87.38 TAL 350.06 TAP 149.69 RCA 150.30 APO 217.82 V2 25.957
 RC 121.945 GL -28.03 GP 7.68 ZAL 113.16 ZAP 108.86 ETS 176.95 ZAE 151.21 ETE 165.60 ZAC 109.01 ETC 275.48 LVI -21.84

Planetocentric Conic: C3 11.157 VHL 3.340 DLA -35.61 RAL 348.53 RAD 6638.6 VEL 11.456 PTH 6.51 VHP 3.123 DPA -12.89 RAP 307.65 ECC 1.1836
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 49 12 2238.80 5.70 55.46 204.19 137.31 19 26 31 1238.8 23.53 38.50
 60.00 20 35 33 1955.51 12.69 36.56 210.76 128.58 21 8 8 955.5 27.14 16.02
 67.39 23 21 47 1468.61 24.61 4.93 218.77 116.60 23 46 15 468.6 33.33 339.30
 67.39 23 21 47 1468.61 24.61 4.93 218.77 116.60 23 46 15 468.6 33.33 339.30
 67.39 23 21 47 1468.61 24.61 4.93 218.77 116.60 23 46 15 468.6 33.33 339.30
 67.39 23 21 47 1468.61 24.61 4.93 218.77 116.60 23 46 15 468.6 33.33 339.30
 67.39 23 21 47 1468.61 24.61 4.93 218.77 116.60 23 46 15 468.6 33.33 339.30

Differential Corrections: TDE -.2842 TRA .1088 TC3-1.5819 BAU .2657
 RDE -.1449 RRA -.2550 RC3 .8565 FAU .22014
 FDE .9298 FRA 7.2570 FC-17.0822 BSP 1594
 BDE .3190 BRA .2784 BC3 1.7813 FSP 2838

Mid-Course Execution Accuracy: SGT 1173.5 SGR 823.7 SG3 1655.7
 RRT -.6178 RRF -.9806 RTF .6-.84
 SGB 1433.8 R23 .5310 R13 -.8035
 SG1 1311.3 SG2 579.8 THA 150.17

Orbit Determination Accuracy: ST 24.7 SR 14.6 SS 65.8
 CRT .7495 CR8 .7904 CST .1898
 LSA 67.1 MSA 25.6 SSA .7
 EL1 27.4 EL2 8.6 ALF 27.37

LAUNCH DATE APR 29 1971 FLIGHT TIME 202.00 ARRIVAL DATE NOV 17 1971

Heliocentric Conic: RL 150.65 LAL -0.00 LOL 218.04 VL 32.257 GAL -1.56 AZL 92.86 HCA 160.84 SMA 183.87 ECC .18307 INC 2.8566 V1 29.577
 RP 211.60 LAP -.94 LOP 18.91 VP 23.087 GAP 6.08 AZP 87.30 TAL 349.91 TAP 150.75 RCA 150.29 APO 217.64 V2 25.926
 RC 124.177 GL -28.61 GP 8.23 ZAL 113.27 ZAP 106.74 ETS 177.07 ZAE 149.15 ETE 165.92 ZAC 109.64 ETC 275.28 LVI -22.03

Planetocentric Conic: C3 11.288 VHL 3.357 DLA -36.02 RAL 349.12 RAD 6638.7 VEL 11.461 PTH 6.51 VHP 3.091 DPA -12.57 RAP 306.63 ECC 1.1854
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 54 33 2230.01 6.14 55.09 205.12 137.27 19 31 43 1230.0 23.93 38.06
 60.00 20 43 27 1939.87 13.35 35.77 211.89 128.39 21 15 47 939.9 27.69 15.05
 66.70 23 20 16 1482.13 24.80 6.12 219.64 117.00 23 44 58 482.1 33.67 340.48
 66.70 23 20 16 1482.13 24.80 6.12 219.64 117.00 23 44 58 482.1 33.67 340.48
 66.70 23 20 16 1482.13 24.80 6.12 219.64 117.00 23 44 58 482.1 33.67 340.48
 66.70 23 20 16 1482.13 24.80 6.12 219.64 117.00 23 44 58 482.1 33.67 340.48
 66.70 23 20 16 1482.13 24.80 6.12 219.64 117.00 23 44 58 482.1 33.67 340.48

Differential Corrections: TDE -.2824 TRA .1808 TC3-1.7151 BAU .2918
 RDE -.1426 RRA -.2839 RC3 .9008 FAU .22405
 FDE .9677 FRA 7.4398 FC-17.2166 BSP 1876
 BDE .3163 BRA .3365 BC3 1.9373 FSP 2905

Mid-Course Execution Accuracy: SGT 1305.2 SGR 885.4 SG3 1690.6
 RRT -.6988 RRF -.9697 RTF .7245
 SGB 1577.2 R23 .4762 R13 -.8473
 SG1 1474.1 SG2 560.8 THA 149.83

Orbit Determination Accuracy: ST 24.8 SR 15.2 SS 66.8
 CRT .6386 CR8 .8274 CST .0986
 LSA 68.1 MSA 26.0 SSA .6
 EL1 27.0 EL2 10.7 ALF 25.58

LAUNCH DATE APR 29 1971

FLIGHT TIME 204.00

ARRIVAL DATE NOV 19 1971

HELIOCENTRIC CONIC

DISTANCE 492.459

EARTH TO MARS

RL 150.65 LAL -.00 LOL 218.04 VL 32.292 GAL -1.98 AZL 92.93 HCA 162.05 SMA 183.89 ECC .18278 INC 2.9322 V1 29.877
RP 211.87 LAP -.90 LOP 20.12 VP 23.045 GAP 5.88 AZP 87.21 TAL 349.73 TAP 151.78 RCA 150.28 APO 217.50 V2 29.886
RC 126.431 GL -29.24 GP 8.83 ZAL 113.37 ZAP 104.62 ETS 177.21 ZAE 147.06 ETE 186.14 ZAC 110.32 ETC 275.08 LVI -22.28

PLANETOCENTRIC CONIC

C3 11.402 VHL 3.377 DLA -36.47 RAL 349.76 RAD 6638.8 VEL 11.467 PTH 6.52 VHP 3.064 DPA -12.19 RAP 305.59 ECC 1.1876
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 0 30 2220.46 6.62 54.68 206.16 137.22 19 37 30 1220.5 24.37 37.57
60.00 20 52 28 1922.07 14.10 34.87 213.17 128.15 21 24 30 922.1 28.30 13.94
65.95 23 18 45 1496.67 25.01 7.41 220.61 117.46 23 43 42 496.7 34.04 341.75
65.95 23 18 45 1496.67 25.01 7.41 220.61 117.46 23 43 42 496.7 34.04 341.75
65.95 23 18 45 1496.67 25.01 7.41 220.61 117.46 23 43 42 496.7 34.04 341.75
65.95 23 18 45 1496.67 25.01 7.41 220.61 117.46 23 43 42 496.7 34.04 341.75
65.95 23 18 45 1496.67 25.01 7.41 220.61 117.46 23 43 42 496.7 34.04 341.75

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2812 TRA .2580 TC3-1.0680 BAU .3193 SGT 1454.4 SGR 954.2 SG3 1719.6 ST 25.3 SR 15.6 SS 67.7
RDE -.1409 RRA -.3156 RC3 .9481 FAU .22738 RRT -.7609 RRF -.9770 RTF .7816 CRT .5114 CRS .8615 C8T .0063
FDE 1.0067 FRA 7.6012 FC-17.2655 B8P 2191 SGB 1739.5 R23 .4315 R13 -.8785 LSA 69.1 MSA 26.4 SSA .6
BDE .3145 BRA .4076 BC3 2.0948 F8P 2964 SG1 1851.9 SG2 545.1 THA 149.85 EL1 26.9 EL2 12.6 ALF 22.78

LAUNCH DATE APR 29 1971

FLIGHT TIME 206.00

ARRIVAL DATE NOV 21 1971

HELIOCENTRIC CONIC

DISTANCE 496.642

EARTH TO MARS

RL 150.65 LAL -.00 LOL 218.04 VL 32.248 GAL -1.61 AZL 93.02 HCA 163.26 SMA 183.82 ECC .18257 INC 3.0180 V1 29.877
RP 212.14 LAP -.87 LOP 21.32 VP 23.004 GAP 5.69 AZP 87.11 TAL 349.55 TAP 152.80 RCA 150.26 APO 217.38 V2 28.864
RC 128.706 GL -29.94 GP 9.51 ZAL 113.47 ZAP 102.50 ETS 177.38 ZAE 144.94 ETE 166.28 ZAC 111.08 ETC 274.88 LVI -22.60

PLANETOCENTRIC CONIC

C3 11.567 VHL 3.401 DLA -36.97 RAL 350.46 RAD 6638.8 VEL 11.474 PTH 6.52 VHP 3.042 DPA -11.73 RAP 304.93 ECC 1.1804
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 7 10 2209.86 7.15 54.23 207.34 137.16 19 44 0 1209.9 24.85 37.03
60.00 21 2 58 1901.20 14.98 33.80 214.64 127.86 21 34 39 901.2 29.00 12.62
65.13 23 17 15 1512.41 25.23 8.81 221.69 117.97 23 42 27 512.4 34.44 343.15
65.13 23 17 15 1512.41 25.23 8.81 221.69 117.97 23 42 27 512.4 34.44 343.15
65.13 23 17 15 1512.41 25.23 8.81 221.69 117.97 23 42 27 512.4 34.44 343.15
65.13 23 17 15 1512.41 25.23 8.81 221.69 117.97 23 42 27 512.4 34.44 343.15

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2808 TRA .3382 TC3-2.0170 BAU .3480 SGT 1616.7 SGR 1031.7 SG3 1743.3 ST 26.0 SR 16.2 SS 68.6
RDE -.1398 RRA -.3508 RC3 .9989 FAU .23016 RRT -.8083 RRF -.9828 RTF .8243 CRT .3734 CRS .8920 C8T -.0848
FDE 1.0456 FRA 7.7453 FC-17.2269 B8P 2531 SGB 1917.9 R23 .3941 R13 -.9017 LSA 70.1 MSA 26.9 SSA .6
BDE .3134 BRA .4873 BC3 2.2507 F8P 3004 SG1 1842.3 SG2 535.0 THA 149.94 EL1 27.0 EL2 14.5 ALF 16.64

LAUNCH DATE APR 29 1971

FLIGHT TIME 208.00

ARRIVAL DATE NOV 23 1971

HELIOCENTRIC CONIC

DISTANCE 500.826

EARTH TO MARS

RL 150.65 LAL -.00 LOL 218.04 VL 32.245 GAL -1.84 AZL 93.12 HCA 164.46 SMA 183.77 ECC .18242 INC 3.1188 V1 29.877
RP 212.43 LAP -.83 LOP 22.53 VP 22.964 GAP 5.90 AZP 87.00 TAL 349.35 TAP 153.81 RCA 150.25 APO 217.29 V2 28.832
RC 130.999 GL -30.72 GP 10.27 ZAL 113.55 ZAP 100.40 ETS 177.57 ZAE 142.80 ETE 166.33 ZAC 111.93 ETC 274.69 LVI -22.99

PLANETOCENTRIC CONIC

C3 11.787 VHL 3.430 DLA -37.53 RAL 351.24 RAD 6638.9 VEL 11.482 PTH 6.53 VHP 3.026 DPA -11.18 RAP 303.48 ECC 1.1937
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 14 48 2197.82 7.75 53.72 208.69 137.09 19 51 25 1197.8 25.40 36.40
60.00 21 15 32 1875.80 16.03 32.48 216.37 127.48 21 46 48 875.8 29.84 10.99
64.22 23 15 41 1529.68 25.47 10.35 222.92 118.56 23 41 10 529.7 34.90 344.69
64.22 23 15 41 1529.68 25.47 10.35 222.92 118.56 23 41 10 529.7 34.90 344.69
64.22 23 15 41 1529.68 25.47 10.35 222.92 118.56 23 41 10 529.7 34.90 344.69
64.22 23 15 41 1529.68 25.47 10.35 222.92 118.56 23 41 10 529.7 34.90 344.69

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2799 TRA .4221 TC3-2.1583 BAU .3778 SGT 1789.2 SGR 1119.5 SG3 1761.3 ST 27.0 SR 17.0 SS 69.4
RDE -.1397 RRA -.3906 RC3 1.0530 FAU .23216 RRT -.8448 RRF -.9873 RTF .8287 CRT .2299 CRS .9184 C8T -.1728
FDE 1.0832 FRA 7.8723 FC-17.0808 B8P 2900 SGB 2110.6 R23 .3817 R13 -.9197 LSA 71.3 MSA 27.4 SSA .8
BDE .3128 BRA .5751 BC3 2.4015 F8P 3042 SG1 2044.5 SG2 524.3 THA 149.96 EL1 27.4 EL2 16.3 ALF 12.83

LAUNCH DATE APR 29 1971

FLIGHT TIME 210.00

ARRIVAL DATE NOV 23 1971

HELIOCENTRIC CONIC

DISTANCE 505.012

EARTH TO MARS

RL 150.65 LAL -.00 LOL 218.04 VL 32.243 GAL -1.87 AZL 93.23 HCA 165.86 SMA 183.73 ECC .18233 INC 3.2310 V1 29.877
RP 212.72 LAP -.80 LOP 23.73 VP 22.924 GAP 5.31 AZP 86.87 TAL 349.14 TAP 154.80 RCA 150.23 APO 217.23 V2 28.799
RC 133.312 GL -31.61 GP 11.14 ZAL 113.62 ZAP 98.31 ETS 177.80 ZAE 140.64 ETE 166.30 ZAC 112.87 ETC 274.49 LVI -23.48

PLANETOCENTRIC CONIC

C3 12.011 VHL 3.486 DLA -38.18 RAL 352.11 RAD 6639.1 VEL 11.493 PTH 6.54 VHP 3.013 DPA -10.81 RAP 302.41 ECC 1.1977
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 23 37 2183.86 8.45 53.13 210.25 137.00 20 0 1 1183.9 26.03 35.87
60.00 21 31 13 1843.34 17.37 30.78 218.47 126.96 22 1 56 843.3 30.87 8.86
63.20 23 14 1 1548.86 25.72 12.08 224.31 119.25 23 39 50 548.9 35.41 346.44
63.20 23 14 1 1548.86 25.72 12.08 224.31 119.25 23 39 50 548.9 35.41 346.44
63.20 23 14 1 1548.86 25.72 12.08 224.31 119.25 23 39 50 548.9 35.41 346.44
63.20 23 14 1 1548.86 25.72 12.08 224.31 119.25 23 39 50 548.9 35.41 346.44

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2801 TRA .5094 TC3-2.2912 BAU .4089 SGT 1970.9 SGR 1219.2 SG3 1771.8 ST 28.3 SR 18.1 SS 70.1
RDE -.1411 RRA -.4355 RC3 1.1110 FAU .23332 RRT -.8724 RRF -.9908 RTF .8810 CRT .0910 CRS .9407 C8T -.2513
FDE 1.1345 FRA 7.9724 FC-16.8174 B8P 3291 SGB 2317.5 R23 .3340 R13 -.9334 LSA 72.5 MSA 28.0 SSA .5
BDE .3137 BRA .6702 BC3 2.5463 F8P 3061 SG1 2258.4 SG2 520.1 THA 149.88 EL1 28.4 EL2 17.9 ALF 5.94

LAUNCH DATE APR 29 1971

FLIGHT TIME 212.00

ARRIVAL DATE NOV 27 1971

HELIOCENTRIC CONIC

DISTANCE 509.198

EARTH TO MARS

RL 150.65 LAL -.00 LOL 218.04 VL 32.241 GAL -1.70 AZL 93.37 HCA 166.86 SMA 183.70 ECC .18230 INC 3.3649 V1 29.577
RP 213.01 LAP -.76 LOP 24.92 VP 22.884 GAP 5.13 AZP 86.72 TAL 348.91 TAP 155.77 RCA 150.22 APO 217.19 V2 25.768
RC 135.643 GL -32.83 GP 12.15 ZAL 113.65 ZAP 96.25 ETS 178.07 ZAE 138.46 ETE 166.17 ZAC 113.95 ETC 274.31 LVI -24.10

PLANETOCENTRIC CONIC

C3 12.309 VHL 3.508 DLA -38.93 RAL 353.08 RAD 6639.2 VEL 11.506 PTH 6.55 VHP 3.011 DPA -9.70 RAP 301.34 ECC 1.2026
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 34 3 2167.26 9.27 52.41 212.08 136.88 20 10 10 1167.3 26.77 34.79
60.00 21 52 5 1798.43 19.19 28.38 221.11 126.14 22 22 4 798.4 32.23 5.84
62.05 23 12 19 1570.18 26.00 14.03 225.92 120.06 23 38 29 570.2 35.99 348.40
62.05 23 12 19 1570.18 26.00 14.03 225.92 120.06 23 38 29 570.2 35.99 348.40
62.05 23 12 19 1570.18 26.00 14.03 225.92 120.06 23 38 29 570.2 35.99 348.40
62.05 23 12 19 1570.18 26.00 14.03 225.92 120.06 23 38 29 570.2 35.99 348.40
62.05 23 12 19 1570.18 26.00 14.03 225.92 120.06 23 38 29 570.2 35.99 348.40

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2829 TRA .5985 TC3-2.4174 BAU .4423 SGT 2160.9 SGR 1332.9 SG3 1773.8 ST 29.9 SR 19.3 SS 70.5
RDE -.1433 RRA -.4865 RC3 1.1742 FAU .23377 RRT -.8932 RRF -.9935 RTF .8990 CRT -.0374 CRS .9584 CST -.3204
FDE 1.1739 FRA 8.0375 FC-16.4417 BSP 3684 SGB 2539.0 R23 .3109 R13 -.9439 LSA 73.6 MSA 28.8 SSA .4
BDE .3171 BRA .7713 BC3 2.6875 FSP 3066 SGT 2484.9 SG2 521.2 THA 149.67 EL1 29.9 EL2 19.3 ALF 177.63

LAUNCH DATE APR 29 1971

FLIGHT TIME 214.00

ARRIVAL DATE NOV 29 1971

HELIOCENTRIC CONIC

DISTANCE 513.385

EARTH TO MARS

RL 150.65 LAL -.00 LOL 218.04 VL 32.240 GAL -1.74 AZL 93.53 HCA 168.05 SMA 183.69 ECC .18233 INC 3.5255 V1 29.577
RP 213.31 LAP -.73 LOP 26.11 VP 22.844 GAP 4.95 AZP 86.55 TAL 348.68 TAP 156.73 RCA 150.20 APO 217.18 V2 25.732
RC 137.991 GL -33.82 GP 13.33 ZAL 113.64 ZAP 94.22 ETS 178.39 ZAE 136.26 ETE 165.93 ZAC 115.20 ETC 274.13 LVI -24.87

PLANETOCENTRIC CONIC

C3 12.678 VHL 3.561 DLA -39.81 RAL 354.20 RAD 6639.4 VEL 11.522 PTH 6.57 VHP 3.013 DPA -8.71 RAP 300.27 ECC 1.2087
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 46 39 2147.00 10.28 51.54 214.29 136.72 20 22 26 1147.0 27.67 33.70
60.00 22 24 56 1722.90 22.17 24.21 224.87 124.56 22 53 39 722.9 34.33 .54
60.72 23 10 31 1594.27 26.31 16.25 227.79 121.03 23 37 6 594.3 36.66 350.67
60.72 23 10 31 1594.27 26.31 16.25 227.79 121.03 23 37 6 594.3 36.66 350.67
60.72 23 10 31 1594.27 26.31 16.25 227.79 121.03 23 37 6 594.3 36.66 350.67
60.72 23 10 31 1594.27 26.31 16.25 227.79 121.03 23 37 6 594.3 36.66 350.67
60.72 23 10 31 1594.27 26.31 16.25 227.79 121.03 23 37 6 594.3 36.66 350.67

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2837 TRA .6945 TC3-2.5178 BAU .4756 SGT 2353.7 SGR 1466.1 SG3 1768.4 ST 31.7 SR 21.0 SS 71.3
RDE -.1493 RRA -.5472 RC3 1.2383 FAU .23237 RRT -.9097 RRF -.9955 RTF .9135 CRT -.1571 CRS .9726 CST -.3819
FDE 1.2420 FRA 8.0906 FC-15.8671 BSP 4139 SGB 2773.0 R23 .2890 R13 -.9528 LSA 75.2 MSA 29.5 SSA .4
BDE .3206 BRA .8842 BC3 2.8058 FSP 3074 SGT 2722.6 SG2 526.2 THA 149.19 EL1 32.0 EL2 20.6 ALF 169.80

LAUNCH DATE APR 29 1971

FLIGHT TIME 216.00

ARRIVAL DATE DEC 1 1971

HELIOCENTRIC CONIC

DISTANCE 517.571

EARTH TO MARS

RL 150.65 LAL -.00 LOL 218.04 VL 32.240 GAL -1.78 AZL 93.72 HCA 169.24 SMA 183.68 ECC .18241 INC 3.7198 V1 29.577
RP 213.61 LAP -.69 LOP 27.30 VP 22.805 GAP 4.77 AZP 86.34 TAL 348.43 TAP 157.67 RCA 150.18 APO 217.19 V2 25.697
RC 140.356 GL -35.22 GP 14.74 ZAL 113.56 ZAP 92.23 ETS 178.77 ZAE 134.02 ETE 165.56 ZAC 116.67 ETC 273.96 LVI -25.86

PLANETOCENTRIC CONIC

C3 13.144 VHL 3.625 DLA -40.87 RAL 355.50 RAD 6639.6 VEL 11.542 PTH 6.59 VHP 3.025 DPA -7.48 RAP 299.19 ECC 1.2163
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 2 20 2121.47 11.54 50.43 217.00 136.49 20 37 42 1121.5 28.79 32.29
59.17 23 8 44 1621.62 26.66 18.81 230.02 122.20 23 35 46 621.6 37.44 353.30
59.17 23 8 44 1621.62 26.66 18.81 230.02 122.20 23 35 46 621.6 37.44 353.30
59.17 23 8 44 1621.62 26.66 18.81 230.02 122.20 23 35 46 621.6 37.44 353.30
59.17 23 8 44 1621.62 26.66 18.81 230.02 122.20 23 35 46 621.6 37.44 353.30
59.17 23 8 44 1621.62 26.66 18.81 230.02 122.20 23 35 46 621.6 37.44 353.30
59.17 23 8 44 1621.62 26.66 18.81 230.02 122.20 23 35 46 621.6 37.44 353.30

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2883 TRA .7919 TC3-2.6046 BAU .5125 SGT 2352.1 SGR 1621.7 SG3 1751.2 ST 33.8 SR 25.0 SS 71.8
RDE -.1575 RRA -.6171 RC3 1.3120 FAU .23071 RRT -.9224 RRF -.9970 RTF .5249 CRT -.2577 CRS .9828 CST -.4311
FDE 1.3016 FRA 8.0811 FC-15.1959 BSP 4587 SGB 3023.8 R23 .2695 R13 -.9600 LSA 76.6 MSA 30.4 SSA .3
BDE .3285 BRA 1.0039 BC3 2.9164 FSP 3047 SGT 2975.6 SG2 537.3 THA 148.48 EL1 34.7 EL2 21.7 ALF 163.38

LAUNCH DATE APR 29 1971

FLIGHT TIME 218.00

ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC

DISTANCE 521.757

EARTH TO MARS

RL 150.65 LAL -.00 LOL 218.04 VL 32.240 GAL -1.82 AZL 93.96 HCA 170.42 SMA 183.69 ECC .18255 INC 3.9611 V1 29.877
RP 213.92 LAP -.66 LOP 28.49 VP 22.788 GAP 4.59 AZP 86.09 TAL 348.17 TAP 158.89 RCA 150.15 APO 217.22 V2 25.682
RC 142.739 GL -36.90 GP 16.44 ZAL 113.40 ZAP 90.29 ETS 179.24 ZAE 131.73 ETE 185.08 ZAC 118.43 ETC 273.82 LVI -27.13

PLANETOCENTRIC CONIC

C3 13.746 VHL 3.708 DLA -42.15 RAL 357.06 RAD 6639.9 VEL 11.568 PTH 6.61 VHP 3.047 DPA -5.95 RAP 298.10 ECC 1.2262
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 22 41 2087.93 13.19 48.96 220.49 136.14 20 57 29 1087.9 30.23 30.40
57.35 23 7 4 1653.06 27.03 21.81 232.73 123.66 23 34 37 653.1 38.35 356.41
57.35 23 7 4 1653.06 27.03 21.81 232.73 123.66 23 34 37 653.1 38.35 356.41
57.35 23 7 4 1653.06 27.03 21.81 232.73 123.66 23 34 37 653.1 38.35 356.41
57.35 23 7 4 1653.06 27.03 21.81 232.73 123.66 23 34 37 653.1 38.35 356.41
57.35 23 7 4 1653.06 27.03 21.81 232.73 123.66 23 34 37 653.1 38.35 356.41
57.35 23 7 4 1653.06 27.03 21.81 232.73 123.66 23 34 37 653.1 38.35 356.41

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2937 TRA .8942 TC3-2.6623 BAU .5320 SGT 2752.6 SGR 1807.1 SG3 1720.4 ST 36.1 SR 25.6 SS 71.8
RDE -.1709 RRA -.7008 RC3 1.3903 FAU .22747 RRT -.9323 RRF -.9981 RTF .9331 CRT -.3428 CRS .9901 CST -.4711
FDE 1.3759 FRA 8.0156 FC-14.3259 BSP 5062 SGB 3292.8 R23 .2511 R13 -.9660 LSA 78.3 MSA 31.4 SSA .3
BDE .3398 BRA 1.1361 BC3 3.0035 FSP 2990 SGT 3245.8 SG2 554.4 THA 147.47 EL1 37.9 EL2 23.0 ALF 157.81

LAUNCH DATE APR 29 1971

FLIGHT TIME 220.00

ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC

DISTANCE 525.942

EARTH TO MARS

RL 150.65 LAL -.00 LOL 218.04 VL 32.241 GAL -1.88 AZL 94.27 HCA 171.61 SMA 183.70 ECC .18273 INC 4.2688 V1 29.577
RP 214.24 LAP -.62 LOP 29.67 VP 22.727 GAP 4.41 AZP 85.78 TAL 347.90 TAP 159.51 RCA 150.13 APO 217.27 V2 25.627
RC 145.130 GL -38.97 GP 18.58 ZAL 113.09 ZAP 88.43 ETS 179.82 ZAE 129.37 ETE 164.34 ZAC 120.59 ETC 273.69 LVI -28.77

PLANETOCENTRIC CONIC

C3 14.554 VHL 3.815 DLA -43.72 RAL 358.98 RAD 6840.3 VEL 11.602 PTH 6.64 VHP 3.084 DPA -4.01 RAP 296.98 ECC 1.2395
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 50 42 2040.83 19.49 46.85 225.21 135.57 21 24 43 1040.8 32.20 27.64
55.15 23 5 45 1689.68 27.41 25.36 236.10 125.50 23 33 55 689.7 39.43 .16
55.15 23 5 45 1689.68 27.41 25.36 236.10 125.50 23 33 55 689.7 39.43 .16
55.15 23 5 45 1689.68 27.41 25.36 236.10 125.50 23 33 55 689.7 39.43 .16
55.15 23 5 45 1689.68 27.41 25.36 236.10 125.50 23 33 55 689.7 39.43 .16
55.15 23 5 45 1689.68 27.41 25.36 236.10 125.50 23 33 55 689.7 39.43 .16
55.15 23 5 45 1689.68 27.41 25.36 236.10 125.50 23 33 55 689.7 39.43 .16

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2997 TRA 1.0017 TC3-2.6834 BAU .5956 SGT 2954.2 SGR 2032.1 SG3 1671.7 ST 36.8 SR 26.9 SS 71.8
RDE -.1925 RRA -1.8027 RC3 1.4735 FAU .22249 RRT -.9401 RRF -.9988 RTF .9400 CRT -.4126 CRS .9949 CST -.5023
FDE 1.4684 FRA 7.8710 FC-13.2350 BSP 5367 SGB 3585.6 R23 .2330 R13 -.9713 LSA 80.1 MSA 32.6 SSA .2
BDE .3562 BRA 1.2836 BC3 3.0613 FSP 2899 SG1 3538.7 SG2 578.4 THA 146.08 EL1 41.6 EL2 24.5 ALF 152.88

LAUNCH DATE APR 29 1971

FLIGHT TIME 222.00

ARRIVAL DATE DEC 7 1971

HELIOCENTRIC CONIC

DISTANCE 530.126

EARTH TO MARS

RL 150.65 LAL -.00 LOL 218.04 VL 32.242 GAL -1.91 AZL 94.68 HCA 172.78 SMA 183.72 ECC .18297 INC 4.6754 V1 29.577
RP 214.55 LAP -.59 LOP 30.85 VP 22.888 GAP 4.24 AZP 85.36 TAL 347.82 TAP 160.40 RCA 150.11 APO 217.34 V2 25.591
RC 147.555 GL -41.55 GP 21.23 ZAL 112.59 ZAP 86.67 ETS 180.56 ZAE 126.90 ETE 163.39 ZAC 123.32 ETC 273.60 LVI -30.93

PLANETOCENTRIC CONIC

C3 15.688 VHL 3.961 DLA -45.69 RAL 1.40 RAD 6640.9 VEL 11.650 PTH 6.69 VHP 3.145 DPA -1.49 RAP 295.83 ECC 1.2582
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 34 19 1964.40 19.17 43.31 232.29 134.42 22 7 3 964.4 35.24 22.88
52.49 23 5 17 1733.18 27.77 29.64 240.45 127.86 23 34 10 733.2 40.68 4.80
52.49 23 5 17 1733.18 27.77 29.64 240.45 127.86 23 34 10 733.2 40.68 4.80
52.49 23 5 17 1733.18 27.77 29.64 240.45 127.86 23 34 10 733.2 40.68 4.80
52.49 23 5 17 1733.18 27.77 29.64 240.45 127.86 23 34 10 733.2 40.68 4.80
52.49 23 5 17 1733.18 27.77 29.64 240.45 127.86 23 34 10 733.2 40.68 4.80
52.49 23 5 17 1733.18 27.77 29.64 240.45 127.86 23 34 10 733.2 40.68 4.80

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3018 TRA 1.1178 TC3-2.6492 BAU .6441 SGT 3154.9 SGR 2311.0 SG3 1598.7 ST 41.1 SR 33.5 SS 71.9
RDE -.2320 RRA -.9307 RC3 1.5531 FAU .21426 RRT -.9459 RRF -.9993 RTF .9451 CRT -.4672 CRS .9978 CST -.5243
FDE 1.6211 FRA 7.6222 FC-11.8239 BSP 6148 SGB 3910.7 R23 .2154 R13 -.9758 LSA 82.7 MSA 33.9 SSA .2
BDE .3808 BRA 1.4546 BC3 3.0709 FSP 2777 SG1 3862.5 SG2 612.2 THA 144.24 EL1 45.9 EL2 26.5 ALF 146.97

LAUNCH DATE APR 29 1971

FLIGHT TIME 224.00

ARRIVAL DATE DEC 9 1971

HELIOCENTRIC CONIC

DISTANCE 534.308

EARTH TO MARS

RL 150.65 LAL -.00 LOL 218.04 VL 32.244 GAL -1.95 AZL 95.24 HCA 173.98 SMA 183.78 ECC .18325 INC 5.2375 V1 29.577
RP 214.88 LAP -.55 LOP 32.03 VP 22.650 GAP 4.07 AZP 84.79 TAL 347.33 TAP 161.29 RCA 150.08 APO 217.43 V2 25.534
RC 149.988 GL -44.87 GP 24.73 ZAL 111.79 ZAP 85.08 ETS 181.51 ZAE 124.23 ETE 162.11 ZAC 126.86 ETC 273.57 LVI -33.84

PLANETOCENTRIC CONIC

C3 17.391 VHL 4.170 DLA -48.20 RAL 4.68 RAD 6641.7 VEL 11.723 PTH 6.75 VHP 3.243 DPA 1.85 RAP 294.61 ECC 1.2862
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
49.19 23 6 43 1786.08 27.99 34.90 246.29 130.98 23 36 29 786.1 42.08 10.70
49.19 23 6 43 1786.08 27.99 34.90 246.29 130.98 23 36 29 786.1 42.08 10.70
49.19 23 6 43 1786.08 27.99 34.90 246.29 130.98 23 36 29 786.1 42.08 10.70
49.19 23 6 43 1786.08 27.99 34.90 246.29 130.98 23 36 29 786.1 42.08 10.70
49.19 23 6 43 1786.08 27.99 34.90 246.29 130.98 23 36 29 786.1 42.08 10.70
49.19 23 6 43 1786.08 27.99 34.90 246.29 130.98 23 36 29 786.1 42.08 10.70
49.19 23 6 43 1786.08 27.99 34.90 246.29 130.98 23 36 29 786.1 42.08 10.70

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2938 TRA 1.2439 TC3-2.5448 BAU .7022 SGT 3352.7 SGR 2664.5 SG3 1489.8 ST 43.5 SR 39.8 SS 71.8
RDE -.3038 RRA -1.0841 RC3 1.6265 FAU .20254 RRT -.9506 RRF -.9998 RTF .5.92 CRT -.5114 CRS .9994 CST -.5417
FDE 1.8417 FRA 7.2000 FC-10.0824 BSP 6793 SGB 4282.6 R23 .1968 R13 -.9801 LSA 86.1 MSA 35.1 SSA .1
BDE .4226 BRA 1.6566 BC3 3.0202 FSP 2585 SG1 4232.2 SG2 655.1 THA 141.85 EL1 51.4 EL2 29.0 ALF 140.00

LAUNCH DATE APR 29 1971

FLIGHT TIME 226.00

ARRIVAL DATE DEC 11 1971

HELIOCENTRIC CONIC

DISTANCE 538.488

EARTH TO MARS

RL 150.65 LAL -.00 LOL 218.04 VL 32.246 GAL -2.00 AZL 96.07 HCA 175.13 SMA 183.79 ECC .18358 INC 6.0653 V1 29.577
RP 215.21 LAP -.51 LOP 33.20 VP 22.612 GAP 3.90 AZP 81.95 TAL 347.03 TAP 162.16 RCA 150.05 APO 217.53 V2 25.518
RC 152.438 GL -49.28 GP 29.46 ZAL 110.52 ZAP 83.71 ETS 182.74 ZAE 121.22 ETE 160.38 ZAC 131.61 ETC 273.65 LVI -37.84

PLANETOCENTRIC CONIC

C3 20.202 VHL 4.495 DLA -51.42 RAL 9.43 RAD 6642.9 VEL 11.841 PTH 6.86 VHP 3.414 DPA 6.43 RAP 293.29 ECC 1.3328
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
45.08 23 12 17 1853.07 27.80 41.48 254.55 135.18 23 43 10 853.1 43.46 18.50
45.08 23 12 17 1853.07 27.80 41.48 254.55 135.18 23 43 10 853.1 43.46 18.50
45.08 23 12 17 1853.07 27.80 41.48 254.55 135.18 23 43 10 853.1 43.46 18.50
45.08 23 12 17 1853.07 27.80 41.48 254.55 135.18 23 43 10 853.1 43.46 18.50
45.08 23 12 17 1853.07 27.80 41.48 254.55 135.18 23 43 10 853.1 43.46 18.50
45.08 23 12 17 1853.07 27.80 41.48 254.55 135.18 23 43 10 853.1 43.46 18.50
45.08 23 12 17 1853.07 27.80 41.48 254.55 135.18 23 43 10 853.1 43.46 18.50

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2640 TRA 1.3720 TC3-2.3638 BAU .7852 SGT 3534.9 SGR 3108.5 SG3 1319.9 ST 45.4 SR 48.8 SS 71.1
RDE -.4429 RRA -1.2970 FC3 1.6922 FAU .18723 RRT -.9537 RRF -.9998 RTF .9515 CRT -.5435 CRS .9999 CST -.5528
FDE 2.1503 FRA 6.4493 RC3-8.0234 BSP 7325 SGB 4707.3 R23 .1784 R13 -.9838 LSA 90.5 MSA 36.1 SSA .1
BDE .5156 BRA 1.8880 BC3 2.9071 FSP 2232 SG1 4653.3 SG2 710.5 THA 138.85 EL1 58.6 EL2 31.7 ALF 131.21

LAUNCH DATE APR 29 1971 FLIGHT TIME 228.00 ARRIVAL DATE DEC 13 1971

HELIOCENTRIC CONIC DISTANCE 542.665 EARTH TO MARS
RL 150.65 LAL -.00 LOL 218.04 VL 32.249 GAL -2.05 AZL 97.41 HCA 176.29 SMA 183.84 ECC .18395 INC 7.4101 V1 29.577
RP 213.34 LAP -.48 LOP 34.37 VP 22.574 GAP 3.73 AZP 82.60 TAL 346.73 TAP 163.02 RCA 130.02 APO 217.66 V2 25.480
RC 154.904 GL -.53.34 GP 36.06 ZAL 108.49 ZAP 82.82 ETS 184.36 ZAE 117.62 ETE 158.06 ZAC 138.22 ETC 273.97 LVI -43.44
PLANETOCENTRIC CONIC
C3 25.557 VHL 5.055 DLA -55.56 RAL 17.02 RAD 6645.2 VEL 12.063 PTH 7.05 VHP 3.742 DPA 12.87 RAP 291.78 ECC 1.4206
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
39.95 23 27 35 1943.09 26.49 49.76 267.03 140.82 23 59 58 943.1 44.22 29.14
39.95 23 27 35 1943.09 26.49 49.76 267.03 140.82 23 59 58 943.1 44.22 29.14
39.95 23 27 35 1943.09 26.49 49.76 267.03 140.82 23 59 58 943.1 44.22 29.14
39.95 23 27 35 1943.09 26.49 49.76 267.03 140.82 23 59 58 943.1 44.22 29.14
39.95 23 27 35 1943.09 26.49 49.76 267.03 140.82 23 59 58 943.1 44.22 29.14
39.95 23 27 35 1943.09 26.49 49.76 267.03 140.82 23 59 58 943.1 44.22 29.14
39.95 23 27 35 1943.09 26.49 49.76 267.03 140.82 23 59 58 943.1 44.22 29.14
39.95 23 27 35 1943.09 26.49 49.76 267.03 140.82 23 59 58 943.1 44.22 29.14
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.1174 TRA 1.5261 TC3-2.0334 BAU .9041 SGT 3687.9 SGR 3669.5 SG3 1059.8 ST 46.5 SR 64.8 SS 71.1
RDE -.7910 RRA-1.5564 RC3 1.6932 FAU .16225 RRT -.9563 RRF -.9999 RTF .9533 CRT -.6162 CRS 1.0000 CST -.6099
FDE 2.7040 FRA 5.2371 FC3-5.4963 B8P 7848 SGB 5202.5 R23 .1583 R13 -.9873 LSA 101.0 MSA 35.0 SSA .1
BDE .7997 BRA 2.1798 BC3 2.6460 F8P 1710 SG1 5145.4 SG2 768.6 THA 135.15 EL1 72.8 EL2 32.6 ALF 120.57

LAUNCH DATE APR 29 1971 FLIGHT TIME 230.00 ARRIVAL DATE DEC 15 1971

HELIOCENTRIC CONIC DISTANCE 546.831 EARTH TO MARS
RL 150.65 LAL -.00 LOL 218.04 VL 32.253 GAL -2.10 AZL 99.97 HCA 177.45 SMA 183.89 ECC .18435 INC 9.9696 V1 29.577
RP 215.87 LAP -.44 LOP 35.53 VP 22.536 GAP 3.56 AZP 80.04 TAL 346.42 TAP 163.87 RCA 149.99 APO 217.80 V2 25.443
RC 157.385 GL -.64.03 GP 45.39 ZAL 105.25 ZAP 82.84 ETS 186.27 ZAE 113.07 ETE 154.99 ZAC 147.52 ETC 274.95 LVI -51.26
PLANETOCENTRIC CONIC
C3 38.542 VHL 6.208 DLA -60.47 RAL 30.99 RAD 6650.2 VEL 12.587 PTH 7.45 VHP 4.489 DPA 22.05 RAP 290.02 ECC 1.6343
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
34.04 0 11 39 2076.53 22.18 59.72 287.62 147.84 0 46 15 1076.5 42.34 43.26
34.04 0 11 39 2076.53 22.18 59.72 287.62 147.84 0 46 15 1076.5 42.34 43.26
34.04 0 11 39 2076.53 22.18 59.72 287.62 147.84 0 46 15 1076.5 42.34 43.26
34.04 0 11 39 2076.53 22.18 59.72 287.62 147.84 0 46 15 1076.5 42.34 43.26
34.04 0 11 39 2076.53 22.18 59.72 287.62 147.84 0 46 15 1076.5 42.34 43.26
34.04 0 11 39 2076.53 22.18 59.72 287.62 147.84 0 46 15 1076.5 42.34 43.26
34.04 0 11 39 2076.53 22.18 59.72 287.62 147.84 0 46 15 1076.5 42.34 43.26
34.04 0 11 39 2076.53 22.18 59.72 287.62 147.84 0 46 15 1076.5 42.34 43.26
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE .4716 TRA 1.7214 TC3-1.5267 BAU 1.1043 SGT 3764.3 SGR 4388.1 SG3 684.3 ST 53.1 SR 103.2 SS 74.2
RDE -1.9142 RRA-1.8995 RC3 1.5039 FAU .11767 RRT -.9547 RRF -.9998 RTF .9493 CRT -.8228 CRS .9999 CST -.8128
FDE 3.5847 FRA 3.4205 FC3-2.6430 B8P 8319 SGB 5781.4 R23 .1447 R13 -.9895 LSA 134.7 MSA 28.7 SSA .0
BDE 1.9714 BRA 2.5634 BC3 2.1430 F8P 1056 SG1 5717.2 SG2 859.4 THA 130.42 EL1 112.7 EL2 27.6 ALF 114.90

LAUNCH DATE APR 29 1971 FLIGHT TIME 238.00 ARRIVAL DATE DEC 23 1971

HELIOCENTRIC CONIC DISTANCE 563.608 EARTH TO MARS
RL 150.65 LAL -.00 LOL 218.04 VL 32.270 GAL -2.35 AZL 82.03 HCA 182.13 SMA 184.18 ECC .18647 INC 7.9664 V1 29.577
RP 217.26 LAP -.30 LOP 40.15 VP 22.386 GAP 2.92 AZP 97.97 TAL 344.93 TAP 167.06 RCA 149.83 APO 218.52 V2 25.288
RC 167.446 GL 36.58 GP -49.05 ZAL 109.34 ZAP 79.66 ETS 166.63 ZAE 106.26 ETE 200.22 ZAC 53.34 ETC 272.49 LVI 53.03
PLANETOCENTRIC CONIC
C3 28.702 VHL 5.357 DLA 45.15 RAL 318.98 RAD 6646.5 VEL 12.192 PTH 7.15 VHP 5.035 DPA -70.30 RAP 318.02 ECC 1.4724
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 9 41 54 4306.99 -32.64 196.23 216.40 53.24 10 53 41 3307.0 -44.57 169.11
93.20 8 20 49 4514.79 -21.28 205.49 206.20 49.18 9 36 3 3514.8 -35.90 183.49
93.20 8 20 49 4514.79 -21.28 205.49 206.20 49.18 9 36 3 3514.8 -35.90 183.49
93.20 8 20 49 4514.79 -21.28 205.49 206.20 49.18 9 36 3 3514.8 -35.90 183.49
93.20 8 20 49 4514.79 -21.28 205.49 206.20 49.18 9 36 3 3514.8 -35.90 183.49
93.20 8 20 49 4514.79 -21.28 205.49 206.20 49.18 9 36 3 3514.8 -35.90 183.49
93.20 8 20 49 4514.79 -21.28 205.49 206.20 49.18 9 36 3 3514.8 -35.90 183.49
93.20 8 20 49 4514.79 -21.28 205.49 206.20 49.18 9 36 3 3514.8 -35.90 183.49
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 3.5780 TRA .7617 TC3-2.3235 BAU 1.1423 SGT 4709.0 SGR 4339.1 SG3 913.4 ST 192.1 SR 173.2 SS 96.3
RDE 3.1764 RRA 1.4873 RC3-1.8609 FAU .08169 RRT .9823 RRF .9995 RTF .5447 CRT .9944 CRS -.9999 CST -.9926
FDE 4.0467 FRA 2.0446 FC3-2.4641 B8P 9740 SGB 6540.5 R23 .1683 R13 .9856 LSA 275.8 MSA 13.2 SSA .1
BDE 4.7845 BRA 1.6710 BC3 2.9768 F8P 836 SG1 6478.6 SG2 897.5 THA 43.91 EL1 258.3 EL2 13.7 ALF 42.02

LAUNCH DATE APR 29 1971 FLIGHT TIME 240.00 ARRIVAL DATE DEC 25 1971

HELIOCENTRIC CONIC DISTANCE 567.758 EARTH TO MARS
RL 150.65 LAL -.00 LOL 218.04 VL 32.275 GAL -2.41 AZL 85.45 HCA 183.27 SMA 184.26 ECC .18707 INC 4.5370 V1 29.577
RP 217.61 LAP -.26 LOP 41.30 VP 22.349 GAP 2.78 AZP 94.54 TAL 344.58 TAP 167.85 RCA 149.79 APO 218.73 V2 25.249
RC 169.992 GL 39.11 GP -38.29 ZAL 116.50 ZAP 75.70 ETS 167.32 ZAE 107.96 ETE 195.28 ZAC 64.14 ETC 271.94 LVI 25.70
PLANETOCENTRIC CONIC
C3 16.419 VHL 4.052 DLA 29.29 RAL 328.37 RAD 8641.2 VEL 11.682 PTH 6.72 VHP 3.998 DPA -60.61 RAP 306.31 ECC 1.2702
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 12 42 37 3697.75 -47.55 146.95 209.88 88.26 13 44 15 2697.8 -42.64 113.16
60.00 12 40 2 3704.66 -39.68 146.67 208.98 82.26 13 41 47 2704.7 -38.49 115.58
70.00 12 34 56 3719.71 -31.68 146.04 207.13 76.51 13 36 56 2719.7 -34.04 117.56
80.00 12 15 29 3780.98 -22.61 147.60 204.07 69.97 13 18 30 2781.0 -28.82 121.90
82.02 11 42 32 3886.65 -18.31 153.59 202.25 66.73 12 47 19 2886.6 -26.31 129.18
100.00 14 58 21 3255.45 -22.61 108.97 204.07 69.97 15 52 36 2255.5 -28.82 83.27
110.00 17 34 22 2766.53 -31.68 74.96 207.13 76.51 18 20 29 1766.5 -34.04 46.48
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 2.2263 TRA 1.1835 TC3-4.0080 BAU 1.0270 SGT 4900.9 SGR 3895.9 SG3 909.1 ST 160.0 SR 116.4 SS 111.6
RDE 1.5780 RRA 1.3589 RC3-2.4138 FAU .13123 RRT .9680 RRF .9997 RTF .9645 CRT .9939 CRS -.9999 CST -.9922
FDE 4.3590 FRA 3.9626 FC3-6.9197 B8P 8883 SGB 6138.3 R23 .1744 R13 .9845 LSA 226.8 MSA 13.4 SSA .1
BDE 2.7288 BRA 1.7890 BC3 4.6787 F8P 1430 SG1 6092.8 SG2 745.5 THA 36.77 EL1 197.6 EL2 10.4 ALF 35.90

LAUNCH DATE APR 29 1971

FLIGHT TIME 242.00

ARRIVAL DATE DEC 27 1971

HELIOCENTRIC CONIC

DISTANCE 571.912

EARTH TO MARS

RL 150.65 LAL -.00 LOL 218.04 VL 32.280 GAL -2.48 AZL 87.11 HCA 184.40 SMA 184.38 ECC .18770 INC 2.8920 V1 29.577
 RP 217.97 LAP -.22 LOP 42.44 VP 22.513 GAP 2.40 AZP 92.89 TAL 344.22 TAP 188.62 RCA 149.75 APO 218.96 V2 25.209
 RC 172.547 GL 26.85 GP -30.63 ZAL 120.75 ZAP 72.72 ETS 188.39 ZAE 108.27 ETE 191.88 ZAC 71.82 ETC 271.70 LVI 18.91

PLANETOCENTRIC CONIC

C3 13.001 VHL 3.606 DLA 18.10 RAL 333.86 RAD 6639.6 VEL 11.536 PTH 6.58 VHP 3.602 DPA -53.35 RAP 301.63 ECC 1.2140
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 58 12 3401.74 -44.41 119.37 200.00 109.21 14 54 54 2401.7 -32.33 92.44
 60.00 14 16 41 3352.53 -38.72 117.08 202.14 102.18 15 12 33 2352.5 -29.82 89.90
 70.00 14 44 27 3270.80 -33.58 111.51 203.19 96.62 15 38 57 2270.8 -27.43 84.54
 80.00 15 29 10 3130.62 -29.74 101.26 203.56 92.77 16 21 21 2130.6 -25.58 74.61
 90.00 16 39 48 2902.60 -28.25 84.56 203.63 91.33 17 28 11 1902.6 -24.86 58.06
 100.00 18 12 2 2605.09 -29.74 62.63 203.56 92.77 18 55 27 1605.1 -25.58 35.97
 110.00 19 43 53 2317.61 -33.58 40.43 203.19 96.62 20 22 30 1317.6 -27.43 13.46

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.7242 TRA 1.4991 TC3-4.8889 BAU .9346 SGT 5120.2 SGR 3047.5 SG3 1171.0 ST 142.2 SR 85.9 SS 114.8
 RDE 1.0103 RRA 1.2118 RC3-2.2383 FAU .15068 RRT .9720 RRF .9997 RTF .9697 CRT .9955 CR8 -.9998 CST -.9933
 FDE 4.3047 FRA 5.4999 FC-10.0339 BSP 9768 SGB 5958.5 R23 .1831 R13 .9828 LSA 201.6 MSA 11.0 SSA .2
 BDE 1.9984 BRA 1.9276 BC3 5.3769 FSP 2052 SG1 5926.3 SG2 619.0 THA 30.42 EL1 165.9 EL2 6.9 ALF 31.08

LAUNCH DATE APR 29 1971

FLIGHT TIME 244.00

ARRIVAL DATE DEC 29 1971

HELIOCENTRIC CONIC

DISTANCE 576.067

EARTH TO MARS

RL 150.65 LAL -.00 LOL 218.04 VL 32.286 GAL -2.54 AZL 88.08 HCA 185.54 SMA 184.45 ECC .18838 INC 1.9198 V1 29.577
 RP 218.33 LAP -.19 LOP 43.58 VP 22.276 GAP 2.44 AZP 91.91 TAL 343.84 TAP 169.38 RCA 149.71 APO 219.20 V2 25.169
 RC 175.114 GL 18.37 GP -25.21 ZAL 123.20 ZAP 70.35 ETS 169.36 ZAE 107.79 ETE 189.07 ZAC 77.25 ETC 271.55 LVI 14.08

PLANETOCENTRIC CONIC

C3 11.803 VHL 3.436 DLA 10.40 RAL 337.53 RAD 6639.0 VEL 11.484 PTH 6.53 VHP 3.421 DPA -48.16 RAP 299.12 ECC 1.1942
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 43 42 3223.33 -39.39 105.22 196.51 119.20 15 37 26 2223.3 -24.57 82.54
 60.00 15 11 57 3148.15 -34.58 101.34 199.41 112.14 16 4 25 2148.2 -22.54 77.52
 70.00 15 51 26 3031.97 -30.27 93.73 201.20 106.63 16 41 58 2032.0 -20.64 69.34
 80.00 16 47 58 2854.91 -27.14 81.24 202.15 102.95 17 35 33 1854.9 -19.22 56.63
 90.00 18 4 13 2606.83 -25.98 63.44 202.43 101.62 18 47 41 1608.8 -18.68 38.78
 100.00 19 30 50 2329.38 -27.14 42.61 202.15 102.95 20 9 39 1329.4 -19.22 18.00
 110.00 20 50 53 2078.79 -30.27 22.64 201.20 106.63 21 25 32 1078.8 -20.64 358.26

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.4194 TRA 1.6886 TC3-5.5169 BAU .9260 SGT 5304.7 SGR 2519.2 SG3 1314.6 ST 125.7 SR 64.7 SS 109.9
 RDE .7083 RRA 1.0309 RC3-2.0015 FAU .16622 RRT .9736 RRF .9994 RTF .9721 CRT .9976 CR8 -.9994 CST -.9948
 FDE 4.0121 FRA 6.3672 FC-12.1919 BSP 9636 SGB 5872.5 R23 .1914 R13 .9809 LSA 178.9 MSA 8.6 SSA .3
 BDE 1.5832 BRA 1.9785 BC3 5.8687 FSP 2306 SG1 5849.2 SG2 521.6 THA 25.03 EL1 141.4 EL2 4.0 ALF 27.21

LAUNCH DATE APR 29 1971

FLIGHT TIME 246.00

ARRIVAL DATE DEC 31 1971

HELIOCENTRIC CONIC

DISTANCE 580.220

EARTH TO MARS

RL 150.65 LAL -.00 LOL 218.04 VL 32.292 GAL -2.61 AZL 88.72 HCA 186.67 SMA 184.55 ECC .18908 INC 1.2790 V1 29.577
 RP 218.69 LAP -.15 LOP 44.72 VP 22.239 GAP 2.28 AZP 91.27 TAL 343.46 TAP 170.13 RCA 149.66 APO 219.45 V2 25.129
 RC 177.690 GL 12.37 GP -21.27 ZAL 124.69 ZAP 68.34 ETS 170.16 ZAE 106.88 ETE 187.16 ZAC 81.20 ETC 271.46 LVI 10.58

PLANETOCENTRIC CONIC

C3 11.376 VHL 3.373 DLA 5.01 RAL 340.22 RAD 6638.7 VEL 11.466 PTH 6.52 VHP 3.332 DPA -44.36 RAP 297.53 ECC 1.1872
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 14 37 3107.63 -35.24 97.28 195.84 124.31 16 6 24 2107.6 -19.17 76.84
 60.00 15 48 51 3018.52 -30.82 92.22 198.99 117.37 16 39 8 2016.5 -17.30 70.33
 70.00 16 35 8 2880.37 -26.85 83.26 201.06 111.94 17 23 9 1880.4 -15.57 60.51
 80.00 17 38 0 2683.50 -23.98 69.50 202.23 108.34 18 22 44 1683.5 -14.29 46.30
 90.00 18 37 4 2428.38 -22.91 51.11 202.60 107.05 19 37 32 1428.4 -13.80 27.78
 100.00 20 20 52 2157.97 -23.98 30.86 202.23 108.34 20 56 50 1158.0 -14.29 7.66
 110.00 21 34 35 1927.19 -26.85 12.18 201.06 111.94 22 6 42 927.2 -15.57 349.42

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.2374 TRA 1.8499 TC3-5.8802 BAU .9320 SGT 5486.7 SGR 2119.4 SG3 1393.7 ST 115.4 SR 51.6 SS 105.5
 RDE .5456 RRA .8652 RC3-1.7252 FAU .17405 RRT .9740 RRF .9990 RTF .5.33 CRT .9993 CR8 -.9987 CST -.9966
 FDE 3.7723 FRA 6.9214 FC-13.2452 BSP 9681 SGB 5881.8 R23 .1967 R13 .9794 LSA 164.5 MSA 6.5 SSA .6
 BDE 1.3523 BRA 2.0508 BC3 6.1281 FSP 2458 SG1 5864.7 SG2 449.2 THA 20.75 EL1 126.4 EL2 1.7 ALF 24.08

LAUNCH DATE APR 29 1971

FLIGHT TIME 248.00

ARRIVAL DATE JAN 2 1972

HELIOCENTRIC CONIC

DISTANCE 584.371

EARTH TO MARS

RL 150.65 LAL -.00 LOL 218.04 VL 32.299 GAL -2.68 AZL 89.17 HCA 187.80 SMA 184.66 ECC .18982 INC .8255 V1 29.577
 RP 219.06 LAP -.11 LOP 45.85 VP 22.203 GAP 2.12 AZP 90.82 TAL 343.07 TAP 170.87 RCA 149.61 APO 219.71 V2 25.089
 RC 180.275 GL 8.00 GP -18.31 ZAL 125.69 ZAP 66.56 ETS 170.82 ZAE 105.76 ETE 185.73 ZAC 84.17 ETC 271.38 LVI 7.95

PLANETOCENTRIC CONIC

C3 11.275 VHL 3.358 DLA 1.15 RAL 342.32 RAD 6638.7 VEL 11.461 PTH 6.51 VHP 3.288 DPA -41.50 RAP 296.42 ECC 1.1856
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 37 6 3028.80 -32.10 92.38 196.25 127.22 16 27 35 2028.8 -15.37 73.20
 60.00 16 15 28 2926.74 -27.86 86.46 199.52 120.38 17 4 15 1926.7 -13.57 65.68
 70.00 17 6 22 2777.08 -24.05 76.55 201.75 115.02 17 52 39 1777.1 -11.89 54.77
 80.00 18 13 25 2567.09 -21.28 61.91 203.04 111.45 18 56 12 1567.1 -10.65 39.57
 90.00 19 34 19 2306.05 -20.24 43.14 203.46 110.18 20 12 45 1306.1 -10.18 20.63
 100.00 20 56 17 2041.57 -21.28 23.28 203.04 111.45 21 30 19 1041.6 -10.65 .94
 110.00 22 5 48 1823.90 -24.05 5.47 201.75 115.02 22 36 12 823.9 -11.89 343.69

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.1267 TRA 1.9932 TC3-6.1055 BAU .9472 SGT 5663.9 SGR 1808.4 SG3 1431.9 ST 109.0 SR 42.6 SS 101.0
 RDE .4438 RRA .7641 RC3-1.4862 FAU .17887 RRT .9748 RRF .9983 RTF .9751 CRT .9997 CR8 -.9974 CST -.9980
 FDE 3.5536 FRA 7.2433 FC-13.7341 BSP 9783 SGB 5945.6 R23 .1943 R13 .9792 LSA 154.5 MSA 4.9 SSA .9
 BDE 1.2110 BRA 2.1346 BC3 6.2838 FSP 2508 SG1 5933.1 SG2 385.2 THA 17.36 EL1 117.0 EL2 1.0 ALF 21.36

LAUNCH DATE APR 29 1971

FLIGHT TIME 250.00

ARRIVAL DATE JAN 4 1972

HELIOCENTRIC CONIC
 RL 150.65 LAL -0.00 LOL 218.04 VL 32.305 GAL -2.75 AZL 89.51 HCA 188.93 SMA 184.77 ECC .19059 INC .4854 V1 29.577
 RP 219.43 LAP -0.08 LOP 46.98 VP 22.167 GAP 1.97 AZP 90.49 TAL 342.67 TAP 171.60 RCA 149.55 APO 219.98 V2 25.048
 RC 182.871 GL 4.72 GP -16.02 ZAL 126.44 ZAP 64.94 ETS 171.38 ZAE 104.54 ETE 184.63 ZAC 86.47 ETC 271.33 LVI 5.91

PLANETOCENTRIC CONIC
 C3 11.331 VHL 3.386 DLA -1.70 RAL 344.02 RAD 6638.7 VEL 11.464 PTH 6.51 VHP 3.269 DPA -39.28 RAP 295.61 ECC 1.1865
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 54 18 2973.22 -29.76 89.14 197.08 129.00 16 43 51 1973.2 -12.65 70.72
 60.00 16 35 40 2863.16 -25.61 82.58 200.44 122.25 17 23 23 1863.2 -10.86 62.49
 70.00 17 29 54 2703.67 -21.86 71.98 202.77 116.92 18 14 58 1703.7 -9.20 50.79
 80.00 18 40 1 2484.16 -19.12 56.69 204.14 113.38 19 21 25 1484.2 -7.96 34.89
 90.00 20 2 14 2218.85 -18.10 37.64 204.59 112.11 20 39 13 1218.9 -7.49 15.63
 100.00 21 22 52 1958.64 -19.12 18.06 204.14 113.38 21 55 31 958.6 -7.96 356.25
 110.00 22 29 21 1750.49 -21.86 .90 202.77 116.92 22 58 31 750.5 -9.20 339.71

MID-COURSE EXECUTION ACCURACY
 SGT 5839.0 SGR 1566.3 SG3 1448.4
 RRT .9738 RRF .9972 RTF .9755
 SGB 6045.4 R23 .1929 R13 .9785
 SGI 6035.6 SG2 344.4 THA 14.69

ORBIT DETERMINATION ACCURACY
 ST 105.6 SR 36.7 SS 98.3
 CRT .9980 CRS -.9953 CST -.9991
 LSA 148.8 MSA 3.9 SSA 1.4
 EL1 111.8 EL2 2.2 ALF 19.15

DIFFERENTIAL CORRECTIONS
 TDE 1.0608 TRA 2.1305 TC3-6.2443 BAU .9654
 RDE .3817 RRA .6690 RC3-1.2722 FAU .17958
 FDE 3.4148 FRA 7.4729 FC-13.7205 BSP 9993
 BDE 1.1274 BRA 2.2330 BC3 6.3725 FSP 2554

LAUNCH DATE APR 29 1971

FLIGHT TIME 252.00

ARRIVAL DATE JAN 6 1972

HELIOCENTRIC CONIC
 RL 150.65 LAL -0.00 LOL 218.04 VL 32.312 GAL -2.82 AZL 89.77 HCA 190.05 SMA 184.88 ECC .19139 INC .2215 V1 29.577
 RP 219.80 LAP -.04 LOP 48.10 VP 22.131 GAP 1.81 AZP 90.23 TAL 342.26 TAP 172.31 RCA 149.50 APO 220.27 V2 25.007
 RC 185.475 GL 2.19 GP -14.20 ZAL 127.06 ZAP 63.44 ETS 171.81 ZAE 103.26 ETE 183.78 ZAC 88.29 ETC 271.29 LVI 4.30

PLANETOCENTRIC CONIC
 C3 11.471 VHL 3.387 DLA -3.84 RAL 345.47 RAD 6638.8 VEL 11.470 PTH 6.52 VHP 3.265 DPA -37.51 RAP 295.00 ECC 1.1888
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 7 53 2933.09 -28.02 86.90 198.09 130.16 16 56 46 1933.1 -10.67 68.97
 60.00 16 51 33 2818.96 -23.90 79.87 201.51 123.47 17 38 30 1817.0 -8.87 60.21
 70.00 17 48 19 2650.01 -20.17 68.74 203.92 118.17 18 32 29 1650.0 -7.19 47.93
 80.00 19 0 45 2423.27 -17.44 52.96 205.35 114.63 19 41 8 1423.3 -5.94 31.49
 90.00 20 23 59 2154.70 -16.41 33.69 205.83 113.36 20 59 53 1154.7 -5.47 12.01
 100.00 21 43 36 1897.74 -17.44 14.33 205.35 114.63 22 15 14 897.7 -5.94 352.86
 110.00 22 47 46 1696.83 -20.17 357.65 203.92 118.17 23 16 2 696.8 -7.19 336.85

MID-COURSE EXECUTION ACCURACY
 SGT 6010.5 SGR 1373.5 SG3 1451.1
 RRT .9715 RRF .9955 RTF .9752
 SGB 6165.4 R23 .1915 R13 .9775
 SGI 6157.2 SG2 317.9 THA 12.55

ORBIT DETERMINATION ACCURACY
 ST 104.5 SR 32.7 SS 96.8
 CRT .9940 CRS -.9924 CST -.9996
 LSA 146.1 MSA 3.8 SSA 1.6
 EL1 109.4 EL2 3.4 ALF 17.28

DIFFERENTIAL CORRECTIONS
 TDE 1.0270 TRA 2.2678 TC3-6.3193 BAU .9833
 RDE .3424 RRA .5924 RC3-1.0868 FAU .17725
 FDE 3.3378 FRA 7.6465 FC-13.3775 BSP 10308
 BDE 1.0826 BRA 2.3439 BC3 6.4120 FSP 2602

LAUNCH DATE APR 29 1971

FLIGHT TIME 254.00

ARRIVAL DATE JAN 8 1972

HELIOCENTRIC CONIC
 RL 150.65 LAL -0.00 LOL 218.04 VL 32.319 GAL -2.90 AZL 89.98 HCA 191.17 SMA 185.00 ECC .19222 INC .0000 V1 29.577
 RP 220.18 LAP -.00 LOP 49.22 VP 22.095 GAP 1.65 AZP 90.02 TAL 341.85 TAP 173.02 RCA 149.44 APO 220.56 V2 24.966
 RC 188.089 GL .19 GP -12.73 ZAL 127.61 ZAP 62.03 ETS 172.19 ZAE 101.96 ETE 183.10 ZAC 89.77 ETC 271.25 LVI 2.99

PLANETOCENTRIC CONIC
 C3 11.658 VHL 3.414 DLA -5.48 RAL 346.72 RAD 6638.9 VEL 11.478 PTH 6.53 VHP 3.271 DPA -36.08 RAP 294.53 ECC 1.1919
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 18 56 2903.69 -26.72 85.31 199.14 130.95 17 7 19 1903.7 -9.21 67.70
 60.00 17 4 21 2782.87 -22.61 77.91 202.63 124.29 17 50 44 1782.9 -7.39 58.55
 70.00 18 3 7 2610.10 -18.67 66.37 205.10 119.01 18 46 37 1610.1 -5.69 45.82
 80.00 19 17 21 2377.68 -16.12 50.21 206.58 115.40 19 56 59 1377.7 -4.42 28.97
 90.00 20 41 23 2106.55 -15.09 30.78 207.07 114.20 21 16 29 1106.6 -3.94 9.30
 100.00 22 0 13 1852.16 -16.12 11.58 206.58 115.40 22 31 5 852.2 -4.42 350.34
 110.00 23 2 33 1656.92 -18.67 355.25 205.10 119.01 23 30 10 656.9 -5.69 334.74

MID-COURSE EXECUTION ACCURACY
 SGT 6178.2 SGR 1215.5 SG3 1443.2
 RRT .9684 RRF .9931 RTF .5.50
 SGB 6296.7 R23 .1871 R13 .9768
 SGI 6289.8 SG2 297.7 THA 10.81

ORBIT DETERMINATION ACCURACY
 ST 104.2 SR 29.6 SS 95.3
 CRT .9878 CRS -.9883 CST -.9997
 LSA 144.1 MSA 4.5 SSA 1.6
 EL1 108.2 EL2 4.5 ALF 15.88

DIFFERENTIAL CORRECTIONS
 TDE 1.0066 TRA 2.3967 TC3-6.3820 BAU 1.0054
 RDE .3142 RRA .5267 RC3 -.9392 FAU .17471
 FDE 3.2659 FRA 7.7458 FC-12.9738 BSP 10580
 BDE 1.0545 BRA 2.4539 BC3 6.4507 FSP 2612

LAUNCH DATE APR 29 1971

FLIGHT TIME 256.00

ARRIVAL DATE JAN 10 1972

HELIOCENTRIC CONIC
 RL 150.65 LAL -0.00 LOL 218.04 VL 32.327 GAL -2.98 AZL 90.15 HCA 192.29 SMA 185.12 ECC .19308 INC .1416 V1 29.577
 RP 220.55 LAP .03 LOP 50.33 VP 22.059 GAP 1.50 AZP 89.85 TAL 341.43 TAP 173.72 RCA 149.38 APO 220.87 V2 24.925
 RC 190.711 GL -1.41 GP -11.51 ZAL 128.12 ZAP 60.69 ETS 172.52 ZAE 100.68 ETE 182.55 ZAC 90.99 ETC 271.23 LVI 1.90

PLANETOCENTRIC CONIC
 C3 11.875 VHL 3.446 DLA -6.76 RAL 347.83 RAD 6639.0 VEL 11.487 PTH 6.54 VHP 3.284 DPA -34.89 RAP 294.16 ECC 1.1954
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 28 5 2882.02 -25.75 84.16 200.20 131.50 17 16 7 1882.0 -8.14 66.77
 60.00 17 14 54 2757.50 -21.63 76.48 203.74 124.87 18 0 52 1757.5 -6.28 57.32
 70.00 18 15 14 2580.13 -17.87 64.62 206.26 119.60 18 58 14 1580.1 -4.55 44.25
 80.00 19 30 55 2343.19 -15.10 48.16 207.78 116.07 20 9 58 1343.2 -3.26 27.07
 90.00 20 55 35 2070.01 -14.06 28.59 208.29 114.79 21 30 5 1070.0 -2.77 7.26
 100.00 22 13 47 1817.67 -15.10 9.53 207.78 116.07 22 44 4 817.7 -3.26 348.44
 110.00 23 14 40 1626.95 -17.87 353.54 206.26 119.60 23 41 47 626.9 -4.55 333.16

MID-COURSE EXECUTION ACCURACY
 SGT 6342.9 SGR 1083.6 SG3 1427.3
 RRT .9656 RRF .9897 RTF .9759
 SGB 6434.8 R23 .1750 R13 .9772
 SGI 6428.8 SG2 278.0 THA 9.38

ORBIT DETERMINATION ACCURACY
 ST 104.3 SR 27.0 SS 93.1
 CRT .9792 CRS -.9828 CST -.9996
 LSA 142.3 MSA 5.3 SSA 1.5
 EL1 107.6 EL2 5.3 ALF 14.25

DIFFERENTIAL CORRECTIONS
 TDE .9942 TRA 2.5184 TC3-6.4434 BAU 1.0313
 RDE .2918 RRA .4680 RC3 -.8269 FAU .17349
 FDE 3.1719 FRA 7.7663 FC-12.6483 BSP 10793
 BDE 1.0362 BRA 2.5615 BC3 6.4962 FSP 2566

LAUNCH DATE APR 29 1971

FLIGHT TIME 258.00

ARRIVAL DATE JAN 12 1972

HELIOCENTRIC CONIC

DISTANCE 605.050

EARTH TO MARS

RL 150.65 LAL -.00 LOL 218.04 VL 32.334 GAL -3.05 AZL 90.29 HCA 193.40 SMA 188.25 ECC .19397 INC .2886 V1 29.577
RP 220.93 LAP .07 LOP 51.45 VP 22.023 GAP 1.34 AZP 89.71 TAL 341.01 TAP 174.41 RCA 149.32 APO 221.18 V2 24.864
RC 193.341 GL -2.72 GP -10.48 ZAL 128.60 ZAP 59.42 ETS 172.80 ZAE 99.36 ETE 182.11 ZAC 92.89 ETC 271.22 LVI .98

PLANETOCENTRIC CONIC

C3 12.112 VHL 3.480 DLA -7.76 RAL 348.83 RAD 6639.1 VEL 11.497 PTH 6.55 VHP 3.301 DPA -33.89 RAP 293.89 ECC 1.1993
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 35 49 2866.14 -25.03 83.34 201.25 131.88 17 23 35 1866.1 -7.34 68.09
60.00 17 23 45 2736.67 -20.89 75.44 204.83 125.28 18 9 24 1738.7 -5.46 56.41
70.00 18 25 19 2557.63 -17.11 63.32 207.40 120.02 19 7 57 1557.6 -3.70 43.07
80.00 19 42 10 2317.07 -14.31 46.62 208.95 116.49 20 20 47 1317.1 -2.38 25.63
90.00 21 7 21 2042.24 -13.26 26.94 209.48 115.21 21 41 23 1042.2 -1.87 5.70
100.00 22 25 2 1791.53 -14.31 7.99 208.95 116.49 22 54 53 791.5 -2.38 347.00
110.00 23 24 46 1604.45 -17.11 352.24 207.40 120.02 23 51 30 604.4 -3.70 331.98

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .9943 TRA 2.6411 TC3-6.4830 BAU 1.0565 SGT 6504.1 SCR 974.0 S63 1407.6 ST 105.2 SR 25.1 SS 91.8
RDE .2772 RRA .4188 RC3 -.7279 FAU .17064 RRT .9808 RRF .9850 RTF .9760 CRT .9688 CR8 -.9762 CST -.9992
FDE 3.1150 FRA 7.7787 FC-12.1965 BSP 11040 SGB 6576.7 R23 .1649 R13 .9770 LSA 141.7 MSA 6.2 SSA 1.4
BDE 1.0322 BRA 2.6740 BC3 6.5246 FSP 2534 S61 6571.2 S62 267.9 THA 8.20 EL1 108.0 EL2 6.1 ALF 13.05

LAUNCH DATE APR 29 1971

FLIGHT TIME 260.00

ARRIVAL DATE JAN 14 1972

HELIOCENTRIC CONIC

DISTANCE 609.182

EARTH TO MARS

RL 150.65 LAL -.00 LOL 218.04 VL 32.342 GAL -3.13 AZL 90.41 HCA 194.51 SMA 188.38 ECC .19488 INC .4116 V1 29.577
RP 221.31 LAP .10 LOP 52.56 VP 21.987 GAP 1.19 AZP 89.60 TAL 340.58 TAP 175.09 RCA 149.25 APO 221.31 V2 24.842
RC 195.978 GL -3.81 GP -9.61 ZAL 129.08 ZAP 58.21 ETS 173.06 ZAE 98.08 ETE 181.74 ZAC 92.89 ETC 271.21 LVI .10

PLANETOCENTRIC CONIC

C3 12.369 VHL 3.516 DLA -8.55 RAL 349.75 RAD 6639.2 VEL 11.508 PTH 6.56 VHP 3.322 DPA -33.03 RAP 293.69 ECC 1.2035
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 42 27 2854.66 -24.51 82.74 202.27 132.15 17 30 2 1854.7 -8.77 65.60
60.00 17 31 16 2724.85 -20.35 74.67 205.89 125.57 18 16 41 1724.9 -4.86 55.75
70.00 18 33 50 2540.87 -16.53 62.36 208.50 120.32 19 16 11 1540.9 -3.08 42.19
80.00 19 51 37 2297.39 -13.71 45.47 210.09 118.78 20 29 54 1297.4 -1.71 24.85
90.00 21 17 13 2021.21 -12.65 25.70 210.63 115.51 21 50 54 1021.2 -1.19 4.55
100.00 22 34 29 1771.86 -13.71 6.84 210.09 116.78 23 4 1 771.9 -1.71 345.92
110.00 23 33 17 1587.69 -16.53 351.28 208.50 120.32 23 59 44 587.7 -3.08 331.11

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.0032 TRA 2.7649 TC3-6.5103 BAU 1.0615 SGT 6682.6 SCR 882.0 S63 1385.3 ST 106.8 SR 23.7 SS 90.6
RDE .2672 RRA .3787 RC3 -.6441 FAU .16729 RRT .9539 RRF .9788 RTF .9761 CRT .9568 CR8 -.9684 CST -.9988
FDE 3.0715 FRA 7.7768 FC-11.7128 BSP 11312 SGB 6720.7 R23 .1541 R13 .9768 LSA 141.8 MSA 7.1 SSA 1.3
BDE 1.0381 BRA 2.7903 BC3 6.5421 FSP 2501 S61 6715.6 S62 262.6 THA 7.21 EL1 109.1 EL2 6.7 ALF 12.03

LAUNCH DATE APR 29 1971

FLIGHT TIME 262.00

ARRIVAL DATE JAN 16 1972

HELIOCENTRIC CONIC

DISTANCE 613.302

EARTH TO MARS

RL 150.65 LAL -.00 LOL 218.04 VL 32.350 GAL -3.21 AZL 90.52 HCA 195.62 SMA 188.51 ECC .19583 INC .5102 V1 29.577
RP 221.69 LAP .14 LOP 53.66 VP 21.958 GAP 1.03 AZP 89.50 TAL 340.15 TAP 175.76 RCA 149.18 APO 221.84 V2 24.801
RC 198.621 GL -4.71 GP -8.87 ZAL 129.96 ZAP 57.04 ETS 173.28 ZAE 96.82 ETE 181.43 ZAC 93.64 ETC 271.22 LVI -.51

PLANETOCENTRIC CONIC

C3 12.629 VHL 3.554 DLA -9.17 RAL 350.60 RAD 6639.4 VEL 11.520 PTH 6.57 VHP 3.345 DPA -32.30 RAP 293.58 ECC 1.2078
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 48 12 2846.63 -24.14 82.33 203.27 132.33 17 35 39 1846.6 -8.37 65.26
60.00 17 37 43 2714.95 -19.96 74.13 206.93 125.77 18 22 58 1715.0 -4.42 55.27
70.00 18 41 6 2528.81 -16.11 61.66 209.57 120.53 19 23 14 1528.6 -2.59 41.55
80.00 19 59 38 2282.78 -13.28 44.62 211.18 117.00 20 37 40 1282.8 -1.21 23.75
90.00 21 25 34 2005.92 -12.18 24.78 211.73 115.72 21 58 59 1005.5 -.69 3.65
100.00 22 42 30 1757.25 -13.26 5.99 211.18 117.00 23 11 47 757.2 -1.21 345.11
110.00 23 40 32 1575.43 -16.11 350.58 209.57 120.53 24 6 48 575.4 -2.59 330.46

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.0167 TRA 2.8869 TC3-6.5288 BAU 1.1066 SGT 6818.4 SCR 804.1 S63 1361.0 ST 108.6 SR 22.6 SS 89.7
RDE .2606 RRA .3377 RC3 -.5731 FAU .16373 RRT .9452 RRF .9708 RTF .9761 CRT .9435 CR8 -.9597 CST -.9984
FDE 3.0377 FRA 7.7580 FC-11.2233 BSP 11580 SGB 6885.6 R23 .1429 R13 .9767 LSA 142.4 MSA 7.9 SSA 1.3
BDE 1.0515 BRA 2.9006 BC3 6.5539 FSP 2464 S61 6860.6 S62 260.9 THA 6.37 EL1 110.7 EL2 7.3 ALF 11.19

LAUNCH DATE APR 29 1971

FLIGHT TIME 264.00

ARRIVAL DATE JAN 18 1972

HELIOCENTRIC CONIC

DISTANCE 617.416

EARTH TO MARS

RL 150.65 LAL -.00 LOL 218.04 VL 32.358 GAL -3.30 AZL 90.61 HCA 196.72 SMA 188.65 ECC .19679 INC .6061 V1 29.577
RP 222.07 LAP .17 LOP 54.76 VP 21.917 GAP .87 AZP 89.42 TAL 339.71 TAP 176.43 RCA 149.11 APO 222.18 V2 24.759
RC 201.270 GL -5.47 GP -8.82 ZAL 130.03 ZAP 55.92 ETS 173.48 ZAE 95.57 ETE 181.17 ZAC 94.29 ETC 271.23 LVI -1.12

PLANETOCENTRIC CONIC

C3 12.904 VHL 3.592 DLA -9.66 RAL 351.40 RAD 6639.5 VEL 11.531 PTH 6.58 VHP 3.370 DPA -31.65 RAP 293.49 ECC 1.2124
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 53 15 2841.35 -23.90 82.07 204.24 132.45 17 40 36 1841.4 -8.11 65.04
60.00 17 43 19 2708.19 -19.69 73.76 207.94 125.90 18 28 28 1708.2 -4.13 54.94
70.00 18 47 21 2519.96 -15.81 61.17 210.61 120.68 19 29 20 1520.0 -2.26 41.09
80.00 20 6 29 2272.24 -12.94 44.01 212.25 117.15 20 44 21 1272.2 -.86 23.17
90.00 21 32 41 1994.12 -11.85 24.12 212.80 115.87 22 5 55 994.1 -.32 3.02
100.00 22 49 20 1748.71 -12.94 5.38 212.25 117.15 23 18 27 746.7 -.86 344.54
110.00 23 46 47 1566.78 -15.81 350.09 210.61 120.68 24 12 54 566.8 -2.26 330.01

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.0366 TRA 3.0109 TC3-6.5466 BAU 1.1329 SGT 6970.4 SCR 737.5 S63 1334.8 ST 110.6 SR 21.7 SS 88.6
RDE .2560 RRA .3035 RC3 -.5132 FAU .16019 RRT .9341 RRF .9601 RTF .9760 CRT .9290 CR8 -.9498 CST -.9979
FDE 3.0016 FRA 7.7231 FC-10.7472 BSP 11835 SGB 7009.3 R23 .1319 R13 .9765 LSA 143.1 MSA 8.6 SSA 1.3
BDE 1.0677 BRA 3.0261 BC3 6.5667 FSP 2418 S61 7004.4 S62 262.0 THA 5.65 EL1 112.4 EL2 7.9 ALF 10.39

LAUNCH DATE APR 29 1971 FLIGHT TIME 266.00 ARRIVAL DATE JAN 20 1972

Heliocentric Conic DISTANCE 621.525 EARTH TO MARS

RL 150.65 LAL -.00 LOL 218.04 VL 32.366 GAL -3.38 AZL 90.69 HCA 197.81 SMA 185.78 ECC .19779 INC .6855 V1 29.577
 RP 222.46 LAP .21 LOP 55.86 VP 21.882 GAP .72 AZP 89.35 TAL 339.27 TAP 177.08 RCA 149.04 APO 222.53 V2 24.717
 RC 203.922 GL -6.12 GP -7.65 ZAL 130.50 ZAP 94.85 ETS 173.66 ZAE 94.35 ETE 180.94 ZAC 94.85 ETC 271.25 LVI -1.67

PLANETOCENTRIC CONIC

C3 13.188 VHL 3.632 DLA -10.05 RAL 352.16 RAD 6639.6 VEL 11.544 PTH 6.59 VHP 3.397 DPA -31.08 RAP 293.46 ECC 1.2170
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 57 43 2838.30 -23.76 81.91 205.19 132.52 17 45 1 1838.3 -5.95 64.91
 60.00 17 48 14 2703.96 -19.52 73.53 208.92 125.99 18 33 18 1704.0 -3.94 54.74
 70.00 18 52 45 2514.25 -15.61 60.85 211.62 120.77 19 34 40 1514.3 -2.04 40.80
 80.00 20 12 22 2265.04 -12.71 43.59 213.27 117.24 20 50 7 1265.0 -.61 22.77
 90.00 21 38 47 1986.22 -11.61 23.66 213.84 115.97 22 11 53 986.2 -.07 2.58
 100.00 22 55 14 1739.51 -12.71 4.96 213.27 117.24 23 24 13 739.5 -.61 344.14
 110.00 23 52 12 1561.07 -15.61 349.77 211.62 120.77 24 18 13 561.1 -2.04 329.71

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE 1.0716 TRA 3.1358 TC3-6.5521 BAU 1.1581 SGT 7120.2 SGR 681.2 SG3 1308.3 ST 112.9 SR 21.1 SS 87.8
 RDE .2539 RRA .2731 RC3 -.4611 FAU .15628 RRT .9202 RRF .9469 RTF .9758 CRT .9141 CRS -.9396 CST -.9974
 FDE 2.9801 FRA 7.6854 FC-10.2595 BSP 12109 SGB 7152.7 R23 .1219 R13 .9763 LSA 144.3 MSA 9.3 S3A 1.3
 BDE 1.0915 BRA 3.1476 BC3 6.5683 FSP 2378 SG1 7147.8 SG2 265.7 THA 5.04 EL1 114.5 EL2 8.4 ALF 9.74

LAUNCH DATE APR 29 1971 FLIGHT TIME 266.00 ARRIVAL DATE JAN 22 1972

Heliocentric Conic DISTANCE 625.629 EARTH TO MARS

RL 150.65 LAL -.00 LOL 218.04 VL 32.374 GAL -3.47 AZL 90.76 HCA 198.91 SMA 185.92 ECC .19881 INC .7553 V1 29.577
 RP 222.84 LAP .25 LOP 56.93 VP 21.847 GAP .56 AZP 89.28 TAL 338.82 TAP 177.73 RCA 148.96 APO 222.89 V2 24.675
 RC 206.578 GL -6.67 GP -7.15 ZAL 130.97 ZAP 53.81 ETS 173.83 ZAE 93.16 ETE 180.76 ZAC 95.35 ETC 271.27 LVI -2.17

PLANETOCENTRIC CONIC

C3 13.480 VHL 3.672 DLA -10.34 RAL 352.87 RAD 6639.8 VEL 11.556 PTH 6.60 VHP 3.426 DPA -30.57 RAP 293.48 ECC 1.2219
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 1 42 2837.07 -23.70 81.85 206.13 132.54 17 48 59 1837.1 -5.89 64.86
 60.00 17 52 33 2701.82 -19.43 73.42 209.88 126.03 18 37 35 1701.8 -3.85 54.64
 70.00 18 57 29 2510.96 -15.50 60.66 212.60 120.82 19 39 19 1511.0 -1.92 40.62
 80.00 20 17 28 2280.58 -12.57 43.33 214.28 117.31 20 55 8 1260.6 -.46 22.53
 90.00 21 44 3 1981.21 -11.46 23.36 214.85 116.03 22 17 4 981.2 -.10 2.30
 100.00 23 0 20 1735.05 -12.57 4.70 214.28 117.31 23 29 15 735.0 -.46 343.90
 110.00 0 0 51 1557.78 -15.50 349.58 212.60 120.82 0 26 49 557.8 -1.92 329.54

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE 1.0878 TRA 3.2596 TC3-6.5576 BAU 1.1842 SGT 7266.7 SGR 633.1 SG3 1280.7 ST 115.2 SR 20.6 SS 86.9
 RDE .2530 RRA .2453 RC3 -.4165 FAU .15248 RRT .9031 RRF .9306 RTF .9757 CRT .8986 CRS -.9286 CST -.9970
 FDE 2.9549 FRA 7.6367 FC3-9.7926 BSP 12363 SGB 7294.3 R23 .1124 R13 .9760 LSA 145.5 MSA 9.3 S3A 1.3
 BDE 1.1169 BRA 3.2688 BC3 6.5708 FSP 2333 SG1 7289.2 SG2 271.0 THA 4.50 EL1 116.7 EL2 8.9 ALF 9.18

LAUNCH DATE APR 29 1971 FLIGHT TIME 270.00 ARRIVAL DATE JAN 24 1972

Heliocentric Conic DISTANCE 629.727 EARTH TO MARS

RL 150.65 LAL -.00 LOL 218.04 VL 32.383 GAL -3.56 AZL 90.82 HCA 200.00 SMA 186.07 ECC .19985 INC .8173 V1 29.577
 RP 223.23 LAP .28 LOP 58.04 VP 21.812 GAP .41 AZP 89.23 TAL 338.37 TAP 178.37 RCA 148.88 APO 223.25 V2 24.633
 RC 209.236 GL -7.14 GP -6.70 ZAL 131.45 ZAP 52.81 ETS 173.98 ZAE 91.98 ETE 180.59 ZAC 95.79 ETC 271.30 LVI -2.62

PLANETOCENTRIC CONIC

C3 13.781 VHL 3.712 DLA -10.57 RAL 353.55 RAD 6639.9 VEL 11.569 PTH 6.61 VHP 3.455 DPA -30.11 RAP 293.54 ECC 1.2268
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 5 17 2837.37 -23.71 81.86 207.04 132.54 17 52 34 1837.4 -5.91 64.87
 60.00 17 56 24 2701.43 -19.42 73.40 210.82 126.04 18 41 23 1701.4 -3.83 54.62
 70.00 19 1 37 2509.69 -15.45 60.59 213.56 120.84 19 43 27 1509.7 -1.87 40.56
 80.00 20 21 33 2258.42 -12.51 43.21 215.25 117.33 20 59 32 1258.4 -.39 22.41
 90.00 21 48 36 1978.64 -11.39 23.21 215.83 116.06 22 21 35 978.6 .18 2.16
 100.00 23 4 45 1732.89 -12.51 4.58 215.25 117.33 23 33 38 732.9 -.39 343.78
 110.00 0 4 59 1556.51 -15.45 349.51 213.56 120.84 0 30 56 556.5 -1.87 329.48

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE 1.1175 TRA 3.3839 TC3-6.5804 BAU 1.2107 SGT 7411.3 SGR 592.5 SG3 1253.1 ST 117.7 SR 20.2 SS 86.1
 RDE .2535 RRA .2198 RC3 -.3781 FAU .14874 RRT .8827 RRF .9110 RTF .5.54 CRT .8830 CRS -.9175 CST -.9986
 FDE 2.9344 FRA 7.5821 FC3-9.3442 BSP 12603 SGB 7434.9 R23 .1038 R13 .9757 LSA 146.8 MSA 10.5 S3A 1.3
 BDE 1.1459 BRA 3.3911 BC3 6.5713 FSP 2283 SG1 7429.8 SG2 277.7 THA 4.04 EL1 119.0 EL2 9.4 ALF 8.69

LAUNCH DATE APR 29 1971 FLIGHT TIME 272.00 ARRIVAL DATE JAN 26 1972

Heliocentric Conic DISTANCE 633.820 EARTH TO MARS

RL 150.65 LAL -.00 LOL 218.04 VL 32.392 GAL -3.64 AZL 90.87 HCA 201.08 SMA 186.21 ECC .20092 INC .8734 V1 29.577
 RP 223.62 LAP .31 LOP 59.13 VP 21.778 GAP .25 AZP 89.18 TAL 337.92 TAP 179.00 RCA 148.80 APO 223.63 V2 24.592
 RC 211.896 GL -7.55 GP -6.31 ZAL 131.92 ZAP 51.85 ETS 174.13 ZAE 90.83 ETE 180.45 ZAC 96.18 ETC 271.34 LVI -3.05

PLANETOCENTRIC CONIC

C3 14.090 VHL 3.754 DLA -10.73 RAL 354.21 RAD 6640.1 VEL 11.582 PTH 6.63 VHP 3.486 DPA -29.70 RAP 293.65 ECC 1.2319
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 8 31 2838.94 -23.79 81.94 207.94 132.50 17 55 50 1838.9 -5.98 64.94
 60.00 17 59 50 2702.50 -19.46 73.46 211.74 126.02 18 44 52 1702.5 -3.88 54.67
 70.00 19 5 16 2510.12 -15.47 60.62 214.50 120.84 19 47 6 1510.1 -1.89 40.58
 80.00 20 25 45 2258.19 -12.50 43.19 216.20 117.34 21 3 23 1258.2 -.38 22.40
 90.00 21 52 33 1978.11 -11.37 23.18 216.78 116.07 22 25 31 978.1 .20 2.13
 100.00 23 8 36 1732.66 -12.50 4.56 216.20 117.34 23 37 29 732.7 -.38 343.77
 110.00 0 8 38 1556.93 -15.47 349.53 214.50 120.84 0 34 35 556.9 -1.89 329.50

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE 1.1516 TRA 3.5114 TC3-6.5520 BAU 1.2361 SGT 7553.1 SGR 558.3 SG3 1225.5 ST 120.3 SR 20.0 SS 85.4
 RDE .2552 RRA .1965 RC3 -.3441 FAU .14473 RRT .8587 RRF .8878 RTF .9751 CRT .8678 CRS -.9063 CST -.9963
 FDE 2.9187 FRA 7.5276 FC3-8.8923 BSP 12872 SGB 7573.7 R23 .0962 R13 .9754 LSA 148.5 MSA 11.1 S3A 1.3
 BDE 1.1795 BRA 3.5169 BC3 6.5619 FSP 2242 SG1 7568.4 SG2 285.5 THA 3.64 EL1 121.6 EL2 9.8 ALF 8.27

LAUNCH DATE APR 29 1971

FLIGHT TIME 274.00

ARRIVAL DATE JAN 28 1972

HELIOCENTRIC CONIC
 RL 150.65 LAL -.00 LOL 218.04 VL 32.400 GAL -3.73 AZL 90.92 HCA 202.17 SMA 186.36 ECC .20201 INC .9243 V1 29.577
 RP 224.01 LAP .35 LOP 60.21 VP 21.743 GAP -.10 AZP 89.14 TAL 337.46 TAP 179.62 RCA 148.71 APO 224.01 V2 24.550
 RC 214.558 GL -7.90 GP -5.95 ZAL 132.40 ZAP 50.92 ETS 174.26 ZAE 89.70 ETE 180.33 ZAC 96.53 ETC 271.39 LVI -3.44

PLANETOCENTRIC CONIC
 C3 14.408 VHL 3.796 DLA -10.84 RAL 354.84 RAD 6640.2 VEL 11.596 PTH 6.64 VHP 3.517 DPA -29.32 RAP 293.78 ECC 1.2371
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 11 28 2841.61 -23.91 82.08 208.82 132.44 17 58 50 1841.6 -6.12 69.05
 60.00 18 2 54 2704.82 -19.55 73.58 212.65 125.97 18 47 59 1704.8 -3.98 54.78
 70.00 19 8 30 2511.99 -15.53 60.72 215.43 120.81 19 50 22 1512.0 -1.96 40.68
 80.00 20 29 7 2259.62 -12.54 43.28 217.14 117.32 21 6 47 1259.6 -.43 22.48
 90.00 21 56 0 1979.33 -11.41 23.25 217.72 116.05 22 28 59 979.3 -.16 2.19
 100.00 23 11 59 1734.09 -12.54 4.65 217.14 117.32 23 40 53 734.1 -.43 343.84
 110.00 0 11 52 1558.81 -15.53 349.64 215.43 120.81 0 37 51 558.8 -1.96 329.60

DIFFERENTIAL CORRECTIONS
 TDE 1.1889 TRA 3.6404 TC3-6.5390 BAU 1.2610 SGT 7692.0 SGR 529.9 SG3 1197.8 ST 123.1 SR 19.9 SS 84.0
 RDE .2579 RRA .1750 RC3 -.3141 FAU .14061 RRT .8310 RRF .8611 RTF .9748 CRT .8532 CRS -.8955 CST -.9959
 FDE 2.9070 FRA 7.4696 FC3-8.4488 BSP 13142 SGB 7710.3 R23 .0896 R13 .9750 LSA 150.3 MSA 11.6 SSA 1.3
 BDE 1.2166 BRA 3.6446 BC3 6.5468 FSP 2198 SG1 7704.7 SG2 294.2 THA 3.28 EL1 124.3 EL2 10.3 ALF 7.90

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 29 1971

FLIGHT TIME 276.00

ARRIVAL DATE JAN 30 1972

HELIOCENTRIC CONIC
 RL 150.65 LAL -.00 LOL 218.04 VL 32.409 GAL -3.83 AZL 90.97 HCA 203.24 SMA 186.51 ECC .20313 INC .9699 V1 29.577
 RP 224.40 LAP .38 LOP 61.29 VP 21.709 GAP -.06 AZP 89.11 TAL 337.00 TAP 180.24 RCA 148.63 APO 224.40 V2 24.808
 RC 217.222 GL -6.20 GP -5.63 ZAL 132.88 ZAP 50.02 ETS 174.38 ZAE 88.60 ETE 180.22 ZAC 96.84 ETC 271.44 LVI -3.62

PLANETOCENTRIC CONIC
 C3 14.734 VHL 3.838 DLA -10.91 RAL 355.45 RAD 6640.4 VEL 11.610 PTH 6.65 VHP 3.549 DPA -28.97 RAP 293.95 ECC 1.2425
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 14 10 2845.20 -24.07 82.28 209.70 132.36 18 1 35 1845.2 -6.30 65.20
 60.00 18 5 41 2708.20 -19.69 73.76 213.54 125.90 18 50 49 1708.2 -4.13 54.95
 70.00 19 11 22 2515.10 -15.64 60.90 216.33 120.76 19 53 17 1515.1 -2.08 40.84
 80.00 20 32 4 2262.45 -12.63 43.44 218.05 117.28 21 9 47 1262.5 -.53 22.63
 90.00 21 58 59 1982.04 -11.49 23.41 218.64 116.02 22 32 1 982.0 .07 2.34
 100.00 23 14 56 1736.93 -12.63 4.81 218.05 117.28 23 43 53 736.9 -.53 344.00
 110.00 0 14 44 1561.92 -15.64 349.82 216.33 120.76 0 40 48 561.9 -2.08 329.76

DIFFERENTIAL CORRECTIONS
 TDE 1.2261 TRA 3.7689 TC3-6.5301 BAU 1.2875 SGT 7829.8 SGR 506.5 SG3 1170.6 ST 125.8 SR 19.8 SS 84.1
 RDE .2613 RRA .1549 RC3 -.2885 FAU .13664 RRT .8001 RRF .8310 RTF .9744 CRT .8387 CRS -.8847 CST -.9956
 FDE 2.8926 FRA 7.4076 FC3-8.0407 BSP 13382 SGB 7846.2 R23 .0837 R13 .9748 LSA 152.1 MSA 12.1 SSA 1.3
 BDE 1.2537 BRA 3.7721 BC3 6.5365 FSP 2192 SG1 7840.3 SG2 303.5 THA 2.97 EL1 126.9 EL2 10.7 ALF 7.58

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 29 1971

FLIGHT TIME 278.00

ARRIVAL DATE FEB 1 1972

HELIOCENTRIC CONIC
 RL 150.65 LAL -.00 LOL 218.04 VL 32.418 GAL -3.92 AZL 91.01 HCA 204.32 SMA 186.66 ECC .20427 INC 1.0110 V1 29.577
 RP 224.79 LAP .42 LOP 62.38 VP 21.675 GAP -.22 AZP 89.08 TAL 336.53 TAP 180.85 RCA 148.54 APO 224.79 V2 24.486
 RC 219.888 GL -6.46 GP -5.33 ZAL 133.38 ZAP 49.15 ETS 174.90 ZAE 87.51 ETE 180.13 ZAC 97.13 ETC 271.50 LVI -4.17

PLANETOCENTRIC CONIC
 C3 15.088 VHL 3.882 DLA -10.94 RAL 356.04 RAD 6640.6 VEL 11.624 PTH 6.66 VHP 3.581 DPA -28.68 RAP 294.18 ECC 1.2480
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 16 39 2849.59 -24.28 82.49 210.56 132.26 18 4 8 1849.6 -6.32 65.39
 60.00 18 8 12 2712.50 -19.86 74.00 214.43 125.82 18 53 24 1712.5 -4.31 55.15
 70.00 19 13 55 2519.28 -15.79 61.13 217.23 120.69 19 55 54 1519.3 -2.24 41.06
 80.00 20 34 40 2266.51 -12.78 43.68 218.96 117.22 21 12 27 1266.5 -.66 22.85
 90.00 22 1 36 1986.03 -11.61 23.64 219.55 115.97 22 34 42 986.0 -.06 2.57
 100.00 23 17 32 1740.98 -12.78 5.04 218.96 117.22 23 46 33 741.0 -.66 344.22
 110.00 0 17 17 1566.10 -15.79 350.05 217.23 120.69 0 43 23 566.1 -2.24 329.98

DIFFERENTIAL CORRECTIONS
 TDE 1.2661 TRA 3.8991 TC3-6.5134 BAU 1.3132 SGT 7963.9 SGR 487.9 SG3 1143.1 ST 128.5 SR 19.8 SS 83.4
 RDE .2653 RRA .1361 RC3 -.2656 FAU .13293 RRT .7659 RRF .7975 RTF .9741 CRT .8250 CRS -.8743 CST -.9954
 FDE 2.8784 FRA 7.3419 FC3-7.8372 BSP 13632 SGB 7978.8 R23 .0784 R13 .9741 LSA 154.0 MSA 12.8 SSA 1.3
 BDE 1.2936 BRA 3.9015 BC3 6.5188 FSP 2100 SG1 7972.8 SG2 313.1 THA 2.69 EL1 129.6 EL2 11.1 ALF 7.30

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 29 1971

FLIGHT TIME 280.00

ARRIVAL DATE FEB 3 1972

HELIOCENTRIC CONIC
 RL 150.65 LAL -.00 LOL 218.04 VL 32.427 GAL -4.01 AZL 91.05 HCA 205.39 SMA 186.82 ECC .20543 INC 1.0503 V1 29.577
 RP 225.18 LAP .45 LOP 63.43 VP 21.642 GAP -.38 AZP 89.05 TAL 336.06 TAP 181.43 RCA 148.44 APO 225.18 V2 24.424
 RC 222.851 GL -6.69 GP -5.07 ZAL 133.84 ZAP 48.31 ETS 174.60 ZAE 86.45 ETE 180.04 ZAC 97.38 ETC 271.56 LVI -4.51

PLANETOCENTRIC CONIC
 C3 15.412 VHL 3.926 DLA -10.94 RAL 356.82 RAD 6640.7 VEL 11.639 PTH 6.68 VHP 3.614 DPA -28.35 RAP 294.39 ECC 1.2536
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 18 56 2854.69 -24.51 82.75 211.42 132.15 18 6 31 1854.7 -6.77 65.61
 60.00 18 10 29 2717.60 -20.06 74.28 215.30 125.72 18 55 47 1717.6 -4.54 55.40
 70.00 19 16 12 2524.39 -15.96 61.42 218.11 120.60 19 58 17 1524.4 -2.43 41.33
 80.00 20 36 57 2271.62 -12.92 43.97 219.85 117.15 21 14 49 1271.6 -.84 23.13
 90.00 22 3 53 1991.15 -11.76 23.94 220.44 115.91 22 37 4 991.1 -.23 2.85
 100.00 23 19 49 1746.09 -12.92 5.34 219.85 117.15 23 48 55 746.1 -.84 344.50
 110.00 0 19 34 1571.20 -15.96 350.34 218.11 120.60 0 45 46 571.2 -2.43 330.24

DIFFERENTIAL CORRECTIONS
 TDE 1.3089 TRA 4.0318 TC3-6.4932 BAU 1.3388 SGT 8096.9 SGR 472.7 SG3 1116.3 ST 131.4 SR 19.9 SS 82.7
 RDE .2700 RRA .1184 RC3 -.2453 FAU .12905 RRT .7292 RRF .7615 RTF .9735 CRT .8122 CRS -.8646 CST -.9951
 FDE 2.8674 FRA 7.2771 FC3-7.2493 BSP 13881 SGB 8110.7 R23 .0739 R13 .9737 LSA 156.0 MSA 13.0 SSA 1.3
 BDE 1.3365 BRA 4.0335 BC3 6.4978 FSP 2063 SG1 8104.2 SG2 323.2 THA 2.44 EL1 132.4 EL2 11.5 ALF 7.06

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 30 1971

FLIGHT TIME 106.00

ARRIVAL DATE AUG 16 1971

HELIOCENTRIC CONIC
 RL 130.69 LAL -.00 LOL 219.02 VL 35.045 GAL -3.68 AZL 91.89 HCA 101.98 SMA 248.85 ECC .39887 INC 1.8878 V1 29.569
 RP 207.27 LAP -1.85 LOP 320.60 VP 27.336 GAP 21.55 AZP 89.62 TAL 347.04 TAP 88.62 RCA 149.59 APO 348.11 V2 26.426
 RC 56.362 GL -10.82 GP .81 ZAL 116.09 ZAP 174.59 ETS 171.32 ZAE 174.22 ETE 92.43 ZAC 101.19 ETC 277.19 LVI -18.01

PLANETOCENTRIC CONIC
 C3 37.835 VHL 6.135 DLA -19.49 RAL 341.61 RAD 6649.8 VEL 12.551 PTH 7.42 VHP 10.673 DPA -17.26 RAP 318.03 ECC 1.6194
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 49 50 2895.85 -26.37 84.89 207.43 131.15 17 38 6 1895.9 -8.82 67.36
 60.00 17 52 32 2729.13 -20.52 74.91 212.46 125.40 18 38 1 1729.1 -5.04 55.95
 70.00 19 11 49 2496.07 -14.98 59.82 216.28 121.06 19 53 25 1496.1 -1.35 39.85
 80.00 20 46 30 2199.72 -10.65 39.84 218.79 118.06 21 23 10 1199.7 1.60 19.19
 90.00 22 20 11 1897.51 -8.92 18.53 219.71 116.95 22 51 49 897.5 2.79 357.63
 100.00 23 29 22 1674.19 -10.65 1.21 218.79 118.06 23 57 16 674.2 1.60 340.56
 110.00 0 15 11 1542.89 -14.98 348.74 216.28 121.06 0 40 54 542.9 -1.35 328.76

DIFFERENTIAL CORRECTIONS
 TDE -.5267 TRA-1.1387 TC3 -.0242 BAW .0449 SGT 1231.1 SGR 580.8 SG3 125.6
 RDE -.5687 RRA .2121 RC3 .0860 FAU .03515 RRT .0294 RRF -.0319 RTF -.7048 CRT .7512 CRS .5501 CST .9621
 FDE .2799 FRA 1.0402 FC3 -.8086 BSP 1901 SGB 1361.2 R23 -.0052 R13 -.7048 LSA 40.9 MSA 16.8 SSA 1.1
 BDE .7751 BRA 1.1583 BC3 .0893 FSP 159 SG1 1231.2 SG2 580.5 TMA 1.02 EL1 37.5 EL2 14.0 ALF 40.83

LAUNCH DATE APR 30 1971

FLIGHT TIME 110.00

ARRIVAL DATE AUG 18 1971

HELIOCENTRIC CONIC
 RL 150.69 LAL -.00 LOL 219.02 VL 34.870 GAL -3.57 AZL 91.90 HCA 102.84 SMA 243.27 ECC .38491 INC 1.8955 V1 29.569
 RP 207.18 LAP -1.85 LOP 321.87 VP 27.123 GAP 21.05 AZP 89.58 TAL 347.12 TAP 89.96 RCA 149.63 APO 336.90 V2 26.438
 RC 56.568 GL -11.16 GP .83 ZAL 116.09 ZAP 173.73 ETS 172.28 ZAE 174.19 ETE 83.59 ZAC 101.17 ETC 277.28 LVI -18.15

PLANETOCENTRIC CONIC
 C3 35.396 VHL 5.949 DLA -19.78 RAL 341.78 RAD 6649.0 VEL 12.462 PTH 7.36 VHP 10.338 DPA -17.12 RAP 318.42 ECC 1.5825
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 51 47 2874.20 -25.40 83.75 206.69 131.69 17 39 42 1874.2 -7.75 66.44
 60.00 17 54 55 2706.31 -19.61 73.66 211.72 125.94 18 40 2 1706.3 -4.04 54.85
 70.00 19 14 46 2471.57 -14.11 58.45 215.55 121.43 19 55 58 1471.6 -1.41 38.57
 80.00 20 50 6 2173.20 -9.79 38.34 218.08 118.35 21 26 19 1173.2 2.50 17.73
 90.00 22 24 8 1869.89 -8.06 16.95 219.01 117.20 22 55 18 869.9 3.68 356.08
 100.00 23 32 58 1647.68 -9.79 359.70 218.08 118.35 24 0 26 647.7 2.50 339.10
 110.00 0 18 9 1518.39 -14.11 347.37 215.55 121.43 0 43 27 518.4 -1.41 327.49

DIFFERENTIAL CORRECTIONS
 TDE -.5286 TRA-1.1258 TC3 -.0248 BAW .0451 SGT 1260.0 SGR 580.7 SG3 134.3
 RDE -.5510 RRA .2041 RC3 .0921 FAU .03623 RRT .0359 RRF -.0353 RTF -.7080 CRT .7357 CRS .5466 CST .9592
 FDE .2889 FRA 1.0823 FC3 -.8862 BSP 1763 SGB 1387.4 R23 -.0031 R13 -.7081 LSA 41.8 MSA 17.0 SSA 1.1
 BDE .7636 BRA 1.1442 BC3 .0954 FSP 171 SG1 1260.2 SG2 580.2 TMA 1.20 EL1 38.2 EL2 14.1 ALF 39.69

LAUNCH DATE APR 30 1971

FLIGHT TIME 112.00

ARRIVAL DATE AUG 20 1971

HELIOCENTRIC CONIC
 RL 150.69 LAL -.00 LOL 219.02 VL 34.705 GAL -3.46 AZL 91.90 HCA 104.11 SMA 238.25 ECC .37177 INC 1.9032 V1 29.569
 RP 207.09 LAP -1.85 LOP 323.13 VP 26.920 GAP 20.55 AZP 89.54 TAL 347.21 TAP 91.32 RCA 149.67 APO 326.82 V2 26.448
 RC 56.856 GL -11.49 GP .86 ZAL 116.08 ZAP 172.85 ETS 173.01 ZAE 174.05 ETE 75.28 ZAC 101.15 ETC 277.36 LVI -18.29

PLANETOCENTRIC CONIC
 C3 33.336 VHL 5.774 DLA -20.09 RAL 341.94 RAD 6648.3 VEL 12.379 PTH 7.30 VHP 10.014 DPA -16.97 RAP 318.80 ECC 1.5486
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 53 44 2852.62 -24.41 82.64 205.97 132.20 17 41 17 1852.6 -6.67 65.52
 60.00 17 57 20 2683.50 -18.69 72.43 211.00 126.38 18 42 3 1683.5 -3.04 53.76
 70.00 19 17 47 2446.98 -13.23 57.09 214.84 121.78 19 58 34 1447.0 .53 37.29
 80.00 20 53 49 2146.44 -8.93 36.82 217.39 118.61 21 29 35 1146.4 3.40 16.26
 90.00 22 28 13 1841.93 -7.19 15.36 218.32 117.42 22 58 55 841.9 4.57 354.51
 100.00 23 36 41 1620.91 -8.93 358.19 217.39 118.61 24 3 42 620.9 3.40 337.63
 110.00 0 21 10 1493.80 -13.23 346.01 214.84 121.78 0 46 3 493.8 .53 326.20

DIFFERENTIAL CORRECTIONS
 TDE -.5170 TRA-1.1198 TC3 -.0006 BAW .0440 SGT 1289.7 SGR 580.1 SG3 143.7
 RDE -.5338 RRA .1981 RC3 .0987 FAU .03749 RRT .0354 RRF -.0382 RTF -.1.64 CRT .7504 CRS .5397 CST .9592
 FDE .2959 FRA 1.1268 FC3 -.9736 BSP 2020 SGB 1414.2 R23 -.0060 R13 -.7265 LSA 42.3 MSA 17.3 SSA 1.1
 BDE .7431 BRA 1.1369 BC3 .0987 FSP 187 SG1 1289.9 SG2 579.7 TMA 1.14 EL1 38.5 EL2 14.3 ALF 39.08

LAUNCH DATE APR 30 1971

FLIGHT TIME 114.00

ARRIVAL DATE AUG 22 1971

HELIOCENTRIC CONIC
 RL 130.69 LAL -.00 LOL 219.02 VL 34.549 GAL -3.34 AZL 91.91 HCA 105.37 SMA 233.72 ECC .35942 INC 1.9110 V1 29.569
 RP 207.01 LAP -1.84 LOP 324.40 VP 26.728 GAP 20.06 AZP 89.49 TAL 347.31 TAP 92.68 RCA 149.71 APO 317.72 V2 26.457
 RC 57.223 GL -11.84 GP .89 ZAL 116.04 ZAP 171.96 ETS 173.59 ZAE 173.82 ETE 67.82 ZAC 101.13 ETC 277.44 LVI -18.42

PLANETOCENTRIC CONIC
 C3 31.440 VHL 5.607 DLA -20.41 RAL 342.08 RAD 6647.6 VEL 12.303 PTH 7.24 VHP 9.701 DPA -16.84 RAP 319.16 ECC 1.5174
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 55 41 2831.15 -23.43 81.55 205.28 132.67 17 42 52 1831.1 -5.59 64.61
 60.00 17 59 48 2660.73 -17.77 71.21 210.30 126.79 18 44 7 1660.7 -2.04 52.67
 70.00 19 20 52 2422.32 -12.34 55.73 214.15 122.10 20 1 14 1422.3 1.47 36.00
 80.00 20 57 38 2119.45 -8.04 35.31 216.72 118.85 21 32 58 1119.4 4.31 14.77
 90.00 22 32 27 1813.64 -6.30 13.76 217.66 117.63 23 2 40 813.6 5.47 352.92
 100.00 23 40 30 1593.92 -8.04 356.68 216.72 118.85 24 7 4 593.9 4.31 336.14
 110.00 0 24 14 1469.13 -12.34 344.65 214.15 122.10 0 48 43 469.1 1.47 324.92

DIFFERENTIAL CORRECTIONS
 TDE -.5119 TRA-1.1106 TC3 .0121 BAW .0446 SGT 1319.0 SGR 579.1 SG3 153.7
 RDE -.5171 RRA .1884 RC3 .1055 FAU .03877 RRT .0385 RRF -.0420 RTF -.7360 CRT .7498 CRS .5344 CST .9578
 FDE .3042 FRA 1.1278 FC3 -1.0676 BSP 2076 SGB 1440.6 R23 -.0069 R13 -.7361 LSA 42.9 MSA 17.5 SSA 1.2
 BDE .7277 BRA 1.1264 BC3 .1062 FSP 203 SG1 1319.3 SG2 578.6 TMA 1.20 EL1 38.9 EL2 14.4 ALF 38.22

LAUNCH DATE APR 30 1971

FLIGHT TIME 116.00

ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC

DISTANCE 322.519

EARTH TO MARS

RL 150.69 LAL -0.00 LOL 219.02 VL 34.401 GAL -3.23 AZL 91.92 HCA 106.64 SMA 229.61 ECC .34778 INC 1.9189 V1 29.569
 RP 206.94 LAP -1.84 LOP 325.66 VP 26.545 GAP 19.58 AZP 89.45 TAL 347.43 TAP 94.06 RCA 149.75 APO 309.46 V2 26.466
 RC 57.675 GL -12.19 GP .92 ZAL 119.98 ZAP 171.06 ETS 174.05 ZAE 173.92 ETE 61.32 ZAC 101.11 ETC 277.52 LVI -18.93

PLANETOCENTRIC CONIC

C3 29.692 VHL 5.449 DLA -20.74 RAL 342.20 RAD 6646.0 VEL 12.232 PTH 7.18 VHP 9.398 DPA -16.70 RAP 319.51 ECC 1.4887
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 57 38 2809.79 -22.44 80.48 204.61 133.12 17 44 27 1809.8 -4.53 63.71
 60.00 18 2 13 2636.00 -16.84 70.02 209.62 127.17 18 46 11 1636.0 -1.04 51.59
 70.00 19 24 0 2397.88 -11.45 54.38 213.46 122.40 20 3 58 1397.6 2.41 34.71
 80.00 21 1 35 2092.20 -7.14 33.78 216.07 119.07 21 36 27 1092.2 5.22 13.26
 90.00 22 36 50 1784.98 -5.39 12.15 217.02 117.80 23 6 39 785.0 6.38 351.30
 100.00 23 44 27 1566.67 -7.14 355.15 216.07 119.07 24 10 33 566.7 5.22 334.63
 110.00 0 27 23 1444.39 -11.45 343.30 213.46 122.40 0 51 27 444.4 2.41 323.62

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4985 TRA-1.0923 TC3 .0373 BAU .0471 SGT 1336.0 SGR 577.8 SCS 164.4 ST 32.0 SR 26.5 SS 21.8
 RDE -.5010 RRA .1807 RC3 .1126 FAU .04004 RRT .0409 RRF -.0481 RTF -.7530 CRT .7466 CR8 .5303 CST .9579
 FDE .3141 FRA 1.2229 FC3-1.1673 B8P 2037 SGB 1455.5 R23 -.0083 R13 -.7531 LSA 43.3 HSA 17.7 SSA 1.1
 BDE .7068 BRA 1.1072 BC3 .1186 FSP 222 SG1 1336.2 SG2 577.2 THA 1.25 EL1 39.0 EL2 14.5 ALF 37.85

LAUNCH DATE APR 30 1971

FLIGHT TIME 116.00

ARRIVAL DATE AUG 26 1971

HELIOCENTRIC CONIC

DISTANCE 325.375

EARTH TO MARS

RL 150.69 LAL -0.00 LOL 219.02 VL 34.262 GAL -3.13 AZL 91.93 HCA 107.90 SMA 225.88 ECC .33663 INC 1.9269 V1 29.569
 RP 206.87 LAP -1.83 LOP 326.93 VP 26.372 GAP 19.11 AZP 89.41 TAL 347.55 TAP 95.46 RCA 149.79 APO 307.96 V2 26.473
 RC 58.203 GL -12.54 GP .95 ZAL 115.90 ZAP 170.14 ETS 174.43 ZAE 173.17 ETE 55.76 ZAC 101.10 ETC 271.99 LVI -18.86

PLANETOCENTRIC CONIC

C3 28.084 VHL 5.299 DLA -21.08 RAL 342.30 RAD 6646.2 VEL 12.167 PTH 7.13 VHP 9.105 DPA -16.56 RAP 319.84 ECC 1.4622
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 59 34 2788.64 -21.45 79.44 203.97 133.55 17 46 3 1788.6 -3.46 62.82
 60.00 18 4 42 2615.42 -15.91 68.84 208.97 127.53 18 48 18 1615.4 -0.05 50.51
 70.00 19 27 13 2372.86 -10.54 53.04 212.84 122.68 20 6 45 1372.9 3.35 33.42
 80.00 21 5 38 2064.82 -6.24 32.26 215.45 119.26 21 40 3 1064.8 6.14 11.75
 90.00 22 41 22 1756.06 -4.47 10.52 216.41 117.95 23 10 38 756.1 7.29 349.67
 100.00 23 48 30 1539.29 -6.24 353.63 215.45 119.26 24 14 10 539.3 6.14 333.11
 110.00 0 30 38 1419.69 -10.54 341.96 212.84 122.68 0 54 14 419.7 3.35 322.53

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4984 TRA-1.0853 TC3 .0484 BAU .0486 SGT 1368.2 SGR 576.0 SCS 175.7 ST 32.8 SR 26.4 SS 22.2
 RDE -.4854 RRA .1732 RC3 .1199 FAU .04154 RRT .0454 RRF -.0503 RTF -.7562 CRT .7472 CR8 .5232 CST .9553
 FDE .3212 FRA 1.2719 FC3-1.2805 B8P 2138 SGB 1484.5 R23 -.0086 R13 -.7583 LSA 44.1 HSA 17.8 SSA 1.2
 BDE .6942 BRA 1.0990 BC3 .1294 FSP 239 SG1 1368.5 SG2 575.3 THA 1.33 EL1 39.5 EL2 14.6 ALF 36.85

LAUNCH DATE APR 30 1971

FLIGHT TIME 120.00

ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC

DISTANCE 328.350

EARTH TO MARS

RL 150.69 LAL -0.00 LOL 219.02 VL 34.131 GAL -3.02 AZL 91.94 HCA 109.17 SMA 222.48 ECC .32653 INC 1.9351 V1 29.569
 RP 206.82 LAP -1.83 LOP 328.20 VP 26.208 GAP 18.64 AZP 89.36 TAL 347.69 TAP 96.86 RCA 149.83 APO 295.12 V2 26.479
 RC 58.807 GL -12.89 GP .99 ZAL 115.80 ZAP 169.21 ETS 174.75 ZAE 172.82 ETE 51.09 ZAC 101.09 ETC 277.66 LVI -18.81

PLANETOCENTRIC CONIC

C3 26.602 VHL 5.156 DLA -21.43 RAL 342.39 RAD 6645.7 VEL 12.108 PTH 7.08 VHP 8.823 DPA -16.43 RAP 320.16 ECC 1.4378
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 1 31 2767.68 -20.46 78.43 203.35 133.94 17 47 38 1767.7 -2.41 61.95
 60.00 18 7 13 2592.97 -14.97 67.67 208.34 127.86 18 50 26 1593.0 .94 49.44
 70.00 19 30 29 2346.18 -9.63 51.71 212.22 122.93 20 9 37 1348.2 4.29 32.12
 80.00 21 9 49 2037.25 -5.32 30.73 214.85 119.42 21 43 47 1037.3 7.05 10.21
 90.00 22 46 4 1726.83 -3.54 8.88 215.83 118.08 23 14 31 726.8 8.20 348.00
 100.00 23 52 41 1511.73 -5.32 352.10 214.85 119.42 24 17 53 511.7 7.05 331.58
 110.00 0 33 51 1395.00 -9.63 340.62 212.22 122.93 0 57 6 395.0 4.29 321.04

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4930 TRA-1.0771 TC3 .0622 BAU .0505 SGT 1398.6 SGR 573.9 SCS 187.8 ST 33.5 SR 26.3 SS 22.9
 RDE -.4702 RRA .1658 RC3 .1276 FAU .04312 RRT .0500 RRF -.0551 RTF -.7544 CRT .7474 CR8 .5164 CST .9529
 FDE .3290 FRA 1.3242 FC3-1.4032 B8P 2224 SGB 1511.8 R23 -.0091 R13 -.7645 LSA 44.8 HSA 18.1 SSA 1.2
 BDE .6813 BRA 1.0898 BC3 .1419 FSP 258 SG1 1399.0 SG2 573.0 THA 1.41 EL1 40.0 EL2 14.6 ALF 35.94

LAUNCH DATE APR 30 1971

FLIGHT TIME 122.00

ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC

DISTANCE 331.432

EARTH TO MARS

RL 150.69 LAL -0.00 LOL 219.02 VL 34.007 GAL -2.92 AZL 91.94 HCA 110.44 SMA 219.37 ECC .31682 INC 1.9434 V1 29.569
 RP 206.77 LAP -1.82 LOP 329.47 VP 26.052 GAP 18.19 AZP 89.32 TAL 347.83 TAP 98.27 RCA 149.87 APO 288.78 V2 26.485
 RC 59.485 GL -13.25 GP 1.02 ZAL 115.69 ZAP 168.26 ETS 175.01 ZAE 172.46 ETE 47.19 ZAC 101.08 ETC 277.73 LVI -18.93

PLANETOCENTRIC CONIC

C3 25.235 VHL 5.023 DLA -21.79 RAL 342.47 RAD 6645.1 VEL 12.050 PTH 7.04 VHP 8.549 DPA -16.30 RAP 320.47 ECC 1.4153
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 3 27 2746.94 -19.48 77.43 202.76 134.31 17 49 14 1746.9 -1.37 61.08
 60.00 18 9 45 2570.66 -14.04 66.53 207.74 128.17 18 52 35 1570.7 1.92 48.37
 70.00 19 33 49 2323.52 -8.71 50.38 211.63 123.15 20 12 32 1323.5 5.23 30.82
 80.00 21 14 9 2009.51 -4.39 29.20 214.29 119.56 21 47 38 1009.5 7.97 8.66
 90.00 22 50 57 1697.26 -2.59 7.23 215.28 118.17 23 19 14 697.3 9.11 346.31
 100.00 0 0 56 1483.98 -4.39 350.57 214.29 119.56 0 25 40 484.0 7.97 330.03
 110.00 0 37 11 1370.34 -8.71 339.30 211.63 123.15 1 0 1 370.3 5.23 319.74

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4877 TRA-1.0667 TC3 .0787 BAU .0529 SGT 1425.7 SGR 571.4 SCS 200.7 ST 34.1 SR 26.1 SS 23.6
 RDE -.4556 RRA .1586 RC3 .1355 FAU .04477 RRT .0547 RRF -.0599 RTF -.7712 CRT .7470 CR8 .5087 CST .9504
 FDE .3363 FRA 1.3788 FC3-1.5361 B8P 2290 SGB 1535.9 R23 -.0097 R13 -.7714 LSA 45.4 HSA 18.3 SSA 1.2
 BDE .6674 BRA 1.0785 BC3 .1567 FSP 278 SG1 1426.1 SG2 570.4 THA 1.49 EL1 40.4 EL2 14.7 ALF 35.15

LAUNCH DATE APR 30 1971 FLIGHT TIME 124.00 ARRIVAL DATE SEP 1 1971

HELIOCENTRIC CONIC DISTANCE 334.611 EARTH TO MARS
RL 150.69 LAL -.00 LOL 219.02 VL 33.090 GAL -2.82 AZL 91.95 HCA 111.71 SMA 216.53 ECC .30768 INC 1.9518 V1 29.569

PLANETOCENTRIC CONIC
C3 23.974 VHL 4.896 DLA -22.16 RAL 342.54 RAD 6644.6 VEL 11.998 PTH 8.99 VHP 8.284 DPA -18.17 RAP 320.75 ECC 1.3946

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4825 TRA-1.0568 TC3 .0959 BAU .0554 SGT 1452.7 SGR 568.5 SG3 214.5 ST 34.6 SR 26.0 SS 24.3

LAUNCH DATE APR 30 1971 FLIGHT TIME 126.00 ARRIVAL DATE SEP 3 1971

HELIOCENTRIC CONIC DISTANCE 337.877 EARTH TO MARS
RL 150.69 LAL -.00 LOL 219.02 VL 33.780 GAL -2.72 AZL 91.96 HCA 112.97 SMA 213.93 ECC .29908 INC 1.9604 V1 29.569

PLANETOCENTRIC CONIC
C3 22.811 VHL 4.776 DLA -22.53 RAL 342.59 RAD 6644.1 VEL 11.950 PTH 6.95 VHP 8.028 DPA -16.04 RAP 321.02 ECC 1.3754

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4783 TRA-1.0452 TC3 .1152 BAU .0582 SGT 1477.0 SGR 565.3 SG3 229.2 ST 35.1 SR 25.8 SS 25.0

LAUNCH DATE APR 30 1971 FLIGHT TIME 126.00 ARRIVAL DATE SEP 5 1971

HELIOCENTRIC CONIC DISTANCE 341.221 EARTH TO MARS
RL 150.69 LAL -.00 LOL 219.02 VL 33.676 GAL -2.63 AZL 91.97 HCA 114.24 SMA 211.53 ECC .29098 INC 1.9691 V1 29.569

PLANETOCENTRIC CONIC
C3 21.739 VHL 4.682 DLA -22.92 RAL 342.64 RAD 6643.6 VEL 11.905 PTH 6.91 VHP 7.781 DPA -15.92 RAP 321.26 ECC 1.3578

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4700 TRA-1.0336 TC3 .1355 BAU .0611 SGT 1500.4 SGR 561.8 SG3 244.9 ST 35.5 SR 25.6 SS 25.8

LAUNCH DATE APR 30 1971 FLIGHT TIME 130.00 ARRIVAL DATE SEP 7 1971

HELIOCENTRIC CONIC DISTANCE 344.637 EARTH TO MARS
RL 150.69 LAL -.00 LOL 219.02 VL 33.578 GAL -2.54 AZL 91.98 HCA 115.51 SMA 209.33 ECC .28335 INC 1.9780 V1 29.569

PLANETOCENTRIC CONIC
C3 20.749 VHL 4.555 DLA -23.31 RAL 342.68 RAD 6643.2 VEL 11.864 PTH 6.88 VHP 7.541 DPA -15.80 RAP 321.48 ECC 1.3415

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4831 TRA-1.0213 TC3 .1558 BAU .0640 SGT 1521.9 SGR 557.9 SG3 261.6 ST 35.9 SR 25.4 SS 26.6

LAUNCH DATE APR 30 1971

FLIGHT TIME 132.00

ARRIVAL DATE SEP 9 1971

HELIOCENTRIC CONIC
 RL 150.69 LAL -.00 LOL 219.02 VL 33.485 GAL -2.45 AZL 91.99 HCA 116.70 SMA 207.30 ECC .27617 INC 1.9872 V1 29.569
 RP 206.67 LAP -1.77 LOP 335.81 VP 25.378 GAP 16.03 AZP 89.10 TAL 348.65 TAP 105.43 RCA 150.05 APO 264.55 V2 26.496
 RC 63.888 GL -15.10 GP 1.24 ZAL 114.92 ZAP 163.21 E78 175.88 ZAE 171.18 ETE 35.76 ZAC 101.11 ETC 278.00 LVI -19.50

PLANETOCENTRIC CONIC
 C3 19.835 VHL 4.454 DLA -23.70 RAL 342.70 RAD 6642.8 VEL 11.826 PTH 6.84 VHP 7.310 DPA -15.69 RAP 321.69 ECC 1.3264
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 13 16 2647.37 -14.68 72.84 200.21 135.70 17 57 23 1647.4 3.63 56.92
 60.00 18 22 30 2462.32 -9.41 61.11 205.15 129.37 19 3 53 1462.3 6.67 43.16
 70.00 19 51 34 2201.46 -4.12 43.93 209.12 123.93 20 28 16 1201.5 9.80 24.33
 80.00 21 38 0 1866.38 .38 21.44 211.92 119.86 22 9 8 868.4 12.50 .64
 90.00 23 18 35 1543.97 2.35 358.67 213.01 118.19 23 44 19 544.0 13.69 337.38
 100.00 0 24 48 1342.65 .38 342.81 211.92 119.86 0 47 11 342.9 12.50 322.01
 110.00 0 54 57 1248.28 -4.12 332.84 209.12 123.93 1 15 45 248.3 9.80 313.25

DIFFERENTIAL CORRECTIONS
 TDE -.4365 TRA -1.0088 TC3 .1766 BAV .0667 SGT 1542.3 SGR 553.7 SG3 279.4 ST 36.3 SR 25.2 SS 27.3
 RDE -.3892 RRA .1241 RC3 .1793 FAU .05476 RRT .0843 RRF -.0926 RTF -.8020 CRT .7447 CRS .4697 CST .9371
 FDE .3754 FRA 1.6978 FC3-2.3903 BSP 2550 SGB 1636.6 R23 -.0152 R13 -.8022 LSA 48.2 MSA 19.2 SSA 1.3
 BDE .5999 BRA 1.0164 BC3 .2516 FSP 406 SG1 1543.1 S62 551.5 THA 1.99 EL1 41.6 EL2 14.6 ALF 31.70

LAUNCH DATE APR 30 1971

FLIGHT TIME 134.00

ARRIVAL DATE SEP 11 1971

HELIOCENTRIC CONIC
 RL 150.69 LAL -.00 LOL 219.02 VL 33.398 GAL -2.36 AZL 92.00 HCA 118.05 SMA 205.43 ECC .26942 INC 1.9965 V1 29.569
 RP 206.68 LAP -1.76 LOP 337.08 VP 25.263 GAP 15.63 AZP 89.06 TAL 348.82 TAP 106.88 RCA 150.08 APO 260.77 V2 26.496
 RC 64.956 GL -15.47 GP 1.29 ZAL 114.74 ZAP 162.14 E78 175.99 ZAE 171.08 ETE 34.65 ZAC 101.14 ETC 278.05 LVI -19.60

PLANETOCENTRIC CONIC
 C3 18.992 VHL 4.358 DLA -24.10 RAL 342.73 RAD 6642.4 VEL 11.790 PTH 6.81 VHP 7.085 DPA -15.58 RAP 321.66 ECC 1.3126
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 15 15 2820.44 -13.75 71.99 199.78 136.01 17 59 3 1628.4 4.58 58.12
 60.00 18 25 33 2441.45 -8.51 60.09 204.72 129.54 19 6 18 1441.4 7.58 42.15
 70.00 19 55 21 2177.44 -3.20 42.67 208.71 124.02 20 31 39 1177.4 10.69 23.04
 80.00 21 43 17 1839.64 1.36 19.86 211.95 119.83 22 13 57 839.6 13.39 358.98
 90.00 23 24 53 1511.95 3.38 358.88 212.67 118.09 23 50 5 511.9 14.60 339.47
 100.00 0 30 5 1314.12 1.36 341.23 211.55 119.83 0 51 59 314.1 13.39 320.34
 110.00 0 58 43 1224.26 -3.20 331.59 208.71 124.02 1 19 8 224.3 10.69 311.96

DIFFERENTIAL CORRECTIONS
 TDE -.4496 TRA -.9956 TC3 .1977 BAV .0694 SGT 1560.5 SGR 549.3 SG3 298.4 ST 36.8 SR 24.9 SS 28.1
 RDE -.3772 RRA .1175 RC3 .1688 FAU .05719 RRT .0919 RRF -.1011 RTF -.8068 CRT .7444 CRS .4612 CST .9339
 FDE .3832 FRA 1.7715 FC3-2.6066 BSP 2594 SGB 1654.3 R23 -.0167 R13 -.8070 LSA 48.7 MSA 19.3 SSA 1.3
 BDE .5869 BRA 1.0025 BC3 .2734 FSP 437 SG1 1561.4 S62 546.6 THA 2.11 EL1 41.6 EL2 14.6 ALF 31.11

LAUNCH DATE APR 30 1971

FLIGHT TIME 136.00

ARRIVAL DATE SEP 13 1971

HELIOCENTRIC CONIC
 RL 150.69 LAL -.00 LOL 219.02 VL 33.316 GAL -2.29 AZL 92.01 HCA 119.32 SMA 203.70 ECC .26307 INC 2.0080 V1 29.569
 RP 206.70 LAP -1.74 LOP 338.35 VP 25.192 GAP 15.25 AZP 89.02 TAL 349.00 TAP 108.33 RCA 150.11 APO 257.28 V2 26.484
 RC 66.082 GL -15.65 GP 1.34 ZAL 114.58 ZAP 161.04 E78 176.02 ZAE 171.03 ETE 33.82 ZAC 101.17 ETC 278.08 LVI -19.70

PLANETOCENTRIC CONIC
 C3 18.214 VHL 4.268 DLA -24.50 RAL 342.74 RAD 6642.0 VEL 11.757 PTH 6.78 VHP 6.869 DPA -15.48 RAP 322.02 ECC 1.2998
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 17 14 2809.88 -12.84 71.17 199.38 136.22 18 0 44 1609.9 5.51 58.34
 60.00 18 28 18 2420.89 -7.62 59.09 204.32 129.70 19 8 39 1420.9 8.48 41.15
 70.00 19 59 13 2153.60 -2.29 41.42 208.33 124.09 20 38 6 1193.6 11.56 21.74
 80.00 21 48 46 1810.70 2.34 18.27 211.21 119.77 22 18 37 810.7 14.28 387.28
 90.00 23 31 32 1479.31 4.42 355.05 212.36 117.96 23 56 11 479.3 15.51 333.51
 100.00 0 35 34 1285.18 2.34 339.64 211.21 119.77 0 56 59 285.2 14.28 318.69
 110.00 1 2 35 1200.42 -2.29 330.34 208.33 124.09 1 22 35 200.4 11.56 310.66

DIFFERENTIAL CORRECTIONS
 TDE -.4426 TRA -.9819 TC3 .2190 BAV .0720 SGT 1576.9 SGR 544.5 SG3 318.6 ST 36.8 SR 24.7 SS 28.9
 RDE -.3658 RRA .1110 RC3 .1986 FAU .05975 RRT .1002 RRF -.1104 RTF -.7.13 CRT .7443 CRS .4527 CST .9306
 FDE .3910 FRA 1.8493 FC3-2.8402 BSP 2629 SGB 1688.3 R23 -.0183 R13 -.8116 LSA 49.2 MSA 19.5 SSA 1.3
 BDE .5741 BRA .9882 BC3 .2957 FSP 470 SG1 1578.0 S62 541.4 THA 2.25 EL1 41.9 EL2 14.5 ALF 30.84

LAUNCH DATE APR 30 1971

FLIGHT TIME 138.00

ARRIVAL DATE SEP 15 1971

HELIOCENTRIC CONIC
 RL 150.69 LAL -.00 LOL 219.02 VL 33.238 GAL -2.21 AZL 92.02 HCA 120.59 SMA 202.10 ECC .25709 INC 2.0158 V1 29.569
 RP 206.72 LAP -1.74 LOP 339.62 VP 25.046 GAP 14.84 AZP 88.97 TAL 349.19 TAP 109.77 RCA 150.14 APO 254.05 V2 26.481
 RC 67.263 GL -16.22 GP 1.40 ZAL 114.35 ZAP 159.92 E78 176.17 ZAE 171.05 ETE 33.27 ZAC 101.20 ETC 278.11 LVI -19.79

PLANETOCENTRIC CONIC
 C3 17.496 VHL 4.183 DLA -24.90 RAL 342.78 RAD 6641.7 VEL 11.727 PTH 6.76 VHP 6.659 DPA -15.38 RAP 322.14 ECC 1.2879
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 19 15 2591.71 -11.95 70.37 199.01 136.41 18 2 26 1591.7 6.42 54.57
 60.00 18 31 4 2400.68 -6.74 58.11 203.95 129.83 19 11 5 1400.7 9.35 40.16
 70.00 20 3 9 2129.94 -1.59 40.19 207.98 124.13 20 38 39 1129.9 12.42 20.45
 80.00 21 54 29 1781.54 3.32 16.67 210.91 119.69 22 24 10 781.5 15.16 355.56
 90.00 23 38 32 1445.93 5.49 353.17 212.11 117.79 24 2 38 445.9 16.42 331.49
 100.00 0 41 16 1256.01 3.32 338.04 210.91 119.69 1 2 12 256.0 15.16 316.93
 110.00 1 6 32 1176.76 -1.59 329.10 207.98 124.13 1 26 8 176.8 12.42 309.37

DIFFERENTIAL CORRECTIONS
 TDE -.4351 TRA -.9679 TC3 .2385 BAV .0741 SGT 1591.1 SGR 539.5 SG3 340.0 ST 37.0 SR 24.4 SS 29.7
 RDE -.3544 RRA .1046 RC3 .2086 FAU .06243 RRT .1087 RRF -.1200 RTF -.8152 CRT .7441 CRS .4430 CST .9267
 FDE .3976 FRA 1.9317 FC3-3.0891 BSP 2663 SGB 1680.1 R23 -.0202 R13 -.8156 LSA 49.6 MSA 19.7 SSA 1.3
 BDE .5612 BRA .9736 BC3 .3169 FSP 507 SG1 1592.3 S62 535.9 THA 2.38 EL1 41.9 EL2 14.4 ALF 30.02

LAUNCH DATE APR 30 1971

FLIGHT TIME 140.00

ARRIVAL DATE SEP 17 1971

Heliocentric Conic: RL 150.89 LAL -0.00 LOL 219.02 VL 33.165 GAL -2.13 AZL 92.03 HCA 121.86 SMA 200.61 ECC .25146 INC 2.0258 V1 29.569

Planetary Conic: CS 16.833 VHL 4.103 DLA -25.30 RAL 342.76 RAD 6641.4 VEL 11.699 PTH 6.73 VHP 6.457 DPA -15.28 RAP 322.24 ECC 1.2770

Differential Corrections: TDE -.4167 TRA -.9420 TC3 .2846 BAW .0808 RDE -.3435 RRA .0983 RC3 .2192 FAU .06542 FDE .4031 FRA 2.0153 FC3-3.3644 BSP 2552 BDE .5400 BRA .9471 BC3 .3592 FSP 542

Mid-Course Execution Accuracy: SGT 1584.4 SGR 534.3 SG3 362.8 RRT .1184 RRF -.1310 RTF -.8270 SGB 1672.1 R23 -.0209 R13 -.8275 SGI 1585.8 SG2 530.0 THA 2.57

Orbit Determination Accuracy: ST 36.4 SR 24.1 SS 30.5 CRT .7397 CRS .4325 CST .9249 LSA 49.4 MSA 19.8 SSA 1.3 EL1 41.2 EL2 14.3 ALF 30.09

LAUNCH DATE APR 30 1971

FLIGHT TIME 142.00

ARRIVAL DATE SEP 19 1971

Heliocentric Conic: RL 150.89 LAL -0.00 LOL 219.02 VL 33.096 GAL -2.06 AZL 92.04 HCA 123.13 SMA 199.24 ECC .24619 INC 2.0362 V1 29.569

Planetary Conic: CS 16.223 VHL 4.028 DLA -25.70 RAL 342.77 RAD 6641.1 VEL 11.673 PTH 6.71 VHP 6.261 DPA -15.19 RAP 322.31 ECC 1.2670

Differential Corrections: TDE -.4148 TRA -.9323 TC3 .2903 BAW .0803 RDE -.3330 RRA .0919 RC3 .2296 FAU .06845 FDE .4104 FRA 2.1073 FC3-3.6529 BSP 2639 BDE .5319 BRA .9368 BC3 .3701 FSP 583

Mid-Course Execution Accuracy: SGT 1602.9 SGR 528.8 SG3 387.0 RRT .1289 RRF -.1428 RTF -.8257 SGB 1687.9 R23 -.0239 R13 -.8262 SGI 1604.5 SG2 523.9 THA 2.73

Orbit Determination Accuracy: ST 36.9 SR 23.8 SS 31.4 CRT .7425 CRS .4235 CST .9195 LSA 50.1 MSA 20.0 SSA 1.3 EL1 41.5 EL2 14.1 ALF 29.34

LAUNCH DATE APR 30 1971

FLIGHT TIME 144.00

ARRIVAL DATE SEP 21 1971

Heliocentric Conic: RL 150.89 LAL -0.00 LOL 219.02 VL 33.032 GAL -1.99 AZL 92.05 HCA 124.39 SMA 197.97 ECC .24123 INC 2.0468 V1 29.569

Planetary Conic: CS 15.661 VHL 3.957 DLA -26.10 RAL 342.78 RAD 6640.8 VEL 11.649 PTH 6.69 VHP 6.072 DPA -15.11 RAP 322.35 ECC 1.2577

Differential Corrections: TDE -.4112 TRA -.9201 TC3 .2987 BAW .0803 RDE -.3229 RRA .0855 RC3 .2403 FAU .07166 FDE .4196 FRA 2.2051 FC3-3.9611 BSP 2708 BDE .5229 BRA .9241 BC3 .3634 FSP 628

Mid-Course Execution Accuracy: SGT 1615.9 SGR 523.3 SG3 412.9 RRT .1406 RRF -.1561 RTF -.8258 SGB 1698.5 R23 -.0270 R13 -.8264 SGI 1617.8 SG2 517.5 THA 2.90

Orbit Determination Accuracy: ST 37.2 SR 23.5 SS 32.3 CRT .7451 CRS .4161 CST .9147 LSA 50.7 MSA 20.2 SSA 1.3 EL1 41.7 EL2 14.0 ALF 28.73

LAUNCH DATE APR 30 1971

FLIGHT TIME 146.00

ARRIVAL DATE SEP 23 1971

Heliocentric Conic: RL 150.89 LAL -0.00 LOL 219.02 VL 32.971 GAL -1.93 AZL 92.06 HCA 125.66 SMA 196.80 ECC .23637 INC 2.0577 V1 29.569

Planetary Conic: CS 15.143 VHL 3.891 DLA -26.50 RAL 342.79 RAD 6640.6 VEL 11.627 PTH 6.67 VHP 5.890 DPA -15.03 RAP 322.36 ECC 1.2492

Differential Corrections: TDE -.4055 TRA -.9047 TC3 .3089 BAW .0806 RDE -.3132 RRA .0792 RC3 .2514 FAU .07510 FDE .4273 FRA 2.3057 FC3-4.2934 BSP 2736 BDE .5124 BRA .9062 BC3 .3963 FSP 674

Mid-Course Execution Accuracy: SGT 1621.7 SGR 517.6 SG3 440.1 RRT .1531 RRF -.1706 RTF -.8262 SGB 1702.3 R23 -.0306 R13 -.8268 SGI 1623.9 SG2 510.8 THA 3.10

Orbit Determination Accuracy: ST 37.3 SR 23.1 SS 33.2 CRT .7474 CRS .4079 CST .9096 LSA 51.1 MSA 20.3 SSA 1.3 EL1 41.7 EL2 13.8 ALF 28.24

LAUNCH DATE APR 30 1971

FLIGHT TIME 146.00

ARRIVAL DATE SEP 26 1971

HELIOCENTRIC CONIC

DISTANCE 377.722

EARTH TO MARS

RL 150.69 LAL -.00 LOL 219.02 VL 32.914 GAL -1.87 AZL 92.07 HCA 126.93 SMA 195.70 ECC .23220 INC 2.0690 V1 29.569
 RP 206.96 LAP -1.65 LOP 345.96 VP 24.584 GAP 13.02 AZP 88.76 TAL 350.07 TAP 116.99 RCA 150.26 APO 241.15 V2 26.462
 RC 75.950 GL -18.07 GP 1.74 ZAL 113.35 ZAP 153.89 ETS 176.47 ZAE 172.13 ETE 35.17 ZAC 101.49 ETC 278.19 LVI -20.20

PLANETOCENTRIC CONIC

C3 14.666 VHL 3.830 DLA -26.90 RAL 342.80 RAD 6640.4 VEL 11.607 PTH 6.65 VHP 5.714 DPA -14.96 RAP 322.34 ECC 1.2414
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 29 28 2507.27 -7.76 86.73 197.57 137.09 18 11 15 1507.3 10.62 50.96
 60.00 18 45 25 2305.26 -2.96 53.51 202.56 130.23 19 23 50 1305.3 13.43 35.40
 70.00 20 24 9 2014.94 3.00 34.18 206.76 124.04 20 57 44 1014.9 16.48 14.02
 80.00 22 27 4 1630.21 8.36 8.27 210.05 118.77 22 54 14 630.2 19.45 346.38
 90.00 0 26 8 1258.89 11.28 342.49 211.58 116.11 0 47 7 258.9 21.08 319.74
 100.00 1 13 51 1104.68 8.36 329.63 210.05 118.77 1 32 16 104.7 19.45 307.75
 110.00 1 27 31 1061.76 3.00 323.10 206.76 124.04 1 45 13 61.8 16.48 302.93

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3990 TRA -.8887 TC3 .3181 BAV .0809 SGT 1624.4 SGR 511.7 SGG 469.1 ST 37.3 SR 22.8 SS 34.1
 RDE -.3037 RRA .0728 RC3 .2627 FAV .07870 RRT .1663 RRF -.1861 RTF -.8268 CRT .7496 CR8 .3994 CST .9044
 FDE .4348 FRA 2.4140 FC3-4.6457 B8P 2757 SGB 1703.1 R23 -.0344 R13 -.8276 LSA 51.5 MSA 20.5 S8A 1.3
 BDE .3015 BRA .8917 BC3 .4125 F8P 724 SGI 1626.9 SG2 903.8 THA 3.32 EL1 41.6 EL2 13.5 ALF 27.81

LAUNCH DATE APR 30 1971

FLIGHT TIME 150.00

ARRIVAL DATE SEP 27 1971

HELIOCENTRIC CONIC

DISTANCE 381.589

EARTH TO MARS

RL 150.69 LAL -.00 LOL 219.02 VL 32.860 GAL -1.81 AZL 92.08 HCA 128.19 SMA 194.69 ECC .22810 INC 2.0606 V1 29.569
 RP 207.04 LAP -1.64 LOP 347.23 VP 24.502 GAP 12.68 AZP 88.71 TAL 350.23 TAP 118.42 RCA 150.28 APO 239.10 V2 26.494
 RC 75.428 GL -18.43 GP 1.82 ZAL 113.16 ZAP 152.59 ETS 176.51 ZAE 172.53 ETE 36.78 ZAC 101.58 ETC 278.18 LVI -20.27

PLANETOCENTRIC CONIC

C3 14.227 VHL 3.772 DLA -27.29 RAL 342.82 RAD 6640.2 VEL 11.588 PTH 6.63 VHP 5.544 DPA -14.89 RAP 322.28 ECC 1.2341
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 31 34 2491.76 -6.99 66.07 197.37 137.18 18 13 5 1491.8 11.39 50.28
 60.00 18 48 23 2287.42 -1.77 52.66 202.37 130.27 19 26 30 1287.4 14.18 34.49
 70.00 20 28 37 1992.68 3.85 33.02 206.62 123.96 21 1 50 992.7 17.24 12.74
 80.00 22 34 40 1598.11 9.41 6.46 210.01 118.47 23 1 18 598.1 20.30 344.38
 90.00 0 38 1 1213.01 12.64 339.80 211.69 115.51 0 58 14 213.0 22.08 316.75
 100.00 1 21 27 1072.58 9.41 327.83 210.01 118.47 1 39 20 72.6 20.30 305.74
 110.00 1 31 59 1039.50 3.85 321.93 206.62 123.96 1 49 19 39.5 17.24 301.66

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3920 TRA -.8714 TC3 .3247 BAV .0809 SGT 1622.7 SGR 505.8 SGG 499.8 ST 37.2 SR 22.4 SS 35.0
 RDE -.2945 RRA .0664 RC3 .2743 FAV .08253 RRT .1804 RRF -.2030 RTF -.8268 CRT .7520 CR8 .3907 CST .8986
 FDE .4414 FRA 2.5272 FC3-5.0223 B8P 2757 SGB 1699.7 R23 -.0390 R13 -.8277 LSA 51.8 MSA 20.7 S8A 1.3
 BDE .4903 BRA .8739 BC3 .4251 F8P 776 SGI 1625.5 SG2 496.6 THA 3.55 EL1 41.4 EL2 13.3 ALF 27.46

LAUNCH DATE APR 30 1971

FLIGHT TIME 152.00

ARRIVAL DATE SEP 29 1971

HELIOCENTRIC CONIC

DISTANCE 385.483

EARTH TO MARS

RL 150.69 LAL -.00 LOL 219.02 VL 32.810 GAL -1.76 AZL 92.09 HCA 129.46 SMA 193.75 ECC .22426 INC 2.0927 V1 29.569
 RP 207.12 LAP -1.62 LOP 348.49 VP 24.424 GAP 12.35 AZP 88.87 TAL 350.39 TAP 119.85 RCA 150.30 APO 237.20 V2 26.444
 RC 76.944 GL -18.79 GP 1.90 ZAL 112.97 ZAP 151.26 ETS 176.54 ZAE 172.99 ETE 39.01 ZAC 101.67 ETC 278.17 LVI -20.34

PLANETOCENTRIC CONIC

C3 13.823 VHL 3.718 DLA -27.67 RAL 342.84 RAD 6640.0 VEL 11.571 PTH 6.62 VHP 5.380 DPA -14.83 RAP 322.19 ECC 1.2275
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 33 40 2476.73 -6.24 65.43 197.20 137.26 18 14 57 1476.7 12.13 49.63
 60.00 18 51 23 2270.03 -1.01 51.83 202.22 130.29 19 29 13 1270.0 14.91 33.60
 70.00 20 33 11 1970.68 4.68 31.86 206.52 123.87 21 6 1 970.7 17.98 11.47
 80.00 22 42 46 1564.95 10.48 4.58 210.03 118.12 23 8 51 564.9 21.14 342.28
 90.00 0 52 22 1159.73 14.18 336.85 211.91 114.73 1 11 41 159.7 23.16 313.23
 100.00 1 29 34 1039.42 10.48 325.95 210.03 118.12 1 46 54 39.4 21.14 303.64
 110.00 1 38 33 1017.49 4.68 320.78 206.52 123.87 1 53 30 17.5 17.98 300.38

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3849 TRA -.8529 TC3 .3307 BAV .0808 SGT 1617.1 SGR 499.9 SGG 532.4 ST 37.1 SR 22.1 SS 36.0
 RDE -.2856 RRA .0599 RC3 .2864 FAV .08661 RRT .1964 RRF -.2217 RTF -.8268 CRT .7593 CR8 .3829 CST .8927
 FDE .4487 FRA 2.6471 FC3-5.4245 B8P 2752 SGB 1692.6 R23 -.0439 R13 -.8279 LSA 52.2 MSA 20.8 S8A 1.3
 BDE .4793 BRA .8550 BC3 .4375 F8P 831 SGI 1620.3 SG2 489.2 THA 3.82 EL1 41.1 EL2 13.0 ALF 27.15

LAUNCH DATE APR 30 1971

FLIGHT TIME 154.00

ARRIVAL DATE OCT 1 1971

HELIOCENTRIC CONIC

DISTANCE 389.403

EARTH TO MARS

RL 150.69 LAL -.00 LOL 219.02 VL 32.763 GAL -1.71 AZL 92.11 HCA 130.72 SMA 192.88 ECC .22066 INC 2.1052 V1 29.569
 RP 207.21 LAP -1.60 LOP 349.75 VP 24.349 GAP 12.03 AZP 88.63 TAL 350.54 TAP 121.26 RCA 150.32 APO 235.44 V2 26.433
 RC 76.502 GL -19.15 GP 2.00 ZAL 112.79 ZAP 149.89 ETS 176.57 ZAE 173.49 ETE 42.06 ZAC 101.77 ETC 278.15 LVI -20.40

PLANETOCENTRIC CONIC

C3 13.453 VHL 3.668 DLA -28.05 RAL 342.87 RAD 6639.8 VEL 11.555 PTH 6.60 VHP 5.222 DPA -14.78 RAP 322.06 ECC 1.2214
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 35 48 2462.19 -5.51 64.82 197.06 137.33 18 16 50 1462.2 12.85 48.99
 60.00 18 54 24 2253.11 -2.26 51.02 202.10 130.30 19 31 57 1253.1 15.62 32.72
 70.00 20 37 50 1948.94 5.51 30.72 206.45 123.76 21 10 19 948.9 18.71 10.20
 80.00 22 51 32 1530.34 11.58 2.60 210.10 117.71 23 17 2 530.3 21.99 340.06
 90.00 1 12 18 1089.02 16.15 332.40 212.35 113.54 1 30 27 89.0 24.46 308.46
 100.00 1 38 19 1004.81 11.58 323.97 210.10 117.71 1 35 4 4.8 21.99 301.43
 110.00 1 41 12 6283.79 5.51 297.54 206.45 123.76 3 25 56 5283.8 18.71 277.02

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3784 TRA -.8330 TC3 .3283 BAV .0798 SGT 1606.6 SGR 494.1 SGG 566.3 ST 36.9 SR 21.7 SS 37.0
 RDE -.2770 RRA .0534 RC3 .2986 FAV .09080 RRT .2132 RRF -.2421 RTF -.8251 CRT .7598 CR8 .3764 CST .8863
 FDE .4567 FRA 2.7720 FC3-5.8434 B8P 2746 SGB 1680.9 R23 -.0500 R13 -.8263 LSA 52.5 MSA 21.0 S8A 1.3
 BDE .4690 BRA .8317 BC3 .4437 F8P 892 SGI 1610.4 SG2 481.6 THA 4.12 EL1 40.9 EL2 12.7 ALF 26.87

LAUNCH DATE APR 30 1971 FLIGHT TIME 156.00 ARRIVAL DATE OCT 3 1971

EARTH TO MARS

HELIOCENTRIC CONIC
 DISTANCE 393.347
 RL 150.89 LAL -.00 LOL 219.02 VL 32.718 GAL -1.66 AZL 92.12 HCA 131.98 SMA 192.07 ECC .21730 INC 2.1161 V1 29.569
 RP 207.31 LAP -1.57 LOP 331.02 VP 24.277 GAP 11.71 AZP 88.58 TAL 350.69 TAP 122.67 RCA 150.33 APO 233.80 V2 26.422
 RC 80.098 GL -19.50 GP 2.09 ZAL 112.62 ZAP 148.49 ETS 176.59 ZAE 174.01 ETE 46.20 ZAC 101.89 ETC 278.13 LVI -20.45

PLANETOCENTRIC CONIC
 C3 13.113 VHL 3.621 DLA -28.42 RAL 342.90 RAD 6639.6 VEL 11.540 PTH 6.59 VHP 5.071 DPA -14.73 RAP 321.89 ECC 1.2158
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 37 57 2448.15 -4.81 64.23 196.95 137.39 18 18 45 1448.2 13.53 48.37
 60.00 18 57 27 2236.65 .46 50.24 202.01 130.30 19 34 44 1236.6 16.30 31.87
 70.00 20 42 35 1927.46 6.32 29.59 206.42 123.63 21 14 43 927.5 19.42 8.93
 80.00 23 1 7 1493.68 12.73 .49 210.24 117.24 23 26 0 493.7 22.86 337.68
 87.04 1 19 17 1061.10 19.06 331.62 213.21 111.49 1 36 58 61.1 26.25 306.87
 100.00 1 47 54 6256.19 12.73 299.76 210.24 117.24 3 32 11 5256.2 22.86 276.95
 110.00 1 45 57 6262.32 6.32 296.41 206.42 123.63 3 30 20 5262.3 19.42 275.76

DIFFERENTIAL CORRECTIONS
 TDE -.3717 TRA -.8126 TC3 .3238 BAW .0787
 RDE -.2687 RRA .0467 RC3 .3113 FAU .09530
 FDE .4645 FRA 2.9049 FC3-6.2919 BSP 2718
 BDE .4587 BRA .8140 BC3 .4492 FSP 952

MID-COURSE EXECUTION ACCURACY
 SGT 1593.2 SGR 488.5 SG3 602.4
 RRT .2314 RRF -.2644 RTF -.8229
 SGB 1666.4 R23 -.0571 R13 -.8244
 SG1 1597.6 SG2 473.9 THA 4.45

ORBIT DETERMINATION ACCURACY
 ST 36.7 SR 21.3 SS 38.0
 CRT .7649 CR8 .3707 CST .8795
 LSA 52.9 MSA 21.2 SSA 1.3
 EL1 40.6 EL2 12.4 ALF 26.63

LAUNCH DATE APR 30 1971 FLIGHT TIME 158.00 ARRIVAL DATE OCT 5 1971

EARTH TO MARS

HELIOCENTRIC CONIC
 DISTANCE 397.313
 RL 150.69 LAL -.00 LOL 219.02 VL 32.677 GAL -1.62 AZL 92.13 HCA 133.24 SMA 191.32 ECC .21415 INC 2.1316 V1 29.569
 RP 207.42 LAP -1.55 LOP 352.28 VP 24.207 GAP 11.40 AZP 88.54 TAL 350.82 TAP 124.06 RCA 150.35 APO 232.29 V2 26.409
 RC 81.730 GL -19.85 GP 2.19 ZAL 112.45 ZAP 147.05 ETS 176.61 ZAE 174.54 ETE 51.79 ZAC 102.02 ETC 278.10 LVI -20.50

PLANETOCENTRIC CONIC
 C3 12.803 VHL 3.578 DLA -28.79 RAL 342.95 RAD 6639.5 VEL 11.527 PTH 6.57 VHP 4.925 DPA -14.69 RAP 321.69 ECC 1.2107
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 40 7 2434.60 -4.13 63.66 196.87 137.44 18 20 41 1434.6 14.20 47.76
 60.00 19 0 33 2220.64 1.17 49.47 201.95 130.29 19 37 33 1220.6 16.96 31.03
 70.00 20 47 27 1906.22 7.12 28.46 206.43 123.49 21 19 13 906.2 20.10 7.67
 80.00 23 11 52 1453.90 13.96 358.18 210.45 116.66 23 36 6 453.9 23.75 335.06
 84.38 0 57 31 1126.91 19.42 336.60 213.01 111.68 1 16 17 126.9 26.65 311.79
 100.00 1 58 39 6216.41 13.96 297.45 210.45 116.66 3 42 16 5216.4 23.75 274.33
 110.00 1 50 49 6241.08 7.12 295.28 206.43 123.49 3 34 50 5241.1 20.10 274.49

DIFFERENTIAL CORRECTIONS
 TDE -.3612 TRA -.7870 TC3 .3255 BAW .0787
 RDE -.2605 RRA .0400 RC3 .3247 FAU .10015
 FDE .4683 FRA 3.0397 FC3-6.7725 BSP 2642
 BDE .4454 BRA .7880 BC3 .4597 FSP 1013

MID-COURSE EXECUTION ACCURACY
 SGT 1567.3 SGR 483.0 SG3 640.2
 RRT .2513 RRF -.2886 RTF -.8223
 SGB 1640.0 R23 -.0639 R13 -.8241
 SG1 1572.4 SG2 466.0 THA 4.86

ORBIT DETERMINATION ACCURACY
 ST 36.1 SR 20.9 SS 39.0
 CRT .7692 CR8 .3621 CST .8721
 LSA 52.9 MSA 21.4 SSA 1.3
 EL1 39.9 EL2 12.1 ALF 26.63

LAUNCH DATE APR 30 1971 FLIGHT TIME 160.00 ARRIVAL DATE OCT 7 1971

EARTH TO MARS

HELIOCENTRIC CONIC
 DISTANCE 401.299
 RL 150.69 LAL -.00 LOL 219.02 VL 32.638 GAL -1.58 AZL 92.15 HCA 134.50 SMA 190.62 ECC .21121 INC 2.1456 V1 29.569
 RP 207.54 LAP -1.53 LOP 353.54 VP 24.140 GAP 11.09 AZP 88.50 TAL 350.94 TAP 125.45 RCA 150.36 APO 230.88 V2 26.395
 RC 83.399 GL -20.20 GP 2.30 ZAL 112.30 ZAP 145.57 ETS 176.63 ZAE 175.04 ETE 59.31 ZAC 102.15 ETC 278.05 LVI -20.55

PLANETOCENTRIC CONIC
 C3 12.519 VHL 3.538 DLA -29.14 RAL 343.00 RAD 6639.3 VEL 11.515 PTH 6.56 VHP 4.784 DPA -14.65 RAP 321.44 ECC 1.2060
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 42 18 2421.58 -3.47 63.11 196.82 137.48 18 22 40 1421.6 14.83 47.18
 60.00 19 3 40 2205.16 1.83 48.73 201.93 130.27 19 40 25 1205.2 17.59 30.21
 70.00 20 52 25 1885.28 7.90 27.35 206.47 123.34 21 23 50 885.3 20.77 6.41
 80.00 23 24 22 1409.20 15.31 355.54 210.77 115.95 23 47 51 409.2 24.69 332.07
 82.65 0 43 44 1167.25 19.77 339.72 212.84 111.86 1 3 11 167.3 27.04 314.84
 100.00 2 11 10 6171.71 15.31 294.82 210.77 115.95 3 54 2 5171.7 24.69 271.35
 110.00 1 55 47 6220.14 7.90 294.11 206.47 123.34 3 39 27 5220.1 20.77 273.24

DIFFERENTIAL CORRECTIONS
 TDE -.3585 TRA -.7872 TC3 .2988 BAW .0755
 RDE -.2527 RRA .0330 RC3 .3380 FAU .10493
 FDE .4801 FRA 3.1886 FC3-7.2583 BSP 2652
 BDE .4386 BRA .7879 BC3 .4512 FSP 1086

MID-COURSE EXECUTION ACCURACY
 SGT 1550.9 SGR 478.0 SG3 679.9
 RRT .2714 RRF -.3151 RTF -.8150
 SGB 1622.8 R23 -.0755 R13 -.8174
 SG1 1556.8 SG2 458.3 THA 5.24

ORBIT DETERMINATION ACCURACY
 ST 36.0 SR 20.5 SS 40.2
 CRT .7784 CR8 .3603 CST .8839
 LSA 53.5 MSA 21.4 SSA 1.3
 EL1 39.8 EL2 11.6 ALF 26.30

LAUNCH DATE APR 30 1971 FLIGHT TIME 162.00 ARRIVAL DATE OCT 9 1971

EARTH TO MARS

HELIOCENTRIC CONIC
 DISTANCE 403.304
 RL 150.69 LAL -.00 LOL 219.02 VL 32.602 GAL -1.54 AZL 92.16 HCA 135.76 SMA 189.97 ECC .20847 INC 2.1603 V1 29.569
 RP 207.68 LAP -1.51 LOP 354.80 VP 24.075 GAP 10.80 AZP 88.45 TAL 351.06 TAP 126.82 RCA 150.37 APO 229.58 V2 26.381
 RC 85.104 GL -20.54 GP 2.42 ZAL 112.16 ZAP 144.05 ETS 176.85 ZAE 175.46 ETE 69.27 ZAC 102.30 ETC 278.01 LVI -20.59

PLANETOCENTRIC CONIC
 C3 12.281 VHL 3.502 DLA -29.49 RAL 343.07 RAD 6639.2 VEL 11.504 PTH 6.55 VHP 4.650 DPA -14.62 RAP 321.15 ECC 1.2018
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 44 31 2409.05 -2.84 62.59 196.80 137.51 18 24 41 1409.1 15.44 46.61
 60.00 19 6 49 2190.14 2.51 48.01 201.94 130.24 19 43 19 1190.1 18.20 29.41
 70.00 20 57 30 1864.56 8.68 26.24 206.55 123.16 21 28 34 864.6 21.42 5.16
 80.00 23 40 16 1354.34 16.92 352.26 211.24 114.98 24 2 50 354.3 25.75 328.34
 81.28 0 33 3 1197.94 20.11 342.13 212.71 112.04 0 53 1 197.9 27.42 317.20
 100.00 2 27 3 6116.85 16.92 291.54 211.24 114.98 4 9 0 5116.8 25.75 267.62
 110.00 2 0 52 6199.42 8.68 293.07 206.55 123.16 3 44 11 5199.4 21.42 271.98

DIFFERENTIAL CORRECTIONS
 TDE -.3514 TRA -.7419 TC3 .2778 BAW .0735
 RDE -.2451 RRA .0258 RC3 .3521 FAU .11003
 FDE .4876 FRA 3.3411 FC3-7.7692 BSP 2586
 BDE .4284 BRA .7424 BC3 .4483 FSP 1157

MID-COURSE EXECUTION ACCURACY
 SGT 1521.1 SGR 473.3 SG3 721.3
 RRT .2928 RRF -.3433 RTF -.8093
 SGB 1593.0 R23 -.0874 R13 -.8122
 SG1 1528.0 SG2 450.5 THA 5.70

ORBIT DETERMINATION ACCURACY
 ST 35.6 SR 20.1 SS 41.2
 CRT .7867 CR8 .3565 CST .8550
 LSA 53.8 MSA 21.7 SSA 1.3
 EL1 39.3 EL2 11.2 ALF 26.25

LAUNCH DATE APR 30 1971

FLIGHT TIME 164.00

ARRIVAL DATE OCT 11 1971

Heliocentric Conic: RL 150.69 LAL -0.00 LOL 219.02 VL 32.368 GAL -1.51 AZL 92.18 HCA 137.02 SMA 189.38 ECC .20591 INC 2.1755 V1 29.569 RP 207.80 LAP -1.48 LOP 356.05 VP 24.012 GAP 10.51 AZP 88.41 TAL 351.16 TAP 126.18 RCA 150.38 APO 228.37 V2 26.368 RC 86.843 GL -20.88 GP 2.54 ZAL 112.04 ZAP 142.49 ETS 176.66 ZAE 175.72 ETE 81.82 ZAC 102.47 ETC 277.95 LVI -20.62

Distance 409.326 Earth to Mars

Planeto-centric Conic: C3 12.027 VHL 3.468 DLA -29.83 RAL 343.15 RAD 6639.1 VEL 11.494 PTH 6.54 VHP 4.521 DPA -14.59 RAP 320.82 ECC 1.1979 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

Differential Corrections: TDE -.3456 TRA -.7165 TC3 .2496 BAU .0713 SGT 1489.3 SGR 489.2 SCS 765.1 ST 35.1 SR 19.6 SS 42.4 RDE -.2377 RRA .0184 RC3 .3669 FAU .11550 RRT .3154 RRF -.3743 RTF -.8013 CRT .7968 CRS .3545 CST .8452 FDE .4961 FRA 3.5019 FC3-8.3145 BSP 2538 SGB 1561.5 R23 -.1023 R13 -.8030 LSA 54.2 MSA 21.9 SSA 1.3 BDE .4194 BRA .7167 BC3 .4437 FSP 1236 SGI 1497.4 SGI 442.9 THA 6.22 EL1 38.8 EL2 10.8 ALF 26.18

LAUNCH DATE APR 30 1971

FLIGHT TIME 166.00

ARRIVAL DATE OCT 13 1971

Heliocentric Conic: RL 150.69 LAL -0.00 LOL 219.02 VL 32.536 GAL -1.48 AZL 92.19 HCA 138.27 SMA 188.82 ECC .20354 INC 2.1915 V1 29.569 RP 207.94 LAP -1.46 LOP 357.31 VP 23.951 GAP 10.22 AZP 88.36 TAL 351.26 TAP 129.53 RCA 150.39 APO 227.25 V2 26.349 RC 86.616 GL -21.21 GP 2.67 ZAL 111.92 ZAP 140.90 ETS 176.68 ZAE 175.73 ETE 96.26 ZAC 102.64 ETC 277.88 LVI -20.66

Distance 413.366 Earth to Mars

Planeto-centric Conic: C3 11.814 VHL 3.437 DLA -30.17 RAL 343.24 RAD 6639.0 VEL 11.485 PTH 6.53 VHP 4.397 DPA -14.57 RAP 320.44 ECC 1.1944 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

Differential Corrections: TDE -.3352 TRA -.6842 TC3 .2305 BAU .0706 SGT 1441.4 SGR 466.0 SCS 810.3 ST 34.2 SR 19.2 SS 43.4 RDE -.2304 RRA .0109 RC3 .3828 FAU .12143 RRT .3402 RRF -.4075 RTF -.7951 CRT .8064 CRS .3511 CST .8344 FDE .4997 FRA 3.8621 FC3-8.8961 BSP 2407 SGB 1514.8 R23 -.1168 R13 -.7999 LSA 54.2 MSA 22.0 SSA 1.2 BDE .4087 BRA .6843 BC3 .4468 FSP 1307 SGI 1451.0 SGI 435.3 THA 6.90 EL1 37.9 EL2 10.3 ALF 26.43

LAUNCH DATE APR 30 1971

FLIGHT TIME 168.00

ARRIVAL DATE OCT 15 1971

Heliocentric Conic: RL 150.69 LAL -0.00 LOL 219.02 VL 32.507 GAL -1.45 AZL 92.21 HCA 139.52 SMA 188.31 ECC .20133 INC 2.2083 V1 29.569 RP 208.08 LAP -1.43 LOP 358.56 VP 23.892 GAP 9.95 AZP 88.32 TAL 351.33 TAP 130.88 RCA 150.40 APO 226.22 V2 26.332 RC 90.421 GL -21.55 GP 2.81 ZAL 111.83 ZAP 139.26 ETS 176.69 ZAE 175.44 ETE 110.74 ZAC 102.83 ETC 277.81 LVI -20.68

Distance 417.419 Earth to Mars

Planeto-centric Conic: C3 11.624 VHL 3.409 DLA -30.49 RAL 343.35 RAD 6638.9 VEL 11.476 PTH 6.53 VHP 4.279 DPA -14.56 RAP 320.03 ECC 1.1913 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

Differential Corrections: TDE -.3346 TRA -.6812 TC3 .1681 BAU .0678 SGT 1411.5 SGR 463.5 SCS 857.8 ST 34.1 SR 18.8 SS 44.8 RDE -.2235 RRA .0026 RC3 .3981 FAU .12683 RRT .3803 RRF -.4425 RTF -.7782 CRT .8214 CRS .3563 CST .8230 FDE .5167 FRA 3.8484 FC3-9.4459 BSP 2388 SGB 1489.7 R23 -.1430 R13 -.7844 LSA 55.0 MSA 22.3 SSA 1.2 BDE .4024 BRA .6613 BC3 .4321 FSP 1398 SGI 1422.3 SGI 429.1 THA 7.43 EL1 37.7 EL2 9.7 ALF 26.10

LAUNCH DATE APR 30 1971

FLIGHT TIME 170.00

ARRIVAL DATE OCT 17 1971

Heliocentric Conic: RL 150.69 LAL -0.00 LOL 219.02 VL 32.480 GAL -1.43 AZL 92.23 HCA 140.78 SMA 187.84 ECC .19928 INC 2.2280 V1 29.569 RP 208.24 LAP -1.41 LOP 359.81 VP 23.835 GAP 9.68 AZP 88.28 TAL 351.40 TAP 132.18 RCA 150.41 APO 225.27 V2 26.313 RC 92.259 GL -21.88 GP 2.96 ZAL 111.74 ZAP 137.58 ETS 176.70 ZAE 174.86 ETE 123.48 ZAC 103.04 ETC 277.72 LVI -20.70

Distance 421.486 Earth to Mars

Planeto-centric Conic: C3 11.453 VHL 3.384 DLA -30.80 RAL 343.48 RAD 6638.8 VEL 11.469 PTH 6.52 VHP 4.167 DPA -14.55 RAP 319.56 ECC 1.1885 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

Differential Corrections: TDE -.3298 TRA -.6301 TC3 .1154 BAU .0659 SGT 1363.9 SGR 462.2 SCS 906.2 ST 33.6 SR 18.4 SS 46.0 RDE -.2188 RRA -.0057 RC3 .4148 FAU .13276 RRT .3820 RRF -.4796 RTF -.7616 CRT .8367 CRS .3614 CST .8102 FDE .5296 FRA 4.0294 FC-10.0352 BSP 2300 SGB 1440.1 R23 -.1705 R13 -.7698 LSA 55.4 MSA 22.4 SSA 1.2 BDE .3946 BRA .6301 BC3 .4305 FSP 1486 SGI 1376.4 SGI 423.3 THA 8.15 EL1 37.2 EL2 9.1 ALF 26.28

LAUNCH DATE APR 30 1971 FLIGHT TIME 172.00 ARRIVAL DATE OCT 19 1971

EARTH TO MARS

Heliocentric Conic Distance 425.566
 RL 150.69 LAL -.00 LOL 219.02 VL 32.454 GAL -1.41 AZL 92.24 HCA 142.02 SMA 187.40 ECC .19739 INC 2.2445 V1 29.969
 RP 208.41 LAP -1.38 LOP 1.06 VP 23.779 GAP 9.41 AZP 88.23 TAL 351.45 TAP 133.48 RCA 150.41 APO 224.39 V2 26.294
 RC 94.128 GL -22.21 GP 3.11 ZAL 111.68 ZAP 135.86 ETS 176.71 ZAE 174.02 ETE 133.67 ZAC 103.25 ETC 277.63 LVI -20.72

Planetary Conic
 C3 11.301 VHL 3.362 DLA -31.11 RAL 343.82 RAD 6638.7 VEL 11.462 PTH 6.51 VHP 4.060 DPA -14.53 RAP 319.06 ECC 1.1860
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 56 5 2353.91 -.07 60.28 197.16 137.58 18 35 19 1353.9 18.11 44.08
 60.00 19 23 6 2122.36 5.48 44.76 202.48 129.99 19 58 28 1122.4 20.91 25.73
 70.00 21 24 57 1763.76 12.38 20.79 207.56 122.09 21 54 21 763.8 24.43 356.88
 76.46 23 55 35 1294.56 21.61 350.01 212.58 112.94 24 17 9 294.6 29.14 324.80
 76.46 23 55 35 1294.56 21.61 350.01 212.58 112.94 24 17 9 294.6 29.14 324.80
 76.46 23 55 35 1294.56 21.61 350.01 212.58 112.94 24 17 9 294.6 29.14 324.80
 110.00 2 28 19 6098.62 12.38 287.61 207.56 122.09 4 9 58 5098.6 24.43 265.71

Differential Corrections MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3239 TRA -.5974 TC3 .0554 BAU .0659 SGT 1311.6 SGR 462.2 SG3 956.6 ST 32.9 SR 17.9 SS 47.2
 RDE -.2101 RRA -.0145 RC3 .4324 FAU .13891 RRT .4007 RRF -.5181 RTF -.7411 CRT .8525 CRS .3653 CST .7949
 FDE .5381 FRA 4.2193 FC-10.6411 B8P 2188 SGB 1390.7 R23 -.2043 R13 -.7521 LSA 55.8 MSA 22.6 SSA 1.2
 BDE .3861 BRA .5976 BC3 .4359 F8P 1573 SG1 1326.1 SG2 418.8 THA 8.93 EL1 36.5 EL2 8.4 ALF 28.46

LAUNCH DATE APR 30 1971 FLIGHT TIME 174.00 ARRIVAL DATE OCT 21 1971

EARTH TO MARS

Heliocentric Conic Distance 429.658
 RL 150.69 LAL -.00 LOL 219.02 VL 32.431 GAL -1.39 AZL 92.26 HCA 143.27 SMA 187.00 ECC .19563 INC 2.2641 V1 29.969
 RP 208.58 LAP -1.35 LOP 2.31 VP 23.725 GAP 9.15 AZP 88.18 TAL 351.49 TAP 134.77 RCA 150.42 APO 223.58 V2 26.274
 RC 96.027 GL -22.54 GP 3.28 ZAL 111.62 ZAP 134.10 ETS 176.72 ZAE 172.97 ETE 141.46 ZAC 103.49 ETC 277.53 LVI -20.74

Planetary Conic
 C3 11.168 VHL 3.342 DLA -31.41 RAL 343.78 RAD 6638.6 VEL 11.457 PTH 6.51 VHP 3.958 DPA -14.53 RAP 318.51 ECC 1.1838
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 58 31 2344.32 .41 59.88 197.33 137.57 18 37 35 1344.3 18.57 43.63
 60.00 19 26 29 2110.20 6.01 44.17 202.70 129.93 20 1 40 1110.2 21.39 25.06
 70.00 21 30 58 1743.82 13.10 19.69 207.89 121.83 22 0 2 743.8 24.99 357.60
 75.73 23 51 5 1308.26 21.87 351.16 212.66 113.12 24 12 53 308.3 29.45 325.90
 75.73 23 51 5 1308.26 21.87 351.16 212.66 113.12 24 12 53 308.3 29.45 325.90
 75.73 23 51 5 1308.26 21.87 351.16 212.66 113.12 24 12 53 308.3 29.45 325.90
 110.00 2 34 20 6078.68 13.10 286.51 207.89 121.83 4 15 39 5078.7 24.99 264.43

Differential Corrections MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3186 TRA -.5621 TC3 -.0102 BAU .0674 SGT 1254.5 SGR 463.9 SG3 1008.6 ST 32.1 SR 17.5 SS 48.4
 RDE -.2037 RRA -.0237 RC3 .4512 FAU .14540 RRT .4168 RRF -.5584 RTF -.7155 CRT .8704 CRS .3732 CST .7782
 FDE .5501 FRA 4.4138 FC-11.2715 B8P 2067 SGB 1337.5 R23 -.2453 R13 -.7305 LSA 56.2 MSA 22.8 SSA 1.2
 BDE .3782 BRA .5626 BC3 .4513 F8P 1664 SG1 1271.1 SG2 416.2 THA 9.83 EL1 35.8 EL2 7.7 ALF 28.69

LAUNCH DATE APR 30 1971 FLIGHT TIME 176.00 ARRIVAL DATE OCT 23 1971

EARTH TO MARS

Heliocentric Conic Distance 433.761
 RL 150.69 LAL -.00 LOL 219.02 VL 32.409 GAL -1.38 AZL 92.28 HCA 144.52 SMA 186.63 ECC .19402 INC 2.2848 V1 29.969
 RP 208.78 LAP -1.33 LOP 3.55 VP 23.672 GAP 8.90 AZP 88.14 TAL 351.52 TAP 136.04 RCA 150.42 APO 222.84 V2 26.254
 RC 97.955 GL -22.87 GP 3.46 ZAL 111.59 ZAP 132.30 ETS 176.73 ZAE 171.77 ETE 147.35 ZAC 103.74 ETC 277.42 LVI -20.75

Planetary Conic
 C3 11.051 VHL 3.324 DLA -31.70 RAL 343.96 RAD 6638.6 VEL 11.452 PTH 6.50 VHP 3.861 DPA -14.52 RAP 317.91 ECC 1.1819
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 0 59 2335.17 .87 59.50 197.53 137.57 18 39 55 1335.2 19.00 43.20
 60.00 19 29 56 2098.47 6.53 43.61 202.94 129.86 20 4 55 1098.5 21.85 24.40
 70.00 21 37 14 1723.76 13.82 18.58 208.26 121.55 22 5 57 723.8 25.54 356.31
 75.05 23 47 5 1320.93 22.12 352.23 212.78 113.30 24 9 6 320.9 29.75 326.93
 75.05 23 47 5 1320.93 22.12 352.23 212.78 113.30 24 9 6 320.9 29.75 326.93
 75.05 23 47 5 1320.93 22.12 352.23 212.78 113.30 24 9 6 320.9 29.75 326.93
 110.00 2 40 36 6058.62 13.82 285.40 208.26 121.55 4 21 35 5058.6 25.54 263.13

Differential Corrections MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3122 TRA -.5238 TC3 -.0831 BAU .0707 SGT 1190.7 SGR 467.3 SG3 1061.1 ST 31.3 SR 17.0 SS 49.6
 RDE -.1974 RRA -.0334 RC3 .4709 FAU .15194 RRT .4269 RRF -.5990 RTF -.6332 CRT .8891 CRS .3814 CST .7583
 FDE .5584 FRA 4.6120 FC-11.9027 B8P 1914 SGB 1279.1 R23 -.2944 R13 -.7040 LSA 56.6 MSA 23.0 SSA 1.2
 BDE .3694 BRA .5247 BC3 .4782 F8P 1751 SG1 1209.6 SG2 415.9 THA 10.80 EL1 34.9 EL2 7.0 ALF 27.04

LAUNCH DATE APR 30 1971 FLIGHT TIME 178.00 ARRIVAL DATE OCT 25 1971

EARTH TO MARS

Heliocentric Conic Distance 437.875
 RL 150.69 LAL -.00 LOL 219.02 VL 32.389 GAL -1.36 AZL 92.31 HCA 145.76 SMA 186.29 ECC .19253 INC 2.3088 V1 29.969
 RP 208.94 LAP -1.30 LOP 4.80 VP 23.620 GAP 8.65 AZP 88.09 TAL 351.53 TAP 137.29 RCA 150.42 APO 222.15 V2 26.252
 RC 99.910 GL -23.19 GP 3.65 ZAL 111.57 ZAP 130.46 ETS 176.75 ZAE 170.43 ETE 151.82 ZAC 104.00 ETC 277.30 LVI -20.78

Planetary Conic
 C3 10.951 VHL 3.309 DLA -31.98 RAL 344.18 RAD 6638.5 VEL 11.447 PTH 6.50 VHP 3.770 DPA -14.51 RAP 317.27 ECC 1.1802
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 3 32 2328.43 1.31 59.13 197.76 137.56 18 42 18 1326.4 19.42 42.79
 60.00 19 33 27 2087.12 7.02 43.06 203.23 129.79 20 8 15 1087.1 22.29 23.76
 70.00 21 43 47 1703.39 14.54 17.44 208.68 121.25 22 12 10 703.4 26.09 354.97
 74.40 23 43 29 1332.80 22.36 353.25 212.94 113.49 24 5 42 332.8 30.03 327.90
 74.40 23 43 29 1332.80 22.36 353.25 212.94 113.49 24 5 42 332.8 30.03 327.90
 74.40 23 43 29 1332.80 22.36 353.25 212.94 113.49 24 5 42 332.8 30.03 327.90
 110.00 2 47 9 6038.25 14.54 284.27 208.68 121.25 4 27 48 5038.3 26.09 261.80

Differential Corrections MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3019 TRA -.4785 TC3 -.1480 BAU .0754 SGT 1112.1 SGR 472.9 SG3 1114.7 ST 30.0 SR 16.6 SS 50.6
 RDE -.1909 RRA -.0433 RC3 .4930 FAU .15923 RRT .4321 RRF -.6401 RTF -.6457 CRT .9081 CRS .3880 CST .7340
 FDE .5579 FRA 4.8026 FC-12.5874 B8P 1700 SGB 1208.4 R23 -.3484 R13 -.6752 LSA 56.6 MSA 23.0 SSA 1.1
 BDE .3572 BRA .4804 BC3 .5148 F8P 1829 SG1 1133.7 SG2 418.3 THA 12.08 EL1 33.7 EL2 6.2 ALF 27.71

LAUNCH DATE APR 30 1971

FLIGHT TIME 180.00

ARRIVAL DATE OCT 27 1971

HELIOCENTRIC CONIC

DISTANCE 441.996

EARTH TO MARS

RL 180.89 LAL -.00 LOL 219.02 VL 32.371 GAL -1.36 AZL 92.33 HCA 147.00 SMA 185.98 ECC .19118 INC 2.3303 V1 29.589
RP 209.14 LAP -1.27 LOP 6.04 VP 23.570 GAP 8.41 AZP 88.05 TAL 351.53 TAP 138.53 RCA 150.42 APO 221.53 V2 26.209
RC 101.892 GL -23.52 GP 3.86 ZAL 111.57 ZAP 128.59 ETS 176.77 ZAE 168.99 ETE 155.25 ZAC 104.29 ETC 277.17 LVI -20.76

PLANETOCENTRIC CONIC

C3 10.068 VHL 3.297 DLA -32.26 RAL 344.38 RAD 8638.5 VEL 11.444 PTH 6.49 VHP 3.684 DPA -14.49 RAP 316.58 ECC 1.1789
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 6 8 2318.17 1.72 58.79 198.04 137.55 18 44 47 1318.2 19.81 42.39
60.00 19 37 3 2078.24 7.50 42.53 203.55 129.72 20 11 39 1078.2 22.70 23.15
70.00 21 50 39 1882.79 15.26 18.29 209.18 120.93 22 18 42 682.8 26.62 353.61
73.79 23 40 19 1343.91 22.58 354.20 213.15 113.67 24 2 43 343.9 30.31 328.81
73.79 23 40 19 1343.91 22.58 354.20 213.15 113.67 24 2 43 343.9 30.31 328.81
73.79 23 40 19 1343.91 22.58 354.20 213.15 113.67 24 2 43 343.9 30.31 328.81
110.00 2 54 1 6017.65 15.26 283.11 209.16 120.93 4 34 19 5017.6 26.62 260.44

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3064 TRA -.4457 TC3 -.2759 BAU .0846 SGT 1075.0 SGR 400.7 S63 1189.6 ST 30.0 SR 16.2 SS 52.3
RDE -.1857 RRA -.0550 RC3 .5124 FAU .16487 RRT .4140 RRF -.6808 RTF -.5821 CRT .9309 CR8 .4155 CST .7138
FDE .5983 FRA 5.0416 FC-13.1175 B8P 1659 SGB 1177.6 R23 -.4312 R13 -.6214 LSA 57.9 MSA 23.4 SSA 1.1
BDE .3583 BRA .4491 BC3 .5820 F8P 1955 S61 1096.7 S62 428.9 THA 12.41 EL1 33.7 EL2 5.3 ALF 27.49

LAUNCH DATE APR 30 1971

FLIGHT TIME 182.00

ARRIVAL DATE OCT 29 1971

HELIOCENTRIC CONIC

DISTANCE 446.126

EARTH TO MARS

RL 180.89 LAL -.00 LOL 219.02 VL 32.354 GAL -1.35 AZL 92.38 HCA 148.24 SMA 185.88 ECC .18993 INC 2.3553 V1 29.589
RP 209.34 LAP -1.24 LOP 7.28 VP 23.521 GAP 8.17 AZP 88.00 TAL 351.31 TAP 139.75 RCA 150.42 APO 220.96 V2 26.188
RC 103.900 GL -23.86 GP 4.07 ZAL 111.58 ZAP 126.68 ETS 176.79 ZAE 167.45 ETE 157.92 ZAC 104.59 ETC 277.03 LVI -20.77

PLANETOCENTRIC CONIC

C3 10.800 VHL 3.286 DLA -32.53 RAL 344.63 RAD 8638.5 VEL 11.441 PTH 6.49 VHP 3.603 DPA -14.48 RAP 315.86 ECC 1.1777
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 8 49 2310.24 2.12 58.46 198.35 137.54 18 47 20 1310.2 20.19 42.02
60.00 19 40 44 2065.65 7.96 42.01 203.92 129.64 20 15 9 1065.7 23.11 22.54
70.00 21 57 58 1661.38 16.01 15.07 209.69 120.58 22 25 40 661.4 27.17 352.19
73.21 23 37 27 1354.56 22.80 355.12 213.39 113.86 24 0 2 354.6 30.58 329.69
73.21 23 37 27 1354.56 22.80 355.12 213.39 113.86 24 0 2 354.6 30.58 329.69
73.21 23 37 27 1354.56 22.80 355.12 213.39 113.86 24 0 2 354.6 30.58 329.69
110.00 3 1 20 5996.24 16.01 281.90 209.69 120.58 4 41 17 4996.2 27.17 259.01

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3025 TRA -.4020 TC3 -.3831 BAU .0950 SGT 1016.1 SGR 481.2 S63 1224.4 ST 29.2 SR 15.8 SS 53.6
RDE -.1800 RRA -.0688 RC3 .5350 FAU .17113 RRT .3843 RRF -.7199 RTF -.5097 CRT .9512 CR8 .4353 CST .6859
FDE .6163 FRA 5.2610 FC-13.7179 B8P 1500 SGB 1120.6 R23 -.9150 R13 -.5628 LSA 58.5 MSA 23.6 SSA 1.1
BDE .3920 BRA .4075 BC3 .6580 F8P 2051 S61 1037.5 S62 444.1 THA 12.93 EL1 32.9 EL2 4.3 ALF 27.84

LAUNCH DATE APR 30 1971

FLIGHT TIME 184.00

ARRIVAL DATE OCT 31 1971

HELIOCENTRIC CONIC

DISTANCE 450.264

EARTH TO MARS

RL 180.89 LAL -.00 LOL 219.02 VL 32.338 GAL -1.35 AZL 92.38 HCA 149.47 SMA 185.43 ECC .18880 INC 2.3820 V1 29.589
RP 209.55 LAP -1.21 LOP 8.51 VP 23.473 GAP 7.93 AZP 87.95 TAL 351.48 TAP 140.98 RCA 150.42 APO 220.44 V2 26.182
RC 105.933 GL -24.20 GP 4.31 ZAL 111.62 ZAP 124.73 ETS 176.81 ZAE 165.83 ETE 160.04 ZAC 104.91 ETC 276.88 LVI -20.78

PLANETOCENTRIC CONIC

C3 10.748 VHL 3.278 DLA -32.80 RAL 344.90 RAD 8638.4 VEL 11.438 PTH 6.49 VHP 3.527 DPA -14.45 RAP 315.09 ECC 1.1789
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 11 36 2302.66 2.50 58.14 198.69 137.53 18 49 58 1302.7 20.55 41.65
60.00 19 44 31 2058.35 8.40 41.51 204.32 129.56 20 18 46 1055.3 23.50 21.95
70.00 22 5 51 1638.89 16.78 13.79 210.29 120.19 22 33 10 638.9 27.72 350.67
72.65 23 34 53 1364.86 23.00 356.00 213.68 114.05 23 57 38 364.9 30.84 330.55
72.65 23 34 53 1364.86 23.00 356.00 213.68 114.05 23 57 38 364.9 30.84 330.55
72.65 23 34 53 1364.86 23.00 356.00 213.68 114.05 23 57 38 364.9 30.84 330.55
110.00 3 9 14 5973.75 16.78 280.82 210.29 120.19 4 48 47 4973.7 27.72 257.50

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2988 TRA -.3350 TC3 -.4938 BAU .1073 SGT 980.5 SGR 504.9 S63 1279.5 ST 28.4 SR 15.5 SS 54.9
RDE -.1745 RRA -.0792 RC3 .5597 FAU .17795 RRT .3343 RRF -.7376 RTF -.4.80 CRT .9699 CR8 .4582 CST .6523
FDE .6352 FRA 5.4785 FC-14.3340 B8P 1333 SGB 1085.1 R23 -.8062 R13 -.4868 LSA 59.1 MSA 23.7 SSA 1.0
BDE .3461 BRA .3638 BC3 .7464 F8P 2146 S61 979.7 S62 466.5 THA 12.95 EL1 32.1 EL2 3.3 ALF 28.19

LAUNCH DATE APR 30 1971

FLIGHT TIME 186.00

ARRIVAL DATE NOV 2 1971

HELIOCENTRIC CONIC

DISTANCE 454.409

EARTH TO MARS

RL 180.89 LAL -.00 LOL 219.02 VL 32.324 GAL -1.35 AZL 92.41 HCA 150.71 SMA 185.20 ECC .18778 INC 2.4107 V1 29.589
RP 209.76 LAP -1.18 LOP 9.75 VP 23.428 GAP 7.71 AZP 87.90 TAL 351.43 TAP 142.14 RCA 150.42 APO 219.97 V2 26.137
RC 107.990 GL -24.54 GP 4.56 ZAL 111.66 ZAP 122.75 ETS 176.84 ZAE 164.14 ETE 161.72 ZAC 105.24 ETC 276.72 LVI -20.79

PLANETOCENTRIC CONIC

C3 10.710 VHL 3.273 DLA -33.07 RAL 345.19 RAD 8638.4 VEL 11.437 PTH 6.49 VHP 3.456 DPA -14.42 RAP 314.28 ECC 1.1783
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 14 28 2295.38 2.87 57.84 199.08 137.51 18 52 44 1295.4 20.89 41.30
60.00 19 48 26 2045.27 8.84 41.02 204.77 129.48 20 22 31 1045.3 23.88 21.37
70.00 22 14 30 1614.74 17.60 12.40 210.97 119.75 22 41 25 614.7 28.29 349.03
72.11 23 32 35 1374.83 23.20 356.87 214.01 114.25 23 55 30 374.8 31.10 331.38
72.11 23 32 35 1374.83 23.20 356.87 214.01 114.25 23 55 30 374.8 31.10 331.38
72.11 23 32 35 1374.83 23.20 356.87 214.01 114.25 23 55 30 374.8 31.10 331.38
110.00 3 17 52 5949.60 17.60 279.22 210.97 119.75 4 57 2 4949.6 28.29 255.85

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2949 TRA -.3051 TC3 -.6140 BAU .1215 SGT 913.3 SGR 521.6 S63 1333.9 ST 27.5 SR 15.1 SS 56.2
RDE -.1692 RRA -.0926 RC3 .5856 FAU .18455 RRT .2565 RRF -.7928 RTF -.3017 CRT .9852 CR8 .4843 CST .6138
FDE .6553 FRA 5.6978 FC-14.9182 B8P 1179 SGB 1051.8 R23 -.7022 R13 -.3818 LSA 59.7 MSA 23.9 SSA 1.0
BDE .3400 BRA .3188 BC3 .8484 F8P 2246 S61 927.1 S62 496.7 THA 11.75 EL1 31.3 EL2 2.3 ALF 28.56

LAUNCH DATE APR 30 1971 FLIGHT TIME 188.00 ARRIVAL DATE NOV 4 1971

Table with columns for Heliocentric Conic, Planetary Conic, Differential Corrections, Mid-course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCM, etc.

LAUNCH DATE APR 30 1971 FLIGHT TIME 190.00 ARRIVAL DATE NOV 6 1971

Table with columns for Heliocentric Conic, Planetary Conic, Differential Corrections, Mid-course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCM, etc.

LAUNCH DATE APR 30 1971 FLIGHT TIME 192.00 ARRIVAL DATE NOV 8 1971

Table with columns for Heliocentric Conic, Planetary Conic, Differential Corrections, Mid-course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCM, etc.

LAUNCH DATE APR 30 1971 FLIGHT TIME 194.00 ARRIVAL DATE NOV 10 1971

Table with columns for Heliocentric Conic, Planetary Conic, Differential Corrections, Mid-course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCM, etc.

LAUNCH DATE APR 30 1971

FLIGHT TIME 196.00

ARRIVAL DATE NOV 12 1971

HELIOCENTRIC CONIC DISTANCE 475.218 EARTH TO MARS

RL 150.69 LAL -.00 LOL 219.02 VL 32.272 GAL -1.40 AZL 92.59 HCA 156.83 SNA 184.33 ECC .18409 INC 2.5945 V1 29.969
 RP 210.95 LAP -1.02 LOP 19.87 VP 23.201 GAP 6.83 AZP 87.61 TAL 350.97 TAP 147.81 RCA 150.40 APO 218.26 V2 26.001
 RC 118.837 GL -26.45 GP 6.13 ZAL 112.11 ZAP 112.46 ETS 177.11 ZAE 154.81 ETE 166.42 ZAC 107.27 ETC 275.83 LVI -20.95

PLANETOCENTRIC CONIC

C3 10.750 VHL 3.279 DLA -34.44 RAL 347.07 RAD 6638.4 VEL 11.439 PTH 6.49 VHP 3.176 DPA -13.98 RAP 309.75 ECC 1.1769
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 31 7 2261.69 4.86 56.42 201.70 137.41 19 8 49 1261.7 22.47 39.65
 60.00 20 11 7 1995.42 10.99 38.56 207.79 129.02 20 44 23 995.4 25.72 18.44
 69.48 23 24 0 1424.89 24.07 1.20 216.40 115.40 23 47 45 424.9 32.36 335.98
 69.48 23 24 0 1424.89 24.07 1.20 216.40 115.40 23 47 45 424.9 32.36 335.98
 69.48 23 24 0 1424.89 24.07 1.20 216.40 115.40 23 47 45 424.9 32.36 335.98
 69.48 23 24 0 1424.89 24.07 1.20 216.40 115.40 23 47 45 424.9 32.36 335.98
 69.48 23 24 0 1424.89 24.07 1.20 216.40 115.40 23 47 45 424.9 32.36 335.98

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2810 TRA -.0163 TC3-1.3315 BAU .2187 SGT 1002.3 SGR 665.0 SG3 1584.9 ST 24.6 SR 14.0 SS 62.4
 RDE -.1484 RRA -.1768 RC3 .7373 FAU .21392 RRT -.4267 RRF -.9214 RTF .4725 CRT .9185 CR8 .6637 C8T .3200
 FDE .7919 FRA 6.7899 FC-17.2272 BSP 1100 SGB 1201.7 R23 .6743 R13 -.6340 LSA 63.7 MSA 25.1 S8A .8
 BDE .3168 BRA .1776 BC3 1.5220 F8P 2705 SG1 1059.4 SG2 567.3 THA 157.44 EL1 27.9 EL2 4.9 ALF 28.55

LAUNCH DATE APR 30 1971

FLIGHT TIME 198.00

ARRIVAL DATE NOV 14 1971

HELIOCENTRIC CONIC DISTANCE 479.392 EARTH TO MARS

RL 150.69 LAL -.00 LOL 219.02 VL 32.265 GAL -1.42 AZL 92.64 HCA 158.05 SNA 184.21 ECC .18361 INC 2.6423 V1 29.969
 RP 211.20 LAP -.99 LOP 17.09 VP 23.198 GAP 6.42 AZP 87.55 TAL 350.84 TAP 148.89 RCA 150.39 APO 218.03 V2 25.872
 RC 120.836 GL -26.89 GP 6.52 ZAL 112.23 ZAP 110.34 ETS 177.19 ZAE 152.81 ETE 166.90 ZAC 107.76 ETC 275.84 LVI -21.02

PLANETOCENTRIC CONIC

C3 10.807 VHL 3.287 DLA -34.74 RAL 347.55 RAD 6638.5 VEL 11.441 PTH 6.49 VHP 3.135 DPA -13.81 RAP 308.77 ECC 1.1779
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 35 7 2254.96 4.89 56.14 202.39 137.38 19 12 42 1255.0 22.78 39.31
 60.00 20 16 38 1984.63 11.45 38.02 208.59 128.91 20 49 43 984.6 26.11 17.79
 68.93 23 22 39 1435.79 24.24 2.14 217.05 115.69 23 46 35 435.8 32.62 336.51
 68.93 23 22 39 1435.79 24.24 2.14 217.05 115.69 23 46 35 435.8 32.62 336.51
 68.93 23 22 39 1435.79 24.24 2.14 217.05 115.69 23 46 35 435.8 32.62 336.51
 68.93 23 22 39 1435.79 24.24 2.14 217.05 115.69 23 46 35 435.8 32.62 336.51
 68.93 23 22 39 1435.79 24.24 2.14 217.05 115.69 23 46 35 435.8 32.62 336.51

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2789 TRA .0501 TC3-1.4905 BAU .2426 SGT 1099.1 SGR 704.9 SG3 1627.4 ST 24.4 SR 14.0 SS 63.5
 RDE -.1426 RRA -.1982 RC3 .7732 FAU .21879 RRT -.5449 RRF -.9375 RTF .5881 CRT .8541 CR8 .7048 C8T .2375
 FDE .8209 FRA 6.9927 FC-17.5264 BSP 1304 SGB 1305.7 R23 .6743 R13 -.7298 LSA 64.6 MSA 25.4 S8A .8
 BDE .3132 BRA .2044 BC3 1.6791 F8P 2785 SG1 1185.0 SG2 548.2 THA 155.05 EL1 27.4 EL2 6.5 ALF 27.72

LAUNCH DATE APR 30 1971

FLIGHT TIME 200.00

ARRIVAL DATE NOV 16 1971

HELIOCENTRIC CONIC DISTANCE 483.570 EARTH TO MARS

RL 150.69 LAL -.00 LOL 219.02 VL 32.259 GAL -1.44 AZL 92.70 HCA 159.27 SNA 184.11 ECC .18320 INC 2.6954 V1 29.969
 RP 211.46 LAP -.95 LOP 16.30 VP 23.116 GAP 6.22 AZP 87.48 TAL 350.69 TAP 149.95 RCA 150.38 APO 217.84 V2 25.942
 RC 123.058 GL -27.37 GP 6.96 ZAL 112.36 ZAP 108.23 ETS 177.29 ZAE 150.78 ETE 167.28 ZAC 108.29 ETC 275.44 LVI -21.13

PLANETOCENTRIC CONIC

C3 10.882 VHL 3.299 DLA -35.07 RAL 348.06 RAD 6638.5 VEL 11.444 PTH 6.49 VHP 3.099 DPA -13.61 RAP 307.76 ECC 1.1791
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 39 27 2248.00 5.24 55.85 203.15 137.36 19 16 55 1248.0 23.10 38.97
 60.00 20 22 41 1973.08 11.94 37.44 209.48 128.78 20 55 34 973.1 26.52 17.09
 68.35 23 21 22 1447.29 24.41 3.14 217.77 116.00 23 45 29 447.3 32.90 337.49
 68.35 23 21 22 1447.29 24.41 3.14 217.77 116.00 23 45 29 447.3 32.90 337.49
 68.35 23 21 22 1447.29 24.41 3.14 217.77 116.00 23 45 29 447.3 32.90 337.49
 68.35 23 21 22 1447.29 24.41 3.14 217.77 116.00 23 45 29 447.3 32.90 337.49
 68.35 23 21 22 1447.29 24.41 3.14 217.77 116.00 23 45 29 447.3 32.90 337.49

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2771 TRA .1199 TC3-1.6511 BAU .2676 SGT 1217.8 SGR 752.2 SG3 1666.1 ST 24.4 SR 14.0 SS 64.6
 RDE -.1393 RRA -.2215 RC3 .8111 FAU .22310 RRT -.6398 RRF -.9509 RTF .6.78 CRT .7677 CR8 .7472 C8T .1513
 FDE .8578 FRA 7.1857 FC-17.7488 BSP 1560 SGB 1431.4 R23 .5317 R13 -.7936 LSA 65.6 MSA 25.7 S8A .7
 BDE .3101 BRA .2518 BC3 1.8396 F8P 2859 SG1 1329.9 SG2 529.4 THA 154.02 EL1 27.0 EL2 8.1 ALF 26.39

LAUNCH DATE APR 30 1971

FLIGHT TIME 202.00

ARRIVAL DATE NOV 18 1971

HELIOCENTRIC CONIC DISTANCE 487.750 EARTH TO MARS

RL 150.69 LAL -.00 LOL 219.02 VL 32.253 GAL -1.46 AZL 92.75 HCA 160.48 SNA 184.02 ECC .18187 INC 2.7544 V1 29.969
 RP 211.73 LAP -.92 LOP 19.51 VP 23.074 GAP 6.02 AZP 87.40 TAL 350.52 TAP 151.00 RCA 150.37 APO 217.67 V2 25.911
 RC 125.302 GL -27.88 GP 7.44 ZAL 112.50 ZAP 106.11 ETS 177.40 ZAE 148.72 ETE 167.57 ZAC 108.86 ETC 275.24 LVI -21.27

PLANETOCENTRIC CONIC

C3 10.978 VHL 3.313 DLA -35.42 RAL 348.62 RAD 6638.5 VEL 11.448 PTH 6.50 VHP 3.067 DPA -13.35 RAP 306.75 ECC 1.1807
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 44 11 2240.63 5.61 55.54 204.00 137.32 19 21 31 1240.6 23.44 38.60
 60.00 20 29 22 1960.45 12.48 36.81 210.47 128.64 21 2 3 960.4 26.97 16.32
 67.73 23 20 5 1459.62 24.58 4.21 218.57 116.34 23 44 24 459.6 33.20 338.55
 67.73 23 20 5 1459.62 24.58 4.21 218.57 116.34 23 44 24 459.6 33.20 338.55
 67.73 23 20 5 1459.62 24.58 4.21 218.57 116.34 23 44 24 459.6 33.20 338.55
 67.73 23 20 5 1459.62 24.58 4.21 218.57 116.34 23 44 24 459.6 33.20 338.55
 67.73 23 20 5 1459.62 24.58 4.21 218.57 116.34 23 44 24 459.6 33.20 338.55

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2756 TRA .1924 TC3-1.8122 BAU .2939 SGT 1355.0 SGR 805.5 SG3 1700.6 ST 24.7 SR 14.2 SS 65.5
 RDE -.1362 RRA -.2468 RC3 .8524 FAU .22725 RRT -.7145 RRF -.9620 RTF .7464 CRT .6602 CR8 .7873 C8T .0595
 FDE .8881 FRA 7.3621 FC-17.9215 BSP 1849 SGB 1576.3 R23 .4787 R13 -.8386 LSA 66.5 MSA 26.0 S8A .7
 BDE .3074 BRA .3130 BC3 2.0027 F8P 2922 SG1 1490.8 SG2 512.2 THA 153.64 EL1 26.7 EL2 9.8 ALF 24.29

LAUNCH DATE APR 30 1971

FLIGHT TIME 204.00

ARRIVAL DATE NOV 20 1971

HELIOCENTRIC CONIC

RL 150.69 LAL -.00 LOL 219.02 VL 32.249 GAL -1.49 AZL 92.82 HCA 161.68 SMA 183.95 ECC .18261 INC 2.8211 V1 29.569
RP 212.01 LAP -.89 LOP 20.72 VP 23.033 GAP 5.83 AZP 87.32 TAL 350.35 TAP 152.03 RCA 150.36 APO 217.54 V2 25.880
RC 127.566 GL -28.45 GP 7.97 ZAL 112.84 ZAP 103.99 ETS 177.53 ZAE 146.84 ETE 167.79 ZAC 109.48 ETC 275.04 LVI -21.46

DISTANCE 491.932

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 11.095 VHL 3.331 DLA -35.80 RAL 349.22 RAD 6638.6 VEL 11.453 PTH 6.50 VHP 3.041 DPA -13.04 RAP 308.72 ECC 1.1826
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 49 24 2232.68 6.01 55.20 204.94 137.29 19 28 37 1232.7 23.01 38.19
60.00 20 36 54 1946.29 13.08 36.09 211.58 128.47 21 9 21 946.3 27.46 15.45
67.07 23 18 47 1472.88 24.76 5.36 219.45 116.73 23 43 20 472.9 33.52 339.69
67.07 23 18 47 1472.88 24.76 5.36 219.45 116.73 23 43 20 472.9 33.52 339.69
67.07 23 18 47 1472.88 24.76 5.36 219.45 116.73 23 43 20 472.9 33.52 339.69
67.07 23 18 47 1472.88 24.76 5.36 219.45 116.73 23 43 20 472.9 33.52 339.69
67.07 23 18 47 1472.88 24.76 5.36 219.45 116.73 23 43 20 472.9 33.52 339.69

DIFFERENTIAL CORRECTIONS

TDE -.2741 TRA .2686 TC3-1.9701 BAU .3210
RDE -.1340 RRA -.2750 RC3 .8957 FAU .23055
FDE .9320 FRA 7.5298 FC-17.9891 BSP 2175
BDE .3051 BRA .3644 BC3 2.1641 FSP 2985

MID-COURSE EXECUTION ACCURACY

SGT 1506.5 SGR 865.7 S63 1730.6
RRT -.7720 RRF -.9709 RTF .7977
SGB 1737.5 R23 .4350 R13 -.8713
S61 1664.6 S62 198.0 THA 153.52

ORBIT DETERMINATION ACCURACY

ST 25.2 SR 14.5 SS 66.5
CRT .5352 CR8 .8269 CST -.0302
LSA 67.6 MSA 26.4 S5A .6
EL1 26.6 EL2 11.6 ALF 21.36

LAUNCH DATE APR 30 1971

FLIGHT TIME 206.00

ARRIVAL DATE NOV 22 1971

HELIOCENTRIC CONIC

RL 150.69 LAL -.00 LOL 219.02 VL 32.245 GAL -1.51 AZL 92.90 HCA 162.89 SMA 183.89 ECC .18241 INC 2.8964 V1 29.569
RP 212.29 LAP -.85 LOP 21.93 VP 22.992 GAP 5.64 AZP 87.23 TAL 350.15 TAP 153.04 RCA 150.34 APO 217.43 V2 25.848
RC 129.850 GL -29.07 GP 8.57 ZAL 112.77 ZAP 101.88 ETS 177.69 ZAE 144.53 ETE 167.92 ZAC 110.16 ETC 274.84 LVI -21.70

DISTANCE 496.116

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 11.239 VHL 3.352 DLA -36.23 RAL 349.88 RAD 6638.7 VEL 11.460 PTH 6.51 VHP 3.019 DPA -12.66 RAP 304.68 ECC 1.1850
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 55 14 2223.89 6.45 54.83 203.99 137.24 19 32 18 1223.9 24.21 37.75
60.00 20 45 32 1929.99 13.77 35.27 212.85 128.26 21 17 42 930.0 28.03 14.44
66.34 23 17 28 1487.33 24.95 6.62 220.44 117.17 23 42 15 487.3 33.87 340.95
66.34 23 17 28 1487.33 24.95 6.62 220.44 117.17 23 42 15 487.3 33.87 340.95
66.34 23 17 28 1487.33 24.95 6.62 220.44 117.17 23 42 15 487.3 33.87 340.95
66.34 23 17 28 1487.33 24.95 6.62 220.44 117.17 23 42 15 487.3 33.87 340.95
66.34 23 17 28 1487.33 24.95 6.62 220.44 117.17 23 42 15 487.3 33.87 340.95

DIFFERENTIAL CORRECTIONS

TDE -.2733 TRA .3474 TC3-2.1270 BAU .3496
RDE -.1319 RRA -.3060 RC3 .9426 FAU .23341
FDE .9649 FRA 7.6735 FC-17.9803 BSP 2517
BDE .3035 BRA .4630 BC3 2.3265 FSP 3030

MID-COURSE EXECUTION ACCURACY

SGT 1671.5 SGR 933.0 S63 1754.6
RRT -.8164 RRF -.9780 RTF .8364
SGB 1914.3 R23 .3984 R13 -.8958
S61 1851.5 S62 486.4 THA 153.53

ORBIT DETERMINATION ACCURACY

ST 25.9 SR 14.9 SS 67.3
CRT .3978 CR8 .8620 CST -.1204
LSA 66.6 MSA 26.8 S5A .6
EL1 26.8 EL2 13.2 ALF 17.19

LAUNCH DATE APR 30 1971

FLIGHT TIME 208.00

ARRIVAL DATE NOV 24 1971

HELIOCENTRIC CONIC

RL 150.69 LAL -.00 LOL 219.02 VL 32.242 GAL -1.54 AZL 92.98 HCA 164.09 SMA 183.84 ECC .18228 INC 2.9827 V1 29.569
RP 212.57 LAP -.82 LOP 23.13 VP 22.951 GAP 5.45 AZP 87.13 TAL 349.95 TAP 154.04 RCA 150.33 APO 217.35 V2 25.815
RC 132.153 GL -29.77 GP 9.24 ZAL 112.90 ZAP 99.78 ETS 177.87 ZAE 142.41 ETE 167.90 ZAC 110.91 ETC 274.64 LVI -22.01

DISTANCE 500.301

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 11.412 VHL 3.378 DLA -36.72 RAL 350.61 RAD 6638.8 VEL 11.467 PTH 6.52 VHP 3.002 DPA -12.19 RAP 303.64 ECC 1.1878
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 1 50 2213.97 6.94 54.41 207.18 137.19 19 38 44 1214.0 24.67 37.24
60.00 20 55 38 1910.68 14.58 34.28 214.32 128.00 21 27 28 910.7 28.68 13.23
65.54 23 16 4 1503.18 25.16 8.02 221.56 117.67 23 41 7 503.2 34.26 342.34
65.54 23 16 4 1503.18 25.16 8.02 221.56 117.67 23 41 7 503.2 34.26 342.34
65.54 23 16 4 1503.18 25.16 8.02 221.56 117.67 23 41 7 503.2 34.26 342.34
65.54 23 16 4 1503.18 25.16 8.02 221.56 117.67 23 41 7 503.2 34.26 342.34
65.54 23 16 4 1503.18 25.16 8.02 221.56 117.67 23 41 7 503.2 34.26 342.34

DIFFERENTIAL CORRECTIONS

TDE -.2727 TRA .4297 TC3-2.2771 BAU .3789
RDE -.1311 RRA -.3414 RC3 .9813 FAU .23313
FDE 1.0120 FRA 7.8147 FC-17.8375 BSP 2887
BDE .3025 BRA .5488 BC3 2.4835 FSP 3072

MID-COURSE EXECUTION ACCURACY

SGT 1845.9 SGR 1009.8 S63 1774.0
RRT -.8489 RRF -.9837 RTF .8449
SGB 2104.1 R23 .3685 R13 -.9137
S61 2048.7 S62 479.4 THA 153.50

ORBIT DETERMINATION ACCURACY

ST 26.9 SR 15.6 SS 68.2
CRT .2553 CR8 .8943 CST -.2029
LSA 69.9 MSA 27.3 S5A .5
EL1 27.4 EL2 14.8 ALF 11.93

LAUNCH DATE APR 30 1971

FLIGHT TIME 210.00

ARRIVAL DATE NOV 26 1971

HELIOCENTRIC CONIC

RL 150.69 LAL -.00 LOL 219.02 VL 32.240 GAL -1.58 AZL 93.08 HCA 165.29 SMA 183.81 ECC .18221 INC 3.0822 V1 29.569
RP 212.86 LAP -.78 LOP 24.32 VP 22.911 GAP 5.27 AZP 87.02 TAL 349.73 TAP 155.02 RCA 150.31 APO 217.30 V2 25.782
RC 134.475 GL -30.55 GP 10.01 ZAL 113.02 ZAP 97.70 ETS 178.08 ZAE 140.28 ETE 167.97 ZAC 111.75 ETC 274.44 LVI -22.40

DISTANCE 504.487

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 11.621 VHL 3.409 DLA -37.27 RAL 351.41 RAD 6638.9 VEL 11.476 PTH 6.53 VHP 2.990 DPA -11.63 RAP 302.60 ECC 1.1913
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 9 25 2202.49 7.52 53.92 208.55 137.12 19 46 8 1202.5 25.19 36.64
60.00 21 7 46 1886.92 15.57 33.06 216.04 127.65 21 39 13 886.9 29.47 11.71
64.64 23 14 33 1520.85 25.39 9.58 222.81 118.26 23 39 53 520.9 34.70 343.91
64.64 23 14 33 1520.85 25.39 9.58 222.81 118.26 23 39 53 520.9 34.70 343.91
64.64 23 14 33 1520.85 25.39 9.58 222.81 118.26 23 39 53 520.9 34.70 343.91
64.64 23 14 33 1520.85 25.39 9.58 222.81 118.26 23 39 53 520.9 34.70 343.91
64.64 23 14 33 1520.85 25.39 9.58 222.81 118.26 23 39 53 520.9 34.70 343.91

DIFFERENTIAL CORRECTIONS

TDE -.2731 TRA .5150 TC3-2.4198 BAU .4096
RDE -.1305 RRA -.3803 RC3 1.0456 FAU .23658
FDE 1.0474 FRA 7.9160 FC-17.6238 BSP 3268
BDE .3026 BRA .6402 BC3 2.6361 FSP 3095

MID-COURSE EXECUTION ACCURACY

SGT 2028.8 SGR 1096.2 S63 1785.4
RRT -.8765 RRF -.9881 RTF .8874
SGB 2306.0 R23 .3415 R13 -.9283
S61 2256.7 S62 474.4 THA 153.39

ORBIT DETERMINATION ACCURACY

ST 28.3 SR 16.3 SS 68.8
CRT .1136 CR8 .9210 CST -.2812
LSA 70.9 MSA 27.8 S5A .5
EL1 28.4 EL2 16.2 ALF 5.57

LAUNCH DATE APR 30 1971

FLIGHT TIME 212.00

ARRIVAL DATE NOV 28 1971

HELIOCENTRIC CONIC

DISTANCE 508.674

EARTH TO MARS

RL 150.69 LAL -.00 LOL 219.02 VL 32.239 GAL -1.61 AZL 93.20 HCA 166.48 SMA 183.78 ECC .18220 INC 3.1864 V1 29.869
RP 213.16 LAP -.75 LOP 25.52 VP 22.871 GAP 5.08 AZP 86.89 TAL 349.50 TAP 155.99 RCA 150.30 APO 217.27 V2 25.749
RC 136.814 GL -31.45 GP 10.89 ZAL 113.11 ZAP 93.65 ETS 176.33 ZAE 136.13 EYE 167.87 ZAC 112.70 ETC 274.25 LVI -22.91

PLANETOCENTRIC CONIC

C3 11.876 VHL 3.446 DLA -37.92 RAL 352.30 RAD 6639.0 VEL 11.487 PTH 6.54 VHP 2.984 DPA -10.84 RAP 301.56 ECC 1.1954
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 18 17 2188.91 8.19 53.34 210.14 137.03 19 54 46 1188.9 25.80 35.94
60.00 21 22 55 1856.36 16.84 31.47 218.12 127.17 21 53 52 856.4 30.46 9.72
63.61 23 12 54 1540.59 25.64 11.35 224.25 118.95 23 38 35 540.6 35.21 345.69
63.61 23 12 54 1540.59 25.64 11.35 224.25 118.95 23 38 35 540.6 35.21 345.69
63.61 23 12 54 1540.59 25.64 11.35 224.25 118.95 23 38 35 540.6 35.21 345.69
63.61 23 12 54 1540.59 25.64 11.35 224.25 118.95 23 38 35 540.6 35.21 345.69

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2750 TRA .6028 TC3-2.5541 BAU .4418 SGT 2218.6 SGR 1195.7 SG3 1790.6 ST 29.9 SR 17.4 SS 69.4
RDE -.1314 RRA -.4252 RC3 1.1041 FAU .23712 RRT -.8965 RRF -.9915 RTF .9040 CRT -.0182 CRS .9435 CST -.3475
FDE 1.0895 FRA 7.9999 FC-17.2858 BSP 3659 SGB 2520.3 R23 .3194 R13 -.9393 LSA 72.1 MSA 26.4 SSA .4
BDE .3048 BRA .7376 BC3 2.7626 FSP 3106 SG1 2475.1 SG2 474.9 THA 153.14 EL1 29.9 EL2 17.4 ALF 179.08

LAUNCH DATE APR 30 1971

FLIGHT TIME 214.00

ARRIVAL DATE NOV 30 1971

HELIOCENTRIC CONIC

DISTANCE 512.861

EARTH TO MARS

RL 150.69 LAL -.00 LOL 219.02 VL 32.238 GAL -1.65 AZL 93.34 HCA 167.67 SMA 183.77 ECC .18224 INC 3.3366 V1 29.869
RP 213.46 LAP -.71 LOP 26.71 VP 22.832 GAP 4.90 AZP 86.74 TAL 349.26 TAP 156.94 RCA 150.28 APO 217.26 V2 25.714
RC 139.171 GL -32.50 GP 11.92 ZAL 113.17 ZAP 93.82 ETS 176.62 ZAE 135.97 ETE 167.68 ZAC 113.80 ETC 274.07 LVI -23.85

PLANETOCENTRIC CONIC

C3 12.187 VHL 3.491 DLA -38.68 RAL 353.32 RAD 6639.2 VEL 11.501 PTH 6.55 VHP 2.984 DPA -10.10 RAP 300.51 ECC 1.2006
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 28 51 2172.43 9.01 52.64 212.01 136.92 20 5 4 1172.4 26.54 35.07
60.00 21 43 2 1814.07 18.56 29.22 220.74 126.44 22 13 16 814.1 31.77 6.80
62.43 23 11 8 1562.87 25.93 13.37 225.92 119.78 23 37 11 562.9 35.80 347.73
62.43 23 11 8 1562.87 25.93 13.37 225.92 119.78 23 37 11 562.9 35.80 347.73
62.43 23 11 8 1562.87 25.93 13.37 225.92 119.78 23 37 11 562.9 35.80 347.73
62.43 23 11 8 1562.87 25.93 13.37 225.92 119.78 23 37 11 562.9 35.80 347.73

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2770 TRA .8953 TC3-2.6896 BAU .4747 SGT 2412.1 SGR 1311.0 SG3 1787.7 ST 31.7 SR 18.7 SS 70.0
RDE -.1344 RRA -.4773 RC3 1.1863 FAU .23648 RRT -.9122 RRF -.9941 RTF .9171 CRT -.1397 CRS .9817 CST -.4051
FDE 1.1446 FRA 8.0591 FC-16.7949 BSP 4084 SGB 2745.3 R23 .2991 R13 -.9484 LSA 73.5 MSA 29.1 SSA .4
BDE .3079 BRA .8434 BC3 2.9133 FSP 3111 SG1 2703.2 SG2 479.4 THA 152.70 EL1 31.9 EL2 18.4 ALF 172.91

LAUNCH DATE APR 30 1971

FLIGHT TIME 216.00

ARRIVAL DATE DEC 2 1971

HELIOCENTRIC CONIC

DISTANCE 517.048

EARTH TO MARS

RL 150.69 LAL -.00 LOL 219.02 VL 32.238 GAL -1.69 AZL 93.50 HCA 168.88 SMA 183.77 ECC .18234 INC 3.5033 V1 29.869
RP 213.77 LAP -.68 LOP 27.90 VP 22.793 GAP 4.72 AZP 86.56 TAL 349.01 TAP 157.87 RCA 150.26 APO 217.28 V2 25.680
RC 141.548 GL -33.73 GP 13.14 ZAL 113.18 ZAP 91.84 ETS 178.98 ZAE 133.78 ETE 167.38 ZAC 115.08 ETC 273.90 LVI -24.38

PLANETOCENTRIC CONIC

C3 12.575 VHL 3.546 DLA -39.80 RAL 354.49 RAD 6639.3 VEL 11.517 PTH 6.56 VHP 2.992 DPA -9.06 RAP 299.47 ECC 1.2070
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 41 48 2151.90 10.03 51.75 214.29 136.76 20 17 40 1151.9 27.46 33.96
60.00 22 13 36 1745.55 21.29 25.48 224.37 125.06 22 42 42 745.5 33.73 2.16
61.05 23 9 15 1588.22 26.25 15.70 227.88 120.78 23 35 43 588.2 36.50 350.10
61.05 23 9 15 1588.22 26.25 15.70 227.88 120.78 23 35 43 588.2 36.50 350.10
61.05 23 9 15 1588.22 26.25 15.70 227.88 120.78 23 35 43 588.2 36.50 350.10
61.05 23 9 15 1588.22 26.25 15.70 227.88 120.78 23 35 43 588.2 36.50 350.10

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2808 TRA .7912 TC3-2.7673 BAU .5099 SGT 2609.7 SGR 1445.8 SG3 1773.2 ST 33.8 SR 20.3 SS 70.3
RDE -.1387 RRA -.5379 RC3 1.2335 FAU .23500 RRT -.9248 RRF -.9960 RTF .1.78 CRT -.2484 CRS .9752 CST -.4561
FDE 1.1883 FRA 8.0764 FC-16.1788 BSP 4521 SGB 2983.4 R23 .2801 R13 -.9560 LSA 74.9 MSA 29.9 SSA .3
BDE .3132 BRA .8568 BC3 3.0307 FSP 3091 SG1 2943.3 SG2 487.6 THA 152.04 EL1 34.4 EL2 19.4 ALF 167.48

LAUNCH DATE APR 30 1971

FLIGHT TIME 218.00

ARRIVAL DATE DEC 4 1971

HELIOCENTRIC CONIC

DISTANCE 521.234

EARTH TO MARS

RL 150.69 LAL -.00 LOL 219.02 VL 32.239 GAL -1.73 AZL 93.71 HCA 170.08 SMA 183.78 ECC .18249 INC 3.7083 V1 29.869
RP 214.08 LAP -.64 LOP 29.08 VP 22.754 GAP 4.35 AZP 86.35 TAL 348.75 TAP 158.79 RCA 150.24 APO 217.32 V2 25.645
RC 143.036 GL -35.21 GP 14.61 ZAL 113.11 ZAP 89.71 ETS 179.41 ZAE 131.58 ETE 166.96 ZAC 116.61 ETC 273.74 LVI -25.44

PLANETOCENTRIC CONIC

C3 13.069 VHL 3.615 DLA -40.71 RAL 355.86 RAD 6639.6 VEL 11.539 PTH 6.58 VHP 3.008 DPA -7.75 RAP 298.42 ECC 1.2151
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 58 9 2125.46 11.34 50.61 217.13 136.52 20 33 35 1125.5 28.62 32.52
59.41 23 7 16 1617.48 26.61 18.42 230.23 122.02 23 34 13 617.5 37.32 352.90
59.41 23 7 16 1617.48 26.61 18.42 230.23 122.02 23 34 13 617.5 37.32 352.90
59.41 23 7 16 1617.48 26.61 18.42 230.23 122.02 23 34 13 617.5 37.32 352.90
59.41 23 7 16 1617.48 26.61 18.42 230.23 122.02 23 34 13 617.5 37.32 352.90
59.41 23 7 16 1617.48 26.61 18.42 230.23 122.02 23 34 13 617.5 37.32 352.90

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2867 TRA .8907 TC3-2.8418 BAU .5469 SGT 2810.0 SGR 1606.7 SG3 1751.7 ST 36.1 SR 22.4 SS 70.5
RDE -.1464 RRA -.6101 RC3 1.3124 FAU .23261 RRT -.9346 RRF -.9974 RTF .9360 CRT -.3397 CRS .9851 CST -.4961
FDE 1.2418 FRA 8.0472 FC-15.4091 BSP 4971 SGB 3236.9 R23 .2624 R13 -.9623 LSA 76.4 MSA 30.9 SSA .3
BDE .3219 BRA 1.0796 BC3 3.1302 FSP 3048 SG1 3197.7 SG2 502.0 THA 151.10 EL1 37.3 EL2 20.4 ALF 162.79

LAUNCH DATE APR 30 1971 FLIGHT TIME 220.00 ARRIVAL DATE DEC 8 1971

Heliocentric Conic DISTANCE 523.420 EARTH TO MARS

RL 150.89 LAL -0.00 LOL 219.02 VL 32.240 GAL -1.77 AZL 93.97 HCA 171.23 SMA 103.79 ECC .18269 INC 3.9676 V1 29.569
 RP 214.39 LAP -.60 LOP 30.26 VP 22.715 GAP 4.37 AZP 86.08 TAL 348.47 TAP 159.70 RCA 150.22 APO 217.37 V2 25.609
 RC 146.344 GL -37.02 GP 16.43 ZAL 112.94 ZAP 87.84 ETS 179.94 ZAE 129.32 ETE 166.37 ZAC 118.48 ETC 273.61 LVI -26.82

PLANETOCENTRIC CONIC

C3 13.718 VHL 3.704 DLA -42.08 RAL 357.52 RAD 8639.9 VEL 11.566 PTH 6.61 VHP 3.036 DPA -6.10 RAP 297.38 ECC 1.2258
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 19 47 2089.87 13.10 49.04 220.84 136.16 20 54 37 1089.9 30.15 30.51
 57.44 23 5 22 1651.50 27.01 21.66 233.13 123.58 23 32 54 651.5 38.30 356.25
 57.44 23 5 22 1651.50 27.01 21.66 233.13 123.58 23 32 54 651.5 38.30 356.25
 57.44 23 5 22 1651.50 27.01 21.66 233.13 123.58 23 32 54 651.5 38.30 356.25
 57.44 23 5 22 1651.50 27.01 21.66 233.13 123.58 23 32 54 651.5 38.30 356.25
 57.44 23 5 22 1651.50 27.01 21.66 233.13 123.58 23 32 54 651.5 38.30 356.25
 57.44 23 5 22 1651.50 27.01 21.66 233.13 123.58 23 32 54 651.5 38.30 356.25

Differential Corrections MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2918 TRA .9974 TC3-2.8761 BAU .5860 SGT 3010.7 SGR 1802.1 SG3 1714.2 ST 38.6 SR 25.2 SS 70.8
 RDE -.1811 RRA -.6990 RC3 1.3919 FAU .22796 RRT -.9423 RRF -.9984 RTF .9426 CRT -.4160 CRS .9919 CST -.5275
 FDE 1.3281 FRA 7.9688 FC-14.3866 BSP 5484 SGB 3508.8 R23 .2455 R13 -.9677 LSA 78.3 MSA 31.9 SSA .2
 BDE .3334 BRA 1.2180 BC3 3.1952 FSP 2995 SG1 3469.6 SG2 523.4 THA 149.82 EL1 40.7 EL2 21.8 ALF 158.31

LAUNCH DATE APR 30 1971 FLIGHT TIME 222.00 ARRIVAL DATE DEC 8 1971

Heliocentric Conic DISTANCE 529.604 EARTH TO MARS

RL 150.69 LAL -0.00 LOL 219.02 VL 32.241 GAL -1.82 AZL 94.31 HCA 172.40 SMA 103.82 ECC .18294 INC 4.3046 V1 29.569
 RP 214.72 LAP -.57 LOP 31.44 VP 22.676 GAP 4.20 AZP 85.73 TAL 348.18 TAP 160.59 RCA 150.19 APO 217.45 V2 25.573
 RC 148.770 GL -39.27 GP 18.73 ZAL 112.61 ZAP 86.06 ETS 180.61 ZAE 126.99 ETE 165.57 ZAC 120.82 ETC 273.50 LVI -26.65

PLANETOCENTRIC CONIC

C3 14.607 VHL 3.822 DLA -43.80 RAL 359.59 RAD 8640.3 VEL 11.604 PTH 6.65 VHP 3.081 DPA -3.96 RAP 296.26 ECC 1.2404
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 50 29 2038.23 15.62 46.73 226.01 135.53 21 24 27 1038.2 32.31 27.48
 55.04 23 3 53 1691.70 27.43 25.55 236.82 125.60 23 32 4 691.7 39.48 .37
 55.04 23 3 53 1691.70 27.43 25.55 236.82 125.60 23 32 4 691.7 39.48 .37
 55.04 23 3 53 1691.70 27.43 25.55 236.82 125.60 23 32 4 691.7 39.48 .37
 55.04 23 3 53 1691.70 27.43 25.55 236.82 125.60 23 32 4 691.7 39.48 .37
 55.04 23 3 53 1691.70 27.43 25.55 236.82 125.60 23 32 4 691.7 39.48 .37
 55.04 23 3 53 1691.70 27.43 25.55 236.82 125.60 23 32 4 691.7 39.48 .37

Differential Corrections MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.3036 TRA 1.1038 TC3-2.8814 BAU .6332 SGT 3211.6 SGR 2041.5 SG3 1654.7 ST 41.4 SR 28.6 SS 70.4
 RDE -.1823 RRA -.8058 RC3 1.4888 FAU .22292 RRT -.9481 RRF -.9990 RTF .9475 CRT -.4710 CRS .9962 CST -.5460
 FDE 1.4067 FRA 7.7683 FC-13.2118 BSP 5943 SGB 3805.5 R23 .2293 R13 -.9724 LSA 79.9 MSA 31.3 SSA .2
 BDE .3542 BRA 1.3666 BC3 3.2423 FSP 2866 SG1 3765.0 SG2 553.9 THA 148.16 EL1 44.5 EL2 23.5 ALF 154.31

LAUNCH DATE APR 30 1971 FLIGHT TIME 224.00 ARRIVAL DATE DEC 10 1971

Heliocentric Conic DISTANCE 533.786 EARTH TO MARS

RL 150.69 LAL -0.00 LOL 219.02 VL 32.243 GAL -1.87 AZL 94.76 HCA 173.58 SMA 103.86 ECC .18323 INC 4.7645 V1 29.569
 RP 215.04 LAP -.53 LOP 32.81 VP 22.638 GAP 4.03 AZP 85.27 TAL 347.89 TAP 161.46 RCA 150.17 APO 217.54 V2 25.536
 RC 151.211 GL -42.17 GP 21.73 ZAL 112.04 ZAP 84.41 ETS 181.47 ZAE 124.52 ETE 164.47 ZAC 123.86 ETC 273.43 LVI -31.12

PLANETOCENTRIC CONIC

C3 15.901 VHL 3.988 DLA -46.01 RAL 362.32 RAD 8641.0 VEL 11.660 PTH 6.70 VHP 3.154 DPA -1.11 RAP 295.12 ECC 1.2617
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 41 15 1948.40 19.93 42.55 234.18 134.14 22 13 43 948.4 35.85 21.84
 52.06 23 3 26 1740.27 27.81 30.34 241.70 128.26 23 32 27 740.3 40.86 5.57
 52.06 23 3 26 1740.27 27.81 30.34 241.70 128.26 23 32 27 740.3 40.86 5.57
 52.06 23 3 26 1740.27 27.81 30.34 241.70 128.26 23 32 27 740.3 40.86 5.57
 52.06 23 3 26 1740.27 27.81 30.34 241.70 128.26 23 32 27 740.3 40.86 5.57
 52.06 23 3 26 1740.27 27.81 30.34 241.70 128.26 23 32 27 740.3 40.86 5.57
 52.06 23 3 26 1740.27 27.81 30.34 241.70 128.26 23 32 27 740.3 40.86 5.57

Differential Corrections MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2998 TRA 1.2321 TC3-2.7910 BAU .6797 SGT 3411.8 SGR 2352.7 SG3 1572.3 ST 44.0 SR 33.9 SS 71.0
 RDE -.2310 RRA -.9522 RC3 1.5580 FAU .21120 RRT -.9524 RRF -.9995 RTF .5111 CRT -.5212 CRS .9987 CST -.5643
 FDE 1.6089 FRA 7.5149 FC-11.4886 BSP 6644 SGB 4144.3 R23 .2124 R13 -.9766 LSA 83.3 MSA 34.6 SSA .2
 BDE .3785 BRA 1.5572 BC3 3.1971 FSP 2763 SG1 4101.2 SG2 596.4 THA 145.88 EL1 49.2 EL2 25.9 ALF 148.38

LAUNCH DATE APR 30 1971 FLIGHT TIME 226.00 ARRIVAL DATE DEC 12 1971

Heliocentric Conic DISTANCE 537.986 EARTH TO MARS

RL 150.69 LAL -0.00 LOL 219.02 VL 32.246 GAL -1.92 AZL 95.43 HCA 174.74 SMA 103.90 ECC .18357 INC 5.4238 V1 29.569
 RP 215.37 LAP -.50 LOP 33.78 VP 22.600 GAP 3.86 AZP 84.60 TAL 347.58 TAP 162.33 RCA 150.14 APO 217.66 V2 25.499
 RC 153.869 GL -48.99 GP 25.77 ZAL 111.09 ZAP 82.97 ETS 182.61 ZAE 121.82 ETE 162.98 ZAC 127.93 ETC 273.45 LVI -34.83

PLANETOCENTRIC CONIC

C3 17.947 VHL 4.238 DLA -48.89 RAL 364.14 RAD 8641.9 VEL 11.746 PTH 6.77 VHP 3.276 DPA 2.78 RAP 293.89 ECC 1.2954
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 48.29 23 5 32 1800.83 27.99 36.35 248.49 131.88 23 35 33 800.8 42.41 12.38
 48.29 23 5 32 1800.83 27.99 36.35 248.49 131.88 23 35 33 800.8 42.41 12.38
 48.29 23 5 32 1800.83 27.99 36.35 248.49 131.88 23 35 33 800.8 42.41 12.38
 48.29 23 5 32 1800.83 27.99 36.35 248.49 131.88 23 35 33 800.8 42.41 12.38
 48.29 23 5 32 1800.83 27.99 36.35 248.49 131.88 23 35 33 800.8 42.41 12.38
 48.29 23 5 32 1800.83 27.99 36.35 248.49 131.88 23 35 33 800.8 42.41 12.38
 48.29 23 5 32 1800.83 27.99 36.35 248.49 131.88 23 35 33 800.8 42.41 12.38

Differential Corrections MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2979 TRA 1.3543 TC3-2.6517 BAU .7492 SGT 3601.7 SGR 2744.7 SG3 1437.6 ST 46.5 SR 40.8 SS 70.0
 RDE -.3108 RRA -1.1301 RC3 1.6488 FAU .19925 RRT -.9556 RRF -.9997 RTF .9536 CRT -.5489 CRS .9997 CST -.5675
 FDE 1.8157 FRA 6.9515 FC3-9.6117 BSP 7158 SGB 4528.3 R23 .1948 R13 -.9806 LSA 86.2 MSA 36.2 SSA .1
 BDE .4305 BRA 1.7639 BC3 3.1225 FSP 2477 SG1 4481.4 SG2 650.1 THA 143.03 EL1 54.6 EL2 29.0 ALF 141.77

LAUNCH DATE APR 30 1971

FLIGHT TIME 226.00

ARRIVAL DATE DEC 14 1971

HELIOCENTRIC CONIC
 RL 130.69 LAL -.00 LOL 219.02 VL 32.249 GAL -1.97 AZL 96.46 HCA 175.81 SMA 183.95 ECC .18395 INC 6.4571 V1 29.569
 RP 215.71 LAP -.46 LOP 34.95 VP 22.562 GAP 3.70 AZP 83.56 TAL 347.27 TAP 183.18 RCA 130.11 APO 217.79 V2 25.461
 RC 158.143 GL -51.26 GP 31.43 ZAL 109.52 ZAP 81.90 ETS 184.13 ZAE 116.67 ETE 160.92 ZAC 133.61 ETC 273.61 LVI -39.37

DISTANCE 942.145 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 21.603 VHL 4.648 DLA -52.70 RAL 12.00 RAD 6643.5 VEL 11.900 PTH 6.91 VHP 3.500 DPA 8.29 RAP 292.51 ECC 1.3559
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 43.48 23 13 47 1800.11 27.53 44.05 258.59 136.89 23 45 7 880.1 43.83 21.70
 43.48 23 13 47 1800.11 27.53 44.05 258.59 136.89 23 45 7 880.1 43.83 21.70
 43.48 23 13 47 1800.11 27.53 44.05 258.59 136.89 23 45 7 880.1 43.83 21.70
 43.48 23 13 47 1800.11 27.53 44.05 258.59 136.89 23 45 7 880.1 43.83 21.70
 43.48 23 13 47 1800.11 27.53 44.05 258.59 136.89 23 45 7 880.1 43.83 21.70
 43.48 23 13 47 1800.11 27.53 44.05 258.59 136.89 23 45 7 880.1 43.83 21.70

DIFFERENTIAL CORRECTIONS
 TDE -.2229 TRA 1.8134 TC3-2.3464 BAU .8349 SGT 3783.1 SGR 3268.6 SG3 1232.4 ST 48.3 SR 52.5 S8 69.9
 RDE -.5083 RRA-1.3752 RC3 1.6885 FAU .17805 RRT -.9994 RRF -.9999 RTF .9569 CRT -.5978 CRS 1.0000 C8T -.5968
 FDE 2.2484 FRA 6.0582 FC3-7.1353 BSP 7941 SGB 4999.5 R23 .1718 R13 -.9850 LSA 93.0 MSA 36.4 S5A .1
 BDE .5559 BRA 2.0449 BC3 2.8908 FSP 2090 SG1 4949.7 SG2 704.3 THA 139.35 EL1 63.8 EL2 31.8 ALF 131.06

LAUNCH DATE APR 30 1971

FLIGHT TIME 230.00

ARRIVAL DATE DEC 16 1971

HELIOCENTRIC CONIC
 RL 150.69 LAL -.00 LOL 219.02 VL 32.252 GAL -2.02 AZL 98.30 HCA 177.07 SMA 184.01 ECC .18437 INC 8.3005 V1 29.569
 RP 216.04 LAP -.42 LOP 36.11 VP 22.524 GAP 3.53 AZP 81.71 TAL 346.95 TAP 184.02 RCA 150.08 APO 217.93 V2 25.424
 RC 158.631 GL -58.82 GP 39.65 ZAL 106.92 ZAP 81.57 ETS 186.10 ZAE 114.73 ETE 158.08 ZAC 141.83 ETC 274.18 LVI -46.40

DISTANCE 546.314 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 29.585 VHL 5.439 DLA -57.61 RAL 22.29 RAD 6646.8 VEL 12.228 PTH 7.18 VHP 3.982 DPA 16.37 RAP 290.90 ECC 1.4869
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 37.46 23 37 55 1993.18 25.18 53.86 274.93 143.71 24 11 8 993.2 43.94 34.79
 37.46 23 37 55 1993.18 25.18 53.86 274.93 143.71 24 11 8 993.2 43.94 34.79
 37.46 23 37 55 1993.18 25.18 53.86 274.93 143.71 24 11 8 993.2 43.94 34.79
 37.46 23 37 55 1993.18 25.18 53.86 274.93 143.71 24 11 8 993.2 43.94 34.79
 37.46 23 37 55 1993.18 25.18 53.86 274.93 143.71 24 11 8 993.2 43.94 34.79
 37.46 23 37 55 1993.18 25.18 53.86 274.93 143.71 24 11 8 993.2 43.94 34.79

DIFFERENTIAL CORRECTIONS
 TDE .0681 TRA 1.7216 TC3-1.8528 BAU .9603 SGT 3941.1 SGR 3995.9 SG3 918.5 ST 51.1 SR 78.4 S8 73.4
 RDE -1.1268 RRA-1.7354 RC3 1.9689 FAU .13858 RRT -.9590 RRF -.9999 RTF .9548 CRT -.7196 CRS .9999 C8T -.7077
 FDE 3.1097 FRA 4.6280 FC3-4.0552 BSP 9100 SGB 5612.5 R23 .1552 R13 -.9878 LSA 114.1 MSA 33.7 S5A .0
 BDE 1.1303 BRA 2.4444 BC3 2.4278 FSP 1583 SG1 5594.7 SG2 803.2 THA 134.59 EL1 88.1 EL2 31.6 ALF 119.23

LAUNCH DATE APR 30 1971

FLIGHT TIME 238.00

ARRIVAL DATE DEC 24 1971

HELIOCENTRIC CONIC
 RL 150.69 LAL -.00 LOL 219.02 VL 32.270 GAL -2.27 AZL 90.80 HCA 181.73 SMA 184.30 ECC .18650 INC 9.1901 V1 29.569
 RP 217.43 LAP -.28 LOP 40.73 VP 22.375 GAP 2.89 AZP 89.19 TAL 345.46 TAP 187.19 RCA 149.93 APO 218.67 V2 25.269
 RC 168.717 GL 81.08 GP -51.65 ZAL 107.03 ZAP 80.22 ETS 166.14 ZAE 105.25 ETE 200.81 ZAC 50.72 ETC 272.74 LVI 37.19

DISTANCE 563.078 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 34.660 VHL 5.887 DLA 49.24 RAL 316.02 RAD 6648.8 VEL 12.432 PTH 7.34 VHP 5.447 DPA -72.41 RAP 322.95 ECC 1.5704
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 47.85 7 46 14 4609.43 -20.52 213.80 207.22 44.19 9 3 3 3609.4 -36.97 193.42
 47.85 7 46 14 4609.43 -20.52 213.80 207.22 44.19 9 3 3 3609.4 -36.97 193.42
 47.85 7 46 14 4609.43 -20.52 213.80 207.22 44.19 9 3 3 3609.4 -36.97 193.42
 47.85 7 46 14 4609.43 -20.52 213.80 207.22 44.19 9 3 3 3609.4 -36.97 193.42
 47.85 7 46 14 4609.43 -20.52 213.80 207.22 44.19 9 3 3 3609.4 -36.97 193.42
 47.85 7 46 14 4609.43 -20.52 213.80 207.22 44.19 9 3 3 3609.4 -36.97 193.42

DIFFERENTIAL CORRECTIONS
 TDE 4.1072 TRA .5673 TC3-2.0239 BAU 1.2256 SGT 4729.8 SGR 4669.3 SG3 408.5 ST 200.3 SR 186.3 S8 88.6
 RDE 3.7755 RRA 1.3881 RC3-1.7029 FAU .06986 RRT .9608 RRF .9992 RTF .502 CRT .9946 CRS -.9999 C8T -.9927
 FDE 3.7149 FRA 1.5099 FC3-1.7448 BSP 9521 SGB 6646.4 R23 .1764 R13 .9841 LSA 286.5 MSA 15.4 S5A .1
 BDE 5.5788 BRA 1.4995 BC3 2.8450 FSP 651 SG1 6580.6 SG2 932.7 THA 44.62 EL1 273.2 EL2 14.2 ALF 42.92

LAUNCH DATE APR 30 1971

FLIGHT TIME 240.00

ARRIVAL DATE DEC 26 1971

HELIOCENTRIC CONIC
 RL 150.69 LAL -.00 LOL 219.02 VL 32.276 GAL -2.33 AZL 85.19 HCA 182.87 SMA 184.39 ECC .18710 INC 4.8098 V1 29.569
 RP 217.79 LAP -.24 LOP 41.87 VP 22.338 GAP 2.73 AZP 94.81 TAL 345.11 TAP 187.98 RCA 149.89 APO 218.89 V2 25.229
 RC 171.268 GL 41.00 GP -39.36 ZAL 115.23 ZAP 75.66 ETS 166.81 ZAE 107.34 ETE 195.31 ZAC 63.06 ETC 272.01 LVI 26.61

DISTANCE 567.225 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 17.021 VHL 4.126 DLA 31.07 RAL 327.61 RAD 6641.5 VEL 11.707 PTH 6.74 VHP 4.070 DPA -61.58 RAP 307.31 ECC 1.2801
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 12 25 23 3747.86 -47.34 151.78 211.57 84.56 13 27 51 2747.9 -43.92 117.29
 60.00 12 17 38 3768.53 -38.96 151.95 209.89 78.74 13 20 26 2768.5 -39.34 120.79
 70.00 12 0 33 3819.01 -29.88 153.21 207.08 72.62 13 4 12 2819.0 -34.12 125.31
 76.55 10 54 27 4025.84 -19.12 164.35 202.51 65.02 12 1 33 3025.8 -27.74 139.95
 76.55 10 54 27 4025.84 -19.12 164.35 202.51 65.02 12 1 33 3025.8 -27.74 139.95
 76.55 10 54 27 4025.84 -19.12 164.35 202.51 65.02 12 1 33 3025.8 -27.74 139.95
 110.00 16 59 59 2865.82 -29.88 82.13 207.08 72.62 17 47 45 1865.8 -34.12 54.23

DIFFERENTIAL CORRECTIONS
 TDE 2.4098 TRA 1.1547 TC3-3.8078 BAU 1.0135 SGT 4957.6 SGR 3722.6 SG3 868.0 ST 169.7 SR 123.9 S8 113.1
 RDE 1.7171 RRA 1.3776 RC3-2.3099 FAU .12126 RRT .9679 RRF .9997 RTF .9640 CRT .9942 CRS -.9999 C8T -.9926
 FDE 4.4380 FRA 3.7543 FC3-6.1674 BSP 9777 SGB 6235.8 R23 .1750 R13 .9844 LSA 238.2 MSA 13.7 S5A .1
 BDE 2.9590 BRA 1.7975 BC3 4.4537 FSP 1467 SG1 6189.2 SG2 761.4 THA 37.10 EL1 209.9 EL2 10.8 ALF 36.07

LAUNCH DATE APR 30 1971 FLIGHT TIME 242.00 ARRIVAL DATE DEC 28 1971

HELIOCENTRIC CONIC DISTANCE 571.378 EARTH TO MARS
RL 150.69 LAL -.00 LOL 219.02 VL 32.281 GAL -2.39 AZL 87.08 HCA 184.00 SMA 184.48 ECC .18774 INC 2.9211 V1 29.569
RP 218.15 LAP -.20 LOP 43.01 VP 22.301 GAP 2.57 AZP 92.92 TAL 344.75 TAP 168.75 RCA 149.83 APO 219.12 V2 25.189
RC 173.829 GL 27.23 GP -30.60 ZAL 119.94 ZAP 72.41 ETS 168.12 ZAE 107.83 ETE 191.47 ZAC 71.64 ETC 271.74 LVI 18.01

PLANETOCENTRIC CONIC
C3 12.923 VHL 3.595 DLA 18.50 RAL 333.83 RAD 6639.5 VEL 11.932 PTH 6.58 VHP 3.607 DPA -53.48 RAP 301.93 ECC 1.2127
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 13 52 28 3408.69 -44.56 119.97 200.18 108.77 14 49 17 2408.7 -32.62 92.86
60.00 14 10 23 3360.98 -38.84 117.76 202.27 101.73 15 6 24 2361.0 -30.09 90.45
70.00 14 37 26 3281.34 -33.66 112.33 203.28 96.15 15 32 8 2281.3 -27.69 85.25
80.00 15 21 23 3143.59 -29.78 102.22 203.62 92.27 16 13 47 2143.6 -25.82 75.49
90.00 16 31 38 2916.83 -28.27 85.60 203.66 90.81 17 20 15 1916.8 -25.09 59.04
100.00 18 4 15 2618.06 -29.78 63.59 203.62 92.27 18 47 53 1618.1 -25.82 36.86
110.00 19 36 53 2328.16 -33.66 41.24 203.28 96.15 20 15 41 1328.2 -27.69 14.17

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
SGT 5159.1 SGR 3043.4 SG3 1157.5 ST 144.7 SR 86.5 SS 114.9
RRT .9717 RRF .9997 RTF .9693 CRT .9954 CRS -.9998 CST -.9934
FDE 4.3023 FRA 5.3592 FC3-9.9649 BSP 9944 LSA 203.7 MSA 11.1 SSA .2
BDE 2.0273 BRA 1.8979 BC3 5.4341 FSP 2052 SG1 5957.4 SG2 622.8 THA 30.19 EL1 168.4 EL2 7.1 ALF 30.80

LAUNCH DATE APR 30 1971 FLIGHT TIME 244.00 ARRIVAL DATE DEC 30 1971

HELIOCENTRIC CONIC DISTANCE 575.932 EARTH TO MARS
RL 150.69 LAL -.00 LOL 219.02 VL 32.287 GAL -2.46 AZL 88.13 HCA 185.14 SMA 184.58 ECC .18842 INC 1.8692 V1 29.569
RP 218.51 LAP -.17 LOP 44.15 VP 22.265 GAP 2.41 AZP 91.86 TAL 344.37 TAP 169.50 RCA 149.80 APO 219.36 V2 25.149
RC 176.400 GL 17.99 GP -24.93 ZAL 122.51 ZAP 69.94 ETS 169.27 ZAE 107.40 ETE 188.77 ZAC 77.52 ETC 271.59 LVI 13.77

PLANETOCENTRIC CONIC
C3 11.617 VHL 3.408 DLA 10.10 RAL 337.81 RAD 6638.9 VEL 11.476 PTH 6.53 VHP 3.410 DPA -47.85 RAP 299.25 ECC 1.1912
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 42 0 3214.05 -39.08 104.55 196.36 119.65 15 35 35 2214.1 -24.15 82.06
60.00 15 10 36 3137.97 -34.32 100.61 199.28 112.57 16 2 54 2138.0 -22.14 76.95
70.00 15 50 28 3020.64 -30.05 92.92 201.09 107.05 16 40 49 2020.6 -20.28 68.66
80.00 16 47 22 2842.41 -26.95 80.36 202.05 103.37 17 34 45 1842.4 -18.88 55.86
90.00 18 3 47 2595.80 -25.78 62.53 202.35 102.04 18 47 3 1595.8 -18.35 37.97
100.00 19 30 14 2316.88 -26.95 41.73 202.05 103.37 20 8 51 1316.9 -18.88 17.23
110.00 20 49 55 2067.46 -30.05 21.84 201.09 107.05 21 24 22 1067.5 -20.28 357.58

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
SGT 5341.0 SGR 2476.5 SG3 1313.8 ST 126.5 SR 63.7 SS 109.9
RRT .9735 RRF .9995 RTF .9719 CRT .9976 CRS -.9995 CST -.9949
FDE 3.9963 FRA 6.3023 FC-12.2977 BSP 9862 SGB 5887.2 R23 1.940 R13 .9805 LSA 179.0 MSA 8.5 SSA .3
BDE 1.5741 BRA 1.9565 BC3 5.9541 FSP 2346 SG1 5864.5 SG2 516.2 THA 24.50 EL1 141.6 EL2 4.0 ALF 26.68

LAUNCH DATE APR 30 1971 FLIGHT TIME 246.00 ARRIVAL DATE JAN 1 1972

HELIOCENTRIC CONIC DISTANCE 579.684 EARTH TO MARS
RL 150.69 LAL -.00 LOL 219.02 VL 32.294 GAL -2.53 AZL 88.80 HCA 186.27 SMA 184.69 ECC .18913 INC 1.1966 V1 29.569
RP 218.88 LAP -.13 LOP 45.28 VP 22.228 GAP 2.25 AZP 91.19 TAL 343.98 TAP 170.25 RCA 149.76 APO 219.61 V2 25.109
RC 178.981 GL 11.65 GP -20.78 ZAL 124.00 ZAP 67.89 ETS 170.20 ZAE 106.51 ETE 186.84 ZAC 81.68 ETC 271.50 LVI 10.08

PLANETOCENTRIC CONIC
C3 11.186 VHL 3.345 DLA 4.40 RAL 340.64 RAD 6639.6 VEL 11.457 PTH 6.51 VHP 3.317 DPA -43.84 RAP 297.62 ECC 1.1841
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 14 36 3091.95 -34.63 96.27 195.75 124.93 16 6 8 2091.9 -18.42 76.10
60.00 15 49 30 2999.09 -30.27 91.08 198.92 117.99 16 39 29 1999.1 -16.59 69.41
70.00 16 36 32 2860.78 -26.35 81.97 201.02 112.56 17 24 12 1860.8 -14.89 59.40
80.00 17 40 4 2661.79 -23.51 68.06 202.20 108.96 18 24 26 1661.0 -13.63 45.03
90.00 18 59 25 2405.70 -22.45 49.61 202.59 107.67 19 39 31 1405.7 -13.15 26.44
100.00 20 22 56 2138.27 -23.51 29.42 202.20 108.96 20 58 32 1138.3 -13.63 6.39
110.00 21 35 58 1907.60 -26.35 10.88 201.02 112.56 22 7 46 907.6 -14.89 348.32

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
SGT 5520.0 SGR 2054.8 SG3 1394.6 ST 114.3 SR 49.5 SS 104.2
RRT .9741 RRF .9991 RTF .5.34 CRT .9994 CRS -.9988 CST -.9987
FDE 3.7084 FRA 6.8468 FC-13.5236 BSP 9784 SGB 5890.0 R23 1.985 R13 .9791 LSA 162.3 MSA 6.2 SSA .6
BDE 1.3184 BRA 2.0245 BC3 6.2524 FSP 2473 SG1 5873.8 SG2 436.6 THA 20.05 EL1 124.5 EL2 1.6 ALF 23.42

LAUNCH DATE APR 30 1971 FLIGHT TIME 248.00 ARRIVAL DATE JAN 3 1972

HELIOCENTRIC CONIC DISTANCE 583.833 EARTH TO MARS
RL 150.69 LAL -.00 LOL 219.02 VL 32.300 GAL -2.60 AZL 89.27 HCA 187.40 SMA 184.79 ECC .18987 INC .7344 V1 29.569
RP 219.25 LAP -.09 LOP 46.41 VP 22.192 GAP 2.10 AZP 90.73 TAL 343.58 TAP 170.98 RCA 149.71 APO 219.88 V2 25.068
RC 181.572 GL 7.13 GP -17.72 ZAL 124.98 ZAP 66.11 ETS 170.94 ZAE 105.39 ETE 185.42 ZAC 84.75 ETC 271.43 LVI 7.34

PLANETOCENTRIC CONIC
C3 11.100 VHL 3.332 DLA .41 RAL 342.81 RAD 6638.6 VEL 11.454 PTH 6.50 VHP 3.274 DPA -40.89 RAP 296.51 ECC 1.1827
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 37 51 3010.81 -31.35 91.31 196.27 127.82 16 28 1 2010.8 -14.49 72.39
60.00 16 17 0 2906.66 -27.16 85.22 199.56 121.00 17 5 26 1906.7 -12.72 64.67
70.00 17 8 45 2754.44 -23.39 75.13 201.81 115.63 17 54 40 1751.4 -11.07 53.53
80.00 18 16 37 2541.96 -20.64 60.31 203.12 112.06 18 58 58 1542.0 -9.84 38.14
90.00 19 37 51 2279.81 -19.62 41.47 203.55 110.75 20 15 51 1279.8 -9.38 19.12
100.00 20 59 28 2016.44 -20.64 21.68 203.12 112.06 21 33 5 1016.4 -9.84 359.51
110.00 22 8 12 1801.25 -23.39 4.04 201.81 115.63 22 38 13 801.3 -11.07 342.45

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
SGT 5695.3 SGR 1737.8 SG3 1434.1 ST 107.9 SR 40.7 SS 100.2
RRT .9744 RRF .9983 RTF .9748 CRT .9996 CRS -.9974 CST -.9983
FDE 3.5058 FRA 7.1982 FC-13.9097 BSP 9978 SGB 5954.5 R23 1.975 R13 .9786 LSA 152.7 MSA 4.5 SSA 1.0
BDE 1.1788 BRA 2.1182 BC3 6.3807 FSP 2555 SG1 5942.7 SG2 374.3 THA 16.63 EL1 115.3 EL2 1.0 ALF 20.67

LAUNCH DATE APR 30 1971

FLIGHT TIME 250.00

ARRIVAL DATE JAN 5 1972

HELIOCENTRIC CONIC

RL 150.69 LAL -.00 LOL 219.02 VL 32.307 GAL -2.67 AZL 89.61 HCA 188.52 SMA 184.91 ECC .19064 INC .3917 V1 29.569
RP 219.62 LAP -.06 LOP 47.54 VP 22.156 GAP 1.94 AZP 90.39 TAL 343.18 TAP 171.70 RCA 149.65 APO 220.16 V2 25.028
RC 184.172 GL 3.79 GP -15.40 ZAL 125.71 ZAP 64.51 ETS 171.54 ZAE 104.16 ETE 184.36 ZAC 87.08 ETC 271.38 LVI 5.26

PLANETOCENTRIC CONIC

C3 11.173 VHL 3.343 DLA -2.48 RAL 344.55 RAD 6638.6 VEL 11.457 PTH 6.51 VHP 3.256 DPA -38.63 RAP 295.72 ECC 1.1839
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 35 20 2954.69 -28.97 68.09 197.21 129.55 16 44 34 1954.7 -11.74 69.91
60.00 16 37 32 2842.42 -24.85 81.35 200.58 122.81 17 24 55 1842.4 -9.97 61.47
70.00 17 32 42 2680.21 -21.13 70.59 202.93 117.48 18 17 22 1680.2 -8.32 49.54
80.00 18 43 39 2456.07 -18.41 55.08 204.32 113.93 19 24 37 1458.1 -7.10 33.43
90.00 20 6 14 2191.57 -17.39 35.95 204.78 112.66 20 42 46 1191.6 -6.64 14.09
100.00 21 26 31 1932.54 -18.41 16.45 204.32 113.93 21 38 43 932.5 -7.10 354.60
110.00 22 32 8 1727.03 -21.13 359.47 202.93 117.48 23 0 55 727.0 -8.32 338.46

DIFFERENTIAL CORRECTIONS

TDE 1.0293 TRA 2.1225 TC3-6.3581 BAU .9873
RDE .3578 RRA .6323 RC3-1.2298 FAU .17939
FDE 3.3550 FRA 7.4152 FC-13.9004 BSP 10139
BDE 1.0897 BRA 2.2147 BC3 6.4759 FSP 2586

MID-COURSE EXECUTION ACCURACY

SGT 5868.6 SGR 1493.0 SG3 1449.1
RRT .9732 RRF .9972 RTF .9751
SCB 6035.6 R23 .1963 R13 .9779
SG1 6046.4 SG2 333.1 THA 13.95

ORBIT DETERMINATION ACCURACY

ST 104.0 SR 34.7 88 97.2
CRT .9975 CRS -.9952 CBT -.9993
LSA 146.4 MSA 3.6 88A 1.5
EL1 109.6 EL2 2.4 ALF 18.44

LAUNCH DATE APR 30 1971

FLIGHT TIME 252.00

ARRIVAL DATE JAN 7 1972

HELIOCENTRIC CONIC

RL 150.69 LAL -.00 LOL 219.02 VL 32.314 GAL -2.74 AZL 89.87 HCA 189.64 SMA 185.02 ECC .19145 INC .1251 V1 29.569
RP 219.99 LAP -.02 LOP 48.66 VP 22.120 GAP 1.79 AZP 90.13 TAL 342.77 TAP 172.41 RCA 149.60 APO 220.44 V2 24.987
RC 186.781 GL 1.26 GP -13.57 ZAL 126.31 ZAP 63.02 ETS 172.03 ZAE 102.88 ETE 185.53 ZAC 88.91 ETC 271.34 LVI 3.64

PLANETOCENTRIC CONIC

C3 11.325 VHL 3.365 DLA -4.62 RAL 346.01 RAD 6638.7 VEL 11.463 PTH 6.51 VHP 3.253 DPA -38.86 RAP 295.13 ECC 1.1864
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 9 0 2914.85 -27.22 85.91 198.28 130.66 16 57 35 1914.8 -9.77 88.18
60.00 16 53 30 2798.50 -23.13 78.89 201.72 123.97 17 40 6 1798.5 -7.98 59.21
70.00 17 51 13 2626.79 -19.41 67.36 204.15 118.67 18 34 59 1626.8 -6.32 46.70
80.00 19 4 29 2397.36 -16.69 51.39 205.60 115.12 19 44 27 1397.4 -5.08 30.06
90.00 20 28 6 2127.58 -15.67 32.05 206.09 113.84 21 3 34 1127.6 -4.61 10.48
100.00 21 47 21 1871.83 -16.69 12.76 205.60 115.12 22 18 33 871.8 -5.08 351.42
110.00 22 50 39 1673.61 -19.41 356.27 204.15 118.67 23 18 33 673.6 -6.32 335.62

DIFFERENTIAL CORRECTIONS

TDE .9924 TRA 2.2578 TC3-6.4304 BAU .9863
RDE .3205 RRA .5568 RC3-1.0406 FAU .17654
FDE 3.2833 FRA 7.5898 FC-13.4951 BSP 10436
BDE 1.0429 BRA 2.3253 BC3 6.5141 FSP 2639

MID-COURSE EXECUTION ACCURACY

SGT 6038.0 SGR 1301.1 SG3 1450.4
RRT .9701 RRF .9954 RTF .9742
SCB 6176.6 R23 .1971 R13 .9763
SG1 6168.8 SG2 309.2 THA 11.84

ORBIT DETERMINATION ACCURACY

ST 102.6 SR 30.8 88 95.8
CRT .9926 CRS -.9921 CBT -.9997
LSA 143.6 MSA 3.7 88A 1.7
EL1 107.1 EL2 3.6 ALF 18.62

LAUNCH DATE APR 30 1971

FLIGHT TIME 254.00

ARRIVAL DATE JAN 9 1972

HELIOCENTRIC CONIC

RL 150.69 LAL -.00 LOL 219.02 VL 32.321 GAL -2.82 AZL 90.08 HCA 190.78 SMA 185.14 ECC .19228 INC .0842 V1 29.569
RP 220.36 LAP .01 LOP 49.76 VP 22.084 GAP 1.63 AZP 89.93 TAL 342.36 TAP 173.12 RCA 149.54 APO 220.74 V2 24.946
RC 189.399 GL -.72 GP -12.11 ZAL 126.84 ZAP 61.63 ETS 172.43 ZAE 101.58 ETE 182.89 ZAC 90.38 ETC 271.31 LVI 2.33

PLANETOCENTRIC CONIC

C3 11.521 VHL 3.394 DLA -6.24 RAL 347.27 RAD 6638.8 VEL 11.472 PTH 6.52 VHP 3.261 DPA -35.43 RAP 294.67 ECC 1.1898
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 20 0 2888.07 -25.83 84.38 199.39 131.40 17 8 8 1888.1 -8.34 68.94
60.00 17 6 15 2763.06 -21.85 76.79 202.89 124.75 17 52 18 1763.1 -6.53 57.59
70.00 18 5 58 2597.56 -18.12 65.05 203.38 119.46 18 49 4 1587.6 -4.83 44.64
80.00 19 21 1 2332.48 -15.38 48.71 206.88 115.91 20 0 14 1352.5 -3.57 27.58
90.00 20 45 26 2080.14 -14.35 29.19 207.38 114.63 21 20 6 1080.1 -3.09 7.82
100.00 22 3 33 1828.95 -15.38 10.08 206.88 115.91 22 34 20 826.9 -3.57 348.95
110.00 23 3 22 1634.38 -18.12 353.97 203.38 119.46 23 32 37 634.4 -4.83 333.55

DIFFERENTIAL CORRECTIONS

TDE .9646 TRA 2.3785 TC3-6.5106 BAU 1.0125
RDE .2910 RRA .4893 RC3 -.9043 FAU .17588
FDE 3.1730 FRA 7.6461 FC-13.2156 BSP 10616
BDE 1.0075 BRA 2.4284 BC3 6.5731 FSP 2603

MID-COURSE EXECUTION ACCURACY

SGT 6204.7 SGR 1144.1 SG3 1439.9
RRT .9878 RRF .9928 RTF .5.49
SCB 6309.3 R23 .1879 R13 .9765
SG1 6303.0 SG2 283.7 THA 10.14

ORBIT DETERMINATION ACCURACY

ST 101.7 SR 27.8 88 93.4
CRT .9851 CRS -.9874 CBT -.9998
LSA 140.7 MSA 4.6 88A 1.6
EL1 105.3 EL2 4.6 ALF 14.98

LAUNCH DATE APR 30 1971

FLIGHT TIME 256.00

ARRIVAL DATE JAN 11 1972

HELIOCENTRIC CONIC

RL 150.69 LAL -.00 LOL 219.02 VL 32.328 GAL -2.90 AZL 90.24 HCA 191.88 SMA 185.27 ECC .19314 INC .2425 V1 29.569
RP 220.74 LAP .03 LOP 50.89 VP 22.048 GAP 1.48 AZP 89.76 TAL 341.94 TAP 173.81 RCA 149.48 APO 221.05 V2 24.904
RC 192.025 GL -2.29 GP -10.91 ZAL 127.35 ZAP 60.31 ETS 172.78 ZAE 100.28 ETE 182.37 ZAC 91.58 ETC 271.29 LVI 1.26

PLANETOCENTRIC CONIC

C3 11.745 VHL 3.427 DLA -7.48 RAL 348.38 RAD 6638.9 VEL 11.482 PTH 6.53 VHP 3.274 DPA -34.26 RAP 294.33 ECC 1.1933
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 29 3 2865.19 -24.99 83.29 200.48 131.90 17 16 49 1865.2 -7.30 66.05
60.00 17 16 41 2738.54 -20.89 75.43 204.03 125.28 18 2 19 1738.5 -5.46 56.41
70.00 18 17 54 2558.52 -17.14 63.37 206.58 120.01 19 0 33 1558.5 -3.73 43.11
80.00 19 34 25 2318.97 -14.37 46.73 208.12 116.46 20 13 4 1319.0 -2.44 25.73
90.00 20 59 28 2044.59 -13.33 27.08 208.64 115.17 21 33 32 1044.6 -1.95 5.84
100.00 22 17 17 1793.51 -14.37 8.10 208.12 116.46 22 47 11 793.5 -2.44 347.10
110.00 23 17 21 1605.34 -17.14 352.29 206.58 120.01 23 44 6 605.3 -3.73 332.03

DIFFERENTIAL CORRECTIONS

TDE .9543 TRA 2.5012 TC3-6.5591 BAU 1.0373
RDE .2707 RRA .4329 RC3 -.7905 FAU .17415
FDE 3.0875 FRA 7.6680 FC-12.8373 BSP 10856
BDE .9920 BRA 2.5384 BC3 6.6066 FSP 2561

MID-COURSE EXECUTION ACCURACY

SGT 6367.5 SGR 1015.6 SG3 1423.0
RRT .9645 RRF .9891 RTF .9757
SCB 6448.0 R23 .1754 R13 .9769
SG1 6442.5 SG2 265.1 THA 8.76

ORBIT DETERMINATION ACCURACY

ST 102.0 SR 25.2 88 91.4
CRT .9754 CRS -.9813 CBT -.9993
LSA 139.2 MSA 5.5 88A 1.4
EL1 105.0 EL2 5.4 ALF 13.56

LAUNCH DATE APR 30 1971 FLIGHT TIME 258.00 ARRIVAL DATE JAN 13 1972

HELIOCENTRIC CONIC DISTANCE 604.515 EARTH TO MARS

RL 150.69 LAL -.00 LOL 219.02 VL 32.338 GAL -2.97 AZL 90.38 HCA 192.99 SMA 185.39 ECC .19402 INC .3799 V1 29.569
 RP 221.12 LAP .09 LOP 52.00 VP 22.012 GAP 1.32 AZP 89.83 TAL 341.51 TAP 174.50 RCA 149.42 APO 221.36 V2 24.863
 RC 194.659 GL -3.57 GP -9.91 ZAL 127.83 ZAP 59.06 ETS 173.08 ZAE 98.99 ETE 181.95 ZAC 92.58 ETC 271.28 LVI .36

PLANETOCENTRIC CONIC

C3 11.987 VHL 3.462 DLA -8.45 RAL 349.38 RAD 6639.1 VEL 11.492 PTH 6.54 VHP 3.292 DPA -33.28 RAP 294.08 ECC 1.1973
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 36 40 2850.14 -24.30 82.51 201.55 132.25 17 24 10 1850.1 -6.54 65.41
 60.00 17 25 22 2720.64 -20.18 74.44 205.15 125.65 18 10 42 1720.6 -4.67 55.54
 70.00 18 27 48 2537.04 -16.40 62.14 207.74 120.39 19 10 5 1537.0 -2.91 41.99
 80.00 19 45 28 2293.94 -13.61 45.27 209.32 116.84 20 23 42 1293.9 -1.59 24.36
 90.00 21 11 0 2017.94 -12.55 25.51 209.85 115.55 21 44 38 1017.9 -1.09 4.35
 100.00 22 28 20 1768.41 -13.61 6.64 209.32 116.84 22 57 48 768.4 -1.59 345.73
 110.00 23 27 15 1583.85 -16.40 351.06 207.74 120.39 23 53 39 583.9 -2.91 330.90

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE .9538 TRA 2.6221 TC3-6.5983 BAU 1.0632 SGT 6527.7 SGR 909.9 S63 1402.8 ST 103.0 SR 23.4 SS 90.1
 RDE .2577 RRA .3854 RC3 -.6929 FAU .17114 RRT .9587 RRF .9839 RTF .9757 CRT .9634 CRS -.9740 CST -.9988
 FDE 3.0359 FRA 7.6009 FC-12.3604 BSP 11102 SGB 6590.8 R23 .1656 R13 .9765 LSA 138.7 MSA 6.5 S8A 1.3
 BDE .9878 BRA 2.6503 BC3 6.6345 FSP 2533 SG1 6585.8 S62 256.6 TMA 7.62 EL1 105.4 EL2 6.1 ALF 12.41

LAUNCH DATE APR 30 1971 FLIGHT TIME 260.00 ARRIVAL DATE JAN 15 1972

HELIOCENTRIC CONIC DISTANCE 608.638 EARTH TO MARS

RL 150.69 LAL -.00 LOL 219.02 VL 32.344 GAL -3.05 AZL 90.50 HCA 194.09 SMA 185.92 ECC .19494 INC .4974 V1 29.569
 RP 221.50 LAP .12 LOP 53.11 VP 21.977 GAP 1.17 AZP 89.52 TAL 341.08 TAP 175.17 RCA 149.36 APO 221.69 V2 24.821
 RC 197.299 GL -4.62 GP -9.06 ZAL 128.31 ZAP 57.86 ETS 173.34 ZAE 97.71 ETE 181.80 ZAC 93.43 ETC 271.28 LVI -.42

PLANETOCENTRIC CONIC

C3 12.241 VHL 3.499 DLA -9.20 RAL 350.30 RAD 6639.2 VEL 11.503 PTH 6.55 VHP 3.313 DPA -32.45 RAP 293.90 ECC 1.2015
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 43 9 2839.49 -23.81 81.97 202.60 132.49 17 30 29 1839.5 -6.01 64.96
 60.00 17 32 42 2707.73 -19.67 73.74 206.23 125.91 18 17 50 1707.7 -4.11 54.92
 70.00 18 36 7 2521.30 -15.86 61.25 208.86 120.65 19 18 8 1521.3 -2.31 41.16
 80.00 19 54 40 2275.37 -13.03 44.19 210.47 117.10 20 32 36 1275.4 -.96 23.34
 90.00 21 20 37 1998.07 -11.96 24.35 211.01 115.82 21 53 55 998.1 -.45 3.24
 100.00 22 37 32 1749.84 -13.03 5.56 210.47 117.10 23 6 42 749.8 -.96 344.71
 110.00 23 35 33 1568.12 -15.86 350.17 208.86 120.65 24 1 41 568.1 -2.31 330.08

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE .9610 TRA 2.7430 TC3-6.6266 BAU 1.0891 SGT 6684.7 SGR 821.5 S63 1379.8 ST 104.4 SR 22.1 SS 89.0
 RDE .2486 RRA .3440 RC3 -.6121 FAU .16797 RRT .9512 RRF .9769 RTF .9757 CRT .9497 CRS -.9653 CST -.9983
 FDE 2.9906 FRA 7.6715 FC-11.8789 BSP 11350 SGB 6735.0 R23 .1939 R13 .9764 LSA 138.7 MSA 7.4 S8A 1.3
 BDE .9927 BRA 2.7645 BC3 6.6548 FSP 2491 SG1 6730.3 S62 251.8 TMA 6.68 EL1 106.5 EL2 6.0 ALF 11.41

LAUNCH DATE APR 30 1971 FLIGHT TIME 262.00 ARRIVAL DATE JAN 17 1972

HELIOCENTRIC CONIC DISTANCE 612.756 EARTH TO MARS

RL 150.69 LAL -.00 LOL 219.02 VL 32.352 GAL -3.14 AZL 90.60 HCA 195.20 SMA 185.66 ECC .19588 INC .5980 V1 29.569
 RP 221.88 LAP .16 LOP 54.21 VP 21.942 GAP 1.01 AZP 89.42 TAL 340.65 TAP 175.84 RCA 149.29 APO 222.02 V2 24.780
 RC 199.945 GL -5.48 GP -8.34 ZAL 128.79 ZAP 56.71 ETS 173.57 ZAE 96.46 ETE 181.32 ZAC 94.15 ETC 271.29 LVI -1.09

PLANETOCENTRIC CONIC

C3 12.507 VHL 3.536 DLA -9.78 RAL 351.15 RAD 6639.3 VEL 11.514 PTH 6.56 VHP 3.337 DPA -31.74 RAP 293.78 ECC 1.2058
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 48 46 2832.26 -23.48 81.61 203.61 132.65 17 35 58 1832.3 -5.65 64.66
 60.00 17 38 58 2698.73 -19.31 73.25 207.28 126.09 18 23 57 1698.7 -3.71 54.49
 70.00 18 43 9 2510.05 -15.46 60.61 209.94 120.84 19 24 59 1510.0 -1.88 40.58
 80.00 20 2 26 2261.86 -12.61 43.41 211.57 117.29 20 40 8 1261.9 -.51 22.60
 90.00 21 28 42 1983.52 -11.53 23.50 212.13 116.00 22 1 46 983.5 .02 2.43
 100.00 22 45 18 1736.34 -12.61 4.78 211.57 117.29 23 14 14 736.3 -.51 343.97
 110.00 23 42 39 1556.86 -15.46 349.53 209.94 120.84 24 8 32 556.9 -1.88 329.49

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE .9758 TRA 2.6651 TC3-6.6438 BAU 1.1146 SGT 6838.8 SGR 747.1 S63 1354.9 ST 106.3 SR 21.1 SS 88.0
 RDE .2429 RRA .3076 RC3 -.5433 FAU .16437 RRT .9413 RRF .9677 RTF .9757 CRT .9348 CRS -.9555 CST -.9977
 FDE 2.9567 FRA 7.6506 FC-11.3780 BSP 11616 SGB 6879.4 R23 .1422 R13 .9762 LSA 139.3 MSA 8.2 S8A 1.3
 BDE 1.0053 BRA 2.8816 BC3 6.6660 FSP 2452 SG1 6874.9 S62 250.8 TMA 5.88 EL1 108.1 EL2 7.4 ALF 10.56

LAUNCH DATE APR 30 1971 FLIGHT TIME 264.00 ARRIVAL DATE JAN 19 1972

HELIOCENTRIC CONIC DISTANCE 616.870 EARTH TO MARS

RL 150.69 LAL -.00 LOL 219.02 VL 32.360 GAL -3.22 AZL 90.69 HCA 196.29 SMA 185.79 ECC .19684 INC .6850 V1 29.569
 RP 222.27 LAP .19 LOP 55.31 VP 21.806 GAP .86 AZP 89.34 TAL 340.21 TAP 176.50 RCA 149.22 APO 222.37 V2 24.738
 RC 202.595 GL -6.21 GP -7.72 ZAL 129.26 ZAP 55.61 ETS 173.78 ZAE 95.22 ETE 181.08 ZAC 94.77 ETC 271.30 LVI -1.69

PLANETOCENTRIC CONIC

C3 12.781 VHL 3.578 DLA -10.24 RAL 351.94 RAD 6639.4 VEL 11.526 PTH 6.57 VHP 3.363 DPA -31.11 RAP 293.72 ECC 1.2103
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 53 40 2827.73 -23.27 81.38 204.59 132.75 17 40 48 1827.7 -5.42 64.47
 60.00 17 44 24 2692.81 -19.07 72.93 208.29 126.20 18 29 17 1692.8 -3.45 54.21
 70.00 18 49 10 2502.37 -15.20 60.18 210.98 120.96 19 30 53 1502.4 -1.59 40.18
 80.00 20 9 1 2252.41 -12.32 42.86 212.64 117.41 20 46 34 1252.4 -.19 22.08
 90.00 21 35 33 1973.24 -11.22 22.90 213.20 116.13 22 8 26 973.2 .35 1.85
 100.00 22 51 53 1726.88 -12.32 4.23 212.64 117.41 23 20 40 726.9 -.19 343.45
 110.00 23 48 37 1549.18 -15.20 349.10 210.98 120.96 24 14 26 549.2 -1.59 329.09

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE .9950 TRA 2.9870 TC3-6.6555 BAU 1.1402 SGT 6989.4 SGR 684.2 S63 1328.4 ST 108.3 SR 20.3 SS 87.0
 RDE .2393 RRA .2751 RC3 -.4849 FAU .16059 RRT .9287 RRF .9558 RTF .9756 CRT .9189 CRS -.9448 CST -.9972
 FDE 2.9264 FRA 7.6176 FC-10.8778 BSP 11880 SGB 7022.9 R23 .1309 R13 .9760 LSA 140.2 MSA 8.9 S8A 1.2
 BDE 1.0234 BRA 2.9996 BC3 6.6731 FSP 2410 SG1 7016.3 S62 252.6 TMA 5.20 EL1 109.9 EL2 7.9 ALF 9.84

LAUNCH DATE APR 30 1971

FLIGHT TIME 266.00

ARRIVAL DATE JAN 21 1972

Table containing orbital parameters for mission APR 30 1971. Includes heliocentric conic, planetocentric conic, and differential corrections data.

LAUNCH DATE APR 30 1971

FLIGHT TIME 268.00

ARRIVAL DATE JAN 23 1972

Table containing orbital parameters for mission APR 30 1971. Includes heliocentric conic, planetocentric conic, and differential corrections data.

LAUNCH DATE APR 30 1971

FLIGHT TIME 270.00

ARRIVAL DATE JAN 25 1972

Table containing orbital parameters for mission APR 30 1971. Includes heliocentric conic, planetocentric conic, and differential corrections data.

LAUNCH DATE APR 30 1971

FLIGHT TIME 272.00

ARRIVAL DATE JAN 27 1972

Table containing orbital parameters for mission APR 30 1971. Includes heliocentric conic, planetocentric conic, and differential corrections data.

LAUNCH DATE APR 30 1971

FLIGHT TIME 274.00

ARRIVAL DATE JAN 29 1972

HELIOCENTRIC CONIC
 RL 150.69 LAL -.00 LOL 219.02 VL 32.403 GAL -3.66 AZL 90.99 HCA 201.73 SMA 186.52 ECC .20204 INC .9879 V1 29.569
 RP 224.20 LAP .37 LOP 60.75 VP 21.734 GAP .08 AZP 89.08 TAL 337.84 TAP 179.68 RCA 148.83 APO 224.20 V2 24.529
 RC 215.890 GL -8.49 GP -5.55 ZAL 131.67 ZAP 50.68 ETS 174.55 ZAE 89.38 ETE 180.31 ZAC 96.91 ETC 271.47 LVI -3.93

PLANETOCENTRIC CONIC
 C3 14.272 VHL 3.778 DLA -11.26 RAL 355.37 RAD 6640.2 VEL 11.590 PTH 6.63 VHP 3.510 DPA -26.86 RAP 294.08 ECC 1.2349
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 11 15 2831.09 -23.42 81.55 209.18 132.68 17 58 26 1831.1 -5.59 64.61
 60.00 18 3 11 2693.00 -19.08 72.94 213.01 126.20 18 48 4 1693.0 -3.46 54.22
 70.00 19 9 20 2498.51 -15.06 59.96 215.80 121.02 19 50 58 1498.5 -1.44 39.97
 80.00 20 30 30 2244.45 -12.07 42.40 217.53 117.52 21 7 54 1244.4 .08 21.64
 90.00 21 57 37 1963.37 -10.93 22.33 218.12 116.25 22 30 20 963.4 .67 1.30
 100.00 23 13 21 1718.92 -12.07 3.77 217.53 117.52 23 42 0 718.9 .08 343.0
 110.00 0 12 42 1545.33 -15.06 348.88 215.80 121.02 0 38 27 545.3 -1.44 328.89

DIFFERENTIAL CORRECTIONS
 TDE 1.1464 TRA 3.6099 TC3-6.6455 BAU 1.2692 SGT 7707.0 SGR 492.9 SG3 1191.7
 RDE .2442 RRA .1530 RC3 -.2954 FAU .14105 RRT .8123 RRF .8438 RTF .9743
 FDE 2.8435 FRA 7.3690 FC3-8.5557 BSP 13169 SGB 7722.7 R23 .0879 R13 .9745
 BDE 1.1721 BRA 3.6132 BC3 6.6521 FSP 2186 SG1 7717.4 SG2 287.1 THA 2.98

LAUNCH DATE APR 30 1971

FLIGHT TIME 276.00

ARRIVAL DATE JAN 31 1972

HELIOCENTRIC CONIC
 RL 150.69 LAL -.00 LOL 219.02 VL 32.412 GAL -3.75 AZL 91.03 HCA 202.81 SMA 186.67 ECC .20316 INC 1.0313 V1 29.569
 RP 224.59 LAP .40 LOP 61.82 VP 21.700 GAP -.07 AZP 89.05 TAL 337.48 TAP 180.29 RCA 148.75 APO 224.59 V2 24.487
 RC 216.554 GL -8.77 GP -5.25 ZAL 132.16 ZAP 49.79 ETS 174.68 ZAE 88.28 ETE 180.21 ZAC 97.21 ETC 271.52 LVI -4.29

PLANETOCENTRIC CONIC
 C3 14.594 VHL 3.820 DLA -11.30 RAL 355.98 RAD 6640.3 VEL 11.604 PTH 6.65 VHP 3.542 DPA -28.54 RAP 294.26 ECC 1.2402
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 13 51 2835.18 -23.61 81.75 210.05 132.59 18 1 6 1835.2 -3.60 64.78
 60.00 18 5 49 2696.97 -19.24 73.16 213.91 126.12 18 50 46 1697.0 -3.63 54.41
 70.00 19 12 2 2502.31 -15.19 60.18 216.71 120.96 19 53 44 1502.3 -1.59 40.17
 80.00 20 33 15 2248.08 -12.18 42.61 218.44 117.47 21 10 43 1248.1 -0.04 21.84
 90.00 22 0 23 1966.92 -11.03 22.53 219.04 116.20 22 33 10 966.9 .56 1.50
 100.00 23 16 6 1722.55 -12.18 3.98 218.44 117.47 23 44 49 722.5 -0.04 343.21
 110.00 0 15 24 1549.13 -15.19 349.09 216.71 120.96 0 41 13 549.1 -1.59 329.09

DIFFERENTIAL CORRECTIONS
 TDE 1.1841 TRA 3.7374 TC3-6.6322 BAU 1.2951 SGT 7842.7 SGR 472.3 SG3 1184.2
 RDE .2479 RRA .1339 RC3 -.2711 FAU .13716 RRT .7777 RRF .8100 RTF .9740
 FDE 2.8305 FRA 7.3089 FC3-8.1364 BSP 13417 SGB 7856.9 R23 .0819 R13 .9741
 BDE 1.2098 BRA 3.7398 BC3 6.6378 FSP 2141 SG1 7851.3 SG2 296.6 THA 2.69

LAUNCH DATE APR 30 1971

FLIGHT TIME 278.00

ARRIVAL DATE FEB 2 1972

HELIOCENTRIC CONIC
 RL 150.69 LAL -.00 LOL 219.02 VL 32.421 GAL -3.84 AZL 91.07 HCA 203.88 SMA 186.82 ECC .20429 INC 1.0711 V1 29.569
 RP 224.98 LAP .43 LOP 62.90 VP 21.666 GAP -.23 AZP 89.02 TAL 337.02 TAP 180.90 RCA 148.66 APO 224.98 V2 24.445
 RC 221.219 GL -9.01 GP -4.97 ZAL 132.85 ZAP 48.93 ETS 174.79 ZAE 87.20 ETE 180.12 ZAC 97.47 ETC 271.58 LVI -4.84

PLANETOCENTRIC CONIC
 C3 14.925 VHL 3.863 DLA -11.31 RAL 356.57 RAD 6640.5 VEL 11.618 PTH 6.66 VHP 3.574 DPA -28.24 RAP 294.48 ECC 1.2456
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 16 13 2840.05 -23.84 82.00 210.91 132.48 18 3 33 1840.1 -6.04 64.99
 60.00 18 8 12 2701.81 -19.43 73.42 214.79 126.03 18 53 14 1701.8 -3.85 54.64
 70.00 19 14 25 2507.14 -15.36 60.45 217.60 120.88 19 56 12 1507.1 -1.77 40.42
 80.00 20 35 39 2252.88 -12.33 42.89 219.34 117.41 21 13 12 1252.9 -.20 22.11
 90.00 22 2 48 1971.70 -11.18 22.81 219.94 116.15 22 35 39 971.7 .40 1.77
 100.00 23 18 31 1727.35 -12.33 4.26 219.34 117.41 23 47 18 727.3 -.20 343.47
 110.00 0 17 47 1553.95 -15.36 349.37 217.60 120.88 0 43 41 554.0 -1.77 329.34

DIFFERENTIAL CORRECTIONS
 TDE 1.2250 TRA 3.8673 TC3-6.6142 BAU 1.3207 SGT 7977.1 SGR 456.2 SG3 1137.2
 RDE .2523 RRA .1161 RC3 -.2496 FAU .13322 RRT .7400 RRF .7731 RTF .5.35
 FDE 2.8210 FRA 7.2455 FC3-7.7277 BSP 13674 SGB 7990.1 R23 .0768 R13 .9737
 BDE 1.2507 BRA 3.8693 BC3 6.6189 FSP 2098 SG1 7984.2 SG2 306.6 THA 2.43

LAUNCH DATE APR 30 1971

FLIGHT TIME 280.00

ARRIVAL DATE FEB 4 1972

HELIOCENTRIC CONIC
 RL 150.69 LAL -.00 LOL 219.02 VL 32.430 GAL -3.94 AZL 91.11 HCA 204.98 SMA 186.98 ECC .20544 INC 1.1075 V1 29.569
 RP 225.37 LAP .47 LOP 63.98 VP 21.632 GAP -.39 AZP 89.00 TAL 336.55 TAP 181.50 RCA 148.57 APO 225.37 V2 24.403
 RC 223.884 GL -9.21 GP -4.72 ZAL 133.14 ZAP 48.10 ETS 174.90 ZAE 86.15 ETE 180.04 ZAC 97.71 ETC 271.65 LVI -4.96

PLANETOCENTRIC CONIC
 C3 15.264 VHL 3.907 DLA -11.28 RAL 357.14 RAD 6640.7 VEL 11.632 PTH 6.67 VHP 3.607 DPA -27.95 RAP 294.72 ECC 1.2512
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 18 25 2845.58 -24.09 82.28 211.77 132.36 18 5 51 1845.6 -6.32 65.22
 60.00 18 10 22 2707.43 -19.66 73.72 215.66 125.92 18 55 29 1707.4 -4.09 54.91
 70.00 19 16 33 2512.85 -15.56 60.77 218.48 120.79 19 58 26 1512.8 -1.99 40.72
 80.00 20 37 45 2258.69 -12.51 43.22 220.23 117.33 21 15 23 1258.7 -.40 22.42
 90.00 22 4 53 1977.56 -11.35 23.15 220.83 116.08 22 37 50 977.6 .21 2.10
 100.00 23 20 36 1733.16 -12.51 4.59 220.23 117.33 23 49 30 733.2 -.40 343.79
 110.00 0 19 55 1559.67 -15.56 349.69 218.48 120.79 0 45 55 559.7 -1.99 329.64

DIFFERENTIAL CORRECTIONS
 TDE 1.2677 TRA 3.9986 TC3-6.5928 BAU 1.3462 SGT 8108.7 SGR 443.9 SG3 1110.5
 RDE .2573 RRA .0994 RC3 -.2307 FAU .12932 RRT .6998 RRF .7337 RTF .9731
 FDE 2.8121 FRA 7.1813 FC3-7.3346 BSP 13923 SGB 8120.8 R23 .0723 R13 .9732
 BDE 1.2935 BRA 3.9999 BC3 6.5969 FSP 2054 SG1 8114.7 SG2 316.8 THA 2.20

LAUNCH DATE MAY 1 1971

FLIGHT TIME 114.00

ARRIVAL DATE AUG 23 1971

Heliocentric Conic: RL 150.72 LAL -.00 LOL 219.99 VL 34.504 GAL -3.16 AZL 91.91 HCA 105.03 SMA 232.62 ECC .35551 INC 1.9059 V1 29.562 RP 206.97 LAP -1.84 LOP 325.03 VP 26.682 GAP 19.90 AZP 89.31 TAL 347.93 TAP 92.96 RCA 149.85 APO 315.36 V2 26.462 RC 57.440 GL -11.96 GP .81 ZAL 115.08 ZAP 171.75 ETS 174.30 ZAE 173.65 ETE 62.25 ZAC 101.00 ETC 277.53 LVI -18.47

Distance 318.725 Earth to Mars

Planetocentric Conic: C3 30.558 VHL 5.528 DLA -20.52 RAL 342.13 RAD 6647.2 VEL 12.267 PTH 7.21 VHP 9.594 DPA -16.78 RAP 319.59 ECC 1.5029

Differential Corrections: TDE -.4992 TRA-1.0874 TC3 .0227 BAU .0448 RDE -.5103 RRA .1677 RC3 .1072 FAU .03920 FDE .2950 FRA 1.1619 FC3-1.1107 BSP 2055 BDE .7139 BRA 1.1035 BC3 .1096 FSP 206

Mid-Course Execution Accuracy: SGT 1310.2 SGR 580.5 SG3 155.9 RRT .0350 RRF -.0383 RTF -.7346 SGB 1433.1 R23 -.0064 R13 -.7347 SG1 1310.4 SG2 580.1 THA 1.10

Orbit Determination Accuracy: ST 31.5 SR 26.6 SS 20.5 CRT .7475 CRS .5242 CST .9553 LSA 42.6 MSA 17.6 SSA 1.2 EL1 38.7 EL2 14.4 ALF 38.59

LAUNCH DATE MAY 1 1971

FLIGHT TIME 116.00

ARRIVAL DATE AUG 25 1971

Heliocentric Conic: RL 150.72 LAL -.00 LOL 219.99 VL 34.358 GAL -3.05 AZL 91.91 HCA 106.30 SMA 228.61 ECC .34434 INC 1.9131 V1 29.562 RP 206.90 LAP -1.84 LOP 326.30 VP 26.501 GAP 19.42 AZP 89.46 TAL 348.05 TAP 94.35 RCA 149.89 APO 307.33 V2 26.469 RC 57.930 GL -12.31 GP .84 ZAL 115.01 ZAP 170.84 ETS 174.70 ZAE 173.31 ETE 56.36 ZAC 100.98 ETC 277.60 LVI -18.59

Distance 321.493 Earth to Mars

Planetocentric Conic: C3 28.863 VHL 5.372 DLA -20.85 RAL 342.24 RAD 6646.6 VEL 12.199 PTH 7.16 VHP 9.294 DPA -16.65 RAP 319.94 ECC 1.4750

Differential Corrections: TDE -.4887 TRA-1.0700 TC3 .0476 BAU .0478 RDE -.4944 RRA .1803 RC3 .1144 FAU .04052 FDE .3042 FRA 1.2113 FC3-1.2153 BSP 2026 BDE .6938 BRA 1.0851 BC3 .1239 FSP 225

Mid-Course Execution Accuracy: SGT 1327.9 SGR 579.2 SG3 166.7 RRT .0374 RRF -.0422 RTF -.7508 SGB 1448.7 R23 -.0075 R13 -.7509 SG1 1328.1 SG2 578.7 THA 1.15

Orbit Determination Accuracy: ST 31.8 SR 26.5 SS 21.2 CRT .7444 CRS .5194 CST .9551 LSA 42.9 MSA 17.8 SSA 1.2 EL1 38.8 EL2 14.5 ALF 38.19

LAUNCH DATE MAY 1 1971

FLIGHT TIME 118.00

ARRIVAL DATE AUG 27 1971

Heliocentric Conic: RL 150.72 LAL -.00 LOL 219.99 VL 34.221 GAL -2.95 AZL 91.92 HCA 107.57 SMA 224.97 ECC .33357 INC 1.9204 V1 29.562 RP 206.85 LAP -1.83 LOP 327.56 VP 26.331 GAP 18.95 AZP 89.42 TAL 348.18 TAP 95.75 RCA 149.93 APO 300.01 V2 26.476 RC 58.496 GL -12.66 GP .87 ZAL 114.92 ZAP 169.91 ETS 175.03 ZAE 172.94 ETE 51.38 ZAC 100.96 ETC 277.67 LVI -18.72

Distance 324.391 Earth to Mars

Planetocentric Conic: C3 27.305 VHL 5.225 DLA -21.20 RAL 342.33 RAD 6645.9 VEL 12.135 PTH 7.10 VHP 9.004 DPA -16.52 RAP 320.26 ECC 1.4494

Differential Corrections: TDE -.4840 TRA-1.0631 TC3 .0596 BAU .0495 RDE -.4791 RRA .1730 RC3 .1218 FAU .04204 FDE .3106 FRA 1.2601 FC3-1.3329 BSP 2129 BDE .6810 BRA 1.0771 BC3 .1355 FSP 242

Mid-Course Execution Accuracy: SGT 1359.7 SGR 577.5 SG3 176.2 RRT .0412 RRF -.0459 RTF -.1062 SGB 1477.2 R23 -.0079 R13 -.7563 SG1 1359.9 SG2 576.9 THA 1.22

Orbit Determination Accuracy: ST 32.5 SR 26.4 SS 21.8 CRT .7445 CRS .5115 CST .9524 LSA 43.7 MSA 18.0 SSA 1.2 EL1 39.3 EL2 14.6 ALF 37.21

LAUNCH DATE MAY 1 1971

FLIGHT TIME 120.00

ARRIVAL DATE AUG 29 1971

Heliocentric Conic: RL 150.72 LAL -.00 LOL 219.99 VL 34.092 GAL -2.85 AZL 91.93 HCA 108.83 SMA 221.85 ECC .32342 INC 1.9277 V1 29.562 RP 206.80 LAP -1.82 LOP 328.83 VP 26.188 GAP 18.49 AZP 89.38 TAL 348.32 TAP 97.16 RCA 149.95 APO 293.33 V2 26.482 RC 59.137 GL -13.02 GP .90 ZAL 114.81 ZAP 168.97 ETS 175.31 ZAE 172.56 ETE 47.23 ZAC 100.95 ETC 277.74 LVI -18.84

Distance 327.404 Earth to Mars

Planetocentric Conic: C3 25.888 VHL 5.086 DLA -21.55 RAL 342.41 RAD 6645.4 VEL 12.078 PTH 7.06 VHP 8.724 DPA -16.39 RAP 320.57 ECC 1.4257

Differential Corrections: TDE -.4800 TRA-1.0542 TC3 .0749 BAU .0517 RDE -.4642 RRA .1638 RC3 .1294 FAU .04366 FDE .3174 FRA 1.3119 FC3-1.4612 BSP 2204 BDE .6678 BRA 1.0671 BC3 .1495 FSP 262

Mid-Course Execution Accuracy: SGT 1388.7 SGR 575.4 SG3 190.5 RRT .0456 RRF -.0501 RTF -.7627 SGB 1503.2 R23 -.0082 R13 -.7628 SG1 1389.0 SG2 574.7 THA 1.31

Orbit Determination Accuracy: ST 33.1 SR 26.3 SS 22.5 CRT .7445 CRS .5037 CST .9497 LSA 44.3 MSA 18.2 SSA 1.2 EL1 39.7 EL2 14.7 ALF 36.34

LAUNCH DATE MAY 1 1971

FLIGHT TIME 122.00

ARRIVAL DATE AUG 31 1971

HELIOCENTRIC CONIC

DISTANCE 330.820

EARTH TO MARS

RL 150.72 LAL -.00 LOL 219.99 VL 33.970 GAL -2.75 AZL 91.94 HCA 110.10 SMA 210.61 ECC .31307 INC 1.9352 V1 29.802
RP 206.75 LAP -1.02 LOP 330.10 VP 26.014 GAP 18.04 AZP 89.33 TAL 348.47 TAP 98.58 RCA 150.00 APO 287.23 V2 26.487
RC 59.850 GL -13.37 GP .94 ZAL 114.89 ZAP 168.01 ETS 175.55 ZAE 172.21 ETE 43.76 ZAC 100.94 ETC 277.81 LVI -18.98

PLANETOCENTRIC CONIC

C3 24.544 VHL 4.954 DLA -21.92 RAL 342.47 RAD 6644.8 VEL 12.022 PTH 7.01 VHP 8.453 DPA -16.26 RAP 320.87 ECC 1.4039
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 0 6 2737.35 -19.02 76.98 202.41 134.47 17 45 44 1737.4 -.89 60.88
60.00 18 6 36 2560.51 -13.61 86.02 207.30 128.31 18 49 17 1560.5 2.37 47.88
70.00 19 30 58 2312.51 -8.30 49.79 211.27 123.25 20 9 30 1312.5 5.65 30.23
80.00 21 11 39 1997.37 -3.98 28.53 213.93 119.62 21 44 57 997.4 8.36 7.98
90.00 22 48 40 1684.44 -2.18 6.51 214.92 118.20 23 16 45 684.4 9.51 345.58
100.00 23 54 31 1471.84 -3.98 349.90 213.93 119.62 24 19 3 471.8 8.36 329.35
110.00 0 34 20 1359.33 -8.30 338.71 211.27 123.25 0 56 59 359.3 5.65 319.16

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4750 TRA-1.0442 TC3 .0916 BAU .0542 SGT 1415.7 SGR 572.9 S63 203.6 ST 33.7 SR 26.2 SS 23.2
RDE -.4498 RRA .1587 RC3 .1373 FAU .04536 RRT .0500 RRF -.0548 RTF -.7693 CRT .7441 CR8 .4980 CST .9471
FDE .3245 FRA 1.3663 FC3-1.6001 B8P 2272 SGB 1527.3 R23 -.0088 R13 -.7694 LSA 44.9 MSA 18.4 S8A 1.2
BDE .6542 BRA 1.0561 BC3 .1651 F8P 282 S61 1416.1 S62 572.1 THA 1.38 EL1 40.1 EL2 14.7 ALF 35.53

LAUNCH DATE MAY 1 1971

FLIGHT TIME 124.00

ARRIVAL DATE SEP 2 1971

HELIOCENTRIC CONIC

DISTANCE 333.730

EARTH TO MARS

RL 150.72 LAL -.00 LOL 219.99 VL 33.855 GAL -2.65 AZL 91.94 HCA 111.37 SMA 215.84 ECC .30488 INC 1.9428 V1 29.802
RP 206.72 LAP -1.81 LOP 331.37 VP 25.867 GAP 17.59 AZP 89.29 TAL 348.63 TAP 100.00 RCA 150.03 APO 281.64 V2 26.491
RC 60.633 GL -13.73 GP .97 ZAL 114.55 ZAP 167.03 ETS 175.75 ZAE 171.88 ETE 40.88 ZAC 100.94 ETC 277.87 LVI -19.07

PLANETOCENTRIC CONIC

C3 23.324 VHL 4.829 DLA -22.29 RAL 342.52 RAD 6644.3 VEL 11.971 PTH 6.97 VHP 8.191 DPA -16.14 RAP 321.15 ECC 1.3638
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 2 1 2718.90 -18.05 76.02 201.84 134.80 17 47 17 1716.9 .14 59.82
60.00 18 9 8 2538.41 -12.67 64.90 206.80 128.58 18 51 26 1538.4 3.34 46.83
70.00 19 34 21 2287.88 -7.38 48.48 210.70 123.44 20 12 29 1287.9 6.58 26.94
80.00 21 16 7 1969.37 -3.03 26.98 213.39 119.72 21 48 56 969.4 9.28 6.40
90.00 22 53 46 1654.38 -1.21 4.83 214.40 118.26 23 21 21 654.4 10.42 343.85
100.00 0 2 55 1443.84 -3.03 348.35 213.39 119.72 0 26 59 443.8 9.28 327.77
110.00 0 37 43 1334.70 -7.38 337.40 210.70 123.44 0 59 58 334.7 6.58 317.86

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4691 TRA-1.0334 TC3 .1103 BAU .0569 SGT 1441.1 SGR 570.1 S63 217.7 ST 34.2 SR 26.0 SS 23.9
RDE -.4358 RRA .1518 RC3 .1455 FAU .04717 RRT .0545 RRF -.0598 RTF -.7761 CRT .7434 CR8 .4881 CST .9446
FDE .3318 FRA 1.4234 FC3-1.7510 B8P 2328 SGB 1549.8 R23 -.0097 R13 -.7762 LSA 45.5 MSA 18.6 S8A 1.2
BDE .6403 BRA 1.0445 BC3 .1826 F8P 305 S61 1441.5 S62 569.1 THA 1.46 EL1 40.4 EL2 14.7 ALF 34.79

LAUNCH DATE MAY 1 1971

FLIGHT TIME 126.00

ARRIVAL DATE SEP 4 1971

HELIOCENTRIC CONIC

DISTANCE 337.025

EARTH TO MARS

RL 150.72 LAL -.00 LOL 219.99 VL 33.746 GAL -2.55 AZL 91.95 HCA 112.64 SMA 213.29 ECC .29641 INC 1.9505 V1 29.582
RP 206.70 LAP -1.80 LOP 332.64 VP 25.728 GAP 17.15 AZP 89.25 TAL 348.80 TAP 101.44 RCA 150.07 APO 276.51 V2 26.484
RC 61.483 GL -14.10 GP 1.01 ZAL 114.39 ZAP 166.03 ETS 175.92 ZAE 171.58 ETE 38.50 ZAC 100.94 ETC 277.92 LVI -18.18

PLANETOCENTRIC CONIC

C3 22.198 VHL 4.711 DLA -22.67 RAL 342.56 RAD 6643.8 VEL 11.924 PTH 6.93 VHP 7.937 DPA -16.02 RAP 321.40 ECC 1.3653
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 3 55 2698.73 -17.08 75.09 201.30 135.11 17 48 52 1696.7 1.15 58.98
60.00 18 11 41 2516.53 -11.74 63.80 206.25 128.83 18 53 37 1516.5 4.30 45.78
70.00 19 37 48 2263.36 -6.46 47.18 210.17 123.61 20 15 31 1263.4 7.30 27.64
80.00 21 20 43 1941.22 -2.08 25.44 212.88 119.79 21 53 5 941.2 10.19 4.81
90.00 22 59 5 1623.99 -.23 3.14 213.91 118.28 23 26 9 624.0 11.34 342.08
100.00 0 7 31 1415.70 -2.08 346.81 212.88 119.79 0 31 7 415.7 10.19 326.18
110.00 0 41 10 1310.17 -6.46 336.10 210.17 123.61 1 3 0 310.2 7.30 316.56

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4633 TRA-1.0223 TC3 .1300 BAU .0598 SGT 1465.5 SGR 566.9 S63 232.6 ST 34.7 SR 25.8 SS 24.6
RDE -.4224 RRA .1430 RC3 .1539 FAU .04909 RRT .0597 RRF -.0653 RTF -.7725 CRT .7428 CR8 .4799 CST .9418
FDE .3389 FRA 1.4833 FC3-1.9146 B8P 2388 SGB 1571.3 R23 -.0105 R13 -.7827 LSA 46.1 MSA 18.8 S8A 1.2
BDE .6269 BRA 1.0326 BC3 .2015 F8P 329 S61 1465.9 S62 565.7 THA 1.56 EL1 40.6 EL2 14.8 ALF 34.07

LAUNCH DATE MAY 1 1971

FLIGHT TIME 128.00

ARRIVAL DATE SEP 6 1971

HELIOCENTRIC CONIC

DISTANCE 340.395

EARTH TO MARS

RL 150.72 LAL -.00 LOL 219.99 VL 33.644 GAL -2.46 AZL 91.96 HCA 113.91 SMA 210.95 ECC .28844 INC 1.9585 V1 29.582
RP 206.68 LAP -1.79 LOP 333.91 VP 25.595 GAP 16.73 AZP 89.21 TAL 348.97 TAP 102.88 RCA 150.10 APO 271.79 V2 26.496
RC 62.398 GL -14.46 GP 1.05 ZAL 114.23 ZAP 165.02 ETS 176.07 ZAE 171.34 ETE 36.54 ZAC 100.94 ETC 277.98 LVI -19.28

PLANETOCENTRIC CONIC

C3 21.180 VHL 4.600 DLA -23.05 RAL 342.59 RAD 6643.4 VEL 11.881 PTH 6.89 VHP 7.692 DPA -15.91 RAP 321.64 ECC 1.3482
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 5 50 2676.88 -18.12 74.18 200.79 135.40 17 50 26 1676.9 2.15 58.15
60.00 18 14 15 2494.91 -10.82 62.72 205.73 129.06 18 55 50 1494.9 5.25 44.74
70.00 19 41 19 2238.95 -5.54 45.90 209.66 123.76 20 18 38 1239.0 8.41 26.34
80.00 21 25 29 1912.94 -1.13 23.88 212.40 119.84 21 57 22 912.9 11.09 3.20
90.00 23 4 36 1593.24 .76 1.42 213.45 118.27 23 31 9 593.2 12.25 340.29
100.00 0 12 17 1387.42 -1.13 345.25 212.40 119.84 0 35 24 387.4 11.09 324.57
110.00 0 44 41 1285.77 -5.54 334.81 209.66 123.76 1 6 7 285.8 8.41 315.26

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4566 TRA-1.0103 TC3 .1509 BAU .0628 SGT 1487.7 SGR 563.4 S63 248.5 ST 35.1 SR 25.6 SS 25.4
RDE -.4093 RRA .1384 RC3 .1626 FAU .05114 RRT .0651 RRF -.0713 RTF -.7887 CRT .7420 CR8 .4714 CST .9390
FDE .3459 FRA 1.5461 FC3-2.0923 B8P 2436 SGB 1590.8 R23 -.0115 R13 -.7889 LSA 46.6 MSA 19.0 S8A 1.2
BDE .6132 BRA 1.0198 BC3 .2218 F8P 355 S61 1488.2 S62 562.0 THA 1.65 EL1 40.9 EL2 14.8 ALF 33.41

LAUNCH DATE MAY 1 1971 FLIGHT TIME 130.00 ARRIVAL DATE SEP 8 1971

DISTANCE 343,834 EARTH TO MARS

HELIOCENTRIC CONIC
 RL 150.72 LAL -.00 LOL 219.99 VL 33.547 GAL -2.37 AZL 91.97 MCA 115.18 SMA 208.79 ECC .28095 INC 1.9665 V1 29.562
 RP 206.67 LAP -1.78 LOP 335.18 VP 25.469 GAP 18.31 AZP 89.16 TAL 349.14 TAP 104.32 RCA 150.13 APO 267.45 V2 26.496
 RC 63.376 GL -14.83 GP 1.09 ZAL 114.05 ZAP 163.98 ETS 176.20 ZAE 171.14 ETE 34.94 ZAC 100.95 ETC 278.03 LVI -19.39

PLANETOCENTRIC CONIC
 C3 20.202 VHL 4.495 DLA -23.44 RAL 342.61 RAD 6642.9 VEL 11.841 PTH 6.86 VHP 7.455 DPA -15.79 RAP 321.86 ECC 1.3325
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 7 44 2657.36 -15.17 73.29 200.30 135.66 17 52 2 1657.4 3.13 57.34
 60.00 18 16 31 2473.55 -9.90 61.67 205.24 129.27 18 58 5 1473.6 6.18 43.71
 70.00 19 44 54 2214.69 -4.62 44.62 209.18 123.88 20 21 49 1214.7 9.31 25.05
 80.00 21 30 24 1884.52 -.16 22.32 211.95 119.86 22 1 49 884.5 11.99 1.57
 90.00 23 10 22 1562.08 1.77 359.68 213.03 118.23 23 36 24 562.1 13.17 338.45
 100.00 0 17 12 1359.00 -.16 343.69 211.95 119.86 0 39 51 359.0 11.99 322.94
 110.00 0 48 17 1261.51 -4.62 333.54 209.18 123.88 1 9 18 261.5 9.31 313.96

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.4497 TRA -.9993 TC3 .1726 BAU .0657 SGT 1508.9 SGR 559.5 SG3 265.5 ST 35.4 SR 25.4 SS 26.1
 RDE -.3967 RRA .1318 RC3 .1715 FAU .05332 RRT .0708 RRF -.0778 RTF -.7947 CRT .7411 CRS .4622 CST .9360
 FDE .3527 FRA 1.6127 FC3-2.2852 BSP 2483 SGB 1609.3 R23 -.0126 R13 -.7949 LSA 47.1 MSA 19.2 SSA 1.3
 BDE .5997 BRA 1.0070 BC3 .2433 FSP 383 SG1 1509.5 SG2 557.9 THA 1.74 EL1 41.0 EL2 14.7 ALF 32.77

LAUNCH DATE MAY 1 1971 FLIGHT TIME 132.00 ARRIVAL DATE SEP 10 1971

DISTANCE 347,337 EARTH TO MARS

HELIOCENTRIC CONIC
 RL 150.72 LAL -.00 LOL 219.99 VL 33.456 GAL -2.29 AZL 91.97 MCA 116.45 SMA 206.81 ECC .27389 INC 1.9747 V1 29.562
 RP 206.68 LAP -1.77 LOP 336.45 VP 25.348 GAP 15.90 AZP 89.12 TAL 349.32 TAP 105.77 RCA 150.16 APO 263.45 V2 26.496
 RC 64.414 GL -15.19 GP 1.13 ZAL 113.86 ZAP 162.92 ETS 176.31 ZAE 171.01 ETE 33.66 ZAC 100.96 ETC 278.07 LVI -19.49

PLANETOCENTRIC CONIC
 C3 19.318 VHL 4.395 DLA -23.83 RAL 342.63 RAD 6642.5 VEL 11.804 PTH 6.83 VHP 7.226 DPA -15.69 RAP 322.05 ECC 1.3179
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 9 40 2638.19 -14.23 72.43 199.84 135.90 17 53 38 1638.2 4.09 56.53
 60.00 18 19 29 2452.50 -8.99 60.63 204.77 129.45 19 0 22 1452.5 7.10 42.69
 70.00 19 48 34 2190.59 -3.70 43.36 208.73 123.98 20 25 5 1190.6 10.20 23.75
 80.00 21 35 30 1853.96 .80 20.76 211.54 119.85 22 6 26 856.0 12.89 359.92
 90.00 23 16 24 1530.48 2.78 357.92 212.64 118.15 23 41 55 530.5 14.08 336.58
 100.00 0 22 17 1330.43 .80 342.13 211.54 119.85 0 44 28 330.4 12.89 321.29
 110.00 0 51 56 1237.41 -3.70 332.27 208.73 123.98 1 12 34 237.4 10.20 312.67

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.4430 TRA -.9857 TC3 .1935 BAU .0684 SGT 1528.3 SGR 555.4 SG3 283.5 ST 35.7 SR 25.2 SS 26.9
 RDE -.3845 RRA .1254 RC3 .1807 FAU .05562 RRT .0771 RRF -.0846 RTF -.7998 CRT .7405 CRS .4527 CST .9325
 FDE .3592 FRA 1.6825 FC3-2.4928 BSP 2525 SGB 1626.1 R23 -.0137 R13 -.8000 LSA 47.5 MSA 19.4 SSA 1.3
 BDE .5866 BRA .9937 BC3 .2648 FSP 413 SG1 1529.0 SG2 553.5 THA 1.85 EL1 41.2 EL2 14.7 ALF 32.15

LAUNCH DATE MAY 1 1971 FLIGHT TIME 134.00 ARRIVAL DATE SEP 12 1971

DISTANCE 350,896 EARTH TO MARS

HELIOCENTRIC CONIC
 RL 150.72 LAL -.00 LOL 219.99 VL 33.370 GAL -2.21 AZL 91.98 MCA 117.72 SMA 204.97 ECC .26725 INC 1.9831 V1 29.562
 RP 206.69 LAP -1.76 LOP 337.72 VP 25.234 GAP 15.49 AZP 89.08 TAL 349.51 TAP 107.22 RCA 150.19 APO 259.75 V2 26.495
 RC 65.512 GL -15.98 GP 1.18 ZAL 113.67 ZAP 161.84 ETS 176.41 ZAE 170.93 ETE 32.67 ZAC 100.98 ETC 278.11 LVI -19.58

PLANETOCENTRIC CONIC
 C3 18.503 VHL 4.301 DLA -24.23 RAL 342.64 RAD 6642.2 VEL 11.770 PTH 6.80 VHP 7.004 DPA -15.58 RAP 322.22 ECC 1.3045
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 11 35 2619.40 -13.31 71.59 199.41 136.11 17 55 15 1619.4 5.03 55.74
 60.00 18 22 8 2431.76 -8.09 59.62 204.34 129.62 19 2 40 1431.8 8.00 41.68
 70.00 19 52 18 2166.68 -2.79 42.10 208.32 124.05 20 28 25 1166.7 11.08 22.45
 80.00 21 40 46 1827.23 1.78 19.18 211.17 119.81 22 11 13 827.2 13.77 358.25
 90.00 23 22 44 1498.36 3.81 356.12 212.29 118.04 23 47 42 498.4 14.98 334.66
 100.00 0 27 34 1301.71 1.78 340.55 211.17 119.81 0 49 15 301.7 13.77 319.62
 110.00 0 55 41 1213.50 -2.79 331.01 208.32 124.05 1 15 54 213.5 11.08 311.37

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.4357 TRA -.9728 TC3 .2151 BAU .0710 SGT 1546.1 SGR 550.9 SG3 302.8 ST 36.0 SR 25.0 SS 27.6
 RDE -.3727 RRA .1190 RC3 .1900 FAU .05809 RRT .0837 RRF -.0921 RTF -.8447 CRT .7397 CRS .4428 CST .9290
 FDE .3655 FRA 1.7861 FC3-2.7178 BSP 2566 SGB 1641.3 R23 -.0151 R13 -.8049 LSA 47.9 MSA 19.6 SSA 1.3
 BDE .5734 BRA .9801 BC3 .2870 FSP 444 SG1 1546.9 SG2 548.7 THA 1.95 EL1 41.3 EL2 14.6 ALF 31.57

LAUNCH DATE MAY 1 1971 FLIGHT TIME 136.00 ARRIVAL DATE SEP 14 1971

DISTANCE 354,508 EARTH TO MARS

HELIOCENTRIC CONIC
 RL 150.72 LAL -.00 LOL 219.99 VL 33.289 GAL -2.13 AZL 91.99 MCA 118.99 SMA 203.28 ECC .26101 INC 1.9917 V1 29.562
 RP 206.71 LAP -1.74 LOP 338.99 VP 25.124 GAP 15.10 AZP 89.03 TAL 349.69 TAP 108.68 RCA 150.22 APO 256.34 V2 26.493
 RC 66.667 GL -15.93 GP 1.23 ZAL 113.47 ZAP 160.73 ETS 176.50 ZAE 170.92 ETE 31.96 ZAC 101.01 ETC 278.14 LVI -19.67

PLANETOCENTRIC CONIC
 C3 17.751 VHL 4.213 DLA -24.63 RAL 342.64 RAD 6641.8 VEL 11.738 PTH 6.77 VHP 6.790 DPA -15.49 RAP 322.36 ECC 1.2921
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 13 31 2601.01 -12.41 70.78 199.01 136.31 17 56 52 1601.0 5.95 54.97
 60.00 18 24 49 2411.36 -7.20 58.62 203.93 129.76 19 5 1 1411.4 8.89 40.68
 70.00 19 56 7 2142.97 -1.89 40.86 207.94 124.11 20 31 50 1143.0 11.95 21.16
 80.00 21 46 14 1798.32 2.75 17.59 210.83 119.74 22 16 12 798.3 14.65 356.56
 90.00 23 29 23 1465.62 4.86 354.28 211.99 117.89 23 53 49 465.6 15.89 332.68
 100.00 0 33 2 1272.80 2.75 338.96 210.83 119.74 0 54 15 272.8 14.65 317.92
 110.00 0 59 29 1189.78 -1.89 329.78 207.94 124.11 1 19 19 189.8 11.95 310.08

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.4286 TRA -.9592 TC3 .2364 BAU .0734 SGT 1561.7 SGR 546.1 SG3 323.3 ST 36.2 SR 24.7 SS 28.4
 RDE -.3614 RRA .1128 RC3 .1996 FAU .06072 RRT .0912 RRF -.1005 RTF -.8089 CRT .7393 CRS .4329 CST .9251
 FDE .3717 FRA 1.8332 FC3-2.9613 BSP 2602 SGB 1654.4 R23 -.0166 R13 -.8092 LSA 48.4 MSA 19.7 SSA 1.3
 BDE .5806 BRA .9658 BC3 .3094 FSP 478 SG1 1562.6 SG2 543.5 THA 2.08 EL1 41.4 EL2 14.6 ALF 31.02

LAUNCH DATE MAY 1 1971

FLIGHT TIME 136.00

ARRIVAL DATE SEP 18 1971

HELIOCENTRIC CONIC

DISTANCE 359.169

EARTH TO MARS

RL 150.72 LAL -.00 LOL 219.99 VL 33.213 GAL -2.03 AZL 92.00 HCA 120.25 SMA 201.71 ECC .25314 INC 2.0005 V1 29.862
RP 206.73 LAP -1.73 LOP 340.26 VP 25.020 GAP 14.71 AZP 88.99 TAL 349.88 TAP 110.13 RCA 150.25 APO 253.18 V2 26.489
RC 67.877 GL -16.29 GP 1.26 ZAL 113.27 ZAP 159.60 ETS 176.57 ZAE 170.97 EYE 31.90 ZAC 101.04 ETC 278.17 LVI -19.76

PLANETOCENTRIC CONIC

C3 17.057 VHL 4.130 DLA -25.03 RAL 342.64 RAD 6641.5 VEL 11.709 PTH 6.74 VHP 6.582 DPA -15.40 RAP 322.48 ECC 1.2807
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 15 20 2583.02 -11.52 69.99 198.63 136.49 17 58 31 1583.0 6.85 94.21
60.00 18 27 32 2391.33 -6.33 57.65 203.56 129.88 19 7 23 1391.3 9.75 39.70
70.00 20 0 0 2119.47 -9.99 39.64 207.59 124.14 20 35 20 1119.5 12.80 19.87
80.00 21 51 55 1769.22 3.74 15.99 210.53 119.64 22 21 24 769.2 15.32 354.83
90.00 23 36 25 1432.16 5.92 352.40 211.73 117.70 24 0 17 432.2 16.79 330.64
100.00 0 36 42 1243.69 3.74 337.36 210.53 119.64 0 59 26 243.7 15.52 316.20
110.00 1 3 22 1166.29 -.99 328.56 207.59 124.14 1 22 49 166.3 12.80 308.79

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4215 TRA -.9450 TC3 .2575 BAU .0757 SGT 1574.9 SGR 541.1 S63 345.1 ST 36.4 SR 24.4 S8 29.2
RDE -.3503 RRA .1066 RC3 .2094 FAU .06354 RRT .0995 RRF -.1097 RTF -.8126 CRT .7392 CR8 .4229 CST .9210
FDE .3777 FRA 1.9137 FC3-3.2250 BSP 2632 SGB 1665.3 R23 -.0183 R13 -.8129 LSA 48.7 MSA 19.9 S8A 1.3
BDE .5481 BRA .9510 BC3 .3319 F8P 514 S61 1576.0 S62 538.1 THA 2.22 EL1 41.4 EL2 14.5 ALF 30.49

LAUNCH DATE MAY 1 1971

FLIGHT TIME 140.00

ARRIVAL DATE SEP 18 1971

HELIOCENTRIC CONIC

DISTANCE 361.874

EARTH TO MARS

RL 150.72 LAL -.00 LOL 219.99 VL 33.141 GAL -1.98 AZL 92.01 HCA 121.52 SMA 200.28 ECC .24962 INC 2.0096 V1 29.562
RP 206.77 LAP -1.71 LOP 341.52 VP 24.920 GAP 14.34 AZP 88.95 TAL 350.06 TAP 111.58 RCA 150.27 APO 250.25 V2 26.485
RC 69.140 GL -16.66 GP 1.33 ZAL 113.06 ZAP 158.43 ETS 176.64 ZAE 171.09 ETE 31.32 ZAC 101.08 ETC 278.20 LVI -19.84

PLANETOCENTRIC CONIC

C3 16.416 VHL 4.052 DLA -25.43 RAL 342.63 RAD 6641.2 VEL 11.681 PTH 6.72 VHP 6.382 DPA -15.31 RAP 322.57 ECC 1.2702
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 17 25 2585.41 -10.65 69.23 198.28 136.63 18 0 10 1565.4 7.73 53.48
60.00 18 30 16 2371.62 -5.47 56.70 203.21 129.99 19 9 48 1371.6 10.60 38.72
70.00 20 3 50 2096.14 -.10 38.42 207.27 124.15 20 38 54 1096.1 13.63 18.58
80.00 21 57 50 1739.78 4.73 14.36 210.26 119.52 22 26 50 739.8 16.39 353.08
90.00 23 43 54 1397.68 7.01 350.45 211.51 117.47 24 7 12 397.7 17.70 328.52
100.00 0 44 38 1214.25 4.73 335.73 210.26 119.52 1 4 52 214.2 16.39 314.44
110.00 1 7 20 1142.96 -.10 327.34 207.27 124.15 1 26 23 143.0 13.63 307.50

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4035 TRA -.9200 TC3 .3027 BAU .0821 SGT 1568.7 SGR 535.8 S63 368.3 ST 35.8 SR 24.1 S8 29.9
RDE -.3396 RRA .1006 RC3 .2197 FAU .06660 RRT .1080 RRF -.1196 RTF -.8241 CRT .7342 CR8 .4109 CST .9187
FDE .3817 FRA 1.9975 FC3-3.5124 BSP 2528 SGB 1657.7 R23 -.0191 R13 -.8245 LSA 48.5 MSA 20.1 S8A 1.3
BDE .5274 BRA .9255 BC3 .3740 F8P 551 S61 1570.0 S62 532.3 THA 2.39 EL1 40.7 EL2 14.4 ALF 30.57

LAUNCH DATE MAY 1 1971

FLIGHT TIME 142.00

ARRIVAL DATE SEP 20 1971

HELIOCENTRIC CONIC

DISTANCE 365.618

EARTH TO MARS

RL 150.72 LAL -.00 LOL 219.99 VL 33.074 GAL -1.91 AZL 92.02 HCA 122.79 SMA 198.92 ECC .24444 INC 2.0188 V1 29.582
RP 206.81 LAP -1.70 LOP 342.79 VP 24.824 GAP 13.97 AZP 88.91 TAL 350.24 TAP 113.03 RCA 150.30 APO 247.94 V2 26.480
RC 70.455 GL -17.02 GP 1.39 ZAL 112.89 ZAP 157.25 ETS 176.70 ZAE 171.27 ETE 31.41 ZAC 101.12 ETC 278.21 LVI -19.92

PLANETOCENTRIC CONIC

C3 15.827 VHL 3.978 DLA -25.82 RAL 342.63 RAD 6640.9 VEL 11.656 PTH 6.69 VHP 6.188 DPA -15.13 RAP 322.63 ECC 1.2609
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 19 22 2548.32 -9.80 68.49 197.96 136.80 18 1 50 1548.3 8.58 52.73
60.00 18 33 2 2332.39 -4.63 55.77 202.89 130.08 19 12 14 1352.4 11.43 37.76
70.00 20 6 0 2073.16 .78 37.22 206.98 124.15 20 42 33 1073.2 14.43 17.30
80.00 22 3 59 1710.17 5.72 12.73 210.04 119.36 22 32 29 710.2 17.24 351.29
90.00 23 51 52 1362.21 8.12 348.43 211.34 117.18 24 14 34 362.2 18.61 326.32
100.00 0 50 48 1184.64 5.72 334.09 210.04 119.36 1 10 31 184.6 17.24 312.86
110.00 1 11 22 1119.98 .78 326.14 206.98 124.15 1 30 2 120.0 14.43 306.22

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4012 TRA -.9104 TC3 .3073 BAU .0812 SGT 1586.0 SGR 530.3 S63 392.9 ST 36.2 SR 23.8 S8 30.8
RDE -.3293 RRA .0945 RC3 .2297 FAU .06967 RRT .1172 RRF -.1502 RTF -.8226 CRT .7366 CR8 .4009 CST .9130
FDE .3878 FRA 2.0809 FC3-3.6110 BSP 2613 SGB 1672.3 R23 -.0221 R13 -.8230 LSA 49.1 MSA 20.3 S8A 1.3
BDE .3190 BRA .9153 BC3 .3837 F8P 593 S61 1587.4 S62 526.2 THA 2.52 EL1 40.9 EL2 14.3 ALF 29.82

LAUNCH DATE MAY 1 1971

FLIGHT TIME 144.00

ARRIVAL DATE SEP 22 1971

HELIOCENTRIC CONIC

DISTANCE 369.400

EARTH TO MARS

RL 150.72 LAL -.00 LOL 219.99 VL 33.010 GAL -1.85 AZL 92.03 HCA 124.06 SMA 197.68 ECC .23958 INC 2.0284 V1 29.582
RP 206.87 LAP -1.68 LOP 344.06 VP 24.733 GAP 13.61 AZP 88.86 TAL 350.42 TAP 114.46 RCA 150.32 APO 245.04 V2 26.474
RC 71.818 GL -17.38 GP 1.45 ZAL 112.65 ZAP 156.03 ETS 176.75 ZAE 171.53 ETE 31.80 ZAC 101.18 ETC 278.23 LVI -19.99

PLANETOCENTRIC CONIC

C3 15.284 VHL 3.909 DLA -26.22 RAL 342.62 RAD 6640.7 VEL 11.633 PTH 6.67 VHP 6.002 DPA -15.15 RAP 322.66 ECC 1.2515
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 21 20 2531.67 -8.98 67.77 197.67 136.92 18 3 32 1531.7 9.41 52.01
60.00 18 35 49 2333.56 -3.80 54.87 202.61 130.15 19 14 43 1333.6 12.23 36.82
70.00 20 12 7 2050.42 1.65 36.04 206.73 124.12 20 46 17 1050.4 15.25 16.03
80.00 22 10 24 1680.18 6.71 11.06 209.86 119.16 22 38 25 680.2 18.09 349.47
90.00 0 4 24 1325.23 9.26 346.32 211.23 116.84 0 26 29 325.2 19.52 323.99
100.00 0 57 12 1154.65 6.71 332.43 209.86 119.16 1 16 27 154.6 18.09 310.84
110.00 1 15 29 1097.24 1.65 324.95 206.73 124.12 1 33 47 97.2 15.25 304.95

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3970 TRA -.8971 TC3 .3157 BAU .0810 SGT 1596.0 SGR 524.6 S63 418.9 ST 36.5 SR 23.5 S8 31.7
RDE -.3194 RRA .0884 RC3 .2401 FAU .07294 RRT .1277 RRF -.1423 RTF -.8224 CRT .7389 CR8 .3921 CST .9077
FDE .3949 FRA 2.1842 FC3-4.1318 BSP 2664 SGB 1680.0 R23 -.0249 R13 -.8229 LSA 49.6 MSA 20.5 S8A 1.3
BDE .5095 BRA .9014 BC3 .3966 F8P 637 S61 1597.5 S62 519.8 THA 2.69 EL1 41.0 EL2 14.1 ALF 29.23

LAUNCH DATE MAY 1 1971

FLIGHT TIME 146.00

ARRIVAL DATE SEP 24 1971

HELIOCENTRIC CONIC

RL 150.72 LAL -.00 LOL 219.99 VL 32.950 GAL -1.78 AZL 92.04 HCA 129.32 SMA 196.52 ECC .23501 INC 2.0382 V1 29.562
RP 206.93 LAP -1.66 LOP 345.33 VP 24.645 GAP 13.26 AZP 88.82 TAL 350.60 TAP 115.92 RCA 150.34 APO 242.71 V2 26.466
RC 73.226 GL -17.74 GP 1.52 ZAL 112.44 ZAP 154.78 ETS 176.80 ZAE 171.85 ETE 32.54 ZAC 101.24 ETC 278.23 LVI -20.06

PLANETOCENTRIC CONIC

C3 14.783 VHL 3.845 DLA -26.61 RAL 342.62 RAD 6640.4 VEL 11.612 PTH 6.85 VHP 5.821 DPA -15.09 RAP 322.66 ECC 1.2433
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 23 19 2515.49 -8.17 67.08 197.40 137.04 18 5 14 1515.5 10.21 51.32
60.00 18 38 38 2315.15 -2.99 53.99 202.36 130.21 19 17 13 1315.2 13.01 35.90
70.00 20 16 19 2027.96 2.50 34.86 206.52 124.07 20 50 7 1028.0 16.03 14.76
80.00 22 17 9 1649.72 7.72 9.36 209.72 118.93 22 44 39 649.7 18.93 347.59
90.00 0 13 48 1286.21 10.45 344.07 211.18 116.43 0 35 14 286.2 20.45 321.50
100.00 1 3 57 1124.19 7.72 330.73 209.72 118.93 1 22 41 124.2 18.93 308.96
110.00 1 19 41 1074.78 2.50 323.78 206.52 124.07 1 37 36 74.8 16.03 303.67

DIFFERENTIAL CORRECTIONS

TDE -.3914 TRA -.8826 TC3 .3233 BAU .0812
RDE -.3098 RRA .0824 RC3 .2507 FAU .07646
FDE .4010 FRA 2.2863 FC3-4.4776 BSP 2705
BDE .4992 BRA .8865 BC3 .4107 FSP 687

MID-COURSE EXECUTION ACCURACY

SGT 1602.2 SGR 518.7 S63 446.7
RRR .1389 RRF -.1552 RTF -.8227
SGB 1684.1 R23 -.0281 R13 -.8233
SG1 1604.0 S62 515.1 THA 2.87

ORBIT DETERMINATION ACCURACY

ST 36.6 SR 23.2 SS 32.5
CRT .7407 CRS .3824 CST .9020
LSA 50.1 MSA 20.7 SSA 1.3
EL1 41.0 EL2 13.9 ALF 28.74

LAUNCH DATE MAY 1 1971

FLIGHT TIME 148.00

ARRIVAL DATE SEP 26 1971

HELIOCENTRIC CONIC

RL 150.72 LAL -.00 LOL 219.99 VL 32.894 GAL -1.73 AZL 92.05 HCA 126.59 SMA 195.46 ECC .23073 INC 2.0483 V1 29.562
RP 207.00 LAP -1.64 LOP 346.59 VP 24.561 GAP 12.91 AZP 88.78 TAL 350.77 TAP 117.36 RCA 150.36 APO 240.55 V2 26.458
RC 74.683 GL -18.09 GP 1.59 ZAL 112.24 ZAP 153.50 ETS 176.84 ZAE 172.23 ETE 33.70 ZAC 101.31 ETC 278.23 LVI -20.12

PLANETOCENTRIC CONIC

C3 14.322 VHL 3.784 DLA -26.99 RAL 342.62 RAD 6640.2 VEL 11.592 PTH 6.63 VHP 5.647 DPA -15.02 RAP 322.62 ECC 1.2357
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 25 18 2499.79 -7.39 66.41 197.17 137.14 18 6 58 1499.8 10.99 50.63
60.00 18 41 28 2297.20 -2.20 53.13 202.13 130.25 19 19 46 1297.2 13.77 34.99
70.00 20 20 35 2005.78 3.35 33.70 206.33 124.01 20 54 1 1005.8 16.79 13.49
80.00 22 24 15 1618.67 8.74 7.62 209.63 118.66 22 51 14 618.7 19.76 345.67
90.00 0 24 17 1244.26 11.71 341.64 211.19 115.92 0 45 1 244.3 21.40 318.79
100.00 1 11 3 1093.14 8.74 328.99 209.63 118.66 1 29 16 93.1 19.76 307.03
110.00 1 23 57 1052.60 3.35 322.62 206.33 124.01 1 41 30 52.6 16.79 302.41

DIFFERENTIAL CORRECTIONS

TDE -.3848 TRA -.8859 TC3 .3348 BAU .0813
RDE -.3004 RRA .0764 RC3 .2615 FAU .08017
FDE .4066 FRA 2.3918 FC3-4.8457 BSP 2713
BDE .4882 BRA .8893 BC3 .4248 FSP 736

MID-COURSE EXECUTION ACCURACY

SGT 1602.5 SGR 512.7 S63 476.0
RRR .1511 RRF -.1695 RTF -.8232
SGB 1682.6 R23 -.0316 R13 -.8238
SG1 1604.6 S62 506.2 THA 3.07

ORBIT DETERMINATION ACCURACY

ST 36.5 SR 22.8 SS 33.4
CRT .7427 CRS .3728 CST .8962
LSA 50.4 MSA 20.8 SSA 1.3
EL1 40.9 EL2 13.7 ALF 28.34

LAUNCH DATE MAY 1 1971

FLIGHT TIME 150.00

ARRIVAL DATE SEP 28 1971

HELIOCENTRIC CONIC

RL 150.72 LAL -.00 LOL 219.99 VL 32.842 GAL -1.67 AZL 92.06 HCA 127.85 SMA 194.46 ECC .22671 INC 2.0588 V1 29.562
RP 207.08 LAP -1.63 LOP 347.86 VP 24.481 GAP 12.57 AZP 88.74 TAL 350.94 TAP 118.79 RCA 150.38 APO 238.55 V2 26.449
RC 76.180 GL -18.44 GP 1.66 ZAL 112.05 ZAP 152.19 ETS 176.87 ZAE 172.67 ETE 35.37 ZAC 101.39 ETC 278.22 LVI -20.18

PLANETOCENTRIC CONIC

C3 13.898 VHL 3.728 DLA -27.38 RAL 342.62 RAD 6640.0 VEL 11.574 PTH 6.62 VHP 5.480 DPA -14.97 RAP 322.55 ECC 1.2287
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 27 19 2484.58 -6.63 65.76 196.96 137.22 18 8 43 1484.6 11.74 49.97
60.00 18 44 20 2279.70 -1.43 52.29 201.94 130.28 19 22 20 1279.7 14.51 34.09
70.00 20 24 56 1983.90 4.18 32.56 206.19 123.93 20 58 0 983.9 17.54 12.23
80.00 22 31 46 1586.86 9.77 5.82 209.59 118.35 22 58 13 586.9 20.59 343.67
90.00 0 36 20 1197.80 13.08 338.91 211.29 115.30 0 56 18 197.8 22.40 315.75
100.00 1 18 33 1061.33 9.77 327.19 209.59 118.35 1 36 15 61.3 20.59 305.03
110.00 1 28 18 1030.72 4.18 321.47 206.19 123.93 1 45 29 30.7 17.54 301.15

DIFFERENTIAL CORRECTIONS

TDE -.3785 TRA -.8493 TC3 .3397 BAU .0809
RDE -.2914 RRA .0703 RC3 .2728 FAU .08406
FDE .4133 FRA 2.5063 FC3-5.2360 BSP 2715
BDE .4777 BRA .8522 BC3 .4356 FSP 789

MID-COURSE EXECUTION ACCURACY

SGT 1601.0 SGR 508.6 S63 507.2
RRR .1641 RRF -.1850 RTF -.8230
SGB 1679.3 R23 -.0358 R13 -.8237
SG1 1603.4 S62 499.0 THA 3.29

ORBIT DETERMINATION ACCURACY

ST 36.5 SR 22.5 SS 34.4
CRT .7452 CRS .3841 CST .8903
LSA 50.8 MSA 21.0 SSA 1.3
EL1 40.7 EL2 13.4 ALF 27.95

LAUNCH DATE MAY 1 1971

FLIGHT TIME 152.00

ARRIVAL DATE SEP 30 1971

HELIOCENTRIC CONIC

RL 150.72 LAL -.00 LOL 219.99 VL 32.792 GAL -1.62 AZL 92.07 HCA 129.12 SMA 193.54 ECC .22295 INC 2.0696 V1 29.562
RP 207.17 LAP -1.61 LOP 349.12 VP 24.403 GAP 12.24 AZP 88.69 TAL 351.10 TAP 120.22 RCA 150.39 APO 236.69 V2 26.439
RC 77.718 GL -18.79 GP 1.74 ZAL 111.86 ZAP 150.85 ETS 176.90 ZAE 173.17 ETE 37.69 ZAC 101.48 ETC 278.21 LVI -20.23

PLANETOCENTRIC CONIC

C3 13.509 VHL 3.675 DLA -27.75 RAL 342.63 RAD 6639.8 VEL 11.557 PTH 6.60 VHP 5.318 DPA -14.92 RAP 322.45 ECC 1.2223
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 29 20 2489.88 -5.89 65.14 196.78 137.30 18 10 29 1469.9 12.47 49.33
60.00 18 47 13 2262.68 -6.68 51.48 201.78 130.30 19 24 56 1262.7 15.22 33.22
70.00 20 29 22 1962.32 5.00 31.42 206.07 123.83 21 2 4 962.3 18.26 10.98
80.00 22 39 46 1554.03 10.83 3.96 209.59 118.00 23 5 40 554.0 21.41 341.58
90.00 0 51 7 1143.15 14.65 335.66 211.52 114.46 1 10 10 143.2 23.48 312.12
100.00 1 26 34 1028.50 10.83 325.32 209.59 118.00 1 43 43 28.5 21.41 302.95
110.00 1 32 44 1009.14 5.00 320.34 206.07 123.83 1 49 33 9.1 18.26 299.90

DIFFERENTIAL CORRECTIONS

TDE -.3717 TRA -.8301 TC3 .3434 BAU .0805
RDE -.2826 RRA .0643 RC3 .2840 FAU .08823
FDE .4194 FRA 2.6227 FC3-5.6542 BSP 2708
BDE .4669 BRA .8326 BC3 .4456 FSP 845

MID-COURSE EXECUTION ACCURACY

SGT 1593.0 SGR 500.5 S63 539.9
RRR .1787 RRF -.2023 RTF -.8221
SGB 1669.8 R23 -.0406 R13 -.8231
SG1 1595.8 S62 491.6 THA 3.55

ORBIT DETERMINATION ACCURACY

ST 36.3 SR 22.1 SS 35.3
CRT .7485 CRS .3558 CST .8840
LSA 51.0 MSA 21.2 SSA 1.3
EL1 40.4 EL2 13.2 ALF 27.65

LAUNCH DATE MAY 1 1971

FLIGHT TIME 194.00

ARRIVAL DATE OCT 2 1971

HELIOCENTRIC CONIC

DISTANCE 388.776

EARTH TO MARS

RL 150.72 LAL -.00 LOL 219.99 VL 32.746 GAL -1.37 AZL 92.08 HCA 130.38 SMA 192.69 ECC .21943 INC 2.0608 V1 29.562
 RP 207.26 LAP -1.58 LOP 350.39 VP 24.329 GAP 11.92 AZP 88.65 TAL 351.25 TAP 121.63 RCA 150.41 APO 234.97 VE 26.428
 RC 79.295 GL -19.13 GP 1.62 ZAL 111.68 ZAP 149.47 ETS 176.95 ZAE 173.70 ETE 40.68 ZAC 101.57 ETC 278.19 LVI -20.28

PLANETOCENTRIC CONIC

C3 13.151 VHL 3.026 DLA -28.12 RAL 342.65 RAD 6639.6 VEL 11.842 PTH 6.59 VHP 5.162 DPA -14.68 RAP 322.31 ECC 1.2164
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 31 21 2455.68 -5.18 84.54 196.63 137.36 18 12 17 1455.7 13.17 48.70
 60.00 18 50 8 2248.15 .04 50.69 201.65 130.30 19 27 34 1246.1 15.91 32.36
 70.00 20 33 52 1941.06 5.81 30.30 206.00 123.72 21 6 13 941.1 18.97 9.73
 80.00 22 48 24 1519.82 11.91 2.00 209.66 117.58 23 13 44 519.8 22.24 339.38
 90.00 1 12 43 1067.04 16.74 331.05 212.01 113.13 1 30 30 67.0 24.83 306.95
 100.00 1 35 12 6282.34 11.91 301.27 209.66 117.58 3 19 54 5282.3 22.24 276.65
 110.00 1 37 14 6275.92 5.81 297.13 206.00 123.72 3 21 50 5275.9 18.97 276.36

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3643 TRA -.8105 TC3 .3425 BAU .0796 SGT 1581.5 SGR 494.4 S63 574.5 ST 36.1 SR 21.7 SS 36.3
 RDE -.2741 RRA .0581 RC3 .2957 FAU .09258 RRT .1936 RRF -.2207 RTF -.8206 CRT .7520 CRS .3465 CST .8768
 FDE .4238 FRA 2.7475 FC3 -6.0947 B8P 2693 SGB 1657.0 R23 -.0463 R13 -.8218 LSA 51.3 MSA 21.4 S8A 1.3
 BDE .4559 BRA .8126 BC3 .4525 F8P 906 SG1 1584.7 S62 484.0 THA 3.82 EL1 40.1 EL2 12.9 ALF 27.40

LAUNCH DATE MAY 1 1971

FLIGHT TIME 196.00

ARRIVAL DATE OCT 4 1971

HELIOCENTRIC CONIC

DISTANCE 392.728

EARTH TO MARS

RL 150.72 LAL -.00 LOL 219.99 VL 32.702 GAL -1.53 AZL 92.09 HCA 131.64 SMA 191.90 ECC .21613 INC 2.0924 V1 29.582
 RP 207.37 LAP -1.56 LOP 351.65 VP 24.257 GAP 11.61 AZP 88.61 TAL 351.39 TAP 123.03 RCA 150.42 APO 233.37 VE 26.415
 RC 80.909 GL -19.47 GP 1.91 ZAL 111.51 ZAP 148.05 ETS 176.95 ZAE 174.27 ETE 45.25 ZAC 101.68 ETC 278.16 LVI -20.32

PLANETOCENTRIC CONIC

C3 12.824 VHL 3.581 DLA -28.48 RAL 342.67 RAD 6639.5 VEL 11.528 PTH 6.57 VHP 5.012 DPA -14.85 RAP 322.13 ECC 1.2110
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 33 24 2442.01 -4.50 63.97 196.51 137.41 18 14 6 1442.0 13.84 48.09
 60.00 18 53 3 2230.11 .75 49.93 201.55 130.30 19 30 13 1230.1 16.57 31.53
 70.00 20 38 28 1920.12 6.60 29.20 205.95 123.59 21 10 28 920.1 19.65 6.90
 80.00 22 57 50 1483.67 13.05 359.91 209.78 117.10 23 22 34 483.7 23.09 337.02
 86.49 1 9 48 1071.36 19.21 332.44 212.67 111.43 1 27 37 71.4 26.37 307.63
 100.00 1 44 38 6246.18 13.05 299.18 209.78 117.10 3 28 44 5246.2 23.09 276.30
 110.00 1 41 50 6234.98 6.60 296.02 205.95 123.59 3 26 5 5234.9 19.65 275.32

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3583 TRA -.7899 TC3 .3361 BAU .0781 SGT 1586.4 SGR 488.3 S63 611.0 ST 35.9 SR 21.3 SS 37.3
 RDE -.2659 RRA .0519 RC3 .3076 FAU .09717 RRT .2106 RRF -.2413 RTF -.8179 CRT .7573 CRS .3399 CST .8694
 FDE .4308 FRA 2.8786 FC3 -6.5598 B8P 2664 SGB 1640.8 R23 -.0527 R13 -.8192 LSA 51.6 MSA 21.6 S8A 1.3
 BDE .4462 BRA .7916 BC3 .4556 F8P 987 SG1 1570.2 S62 476.2 THA 4.14 EL1 39.6 EL2 12.5 ALF 27.16

LAUNCH DATE MAY 1 1971

FLIGHT TIME 198.00

ARRIVAL DATE OCT 6 1971

HELIOCENTRIC CONIC

DISTANCE 396.702

EARTH TO MARS

RL 150.72 LAL -.00 LOL 219.99 VL 32.662 GAL -1.49 AZL 92.10 HCA 132.90 SMA 191.16 ECC .21305 INC 2.1045 V1 29.582
 RP 207.48 LAP -1.54 LOP 352.91 VP 24.188 GAP 11.30 AZP 88.57 TAL 351.53 TAP 124.43 RCA 150.44 APO 231.89 VE 26.402
 RC 82.560 GL -19.80 GP 2.00 ZAL 111.35 ZAP 146.59 ETS 176.97 ZAE 174.84 ETE 51.26 ZAC 101.80 ETC 278.12 LVI -20.36

PLANETOCENTRIC CONIC

C3 12.523 VHL 3.539 DLA -28.83 RAL 342.70 RAD 6639.3 VEL 11.518 PTH 6.56 VHP 4.868 DPA -14.82 RAP 321.91 ECC 1.2081
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 35 28 2428.84 -3.84 63.42 196.42 137.48 18 15 57 1428.8 14.48 47.80
 60.00 18 56 0 2214.50 1.43 49.18 201.49 130.28 19 32 53 1214.6 17.21 30.71
 70.00 20 43 8 1899.48 7.37 28.10 205.95 123.44 21 14 48 899.5 20.32 7.27
 80.00 23 8 23 1444.52 14.25 357.63 209.98 116.52 23 32 28 444.5 23.95 334.44
 84.14 0 50 35 1128.74 19.57 336.80 212.46 111.61 1 9 23 128.7 26.76 311.94
 100.00 1 55 11 6207.03 14.25 296.90 209.98 116.52 3 38 38 5207.0 23.95 273.71
 110.00 1 46 31 6234.34 7.37 294.93 205.95 123.44 3 30 25 5234.3 20.32 274.09

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3491 TRA -.7655 TC3 .3329 BAU .0773 SGT 1541.8 SGR 482.4 S63 649.3 ST 35.3 SR 20.9 SS 38.3
 RDE -.2578 RRA .0456 RC3 .3201 FAU .10288 RRT .2287 RRF -.2637 RTF -.8162 CRT .7619 CRS .3319 CST .8617
 FDE .4348 FRA 3.0141 FC3 -7.0589 B8P 2599 SGB 1615.4 R23 -.0598 R13 -.8179 LSA 51.7 MSA 21.7 S8A 1.3
 BDE .4340 BRA .7669 BC3 .4618 F8P 1032 SG1 1546.0 S62 466.3 THA 4.51 EL1 39.2 EL2 12.2 ALF 27.11

LAUNCH DATE MAY 1 1971

FLIGHT TIME 160.00

ARRIVAL DATE OCT 8 1971

HELIOCENTRIC CONIC

DISTANCE 400.696

EARTH TO MARS

RL 150.72 LAL -.00 LOL 219.99 VL 32.624 GAL -1.45 AZL 92.12 HCA 134.16 SMA 190.48 ECC .21018 INC 2.1170 V1 29.562
 RP 207.60 LAP -1.52 LOP 354.17 VP 24.121 GAP 11.00 AZP 88.52 TAL 351.65 TAP 125.81 RCA 150.45 APO 230.52 VE 26.388
 RC 84.247 GL -20.13 GP 2.10 ZAL 111.20 ZAP 145.10 ETS 178.99 ZAE 175.37 ETE 59.50 ZAC 101.93 ETC 278.08 LVI -20.39

PLANETOCENTRIC CONIC

C3 12.250 VHL 3.500 DLA -29.18 RAL 342.75 RAD 6639.2 VEL 11.503 PTH 6.55 VHP 4.730 DPA -14.80 RAP 321.65 ECC 1.2016
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 37 32 2416.23 -3.20 62.89 196.36 137.49 18 17 49 1416.2 15.09 46.94
 60.00 18 58 59 2199.58 2.09 48.47 201.45 130.26 19 35 38 1199.6 17.82 29.92
 70.00 20 47 54 1879.21 8.13 27.02 205.98 123.29 21 19 13 879.2 20.96 6.05
 80.00 23 20 39 1400.61 15.57 355.03 210.28 115.80 23 44 0 400.6 24.86 331.49
 82.51 0 37 42 1166.09 19.91 339.69 212.29 111.78 0 57 8 166.1 27.13 314.78
 100.00 2 7 27 6163.12 15.57 294.31 210.28 115.80 3 50 10 5163.1 24.86 270.77
 110.00 1 51 16 6214.07 8.13 293.85 205.98 123.29 3 34 50 5214.1 20.96 272.87

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3452 TRA -.7451 TC3 .3072 BAU .0742 SGT 1522.3 SGR 476.7 S63 689.4 ST 35.2 SR 20.5 SS 39.4
 RDE -.2501 RRA .0391 RC3 .3327 FAU .10703 RRT .2467 RRF -.2878 RTF -.8089 CRT .7701 CRS .3270 CST .8524
 FDE .4420 FRA 3.1604 FC3 -7.5642 B8P 2593 SGB 1595.1 R23 -.0704 R13 -.8110 LSA 52.2 MSA 21.9 S8A 1.3
 BDE .4263 BRA .7462 BC3 .4528 F8P 1104 SG1 1527.2 S62 460.5 THA 4.86 EL1 39.0 EL2 11.8 ALF 26.83

LAUNCH DATE MAY 1 1971

FLIGHT TIME 162.00

ARRIVAL DATE OCT 10 1971

HELIOCENTRIC CONIC

RL 150.72 LAL -.00 LOL 219.99 VL 32.588 GAL -1.41 AZL 92.13 HCA 135.42 SMA 189.85 ECC .20750 INC 2.1302 V1 29.562
RP 207.75 LAP -1.30 LOP 355.43 VP 24.057 GAP 10.70 AZP 88.48 TAL 351.77 TAP 127.18 RCA 150.46 APO 229.25 V2 26.373
RC 85.969 GL -20.46 GP 2.20 ZAL 111.06 ZAP 143.57 ETS 177.00 ZAE 175.79 ETE 70.62 ZAC 102.07 ETC 278.03 LVI -20.42

PLANETOCENTRIC CONIC

C3 12.000 VHL 3.464 DLA -29.51 RAL 342.81 RAD 6639.1 VEL 11.493 PTH 6.54 VHP 4.597 DPA -14.78 RAP 321.35 ECC 1.1975
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 39 38 2404.11 -2.60 62.38 196.33 137.52 18 19 42 1404.1 15.68 46.39
60.00 19 1 58 2189.07 2.73 47.77 201.45 130.22 19 38 23 1185.1 18.41 29.14
70.00 20 52 45 1859.20 8.88 25.96 206.04 123.12 21 23 44 859.2 21.59 4.83
80.00 23 36 13 1346.78 17.13 351.81 210.73 114.83 23 58 39 346.8 25.89 327.82
81.20 0 27 34 1194.97 20.24 341.97 212.14 111.95 0 47 29 195.0 27.50 316.99
100.00 2 23 0 6109.29 17.13 291.08 210.73 114.83 4 4 50 9109.3 25.89 267.10
110.00 1 56 7 6194.06 8.88 292.78 206.04 123.12 3 39 21 5194.1 21.59 271.66

DIFFERENTIAL CORRECTIONS

TDE -.3349 TRA -.7162 TC3 .2979 BAV .0733
RDE -.2425 RRA .0326 RC3 .3463 FAU .11256
FDE .4441 FRA 5.3065 FC3-8.1203 BSP 2484
BDE .4134 BRA .7170 BC3 .4568 FSP 1172

MID-COURSE EXECUTION ACCURACY

SGT 1484.0 SGR 471.4 SG3 731.5
RRT .2678 RRF -.3145 RTF -.8056
SGB 1557.1 R23 -.0795 R13 -.8082
SG1 1489.9 SG2 452.4 THA 5.36

ORBIT DETERMINATION ACCURACY

ST 34.4 SR 20.1 SS 40.3
CRT .7766 CRS .3198 CST .8429
LSA 52.2 MSA 22.1 SSA 1.3
EL1 38.2 EL2 11.4 ALF 26.97

LAUNCH DATE MAY 1 1971

FLIGHT TIME 164.00

ARRIVAL DATE OCT 12 1971

HELIOCENTRIC CONIC

RL 150.72 LAL -.00 LOL 219.99 VL 32.555 GAL -1.38 AZL 92.14 HCA 136.67 SMA 189.27 ECC .20501 INC 2.1438 V1 29.562
RP 207.86 LAP -1.47 LOP 356.68 VP 23.995 GAP 10.42 AZP 88.44 TAL 351.87 TAP 128.54 RCA 150.47 APO 229.07 V2 26.357
RC 87.725 GL -20.78 GP 2.31 ZAL 110.94 ZAP 142.00 ETS 177.02 ZAE 176.03 ETE 84.72 ZAC 102.22 ETC 277.97 LVI -20.44

PLANETOCENTRIC CONIC

C3 11.774 VHL 3.431 DLA -29.83 RAL 342.88 RAD 6638.9 VEL 11.483 PTH 6.53 VHP 4.470 DPA -14.77 RAP 321.01 ECC 1.1938
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 41 45 2392.55 -2.02 61.90 196.33 137.54 18 21 38 1392.6 16.24 45.86
60.00 19 4 59 2171.14 3.34 47.10 201.48 130.19 19 41 10 1171.1 18.97 28.40
70.00 20 57 41 1839.58 9.60 24.90 206.14 122.93 21 28 21 839.6 22.19 3.63
80.00 0 8 47 1251.96 19.75 345.98 211.68 112.86 0 29 39 252.0 27.43 321.21
80.08 0 19 13 1218.62 20.55 343.86 212.04 112.12 0 39 32 218.6 27.85 318.83
100.00 2 51 39 6014.47 19.75 285.25 211.68 112.86 4 31 53 5014.5 27.43 260.48
110.00 2 1 4 6174.44 9.60 291.73 206.14 122.93 3 43 58 5174.4 22.19 270.46

DIFFERENTIAL CORRECTIONS

TDE -.3324 TRA -.6944 TC3 .2536 BAV .0693
RDE -.2352 RRA .0257 RC3 .3598 FAU .11789
FDE .4527 FRA 3.4894 FC3-8.6686 BSP 2469
BDE .4072 BRA .6949 BC3 .4401 FSP 1253

MID-COURSE EXECUTION ACCURACY

SGT 1457.8 SGR 466.4 SG3 775.5
RRT .2867 RRF -.3428 RTF -.7935
SGB 1530.6 R23 -.0960 R13 -.7968
SG1 1464.6 SG2 444.8 THA 5.77

ORBIT DETERMINATION ACCURACY

ST 34.2 SR 19.7 SS 41.5
CRT .7879 CRS .3179 CST .8318
LSA 52.7 MSA 22.3 SSA 1.3
EL1 37.9 EL2 10.9 ALF 26.72

LAUNCH DATE MAY 1 1971

FLIGHT TIME 166.00

ARRIVAL DATE OCT 14 1971

HELIOCENTRIC CONIC

RL 150.72 LAL -.00 LOL 219.99 VL 32.524 GAL -1.35 AZL 92.16 HCA 137.93 SMA 188.73 ECC .20269 INC 2.1581 V1 29.562
RP 208.01 LAP -1.45 LOP 357.93 VP 23.934 GAP 10.14 AZP 88.40 TAL 351.96 TAP 129.88 RCA 150.47 APO 226.98 V2 26.340
RC 89.514 GL -21.10 GP 2.43 ZAL 110.83 ZAP 140.39 ETS 177.03 ZAE 175.99 ETE 100.65 ZAC 102.39 ETC 277.90 LVI -20.45

PLANETOCENTRIC CONIC

C3 11.569 VHL 3.401 DLA -30.15 RAL 342.96 RAD 6638.8 VEL 11.474 PTH 6.52 VHP 4.349 DPA -14.77 RAP 320.62 ECC 1.1904
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 43 54 2381.48 -1.46 61.43 196.36 137.56 18 23 35 1381.5 16.78 45.36
60.00 19 8 1 2157.67 3.94 46.46 201.53 130.14 19 43 59 1157.7 19.51 27.67
70.00 21 2 44 1820.17 10.32 23.86 206.28 122.74 21 33 4 820.2 22.78 2.43
79.08 0 12 3 1238.86 20.85 345.49 211.98 112.28 0 32 42 238.9 26.19 320.41
79.08 0 12 3 1238.86 20.85 345.49 211.98 112.28 0 32 42 238.9 26.19 320.41
79.08 0 12 3 1238.86 20.85 345.49 211.98 112.28 0 32 42 238.9 26.19 320.41
110.00 2 6 6 6155.03 10.32 290.68 206.28 122.74 3 48 41 5155.0 22.78 269.26

DIFFERENTIAL CORRECTIONS

TDE -.3222 TRA -.6821 TC3 .2300 BAV .0679
RDE -.2279 RRA .0187 RC3 .3742 FAU .12380
FDE .4545 FRA 3.6278 FC3-9.2642 BSP 2329
BDE .3946 BRA .6824 BC3 .4392 FSP 1325

MID-COURSE EXECUTION ACCURACY

SGT 1408.1 SGR 482.1 SG3 820.8
RRT .3091 RRF -.3736 RTF -.7062
SGB 1482.0 R23 -.1100 R13 -.7905
SG1 1416.1 SG2 437.0 THA 6.40

ORBIT DETERMINATION ACCURACY

ST 33.3 SR 19.2 SS 42.8
CRT .7973 CRS .3132 CST .8202
LSA 52.7 MSA 22.5 SSA 1.3
EL1 37.0 EL2 10.4 ALF 27.00

LAUNCH DATE MAY 1 1971

FLIGHT TIME 168.00

ARRIVAL DATE OCT 16 1971

HELIOCENTRIC CONIC

RL 150.72 LAL -.00 LOL 219.99 VL 32.496 GAL -1.33 AZL 92.17 HCA 139.18 SMA 188.23 ECC .20054 INC 2.1732 V1 29.562
RP 208.16 LAP -1.42 LOP 359.19 VP 23.876 GAP 9.86 AZP 88.36 TAL 352.03 TAP 131.21 RCA 150.48 APO 225.98 V2 26.323
RC 91.337 GL -21.41 GP 2.56 ZAL 110.74 ZAP 138.74 ETS 177.04 ZAE 175.61 ETE 115.95 ZAC 102.57 ETC 277.82 LVI -20.46

PLANETOCENTRIC CONIC

C3 11.385 VHL 3.374 DLA -30.45 RAL 343.06 RAD 6638.7 VEL 11.466 PTH 6.52 VHP 4.233 DPA -14.77 RAP 320.19 ECC 1.1874
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 46 4 2370.98 -.93 60.99 196.42 137.57 18 25 35 1371.0 17.29 44.87
60.00 19 11 4 2144.80 4.50 45.84 201.63 130.09 19 46 49 1144.8 20.03 26.97
70.00 21 7 52 1801.15 11.02 22.83 206.46 122.53 21 37 53 801.2 23.35 1.25
78.20 0 5 54 1256.37 21.14 346.93 211.93 112.45 0 26 50 256.4 28.51 321.79
78.20 0 5 54 1256.37 21.14 346.93 211.93 112.45 0 26 50 256.4 28.51 321.79
78.20 0 5 54 1256.37 21.14 346.93 211.93 112.45 0 26 50 256.4 28.51 321.79
110.00 2 11 14 6136.01 11.02 289.65 206.46 122.53 3 53 30 5136.0 23.35 268.07

DIFFERENTIAL CORRECTIONS

TDE -.3222 TRA -.6394 TC3 .1649 BAV .0642
RDE -.2211 RRA .0112 RC3 .3884 FAU .12938
FDE .4698 FRA 3.8121 FC3-9.8389 BSP 2316
BDE .3908 BRA .6395 BC3 .4220 FSP 1419

MID-COURSE EXECUTION ACCURACY

SGT 1377.8 SGR 458.4 SG3 868.8
RRT .3276 RRF -.4067 RTF -.7675
SGB 1452.0 R23 -.1354 R13 -.7732
SG1 1386.8 SG2 430.3 THA 6.89

ORBIT DETERMINATION ACCURACY

ST 33.2 SR 18.8 SS 43.9
CRT .8127 CRS .3178 CST .8079
LSA 53.5 MSA 22.7 SSA 1.3
EL1 36.9 EL2 9.9 ALF 26.72

LAUNCH DATE MAY 1 1971

FLIGHT TIME 170.00

ARRIVAL DATE OCT 18 1971

HELIOCENTRIC CONIC

DISTANCE 420.913

EARTH TO MARS

RL 150.72 LAL -.00 LOL 219.99 VL 32.469 GAL -1.31 AZL 92.19 HCA 140.43 SMA 187.77 ECC .19854 INC 2.1888 V1 29.562
 RP 208.32 LAP -1.39 LOP .44 VP 23.819 GAP 9.59 AZP 88.31 TAL 352.10 TAP 132.93 RCA 150.49 APO 225.05 V2 26.304
 RC 93.190 GL -21.72 GP 2.69 ZAL 110.67 ZAP 137.05 ETS 177.03 ZAE 174.93 ETE 128.71 ZAC 102.76 ETC 277.73 LVI -20.47

PLANETOCENTRIC CONIC

C3 11.219 VHL 3.350 DLA -30.75 RAL 343.18 RAD 6838.7 VEL 11.459 PTH 6.51 VHP 4.122 DPA -14.78 RAP 319.72 ECC 1.1848
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 48 15 2360.98 -.43 60.58 196.51 137.57 18 27 36 1361.0 17.77 44.41
 60.00 19 14 9 2132.41 5.04 45.24 201.75 130.04 19 49 42 1132.4 20.52 26.29
 70.00 21 13 7 1782.35 11.71 21.80 206.67 122.32 21 42 50 782.3 23.90 .06
 77.39 0 0 28 1272.06 21.41 348.22 211.93 112.61 0 21 40 272.1 28.83 323.04
 77.39 0 0 28 1272.06 21.41 348.22 211.93 112.61 0 21 40 272.1 28.83 323.04
 77.39 0 0 28 1272.06 21.41 348.22 211.93 112.61 0 21 40 272.1 28.83 323.04
 110.00 2 16 29 6117.20 11.71 286.63 206.67 122.32 3 58 27 5117.2 23.90 266.89

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3179 TRA -.6090 TC3 .1082 BAU .0627
 RDE -.2144 RRA .0035 RC3 .4038 FAU .13546
 FDE .4807 FRA 3.9929 FC-10.4929 B8P 2217
 BDE .3838 BRA .6090 BC3 .4181 F8P 1504

SGT 1330.6 SGR 455.8 SG3 917.9
 RRT .3474 RRF -.4421 RTF -.7490
 SGB 1408.4 R23 -.3625 R13 -.7565
 SG1 1341.0 SG2 424.1 THA 7.54

ST 32.7 SR 18.3 S8 45.1
 CRT .8280 CR8 .3113 CST .7940
 L8A 54.0 H8A 22.9 88A 1.2
 EL1 36.3 EL2 9.3 ALF 26.78

LAUNCH DATE MAY 1 1971

FLIGHT TIME 172.00

ARRIVAL DATE OCT 20 1971

HELIOCENTRIC CONIC

DISTANCE 424.998

EARTH TO MARS

RL 150.72 LAL -.00 LOL 219.99 VL 32.444 GAL -1.29 AZL 92.21 HCA 141.68 SMA 187.34 ECC .19670 INC 2.2055 V1 29.562
 RP 208.49 LAP -1.37 LOP 1.69 VP 23.763 GAP 9.33 AZP 88.27 TAL 352.15 TAP 133.82 RCA 150.49 APO 227.19 V2 26.204
 RC 95.074 GL -22.03 GP 2.83 ZAL 110.61 ZAP 135.31 ETS 177.06 ZAE 173.99 ETE 136.46 ZAC 102.97 ETC 277.63 LVI -20.47

PLANETOCENTRIC CONIC

C3 11.072 VHL 3.327 DLA -31.04 RAL 343.31 RAD 6838.6 VEL 11.452 PTH 6.50 VHP 4.016 DPA -14.79 RAP 319.20 ECC 1.1822
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 50 29 2351.45 .05 60.18 196.63 137.58 18 29 40 1351.4 18.23 43.97
 60.00 19 17 16 2120.52 5.56 44.67 201.91 129.98 19 52 37 1120.5 20.99 25.63
 70.00 21 18 30 1763.75 12.38 20.79 206.93 122.09 21 47 54 763.8 24.43 358.88
 76.65 23 51 45 1286.15 21.67 349.40 211.96 112.78 24 13 11 286.2 29.13 324.16
 76.65 23 51 45 1286.15 21.67 349.40 211.96 112.78 24 13 11 286.2 29.13 324.16
 76.65 23 51 45 1286.15 21.67 349.40 211.96 112.78 24 13 11 286.2 29.13 324.16
 110.00 2 21 52 6098.61 12.38 287.61 206.93 122.09 4 3 31 5098.6 24.43 265.70

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3132 TRA -.5769 TC3 .0429 BAU .0625
 RDE -.2078 RRA -.0046 RC3 .4196 FAU .14160
 FDE .4915 FRA 4.1826 FC-11.0719 B8P 2103
 BDE .3759 BRA .5769 BC3 .4220 F8P 1593

SGT 1279.0 SGR 454.1 SG3 968.5
 RRT .3645 RRF -.4792 RTF -.7262
 SGB 1357.2 R23 -1.960 R13 -.7362
 SG1 1290.9 SG2 418.9 THA 8.25

ST 32.1 SR 17.9 S8 46.3
 CRT .8444 CR8 .3262 CST .7786
 L8A 54.4 H8A 23.0 88A 1.2
 EL1 35.7 EL2 8.6 ALF 26.91

LAUNCH DATE MAY 1 1971

FLIGHT TIME 174.00

ARRIVAL DATE OCT 22 1971

HELIOCENTRIC CONIC

DISTANCE 429.094

EARTH TO MARS

RL 150.72 LAL -.00 LOL 219.99 VL 32.421 GAL -1.27 AZL 92.22 HCA 142.92 SMA 186.98 ECC .19499 INC 2.2229 V1 29.562
 RP 208.67 LAP -1.34 LOP 2.93 VP 23.709 GAP 9.07 AZP 88.23 TAL 352.18 TAP 135.11 RCA 150.50 APO 223.40 V2 26.264
 RC 96.986 GL -22.34 GP 2.98 ZAL 110.57 ZAP 133.54 ETS 177.07 ZAE 172.87 ETE 145.70 ZAC 103.18 ETC 277.53 LVI -20.46

PLANETOCENTRIC CONIC

C3 10.942 VHL 3.308 DLA -31.31 RAL 343.47 RAD 6838.5 VEL 11.447 PTH 6.50 VHP 3.916 DPA -14.80 RAP 318.64 ECC 1.1801
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 52 45 2342.42 .50 59.80 196.78 137.57 18 31 47 1342.4 18.66 43.54
 60.00 19 20 25 2109.14 6.06 44.12 202.10 129.92 19 55 34 1109.1 21.43 25.00
 70.00 21 24 1 1745.33 13.04 19.77 207.22 121.85 21 53 7 745.3 24.95 357.70
 75.96 23 47 31 1298.99 21.92 350.48 212.03 112.94 24 9 10 299.0 29.42 325.20
 75.96 23 47 31 1298.99 21.92 350.48 212.03 112.94 24 9 10 299.0 29.42 325.20
 75.96 23 47 31 1298.99 21.92 350.48 212.03 112.94 24 9 10 299.0 29.42 325.20
 110.00 2 27 23 6080.19 13.04 286.60 207.22 121.85 4 8 44 5080.2 24.95 264.52

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3076 TRA -.5418 TC3 -.0264 BAU .0641
 RDE -.2013 RRA -.0130 RC3 .4371 FAU .14822
 FDE .4980 FRA 4.3734 FC-11.7268 B8P 1980
 BDE .3677 BRA .5418 BC3 .4379 F8P 1686

SGT 1220.7 SGR 453.8 SG3 1020.7
 RRT .3784 RRF -.8181 RTF -.6.77
 SGB 1302.3 R23 -2.968 R13 -.7113
 SG1 1234.3 SG2 415.4 THA 9.04

ST 31.3 SR 17.4 S8 47.8
 CRT .8620 CR8 .3307 CST .7599
 L8A 54.8 H8A 23.2 88A 1.2
 EL1 35.0 EL2 7.9 ALF 27.15

LAUNCH DATE MAY 1 1971

FLIGHT TIME 176.00

ARRIVAL DATE OCT 24 1971

HELIOCENTRIC CONIC

DISTANCE 433.202

EARTH TO MARS

RL 150.72 LAL -.00 LOL 219.99 VL 32.400 GAL -1.26 AZL 92.24 HCA 144.17 SMA 186.59 ECC .19342 INC 2.2415 V1 29.562
 RP 208.85 LAP -1.31 LOP 4.18 VP 23.657 GAP 8.82 AZP 88.18 TAL 352.21 TAP 136.37 RCA 150.50 APO 222.68 V2 26.243
 RC 98.829 GL -22.64 GP 3.14 ZAL 110.54 ZAP 131.73 ETS 177.08 ZAE 171.60 ETE 151.06 ZAC 103.42 ETC 277.41 LVI -20.45

PLANETOCENTRIC CONIC

C3 10.829 VHL 3.291 DLA -31.58 RAL 343.64 RAD 6838.5 VEL 11.442 PTH 6.49 VHP 3.821 DPA -14.81 RAP 318.03 ECC 1.1782
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 55 3 2333.86 .93 59.45 196.96 137.57 18 33 57 1333.9 19.07 43.14
 60.00 19 23 36 2098.23 6.54 43.59 202.33 129.86 19 58 34 1098.2 21.86 24.39
 70.00 21 29 42 1727.01 13.70 18.76 207.55 121.60 21 58 29 727.0 25.45 356.52
 75.32 23 43 45 1310.82 22.15 351.48 212.14 113.10 24 5 36 310.8 29.69 326.15
 75.32 23 43 45 1310.82 22.15 351.48 212.14 113.10 24 5 36 310.8 29.69 326.15
 75.32 23 43 45 1310.82 22.15 351.48 212.14 113.10 24 5 36 310.8 29.69 326.15
 110.00 2 33 5 6061.87 13.70 285.58 207.55 121.60 4 14 6 5061.9 25.45 263.34

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3019 TRA -.5038 TC3 -.1049 BAU .0676
 RDE -.1950 RRA -.0218 RC3 .4549 FAU .15473
 FDE .5081 FRA 4.5728 FC-12.3699 B8P 1818
 BDE .3594 BRA .5042 BC3 .4669 F8P 1774

SGT 1158.1 SGR 454.9 SG3 1073.6
 RRT .3867 RRF -.5581 RTF -.6619
 SGB 1244.2 R23 -2.964 R13 -.6808
 SG1 1173.3 SG2 414.1 THA 9.88

ST 30.5 SR 17.0 S8 48.7
 CRT .8810 CR8 .3391 CST .7597
 L8A 55.2 H8A 23.4 88A 1.2
 EL1 34.2 EL2 7.2 ALF 27.48

LAUNCH DATE MAY 1 1971 FLIGHT TIME 178.00 ARRIVAL DATE OCT 26 1971

HELIOCENTRIC CONIC DISTANCE 437.319 EARTH TO MARS
 RL 150.72 LAL -.00 LOL 219.99 VL 32.381 GAL -1.25 AZL 92.26 HCA 145.41 SMA 186.26 ECC .19198 INC 2.2610 V1 29.562
 RP 209.04 LAP -1.28 LOP 5.42 VP 23.606 GAP 8.97 AZP 88.14 TAL 352.21 TAP 137.62 RCA 150.50 APO 222.02 V2 26.221
 RC 100.898 GL -22.95 GP 3.31 ZAL 110.53 ZAP 129.88 ETS 177.10 ZAE 170.20 ETE 155.09 ZAC 103.67 ETC 277.29 LVI -20.44

PLANETOCENTRIC CONIC
 C3 10.731 VHL 3.276 DLA -31.84 RAL 343.83 RAD 6638.4 VEL 11.438 PTH 6.49 VHP 3.732 DPA -14.83 RAP 317.38 ECC 1.1766
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 57 24 2325.74 1.34 59.11 197.18 137.56 18 36 10 1325.7 19.45 42.75
 60.00 19 26 50 2087.75 6.99 43.09 202.59 129.79 20 1 37 1087.7 22.26 23.80
 70.00 21 35 35 1708.66 14.35 17.74 207.93 121.33 22 4 4 708.7 25.95 355.32
 74.72 23 40 24 1321.85 22.38 352.42 212.29 113.27 24 2 26 321.9 29.96 327.05
 74.72 23 40 24 1321.85 22.38 352.42 212.29 113.27 24 2 26 321.9 29.96 327.05
 74.72 23 40 24 1321.85 22.38 352.42 212.29 113.27 24 2 26 321.9 29.96 327.05
 110.00 2 38 58 6043.52 14.35 284.56 207.93 121.33 4 19 41 5043.5 25.95 262.14

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2915 TRA -.4586 TC3 -.1753 BAU .0726 SGT 1079.3 SGR 457.8 SG3 1126.6 ST 29.2 SR 16.5 SS 49.6
 RDE -.1885 RRA -.0307 RC3 .4750 FAU .16204 RRT .3889 RRF -.5987 RTF -.6190 CRT .9001 CRS .3415 CST .7123
 FDE .5011 FRA 4.7569 FC-13.0723 BSP 1601 SGB 1172.4 R23 -.3423 R13 -.6457 LSA 55.1 MSA 23.4 SSA 1.1
 BDE .3472 BRA .4597 BC3 .5063 FSP 1852 SG1 1096.4 SG2 415.2 THA 10.96 EL1 32.9 EL2 6.4 ALF 28.17

LAUNCH DATE MAY 1 1971 FLIGHT TIME 180.00 ARRIVAL DATE OCT 28 1971

HELIOCENTRIC CONIC DISTANCE 441.443 EARTH TO MARS
 RL 150.72 LAL -.00 LOL 219.99 VL 32.363 GAL -1.25 AZL 92.28 HCA 146.65 SMA 185.96 ECC .19066 INC 2.2619 V1 29.562
 RP 209.24 LAP -1.25 LOP 6.66 VP 23.556 GAP 8.33 AZP 88.09 TAL 352.20 TAP 138.85 RCA 150.50 APO 221.41 V2 26.198
 RC 102.893 GL -23.25 GP 3.50 ZAL 110.55 ZAP 127.99 ETS 177.12 ZAE 168.72 ETE 158.15 ZAC 103.93 ETC 277.15 LVI -20.42

PLANETOCENTRIC CONIC
 C3 10.650 VHL 3.263 DLA -32.09 RAL 344.04 RAD 6638.4 VEL 11.434 PTH 6.49 VHP 3.647 DPA -14.84 RAP 316.69 ECC 1.1753
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 59 48 2318.12 1.72 58.79 197.43 137.55 18 38 26 1318.1 19.81 42.39
 60.00 19 30 6 2077.81 7.43 42.60 202.88 129.73 20 4 44 1077.8 22.64 23.24
 70.00 21 41 40 1690.42 15.00 16.71 208.35 121.05 22 9 50 690.4 26.43 354.12
 74.16 23 37 29 1332.11 22.58 353.30 212.48 113.43 23 59 41 332.1 30.21 327.89
 74.16 23 37 29 1332.11 22.58 353.30 212.48 113.43 23 59 41 332.1 30.21 327.89
 74.16 23 37 29 1332.11 22.58 353.30 212.48 113.43 23 59 41 332.1 30.21 327.89
 110.00 2 45 2 6025.28 15.00 283.54 208.35 121.05 4 25 27 5025.3 26.43 260.94

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2965 TRA -.4260 TC3 -.3065 BAU .0827 SGT 1044.3 SGR 462.9 SG3 1182.0 ST 29.2 SR 16.1 SS 51.3
 RDE -.1831 RRA -.0412 RC3 .4931 FAU .16779 RRT .3692 RRF -.6401 RTF -.5492 CRT .9237 CRS .3680 CST .6906
 FDE .5393 FRA 4.9917 FC-13.6400 BSP 1551 SGB 1142.3 R23 -.4264 R13 -.5842 LSA 56.4 MSA 23.8 SSA 1.1
 BDE .3485 BRA .4280 BC3 .5806 FSP 1975 SG1 1060.9 SG2 423.4 THA 11.08 EL1 32.9 EL2 5.5 ALF 27.88

LAUNCH DATE MAY 1 1971 FLIGHT TIME 182.00 ARRIVAL DATE OCT 30 1971

HELIOCENTRIC CONIC DISTANCE 445.577 EARTH TO MARS
 RL 150.72 LAL -.00 LOL 219.99 VL 32.346 GAL -1.24 AZL 92.30 HCA 147.89 SMA 185.68 ECC .18946 INC 2.3041 V1 29.562
 RP 209.44 LAP -1.22 LOP 7.89 VP 23.507 GAP 8.10 AZP 88.05 TAL 352.18 TAP 140.07 RCA 150.50 APO 220.86 V2 26.174
 RC 104.913 GL -23.58 GP 3.69 ZAL 110.58 ZAP 126.07 ETS 177.14 ZAE 167.14 ETE 160.54 ZAC 104.21 ETC 277.01 LVI -20.40

PLANETOCENTRIC CONIC
 C3 10.582 VHL 3.253 DLA -32.34 RAL 344.28 RAD 6638.3 VEL 11.431 PTH 6.48 VHP 3.568 DPA -14.85 RAP 315.96 ECC 1.1742
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 2 16 2310.87 2.09 58.48 197.72 137.54 18 40 47 1310.9 20.16 42.04
 60.00 19 33 27 2088.21 7.84 42.14 203.21 129.66 20 7 55 1068.2 23.01 22.69
 70.00 21 48 2 1671.84 15.64 15.67 208.83 120.75 22 15 54 671.8 26.90 352.89
 73.63 23 34 53 1341.86 22.78 354.14 212.70 113.59 23 57 15 341.9 30.46 328.69
 73.63 23 34 53 1341.86 22.78 354.14 212.70 113.59 23 57 15 341.9 30.46 328.69
 73.63 23 34 53 1341.86 22.78 354.14 212.70 113.59 23 57 15 341.9 30.46 328.69
 110.00 2 51 24 6008.69 15.64 282.49 208.83 120.75 4 31 31 5006.7 26.90 259.71

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2929 TRA -.3819 TC3 -.4169 BAU .0936 SGT 986.7 SGR 470.1 SG3 1236.4 ST 28.4 SR 15.7 SS 52.5
 RDE -.1774 RRA -.0517 RC3 .5139 FAU .17442 RRT .3371 RRF -.8807 RTF -.4.90 CRT .9449 CRS .3884 CST .6804
 FDE .5560 FRA 5.2027 FC-14.2693 BSP 1388 SGB 1093.0 R23 -.5125 R13 -.5152 LSA 56.9 MSA 23.9 SSA 1.1
 BDE .3425 BRA .3854 BC3 .6617 FSP 2075 SG1 1002.4 SG2 435.7 THA 11.28 EL1 32.2 EL2 4.5 ALF 28.19

LAUNCH DATE MAY 1 1971 FLIGHT TIME 184.00 ARRIVAL DATE NOV 1 1971

HELIOCENTRIC CONIC DISTANCE 449.718 EARTH TO MARS
 RL 150.72 LAL -.00 LOL 219.99 VL 32.331 GAL -1.24 AZL 92.33 HCA 149.12 SMA 185.43 ECC .18837 INC 2.3278 V1 29.562
 RP 209.66 LAP -1.19 LOP 9.13 VP 23.459 GAP 7.87 AZP 88.00 TAL 352.15 TAP 141.27 RCA 150.50 APO 220.36 V2 26.150
 RC 106.938 GL -23.87 GP 3.90 ZAL 110.62 ZAP 124.11 ETS 177.16 ZAE 165.48 ETE 162.42 ZAC 104.50 ETC 276.86 LVI -20.38

PLANETOCENTRIC CONIC
 C3 10.530 VHL 3.245 DLA -32.58 RAL 344.54 RAD 6638.3 VEL 11.429 PTH 6.48 VHP 3.494 DPA -14.85 RAP 315.18 ECC 1.1733
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 4 48 2304.01 2.43 58.20 198.04 137.53 18 43 13 1304.0 20.48 41.72
 60.00 19 36 52 2058.97 8.25 41.69 203.58 129.59 20 11 11 1059.0 23.36 22.16
 70.00 21 54 45 1652.81 16.30 14.59 209.35 120.43 22 22 18 652.8 27.38 351.61
 73.12 23 32 35 1351.28 22.97 354.95 212.97 113.76 23 55 5 351.3 30.69 329.47
 73.12 23 32 35 1351.28 22.97 354.95 212.97 113.76 23 55 5 351.3 30.69 329.47
 73.12 23 32 35 1351.28 22.97 354.95 212.97 113.76 23 55 5 351.3 30.69 329.47
 110.00 2 58 7 5987.67 16.30 281.41 209.35 120.43 4 37 55 4987.7 27.38 258.44

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2897 TRA -.3364 TC3 -.5364 BAU .1067 SGT 937.9 SGR 480.0 SG3 1291.6 ST 27.7 SR 15.3 SS 53.8
 RDE -.1718 RRA -.0630 RC3 .5360 FAU .18111 RRT .2824 RRF -.7202 RTF -.3681 CRT .9645 CRS .4071 CST .6251
 FDE .5718 FRA 5.4223 FC-14.8904 BSP 1225 SGB 1053.6 R23 -.6067 R13 -.4243 LSA 57.6 MSA 24.1 SSA 1.1
 BDE .3368 BRA .3423 BC3 .7583 FSP 2175 SG1 950.6 SG2 454.3 THA 10.70 EL1 31.4 EL2 3.6 ALF 28.47

LAUNCH DATE MAY 1 1971

FLIGHT TIME 186.00

ARRIVAL DATE NOV 3 1971

HELIOCENTRIC CONIC
 RL 150.72 LAL -.00 LOL 219.99 VL 32.318 GAL -1.25 AZL 92.35 HCA 150.35 SMA 189.20 ECC .18738 INC 2.3533 V1 29.982
 RP 209.87 LAP -1.16 LOP 10.36 VP 23.412 GAP 7.84 AZP 87.95 TAL 392.09 TAP 142.49 RCA 150.50 APO 219.90 V2 26.124
 RC 109.028 GL -24.18 GP 4.12 ZAL 110.88 ZAP 122.12 ETS 177.19 ZAE 163.76 ETE 163.93 ZAC 104.82 ETC 276.70 LVI -20.36

DISTANCE 493.866 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 10.493 VHL 3.239 DLA -32.81 RAL 344.82 RAD 8638.3 VEL 11.427 PTH 6.48 VHP 3.424 DPA -14.84 RAP 314.37 ECC 1.1727
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 7 28 2297.47 2.76 57.92 198.40 137.52 18 45 43 1297.5 20.79 41.40
 60.00 19 40 24 2050.04 8.63 41.25 203.99 129.52 20 14 34 1050.0 23.70 21.65
 70.00 22 1 55 1633.03 16.98 13.46 209.93 120.09 22 29 8 633.0 27.86 350.28
 72.63 23 30 30 1360.42 23.14 355.73 213.27 113.93 23 53 10 360.4 30.92 330.22
 72.63 23 30 30 1360.42 23.14 355.73 213.27 113.93 23 53 10 360.4 30.92 330.22
 72.63 23 30 30 1360.42 23.14 355.73 213.27 113.93 23 53 10 360.4 30.92 330.22
 110.00 3 5 18 5967.89 16.98 280.28 209.93 120.09 4 44 45 4967.9 27.86 257.10

MID-COURSE EXECUTION ACCURACY
 SGT 897.7 SGR 492.7 SG3 1345.8
 RRT .2013 RRF -.7578 RTF -.2433
 SGB 1024.1 R23 -.7015 R13 -.3013
 SG1 905.4 SG2 478.6 THA 8.77

ORBIT DETERMINATION ACCURACY
 ST 26.9 SR 14.9 SS 55.1
 CRT .9813 CR8 .4319 CST .3847
 LSA 58.2 MSA 24.3 SSA 1.0
 EL1 30.6 EL2 2.5 ALF 28.77

LAUNCH DATE MAY 1 1971

FLIGHT TIME 188.00

ARRIVAL DATE NOV 5 1971

HELIOCENTRIC CONIC
 RL 150.72 LAL -.00 LOL 219.99 VL 32.305 GAL -1.25 AZL 92.38 HCA 151.98 SMA 184.99 ECC .18649 INC 2.3806 V1 29.982
 RP 210.10 LAP -1.13 LOP 11.59 VP 23.365 GAP 7.42 AZP 87.91 TAL 352.03 TAP 143.61 RCA 150.50 APO 219.49 V2 26.098
 RC 111.121 GL -24.50 GP 4.36 ZAL 110.78 ZAP 120.10 ETS 177.22 ZAE 161.98 ETE 165.14 ZAC 105.15 ETC 276.53 LVI -20.34

DISTANCE 458.020 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 10.466 VHL 3.235 DLA -33.04 RAL 345.13 RAD 8638.3 VEL 11.426 PTH 6.48 VHP 3.360 DPA -14.83 RAP 313.52 ECC 1.1722
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 10 9 2291.22 3.08 57.66 198.79 137.50 18 48 21 1291.2 21.09 41.10
 60.00 19 44 2 2041.34 9.01 40.82 204.44 129.45 20 18 4 1041.3 24.03 21.14
 70.00 22 9 42 1612.00 17.70 12.24 210.58 119.70 22 36 34 612.0 28.36 348.84
 72.15 23 28 41 1369.34 23.31 356.50 213.62 114.11 23 51 30 369.3 31.15 330.96
 72.15 23 28 41 1369.34 23.31 356.50 213.62 114.11 23 51 30 369.3 31.15 330.96
 72.15 23 28 41 1369.34 23.31 356.50 213.62 114.11 23 51 30 369.3 31.15 330.96
 110.00 3 13 4 5946.85 17.70 279.07 210.58 119.70 4 52 11 4946.9 28.36 255.66

MID-COURSE EXECUTION ACCURACY
 SGT 860.4 SGR 508.7 SG3 1399.3
 RRT .0903 RRF -.7932 RTF -.0922
 SGB 999.5 R23 -.7828 R13 -.1297
 SG1 862.3 SG2 505.5 THA 4.66

ORBIT DETERMINATION ACCURACY
 ST 25.8 SR 14.5 SS 56.0
 CRT .9930 CR8 .4535 CST .5315
 LSA 58.5 MSA 24.3 SSA 1.0
 EL1 29.6 EL2 1.5 ALF 29.25

LAUNCH DATE MAY 1 1971

FLIGHT TIME 190.00

ARRIVAL DATE NOV 7 1971

HELIOCENTRIC CONIC
 RL 150.72 LAL -.00 LOL 219.99 VL 32.294 GAL -1.26 AZL 92.41 HCA 152.81 SMA 184.81 ECC .18569 INC 2.4102 V1 29.982
 RP 210.33 LAP -1.10 LOP 12.82 VP 23.320 GAP 7.20 AZP 87.86 TAL 351.94 TAP 144.75 RCA 150.49 APO 219.13 V2 26.071
 RC 113.239 GL -24.83 GP 4.62 ZAL 110.66 ZAP 118.06 ETS 177.26 ZAE 160.14 ETE 166.12 ZAC 105.50 ETC 276.36 LVI -20.33

DISTANCE 462.179 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 10.456 VHL 3.234 DLA -33.28 RAL 345.46 RAD 8638.3 VEL 11.426 PTH 6.48 VHP 3.301 DPA -14.80 RAP 312.64 ECC 1.1721
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 13 0 2285.28 3.37 57.41 199.23 137.49 18 51 5 1285.3 21.36 40.81
 60.00 19 47 49 2032.90 9.37 40.41 204.94 129.38 20 21 42 1032.9 24.34 20.65
 70.00 22 18 18 1989.27 18.46 10.92 211.31 119.26 22 44 45 589.3 28.87 347.27
 71.69 23 27 5 1378.15 23.47 357.26 214.02 114.29 23 50 4 378.2 31.36 331.70
 71.69 23 27 5 1378.15 23.47 357.26 214.02 114.29 23 50 4 378.2 31.36 331.70
 71.69 23 27 5 1378.15 23.47 357.26 214.02 114.29 23 50 4 378.2 31.36 331.70
 110.00 3 21 38 5924.12 18.46 277.74 211.31 119.26 5 0 22 4924.1 28.87 254.10

MID-COURSE EXECUTION ACCURACY
 SGT 878.4 SGR 527.7 SG3 1451.2
 RRT -.0422 RRF -.8255 RTF .1086
 SGB 1024.7 R23 .8214 R13 -.0881
 SG1 878.8 SG2 527.0 THA 177.73

ORBIT DETERMINATION ACCURACY
 ST 25.6 SR 14.2 SS 57.6
 CRT .9970 CR8 .4939 CST .4864
 LSA 59.8 MSA 24.6 SSA 1.0
 EL1 29.3 EL2 1.0 ALF 28.99

LAUNCH DATE MAY 1 1971

FLIGHT TIME 192.00

ARRIVAL DATE NOV 9 1971

HELIOCENTRIC CONIC
 RL 150.72 LAL -.00 LOL 219.99 VL 32.284 GAL -1.27 AZL 92.44 HCA 154.03 SMA 184.64 ECC .18499 INC 2.4423 V1 29.982
 RP 210.57 LAP -1.07 LOP 14.04 VP 23.275 GAP 6.99 AZP 87.80 TAL 351.85 TAP 145.88 RCA 150.49 APO 218.80 V2 26.044
 RC 115.360 GL -25.17 GP 4.89 ZAL 110.97 ZAP 115.99 ETS 177.31 ZAE 158.25 ETE 166.92 ZAC 105.87 ETC 276.18 LVI -20.32

DISTANCE 466.343 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 10.480 VHL 3.234 DLA -33.51 RAL 345.82 RAD 8638.3 VEL 11.426 PTH 6.48 VHP 3.246 DPA -14.75 RAP 311.73 ECC 1.1721
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 15 58 2279.51 3.66 57.17 199.71 137.47 18 53 58 1279.5 21.64 40.53
 60.00 19 51 46 2024.51 9.74 40.00 205.48 129.30 20 25 30 1024.5 24.65 20.16
 70.00 22 28 6 1563.32 19.31 9.40 212.14 118.73 22 54 9 563.3 29.44 345.47
 71.23 23 25 40 1387.05 23.62 358.02 214.46 114.49 23 48 47 387.0 31.58 332.44
 71.23 23 25 40 1387.05 23.62 358.02 214.46 114.49 23 48 47 387.0 31.58 332.44
 71.23 23 25 40 1387.05 23.62 358.02 214.46 114.49 23 48 47 387.0 31.58 332.44
 110.00 3 31 28 5898.18 19.31 276.22 212.14 118.73 5 9 46 4898.2 29.44 252.29

MID-COURSE EXECUTION ACCURACY
 SGT 902.8 SGR 550.5 SG3 1501.6
 RRT -.1878 RRF -.8546 RTF .2344
 SGB 1057.4 R23 .7967 R13 -.3183
 SG1 911.9 SG2 535.3 THA 169.98

ORBIT DETERMINATION ACCURACY
 ST 25.0 SR 13.9 SS 58.8
 CRT .9901 CR8 .5295 CST .4260
 LSA 60.5 MSA 24.8 SSA .9
 EL1 28.6 EL2 1.7 ALF 28.97

LAUNCH DATE MAY 1 1971

FLIGHT TIME 194.00

ARRIVAL DATE NOV 11 1971

HELIOCENTRIC CONIC

RL 150.72 LAL -.00 LOL 219.99 VL 32.275 GAL -1.28 AZL 92.48 HCA 155.25 SMA 184.50 ECC .18437 INC 2.4772 V1 29.562
RP 210.82 LAP -1.04 LOP 15.26 VP 23.231 GAP 6.78 AZP 87.75 TAL 351.73 TAP 146.99 RCA 150.48 APO 218.31 V2 26.015
RC 117.545 GL -25.52 GP 5.19 ZAL 111.09 ZAP 113.90 ETS 177.37 ZAE 156.32 ETE 167.58 ZAC 106.26 ETC 275.99 LVI -20.33

DISTANCE 470.512

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 10.478 VHL 3.237 DLA -33.75 RAL 346.22 RAD 6638.3 VEL 11.427 PTH 6.48 VHP 3.196 DPA -14.69 RAP 310.80 ECC -1.1724
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 19 6 2273.88 3.95 56.94 200.24 137.45 18 57 0 1273.9 21.90 40.25
60.00 19 55 56 2016.13 10.10 39.58 206.08 129.23 20 29 32 1016.1 24.96 19.67
70.00 22 40 0 1531.76 20.34 7.52 213.12 118.05 23 5 32 531.8 30.09 343.24
70.76 23 24 23 1396.10 23.77 358.80 214.96 114.69 23 47 39 396.1 31.80 333.19
70.76 23 24 23 1396.10 23.77 358.80 214.96 114.69 23 47 39 396.1 31.80 333.19
70.76 23 24 23 1396.10 23.77 358.80 214.96 114.69 23 47 39 396.1 31.80 333.19
110.00 3 43 22 5866.61 20.34 274.34 213.12 118.05 5 21 9 4866.6 30.09 250.06

DIFFERENTIAL CORRECTIONS

TDE -.2765 TRA -.0649 TC3-1.2505 BAU .1985
RDE -.1467 RRA -.1326 RC3 .6660 FAU .21180
FDE .6906 FRA 6.5038 FC-17.5002 BSP .883
BDE .3130 BRA .1476 BC3 1.4168 FSP 2643

MID-COURSE EXECUTION ACCURACY

SGT 956.1 SGR 577.1 SG3 1549.3
RRR -.3316 RRF -.8804 RTF .3884
SGB 1116.7 R23 .7275 R13 -.5061
SG1 983.3 SG2 529.3 THA 163.90

ORBIT DETERMINATION ACCURACY

ST 24.6 SR 13.7 SS 60.0
CRT .9689 CRS .5671 CST .3569
LSA 61.3 MSA 25.0 SSA .9
EL1 28.0 EL2 3.0 ALF 28.67

LAUNCH DATE MAY 1 1971

FLIGHT TIME 196.00

ARRIVAL DATE NOV 13 1971

HELIOCENTRIC CONIC

RL 150.72 LAL -.00 LOL 219.99 VL 32.268 GAL -1.30 AZL 92.52 HCA 156.47 SMA 184.37 ECC .18384 INC 2.5156 V1 29.562
RP 211.07 LAP -1.00 LOP 16.48 VP 23.188 GAP 6.57 AZP 87.69 TAL 351.61 TAP 148.08 RCA 150.47 APO 218.26 V2 25.986
RC 119.734 GL -25.90 GP 5.51 ZAL 111.23 ZAP 111.80 ETS 177.44 ZAE 154.35 ETE 168.11 ZAC 106.67 ETC 275.79 LVI -20.34

DISTANCE 474.684

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 10.510 VHL 3.242 DLA -34.00 RAL 346.64 RAD 6638.3 VEL 11.428 PTH 6.48 VHP 3.151 DPA -14.59 RAP 309.84 ECC 1.1730
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 22 26 2268.31 4.22 56.70 200.81 137.43 19 0 15 1268.3 22.16 39.98
60.00 20 0 21 2007.61 10.46 39.16 206.73 129.14 20 33 49 1007.6 25.27 19.16
70.00 22 56 33 1486.77 21.75 4.80 214.36 117.00 23 21 20 486.8 30.94 340.01
70.30 23 23 13 1405.42 23.92 359.60 215.50 114.91 23 46 38 405.4 32.02 333.97
70.30 23 23 13 1405.42 23.92 359.60 215.50 114.91 23 46 38 405.4 32.02 333.97
70.30 23 23 13 1405.42 23.92 359.60 215.50 114.91 23 46 38 405.4 32.02 333.97
110.00 3 59 55 5821.63 21.75 271.62 214.36 117.00 5 36 57 4821.6 30.94 246.83

DIFFERENTIAL CORRECTIONS

TDE -.2744 TRA -.0024 TC3-1.4125 BAU .2213
RDE -.1424 RRA -.1501 RC3 .6961 FAU .21684
FDE .7220 FRA 6.7159 FC-17.8610 BSP 1048
BDE .3092 BRA .1501 BC3 1.5747 FSP 2731

MID-COURSE EXECUTION ACCURACY

SGT 1036.3 SGR 607.8 SG3 1594.8
RRR -.4599 RRF -.9028 RTF .5183
SGB 1201.4 R23 .6506 R13 -.6365
SG1 1085.3 SG2 515.4 THA 160.28

ORBIT DETERMINATION ACCURACY

ST 24.3 SR 13.5 SS 61.2
CRT .9300 CRS .6089 CST .2821
LSA 62.3 MSA 25.3 SSA .8
EL1 27.4 EL2 4.4 ALF 28.10

LAUNCH DATE MAY 1 1971

FLIGHT TIME 198.00

ARRIVAL DATE NOV 15 1971

HELIOCENTRIC CONIC

RL 150.72 LAL -.00 LOL 219.99 VL 32.261 GAL -1.32 AZL 92.56 HCA 157.69 SMA 184.25 ECC .18338 INC 2.5575 V1 29.562
RP 211.33 LAP -.97 LOP 17.70 VP 23.145 GAP 6.37 AZP 87.63 TAL 351.47 TAP 149.16 RCA 150.47 APO 218.04 V2 25.957
RC 121.945 GL -26.29 GP 5.86 ZAL 111.38 ZAP 109.69 ETS 177.51 ZAE 152.35 ETE 168.54 ZAC 107.12 ETC 275.60 LVI -20.38

DISTANCE 478.860

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 10.558 VHL 3.249 DLA -34.25 RAL 347.09 RAD 6638.3 VEL 11.430 PTH 6.48 VHP 3.111 DPA -14.47 RAP 308.86 ECC 1.1730
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 26 0 2262.70 4.51 56.47 201.45 137.41 19 3 42 1262.7 22.42 39.70
60.00 20 5 7 1998.80 10.84 38.72 207.45 129.06 20 38 25 998.8 25.60 18.84
69.82 23 22 8 1415.16 24.06 .43 216.10 115.15 23 45 43 415.2 32.24 334.79
69.82 23 22 8 1415.16 24.06 .43 216.10 115.15 23 45 43 415.2 32.24 334.79
69.82 23 22 8 1415.16 24.06 .43 216.10 115.15 23 45 43 415.2 32.24 334.79
69.82 23 22 8 1415.16 24.06 .43 216.10 115.15 23 45 43 415.2 32.24 334.79
69.82 23 22 8 1415.16 24.06 .47 216.10 115.15 23 45 43 415.2 32.24 334.79

DIFFERENTIAL CORRECTIONS

TDE -.2724 TRA .0632 TC3-1.5777 BAU .2453
RDE -.1382 RRA -.1888 RC3 .7290 FAU .22189
FDE .7487 FRA 6.9114 FC-18.1903 BSP 1274
BDE .3055 BRA .1802 BC3 1.7380 FSP 2805

MID-COURSE EXECUTION ACCURACY

SGT 1140.3 SGR 643.0 SG3 1636.8
RRR -.5890 RRF -.9220 RTF .5.37
SGB 1309.1 R23 .5802 R13 -.7266
SG1 1210.6 SG2 498.0 THA 158.37

ORBIT DETERMINATION ACCURACY

ST 24.2 SR 13.3 SS 62.2
CRT .8706 CRS .6510 CST .1988
LSA 63.1 MSA 25.5 SSA .8
EL1 27.0 EL2 5.9 ALF 27.08

LAUNCH DATE MAY 1 1971

FLIGHT TIME 200.00

ARRIVAL DATE NOV 17 1971

HELIOCENTRIC CONIC

RL 150.72 LAL -.00 LOL 219.99 VL 32.255 GAL -1.34 AZL 92.80 HCA 158.90 SMA 184.16 ECC .18300 INC 2.6041 V1 29.562
RP 211.60 LAP -.94 LOP 18.91 VP 23.103 GAP 6.17 AZP 87.57 TAL 351.31 TAP 150.21 RCA 150.46 APO 217.86 V2 25.928
RC 124.177 GL -28.71 GP 6.25 ZAL 111.54 ZAP 107.58 ETS 177.60 ZAE 150.31 ETE 168.88 ZAC 107.59 ETC 275.40 LVI -20.44

DISTANCE 483.039

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 10.623 VHL 3.259 DLA -34.53 RAL 347.58 RAD 6638.4 VEL 11.433 PTH 6.48 VHP 3.076 DPA -14.32 RAP 307.88 ECC 1.1748
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 29 50 2256.96 4.79 56.22 202.14 137.39 19 7 26 1257.0 22.69 39.41
60.00 20 10 16 1989.51 11.24 38.26 208.24 128.96 20 43 26 989.5 25.93 18.08
69.31 23 21 6 1425.46 24.20 1.31 216.77 115.41 23 44 52 425.5 32.48 335.66
69.31 23 21 6 1425.46 24.20 1.31 216.77 115.41 23 44 52 425.5 32.48 335.66
69.31 23 21 6 1425.46 24.20 1.31 216.77 115.41 23 44 52 425.5 32.48 335.66
69.31 23 21 6 1425.46 24.20 1.31 216.77 115.41 23 44 52 425.5 32.48 335.66
69.31 23 21 6 1425.46 24.20 1.31 216.77 115.41 23 44 52 425.5 32.48 335.66

DIFFERENTIAL CORRECTIONS

TDE -.2709 TRA .1316 TC3-1.7439 BAU .2704
RDE -.1345 RRA -.1895 RC3 .7837 FAU .22629
FDE .7858 FRA 7.1066 FC-18.4411 BSP 1546
BDE .3024 BRA .2307 BC3 1.9038 FSP 2880

MID-COURSE EXECUTION ACCURACY

SGT 1264.1 SGR 683.5 SG3 1676.1
RRR -.6511 RRF -.9382 RTF .7041
SGB 1437.1 R23 .5215 R13 -.7687
SG1 1353.7 SG2 481.6 THA 157.46

ORBIT DETERMINATION ACCURACY

ST 24.2 SR 13.3 SS 63.4
CRT .7895 CRS .6963 CST .1134
LSA 64.1 MSA 25.8 SSA .7
EL1 26.6 EL2 7.4 ALF 25.58

LAUNCH DATE MAY 1 1971

FLIGHT TIME 202.00

ARRIVAL DATE NOV 10 1971

Heliocentric Conic: RL 150.72 LAL -.00 LOL 219.99 VL 32.250 GAL -1.39 AZL 92.66 HCA 160.11 SMA 184.08 ECC .18269 INC 2.6557 V1 29.582
 RP 211.87 LAP -.90 LOP 20.12 VP 23.061 GAP 5.97 AZP 87.50 TAL 351.14 TAP 151.25 RCA 150.45 APO 217.70 V2 25.896
 RC 126.431 GL -27.17 GP 6.67 ZAL 111.70 ZAP 105.46 ETS 177.71 ZAE 148.25 ETE 169.16 ZAC 108.10 ETC 275.19 LVI -20.52

Planetary Corrections: C3 10.706 VHL 3.272 DLA -34.82 RAL 348.11 RAD 6638.4 VEL 11.437 PTH 6.49 VHP 3.045 DPA -14.12 RAP 306.85 ECC 1.1782
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 33 59 2230.94 5.10 55.97 202.91 137.37 19 11 30 1250.9 22.97 39.11
 60.00 20 15 56 1979.48 11.67 37.78 209.12 128.85 20 48 55 979.5 26.29 17.48
 66.78 23 20 6 1436.47 24.35 2.25 217.51 115.70 23 44 2 436.5 32.73 336.59
 68.78 23 20 6 1436.47 24.35 2.25 217.51 115.70 23 44 2 436.5 32.73 336.59
 68.78 23 20 6 1436.47 24.35 2.25 217.51 115.70 23 44 2 436.5 32.73 336.59
 68.78 23 20 6 1436.47 24.35 2.25 217.51 115.70 23 44 2 436.5 32.73 336.59
 68.78 23 20 6 1436.47 24.35 2.25 217.51 115.70 23 44 2 436.5 32.73 336.59

Differential Corrections: TDE -.2695 TRA .2032 TC3-1.9127 BAU .2968 SGT 1406.2 SGR 728.4 SG3 1708.8 ST 24.5 SR 13.3 SS 64.2
 RDE -.1307 RRA -.2113 RC3 .8013 FAU .23045 RRT -.7281 RRF -.9516 RTF .7664 CRT .6872 CRS .7387 CST .0212
 FDE .8099 FRA 7.2697 FC-18.6380 BSP 1844 SGB 1583.6 R23 .4712 R13 -.8340 LSA 64.9 MSA 26.1 SSA .7
 BDE .2995 BRA .2932 BC3 2.0738 FSP 2937 SGI 1513.7 SG2 465.3 THA 157.10 EL1 26.4 EL2 9.0 ALF 23.29

LAUNCH DATE MAY 1 1971

FLIGHT TIME 204.00

ARRIVAL DATE NOV 21 1971

Heliocentric Conic: RL 150.72 LAL -.00 LOL 219.99 VL 32.248 GAL -1.39 AZL 92.71 HCA 161.32 SMA 184.01 ECC .18245 INC 2.7139 V1 29.562
 RP 212.14 LAP -.87 LOP 21.32 VP 23.020 GAP 5.78 AZP 87.43 TAL 350.96 TAP 152.28 RCA 150.44 APO 217.58 V2 25.864
 RC 126.706 GL -27.66 GP 7.14 ZAL 111.87 ZAP 103.35 ETS 177.83 ZAE 146.17 ETE 169.35 ZAC 108.65 ETC 274.99 LVI -20.65

Planetary Corrections: C3 10.808 VHL 3.288 DLA -35.15 RAL 348.68 RAD 6638.5 VEL 11.441 PTH 6.49 VHP 3.019 DPA -13.87 RAP 305.84 ECC 1.1779
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 38 34 2244.49 5.42 55.70 203.75 137.34 19 15 58 1244.5 23.26 38.79
 60.00 20 22 14 1968.38 12.14 37.21 210.10 128.73 20 55 2 968.4 26.69 16.81
 66.20 23 19 4 1448.42 24.50 3.28 218.32 116.03 23 43 12 448.4 33.00 337.61
 68.20 23 19 4 1448.42 24.50 3.28 218.32 116.03 23 43 12 448.4 33.00 337.61
 68.20 23 19 4 1448.42 24.50 3.28 218.32 116.03 23 43 12 448.4 33.00 337.61
 68.20 23 19 4 1448.42 24.50 3.28 218.32 116.03 23 43 12 448.4 33.00 337.61
 68.20 23 19 4 1448.42 24.50 3.28 218.32 116.03 23 43 12 448.4 33.00 337.61

Differential Corrections: TDE -.2682 TRA .2779 TC3-2.0783 BAU .3239 SGT 1560.9 SGR 780.1 SG3 1739.4 ST 25.1 SR 13.5 SS 65.2
 RDE -.1279 RRA -.2361 RC3 .8408 FAU .23377 RRT -.7795 RRF -.9627 RTF .6121 CRT .5667 CRS .7833 CST -.0656
 FDE .8543 FRA 7.4402 FC-18.7254 BSP 2173 SGB 1745.0 R23 .4307 R13 -.8666 LSA 66.1 MSA 26.4 SSA .7
 BDE .2972 BRA .3647 BC3 2.2419 FSP 3000 SGI 1685.3 SG2 452.6 THA 156.96 EL1 26.5 EL2 10.5 ALF 20.31

LAUNCH DATE MAY 1 1971

FLIGHT TIME 206.00

ARRIVAL DATE NOV 23 1971

Heliocentric Conic: RL 150.72 LAL -.00 LOL 219.99 VL 32.242 GAL -1.42 AZL 92.78 HCA 162.52 SMA 183.95 ECC .18227 INC 2.7793 V1 29.562
 RP 212.43 LAP -.83 LOP 22.53 VP 22.979 GAP 5.59 AZP 87.35 TAL 350.76 TAP 153.28 RCA 150.42 APO 217.48 V2 25.832
 RC 130.999 GL -28.21 GP 7.66 ZAL 112.04 ZAP 101.24 ETS 177.97 ZAE 144.08 ETE 169.48 ZAC 109.26 ETC 274.79 LVI -20.82

Planetary Corrections: C3 10.932 VHL 3.308 DLA -35.51 RAL 349.30 RAD 6638.5 VEL 11.446 PTH 6.50 VHP 2.997 DPA -13.56 RAP 304.82 ECC 1.1799
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 43 38 2237.40 5.77 55.40 204.70 137.31 19 20 55 1237.4 23.59 38.43
 60.00 20 29 21 1955.80 12.68 36.57 211.20 128.58 21 1 57 955.8 27.13 16.04
 67.57 23 18 0 1461.37 24.66 4.39 219.22 116.39 23 42 22 461.4 33.29 338.71
 67.57 23 18 0 1461.37 24.66 4.39 219.22 116.39 23 42 22 461.4 33.29 338.71
 67.57 23 18 0 1461.37 24.66 4.39 219.22 116.39 23 42 22 461.4 33.29 338.71
 67.57 23 18 0 1461.37 24.66 4.39 219.22 116.39 23 42 22 461.4 33.29 338.71
 67.57 23 18 0 1461.37 24.66 4.39 219.22 116.39 23 42 22 461.4 33.29 338.71

Differential Corrections: TDE -.2578 TRA .3547 TC3-2.2448 BAU .3525 SGT 1728.7 SGR 837.8 SG3 1763.5 ST 25.9 SR 13.8 SS 66.0
 RDE -.1252 RRA -.2633 RC3 .8826 FAU .23643 RRT -.8209 RRF -.9716 RTF .2.63 CRT .4335 CRS .8238 CST -.1517
 FDE .8874 FRA 7.5881 FC-18.7237 BSP 2513 SGB 1921.0 R23 .3976 R13 -.8906 LSA 67.1 MSA 26.8 SSA .6
 BDE .2956 BRA .4417 BC3 2.4119 FSP 3048 SGI 1869.4 SG2 442.5 THA 156.94 EL1 26.8 EL2 12.0 ALF 16.32

LAUNCH DATE MAY 1 1971

FLIGHT TIME 208.00

ARRIVAL DATE NOV 25 1971

Heliocentric Conic: RL 150.72 LAL -.00 LOL 219.99 VL 32.240 GAL -1.45 AZL 92.85 HCA 163.72 SMA 183.91 ECC .18216 INC 2.8542 V1 29.562
 RP 212.72 LAP -.80 LOP 23.73 VP 22.939 GAP 5.40 AZP 87.26 TAL 350.55 TAP 154.27 RCA 150.41 APO 217.41 V2 25.799
 RC 133.312 GL -28.82 GP 8.24 ZAL 112.21 ZAP 99.15 ETS 178.14 ZAE 141.97 ETE 169.55 ZAC 109.92 ETC 274.59 LVI -21.05

Planetary Corrections: C3 11.082 VHL 3.329 DLA -35.92 RAL 349.98 RAD 6638.6 VEL 11.453 PTH 6.50 VHP 2.980 DPA -13.18 RAP 303.80 ECC 1.1824
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 49 20 2229.41 6.17 55.06 205.75 137.27 19 26 29 1229.4 23.96 38.03
 60.00 20 37 33 1941.10 13.30 35.83 212.45 128.40 21 9 54 941.1 27.64 15.13
 66.87 23 16 50 1475.76 24.84 5.63 220.23 116.82 23 41 25 475.8 33.63 339.95
 66.87 23 16 50 1475.76 24.84 5.63 220.23 116.82 23 41 25 475.8 33.63 339.95
 66.87 23 16 50 1475.76 24.84 5.63 220.23 116.82 23 41 25 475.8 33.63 339.95
 66.87 23 16 50 1475.76 24.84 5.63 220.23 116.82 23 41 25 475.8 33.63 339.95
 66.87 23 16 50 1475.76 24.84 5.63 220.23 116.82 23 41 25 475.8 33.63 339.95

Differential Corrections: TDE -.2667 TRA .4357 TC3-2.4020 BAU .3815 SGT 1904.1 SGR 903.8 SG3 1783.3 ST 26.9 SR 14.2 SS 66.9
 RDE -.1233 RRA -.2940 RC3 .9273 FAU .23828 RRT -.8534 RRF -.9787 RTF .8726 CRT .2912 CRS .8618 CST -.2326
 FDE .9310 FRA 7.7294 FC-18.6149 BSP 2882 SGB 2107.6 R23 .3689 R13 -.9094 LSA 68.3 MSA 27.1 SSA .6
 BDE .2939 BRA .5256 BC3 2.5748 FSP 3087 SGI 2062.2 SG2 434.9 THA 156.86 EL1 27.4 EL2 13.4 ALF 11.50

LAUNCH DATE MAY 1 1971

FLIGHT TIME 210.00

ARRIVAL DATE NOV 27 1971

Heliocentric Conic: RL 150.72 LAL -.00 LOL 219.99 VL 32.238 GAL -1.49 AZL 92.94 HCA 164.92 SMA 183.88 ECC .18211 INC 2.9400 V1 29.562
 RP 213.01 LAP -.78 LOP 24.92 VP 22.899 GAP 5.22 AZP 87.16 TAL 350.33 TAP 155.25 RCA 150.39 APO 217.37 V2 25.766
 RC 135.643 GL -29.51 GP 8.91 ZAL 112.37 ZAP 97.08 ETS 178.33 ZAE 139.86 ETE 169.55 ZAC 110.66 ETC 274.39 LVI -21.36

Planeto-centric Conic: C3 11.261 VHL 3.356 DLA -36.38 RAL 350.72 RAD 6638.7 VEL 11.461 PTH 6.51 VHP 2.968 DPA -12.72 RAP 302.78 ECC 1.1853
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 55 49 2220.20 6.63 54.67 206.95 137.22 19 32 50 1220.2 24.38 37.56
 60.00 20 47 11 1923.45 14.05 34.93 213.89 128.17 21 19 14 923.4 28.25 14.03
 66.09 23 15 30 1491.86 25.04 7.03 221.37 117.31 23 40 22 491.9 34.00 341.35
 66.09 23 15 30 1491.86 25.04 7.03 221.37 117.31 23 40 22 491.9 34.00 341.35
 36.09 23 15 30 1491.86 25.04 7.03 221.37 117.31 23 40 22 491.9 34.00 341.35
 66.09 23 15 30 1491.86 25.04 7.03 221.37 117.31 23 40 22 491.9 34.00 341.35
 66.09 23 15 30 1491.86 25.04 7.03 221.37 117.31 23 40 22 491.9 34.00 341.35

Differential Corrections: TDE -.2675 TRA .5184 TC3-2.5558 BAU .4120
 RDE -.1216 RRA -.3276 RC3 .9776 FAU .23999
 FDE .9609 FRA 7.8328 FC-18.4492 BSP 3250
 BDE .2938 BRA .6132 BC3 2.7364 FSP 3110

Mid-course Execution Accuracy: SGT 2088.0 SGR 977.9 SG3 1795.7
 RRT -.8789 RRF -.9844 RTF .8930
 SGB 2305.6 R23 .3442 R13 -.9241
 SG1 2265.2 SG2 430.1 THA 156.74

Orbit Determination Accuracy: ST 28.3 SR 14.7 SS 67.4
 CRT .1501 CRS .8942 CST -.3070
 LSA 69.3 MSA 27.6 SSA .5
 EL1 28.4 EL2 14.5 ALF 6.06

LAUNCH DATE MAY 1 1971

FLIGHT TIME 212.00

ARRIVAL DATE NOV 29 1971

Heliocentric Conic: RL 150.72 LAL -.00 LOL 219.99 VL 32.237 GAL -1.52 AZL 93.04 HCA 166.11 SMA 183.86 ECC .18211 INC 3.0402 V1 29.562
 RP 213.31 LAP -.73 LOP 26.11 VP 22.859 GAP 5.04 AZP 87.05 TAL 350.10 TAP 156.21 RCA 150.38 APO 217.35 V2 25.732
 RC 137.991 GL -30.30 GP 9.67 ZAL 112.51 ZAP 95.03 ETS 178.56 ZAE 137.74 ETE 169.48 ZAC 111.49 ETC 274.20 LVI -21.726

Planeto-centric Conic: C3 11.478 VHL 3.388 DLA -36.93 RAL 351.55 RAD 6638.8 VEL 11.470 PTH 6.52 VHP 2.961 DPA -12.14 RAP 301.76 ECC 1.1889
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 3 20 2209.31 7.18 54.21 208.33 137.16 19 40 10 1209.3 24.88 37.00
 60.00 20 58 49 1901.49 14.97 33.81 215.59 127.87 21 30 30 901.5 28.99 12.64
 65.19 23 14 1 1509.88 25.26 8.62 222.65 117.89 23 39 11 509.9 34.44 342.94
 65.19 23 14 1 1509.88 25.26 8.62 222.65 117.89 23 39 11 509.9 34.44 342.94
 65.19 23 14 1 1509.88 25.26 8.62 222.65 117.89 23 39 11 509.9 34.44 342.94
 65.19 23 14 1 1509.88 25.26 8.62 222.65 117.89 23 39 11 509.9 34.44 342.94
 65.19 23 14 1 1509.88 25.26 8.62 222.65 117.89 23 39 11 509.9 34.44 342.94

Differential Corrections: TDE -.2686 TRA .6048 TC3-2.6983 BAU .4432
 RDE -.1212 RRA -.3667 RC3 1.0301 FAU .24033
 FDE 1.0057 FRA 7.9319 FC-18.1272 BSP 3641
 BDE .2947 BRA .7073 BC3 2.8883 FSP 3130

Mid-course Execution Accuracy: SGT 2277.4 SGR 1063.5 SG3 1802.8
 RRT -.8983 RRF -.9887 RTF .9082
 SGB 2313.5 R23 .3240 R13 -.9353
 SG1 2476.5 SG2 429.7 THA 156.49

Orbit Determination Accuracy: ST 29.9 SR 15.5 SS 66.1
 CRT .0142 CRS .9228 CST -.3710
 LSA 70.6 MSA 28.2 SSA .5
 EL1 29.9 EL2 15.5 ALF .58

LAUNCH DATE MAY 1 1971

FLIGHT TIME 214.00

ARRIVAL DATE DEC 1 1971

Heliocentric Conic: RL 150.72 LAL -.00 LOL 219.99 VL 32.238 GAL -1.56 AZL 93.18 HCA 167.30 SMA 183.85 ECC .18217 INC 3.1583 V1 29.562
 RP 213.61 LAP -.69 LOP 27.30 VP 22.819 GAP 4.86 AZP 86.92 TAL 349.85 TAP 157.15 RCA 150.36 APO 217.35 V2 25.697
 RC 140.356 GL -31.21 GP 10.56 ZAL 112.63 ZAP 93.02 ETS 178.83 ZAE 135.61 ETE 169.34 ZAC 112.45 ETC 274.02 LVI -22.28

Planeto-centric Conic: C3 11.741 VHL 3.428 DLA -37.58 RAL 352.47 RAD 6638.9 VEL 11.481 PTH 6.53 VHP 2.959 DPA -11.44 RAP 300.74 ECC 1.1932
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 12 12 2198.12 7.83 53.65 209.94 137.08 19 48 48 1196.1 25.48 36.31
 60.00 21 13 22 1872.96 16.15 32.33 217.64 127.44 21 44 35 930.2 34.95 344.76
 64.15 23 12 22 1530.25 25.51 10.42 224.13 118.58 23 37 53 530.2 34.95 344.76
 64.15 23 12 22 1530.25 25.51 10.42 224.13 118.58 23 37 53 530.2 34.95 344.76
 64.15 23 12 22 1530.25 25.51 10.42 224.13 118.58 23 37 53 530.2 34.95 344.76
 64.15 23 12 22 1530.25 25.51 10.42 224.13 118.58 23 37 53 530.2 34.95 344.76
 64.15 23 12 22 1530.25 25.51 10.42 224.13 118.58 23 37 53 530.2 34.95 344.76

Differential Corrections: TDE -.2714 TRA .6940 TC3-2.8290 BAU .4759
 RDE -.1215 RRA -.4111 RC3 1.0899 FAU .24043
 FDE 1.0417 FRA 7.9950 FC-17.7287 BSP 4038
 BDE .2974 BRA .8066 BC3 3.0317 FSP 3131

Mid-course Execution Accuracy: SGT 2471.5 SGR 1182.5 SG3 1802.5
 RRT -.9139 RRF -.9921 RTF .5205
 SGB 2731.3 R23 .3052 R13 -.9446
 SG1 2696.8 SG2 432.6 THA 156.09

Orbit Determination Accuracy: ST 31.7 SR 16.3 SS 66.6
 CRT -.1114 CRS .9498 CST -.4272
 LSA 71.8 MSA 28.8 SSA .4
 EL1 31.8 EL2 16.4 ALF 175.46

LAUNCH DATE MAY 1 1971

FLIGHT TIME 216.00

ARRIVAL DATE DEC 3 1971

Heliocentric Conic: RL 150.72 LAL -.00 LOL 219.99 VL 32.237 GAL -1.60 AZL 93.30 HCA 168.48 SMA 183.88 ECC .18228 INC 3.3003 V1 29.562
 RP 213.92 LAP -.66 LOP 28.49 VP 22.780 GAP 4.68 AZP 86.77 TAL 349.59 TAP 158.08 RCA 150.34 APO 217.37 V2 25.682
 RC 142.739 GL -32.28 GP 11.61 ZAL 112.72 ZAP 91.04 ETS 179.15 ZAE 133.48 ETE 169.10 ZAC 113.56 ETC 273.84 LVI -22.95

Planeto-centric Conic: C3 12.064 VHL 3.473 DLA -38.36 RAL 353.52 RAD 6639.1 VEL 11.495 PTH 6.54 VHP 2.963 DPA -10.56 RAP 299.73 ECC 1.1985
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 22 54 2179.77 8.65 52.95 211.85 136.97 19 59 14 1179.8 26.21 35.45
 60.00 21 32 38 1833.46 17.77 30.26 220.23 126.78 22 3 11 833.5 31.18 8.21
 62.93 23 10 28 1553.65 25.80 12.52 225.85 119.43 23 36 22 553.7 35.55 346.88
 62.93 23 10 28 1553.65 25.80 12.52 225.85 119.43 23 36 22 553.7 35.55 346.88
 62.93 23 10 28 1553.65 25.80 12.52 225.85 119.43 23 36 22 553.7 35.55 346.88
 62.93 23 10 28 1553.65 25.80 12.52 225.85 119.43 23 36 22 553.7 35.55 346.88
 62.93 23 10 28 1553.65 25.80 12.52 225.85 119.43 23 36 22 553.7 35.55 346.88
 62.93 23 10 28 1553.65 25.80 12.52 225.85 119.43 23 36 22 553.7 35.55 346.88

Differential Corrections: TDE -.2738 TRA .7885 TC3-2.9369 BAU .5088
 RDE -.1244 RRA -.4641 RC3 1.1514 FAU .23861
 FDE 1.0974 FRA 8.0496 FC-17.1231 BSP 4476
 BDE .3008 BRA .9149 BC3 3.1545 FSP 3136

Mid-course Execution Accuracy: SGT 2667.8 SGR 1278.6 SG3 1794.7
 RRT -.9259 RRF -.9946 RTF .9299
 SGB 2958.4 R23 .2889 R13 -.9520
 SG1 2925.4 SG2 440.5 THA 155.48

Orbit Determination Accuracy: ST 33.7 SR 17.9 SS 69.2
 CRT -.2255 CRS .9643 CST -.4748
 LSA 73.3 MSA 29.5 SSA .4
 EL1 34.1 EL2 17.3 ALF 170.78

LAUNCH DATE MAY 1 1971 FLIGHT TIME 226.00 ARRIVAL DATE DEC 13 1971

HELIOCENTRIC CONIC DISTANCE 537.441 EARTH TO MARS
RL 150.72 LAL -.00 LOL 219.99 VL 32.245 GAL -1.83 AZL 94.87 HCA 174.36 SMA 184.00 ECC .18357 INC 4.8695 V1 29.582
RP 215.94 LAP -.48 LOP 34.37 VP 22.588 GAP 3.85 AZP 85.15 TAL 348.14 TAP 162.50 RCA 150.23 APO 217.78 V2 25.480
RC 154.904 GL -42.86 GP 22.30 ZAL 111.47 ZAP 82.24 ETS 182.42 ZAE 122.18 ETE 165.45 ZAC 124.47 ETC 273.28 LVI -31.40
PLANETOCENTRIC CONIC
C3 16.177 VHL 4.022 DLA -46.39 RAL 3.33 RAD 6641.1 VEL 11.671 PTH 6.71 VHP 3.170 DPA -.64 RAP 294.46 ECC 1.2662
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 50 54 1927.33 20.93 41.54 236.48 133.76 22 23 1 927.3 36.64 20.43
51.56 23 1 42 1748.85 27.83 31.17 243.12 128.74 23 30 51 748.9 41.07 6.50
51.56 23 1 42 1748.85 27.83 31.17 243.12 128.74 23 30 51 748.9 41.07 6.50
51.56 23 1 42 1748.85 27.83 31.17 243.12 128.74 23 30 51 748.9 41.07 6.50
51.56 23 1 42 1748.85 27.83 31.17 243.12 128.74 23 30 51 748.9 41.07 6.50
51.56 23 1 42 1748.85 27.83 31.17 243.12 128.74 23 30 51 748.9 41.07 6.50
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3067 TRA 1.3391 TC3-2.9351 BAU .7201 SGT 3662.6 SGR 2394.0 SG3 1535.5 ST 47.0 SR 34.2 SS 69.5
RDE -.2270 RRA -.9717 RC3 1.5718 FAU .20884 RRT -.9574 RRF -.9996 RTF .9556 CRT -.5608 CRS .9993 CST -.5912
FDE 1.5644 FRA 7.3438 FC-11.1765 B8P 7045 SGB 4375.6 R23 .2099 R13 -.9773 LSA 83.4 MSA 35.4 SSA .1
BDE .3816 BRA 1.6545 BC3 3.3295 F8P 2695 SG1 4336.5 SG2 583.9 THA 147.30 EL1 52.3 EL2 25.5 ALF 149.97

LAUNCH DATE MAY 1 1971 FLIGHT TIME 228.00 ARRIVAL DATE DEC 15 1971

HELIOCENTRIC CONIC DISTANCE 541.621 EARTH TO MARS
RL 150.72 LAL -.00 LOL 219.99 VL 32.249 GAL -1.88 AZL 95.67 HCA 175.52 SMA 184.06 ECC .18396 INC 5.6641 V1 29.562
RP 215.87 LAP -.44 LOP 35.53 VP 22.550 GAP 3.66 AZP 84.35 TAL 347.82 TAP 163.35 RCA 150.20 APO 217.92 V2 25.443
RC 157.385 GL -47.37 GP 27.06 ZAL 110.31 ZAP 81.01 ETS 183.81 ZAE 119.41 ETE 163.70 ZAC 129.26 ETC 273.35 LVI -35.48
PLANETOCENTRIC CONIC
C3 16.710 VHL 4.325 DLA -49.77 RAL 7.88 RAD 6642.3 VEL 11.778 PTH 6.80 VHP 3.324 DPA 3.98 RAP 293.20 ECC 1.3079
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
47.17 23 4 53 1819.41 27.94 38.17 251.21 133.03 23 35 12 819.4 42.80 14.52
47.17 23 4 53 1819.41 27.94 38.17 251.21 133.03 23 35 12 819.4 42.80 14.52
47.17 23 4 53 1819.41 27.94 38.17 251.21 133.03 23 35 12 819.4 42.80 14.52
47.17 23 4 53 1819.41 27.94 38.17 251.21 133.03 23 35 12 819.4 42.80 14.52
47.17 23 4 53 1819.41 27.94 38.17 251.21 133.03 23 35 12 819.4 42.80 14.52
47.17 23 4 53 1819.41 27.94 38.17 251.21 133.03 23 35 12 819.4 42.80 14.52
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3075 TRA 1.4595 TC3-2.7384 BAU .8056 SGT 3639.3 SGR 2832.3 SG3 1366.5 ST 49.4 SR 41.5 SS 66.9
RDE -.3138 RRA -1.1638 RC3 1.6955 FAU .19778 RRT -.9611 RRF -.9998 RTF .9589 CRT -.5817 CRS 1.0000 CST -.5892
FDE 1.7363 FRA 6.5801 FC3-9.1517 B8P 7367 SGB 4771.0 R23 .1884 R13 -.9819 LSA 85.3 MSA 36.9 SSA .1
BDE .4394 BRA 1.8667 BC3 3.2209 F8P 2270 SG1 4728.5 SG2 635.0 THA 143.91 EL1 57.7 EL2 28.9 ALF 143.46

LAUNCH DATE MAY 1 1971 FLIGHT TIME 230.00 ARRIVAL DATE DEC 17 1971

HELIOCENTRIC CONIC DISTANCE 545.793 EARTH TO MARS
RL 150.72 LAL -.00 LOL 219.99 VL 32.252 GAL -1.94 AZL 97.01 HCA 176.68 SMA 184.12 ECC .18439 INC 7.0139 V1 29.562
RP 216.21 LAP -.41 LOP 36.69 VP 22.512 GAP 3.50 AZP 83.00 TAL 347.50 TAP 164.18 RCA 150.17 APO 218.07 V2 25.405
RC 159.881 GL -53.85 GP 34.06 ZAL 108.31 ZAP 80.36 ETS 185.69 ZAE 116.05 ETE 161.19 ZAC 136.26 ETC 273.66 LVI -41.52
PLANETOCENTRIC CONIC
C3 23.768 VHL 4.875 DLA -54.36 RAL 15.48 RAD 6644.5 VEL 11.990 PTH 6.99 VHP 3.635 DPA 10.83 RAP 291.74 ECC 1.3912
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
41.43 23 17 43 1916.43 26.99 47.38 264.04 139.16 23 49 39 916.4 44.12 25.99
41.43 23 17 43 1916.43 26.99 47.38 264.04 139.16 23 49 39 916.4 44.12 25.99
41.43 23 17 43 1916.43 26.99 47.38 264.04 139.16 23 49 39 916.4 44.12 25.99
41.43 23 17 43 1916.43 26.99 47.38 264.04 139.16 23 49 39 916.4 44.12 25.99
41.43 23 17 43 1916.43 26.99 47.38 264.04 139.16 23 49 39 916.4 44.12 25.99
41.43 23 17 43 1916.43 26.99 47.38 264.04 139.16 23 49 39 916.4 44.12 25.99
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.1592 TRA 1.8575 TC3-2.2784 BAU .8948 SGT 4018.0 SGR 3483.0 SG3 1119.7 ST 51.1 SR 58.5 SS 69.5
RDE -.6360 RRA -1.4882 RC3 1.8549 FAU .16400 RRT -.9815 RRF -.9999 RTF .9581 CRT -.6395 CRS .9999 CST -.6292
FDE 2.4446 FRA 5.5609 FC3-5.9734 B8P 8578 SGB 5318.8 R23 .1704 R13 -.9853 LSA 97.5 MSA 36.9 SSA .1
BDE .6556 BRA 2.2263 BC3 2.8160 F8P 1926 SG1 5268.4 SG2 730.4 THA 139.22 EL1 70.5 EL2 32.6 ALF 129.02

LAUNCH DATE MAY 1 1971 FLIGHT TIME 232.00 ARRIVAL DATE DEC 19 1971

HELIOCENTRIC CONIC DISTANCE 549.956 EARTH TO MARS
RL 150.72 LAL -.00 LOL 219.99 VL 32.256 GAL -1.99 AZL 99.79 HCA 177.83 SMA 184.18 ECC .18485 INC 9.7849 V1 29.562
RP 216.36 LAP -.37 LOP 37.85 VP 22.475 GAP 3.33 AZP 80.22 TAL 347.17 TAP 165.00 RCA 150.14 APO 218.23 V2 25.366
RC 182.390 GL -63.72 GP 44.69 ZAL 104.81 ZAP 80.93 ETS 188.04 ZAE 111.57 ETE 157.59 ZAC 146.84 ETC 274.73 LVI -50.57
PLANETOCENTRIC CONIC
C3 37.381 VHL 6.112 DLA -80.16 RAL 30.81 RAD 6649.7 VEL 12.540 PTH 7.42 VHP 4.423 DPA 21.32 RAP 289.95 ECC 1.6149
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
34.40 0 3 13 2066.98 22.57 59.10 286.81 147.40 0 37 40 1067.0 42.58 42.34
34.40 0 3 13 2066.98 22.57 59.10 286.81 147.40 0 37 40 1067.0 42.58 42.34
34.40 0 3 13 2066.98 22.57 59.10 286.81 147.40 0 37 40 1067.0 42.58 42.34
34.40 0 3 13 2066.98 22.57 59.10 286.81 147.40 0 37 40 1067.0 42.58 42.34
34.40 0 3 13 2066.98 22.57 59.10 286.81 147.40 0 37 40 1067.0 42.58 42.34
34.40 0 3 13 2066.98 22.57 59.10 286.81 147.40 0 37 40 1067.0 42.58 42.34
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE .4430 TRA 1.8653 TC3-1.6532 BAU 1.1098 SGT 4075.2 SGR 4318.0 SG3 698.7 ST 56.7 SR 97.3 SS 72.0
RDE -1.7344 RRA -1.8923 RC3 1.4844 FAU .11675 RRT -.9588 RRF -.9998 RTF .9524 CRT -.8175 CRS .9997 CST -.8036
FDE 3.4088 FRA 3.5304 FC3-2.7054 B8P 9020 SGB 5937.4 R23 .1563 R13 -.9877 LSA 130.1 MSA 30.8 SSA .0
BDE 1.7900 BRA 2.6571 BC3 2.2218 F8P 1140 SG1 5876.0 SG2 851.2 THA 133.27 EL1 108.8 EL2 29.2 ALF 117.64

LAUNCH DATE MAY 1 1971

FLIGHT TIME 240.00

ARRIVAL DATE DEC 27 1971

HELIOCENTRIC CONIC

DISTANCE 566.690

EARTH TO MARS

RL 150.72 LAL -.00 LOL 219.99 VL 32.276 GAL -2.25 AZL 84.83 HCA 182.47 SMA 184.51 ECC .18715 INC 5.1683 V1 29.862
RP 217.97 LAP -.22 LOP 42.44 VP 22.326 GAP 2.70 AZP 95.17 TAL 345.65 TAP 168.11 RCA 149.98 APO 219.05 V2 25.209
RC 172.547 GL 43.35 GP -40.71 ZAL 113.79 ZAP 75.71 ETS 166.24 ZAE 106.66 ETE 195.43 ZAC 61.70 ETC 272.10 LVI 27.75

PLANETOCENTRIC CONIC

C3 17.931 VHL 4.235 DLA 33.26 RAL 326.58 RAD 6641.9 VEL 11.746 PTH 6.77 VHP 4.169 DPA -62.80 RAP 308.61 ECC 1.2991
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 12 3 43 3813.19 -46.73 157.97 213.60 79.82 13 7 16 2813.2 -45.33 122.95
60.00 11 48 7 3854.86 -37.58 158.87 210.76 74.23 12 52 21 2854.9 -40.07 128.01
70.00 11 2 24 3990.43 -25.81 164.88 205.88 66.82 12 8 54 2990.4 -32.98 138.54
71.71 10 14 1 4138.95 -19.99 173.42 202.91 62.85 11 23 0 3139.0 -29.42 149.10
71.71 10 14 1 4138.95 -19.99 173.42 202.91 62.85 11 23 0 3139.0 -29.42 149.10
71.71 10 14 1 4138.95 -19.99 173.42 202.91 62.85 11 23 0 3139.0 -29.42 149.10
110.00 16 1 50 3037.25 -25.81 93.80 205.88 66.82 16 52 28 2037.3 -32.98 67.46

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 2.6074 TRA 1.1072 TC3-3.6199 BAU 1.0208 SGT 5005.6 SGR 3674.7 S63 813.2 ST 178.5 SR 131.3 S8 112.4
RDE 1.8763 RRA 1.3765 RC3-2.2423 FAU .11318 RRT .9678 RRF .9997 RTF .9632 CRT .9944 CR8 -.9999 CST -.9928
FDE 4.4443 FRA 3.4408 FC3-5.4647 BSP 10267 SGB 6330.0 R23 .1758 R13 .9843 LSA 248.1 MSA 13.9 S8A .1
BDE 3.2124 BRA 1.7666 BC3 4.2982 FSP 1415 SG1 6282.1 S62 777.7 THA 37.51 EL1 221.3 EL2 11.2 ALF 36.29

LAUNCH DATE MAY 1 1971

FLIGHT TIME 242.00

ARRIVAL DATE DEC 29 1971

HELIOCENTRIC CONIC

DISTANCE 570.842

EARTH TO MARS

RL 150.72 LAL -.00 LOL 219.99 VL 32.282 GAL -2.31 AZL 87.04 HCA 183.60 SMA 184.61 ECC .18779 INC 2.9524 V1 29.862
RP 218.33 LAP -.19 LOP 43.58 VP 22.290 GAP 2.54 AZP 92.95 TAL 345.28 TAP 168.88 RCA 149.94 APO 219.28 V2 25.169
RC 175.114 GL 27.66 GP -30.99 ZAL 119.11 ZAP 72.11 ETS 167.83 ZAE 107.38 ETE 191.27 ZAC 71.44 ETC 271.78 LVI 19.14

PLANETOCENTRIC CONIC

C3 12.861 VHL 3.586 DLA 18.94 RAL 333.78 RAD 6639.5 VEL 11.530 PTH 6.58 VHP 3.613 DPA -53.64 RAP 302.24 ECC 1.2117
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 13 46 23 3416.84 -44.74 120.67 200.38 108.25 14 43 20 2416.8 -32.95 93.35
60.00 14 3 40 3370.82 -38.97 118.57 202.42 101.20 14 59 51 2370.8 -30.41 91.09
70.00 14 29 55 3293.57 -33.75 113.27 203.37 95.60 15 24 48 2293.6 -27.98 86.08
80.00 15 12 58 3158.61 -29.81 103.33 203.67 91.68 16 5 36 2158.6 -26.09 76.53
90.00 16 22 45 2933.33 -28.28 86.81 203.70 90.21 17 11 38 1933.3 -25.34 60.18
100.00 17 55 50 2633.08 -29.81 64.70 203.67 91.68 18 39 43 1633.1 -26.09 37.90
110.00 19 29 21 2340.39 -33.75 42.19 203.37 95.60 20 8 21 1340.4 -27.98 15.00

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.7476 TRA 1.4122 TC3-5.1115 BAU .9662 SGT 5189.0 SGR 3026.7 S63 1137.4 ST 144.2 SR 85.3 S8 112.5
RDE 1.0032 RRA 1.1522 RC3-2.3346 FAU .15147 RRT .9714 RRF .9997 RTF .9689 CRT .9951 CR8 -.9998 CST -.9931
FDE 4.2060 FRA 5.1161 FC-10.4961 BSP 9575 SGB 6007.2 R23 .1882 R13 .9819 LSA 201.5 MSA 11.2 S8A .2
BDE 2.0150 BRA 1.8226 BC3 5.6194 FSP 1946 SG1 5974.7 S62 624.1 THA 29.90 EL1 167.4 EL2 7.2 ALF 30.55

LAUNCH DATE MAY 1 1971

FLIGHT TIME 244.00

ARRIVAL DATE DEC 31 1971

HELIOCENTRIC CONIC

DISTANCE 574.995

EARTH TO MARS

RL 150.72 LAL -.00 LOL 219.99 VL 32.288 GAL -2.38 AZL 88.19 HCA 184.73 SMA 184.71 ECC .18847 INC 1.8092 V1 29.582
RP 218.69 LAP -.15 LOP 44.72 VP 22.253 GAP 2.39 AZP 91.80 TAL 344.90 TAP 169.63 RCA 149.90 APO 219.52 V2 25.129
RC 177.690 GL 17.52 GP -24.59 ZAL 121.82 ZAP 69.51 ETS 169.21 ZAE 107.02 ETE 188.46 ZAC 77.85 ETC 271.83 LVI 13.40

PLANETOCENTRIC CONIC

C3 11.426 VHL 3.380 DLA 9.72 RAL 338.11 RAD 6638.0 VEL 11.468 PTH 6.52 VHP 3.397 DPA -47.49 RAP 299.36 ECC 1.1880
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 40 43 3202.90 -38.70 103.75 196.18 120.18 15 34 6 2202.9 -23.64 81.50
60.00 15 9 45 3125.68 -33.99 99.73 199.12 113.10 16 1 50 2125.7 -21.67 76.25
70.00 15 50 8 3006.85 -29.77 91.94 200.96 107.57 16 40 14 2006.8 -19.83 67.84
80.00 16 47 30 2827.13 -26.70 79.29 201.94 103.88 17 34 37 1827.1 -18.46 54.92
90.00 18 4 8 2579.83 -25.55 61.42 202.24 102.55 18 47 7 1579.8 -17.94 36.97
100.00 19 30 22 2301.80 -26.70 40.66 201.94 103.88 20 8 43 1301.6 -18.46 16.28
110.00 20 49 34 2053.66 -29.77 20.86 200.96 107.57 21 23 48 1053.7 -19.83 356.75

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.4032 TRA 1.8697 TC3-5.7281 BAU .9259 SGT 5375.7 SGR 2427.2 S63 1313.4 ST 126.6 SR 62.2 S8 109.3
RDE .6706 RRA .9734 RC3-1.9827 FAU .16479 RRT .9734 RRF .9995 RTF .518 CRT .9976 CR8 -.9995 CST -.9951
FDE 3.9617 FRA 6.2286 FC-12.4859 BSP 10018 SGB 5898.2 R23 .1963 R13 .9801 LSA 178.3 MSA 8.4 S8A .3
BDE 1.5552 BRA 1.9328 BC3 6.0816 FSP 2369 SG1 5876.3 S62 508.4 THA 23.92 EL1 141.0 EL2 3.9 ALF 26.12

LAUNCH DATE MAY 1 1971

FLIGHT TIME 246.00

ARRIVAL DATE JAN 2 1972

HELIOCENTRIC CONIC

DISTANCE 579.145

EARTH TO MARS

RL 150.72 LAL -.00 LOL 219.99 VL 32.288 GAL -2.45 AZL 88.90 HCA 185.88 SMA 184.82 ECC .18898 INC 1.1010 V1 29.582
RP 219.06 LAP -.11 LOP 45.85 VP 22.217 GAP 2.23 AZP 91.10 TAL 344.50 TAP 170.37 RCA 149.85 APO 219.78 V2 25.089
RC 180.275 GL 10.80 GP -20.20 ZAL 123.31 ZAP 67.44 ETS 170.28 ZAE 106.14 ETE 186.50 ZAC 82.25 ETC 271.54 LVI 9.47

PLANETOCENTRIC CONIC

C3 10.996 VHL 3.316 DLA 3.67 RAL 341.10 RAD 6638.6 VEL 11.449 PTH 6.50 VHP 3.301 DPA -43.25 RAP 297.69 ECC 1.1810
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 15 10 3073.67 -33.92 95.13 195.66 125.61 16 6 23 2073.9 -17.55 75.26
60.00 15 50 51 2978.93 -29.61 89.77 198.84 118.69 16 40 30 1978.9 -15.75 68.36
70.00 16 38 45 2838.05 -25.74 80.48 200.97 113.26 17 26 3 1838.1 -14.08 58.13
80.00 17 43 5 2636.57 -22.94 66.40 202.18 109.65 18 27 1 1636.6 -12.85 43.56
90.00 19 2 47 2379.35 -21.89 47.88 202.57 108.36 19 42 27 1379.4 -12.38 24.89
100.00 20 25 57 2111.04 -22.94 27.77 202.18 109.65 21 1 8 1111.0 -12.85 4.93
110.00 21 38 11 1884.87 -25.74 9.39 200.97 113.26 22 9 36 884.9 -14.08 347.05

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.1772 TRA 1.8215 TC3-6.1701 BAU .9404 SGT 5552.3 SGR 1982.7 S63 1396.5 ST 112.3 SR 47.2 S8 102.7
RDE .4884 RRA .8095 RC3-1.8889 FAU .17589 RRT .9738 RRF .9991 RTF .9731 CRT .9995 CR8 -.9988 CST -.9970
FDE 3.6310 FRA 6.7737 FC-13.8477 BSP 9823 SGB 5893.7 R23 .2018 R13 .9785 LSA 159.2 MSA 5.9 S8A .6
BDE 1.2745 BRA 1.9932 BC3 6.3971 FSP 2483 SG1 5880.3 S62 425.8 THA 19.28 EL1 121.8 EL2 1.4 ALF 22.77

LAUNCH DATE MAY 1 1971 FLIGHT TIME 256.00 ARRIVAL DATE JAN 12 1972

HELIOCENTRIC CONIC DISTANCE 599.841 EARTH TO MARS
RL 150.72 LAL -.00 LOL 219.99 VL 32.330 GAL -2.82 AZL 90.34 MCA 191.46 SMA 185.41 ECC .19320 INC .3387 V1 29.562

LAUNCH DATE MAY 1 1971 FLIGHT TIME 258.00 ARRIVAL DATE JAN 14 1972

HELIOCENTRIC CONIC DISTANCE 603.970 EARTH TO MARS
RL 150.72 LAL -.00 LOL 219.99 VL 32.338 GAL -2.90 AZL 90.48 HCA 192.57 SMA 185.54 ECC .19408 INC .4765 V1 29.562

LAUNCH DATE MAY 1 1971 FLIGHT TIME 260.00 ARRIVAL DATE JAN 16 1972

HELIOCENTRIC CONIC DISTANCE 608.092 EARTH TO MARS
RL 150.72 LAL -.00 LOL 219.99 VL 32.346 GAL -2.98 AZL 90.59 HCA 193.67 SMA 185.67 ECC .19500 INC .5881 V1 29.562

LAUNCH DATE MAY 1 1971 FLIGHT TIME 262.00 ARRIVAL DATE JAN 18 1972

HELIOCENTRIC CONIC DISTANCE 612.209 EARTH TO MARS
RL 150.72 LAL -.00 LOL 219.99 VL 32.354 GAL -3.06 AZL 90.69 HCA 194.77 SMA 185.81 ECC .19593 INC .6857 V1 29.562

LAUNCH DATE MAY 1 1971 FLIGHT TIME 264.00 ARRIVAL DATE JAN 20 1972

HELIOCENTRIC CONIC DISTANCE 616.320 EARTH TO MARS
 RL 150.72 LAL -.00 LOL 219.99 VL 32.362 GAL -3.14 AZL 90.77 HCA 195.87 SMA 185.94 ECC .19690 INC .7678 V1 29.562
 RP 222.46 LAP .21 LOP 55.86 VP 21.896 GAP .84 AZP 89.26 TAL 340.71 TAP 176.58 RCA 149.33 APO 222.56 V2 24.717
 RC 203.922 GL -6.89 GP -7.19 ZAL 128.48 ZAP 55.30 ETS 174.10 ZAE 94.86 ETE 180.99 ZAC 95.29 ETC 271.37 LVI -2.28

PLANETOCENTRIC CONIC
 C3 12.665 VHL 3.559 DLA -10.85 RAL 352.49 RAD 6639.4 VEL 11.521 PTH 6.57 VHP 3.356 DPA -30.55 RAP 293.95 ECC 1.2084
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 54 17 2813.32 -22.60 80.66 204.95 133.05 17 41 11 1813.3 -4.70 63.86
 60.00 17 45 44 2676.50 -18.41 72.06 208.67 126.51 18 30 21 1676.5 -2.73 53.43
 70.00 18 51 20 2483.63 -14.54 59.13 211.38 121.25 19 32 44 1483.6 -.87 39.20
 80.00 20 11 59 2231.22 -11.65 41.64 213.06 117.69 20 49 10 1231.2 .53 20.92
 90.00 21 38 51 1950.91 -10.55 21.60 213.63 116.39 22 11 22 950.9 1.07 .61
 100.00 22 54 50 1705.69 -11.65 3.01 213.06 117.69 23 23 16 705.7 .53 342.29
 110.00 23 50 47 1530.45 -14.54 348.04 211.38 121.25 24 16 17 530.5 -.87 328.12

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 7009.0 SGR 629.1 S63 1322.2 ST 106.0 SR 18.9 S8 85.4
 RRT .9220 RRF .9502 RTF .9752 CRT .9062 CRS -.9385 CST -.9962
 SGB 7037.1 R23 .1290 R13 .9756 LSA 137.1 MSA 9.3 S8A 1.2
 S61 7032.9 S62 242.8 THA 4.74 EL1 107.4 EL2 7.9 ALF 9.24

DIFFERENTIAL CORRECTIONS
 TDE .9514 TRA 2.9841 TC3-6.7626 BAU 1.1477
 RDE .2227 RRA .2462 RC3 -.4539 FAU .16109
 FDE 2.8488 FRA 7.5139 FC-11.0113 BSP 11930
 BDE .9771 BRA 2.9743 BC3 6.7779 FSP 2401

LAUNCH DATE MAY 1 1971 FLIGHT TIME 266.00 ARRIVAL DATE JAN 22 1972

HELIOCENTRIC CONIC DISTANCE 620.427 EARTH TO MARS
 RL 150.72 LAL -.00 LOL 219.99 VL 32.370 GAL -3.23 AZL 90.84 HCA 196.96 SMA 186.08 ECC .19789 INC .8397 V1 29.562
 RP 222.84 LAP .25 LOP 56.95 VP 21.861 GAP .68 AZP 89.20 TAL 340.26 TAP 177.22 RCA 149.26 APO 222.91 V2 24.675
 RC 206.578 GL -7.57 GP -6.67 ZAL 128.97 ZAP 54.25 ETS 174.28 ZAE 93.66 ETE 180.80 ZAC 95.81 ETC 271.39 LVI -2.79

PLANETOCENTRIC CONIC
 C3 12.946 VHL 3.598 DLA -11.16 RAL 353.24 RAD 6639.5 VEL 11.533 PTH 6.58 VHP 3.383 DPA -30.02 RAP 293.96 ECC 1.2131
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 58 27 2811.76 -22.53 80.58 205.91 133.08 17 45 19 1811.8 -4.62 63.79
 60.00 17 50 16 2673.97 -18.31 71.92 209.66 126.55 18 34 50 1674.0 -2.62 53.31
 70.00 18 56 17 2479.87 -14.40 58.92 212.40 121.31 19 37 37 1479.9 -.73 39.00
 80.00 20 17 19 2226.20 -11.49 41.35 214.09 117.75 20 54 26 1226.2 .70 20.64
 90.00 21 44 23 1945.30 -10.38 21.28 214.67 116.45 22 16 49 945.3 1.25 .30
 100.00 23 0 11 1700.67 -11.49 2.72 214.09 117.75 23 28 32 700.7 .70 342.01
 110.00 23 53 43 1526.69 -14.40 347.83 212.40 121.31 24 21 10 526.7 -.73 327.92

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 7156.0 SGR 580.0 S63 1295.0 ST 108.3 SR 18.5 S8 84.7
 RRT .9037 RRF .9328 RTF .9751 CRT .8881 CRS -.9261 CST -.9956
 SGB 7179.5 R23 .1183 R13 .9754 LSA 138.3 MSA 10.0 S8A 1.2
 S61 7175.2 S62 247.7 THA 4.19 EL1 109.5 EL2 8.4 ALF 8.66

DIFFERENTIAL CORRECTIONS
 TDE .9752 TRA 3.0845 TC3-6.7698 BAU 1.1738
 RDE .2219 RRA .2185 RC3 -.4068 FAU .15729
 FDE 2.8292 FRA 7.4716 FC-10.5183 BSP 12180
 BDE 1.0001 BRA 3.0922 BC3 6.7820 FSP 2353

LAUNCH DATE MAY 1 1971 FLIGHT TIME 268.00 ARRIVAL DATE JAN 24 1972

HELIOCENTRIC CONIC DISTANCE 624.528 EARTH TO MARS
 RL 150.72 LAL -.00 LOL 219.99 VL 32.379 GAL -3.31 AZL 90.90 HCA 198.05 SMA 186.23 ECC .19890 INC .9033 V1 29.562
 RP 223.23 LAP .28 LOP 58.04 VP 21.826 GAP .53 AZP 89.14 TAL 339.81 TAP 177.86 RCA 149.19 APO 223.27 V2 24.633
 RC 209.236 GL -8.05 GP -6.22 ZAL 129.45 ZAP 53.25 ETS 174.45 ZAE 92.47 ETE 180.64 ZAC 96.25 ETC 271.42 LVI -3.25

PLANETOCENTRIC CONIC
 C3 13.234 VHL 3.638 DLA -11.39 RAL 353.95 RAD 6639.7 VEL 11.546 PTH 6.59 VHP 3.412 DPA -29.56 RAP 294.01 ECC 1.2178
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 2 9 2811.93 -22.54 80.59 206.84 133.08 17 49 1 1811.9 -4.63 63.80
 60.00 17 54 14 2673.43 -18.29 71.89 210.62 126.56 18 38 47 1673.4 -2.60 53.28
 70.00 19 0 33 2478.42 -14.35 58.84 213.38 121.33 19 41 52 1478.4 -.68 38.93
 80.00 20 21 54 2223.82 -11.42 41.22 215.09 117.78 20 58 57 1223.8 .78 20.51
 90.00 21 49 6 1942.49 -10.30 21.12 215.67 116.48 22 21 28 942.5 1.34 .14
 100.00 23 4 45 1698.29 -11.42 2.59 215.09 117.78 23 33 4 698.3 .78 341.88
 110.00 0 3 56 1525.24 -14.35 347.75 213.38 121.33 0 29 21 525.2 -.68 327.84

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 7301.5 SGR 539.2 S63 1268.0 ST 110.8 SR 18.1 S8 84.1
 RRT .8814 RRF .9115 RTF .9748 CRT .8702 CRS -.9134 CST -.9991
 SGB 7321.4 R23 .1086 R13 .9751 LSA 139.9 MSA 10.6 S8A 1.2
 S61 7317.0 S62 254.2 THA 3.73 EL1 112.0 EL2 8.9 ALF 8.18

DIFFERENTIAL CORRECTIONS
 TDE 1.0040 TRA 3.2085 TC3-6.7667 BAU 1.1990
 RDE .2226 RRA .1938 RC3 -.3659 FAU .13320
 FDE 2.8154 FRA 7.4311 FC-10.0219 BSP 12457
 BDE 1.0284 BRA 3.2144 BC3 6.7766 FSP 2312

LAUNCH DATE MAY 1 1971 FLIGHT TIME 270.00 ARRIVAL DATE JAN 26 1972

HELIOCENTRIC CONIC DISTANCE 628.623 EARTH TO MARS
 RL 150.72 LAL -.00 LOL 219.99 VL 32.387 GAL -3.40 AZL 90.96 HCA 199.14 SMA 186.37 ECC .19994 INC .9587 V1 29.562
 RP 223.62 LAP .31 LOP 59.13 VP 21.792 GAP .38 AZP 89.09 TAL 339.35 TAP 178.49 RCA 149.11 APO 223.64 V2 24.592
 RC 211.896 GL -8.46 GP -5.81 ZAL 129.95 ZAP 52.28 ETS 174.60 ZAE 91.31 ETE 180.51 ZAC 96.65 ETC 271.46 LVI -3.68

PLANETOCENTRIC CONIC
 C3 13.530 VHL 3.678 DLA -11.55 RAL 354.62 RAD 6639.8 VEL 11.558 PTH 6.60 VHP 3.442 DPA -29.14 RAP 294.09 ECC 1.2227
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 5 28 2813.51 -22.61 80.67 207.76 133.05 17 52 21 1813.5 -4.71 63.87
 60.00 17 57 43 2674.92 -18.33 71.95 211.56 126.54 18 42 18 1674.5 -2.65 53.33
 70.00 19 4 16 2478.87 -14.37 58.86 214.34 121.32 19 45 35 1478.9 -.69 38.95
 80.00 20 25 49 2223.62 -11.41 41.21 216.06 117.78 21 2 53 1223.6 .79 20.50
 90.00 21 53 7 1941.98 -10.28 21.09 216.65 116.49 22 25 29 942.0 1.36 .11
 100.00 23 8 41 1698.09 -11.41 2.57 216.06 117.78 23 36 59 698.1 .79 341.87
 110.00 0 7 39 1525.69 -14.37 347.78 214.34 121.32 0 33 4 525.7 -.69 327.87

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 7443.0 SGR 505.2 S63 1239.9 ST 113.2 SR 17.9 S8 83.3
 RRT .8546 RRF .8858 RTF .9746 CRT .8519 CRS -.9004 CST -.9946
 SGB 7460.1 R23 .0999 R13 .9748 LSA 141.3 MSA 11.1 S8A 1.2
 S61 7435.5 S62 261.9 THA 3.32 EL1 114.3 EL2 9.3 ALF 7.74

DIFFERENTIAL CORRECTIONS
 TDE 1.0321 TRA 3.3287 TC3-6.7702 BAU 1.2261
 RDE .2242 RRA .1709 RC3 -.3315 FAU .14947
 FDE 2.7966 FRA 7.3745 FC3-9.5641 BSP 12679
 BDE 1.0562 BRA 3.3331 BC3 6.7783 FSP 2280

LAUNCH DATE MAY 1 1971

FLIGHT TIME 272.00

ARRIVAL DATE JAN 28 1972

HELIOCENTRIC CONIC

RL 150.72 LAL -.00 LOL 219.99 VL 32.386 GAL -3.49 AZL 91.01 HCA 200.22 SMA 186.52 ECC .20100 INC 1.00093 V1 29.562
RP 224.01 LAP .35 LOP 60.21 VP 21.798 GAP .22 AZP 89.05 TAL 338.90 TAP 179.12 RCA 149.03 APO 224.01 V2 24.950
RC 214.590 GL -8.81 GP -5.46 ZAL 130.44 ZAP 52.34 ETS 174.74 ZAE 90.17 EYE 180.39 ZAC 97.00 ETC 271.50 LVI -4.07

PLANETOCENTRIC CONIC

C3 13.832 VHL 3.719 DLA -11.65 RAL 355.27 RAD 6640.0 VEL 11.571 PTH 6.62 VHP 3.472 DPA -28.76 RAP 294.22 ECC 1.2276
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 8 27 2816.29 -22.74 80.81 208.66 132.99 17 55 23 1816.3 -4.85 63.98
60.00 18 0 50 2878.98 -18.43 72.08 212.48 126.50 18 45 27 1877.0 -2.76 53.45
70.00 19 7 31 2480.92 -14.44 58.98 215.28 121.29 19 48 52 1480.9 -.77 39.06
80.00 20 29 12 2225.25 -11.46 41.30 217.01 117.76 21 6 17 1225.2 .73 20.59
90.00 21 56 33 1943.41 -10.32 21.17 217.60 116.47 22 28 56 943.4 1.31 .19
100.00 23 12 3 1699.72 -11.46 2.67 217.01 117.76 23 40 23 699.7 .73 341.96
110.00 0 10 53 1527.74 -14.44 347.89 215.28 121.29 0 36 21 527.7 -.77 327.97

DIFFERENTIAL CORRECTIONS

TDE 1.0674 TRA 3.4547 TC3-6.7598 BAU 1.2513
RDE .2270 RRA .1501 RC3 -.3013 FAU .14546
FDE 2.7685 FRA 7.3235 FC3-9.1042 BSP 12957
BDE 1.0913 BRA 3.4579 BC3 6.7665 FSP 2220

MID-COURSE EXECUTION ACCURACY

SGT 7583.9 SGR 477.8 SG3 1212.7
RRT .8237 RRF .8558 RTF .9743
SGB 7598.9 R23 .0921 R13 .9745
SGI 7594.1 SG2 270.5 THA 2.97

ORBIT DETERMINATION ACCURACY

ST 116.0 SR 17.8 SS 82.8
CRT .8351 CRS -.8880 CST -.9943
LSA 143.1 MSA 11.7 SSA 1.2
EL1 117.0 EL2 9.7 ALF 7.37

LAUNCH DATE MAY 1 1971

FLIGHT TIME 274.00

ARRIVAL DATE JAN 30 1972

HELIOCENTRIC CONIC

RL 150.72 LAL -.00 LOL 219.99 VL 32.405 GAL -3.58 AZL 91.05 HCA 201.30 SMA 186.87 ECC .20208 INC 1.0543 V1 29.562
RP 224.40 LAP .38 LOP 61.29 VP 21.724 GAP .07 AZP 89.02 TAL 338.43 TAP 179.74 RCA 148.95 APO 224.40 V2 24.508
RC 217.222 GL -9.11 GP -5.14 ZAL 130.93 ZAP 50.43 ETS 174.87 ZAE 89.06 ETE 180.29 ZAC 97.31 ETC 271.55 LVI -4.44

PLANETOCENTRIC CONIC

C3 14.143 VHL 3.761 DLA -11.70 RAL 355.90 RAD 6640.1 VEL 11.585 PTH 6.63 VHP 3.503 DPA -28.42 RAP 294.38 ECC 1.2328
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 11 9 2820.07 -22.92 80.99 209.54 132.91 17 58 9 1820.1 -5.04 64.14
60.00 18 3 36 2680.59 -18.58 72.27 213.39 126.43 18 48 17 1680.6 -2.91 53.62
70.00 19 10 22 2484.31 -14.56 59.17 216.19 121.24 19 51 46 1484.3 -.90 39.23
80.00 20 32 7 2228.42 -11.56 41.48 217.93 117.72 21 9 15 1228.4 .63 20.76
90.00 21 59 30 1946.47 -10.42 21.35 218.53 116.44 22 31 57 946.5 1.22 .36
100.00 23 14 59 1702.89 -11.56 2.85 217.93 117.72 23 43 21 702.9 .63 342.13
110.00 0 13 44 1531.13 -14.56 348.08 216.19 121.24 0 39 15 531.1 -.90 328.15

DIFFERENTIAL CORRECTIONS

TDE 1.1036 TRA 3.5808 TC3-6.7467 BAU 1.2767
RDE .2306 RRA .1308 RC3 -.2748 FAU .14132
FDE 2.7800 FRA 7.2694 FC3-8.6509 BSP 13212
BDE 1.1274 BRA 3.5830 BC3 6.7523 FSP 2176

MID-COURSE EXECUTION ACCURACY

SGT 7721.0 SGR 455.6 SG3 1185.3
RRT .7885 RRF .8216 RTF .9738
SGB 7734.5 R23 .0858 R13 .9740
SGI 7729.4 SG2 279.9 THA 2.67

ORBIT DETERMINATION ACCURACY

ST 118.8 SR 17.8 SS 82.2
CRT .8188 CRS -.8759 CST -.9939
LSA 145.0 MSA 12.2 SSA 1.2
EL1 119.7 EL2 10.2 ALF 7.06

LAUNCH DATE MAY 1 1971

FLIGHT TIME 276.00

ARRIVAL DATE FEB 1 1972

HELIOCENTRIC CONIC

RL 150.72 LAL -.00 LOL 219.99 VL 32.414 GAL -3.67 AZL 91.10 HCA 202.38 SMA 186.83 ECC .20319 INC 1.0953 V1 29.562
RP 224.79 LAP .42 LOP 62.36 VP 21.890 GAP -.09 AZP 88.99 TAL 337.97 TAP 180.35 RCA 148.87 APO 224.79 V2 24.466
RC 219.886 GL -9.36 GP -4.85 ZAL 131.43 ZAP 49.56 ETS 174.99 ZAE 87.96 ETE 180.20 ZAC 97.59 ETC 271.61 LVI -4.79

PLANETOCENTRIC CONIC

C3 14.460 VHL 3.803 DLA -11.72 RAL 356.51 RAD 6640.3 VEL 11.598 PTH 6.64 VHP 3.535 DPA -28.10 RAP 294.37 ECC 1.2380
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 13 37 2824.71 -23.13 81.23 210.41 132.81 18 0 42 1824.7 -5.27 64.34
60.00 18 6 5 2685.18 -18.76 72.52 214.27 126.35 18 50 50 1685.2 -3.12 53.84
70.00 19 12 52 2488.85 -14.72 59.42 217.09 121.17 19 54 21 1488.8 -1.07 39.47
80.00 20 34 38 2232.89 -11.70 41.74 218.84 117.67 21 11 51 1232.9 .88 21.01
90.00 22 2 2 1950.93 -10.55 21.61 219.44 116.39 22 34 33 950.9 1.07 .61
100.00 23 17 30 1707.37 -11.70 3.11 218.84 117.67 23 45 57 707.4 .48 342.38
110.00 0 16 14 1535.67 -14.72 348.34 217.09 121.17 0 41 50 535.7 -1.07 328.39

DIFFERENTIAL CORRECTIONS

TDE 1.1420 TRA 3.7075 TC3-6.7322 BAU 1.3024
RDE .2347 RRA .1128 RC3 -.2521 FAU .13740
FDE 2.7708 FRA 7.2093 FC3-8.2258 BSP 13464
BDE 1.1658 BRA 3.7092 BC3 6.7369 FSP 2131

MID-COURSE EXECUTION ACCURACY

SGT 7858.5 SGR 438.1 SG3 1158.0
RRT .7496 RRF .7836 RTF .9736
SGB 7868.7 R23 .0798 R13 .9736
SGI 7863.3 SG2 289.7 THA 2.40

ORBIT DETERMINATION ACCURACY

ST 121.6 SR 17.9 SS 81.6
CRT .8035 CRS -.8643 CST -.9936
LSA 147.0 MSA 12.6 SSA 1.2
EL1 122.4 EL2 10.6 ALF 6.79

LAUNCH DATE MAY 1 1971

FLIGHT TIME 278.00

ARRIVAL DATE FEB 3 1972

HELIOCENTRIC CONIC

RL 150.72 LAL -.00 LOL 219.99 VL 32.423 GAL -3.78 AZL 91.13 HCA 203.45 SMA 186.98 ECC .20432 INC 1.1321 V1 29.562
RP 225.18 LAP .45 LOP 63.43 VP 21.856 GAP -.24 AZP 88.96 TAL 337.50 TAP 180.95 RCA 148.78 APO 225.18 V2 24.424
RC 222.551 GL -9.57 GP -4.59 ZAL 131.93 ZAP 48.71 ETS 175.10 ZAE 86.89 ETE 180.12 ZAC 97.84 ETC 271.67 LVI -5.11

PLANETOCENTRIC CONIC

C3 14.786 VHL 3.845 DLA -11.70 RAL 357.09 RAD 6640.4 VEL 11.612 PTH 6.65 VHP 3.567 DPA -27.81 RAP 294.79 ECC 1.2433
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 15 53 2830.08 -23.38 81.50 211.27 132.70 18 3 3 1830.1 -5.54 64.57
60.00 18 8 20 2690.62 -18.98 72.81 215.15 126.24 18 53 10 1690.6 -3.35 54.10
70.00 19 15 5 2494.36 -14.92 59.73 217.98 121.09 19 56 39 1494.4 -1.28 39.76
80.00 20 38 49 2238.49 -11.88 42.06 219.74 117.59 21 14 6 1238.5 .29 21.32
90.00 22 4 13 1956.57 -10.72 21.93 220.34 116.33 22 36 49 956.6 .89 .92
100.00 23 19 41 1712.97 -11.88 3.43 219.74 117.59 23 48 14 713.0 .29 342.68
110.00 0 18 27 1541.18 -14.92 348.65 217.98 121.09 0 44 8 541.2 -1.28 328.68

DIFFERENTIAL CORRECTIONS

TDE 1.1801 TRA 3.8342 TC3-6.7200 BAU 1.3292
RDE .2394 RRA .0959 RC3 -.2325 FAU .13375
FDE 2.7578 FRA 7.1458 FC3-7.8309 BSP 13686
BDE 1.2042 BRA 3.8354 BC3 6.7240 FSP 2081

MID-COURSE EXECUTION ACCURACY

SGT 7889.9 SGR 424.8 SG3 1131.1
RRT .7079 RRF .7425 RTF .9731
SGB 8001.2 R23 .0745 R13 .9732
SGI 7995.6 SG2 299.9 THA 2.16

ORBIT DETERMINATION ACCURACY

ST 124.3 SR 18.0 SS 80.9
CRT .7887 CRS -.8531 CST -.9933
LSA 148.8 MSA 13.0 SSA 1.2
EL1 125.1 EL2 11.0 ALF 6.56

LAUNCH DATE MAY 1 1971

FLIGHT TIME 280.00

ARRIVAL DATE FEB 5 1972

HELIOCENTRIC CONIC

RL 190.72 LAL -.00 LOL 219.99 VL 32.432 GAL -3.86 AZL 91.17 HCA 204.91 SMA 187.14 ECC .20547 INC 1.1863 V1 29.582
 RP 225.57 LAP .48 LOP 64.50 VP 21.623 GAP -.40 AZP 88.94 TAL 337.03 TAP 181.55 RCA 148.69 APO 225.59 V2 24.382
 RC 225.217 GL -9.75 GP -4.36 ZAL 132.43 ZAP 47.89 ETS 175.21 ZAE 85.84 ETE 180.05 ZAC 98.06 ETC 271.74 LVI -8.43

DISTANCE 649.014

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.121 VHL 3.889 DLA -11.65 RAL 357.67 RAD 8640.6 VEL 11.826 PTH 6.67 VHP 3.600 DPA -27.54 RAP 295.04 ECC 1.2488
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 90.00 17 17 59 2836.08 -23.66 81.80 212.12 132.57 18 5 15 1838.1 -5.84 84.82
 80.00 18 10 22 2696.78 -19.23 73.15 216.02 126.13 18 55 18 1896.8 -3.62 54.40
 70.00 19 17 3 2900.73 -15.14 60.09 218.86 120.99 19 58 43 1500.7 -1.53 40.09
 80.00 20 38 43 2245.06 -12.09 42.44 220.62 117.51 21 16 8 1245.1 .06 21.68
 90.00 22 6 3 1963.23 -10.92 22.32 221.22 116.25 22 38 48 963.2 .68 1.30
 100.00 23 21 35 1719.53 -12.09 3.81 220.62 117.51 23 50 15 719.5 .06 343.05
 110.00 0 20 25 1547.54 -15.14 349.00 218.86 120.99 0 46 13 547.5 -1.53 329.01

DIFFERENTIAL CORRECTIONS

TDE 1.2237 TRA 3.9651 TC3-6.6961 BAU 1.3543
 RDE .2447 RRA .0801 RC3 -.2149 FAU .12976
 FDE 2.7533 FRA 7.0855 FC3-7.4295 BSP 13951
 BDE 1.2479 BRA 3.9659 BC3 6.6996 FSP 2042

MID-COURSE EXECUTION ACCURACY

SGT 8121.3 SGR 415.3 SG3 1104.7
 RRT .6640 RRF .6993 RTF .9726
 SGB 8131.9 R23 .0703 R13 .9727
 SG1 8125.9 SG2 310.4 THA 1.95

ORBIT DETERMINATION ACCURACY

ST 127.3 SR 18.1 SS 80.4
 CRT .7758 CRS -.8431 CST -.9931
 LSA 151.0 MSA 13.5 SSA 1.2
 EL1 128.0 EL2 11.4 ALF 6.38

LAUNCH DATE MAY 2 1971

FLIGHT TIME 106.00

ARRIVAL DATE AUG 16 1971

HELIOCENTRIC CONIC

RL 150.76 LAL -.00 LOL 220.96 VL 35.121 GAL -3.41 AZL 91.88 HCA 99.64 SMA 251.79 ECC .40492 INC 1.8758 V1 29.554
RP 207.27 LAP -1.85 LOP 320.60 VP 27.430 GAP 21.72 AZP 89.69 TAL 348.15 TAP 87.79 RCA 149.84 APO 353.75 V2 26.426
RC 56.362 GL -10.75 GP .65 ZAL 114.24 ZAP 175.07 ETS 172.37 ZAE 174.38 ETE 87.85 ZAC 100.98 ETC 277.29 LVI -17.99

PLANETOCENTRIC CONIC

C3 37.828 VHL 6.150 DLA -19.41 RAL 341.63 RAD 6649.9 VEL 12.588 PTH 7.43 VHP 10.783 DPA -17.27 RAP 318.54 ECC 1.8225
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 41 41 2898.87 -26.51 85.05 207.53 131.07 17 30 0 1898.9 -8.97 87.49
60.00 17 44 13 2732.48 -20.65 75.09 212.56 125.41 18 29 48 1732.5 -5.19 56.11
70.00 19 3 22 2499.88 -15.11 60.04 216.37 121.00 19 45 2 1499.9 -1.49 40.05
80.00 20 37 53 2204.09 -10.79 40.09 218.87 118.01 21 14 37 1204.1 1.45 19.43
90.00 22 11 29 1902.17 -9.06 18.80 219.78 116.90 22 43 11 902.2 2.64 357.89
100.00 23 20 45 1676.56 -10.79 1.46 218.87 116.01 23 48 43 678.6 1.45 340.80
110.00 0 6 45 1546.70 -15.11 348.96 216.37 121.00 0 32 31 546.7 -1.49 328.96

DIFFERENTIAL CORRECTIONS

TDE -.5076 TRA-1.1040 TC3 -.0184 BAU .0431
RDE -.5712 RRA .2176 RC3 .0831 FAU .03470
FDE .2579 FRA .9815 FC3 -.7942 BSP 1804
BDE .7642 BRA 1.1252 BC3 .0851 FSP 152

MID-COURSE EXECUTION ACCURACY

SGT 1188.7 SGR 583.0 SG3 120.7
RRT .0216 RRF -.0238 RTF -.6916
SGB 1324.0 R23 -.0041 R13 -.6916
SG1 1188.8 SG2 582.8 THA .80

ORBIT DETERMINATION ACCURACY

ST 28.7 SR 26.8 SS 17.6
CRT .7480 CRS .5383 CST .9594
LSA 39.7 MSA 16.7 SSA 1.1
EL1 36.8 EL2 13.9 ALF 42.32

LAUNCH DATE MAY 2 1971

FLIGHT TIME 108.00

ARRIVAL DATE AUG 18 1971

HELIOCENTRIC CONIC

RL 150.76 LAL -.00 LOL 220.96 VL 34.941 GAL -3.30 AZL 91.88 HCA 100.90 SMA 245.90 ECC .39051 INC 1.8820 V1 29.554
RP 207.18 LAP -1.85 LOP 321.87 VP 27.230 GAP 21.21 AZP 89.64 TAL 348.23 TAP 89.13 RCA 149.87 APO 341.92 V2 26.438
RC 56.568 GL -11.08 GP .67 ZAL 114.24 ZAP 174.20 ETS 173.31 ZAE 174.29 ETE 78.87 ZAC 100.95 ETC 277.37 LVI -18.12

PLANETOCENTRIC CONIC

C3 35.533 VHL 5.961 DLA -19.70 RAL 341.79 RAD 6649.1 VEL 12.467 PTH 7.36 VHP 10.442 DPA -17.14 RAP 318.93 ECC 1.9848
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 43 35 2876.96 -25.52 83.90 206.76 131.62 17 31 32 1877.0 -7.88 66.55
60.00 17 46 35 2709.41 -19.73 73.83 211.78 125.88 18 31 45 1709.4 -4.18 55.00
70.00 19 6 16 2475.16 -14.24 58.65 215.60 121.38 19 47 31 1475.2 -1.55 38.76
80.00 20 41 26 2177.38 -9.93 38.57 218.13 118.30 21 17 44 1177.4 2.36 17.96
90.00 22 15 21 1874.39 -8.20 17.21 219.05 117.16 22 46 35 874.4 3.53 358.33
100.00 23 24 17 1651.85 -9.93 359.94 218.13 118.30 23 51 49 651.9 2.36 339.33
110.00 0 9 38 1521.97 -14.24 347.57 215.60 121.38 0 35 0 522.0 -1.55 327.67

DIFFERENTIAL CORRECTIONS

TDE -.5028 TRA-1.0948 TC3 -.0082 BAU .0425
RDE -.5536 RRA .2097 RC3 .0892 FAU .03581
FDE .2649 FRA 1.0213 FC3 -.8726 BSP 1854
BDE .7478 BRA 1.1147 BC3 .0896 FSP 164

MID-COURSE EXECUTION ACCURACY

SGT 1217.7 SGR 583.3 SG3 129.1
RRT .0236 RRF -.0262 RTF -.7023
SGB 1350.2 R23 -.0047 R13 -.7023
SG1 1217.8 SG2 583.1 THA .84

ORBIT DETERMINATION ACCURACY

ST 29.4 SR 26.8 SS 18.2
CRT .7473 CRS .5327 CST .9579
LSA 40.3 MSA 16.9 SSA 1.1
EL1 37.2 EL2 14.1 ALF 41.45

LAUNCH DATE MAY 2 1971

FLIGHT TIME 110.00

ARRIVAL DATE AUG 20 1971

HELIOCENTRIC CONIC

RL 150.76 LAL -.00 LOL 220.96 VL 34.771 GAL -3.19 AZL 91.89 HCA 102.17 SMA 240.61 ECC .37696 INC 1.8882 V1 29.554
RP 207.09 LAP -1.85 LOP 323.13 VP 27.021 GAP 20.72 AZP 89.60 TAL 348.33 TAP 90.49 RCA 149.91 APO 331.30 V2 26.448
RC 56.858 GL -11.41 GP .69 ZAL 114.22 ZAP 173.32 ETS 174.01 ZAE 174.08 ETE 70.82 ZAC 100.92 ETC 277.45 LVI -18.38

PLANETOCENTRIC CONIC

C3 33.425 VHL 5.781 DLA -20.00 RAL 341.93 RAD 6648.3 VEL 12.383 PTH 7.30 VHP 10.113 DPA -17.00 RAP 319.31 ECC 1.5501
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 45 28 2855.12 -24.53 82.77 206.01 132.14 17 33 4 1855.1 -6.79 65.82
60.00 17 48 56 2686.36 -18.81 72.58 211.03 126.32 18 33 42 1686.4 -3.17 53.90
70.00 19 9 13 2450.35 -13.35 57.28 214.86 121.73 19 50 3 1450.3 .40 37.46
80.00 20 45 3 2150.43 -9.06 37.05 217.40 118.57 21 20 53 1150.4 3.27 16.48
90.00 22 19 20 1846.26 -7.33 15.61 218.33 117.39 22 50 7 846.3 4.43 354.76
100.00 23 27 55 1624.90 -9.06 358.42 217.40 118.57 23 55 0 624.9 3.27 337.85
110.00 0 12 35 1497.16 -13.35 346.19 214.86 121.73 0 37 33 497.2 .40 326.38

DIFFERENTIAL CORRECTIONS

TDE -.4991 TRA-1.0834 TC3 .0048 BAU .0427
RDE -.5364 RRA .2020 RC3 .0955 FAU .03702
FDE .2719 FRA 1.0627 FC3 -.9588 BSP 1937
BDE .7327 BRA 1.1040 BC3 .0956 FSP 179

MID-COURSE EXECUTION ACCURACY

SGT 1247.0 SGR 583.3 SG3 138.2
RRT .0270 RRF -.0288 RTF -.7131
SGB 1376.7 R23 -.0042 R13 -.7131
SG1 1247.1 SG2 583.0 THA .93

ORBIT DETERMINATION ACCURACY

ST 30.1 SR 26.8 SS 18.9
CRT .7475 CRS .5267 CST .9559
LSA 41.0 MSA 17.2 SSA 1.1
EL1 37.7 EL2 14.2 ALF 40.53

LAUNCH DATE MAY 2 1971

FLIGHT TIME 112.00

ARRIVAL DATE AUG 22 1971

HELIOCENTRIC CONIC

RL 150.76 LAL -.00 LOL 220.96 VL 34.610 GAL -3.08 AZL 91.89 HCA 103.43 SMA 235.84 ECC .36421 INC 1.8944 V1 29.554
RP 207.01 LAP -1.84 LOP 324.40 VP 26.823 GAP 20.22 AZP 89.56 TAL 348.43 TAP 91.86 RCA 149.94 APO 321.74 V2 26.457
RC 57.225 GL -11.75 GP .71 ZAL 114.17 ZAP 172.43 ETS 174.55 ZAE 173.79 ETE 63.34 ZAC 100.89 ETC 277.53 LVI -18.38

PLANETOCENTRIC CONIC

C3 31.486 VHL 5.611 DLA -20.32 RAL 342.08 RAD 6647.6 VEL 12.305 PTH 7.24 VHP 9.795 DPA -16.87 RAP 319.67 ECC 1.5182
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 47 21 2833.41 -23.53 81.66 205.29 132.62 17 34 35 1833.4 -5.71 64.71
60.00 17 51 18 2663.36 -17.88 71.35 210.30 126.74 18 35 41 1663.4 -2.16 52.80
70.00 19 12 13 2425.48 -12.46 55.90 214.14 122.06 19 52 39 1425.5 1.35 36.16
80.00 20 48 47 2123.27 -8.17 35.52 216.70 118.82 21 24 10 1123.3 4.18 14.98
90.00 22 23 28 1817.83 -6.43 14.00 217.64 117.60 22 53 46 817.8 5.34 353.16
100.00 23 31 39 1597.74 -8.17 356.89 216.70 118.82 23 58 16 597.7 4.18 336.35
110.00 0 15 35 1472.29 -12.46 344.82 214.14 122.06 0 40 8 472.3 1.35 325.08

DIFFERENTIAL CORRECTIONS

TDE -.4928 TRA-1.0749 TC3 .0179 BAU .0436
RDE -.5198 RRA .1945 RC3 .1021 FAU .03827
FDE .2790 FRA 1.1061 FC3 -1.0523 BSP 1987
BDE .7162 BRA 1.0923 BC3 .1036 FSP 194

MID-COURSE EXECUTION ACCURACY

SGT 1274.1 SGR 582.8 SG3 147.8
RRT .0290 RRF -.0316 RTF -.7233
SGB 1401.0 R23 -.0051 R13 -.7234
SG1 1274.2 SG2 582.5 THA .96

ORBIT DETERMINATION ACCURACY

ST 30.7 SR 26.7 SS 19.5
CRT .7463 CRS .5204 CST .9544
LSA 41.6 MSA 17.4 SSA 1.2
EL1 38.1 EL2 14.3 ALF 39.75

LAUNCH DATE MAY 2 1971

FLIGHT TIME 114.00

ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC

DISTANCE 317.662

EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 34.458 GAL -2.97 AZL 91.90 HCA 104.70 SMA 231.53 ECC .33221 INC 1.9007 V1 29.554
RP 206.94 LAP -1.84 LOP 325.46 VP 26.635 GAP 19.74 AZP 89.52 TAL 348.55 TAP 93.25 RCA 148.98 APO 313.07 V2 26.468
RC 57.875 GL -12.08 GP .74 ZAL 114.10 ZAP 171.53 ETS 174.98 ZAE 173.44 ETE 57.10 ZAC 100.87 ETC 277.61 LVI -18.50

PLANETOCENTRIC CONIC

C3 29.701 VHL 5.450 DLA -20.65 RAL 342.16 RAD 6646.9 VEL 12.233 PTH 7.18 VHP 9.487 DPA -16.74 RAP 320.02 ECC 1.4088
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 49 14 2811.79 -22.53 80.58 204.58 133.08 17 36 6 1811.8 -4.63 63.80
60.00 17 53 41 2640.39 -16.94 70.14 209.58 127.13 18 37 41 1640.4 -1.15 51.70
70.00 19 13 17 2400.92 -11.55 54.54 213.44 122.37 19 55 17 1400.5 2.30 34.86
80.00 20 52 38 2095.84 -7.26 33.99 216.02 119.04 21 27 34 1095.8 5.10 13.47
90.00 22 27 45 1789.02 -5.52 12.37 216.96 117.78 22 57 34 789.0 6.25 351.53
100.00 23 35 30 1570.31 -7.26 355.36 216.02 119.04 24 1 40 570.3 5.10 334.83
110.00 0 18 39 1447.34 -11.55 343.46 213.44 122.37 0 42 46 447.3 2.30 323.78

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4754 TRA-1.0532 TC3 .0489 BAU .0474 SGT 1285.6 SGR 581.9 SG3 158.1 ST 30.7 SR 26.7 SS 20.3
RDE -.5036 RRA .1870 RC3 .1090 FAU .03951 RRT .0299 RRF -.0350 RTF -.7449 CRT .7411 CRS .5164 CST .9554
FDE .2884 FRA 1.1538 FC3-1.1517 BSP 1901 SGB 1411.1 R23 -.0071 R13 -.7450 LSA 41.8 MSA 17.7 S5A 1.1
BDE .6926 BRA 1.0697 BC3 .1195 FSP 213 SG1 1285.7 S62 581.6 THA .97 EL1 38.0 EL2 14.5 ALF 39.66

LAUNCH DATE MAY 2 1971

FLIGHT TIME 116.00

ARRIVAL DATE AUG 26 1971

HELIOCENTRIC CONIC

DISTANCE 320.476

EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 34.315 GAL -2.87 AZL 91.91 HCA 105.98 SMA 227.62 ECC .34094 INC 1.9071 V1 29.554
RP 206.87 LAP -1.83 LOP 326.93 VP 26.458 GAP 19.26 AZP 89.48 TAL 348.68 TAP 94.65 RCA 150.02 APO 305.22 V2 26.473
RC 58.203 GL -12.43 GP .76 ZAL 114.02 ZAP 170.61 ETS 175.33 ZAE 173.06 ETE 51.81 ZAC 100.85 ETC 277.68 LVI -18.63

PLANETOCENTRIC CONIC

C3 28.061 VHL 5.297 DLA -20.98 RAL 342.25 RAD 6646.2 VEL 12.166 PTH 7.13 VHP 9.190 DPA -16.61 RAP 320.35 ECC 1.4618
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 51 6 2790.42 -21.53 79.53 203.91 133.51 17 37 36 1790.4 -3.55 62.90
60.00 17 56 5 2617.60 -16.00 68.95 208.90 127.50 18 39 43 1617.6 -1.14 50.61
70.00 19 18 24 2375.64 -10.64 53.19 212.76 122.65 19 57 59 1375.6 3.25 33.56
80.00 20 56 35 2068.33 -6.35 32.46 215.36 119.24 21 31 3 1068.3 6.02 11.94
90.00 22 32 10 1760.01 -4.60 10.74 216.32 117.93 23 1 30 760.0 7.16 349.89
100.00 23 39 27 1542.81 -6.35 353.82 215.36 119.24 24 5 10 542.8 6.02 333.31
110.00 0 21 46 1422.46 -10.64 342.11 212.76 122.65 0 45 28 422.5 3.25 322.48

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4751 TRA-1.0484 TC3 .0579 BAU .0487 SGT 1320.1 SGR 580.6 SG3 169.0 ST 31.5 SR 26.8 SS 20.9
RDE -.4880 RRA .1798 RC3 .1161 FAU .04099 RRT .0338 RRF -.0382 RTF -.7485 CRT .7421 CRS .5080 CST .9521
FDE .2941 FRA 1.1996 FC3-1.2647 BSP 2020 SGB 1442.2 R23 -.0068 R13 -.7486 LSA 42.6 MSA 17.9 S5A 1.2
BDE .6811 BRA 1.0637 BC3 .1297 FSP 229 SG1 1320.3 S62 580.2 THA 1.05 EL1 38.6 EL2 14.6 ALF 38.53

LAUNCH DATE MAY 2 1971

FLIGHT TIME 118.00

ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC

DISTANCE 323.414

EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 34.180 GAL -2.77 AZL 91.91 HCA 107.23 SMA 224.07 ECC .33033 INC 1.9137 V1 29.554
RP 206.82 LAP -1.83 LOP 328.20 VP 26.289 GAP 18.80 AZP 89.43 TAL 348.82 TAP 96.05 RCA 150.05 APO 298.08 V2 26.479
RC 58.807 GL -12.78 GP .79 ZAL 113.91 ZAP 169.67 ETS 175.62 ZAE 172.67 ETE 47.39 ZAC 100.83 ETC 277.75 LVI -18.74

PLANETOCENTRIC CONIC

C3 26.550 VHL 5.153 DLA -21.33 RAL 342.33 RAD 6645.6 VEL 12.104 PTH 7.08 VHP 8.903 DPA -16.48 RAP 320.68 ECC 1.4370
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 52 58 2769.25 -20.54 78.50 203.26 133.91 17 39 7 1769.3 -2.49 62.01
60.00 17 58 30 2594.95 -15.06 67.78 208.24 127.84 18 41 45 1595.0 .86 49.53
70.00 19 21 34 2350.79 -9.73 51.85 212.11 122.90 20 0 45 1350.8 4.19 32.26
80.00 21 0 39 2040.66 -5.43 30.92 214.73 119.40 21 34 40 1040.7 6.94 10.40
90.00 22 36 45 1730.70 -3.66 9.10 215.70 118.06 23 5 36 730.7 8.08 348.22
100.00 23 43 31 1515.13 -5.43 352.29 214.73 119.40 24 8 46 515.1 6.94 331.77
110.00 0 24 56 1397.60 -9.73 340.76 212.11 122.90 0 48 14 397.6 4.19 321.18

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4718 TRA-1.0409 TC3 .0710 BAU .0508 SGT 1350.7 SGR 579.0 SG3 180.8 ST 32.2 SR 26.5 SS 21.5
RDE -.4729 RRA .1728 RC3 .1235 FAU .04256 RRT .0373 RRF -.0416 RTF -.7541 CRT .7420 CRS .4994 CST .9492
FDE .2999 FRA 1.2481 FC3-1.3879 BSP 2110 SGB 1469.6 R23 -.0072 R13 -.7542 LSA 43.2 MSA 18.1 S5A 1.2
BDE .6880 BRA 1.0551 BC3 .1425 FSP 248 SG1 1350.9 S62 578.5 THA 1.12 EL1 39.0 EL2 14.6 ALF 37.59

LAUNCH DATE MAY 2 1971

FLIGHT TIME 120.00

ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC

DISTANCE 328.484

EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 34.053 GAL -2.87 AZL 91.92 HCA 108.50 SMA 220.83 ECC .32034 INC 1.9202 V1 29.554
RP 206.77 LAP -1.82 LOP 329.47 VP 26.128 GAP 18.34 AZP 89.39 TAL 348.97 TAP 97.47 RCA 150.09 APO 291.56 V2 26.485
RC 59.485 GL -13.13 GP .82 ZAL 113.79 ZAP 168.72 ETS 175.86 ZAE 172.29 ETE 43.70 ZAC 100.81 ETC 277.82 LVI -18.86

PLANETOCENTRIC CONIC

C3 25.189 VHL 5.018 DLA -21.69 RAL 342.39 RAD 6645.1 VEL 12.047 PTH 7.03 VHP 8.626 DPA -16.36 RAP 320.98 ECC 1.4141
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 54 50 2748.31 -19.55 77.50 202.64 134.29 17 40 38 1748.3 -1.44 61.14
60.00 18 0 57 2572.46 -14.11 66.62 207.61 128.15 18 43 49 1572.5 1.85 48.46
70.00 19 24 48 2325.97 -8.81 50.51 211.48 123.13 20 3 34 1326.0 5.14 30.95
80.00 21 4 51 2012.83 -4.90 29.38 214.13 119.55 21 38 24 1012.8 7.86 8.85
90.00 22 41 30 1701.09 -2.71 7.44 215.11 118.16 23 9 51 701.1 9.00 346.53
100.00 23 47 43 1487.30 -4.90 350.75 214.13 119.55 24 12 30 487.3 7.86 330.22
110.00 0 28 10 1372.79 -8.81 339.43 211.48 123.13 0 51 3 372.8 5.14 319.87

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4678 TRA-1.0318 TC3 .0875 BAU .0530 SGT 1379.1 SGR 576.9 SG3 193.3 ST 32.8 SR 26.4 SS 22.2
RDE -.4583 RRA .1657 RC3 .1312 FAU .04422 RRT .0415 RRF -.0454 RTF -.7608 CRT .7418 CRS .4911 CST .9463
FDE .3063 FRA 1.2998 FC3-1.5218 BSP 2190 SGB 1494.9 R23 -.0072 R13 -.7609 LSA 43.9 MSA 18.3 S5A 1.2
BDE .6549 BRA 1.0450 BC3 .1577 FSP 266 SG1 1379.4 S62 576.3 THA 1.20 EL1 39.4 EL2 14.7 ALF 36.72

LAUNCH DATE MAY 2 1971 FLIGHT TIME 122.00 ARRIVAL DATE SEP 1 1971

HELIOCENTRIC CONIC DISTANCE 329.615 EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 33.933 GAL -2.57 AZL 91.93 HCA 109.77 SMA 217.86 ECC .31094 INC 1.9269 V1 29.554
 RP 206.74 LAP -1.81 LOP 330.73 VP 25.978 GAP 17.89 AZP 89.35 TAL 349.13 TAP 98.89 RCA 150.12 APO 285.60 V2 26.489
 RC 60.233 GL -13.49 GP .85 ZAL 113.66 ZAP 167.75 ETS 176.06 ZAE 171.94 ETE 40.64 ZAC 100.80 ETC 277.88 LVI -18.97

PLANETOCENTRIC CONIC

C3 23.877 VML 4.806 DLA -22.06 RAL 342.44 RAD 6644.5 VEL 11.994 PTH 6.89 VHP 8.358 DPA -16.23 RAP 321.27 ECC 1.3929
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 56 41 2727.63 -16.56 76.52 202.04 134.63 17 42 9 1727.6 -.40 60.27
 60.00 18 3 25 2550.17 -13.17 65.49 207.00 128.44 18 45 55 1550.2 2.83 47.39
 70.00 19 28 5 2301.24 -7.88 49.19 210.89 123.34 20 6 27 1301.2 6.07 29.65
 80.00 21 9 11 1984.86 -3.56 27.84 213.55 119.66 21 42 16 984.9 8.77 7.28
 90.00 22 46 26 1671.18 -1.75 5.77 214.55 118.23 23 14 17 671.2 9.91 344.61
 100.00 23 52 3 1459.33 -3.56 349.21 213.55 119.66 24 16 22 459.3 8.77 328.65
 110.00 0 31 28 1348.06 -7.88 338.11 210.89 123.34 0 53 56 348.1 6.07 318.57

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.4622 TRA -1.0216 TC3 .1055 BAW .0557 SGT 1405.3 SGR 574.5 SG3 206.6 ST 33.3 SR 26.2 SS 22.8
 RDE -.4441 RRA .1588 RC3 .1390 FAU .04597 RRT .0452 RRF -.0496 RTF -.7675 CRT .7410 CRS .4825 CST .9436
 FDE .3125 FRA 1.3531 FC3-1.6667 BSP 2252 SGB 1518.2 R23 -.0080 R13 -.7676 LSA 44.4 MSA 18.8 SBA 1.2
 BDE .6410 BRA 1.0339 BC3 .1745 FSP 287 SG1 1405.6 SG2 573.8 THA 1.27 EL1 39.7 EL2 14.8 ALF 35.95

LAUNCH DATE MAY 2 1971 FLIGHT TIME 124.00 ARRIVAL DATE SEP 3 1971

HELIOCENTRIC CONIC DISTANCE 332.855 EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 33.819 GAL -2.48 AZL 91.93 HCA 111.03 SMA 215.15 ECC .30210 INC 1.9337 V1 29.554
 RP 206.71 LAP -1.80 LOP 332.00 VP 25.831 GAP 17.44 AZP 89.31 TAL 349.29 TAP 100.33 RCA 150.15 APO 280.14 V2 26.492
 RC 61.050 GL -13.85 GP .88 ZAL 113.50 ZAP 166.77 ETS 176.24 ZAE 171.62 ETE 38.09 ZAC 100.80 ETC 277.94 LVI -19.08

PLANETOCENTRIC CONIC

C3 22.695 VML 4.764 DLA -22.43 RAL 342.48 RAD 6644.0 VEL 11.945 PTH 6.95 VHP 8.098 DPA -16.12 RAP 321.54 ECC 1.3735
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 58 33 2707.22 -17.58 75.57 201.47 134.95 17 43 40 1707.2 .63 59.42
 60.00 18 5 54 2526.10 -12.24 64.38 206.42 128.70 18 48 2 1528.1 3.80 46.33
 70.00 19 31 27 2276.60 -6.96 47.89 210.32 123.52 20 9 24 1276.6 7.00 28.35
 80.00 21 13 39 1956.76 -2.61 26.29 213.01 119.75 21 46 15 956.8 9.69 5.69
 90.00 22 51 33 1640.96 -.77 4.08 214.02 118.27 23 18 54 641.0 10.83 343.07
 100.00 0 0 26 1431.23 -2.81 347.66 213.01 119.75 0 24 18 431.2 9.69 327.06
 110.00 0 34 49 1323.42 -6.96 336.80 210.32 123.52 0 56 53 323.4 7.00 317.26

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.4562 TRA -1.0108 TC3 .1243 BAW .0584 SGT 1429.9 SGR 571.7 SG3 220.8 ST 33.8 SR 26.1 SS 23.8
 RDE -.4304 RRA .1521 RC3 .1472 FAU .04780 RRT .0494 RRF -.0541 RTF -.7740 CRT .7401 CRS .4735 CST .9407
 FDE .3186 FRA 1.4095 FC3-1.8235 BSP 2309 SGB 1540.0 R23 -.0086 R13 -.7741 LSA 45.0 MSA 18.8 SBA 1.2
 BDE .6272 BRA 1.0222 BC3 .1928 FSP 310 SG1 1430.3 SG2 570.9 THA 1.35 EL1 40.0 EL2 14.8 ALF 35.22

LAUNCH DATE MAY 2 1971 FLIGHT TIME 126.00 ARRIVAL DATE SEP 5 1971

HELIOCENTRIC CONIC DISTANCE 336.177 EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 33.712 GAL -2.39 AZL 91.94 HCA 112.30 SMA 212.86 ECC .29377 INC 1.9406 V1 29.554
 RP 206.69 LAP -1.80 LOP 333.27 VP 25.693 GAP 17.01 AZP 89.26 TAL 349.47 TAP 101.77 RCA 150.18 APO 275.13 V2 26.495
 RC 61.933 GL -14.21 GP .91 ZAL 113.34 ZAP 165.76 ETS 176.39 ZAE 171.34 ETE 35.97 ZAC 100.79 ETC 277.99 LVI -19.18

PLANETOCENTRIC CONIC

C3 21.605 VML 4.648 DLA -22.81 RAL 342.50 RAD 6643.5 VEL 11.900 PTH 6.91 VHP 7.847 DPA -16.00 RAP 321.79 ECC 1.3556
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 0 24 2687.13 -16.61 74.64 200.93 135.25 17 45 11 1667.1 1.63 58.58
 60.00 18 8 24 2506.28 -11.30 63.29 205.86 128.95 18 50 11 1506.3 4.75 45.28
 70.00 19 34 52 2252.08 -6.04 46.59 209.78 123.68 20 12 24 1252.1 7.92 27.04
 80.00 21 18 15 1928.54 -1.65 24.74 212.49 119.82 21 50 24 928.5 10.60 4.09
 90.00 22 56 53 1610.42 .21 2.38 213.53 118.28 23 23 43 610.4 11.74 341.29
 100.00 0 9 3 1403.02 -1.65 346.11 212.49 119.82 0 28 26 403.0 10.60 325.46
 110.00 0 38 15 1298.90 -6.04 335.51 209.78 123.68 0 59 53 298.9 7.92 315.96

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.4500 TRA -.9995 TC3 .1455 BAW .0615 SGT 1453.5 SGR 568.5 SG3 236.0 ST 34.2 SR 25.9 SS 24.2
 RDE -.4172 RRA .1455 RC3 .1355 FAU .04980 RRT .0541 RRF -.0591 RTF -.7705 CRT .7392 CRS .4642 CST .9376
 FDE .3247 FRA 1.4688 FC3-1.9954 BSP 2366 SGB 1580.7 R23 -.0093 R13 -.7806 LSA 45.5 MSA 19.0 SBA 1.2
 BDE .6137 BRA 1.0101 BC3 .2130 FSP 335 SG1 1453.8 SG2 567.6 THA 1.43 EL1 40.3 EL2 14.8 ALF 34.52

LAUNCH DATE MAY 2 1971 FLIGHT TIME 128.00 ARRIVAL DATE SEP 7 1971

HELIOCENTRIC CONIC DISTANCE 339.572 EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 33.611 GAL -2.30 AZL 91.95 HCA 113.57 SMA 210.37 ECC .28594 INC 1.9476 V1 29.554
 RP 206.68 LAP -1.79 LOP 334.54 VP 25.582 GAP 16.59 AZP 89.22 TAL 349.64 TAP 103.22 RCA 150.22 APO 270.52 V2 26.496
 RC 62.879 GL -14.57 GP .95 ZAL 113.16 ZAP 164.74 ETS 176.52 ZAE 171.12 ETE 34.23 ZAC 100.79 ETC 278.04 LVI -19.28

PLANETOCENTRIC CONIC

C3 20.600 VML 4.539 DLA -23.19 RAL 342.52 RAD 6643.1 VEL 11.858 PTH 6.87 VHP 7.604 DPA -15.89 RAP 322.01 ECC 1.3390
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 2 16 2667.37 -15.85 73.74 200.41 135.93 17 46 43 1667.4 2.63 57.76
 60.00 18 10 56 2484.72 -10.38 62.22 205.34 129.16 18 52 21 1484.7 5.70 44.25
 70.00 19 38 22 2227.71 -5.11 45.30 209.26 123.81 20 15 29 1227.7 8.83 25.74
 80.00 21 23 0 1900.21 -.69 23.19 212.01 119.85 21 54 41 900.2 11.50 2.47
 90.00 23 2 26 1579.53 1.21 .66 213.07 118.26 23 28 45 579.5 12.66 339.48
 100.00 0 9 48 1374.68 -.69 344.55 212.01 119.85 0 32 43 374.7 11.50 323.84
 110.00 0 41 44 1274.53 -5.11 334.22 209.26 123.81 1 2 58 274.5 8.83 314.66

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.4433 TRA -.9876 TC3 .1666 BAW .0644 SGT 1475.0 SGR 565.0 SG3 252.1 ST 34.6 SR 25.7 SS 24.9
 RDE -.4044 RRA .1391 RC3 .1641 FAU .05189 RRT .0589 RRF -.0644 RTF -.7865 CRT .7382 CRS .4546 CST .9344
 FDE .3307 FRA 1.5312 FC3-2.1809 BSP 2411 SGB 1579.6 R23 -.0102 R13 -.7866 LSA 45.9 MSA 19.2 SBA 1.3
 BDE .6001 BRA .9973 BC3 .2339 FSP 361 SG1 1475.5 SG2 563.9 THA 1.51 EL1 40.5 EL2 14.8 ALF 33.86

LAUNCH DATE MAY 2 1971

FLIGHT TIME 130.00

ARRIVAL DATE SEP 9 1971

HELIOCENTRIC CONIC DISTANCE 343.035 EARTH TO MARS
 RL 150.76 LAL -.00 LOL 220.96 VL 33.516 GAL -2.21 AZL 91.95 MCA 114.84 SMA 208.26 ECC .27857 INC 1.9948 V1 29.554
 RP 206.67 LAP -1.77 LOP 335.81 VP 25.437 GAP 16.17 AZP 89.18 TAL 349.82 TAP 104.67 RCA 150.24 APO 266.27 V2 26.496
 RC 63.888 GL -14.93 GP .99 ZAL 112.97 ZAP 163.69 ETS 176.64 ZAE 170.95 ETE 32.81 ZAC 100.80 ETC 278.09 LVI -19.38

PLANETOCENTRIC CONIC
 C3 19.674 VHL 4.438 DLA -23.58 RAL 342.52 RAD 6642.7 VEL 11.819 PTH 6.84 VHP 7.370 DPA -15.79 RAP 322.22 ECC 1.3236
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 4 7 2647.96 -14.71 72.87 199.92 135.78 17 48 15 1648.0 3.60 56.94
 60.00 18 13 29 2463.47 -9.46 61.17 204.84 129.36 18 54 33 1463.5 6.62 43.22
 70.00 19 41 55 2203.51 -4.20 44.03 208.78 123.93 20 18 38 1203.5 9.73 24.45
 80.00 21 27 55 1871.75 .27 21.62 211.56 119.86 21 59 7 871.8 12.40 .84
 90.00 23 8 13 1548.24 2.21 358.91 212.64 118.20 23 34 2 548.2 13.57 337.64
 100.00 0 14 43 1346.23 .27 342.99 211.56 119.86 0 37 9 346.2 12.40 322.20
 110.00 0 45 17 1250.33 -4.20 332.95 208.78 123.93 1 6 7 250.3 9.73 313.36

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.4361 TRA -.9758 TC3 .1890 BAU .0674 SGT 1495.6 SGR 561.2 SG3 269.4 ST 34.9 SR 25.5 SS 25.6
 RDE -.3920 RRA .1328 RC3 .1729 FAU .05414 RRT .0638 RRF -.0701 RTF -.7923 CRT .7368 CR8 .4441 CST .9310
 FDE .3362 FRA 1.5972 FC3-2.3824 BSP 2458 SGB 1597.5 R23 -.0113 R13 -.7925 LSA 46.3 MSA 19.4 SSA 1.3
 BDE .5864 BRA .9847 BC3 .2561 FSP 389 SG1 1496.1 SG2 559.9 THA 1.60 EL1 40.6 EL2 14.8 ALF 33.24

LAUNCH DATE MAY 2 1971

FLIGHT TIME 132.00

ARRIVAL DATE SEP 11 1971

HELIOCENTRIC CONIC DISTANCE 346.559 EARTH TO MARS
 RL 150.76 LAL -.00 LOL 220.96 VL 33.427 GAL -2.13 AZL 91.96 HCA 116.11 SMA 206.32 ECC .27163 INC 1.9622 V1 29.554
 RP 206.68 LAP -1.76 LOP 337.08 VP 25.318 GAP 15.76 AZP 89.14 TAL 350.01 TAP 106.12 RCA 150.27 APO 262.36 V2 26.496
 RC 64.956 GL -15.29 GP 1.02 ZAL 112.78 ZAP 162.62 ETS 176.74 ZAE 170.84 ETE 31.68 ZAC 100.81 ETC 278.13 LVI -19.47

PLANETOCENTRIC CONIC
 C3 18.819 VHL 4.338 DLA -23.98 RAL 342.52 RAD 6642.3 VEL 11.783 PTH 6.81 VHP 7.143 DPA -15.69 RAP 322.40 ECC 1.3097
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 5 59 2628.92 -13.78 72.02 199.45 136.00 17 49 48 1628.9 4.56 56.14
 60.00 18 16 4 2442.53 -8.56 60.14 204.37 129.53 18 56 47 1442.5 7.54 42.20
 70.00 19 45 32 2179.50 -3.28 42.77 208.33 124.01 20 21 52 1179.5 10.61 23.15
 80.00 21 33 0 1843.17 1.24 20.06 211.15 119.83 22 3 43 843.2 13.28 359.18
 90.00 23 14 17 1516.52 3.23 357.14 212.25 118.11 23 39 33 516.5 14.47 335.75
 100.00 0 19 48 1317.65 1.24 341.42 211.15 119.83 0 41 45 317.6 13.28 320.55
 110.00 0 48 54 1226.32 -3.28 331.69 208.33 124.01 1 9 21 226.3 10.61 312.07

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.4287 TRA -.9628 TC3 .2113 BAU .0701 SGT 1513.6 SGR 557.0 SG3 287.7 ST 35.2 SR 25.2 SS 26.4
 RDE -.3800 RRA .1268 RC3 .1819 FAU .05652 RRT .0693 RRF -.0764 RTF -.7975 CRT .7355 CR8 .4336 CST .9274
 FDE .3415 FRA 1.6658 FC3-2.6003 BSP 2498 SGB 1612.9 R23 -.0126 R13 -.7977 LSA 46.7 MSA 19.6 SSA 1.3
 BDE .5729 BRA .9711 BC3 .2788 FSP 419 SG1 1514.2 SG2 555.5 THA 1.69 EL1 40.7 EL2 14.8 ALF 32.67

LAUNCH DATE MAY 2 1971

FLIGHT TIME 134.00

ARRIVAL DATE SEP 13 1971

HELIOCENTRIC CONIC DISTANCE 350.158 EARTH TO MARS
 RL 150.76 LAL -.00 LOL 220.96 VL 33.342 GAL -2.05 AZL 91.97 MCA 117.38 SMA 204.92 ECC .26511 INC 1.9697 V1 29.554
 RP 206.70 LAP -1.75 LOP 338.35 VP 25.204 GAP 15.36 AZP 89.09 TAL 350.20 TAP 107.58 RCA 150.30 APO 258.74 V2 26.494
 RC 66.082 GL -15.65 GP 1.07 ZAL 112.58 ZAP 161.52 ETS 176.83 ZAE 170.79 ETE 30.81 ZAC 100.83 ETC 278.17 LVI -19.56

PLANETOCENTRIC CONIC
 C3 18.031 VHL 4.246 DLA -24.37 RAL 342.51 RAD 6641.9 VEL 11.750 PTH 6.78 VHP 6.923 DPA -15.59 RAP 322.56 ECC 1.2957
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 7 31 2610.28 -12.86 71.19 199.02 136.21 17 51 21 1610.3 5.49 55.36
 60.00 18 18 40 2421.94 -7.66 59.14 203.93 129.69 18 59 2 1421.9 8.43 41.20
 70.00 19 49 14 2155.70 -2.37 41.53 207.91 124.08 20 25 9 1155.7 11.48 21.86
 80.00 21 38 16 1814.46 2.21 18.48 210.77 119.78 22 6 30 814.5 14.16 357.50
 90.00 23 20 38 1484.20 4.27 355.33 211.90 117.98 23 45 22 484.3 15.38 333.81
 100.00 0 25 3 1288.93 2.21 339.85 210.77 119.78 0 46 32 288.9 14.16 318.87
 110.00 0 52 36 1202.52 -2.37 330.45 207.91 124.08 1 12 38 202.5 11.48 310.77

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.4222 TRA -.9500 TC3 .2332 BAU .0727 SGT 1531.0 SGR 552.6 SG3 307.3 ST 35.5 SR 25.0 SS 27.1
 RDE -.3684 RRA .1205 RC3 .1910 FAU .05905 RRT .0758 RRF -.0835 RTF -.823 CRT .7351 CR8 .4240 CST .9237
 FDE .3479 FRA 1.7390 FC3-2.8352 BSP 2532 SGB 1627.7 R23 -.0137 R13 -.8025 LSA 47.2 MSA 19.8 SSA 1.3
 BDE .5604 BRA .9576 BC3 .3014 FSP 451 SG1 1531.7 SG2 550.7 THA 1.80 EL1 40.8 EL2 14.7 ALF 32.07

LAUNCH DATE MAY 2 1971

FLIGHT TIME 136.00

ARRIVAL DATE SEP 15 1971

HELIOCENTRIC CONIC DISTANCE 353.769 EARTH TO MARS
 RL 150.76 LAL -.00 LOL 220.96 VL 33.263 GAL -1.97 AZL 91.98 HCA 118.65 SMA 202.86 ECC .25898 INC 1.9773 V1 29.554
 RP 206.72 LAP -1.74 LOP 339.62 VP 25.096 GAP 14.97 AZP 89.05 TAL 350.39 TAP 109.04 RCA 150.33 APO 255.40 V2 26.491
 RC 67.265 GL -16.01 GP 1.11 ZAL 112.37 ZAP 160.41 ETS 176.90 ZAE 170.81 ETE 30.19 ZAC 100.85 ETC 278.20 LVI -19.64

PLANETOCENTRIC CONIC
 C3 17.304 VHL 4.180 DLA -24.77 RAL 342.50 RAD 6641.6 VEL 11.719 PTH 6.75 VHP 6.711 DPA -15.50 RAP 322.70 ECC 1.2848
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 9 43 2592.06 -11.97 70.39 198.61 136.40 17 52 55 1592.1 6.40 54.59
 60.00 18 21 17 2401.71 -6.78 58.16 203.52 129.82 19 1 19 1401.7 9.31 40.21
 70.00 19 52 59 2132.12 -1.47 40.30 207.53 124.13 20 28 31 1132.1 12.34 20.57
 80.00 21 43 42 1785.59 3.18 16.89 210.43 119.70 22 13 28 785.6 15.04 355.80
 90.00 23 27 19 1451.43 5.31 353.40 211.60 117.82 23 51 30 451.4 16.28 331.82
 100.00 0 30 30 1260.06 3.18 338.26 210.43 119.70 0 51 30 260.1 15.04 317.17
 110.00 0 56 21 1178.94 -1.47 329.22 207.53 124.13 1 16 0 178.9 12.34 309.49

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.4149 TRA -.9363 TC3 .2548 BAU .0749 SGT 1545.5 SGR 547.8 SG3 328.1 ST 35.6 SR 24.7 SS 27.9
 RDE -.3572 RRA .1145 RC3 .2003 FAU .06173 RRT .0825 RRF -.0909 RTF -.8064 CRT .7343 CR8 .4127 CST .9193
 FDE .3526 FRA 1.8152 FC3-3.0885 BSP 2565 SGB 1639.7 R23 -.0149 R13 -.8066 LSA 47.5 MSA 20.0 SSA 1.3
 BDE .5475 BRA .9432 BC3 .3240 FSP 486 SG1 1546.2 SG2 545.6 THA 1.91 EL1 40.8 EL2 14.7 ALF 31.53

LAUNCH DATE MAY 2 1971

FLIGHT TIME 136.00

ARRIVAL DATE SEP 17 1971

Heliocentric Conic: RL 150.76 LAL -.00 LOL 220.96 VL 33.188 GAL -1.90 AZL 91.99 HCA 119.92 SMA 201.33 ECC .25322 INC 1.9891 V1 29.594
 RP 206.75 LAP -1.72 LOP 340.89 VP 24.993 GAP 14.59 AZP 89.01 TAL 350.58 TAP 110.49 RCA 150.35 APO 252.31 V2 26.487
 RC 68.502 GL -16.36 GP 1.16 ZAL 112.16 ZAP 159.26 ETS 176.97 ZAE 170.90 ETE 29.82 ZAC 100.88 ETC 278.23 LVI -19.72

Distance 357.446

Planetocentric Conic: C3 16.634 VHL 4.078 DLA -25.16 RAL 342.49 RAD 6641.3 VEL 11.691 PTH 6.72 VHP 6.506 DPA -15.42 RAP 322.81 ECC 1.2737
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 17 11 36 2574.26 -11.09 69.61 198.23 136.57 17 54 30 1574.3 7.29 53.83
 60.00 18 23 56 2381.86 -5.92 57.20 203.14 129.94 19 3 38 1381.9 10.16 39.23
 70.00 19 56 49 2108.80 -5.58 39.08 207.17 124.15 20 31 57 1108.8 13.18 19.28
 80.00 21 49 22 1756.54 4.16 15.29 210.12 119.59 22 18 38 756.5 15.90 354.08
 90.00 23 34 22 1417.85 6.37 351.59 211.33 117.61 23 58 0 417.9 17.17 329.77
 100.00 0 36 9 1231.01 4.16 336.66 210.12 119.59 0 56 40 231.0 15.90 315.45
 110.00 1 0 11 1155.62 -5.58 328.00 207.17 124.15 1 19 26 155.6 13.18 308.20

Differential Corrections: TDE -.4074 TRA -.9224 TC3 .2746 BAU .0769 MID-COURSE EXECUTION ACCURACY SGT 1558.1 SGR 542.7 SG3 350.2 ORBIT DETERMINATION ACCURACY ST 35.8 SR 24.5 SS 28.6
 RDE -.3464 RRA .1086 RC3 .2098 FAU .06458 RRT .0894 RRF -.0988 RTF -.8098 CRT .7336 CRS .4009 CBT .9146 LSA 47.8 MSA 20.2 SSA 1.3
 FDE .3569 FRA 1.8956 FC3-3.3612 B8P 2599 SGB 1649.9 R23 -.0166 R13 -.8101 LSA 47.8 MSA 20.2 SSA 1.3
 BDE .5348 BRA .9288 BC3 .3456 F8P 523 SG1 1559.0 SG2 540.2 THA 2.03 EL1 40.8 EL2 14.6 ALF 31.02

LAUNCH DATE MAY 2 1971

FLIGHT TIME 140.00

ARRIVAL DATE SEP 19 1971

Heliocentric Conic: RL 150.76 LAL -.00 LOL 220.96 VL 33.117 GAL -1.83 AZL 91.99 HCA 121.19 SMA 199.91 ECC .24780 INC 1.9932 V1 29.594
 RP 206.79 LAP -1.71 LOP 342.16 VP 24.894 GAP 14.21 AZP 88.97 TAL 350.76 TAP 111.95 RCA 150.37 APO 249.45 V2 26.483
 RC 69.791 GL -16.72 GP 1.21 ZAL 111.94 ZAP 158.09 ETS 177.03 ZAE 171.05 ETE 29.70 ZAC 100.91 ETC 278.25 LVI -19.79

Distance 361.166

Planetocentric Conic: C3 16.014 VHL 4.002 DLA -25.56 RAL 342.47 RAD 6641.0 VEL 11.664 PTH 6.70 VHP 6.308 DPA -15.34 RAP 322.88 ECC 1.2636
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 17 13 20 2556.87 -10.23 68.86 197.87 136.72 17 56 5 1556.9 8.16 53.09
 60.00 18 26 36 2362.37 -5.06 56.26 202.79 130.04 19 5 58 1362.4 11.00 38.26
 70.00 20 0 43 2085.67 .30 37.88 206.85 124.15 20 35 28 1085.7 14.00 18.00
 80.00 21 55 15 1727.19 5.15 13.67 209.85 119.45 22 24 2 727.2 16.75 352.32
 90.00 23 41 53 1383.26 7.46 349.63 211.11 117.36 24 4 57 383.3 18.07 327.63
 100.00 0 42 3 1201.66 5.15 335.04 209.85 119.45 1 2 4 201.7 16.75 313.69
 110.00 1 4 5 1132.49 .30 326.79 206.85 124.15 1 22 57 132.5 14.00 306.92

Differential Corrections: TDE -.3910 TRA -.6982 TC3 .3181 BAU .0828 MID-COURSE EXECUTION ACCURACY SGT 1552.5 SGR 537.4 SG3 373.7 ORBIT DETERMINATION ACCURACY ST 35.2 SR 24.2 SS 29.4
 RDE -.3359 RRA .1028 RC3 .2197 FAU .06772 RRT .0975 RRF -.1081 RTF -.8207 CRT .7291 CRS .3890 CBT .9121 LSA 47.7 MSA 20.4 SSA 1.3
 FDE .3606 FRA 1.9785 FC3-3.6609 B8P 2507 SGB 1642.9 R23 -.0174 R13 -.8210 LSA 47.7 MSA 20.4 SSA 1.3
 BDE .5154 BRA .9041 BC3 .3866 F8P 561 SG1 1553.5 SG2 534.5 THA 2.19 EL1 40.2 EL2 14.5 ALF 31.06

LAUNCH DATE MAY 2 1971

FLIGHT TIME 142.00

ARRIVAL DATE SEP 21 1971

Heliocentric Conic: RL 150.76 LAL -.00 LOL 220.96 VL 33.051 GAL -1.76 AZL 92.00 HCA 122.45 SMA 198.60 ECC .24272 INC 2.0014 V1 29.594
 RP 206.84 LAP -1.69 LOP 343.43 VP 24.799 GAP 13.85 AZP 88.93 TAL 350.95 TAP 113.40 RCA 150.39 APO 246.80 V2 26.477
 RC 71.130 GL -17.07 GP 1.26 ZAL 111.75 ZAP 156.89 ETS 177.08 ZAE 171.27 ETE 29.84 ZAC 100.95 ETC 278.26 LVI -19.86

Distance 364.925

Planetocentric Conic: C3 15.445 VHL 3.930 DLA -25.95 RAL 342.45 RAD 6640.7 VEL 11.640 PTH 6.69 VHP 6.117 DPA -15.27 RAP 322.93 ECC 1.2542
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 17 15 21 2540.01 -9.39 68.13 197.55 136.86 17 57 41 1540.0 9.00 52.37
 60.00 18 29 17 2343.38 -4.23 55.34 202.47 130.12 19 8 20 1343.4 11.81 37.32
 70.00 20 4 40 2062.93 1.17 36.69 206.56 124.14 20 39 3 1062.9 14.81 16.73
 80.00 22 1 22 1697.69 6.13 12.03 209.63 119.28 22 29 39 697.7 17.60 350.54
 90.00 23 49 54 1347.65 8.57 347.60 210.94 117.05 24 12 22 347.6 18.97 325.40
 100.00 0 48 9 1172.17 6.13 333.40 209.63 119.28 1 7 42 172.2 17.60 311.90
 110.00 1 8 2 1109.74 1.17 325.61 206.56 124.14 1 26 32 109.7 14.81 305.65

Differential Corrections: TDE -.3882 TRA -.8880 TC3 .3232 BAU .0818 MID-COURSE EXECUTION ACCURACY SGT 1567.7 SGR 531.8 SG3 398.6 ORBIT DETERMINATION ACCURACY ST 35.6 SR 23.9 SS 30.2
 RDE -.3258 RRA .0970 RC3 .2294 FAU .07087 RRT .1058 RRF -.1176 RTF -.5.90 CRT .7311 CRS .3777 CBT .9058 LSA 48.2 MSA 20.6 SSA 1.3
 FDE .3652 FRA 2.0685 FC3-3.9723 B8P 2587 SGB 1655.5 R23 -.0200 R13 -.8194 LSA 48.2 MSA 20.6 SSA 1.3
 BDE .5066 BRA .8933 BC3 .3964 F8P 603 SG1 1568.9 SG2 528.5 THA 2.32 EL1 40.4 EL2 14.4 ALF 30.34

LAUNCH DATE MAY 2 1971

FLIGHT TIME 144.00

ARRIVAL DATE SEP 23 1971

Heliocentric Conic: RL 150.76 LAL -.00 LOL 220.96 VL 32.988 GAL -1.70 AZL 92.01 HCA 123.72 SMA 197.38 ECC .23795 INC 2.0100 V1 29.594
 RP 206.80 LAP -1.67 LOP 344.89 VP 24.709 GAP 13.49 AZP 88.88 TAL 351.13 TAP 114.85 RCA 150.41 APO 244.35 V2 26.470
 RC 72.517 GL -17.42 GP 1.31 ZAL 111.52 ZAP 155.66 ETS 177.13 ZAE 171.56 ETE 30.28 ZAC 101.00 ETC 278.27 LVI -19.92

Distance 368.720

Planetocentric Conic: C3 14.921 VHL 3.863 DLA -26.34 RAL 342.43 RAD 6640.5 VEL 11.618 PTH 6.66 VHP 5.932 DPA -15.21 RAP 322.95 ECC 1.2458
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 17 17 15 2523.61 -8.57 67.43 197.25 136.98 17 59 19 1523.6 9.81 51.67
 60.00 18 31 59 2324.82 -3.42 54.45 202.18 130.18 19 10 44 1324.8 12.60 36.38
 70.00 20 8 42 2040.46 2.03 35.52 206.30 124.10 20 42 42 1040.5 15.60 15.47
 80.00 22 7 45 1667.85 7.12 10.37 209.44 119.07 22 35 32 667.9 18.43 348.71
 90.00 0 2 29 1310.48 9.71 345.47 210.83 116.69 0 24 20 310.5 19.88 323.05
 100.00 0 54 32 1142.32 7.12 331.74 209.44 119.07 1 13 35 142.3 18.43 310.08
 110.00 1 12 4 1087.28 2.03 324.43 206.30 124.10 1 30 11 87.3 15.60 304.38

Differential Corrections: TDE -.3833 TRA -.8750 TC3 .3336 BAU .0819 MID-COURSE EXECUTION ACCURACY SGT 1577.2 SGR 526.0 SG3 425.2 ORBIT DETERMINATION ACCURACY ST 35.8 SR 23.5 SS 31.0
 RDE -.3160 RRA .0912 RC3 .2394 FAU .07429 RRT .1152 RRF -.1284 RTF -.8191 CRT .7327 CRS .3669 CBT .8999 LSA 48.6 MSA 20.8 SSA 1.3
 FDE .3702 FRA 2.1640 FC3-4.3107 B8P 2631 SGB 1662.6 R23 -.0226 R13 -.8195 LSA 48.6 MSA 20.8 SSA 1.3
 BDE .4969 BRA .8798 BC3 .4106 F8P 648 SG1 1578.5 SG2 522.1 THA 2.47 EL1 40.4 EL2 14.2 ALF 29.76

LAUNCH DATE MAY 2 1971

FLIGHT TIME 146.00

ARRIVAL DATE SEP 25 1971

HELIOCENTRIC CONIC

RL 190.76 LAL -0.00 LOL 220.96 VL 32.930 GAL -1.64 AZL 92.02 HCA 124.99 SMA 196.29 ECC .23347 INC 2.0187 V1 29.954
RP 206.96 LAP -1.65 LOP 345.96 VP 24.622 GAP 13.14 AZP 88.84 TAL 351.31 TAP 116.30 RCA 150.43 APO 242.07 V2 26.462
RC 73.950 GL -17.77 GP 1.37 ZAL 111.31 ZAP 154.40 ETS 177.17 ZAE 171.92 ETE 31.06 ZAC 101.06 ETC 278.28 LVI -19.98

PLANETOCENTRIC CONIC

C3 14.437 VHL 3.800 DLA -26.72 RAL 342.41 RAD 6640.3 VEL 11.597 PTH 6.64 VHP 5.754 DPA -15.15 RAP 322.94 ECC 1.2376
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 19 9 2507.70 -7.78 66.75 196.98 137.09 18 0 57 1507.7 10.60 50.98
60.00 18 34 43 2308.71 -2.62 53.58 201.92 130.23 19 13 9 1306.7 13.37 35.47
70.00 20 12 48 2018.31 2.87 34.36 206.08 124.05 20 46 26 1018.3 16.36 14.21
80.00 22 14 26 1637.58 8.12 6.68 209.30 118.83 22 41 43 637.6 19.26 346.84
90.00 0 11 59 1271.18 10.91 343.20 210.77 116.25 0 33 10 271.2 20.80 320.54
100.00 1 1 13 1112.05 8.12 330.05 209.30 118.83 1 19 45 112.1 19.26 308.21
110.00 1 16 10 1065.12 2.87 323.28 206.08 124.05 1 33 55 65.1 16.36 303.12

DIFFERENTIAL CORRECTIONS

TDE -.3776 TRA -.8601 TC3 .3441 BAU .0821
RDE -.3065 RRA .0855 RC3 .2496 FAU .07791
FDE .3746 FRA 2.2643 FC3-4.6720 BSP 2656
BDE .4864 BRA .8643 BC3 .4251 FSP 697

MID-COURSE EXECUTION ACCURACY

SGT 1581.4 SGR 520.1 SG3 453.4
RRT .1254 RRF -.1401 RTF -.8195
SGB 1664.7 R23 -.0254 R13 -.8200
SG1 1582.9 SG2 515.5 THA 2.64

ORBIT DETERMINATION ACCURACY

ST 35.8 SR 23.2 SS 31.9
CRT .7341 CR3 .3560 CST .8938
LSA 49.0 MSA 21.0 S5A 1.3
EL1 40.3 EL2 14.0 ALF 29.29

LAUNCH DATE MAY 2 1971

FLIGHT TIME 148.00

ARRIVAL DATE SEP 27 1971

HELIOCENTRIC CONIC

RL 190.76 LAL -0.00 LOL 220.96 VL 32.875 GAL -1.59 AZL 92.03 HCA 126.25 SMA 195.21 ECC .22928 INC 2.0277 V1 29.554
RP 207.04 LAP -1.64 LOP 347.23 VP 24.539 GAP 12.80 AZP 88.80 TAL 351.49 TAP 117.74 RCA 150.45 APO 239.96 V2 26.454
RC 75.426 GL -18.11 GP 1.43 ZAL 111.11 ZAP 153.11 ETS 177.20 ZAE 172.34 ETE 32.26 ZAC 101.12 ETC 278.27 LVI -20.03

PLANETOCENTRIC CONIC

C3 13.992 VHL 3.741 DLA -27.10 RAL 342.40 RAD 6640.0 VEL 11.578 PTH 6.62 VHP 5.582 DPA -15.10 RAP 322.90 ECC 1.2303
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 21 3 2492.29 -7.01 66.09 196.74 137.18 18 2 35 1492.3 11.36 50.31
60.00 18 37 27 2289.08 -1.85 52.74 201.69 130.27 19 15 36 1289.1 14.11 34.57
70.00 20 16 58 1996.47 3.70 33.22 205.89 123.98 20 50 14 996.5 17.11 12.96
80.00 22 21 27 1606.76 9.13 6.95 209.20 118.55 22 48 14 606.8 20.07 344.92
90.00 0 22 35 1228.81 12.17 340.73 210.78 115.72 0 43 4 228.8 21.74 317.79
100.00 1 8 15 1081.23 9.13 328.31 209.20 118.55 1 26 16 81.2 20.07 306.29
110.00 1 20 20 1043.29 3.70 322.13 205.89 123.98 1 37 43 43.3 17.11 301.87

DIFFERENTIAL CORRECTIONS

TDE -.3710 TRA -.8440 TC3 .3514 BAU .0818
RDE -.2973 RRA .0798 RC3 .2599 FAU .08168
FDE .3784 FRA 2.3702 FC3-5.0540 BSP 2670
BDE .4754 BRA .8478 BC3 .4371 FSP 748

MID-COURSE EXECUTION ACCURACY

SGT 1581.4 SGR 513.9 SG3 483.1
RRT .1358 RRF -.1527 RTF -.8194
SGB 1662.8 R23 -.0288 R13 -.8200
SG1 1583.2 SG2 508.6 THA 2.82

ORBIT DETERMINATION ACCURACY

ST 35.8 SR 22.9 SS 32.8
CRT .7356 CR3 .3447 CST .8874
LSA 49.3 MSA 21.2 S5A 1.3
EL1 40.2 EL2 13.8 ALF 28.89

LAUNCH DATE MAY 2 1971

FLIGHT TIME 150.00

ARRIVAL DATE SEP 29 1971

HELIOCENTRIC CONIC

RL 190.76 LAL -0.00 LOL 220.96 VL 32.823 GAL -1.53 AZL 92.04 HCA 127.52 SMA 194.24 ECC .22534 INC 2.0370 V1 29.554
RP 207.12 LAP -1.62 LOP 348.49 VP 24.459 GAP 12.46 AZP 88.76 TAL 351.65 TAP 119.17 RCA 150.47 APO 238.01 V2 26.444
RC 76.944 GL -18.45 GP 1.50 ZAL 110.91 ZAP 151.78 ETS 177.24 ZAE 172.82 ETE 33.98 ZAC 101.20 ETC 278.26 LVI -20.08

PLANETOCENTRIC CONIC

C3 13.583 VHL 3.686 DLA -27.47 RAL 342.39 RAD 6639.8 VEL 11.561 PTH 6.61 VHP 5.416 DPA -15.05 RAP 322.82 ECC 1.2235
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 22 58 2477.40 -6.27 65.46 196.52 137.26 18 4 15 1477.4 12.10 49.66
60.00 18 40 13 2271.93 -1.09 51.92 201.49 130.29 19 18 5 1271.9 14.83 33.89
70.00 20 21 12 1974.98 4.52 32.09 205.73 123.89 20 54 7 975.0 17.84 11.72
80.00 22 28 53 1575.22 10.15 5.16 209.15 118.23 22 55 9 575.2 20.88 342.93
90.00 0 34 54 1181.52 13.55 337.95 210.89 115.06 0 54 36 181.5 22.73 314.88
100.00 1 15 41 1049.69 10.15 326.55 209.15 118.23 1 33 11 49.7 20.88 304.30
110.00 1 24 34 1021.80 4.52 321.01 205.73 123.89 1 41 36 21.8 17.84 300.63

DIFFERENTIAL CORRECTIONS

TDE -.3643 TRA -.8262 TC3 .3563 BAU .0812
RDE -.2884 RRA .0742 RC3 .2703 FAU .08588
FDE .3824 FRA 2.4806 FC3-5.4608 BSP 2670
BDE .4647 BRA .8295 BC3 .4472 FSP 802

MID-COURSE EXECUTION ACCURACY

SGT 1576.5 SGR 507.8 SG3 514.4
RRT .1477 RRF -.1867 RTF -.8188
SGB 1656.2 R23 -.0325 R13 -.8195
SG1 1578.5 SG2 501.4 THA 3.03

ORBIT DETERMINATION ACCURACY

ST 35.7 SR 22.5 SS 33.6
CRT .7378 CR3 .3343 CST .8808
LSA 49.5 MSA 21.4 S5A 1.3
EL1 40.0 EL2 13.6 ALF 28.55

LAUNCH DATE MAY 2 1971

FLIGHT TIME 152.00

ARRIVAL DATE OCT 1 1971

HELIOCENTRIC CONIC

RL 190.76 LAL -0.00 LOL 220.96 VL 32.774 GAL -1.48 AZL 92.05 HCA 128.78 SMA 193.34 ECC .22166 INC 2.0466 V1 29.554
RP 207.21 LAP -1.60 LOP 349.76 VP 24.383 GAP 12.14 AZP 88.72 TAL 351.81 TAP 120.59 RCA 150.48 APO 236.19 V2 26.433
RC 78.902 GL -18.78 GP 1.57 ZAL 110.72 ZAP 150.42 ETS 177.26 ZAE 173.36 ETE 36.39 ZAC 101.28 ETC 278.25 LVI -20.12

PLANETOCENTRIC CONIC

C3 13.207 VHL 3.834 DLA -27.84 RAL 342.39 RAD 6639.7 VEL 11.544 PTH 6.59 VHP 5.256 DPA -15.02 RAP 322.70 ECC 1.2174
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 24 53 2463.03 -5.55 64.85 196.34 137.33 18 5 56 1463.0 12.80 49.02
60.00 18 42 59 2255.29 -3.36 51.13 201.32 130.30 19 20 34 1255.3 15.53 32.84
70.00 20 25 29 1953.85 5.32 30.98 205.61 123.79 20 58 3 953.8 18.55 10.49
80.00 22 36 48 1542.73 11.19 3.31 209.14 117.86 23 2 31 542.7 21.69 340.88
90.00 0 50 17 1124.95 13.18 334.57 211.13 114.16 1 9 2 124.9 23.82 310.89
100.00 1 23 36 1017.20 11.19 324.68 209.14 117.86 1 40 33 17.2 21.69 302.22
110.00 1 28 52 1000.67 5.32 319.89 205.61 123.79 1 45 32 7 18.55 299.40

DIFFERENTIAL CORRECTIONS

TDE -.3580 TRA -.8079 TC3 .3572 BAU .0802
RDE -.2798 RRA .0685 RC3 .2810 FAU .08989
FDE .3877 FRA 2.5975 FC3-5.8928 BSP 2658
BDE .4544 BRA .8108 BC3 .4545 FSP 858

MID-COURSE EXECUTION ACCURACY

SGT 1568.7 SGR 501.2 SG3 547.6
RRT .1605 RRF -.1823 RTF -.8175
SGB 1646.9 R23 -.0371 R13 -.8183
SG1 1571.0 SG2 494.0 THA 3.26

ORBIT DETERMINATION ACCURACY

ST 35.5 SR 22.1 SS 34.6
CRT .7410 CR3 .3255 CST .8739
LSA 49.8 MSA 21.6 S5A 1.3
EL1 39.7 EL2 13.3 ALF 28.22

LAUNCH DATE MAY 2 1971

FLIGHT TIME 154.00

ARRIVAL DATE OCT 3 1971

HELIOCENTRIC CONIC

DISTANCE 388.149

EARTH TO MARS

RL 130.76 LAL -.00 LOL 220.96 VL 32.729 GAL -1.44 AZL 92.06 HCA 130.04 SMA 192.50 ECC .21821 INC 2.0565 V1 29.554
RP 207.31 LAP -1.57 LOP 351.02 VP 24.309 GAP 11.82 AZP 88.68 TAL 351.97 TAP 122.01 RCA 150.50 APO 234.51 V2 26.422
RC 80.008 GL -19.11 GP 1.64 ZAL 110.94 ZAP 149.03 ETS 177.29 ZAE 173.94 ETE 39.78 ZAC 101.37 ETC 278.22 LVI -20.16

PLANETOCENTRIC CONIC

C3 12.862 VHL 3.586 DLA -28.19 RAL 342.39 RAD 6639.5 VEL 11.530 PTH 6.58 VHP 5.103 DPA -14.99 RAP 322.55 ECC 1.2117
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 17 26 49 2449.18 -4.86 64.27 196.18 137.39 18 7 38 1449.2 13.48 48.41
60.00 18 45 46 2239.16 .35 50.36 201.18 130.30 19 23 5 1239.2 16.19 32.00
70.00 20 29 51 1933.08 6.11 29.88 205.52 123.67 21 2 4 933.1 19.23 9.26
80.00 22 45 19 1908.93 12.26 1.37 209.19 117.44 23 10 28 508.9 22.50 336.67
90.00 1 14 54 1039.12 17.48 329.34 211.71 112.59 1 32 13 39.1 25.28 308.03
100.00 1 32 6 6271.44 12.26 300.65 209.19 117.44 3 16 38 5271.4 22.50 277.95
110.00 1 33 13 6267.94 6.11 296.71 205.52 123.67 3 17 41 5267.9 19.23 276.09

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3509 TRA -.7884 TC3 .3558 BAU .0791 SGT 1536.2 SGR 494.8 S63 582.8 ST 35.3 SR 21.7 SS 35.5
RDE -.2714 RRA .0627 RC3 .2920 FAU .09443 RRT .1741 RRF -.1991 RTF -.8156 CRT .7443 CR8 .3149 CST .8660
FDE .3903 FRA 2.7207 FC3-6.3559 BSP 2637 SGB 1632.9 R23 -.0424 R13 -.8166 LSA 50.0 MSA 21.8 SSA 1.3
BDE .4436 BRA .7909 BC3 .4603 FSP 918 SG1 1558.8 S62 486.4 TMA 3.31 EL1 39.4 EL2 13.0 ALF 27.97

LAUNCH DATE MAY 2 1971

FLIGHT TIME 156.00

ARRIVAL DATE OCT 5 1971

HELIOCENTRIC CONIC

DISTANCE 392.111

EARTH TO MARS

RL 130.76 LAL -.00 LOL 220.96 VL 32.688 GAL -1.39 AZL 92.07 HCA 131.30 SMA 191.73 ECC .21499 INC 2.0668 V1 29.554
RP 207.42 LAP -1.55 LOP 352.28 VP 24.238 GAP 11.51 AZP 88.64 TAL 352.11 TAP 123.41 RCA 150.51 APO 232.95 V2 26.409
RC 81.730 GL -19.44 GP 1.72 ZAL 110.37 ZAP 147.60 ETS 177.31 ZAE 174.54 ETE 44.37 ZAC 101.47 ETC 278.19 LVI -20.19

PLANETOCENTRIC CONIC

C3 12.545 VHL 3.542 DLA -28.54 RAL 342.40 RAD 6639.3 VEL 11.516 PTH 6.56 VHP 4.955 DPA -14.97 RAP 322.36 ECC 1.2065
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 17 28 45 2435.81 -4.19 63.71 196.05 137.44 18 9 21 1435.8 14.14 47.82
60.00 18 46 34 2223.49 1.04 49.61 201.07 130.29 19 25 38 1223.5 16.84 31.18
70.00 20 34 17 1912.58 6.88 28.80 205.46 123.54 21 6 10 912.6 19.90 8.05
80.00 22 54 39 1473.04 13.37 359.29 209.30 116.95 23 19 12 473.0 23.32 336.32
85.95 1 0 22 1080.91 19.37 333.20 212.11 111.38 1 18 23 80.9 26.49 308.37
100.00 1 41 26 6235.55 13.37 298.57 209.30 116.95 3 25 22 5235.6 23.32 275.60
110.00 1 37 40 6247.44 6.88 295.62 205.46 123.54 3 2 47 5247.4 19.90 274.87

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3507 TRA -.7535 TC3 .3926 BAU .0833 SGT 1513.0 SGR 488.4 S63 619.6 ST 33.9 SR 21.3 SS 36.2
RDE -.2630 RRA .0572 RC3 .3040 FAU .09967 RRT .1912 RRF -.2177 RTF -.8237 CRT .7415 CR8 .2978 CST .8590
FDE .3829 FRA 2.8372 FC3-6.8786 BSP 2437 SGB 1589.9 R23 -.0435 R13 -.8248 LSA 49.3 MSA 21.9 SSA 1.3
BDE .4225 BRA .7557 BC3 .4965 FSP 970 SG1 1516.2 S62 478.4 TMA 3.92 EL1 38.0 EL2 12.8 ALF 28.56

LAUNCH DATE MAY 2 1971

FLIGHT TIME 158.00

ARRIVAL DATE OCT 7 1971

HELIOCENTRIC CONIC

DISTANCE 396.092

EARTH TO MARS

RL 130.76 LAL -.00 LOL 220.96 VL 32.647 GAL -1.35 AZL 92.08 HCA 132.58 SMA 191.01 ECC .21198 INC 2.0776 V1 29.554
RP 207.54 LAP -1.53 LOP 353.54 VP 24.169 GAP 11.20 AZP 88.59 TAL 352.24 TAP 124.80 RCA 150.52 APO 231.50 V2 26.395
RC 83.399 GL -19.75 GP 1.80 ZAL 110.21 ZAP 146.13 ETS 177.32 ZAE 175.14 ETE 50.84 ZAC 101.58 ETC 278.15 LVI -20.21

PLANETOCENTRIC CONIC

C3 12.256 VHL 3.501 DLA -28.88 RAL 342.43 RAD 6639.2 VEL 11.504 PTH 6.55 VHP 4.813 DPA -14.96 RAP 322.13 ECC 1.2017
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 17 30 43 2423.11 -3.55 63.18 195.95 137.48 18 11 6 1423.1 14.76 47.25
60.00 18 51 23 2208.50 1.70 48.89 201.00 130.27 19 28 11 1208.5 17.46 30.39
70.00 20 38 46 1892.66 7.63 27.74 205.44 123.39 21 10 19 892.7 20.54 6.86
80.00 23 4 58 1434.71 14.54 357.05 209.49 116.37 23 28 53 434.7 24.16 333.78
83.88 0 43 28 1130.87 19.72 337.02 211.89 111.54 1 2 19 130.9 26.86 312.12
100.00 1 31 46 6197.23 14.54 296.32 209.49 116.37 3 35 3 5197.2 24.16 273.06
110.00 1 42 8 6227.52 7.63 294.56 205.44 123.39 3 25 56 5227.5 20.54 273.68

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3360 TRA -.7441 TC3 .3395 BAU .0759 SGT 1514.4 SGR 482.0 S63 658.2 ST 34.5 SR 20.9 SS 37.5
RDE -.2553 RRA .0511 RC3 .3147 FAU .10404 RRT .2047 RRF -.2375 RTF -.8396 CRT .7535 CR8 .2970 CST .8492
FDE .3984 FRA 2.9852 FC3-7.3494 BSP 2549 SGB 1589.2 R23 -.0592 R13 -.8111 LSA 50.4 MSA 22.2 SSA 1.3
BDE .4220 BRA .7459 BC3 .4629 FSP 1049 SG1 1517.9 S62 470.7 TMA 4.12 EL1 38.4 EL2 12.4 ALF 27.68

LAUNCH DATE MAY 2 1971

FLIGHT TIME 160.00

ARRIVAL DATE OCT 9 1971

HELIOCENTRIC CONIC

DISTANCE 400.092

EARTH TO MARS

RL 130.76 LAL -.00 LOL 220.96 VL 32.609 GAL -1.32 AZL 92.09 HCA 133.82 SMA 190.35 ECC .20918 INC 2.0887 V1 29.554
RP 207.66 LAP -1.51 LOP 354.80 VP 24.103 GAP 10.90 AZP 88.55 TAL 352.36 TAP 126.18 RCA 150.53 APO 230.16 V2 26.381
RC 85.104 GL -20.07 GP 1.89 ZAL 110.07 ZAP 144.62 ETS 177.34 ZAE 175.70 ETE 59.94 ZAC 101.71 ETC 278.10 LVI -20.23

PLANETOCENTRIC CONIC

C3 11.992 VHL 3.463 DLA -29.21 RAL 342.47 RAD 6639.1 VEL 11.492 PTH 6.54 VHP 4.876 DPA -14.95 RAP 321.86 ECC 1.1974
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 17 32 40 2410.91 -2.94 62.66 195.88 137.51 18 12 51 1410.9 15.35 46.70
60.00 18 54 12 2194.01 2.34 48.20 200.95 130.24 19 30 46 1194.0 18.05 29.62
70.00 20 43 19 1873.07 8.36 26.70 205.46 123.24 21 14 32 873.1 21.16 5.68
80.00 23 17 0 1391.55 15.83 394.49 209.77 115.65 23 40 11 391.6 25.04 330.88
82.36 0 31 27 1165.40 20.05 339.70 211.71 111.70 0 30 53 165.4 27.22 314.75
100.00 2 3 47 6154.06 15.83 293.77 209.77 115.65 3 48 22 5154.1 25.04 270.16
110.00 1 46 41 6207.93 8.36 293.52 205.46 123.24 3 30 9 5207.9 21.16 272.50

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3325 TRA -.7240 TC3 .3141 BAU .0726 SGT 1494.5 SGR 475.8 S63 699.3 ST 34.4 SR 20.5 SS 38.6
RDE -.2477 RRA .0450 RC3 .3264 FAU .0919 RRT .2215 RRF -.2600 RTF -.8023 CRT .7617 CR8 .2924 CST .8398
FDE .4037 FRA 3.1320 FC3-7.8826 BSP 2529 SGB 1568.4 R23 -.0650 R13 -.8041 LSA 50.9 MSA 22.4 SSA 1.3
BDE .4146 BRA .7254 BC3 .4530 FSP 1121 SG1 1498.6 S62 462.7 TMA 4.46 EL1 38.2 EL2 12.0 ALF 27.39

LAUNCH DATE MAY 2 1971

FLIGHT TIME 162.00

ARRIVAL DATE OCT 11 1971

HELIOCENTRIC CONIC

DISTANCE 404.112

EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 32.875 GAL -1.29 AZL 92.10 HCA 135.08 SMA 189.73 ECC .20856 INC 2.1003 V1 29.594
RP 207.80 LAP -1.48 LOP 356.05 VP 24.039 GAP 10.61 AZP 88.51 TAL 352.48 TAP 127.95 RCA 150.54 APO 228.92 V2 26.369
RC 86.843 GL -20.38 GP 1.99 ZAL 109.93 ZAP 143.08 ETS 177.35 ZAE 176.13 ETE 72.48 ZAC 101.84 ETC 278.05 LVI -20.24

PLANETOCENTRIC CONIC

C3 11.750 VHL 3.428 DLA -29.53 RAL 342.51 RAD 6638.9 VEL 11.482 PTH 6.53 VHP 4.546 DPA -14.95 RAP 321.54 ECC 1.1834
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 34 39 2399.19 -2.35 62.17 195.84 137.53 18 14 38 1399.2 15.92 46.17
60.00 18 57 2 2180.00 2.96 47.53 200.93 130.21 19 33 22 1180.0 16.61 28.87
70.00 20 47 57 1853.76 9.08 25.66 205.51 123.07 21 18 51 853.8 21.76 4.50
80.00 23 32 18 1338.52 17.37 351.31 210.20 114.67 23 54 36 338.5 26.04 327.26
81.12 0 21 53 1192.44 20.36 341.83 211.56 111.86 0 41 45 192.4 27.58 316.82
100.00 2 19 6 6101.03 17.37 290.58 210.20 114.67 4 0 47 5101.0 26.04 266.53
110.00 1 51 19 6188.62 9.08 292.49 205.51 123.07 3 34 28 5188.6 21.76 271.33

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3154 TRA -.6880 TC3 .3245 BAU .0738 SGT 1440.2 SGR 469.8 SG3 741.4 ST 33.0 SR 20.1 SS 39.3
RDE -.2400 RRA .0392 RC3 .3395 FAU .11520 RRT .2418 RRF -.2839 RTF -.8035 CRT .7641 CRS .2759 CST .8283
FDE .3923 FRA 3.2651 FC3-8.4874 BSP 2330 SGB 1514.9 R23 -.0702 R13 -.8058 LSA 50.3 MSA 22.5 S5A 1.3
BDE .3983 BRA .6891 BC3 .4696 FSP 1178 SG1 1445.2 SG2 454.3 THA 5.01 EL1 36.8 EL2 11.6 ALF 27.97

LAUNCH DATE MAY 2 1971

FLIGHT TIME 164.00

ARRIVAL DATE OCT 13 1971

HELIOCENTRIC CONIC

DISTANCE 408.147

EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 32.542 GAL -1.26 AZL 92.11 HCA 136.33 SMA 189.16 ECC .20413 INC 2.1124 V1 29.594
RP 207.94 LAP -1.46 LOP 357.31 VP 23.977 GAP 10.33 AZP 88.47 TAL 352.58 TAP 128.91 RCA 150.55 APO 227.77 V2 26.349
RC 86.616 GL -20.68 GP 2.08 ZAL 109.82 ZAP 141.49 ETS 177.36 ZAE 176.34 ETE 86.42 ZAC 101.98 ETC 277.98 LVI -20.25

PLANETOCENTRIC CONIC

C3 11.532 VHL 3.396 DLA -29.84 RAL 342.57 RAD 6638.8 VEL 11.472 PTH 6.52 VHP 4.420 DPA -14.96 RAP 321.19 ECC 1.1898
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 36 38 2388.12 -1.79 61.71 195.83 137.55 18 16 27 1388.1 16.46 45.66
60.00 18 59 53 2166.67 3.54 46.89 200.95 130.17 19 35 59 1166.7 19.15 28.15
70.00 20 52 37 1835.04 9.77 24.66 205.59 122.89 21 23 12 835.0 22.33 3.35
80.00 0 4 34 1244.67 19.94 345.52 211.12 112.70 0 25 19 244.7 27.54 320.69
80.06 0 13 59 1214.61 20.66 343.61 211.44 112.02 0 34 13 214.6 27.91 318.54
100.00 2 47 26 6007.18 19.94 284.80 211.12 112.70 4 27 33 5007.2 27.54 259.96
110.00 1 55 59 6169.90 9.77 291.48 205.59 122.89 3 38 49 5169.9 22.33 270.18

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3207 TRA -.6729 TC3 .2524 BAU .0667 SGT 1426.6 SGR 464.1 SG3 785.5 ST 33.4 SR 19.7 SS 40.7
RDE -.2330 RRA .0327 RC3 .3510 FAU .12013 RRT .2573 RRF -.3102 RTF -.7842 CRT .7800 CRS .2820 CST .8176
FDE .4120 FRA 3.4352 FC3-9.0184 BSP 2399 SGB 1500.2 R23 -.0895 R13 -.7872 LSA 51.4 MSA 22.8 S5A 1.3
BDE .3984 BRA .6737 BC3 .4323 FSP 1271 SG1 1432.2 SG2 446.7 THA 5.30 EL1 37.2 EL2 11.1 ALF 27.28

LAUNCH DATE MAY 2 1971

FLIGHT TIME 166.00

ARRIVAL DATE OCT 15 1971

HELIOCENTRIC CONIC

DISTANCE 412.198

EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 32.512 GAL -1.23 AZL 92.13 HCA 137.58 SMA 188.63 ECC .20186 INC 2.1250 V1 29.554
RP 208.08 LAP -1.43 LOP 358.56 VP 23.917 GAP 10.05 AZP 88.43 TAL 352.66 TAP 130.25 RCA 150.55 APO 226.71 V2 26.332
RC 90.421 GL -20.98 GP 2.19 ZAL 109.71 ZAP 139.87 ETS 177.37 ZAE 176.22 ETE 105.90 ZAC 102.14 ETC 277.91 LVI -20.25

PLANETOCENTRIC CONIC

C3 11.334 VHL 3.387 DLA -30.14 RAL 342.65 RAD 6638.7 VEL 11.464 PTH 6.51 VHP 4.301 DPA -14.97 RAP 320.79 ECC 1.1865
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 38 39 2377.52 -1.26 61.27 195.84 137.56 18 18 16 1377.5 16.97 45.17
60.00 19 2 44 2153.81 4.11 46.27 200.99 130.13 19 38 38 1153.8 19.67 27.46
70.00 20 57 22 1816.56 10.45 23.66 205.71 122.70 21 27 38 816.6 22.89 2.21
79.12 0 7 10 1233.66 20.95 345.15 211.36 112.17 0 27 44 233.7 28.23 320.03
79.12 0 7 10 1233.66 20.95 345.15 211.36 112.17 0 27 44 233.7 28.23 320.03
79.12 0 7 10 1233.66 20.95 345.15 211.36 112.17 0 27 44 233.7 28.23 320.03
110.00 2 0 44 6151.42 10.45 290.49 205.71 122.70 3 43 16 5151.4 22.89 269.03

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3094 TRA -.6404 TC3 .2317 BAU .0655 SGT 1374.8 SGR 458.8 SG3 831.9 ST 32.4 SR 19.2 SS 41.8
RDE -.2257 RRA .0283 RC3 .3646 FAU .12639 RRT .2779 RRF -.3387 RTF -.7172 CRT .7881 CRS .2729 CST .8044
FDE .4077 FRA 3.5918 FC3-9.6547 BSP 2252 SGB 1449.3 R23 -.1022 R13 -.7810 LSA 51.2 MSA 22.9 S5A 1.3
BDE .3830 BRA .6410 BC3 .4321 FSP 1344 SG1 1361.3 SG2 438.6 THA 5.89 EL1 36.2 EL2 10.6 ALF 27.63

LAUNCH DATE MAY 2 1971

FLIGHT TIME 168.00

ARRIVAL DATE OCT 17 1971

HELIOCENTRIC CONIC

DISTANCE 416.262

EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 32.484 GAL -1.21 AZL 92.14 HCA 138.83 SMA 188.15 ECC .19977 INC 2.1383 V1 29.594
RP 208.24 LAP -1.41 LOP 359.81 VP 23.859 GAP 9.78 AZP 88.39 TAL 352.74 TAP 131.97 RCA 150.56 APO 225.73 V2 26.313
RC 92.259 GL -21.27 GP 2.30 ZAL 109.63 ZAP 138.20 ETS 177.38 ZAE 175.73 ETE 121.75 ZAC 102.31 ETC 277.83 LVI -20.24

PLANETOCENTRIC CONIC

C3 11.156 VHL 3.340 DLA -30.42 RAL 342.74 RAD 6638.6 VEL 11.456 PTH 6.51 VHP 4.187 DPA -14.99 RAP 320.35 ECC 1.1836
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 40 40 2367.52 -.76 60.85 195.89 137.57 18 20 8 1367.5 17.45 44.71
60.00 19 5 35 2141.59 4.64 45.69 201.07 130.08 19 41 17 1141.6 20.15 26.79
70.00 21 2 10 1798.60 11.11 22.69 205.86 122.50 21 32 8 798.6 23.42 1.09
78.29 0 1 19 1250.18 21.23 346.50 211.31 112.32 0 22 10 250.2 28.54 321.33
78.29 0 1 19 1250.18 21.23 346.50 211.31 112.32 0 22 10 250.2 28.54 321.33
78.29 0 1 19 1250.18 21.23 346.50 211.31 112.32 0 22 10 250.2 28.54 321.33
110.00 2 5 32 6133.46 11.11 289.51 205.86 122.50 3 47 46 5133.5 23.42 267.91

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3113 TRA -.6184 TC3 .1563 BAU .0609 SGT 1345.2 SGR 454.0 SG3 879.5 ST 32.5 SR 18.8 SS 43.0
RDE -.2190 RRA .0194 RC3 .3773 FAU .13187 RRT .2937 RRF -.3693 RTF -.7550 CRT .8046 CRS .2790 CST .7916
FDE .4247 FRA 3.7737 FC-10.2335 BSP 2239 SGB 1419.8 R23 -.1276 R13 -.7600 LSA 52.1 MSA 23.1 S5A 1.3
BDE .3806 BRA .6187 BC3 .4084 FSP 1437 SG1 1352.6 SG2 431.7 THA 6.31 EL1 36.1 EL2 10.0 ALF 27.25

LAUNCH DATE MAY 2 1971

FLIGHT TIME 170.00

ARRIVAL DATE OCT 19 1971

Heliocentric Conic: RL 150.76 LAL -.00 LOL 220.96 VL 32.458 GAL -1.19 AZL 92.15 HCA 140.08 SMA 187.70 ECC .19782 INC 2.1522 V1 29.554
 RP 208.41 LAP -1.38 LOP 1.06 VP 23.802 GAP 9.51 AZP 88.35 TAL 352.80 TAP 132.88 RCA 150.56 APO 224.83 V2 26.294
 RC 94.128 GL -21.96 GP 2.42 ZAL 109.96 ZAP 136.90 ETS 177.39 ZAE 174.94 ETE 134.19 ZAC 102.48 ETC 277.73 LVI -20.23

Planetocentric Conic: C3 10.996 VHL 3.316 DLA -30.70 RAL 342.85 RAD 6638.6 VEL 11.449 PTH 6.50 VHP 4.078 DPA -15.02 RAP 319.87 ECC 1.1810
 LNCN AZMTH LNCN TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 42 43 2358.02 -.20 60.45 195.97 137.58 18 22 1 1358.0 17.91 44.27
 60.00 19 8 28 2129.88 5.15 45.12 201.18 130.03 19 43 58 1129.9 20.62 26.15
 70.00 21 7 3 1780.96 11.76 21.73 206.05 122.30 21 36 44 781.0 23.94 359.97
 77.53 23 52 16 1264.84 21.49 347.72 211.30 112.47 24 13 21 264.8 28.83 322.50
 77.53 23 52 16 1264.84 21.49 347.72 211.30 112.47 24 13 21 264.8 28.83 322.50
 77.53 23 52 16 1264.84 21.49 347.72 211.30 112.47 24 13 21 264.8 28.83 322.50
 110.00 2 10 25 6115.81 11.76 286.55 206.05 122.30 3 52 21 5115.6 23.94 268.80

Differential Corrections: TDE -.3088 TRA -.5884 TC3 .0977 BAU .0593 SGT 1297.4 SGR 450.0 S63 929.2 ST 31.9 SR 18.3 SS 44.2
 RDE -.2123 RRA .0124 RC3 .3913 FAU .13807 RRT .3113 RRF -.4024 RTF -.7352 CRT .8195 CRS .2807 CST .7769
 FDE .4330 FRA 3.9537 FC-10.8712 BSP 2138 SGB 1373.2 R23 -.1535 R13 -.7418 LSA 52.5 MSA 23.3 SSA 1.3
 BDE .3731 BRA .5885 BC3 .4034 FSP 1526 S61 1305.8 S62 424.9 THA 6.90 EL1 35.6 EL2 9.4 ALF 27.32

LAUNCH DATE MAY 2 1971

FLIGHT TIME 172.00

ARRIVAL DATE OCT 21 1971

Heliocentric Conic: RL 150.76 LAL -.00 LOL 220.96 VL 32.434 GAL -1.17 AZL 92.17 HCA 141.33 SMA 187.28 ECC .19603 INC 2.1668 V1 29.554
 RP 208.58 LAP -1.35 LOP 2.31 VP 23.747 GAP 9.25 AZP 88.31 TAL 352.84 TAP 134.18 RCA 150.57 APO 223.99 V2 26.274
 RC 96.027 GL -21.85 GP 2.55 ZAL 109.51 ZAP 134.75 ETS 177.40 ZAE 173.91 ETE 143.29 ZAC 102.68 ETC 277.63 LVI -20.21

Planetocentric Conic: C3 10.853 VHL 3.294 DLA -30.96 RAL 342.98 RAD 6638.5 VEL 11.443 PTH 6.49 VHP 3.974 DPA -15.05 RAP 319.34 ECC 1.1786
 LNCN AZMTH LNCN TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 44 47 2349.05 .17 60.08 196.08 137.58 18 23 56 1349.0 18.34 43.85
 60.00 19 11 21 2118.72 5.64 44.59 201.32 129.97 19 46 40 1118.7 21.06 25.53
 70.00 21 12 0 1763.67 12.38 20.78 206.28 122.09 21 41 24 763.7 24.43 358.88
 76.83 23 47 46 1277.96 21.73 348.81 211.33 112.62 24 9 4 278.0 29.11 323.54
 76.83 23 47 46 1277.96 21.73 348.81 211.33 112.62 24 9 4 278.0 29.11 323.54
 76.83 23 47 46 1277.96 21.73 348.81 211.33 112.62 24 9 4 278.0 29.11 323.54
 110.00 2 15 22 6098.53 12.38 287.60 206.28 122.09 3 57 1 5098.5 24.43 265.70

Differential Corrections: TDE -.3021 TRA -.5552 TC3 .0296 BAU .0591 SGT 1242.8 SGR 446.8 S63 979.5 ST 31.2 SR 17.9 SS 45.3
 RDE -.2057 RRA .0052 RC3 .4060 FAU .14442 RRT .3265 RRF -.4374 RTF -.7093 CRT .8361 CRS .2832 CST .7593
 FDE .4397 FRA 4.1348 FC-11.3202 BSP 2008 SGB 1320.7 R23 -.1861 R13 -.7182 LSA 52.9 MSA 23.5 SSA 1.2
 BDE .3655 BRA .5553 BC3 .4070 FSP 1610 S61 1252.5 S62 419.1 THA 7.54 EL1 34.9 EL2 8.8 ALF 27.48

LAUNCH DATE MAY 2 1971

FLIGHT TIME 174.00

ARRIVAL DATE OCT 23 1971

Heliocentric Conic: RL 150.76 LAL -.00 LOL 220.96 VL 32.412 GAL -1.16 AZL 92.18 HCA 142.58 SMA 186.90 ECC .19437 INC 2.1823 V1 29.554
 RP 208.76 LAP -1.33 LOP 3.55 VP 23.694 GAP 8.99 AZP 88.27 TAL 352.88 TAP 135.45 RCA 150.57 APO 223.23 V2 26.254
 RC 97.955 GL -22.13 GP 2.68 ZAL 109.48 ZAP 132.97 ETS 177.41 ZAE 172.71 ETE 149.86 ZAC 102.88 ETC 277.52 LVI -20.18

Planetocentric Conic: C3 10.727 VHL 3.275 DLA -31.22 RAL 343.12 RAD 6638.4 VEL 11.438 PTH 6.49 VHP 3.876 DPA -15.08 RAP 318.76 ECC 1.1765
 LNCN AZMTH LNCN TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 48 53 2340.58 .60 59.73 196.21 137.57 18 25 54 1340.6 18.75 43.46
 60.00 19 14 15 2108.10 6.11 44.07 201.49 129.91 19 49 23 1108.1 21.47 24.94
 70.00 21 17 3 1746.73 12.99 19.85 206.54 121.87 21 46 9 746.7 24.91 357.79
 76.19 23 43 49 1289.90 21.96 349.82 211.39 112.76 24 5 19 289.9 29.38 324.50
 76.19 23 43 49 1289.90 21.96 349.82 211.39 112.76 24 5 19 289.9 29.38 324.50
 76.19 23 43 49 1289.90 21.96 349.82 211.39 112.76 24 5 19 289.9 29.38 324.50
 110.00 2 20 25 6081.58 12.99 286.67 206.54 121.87 4 1 47 5081.6 24.91 264.61

Differential Corrections: TDE -.2974 TRA -.5210 TC3 -.0472 BAU .0608 SGT 1186.3 SGR 444.6 S63 1031.7 ST 30.5 SR 17.4 SS 46.5
 RDE -.1993 RRA -.0024 RC3 .4213 FAU .15090 RRT .3378 RRF -.4743 RTF -.5.71 CRT .8340 CRS .2874 CST .7389
 FDE .4467 FRA 4.3266 FC-12.1788 BSP 1889 SGB 1286.9 R23 -.2268 R13 -.6893 LSA 53.3 MSA 23.7 SSA 1.2
 BDE .3580 BRA .5210 BC3 .4239 FSP 1708 S61 1197.1 S62 414.7 THA 8.21 EL1 34.2 EL2 8.1 ALF 27.67

LAUNCH DATE MAY 2 1971

FLIGHT TIME 176.00

ARRIVAL DATE OCT 25 1971

Heliocentric Conic: RL 150.76 LAL -.00 LOL 220.96 VL 32.391 GAL -1.15 AZL 92.20 HCA 143.82 SMA 186.55 ECC .19284 INC 2.1985 V1 29.554
 RP 208.94 LAP -1.30 LOP 4.80 VP 23.642 GAP 8.74 AZP 88.23 TAL 352.90 TAP 136.71 RCA 150.57 APO 222.52 V2 26.232
 RC 99.910 GL -22.41 GP 2.82 ZAL 109.47 ZAP 131.14 ETS 177.42 ZAE 171.37 ETE 154.66 ZAC 103.10 ETC 277.41 LVI -20.15

Planetocentric Conic: C3 10.617 VHL 3.258 DLA -31.46 RAL 343.29 RAD 6638.4 VEL 11.433 PTH 6.48 VHP 3.783 DPA -15.12 RAP 318.15 ECC 1.1747
 LNCN AZMTH LNCN TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 49 1 2332.61 1.00 59.39 196.38 137.57 18 27 54 1332.6 19.13 43.08
 60.00 19 17 11 2098.00 6.55 43.58 201.69 129.86 19 52 9 1098.0 21.86 24.38
 70.00 21 22 11 1730.07 13.59 18.93 206.84 121.64 21 51 1 730.1 25.37 356.72
 75.60 23 40 19 1300.84 22.18 350.74 211.48 112.91 24 2 0 300.8 29.64 325.39
 75.60 23 40 19 1300.84 22.18 350.74 211.48 112.91 24 2 0 300.8 29.64 325.39
 75.60 23 40 19 1300.84 22.18 350.74 211.48 112.91 24 2 0 300.8 29.64 325.39
 110.00 2 25 33 6064.93 13.59 285.75 206.84 121.64 4 6 38 5064.9 25.37 263.54

Differential Corrections: TDE -.2922 TRA -.4833 TC3 -.1299 BAU .0648 SGT 1124.1 SGR 443.7 S63 1084.6 ST 29.7 SR 17.0 SS 47.7
 RDE -.1929 RRA -.0104 RC3 .4375 FAU .15760 RRT .3438 RRF -.5130 RTF -.6366 CRT .8733 CRS .2933 CST .7175
 FDE .4531 FRA 4.5193 FC-12.8519 BSP 1728 SGB 1208.5 R23 -.2766 R13 -.6533 LSA 53.6 MSA 23.8 SSA 1.2
 BDE .3501 BRA .4834 BC3 .4563 FSP 1797 S61 1136.0 S62 412.3 THA 8.91 EL1 33.4 EL2 7.4 ALF 27.98

LAUNCH DATE MAY 2 1971

FLIGHT TIME 170.00

ARRIVAL DATE OCT 27 1971

HELIOCENTRIC CONIC

DISTANCE 436.762

EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 32.372 GAL -1.14 AZL 92.22 HCA 149.06 SMA 186.23 ECC .19144 INC 2.2150 V1 29.554
 RP 209.14 LAP -1.27 LOP 6.04 VP 23.591 GAP 8.50 AZP 88.18 TAL 352.90 TAP 137.98 RCA 150.58 APO 221.80 V2 26.209
 RC 101.892 GL -22.69 GP 2.97 ZAL 109.47 ZAP 129.28 ETS 177.44 ZAE 169.93 ETE 158.23 ZAC 103.33 ETC 277.20 LVI -20.11

PLANETOCENTRIC CONIC

C3 10.521 VHL 3.244 DLA -31.70 RAL 343.47 RAD 6638.3 VEL 11.429 PTH 6.48 VHP 3.898 DPA -15.15 RAP 317.49 ECC 1.1732
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 51 11 2325.10 1.37 59.08 198.58 137.58 18 29 56 1325.1 19.48 42.72
 60.00 19 20 8 2088.38 6.97 43.12 201.93 129.80 19 54 57 1088.4 22.24 23.83
 70.00 21 27 27 1713.61 14.18 18.01 207.17 121.40 21 56 0 713.6 25.81 395.64
 75.04 23 37 13 1311.03 22.39 351.61 211.61 113.05 23 59 4 311.0 29.88 326.21
 75.04 23 37 13 1311.03 22.39 351.61 211.61 113.05 23 59 4 311.0 29.88 326.21
 75.04 23 37 13 1311.03 22.39 351.61 211.61 113.05 23 59 4 311.0 29.88 326.21
 110.00 2 30 49 6048.47 14.18 284.84 207.17 121.40 4 11 37 5048.5 25.81 262.47

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2814 TRA -.4386 TC3 -.2012 BAU .0701 SGT 1045.7 SGR 444.2 SG3 1138.8 ST 28.4 SR 16.5 SS 48.8
 RDE -.1864 RRA -.0184 RC3 .4558 FAU .16518 RRT .3443 RRF -.5531 RTF -.5899 CRT .8921 CRS .2918 CST .6878
 FDE .4412 FRA 4.7036 FC-13.5910 BSP 1493 SGB 1136.1 R23 -.3323 R13 -.6136 LSA 53.5 MSA 23.8 SSA 1.2
 BDE .3375 BRA .4390 BC3 .4982 FSP 1870 SG1 1058.8 SG2 411.8 THA 9.82 EL1 32.1 EL2 6.6 ALF 28.71

LAUNCH DATE MAY 2 1971

FLIGHT TIME 180.00

ARRIVAL DATE OCT 29 1971

HELIOCENTRIC CONIC

DISTANCE 440.890

EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 32.355 GAL -1.13 AZL 92.23 HCA 146.30 SMA 185.93 ECC .19017 INC 2.2342 V1 29.554
 RP 209.34 LAP -1.24 LOP 7.28 VP 23.541 GAP 8.26 AZP 88.14 TAL 352.89 TAP 139.18 RCA 150.58 APO 221.29 V2 26.186
 RC 103.900 GL -22.97 GP 3.14 ZAL 109.50 ZAP 127.38 ETS 177.45 ZAE 168.40 ETE 160.94 ZAC 103.57 ETC 277.14 LVI -20.07

PLANETOCENTRIC CONIC

C3 10.441 VHL 3.231 DLA -31.93 RAL 343.68 RAD 6638.3 VEL 11.425 PTH 6.48 VHP 3.612 DPA -15.19 RAP 316.79 ECC 1.1718
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 53 23 2318.13 1.72 58.79 196.81 137.55 18 32 1 1318.1 19.81 42.39
 60.00 19 23 7 2079.36 7.36 42.68 202.20 129.74 19 57 46 1079.4 22.58 23.32
 70.00 21 32 47 1697.56 14.74 17.12 207.55 121.16 22 1 5 697.6 26.24 354.59
 74.53 23 34 34 1320.38 22.58 352.41 211.79 113.19 23 56 34 320.4 30.11 326.97
 74.53 23 34 34 1320.38 22.58 352.41 211.79 113.19 23 56 34 320.4 30.11 326.97
 74.53 23 34 34 1320.38 22.58 352.41 211.79 113.19 23 56 34 320.4 30.11 326.97
 110.00 2 36 10 6032.41 14.74 283.94 207.55 121.16 4 16 42 5032.4 26.24 261.41

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2883 TRA -.4078 TC3 -.3412 BAU .0813 SGT 1017.4 SGR 446.6 SG3 1194.4 ST 28.6 SR 16.1 SS 50.4
 RDE -.1811 RRA -.0280 RC3 .4717 FAU .17077 RRT .3230 RRF -.5947 RTF -.5132 CRT .9168 CRS .3226 CST .6679
 FDE .4885 FRA 4.9426 FC-14.1592 BSP 1444 SGB 1111.1 R23 -.4167 R13 -.5433 LSA 55.0 MSA 24.1 SSA 1.1
 BDE .3405 BRA .4086 BC3 .5822 FSP 1999 SG1 1029.7 SG2 417.6 THA 9.68 EL1 32.3 EL2 5.7 ALF 28.25

LAUNCH DATE MAY 2 1971

FLIGHT TIME 182.00

ARRIVAL DATE OCT 31 1971

HELIOCENTRIC CONIC

DISTANCE 445.026

EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 32.339 GAL -1.13 AZL 92.25 HCA 147.53 SMA 185.67 ECC .18900 INC 2.2537 V1 29.554
 RP 209.55 LAP -1.21 LOP 8.51 VP 23.492 GAP 8.03 AZP 88.10 TAL 352.86 TAP 140.39 RCA 150.58 APO 220.76 V2 26.162
 RC 105.933 GL -23.25 GP 3.31 ZAL 109.54 ZAP 125.44 ETS 177.47 ZAE 166.78 ETE 163.05 ZAC 103.83 ETC 276.99 LVI -20.03

PLANETOCENTRIC CONIC

C3 10.375 VHL 3.221 DLA -32.14 RAL 343.91 RAD 6638.2 VEL 11.422 PTH 6.47 VHP 3.534 DPA -15.22 RAP 316.05 ECC 1.1707
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 59 39 2311.55 2.05 58.51 197.07 137.54 18 34 10 1311.5 20.13 42.08
 60.00 19 26 8 2070.73 7.74 42.26 202.50 129.68 20 0 39 1070.7 22.91 22.83
 70.00 21 38 19 1681.49 15.31 16.21 207.96 120.91 22 6 21 681.5 26.66 353.53
 74.04 23 32 14 1329.23 22.76 353.16 212.00 113.33 23 54 23 329.2 30.33 327.70
 74.04 23 32 14 1329.23 22.76 353.16 212.00 113.33 23 54 23 329.2 30.33 327.70
 74.04 23 32 14 1329.23 22.76 353.16 212.00 113.33 23 54 23 329.2 30.33 327.70
 110.00 2 41 41 6016.35 15.31 283.04 207.96 120.91 4 21 58 5016.4 26.66 260.35

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2845 TRA -.3839 TC3 -.4583 BAU .0931 SGT 963.2 SGR 450.5 SG3 1248.2 ST 27.8 SR 15.6 SS 51.5
 RDE -.1752 RRA -.0374 RC3 .4902 FAU .17738 RRT .2869 RRF -.8354 RTF -.4.42 CRT .9383 CRS .3364 CST .6343
 FDE .4979 FRA 5.1489 FC-14.8016 BSP 1274 SGB 1063.4 R23 -.3039 R13 -.4622 LSA 55.5 MSA 24.3 SSA 1.1
 BDE .3341 BRA .3858 BC3 .6711 FSP 2096 SG1 973.9 SG2 428.9 THA 9.48 EL1 31.5 EL2 4.8 ALF 28.55

LAUNCH DATE MAY 2 1971

FLIGHT TIME 184.00

ARRIVAL DATE NOV 2 1971

HELIOCENTRIC CONIC

DISTANCE 449.170

EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 32.324 GAL -1.13 AZL 92.27 HCA 148.77 SMA 185.42 ECC .18795 INC 2.2745 V1 29.554
 RP 209.76 LAP -1.18 LOP 9.75 VP 23.444 GAP 7.80 AZP 88.05 TAL 352.82 TAP 141.39 RCA 150.57 APO 220.27 V2 26.137
 RC 107.990 GL -23.53 GP 3.49 ZAL 109.60 ZAP 123.48 ETS 177.49 ZAE 165.10 ETE 164.70 ZAC 104.10 ETC 276.84 LVI -19.98

PLANETOCENTRIC CONIC

C3 10.322 VHL 3.213 DLA -32.35 RAL 344.16 RAD 6638.2 VEL 11.420 PTH 6.47 VHP 3.461 DPA -15.25 RAP 315.27 ECC 1.1699
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 57 58 2305.38 2.36 58.25 197.37 137.53 18 36 23 1305.4 20.42 41.78
 60.00 19 29 13 2062.53 8.09 41.86 202.84 129.62 20 3 35 1062.5 23.23 22.36
 70.00 21 44 2 1665.43 15.87 15.30 208.42 120.65 22 11 48 665.4 27.07 352.46
 73.59 23 30 11 1337.69 22.93 353.89 212.24 113.46 23 52 28 337.7 30.54 328.39
 73.59 23 30 11 1337.69 22.93 353.89 212.24 113.46 23 52 28 337.7 30.54 328.39
 73.59 23 30 11 1337.69 22.93 353.89 212.24 113.46 23 52 28 337.7 30.54 328.39
 110.00 2 47 25 6000.29 15.87 282.13 208.42 120.65 4 27 25 5000.3 27.07 259.28

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2816 TRA -.3186 TC3 -.5807 BAU .1067 SGT 918.6 SGR 457.1 SG3 1303.7 ST 27.1 SR 15.2 SS 52.8
 RDE -.1695 RRA -.0475 RC3 .5102 FAU .18425 RRT .2308 RRF -.6766 RTF -.3153 CRT .9589 CRS .3556 CST .5973
 FDE .5131 FRA 5.3639 FC-15.4537 BSP 1103 SGB 1026.0 R23 -.5967 R13 -.3585 LSA 56.1 MSA 24.5 SSA 1.1
 BDE .3287 BRA .3221 BC3 .7730 FSP 2195 SG1 926.4 SG2 441.0 THA 8.49 EL1 30.8 EL2 3.8 ALF 28.78

LAUNCH DATE MAY 2 1971

FLIGHT TIME 186.00

ARRIVAL DATE NOV 4 1971

HELIOCENTRIC CONIC

DISTANCE 483.321

EARTH TO MARS

RL 180.76 LAL -.00 LOL 220.98 VL 32.211 GAL -1.14 AZL 92.30 MCA 180.00 SMA 188.20 ECC .18689 INC 2.2000 V1 29.884
RP 209.99 LAP -1.18 LOP 10.98 VP 23.397 GAP 7.97 AZP 88.81 TAL 352.76 TAP 142.76 RCA 150.57 APO 219.44 V2 26.089
RC 110.071 GL -23.81 GP 3.69 ZAL 109.68 ZAP 121.49 ET8 177.82 ZAE 163.38 ETE 166.03 ZAC 104.39 ETC 276.68 LVI -19.83

PLANETOCENTRIC CONIC

C3 10.202 VML 3.207 DLA -32.86 RAL 344.43 RAD 6636.2 VEL 11.410 PTH 6.47 VHP 3.394 DPA -15.27 RAP 314.48 ECC 1.1682
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 18 0 21 2299.89 2.60 39.01 197.70 137.82 18 38 40 1299.6 20.69 41.80
60.00 19 32 21 2054.71 8.43 41.48 203.21 129.88 20 6 38 1054.7 23.52 21.92
70.00 21 50 1 1649.22 16.43 14.38 208.93 120.37 22 17 30 649.2 27.47 351.37
73.15 23 28 23 1345.86 23.09 384.39 212.53 113.62 23 50 49 345.9 30.74 329.06
73.15 23 28 23 1345.86 23.09 384.39 212.53 113.62 23 50 49 345.9 30.74 329.06
73.15 23 28 23 1345.86 23.09 384.39 212.53 113.62 23 50 49 345.9 30.74 329.06
110.00 2 53 23 5984.07 16.43 281.21 208.93 120.37 4 33 7 4884.1 27.47 256.19

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2781 TRA -.2697 TC3 -.7148 BAW .1223 SGT 885.2 SCR 465.6 S63 1386.8 ST 26.3 SR 14.6 SS 54.0
RDE -.1639 RRA -.0581 RC3 .5307 FAW .19067 RRT .1455 RRF -.7160 RTF -.1004 CRT .9789 CR8 .3760 CBT .8534
FDE .5286 FRA 5.3762 FC-16.0336 B8P 934 SGB 1000.2 R23 -.6865 R13 -.2178 L8A 56.7 M8A 24.6 S8A 1.1
BDE .3228 BRA .2758 BC3 .8900 F8P 2293 S61 888.8 S62 458.8 THA 5.98 EL1 30.0 EL2 2.8 ALF 29.03

LAUNCH DATE MAY 2 1971

FLIGHT TIME 186.00

ARRIVAL DATE NOV 6 1971

HELIOCENTRIC CONIC

DISTANCE 457.478

EARTH TO MARS

RL 180.76 LAL -.00 LOL 220.98 VL 32.209 GAL -1.15 AZL 92.32 MCA 151.23 SMA 188.00 ECC .18613 INC 2.3200 V1 29.884
RP 210.22 LAP -1.12 LOP 12.20 VP 23.391 GAP 7.38 AZP 87.97 TAL 352.69 TAP 143.92 RCA 150.57 APO 219.44 V2 26.089
RC 112.177 GL -24.10 GP 3.90 ZAL 109.77 ZAP 119.45 ET8 177.55 ZAE 161.54 ETE 167.09 ZAC 104.60 ETC 276.51 LVI -19.89

PLANETOCENTRIC CONIC

C3 10.258 VML 3.202 DLA -32.76 RAL 344.73 RAD 6636.2 VEL 11.417 PTH 6.47 VHP 3.331 DPA -15.29 RAP 313.60 ECC 1.1680
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 18 2 49 2294.11 2.93 37.78 198.07 137.51 18 41 3 1294.1 20.95 41.24
60.00 19 35 35 2047.19 8.76 41.11 203.62 129.80 20 9 42 1047.2 23.81 21.48
70.00 21 56 19 1632.56 17.00 13.43 209.48 120.08 22 23 31 632.6 27.87 380.24
72.73 23 26 52 1383.75 23.24 385.26 212.86 113.77 23 49 26 353.7 30.94 329.71
72.73 23 26 52 1383.75 23.24 385.26 212.86 113.77 23 49 26 353.7 30.94 329.71
72.73 23 26 52 1383.75 23.24 385.26 212.86 113.77 23 49 26 353.7 30.94 329.71
110.00 2 59 41 5967.42 17.00 280.25 209.48 120.08 4 39 8 4967.4 27.87 257.07

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2720 TRA -.2152 TC3 -.8388 BAW .1579 SGT 857.3 SCR 477.5 S63 1410.8 ST 25.3 SR 14.3 SS 54.0
RDE -.1582 RRA -.0691 RC3 .5948 FAW .19020 RRT .0347 RRF -.7545 RTF -.0234 CRT .9904 CR8 .3972 CBT .4988
FDE .5309 FRA 5.7734 FC-16.7310 B8P 786 SGB 981.4 R23 -.7537 R13 -.0352 L8A 57.1 M8A 24.6 S8A 1.0
BDE .3147 BRA .2260 BC3 1.0056 F8P 2389 S61 857.6 S62 477.1 THA 1.60 EL1 29.0 EL2 1.7 ALF 29.42

LAUNCH DATE MAY 2 1971

FLIGHT TIME 190.00

ARRIVAL DATE NOV 8 1971

HELIOCENTRIC CONIC

DISTANCE 461.638

EARTH TO MARS

RL 180.76 LAL -.00 LOL 220.98 VL 32.209 GAL -1.16 AZL 92.35 MCA 182.45 SMA 184.83 ECC .18537 INC 2.3467 V1 29.884
RP 210.45 LAP -1.09 LOP 13.43 VP 23.306 GAP 7.14 AZP 87.92 TAL 382.60 TAP 148.09 RCA 150.56 APO 219.09 V2 26.088
RC 114.307 GL -24.40 GP 4.12 ZAL 109.89 ZAP 117.40 ET8 177.89 ZAE 189.88 ETE 167.98 ZAC 105.01 ETC 276.33 LVI -19.84

PLANETOCENTRIC CONIC

C3 10.243 VML 3.200 DLA -32.98 RAL 345.05 RAD 6636.2 VEL 11.417 PTH 6.47 VHP 3.273 DPA -15.29 RAP 312.72 ECC 1.1686
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 18 5 22 2289.00 3.19 37.37 198.47 137.49 18 43 31 1289.0 21.19 40.99
60.00 19 38 54 2040.02 9.07 40.76 204.07 129.44 20 12 54 1040.0 24.07 21.07
70.00 22 2 59 1618.42 17.98 12.44 210.10 119.76 22 29 54 615.4 28.28 349.07
72.32 23 25 33 1361.57 23.38 385.93 213.23 113.92 23 48 14 361.6 31.12 330.36
72.32 23 25 33 1361.57 23.38 385.93 213.23 113.92 23 48 14 361.6 31.12 330.36
72.32 23 25 33 1361.57 23.38 385.93 213.23 113.92 23 48 14 361.6 31.12 330.36
110.00 3 6 21 5950.27 17.98 279.26 210.10 119.76 4 45 32 4950.3 28.28 235.90

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2742 TRA -.1685 TC3 -1.0093 BAW .1591 SGT 885.8 SCR 491.7 S63 1482.2 ST 25.1 SR 14.0 SS 56.5
RDE -.1534 RRA -.0819 RC3 .8787 FAW .20325 RRT -.0945 RRF -.7899 RTF .1.65 CRT .9966 CR8 .4348 CBT .4508
FDE .5705 FRA 6.0106 FC-17.1784 B8P 708 SGB 1013.1 R23 .7741 R13 -.1687 L8A 58.3 M8A 24.9 S8A 1.0
BDE .3142 BRA .1856 BC3 1.1620 F8P 2484 S61 887.5 S62 488.5 THA 178.69 EL1 28.7 EL2 1.0 ALF 29.06

LAUNCH DATE MAY 2 1971

FLIGHT TIME 192.00

ARRIVAL DATE NOV 10 1971

HELIOCENTRIC CONIC

DISTANCE 485.805

EARTH TO MARS

RL 180.76 LAL -.00 LOL 220.98 VL 32.279 GAL -1.17 AZL 92.37 MCA 183.67 SMA 184.67 ECC .18470 INC 2.3748 V1 29.884
RP 210.70 LAP -1.05 LOP 14.68 VP 23.262 GAP 6.82 AZP 87.87 TAL 382.50 TAP 146.17 RCA 150.56 APO 218.78 V2 26.030
RC 116.480 GL -24.70 GP 4.36 ZAL 110.02 ZAP 115.33 ET8 177.63 ZAE 187.78 ETE 168.67 ZAC 105.35 ETC 276.14 LVI -19.80

PLANETOCENTRIC CONIC

C3 10.243 VML 3.200 DLA -33.16 RAL 348.40 RAD 6636.2 VEL 11.417 PTH 6.47 VHP 3.220 DPA -15.28 RAP 311.81 ECC 1.1686
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 18 8 2 2284.10 3.43 37.36 198.92 137.48 18 46 8 1284.1 21.42 40.75
60.00 19 42 22 2033.01 9.37 40.41 204.57 129.38 20 16 15 1033.0 24.34 20.66
70.00 22 10 15 1597.05 18.20 11.37 210.78 119.41 22 36 52 597.1 28.70 347.81
71.92 23 24 24 1369.39 23.51 386.60 213.64 114.08 23 47 14 369.4 31.31 331.01
71.92 23 24 24 1369.39 23.51 386.60 213.64 114.08 23 47 14 369.4 31.31 331.01
71.92 23 24 24 1369.39 23.51 386.60 213.64 114.08 23 47 14 369.4 31.31 331.01
110.00 3 13 37 5931.91 18.20 278.20 210.78 119.41 4 52 29 4931.9 28.70 254.64

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2718 TRA -.1096 TC3 -1.1639 BAW .1793 SGT 920.1 SCR 509.3 S63 1811.8 ST 24.6 SR 13.6 SS 57.6
RDE -.1484 RRA -.0949 RC3 .8003 FAW .20926 RRT -.2334 RRF -.8827 RTF .2981 CRT .9928 CR8 .4687 CBT .3860
FDE .5846 FRA 6.2193 FC-17.6668 B8P 712 SGB 1051.7 R23 .7429 R13 -.3698 L8A 59.0 M8A 25.1 S8A .9
BDE .3096 BRA .1450 BC3 1.3098 F8P 2573 S61 930.8 S62 489.8 THA 180.78 EL1 28.1 EL2 1.4 ALF 29.91

LAUNCH DATE MAY 2 1971 FLIGHT TIME 194.00 ARRIVAL DATE NOV 12 1971

HELIOCENTRIC CONIC
 RL 150.76 LAL -.00 LOL 220.96 VL 32.271 GAL -1.18 AZL 92.41 HCA 154.89 SMA 184.83 ECC .18411 INC 2.4053 V1 29.554
 RP 210.95 LAP -1.02 LOP 15.87 VP 23.218 GAP 6.72 AZP 87.82 TAL 352.38 TAP 147.28 RCA 150.55 APO 218.50 V2 26.001
 RC 118.637 GL -23.01 GP 4.62 ZAL 110.16 ZAP 113.24 ETS 177.68 ZAE 155.83 ETE 169.25 ZAC 105.70 ETC 275.95 LVI -19.77

PLANETOCENTRIC CONIC
 C3 10.256 VHL 3.202 DLA -33.36 RAL 345.78 RAD 6638.2 VEL 11.417 PTH 6.47 VHP 3.171 DPA -15.25 RAP 310.87 ECC 1.1688
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 10 50 2279.39 3.67 57.17 199.40 137.47 18 48 50 1279.4 21.64 40.52
 60.00 19 45 59 2026.12 9.67 40.08 205.10 129.32 20 19 45 1026.1 24.59 20.25
 70.00 22 18 19 1576.89 18.87 10.20 211.53 119.01 22 44 36 576.9 29.15 346.41
 71.53 23 23 25 1377.31 23.63 357.27 214.10 114.25 23 46 22 377.3 31.49 331.66
 71.53 23 23 25 1377.31 23.63 357.27 214.10 114.25 23 46 22 377.3 31.49 331.66
 71.53 23 23 25 1377.31 23.63 357.27 214.10 114.25 23 46 22 377.3 31.49 331.66
 110.00 3 21 41 5911.75 18.87 277.02 211.53 119.01 5 0 13 4911.8 29.15 253.24

DIFFERENTIAL CORRECTIONS
 TDE -.2701 TRA -.0504 TC3-1.3247 BAU .2009 SGT 982.4 SGR 530.8 SG3 1559.9 ST 24.3 SR 13.3 SS 58.8
 RDE -.1437 RRA -.1089 RC3 .6269 FAU .21523 RRT -.3666 RRF -.8526 RTF .4424 CRT .9756 CRS .5074 CST .3196
 FDE .6249 FRA 6.4235 FC-18.1687 B8P 825 SGB 1116.6 R23 .6816 R13 -.5308 LSA 59.9 MSA 25.2 SSA .9
 BDE .3060 BRA .1201 BC3 1.4655 F8P 2663 SG1 1007.5 SG2 481.6 THA 165.39 EL1 27.6 EL2 2.6 ALF 28.48

MID-COURSE EXECUTION ACCURACY **ORBIT DETERMINATION ACCURACY**

LAUNCH DATE MAY 2 1971 FLIGHT TIME 196.00 ARRIVAL DATE NOV 14 1971

HELIOCENTRIC CONIC
 RL 150.76 LAL -.00 LOL 220.96 VL 32.263 GAL -1.20 AZL 92.44 HCA 156.11 SMA 184.40 ECC .18360 INC 2.4386 V1 29.554
 RP 211.20 LAP -.99 LOP 17.09 VP 23.175 GAP 6.51 AZP 87.77 TAL 352.25 TAP 148.36 RCA 150.55 APO 218.26 V2 25.972
 RC 120.836 GL -25.34 GP 4.91 ZAL 110.32 ZAP 111.14 ETS 177.74 ZAE 153.85 ETE 169.72 ZAC 106.08 ETC 275.76 LVI -19.75

PLANETOCENTRIC CONIC
 C3 10.282 VHL 3.207 DLA -33.56 RAL 346.18 RAD 6638.2 VEL 11.418 PTH 6.47 VHP 3.127 DPA -15.20 RAP 309.91 ECC 1.1692
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 13 48 2274.82 3.90 56.97 199.93 137.45 18 51 43 1274.8 21.85 40.30
 60.00 19 49 48 2019.25 9.96 39.74 205.69 129.26 20 23 28 1019.2 24.85 19.85
 70.00 22 27 35 1553.73 19.63 8.83 212.39 118.53 22 53 28 553.7 29.64 344.79
 71.13 23 22 33 1385.46 23.75 357.96 214.61 114.43 23 45 39 385.5 31.67 332.34
 71.13 23 22 33 1385.46 23.75 357.96 214.61 114.43 23 45 39 385.5 31.67 332.34
 71.13 23 22 33 1385.46 23.75 357.96 214.61 114.43 23 45 39 385.5 31.67 332.34
 110.00 3 30 57 5888.59 19.63 275.65 212.39 118.53 5 9 6 4888.6 29.64 251.62

DIFFERENTIAL CORRECTIONS
 TDE -.2682 TRA .0115 TC3-1.4940 BAU .2242 SGT 1071.6 SGR 555.3 SG3 1603.6 ST 24.0 SR 13.1 SS 59.9
 RDE -.1390 RRA -.1241 RC3 .6538 FAU .22030 RRT -.4861 RRF -.8786 RTF .5625 CRT .9415 CRS .5475 CST .2425
 FDE .6512 FRA 6.6226 FC-18.5479 B8P 1020 SGB 1206.9 R23 .6138 R13 -.6475 LSA 60.7 MSA 25.4 SSA .9
 BDE .3021 BRA .1246 BC3 1.6308 F8P 2745 SG1 1112.8 SG2 467.3 THA 162.72 EL1 27.1 EL2 3.9 ALF 27.75

MID-COURSE EXECUTION ACCURACY **ORBIT DETERMINATION ACCURACY**

LAUNCH DATE MAY 2 1971 FLIGHT TIME 198.00 ARRIVAL DATE NOV 16 1971

HELIOCENTRIC CONIC
 RL 150.76 LAL -.00 LOL 220.96 VL 32.257 GAL -1.22 AZL 92.48 HCA 157.33 SMA 184.30 ECC .18317 INC 2.4753 V1 29.554
 RP 211.46 LAP -.95 LOP 18.30 VP 23.132 GAP 6.31 AZP 87.72 TAL 352.10 TAP 149.43 RCA 150.54 APO 218.06 V2 25.942
 RC 123.058 GL -25.69 GP 5.21 ZAL 110.49 ZAP 109.03 ETS 177.81 ZAE 151.84 ETE 170.11 ZAC 106.48 ETC 275.56 LVI -19.74

PLANETOCENTRIC CONIC
 C3 10.323 VHL 3.213 DLA -33.77 RAL 346.62 RAD 6638.2 VEL 11.420 PTH 6.47 VHP 3.088 DPA -15.12 RAP 308.94 ECC 1.1699
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 16 57 2270.29 4.13 56.78 200.51 137.44 18 54 47 1270.3 22.07 40.07
 60.00 19 53 52 2012.25 10.26 39.39 206.34 129.19 20 27 25 1012.3 25.10 19.44
 70.00 22 38 52 1525.11 20.55 7.12 213.39 117.90 23 4 17 525.1 30.22 342.76
 70.72 23 21 47 1393.92 23.87 358.68 215.17 114.63 23 45 1 393.9 31.86 333.04
 70.72 23 21 47 1393.92 23.87 358.68 215.17 114.63 23 45 1 393.9 31.86 333.04
 70.72 23 21 47 1393.92 23.87 358.68 215.17 114.63 23 45 1 393.9 31.86 333.04
 110.00 3 42 14 5859.97 20.55 273.94 213.39 117.90 5 19 54 4860.0 30.22 249.59

DIFFERENTIAL CORRECTIONS
 TDE -.2663 TRA .0758 TC3-1.6655 BAU .2484 SGT 1182.1 SGR 584.0 SG3 1645.4 ST 23.9 SR 12.8 SS 61.0
 RDE -.1346 RRA -.1407 RC3 .6825 FAU .22490 RRT -.5859 RRF -.9015 RTF .4.65 CRT .8880 CRS .5908 CST .1603
 FDE .6806 FRA 6.8227 FC-18.8673 B8P 1270 SGB 1318.5 R23 .5525 R13 -.7298 LSA 61.6 MSA 25.6 SSA .8
 BDE .2984 BRA .1598 BC3 1.7999 F8P 2826 SG1 1238.7 SG2 451.6 THA 161.28 EL1 26.6 EL2 5.3 ALF 26.63

MID-COURSE EXECUTION ACCURACY **ORBIT DETERMINATION ACCURACY**

LAUNCH DATE MAY 2 1971 FLIGHT TIME 200.00 ARRIVAL DATE NOV 18 1971

HELIOCENTRIC CONIC
 RL 150.76 LAL -.00 LOL 220.96 VL 32.251 GAL -1.24 AZL 92.52 HCA 158.54 SMA 184.21 ECC .18281 INC 2.5156 V1 29.554
 RP 211.73 LAP -.92 LOP 19.51 VP 23.090 GAP 6.11 AZP 87.68 TAL 351.94 TAP 150.48 RCA 150.53 APO 217.88 V2 25.911
 RC 125.302 GL -26.06 GP 5.55 ZAL 110.67 ZAP 106.92 ETS 177.90 ZAE 149.80 ETE 170.42 ZAC 106.90 ETC 275.38 LVI -19.75

PLANETOCENTRIC CONIC
 C3 10.379 VHL 3.222 DLA -34.00 RAL 347.09 RAD 6638.2 VEL 11.422 PTH 6.47 VHP 3.054 DPA -15.02 RAP 307.95 ECC 1.1708
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 20 19 2265.71 4.35 56.59 201.15 137.42 18 58 5 1265.7 22.28 39.85
 60.00 19 58 15 2004.99 10.58 39.03 207.05 129.12 20 31 40 1005.0 25.37 19.01
 70.00 22 54 35 1483.74 21.85 4.61 214.65 116.93 23 19 18 483.7 30.99 339.79
 70.29 23 21 3 1402.95 23.99 359.44 215.78 114.84 23 44 26 402.9 32.05 333.79
 70.29 23 21 3 1402.95 23.99 359.44 215.78 114.84 23 44 26 402.9 32.05 333.79
 70.29 23 21 3 1402.95 23.99 359.44 215.78 114.84 23 44 26 402.9 32.05 333.79
 110.00 3 57 57 5818.60 21.85 271.43 214.65 116.93 5 34 55 4818.6 30.99 246.61

DIFFERENTIAL CORRECTIONS
 TDE -.2650 TRA .1431 TC3-1.8401 BAU .2738 SGT 1312.2 SGR 617.1 SG3 1683.6 ST 24.1 SR 12.7 SS 62.0
 RDE -.1304 RRA -.1586 RC3 .7134 FAU .22937 RRT -.6670 RRF -.9211 RTF .7288 CRT .8135 CRS .6364 CST .0741
 FDE .7115 FRA 7.0097 FC-19.1334 B8P 1555 SGB 1450.1 R23 .4996 R13 -.7889 LSA 62.6 MSA 25.6 SSA .8
 BDE .2953 BRA .2136 BC3 1.9735 F8P 2891 SG1 1382.9 SG2 436.3 THA 160.57 EL1 26.4 EL2 6.7 ALF 24.95

MID-COURSE EXECUTION ACCURACY **ORBIT DETERMINATION ACCURACY**

LAUNCH DATE MAY 2 1971 FLIGHT TIME 202.00 ARRIVAL DATE NOV 20 1971

HELIOCENTRIC CONIC DISTANCE 486.688 EARTH TO MARS
 RL 150.76 LAL -.00 LOL 220.96 VL 32.246 GAL -1.27 AZL 92.56 HCA 159.74 SMA 184.13 ECC .18252 INC 2.5605 V1 29.554
 RP 212.01 LAP -.89 LOP 20.72 VP 23.048 GAP 5.92 AZP 87.60 TAL 351.77 TAP 191.91 RCA 150.52 APO 217.74 V2 25.880
 RC 127.966 GL -26.46 GP 5.91 ZAL 110.87 ZAP 104.80 ETS 177.99 ZAE 147.74 ETE 170.66 ZAC 107.36 ETC 275.15 LVI -19.79

PLANETOCENTRIC CONIC
 C3 10.450 VHL 3.233 DLA -34.24 RAL 347.59 RAD 6638.3 VEL 11.426 PTH 6.48 VHP 3.024 DPA -14.87 RAP 306.95 ECC 1.1720
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 23 58 2260.97 4.59 56.39 201.84 137.41 19 1 39 1261.0 22.90 39.61
 60.00 20 3 1 1997.25 10.91 38.65 207.82 129.04 20 36 18 997.3 25.65 18.55
 69.84 23 20 21 1412.62 24.11 .26 216.46 115.08 23 43 54 412.6 32.26 334.60
 69.84 23 20 21 1412.62 24.11 .26 216.46 115.08 23 43 54 412.6 32.26 334.60
 69.84 23 20 21 1412.62 24.11 .26 216.46 115.08 23 43 54 412.6 32.26 334.60
 69.84 23 20 21 1412.62 24.11 .26 216.46 115.08 23 43 54 412.6 32.26 334.60
 69.84 23 20 21 1412.62 24.11 .26 216.46 115.08 23 43 54 412.6 32.26 334.60

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2635 TRA .2133 TC3-2.0142 BAU .3001 SGT 1457.1 SGR 655.0 SG3 1717.5 ST 24.4 SR 12.6 SS 63.0
 RDE -.1266 RRA -.1781 RC3 .7464 FAU .23328 RRT -.7316 RRF -.9377 RTF .7836 CRT .7182 CRS .6840 CST -.0125
 FDE .7481 FRA 7.1848 FC-19.3263 BSP 1866 SGB 1597.6 R23 .4552 R13 -.8322 LSA 63.6 MSA 26.1 SSA .7
 BDE .2923 BRA .2779 BC3 2.1481 FSP 2962 SG1 1540.8 SG2 422.3 THA 160.25 EL1 26.2 EL2 8.2 ALF 22.68

LAUNCH DATE MAY 2 1971 FLIGHT TIME 204.00 ARRIVAL DATE NOV 22 1971

HELIOCENTRIC CONIC DISTANCE 490.672 EARTH TO MARS
 RL 150.76 LAL -.00 LOL 220.96 VL 32.243 GAL -1.30 AZL 92.61 HCA 160.95 SMA 184.07 ECC .18230 INC 2.6104 V1 29.554
 RP 212.29 LAP -.85 LOP 21.93 VP 23.007 GAP 5.73 AZP 87.53 TAL 351.58 TAP 192.93 RCA 150.51 APO 217.62 V2 23.848
 RC 129.850 GL -26.89 GP 6.32 ZAL 111.06 ZAP 102.69 ETS 178.10 ZAE 145.67 ETE 170.84 ZAC 107.85 ETC 274.95 LVI -19.89

PLANETOCENTRIC CONIC
 C3 10.538 VHL 3.246 DLA -34.50 RAL 348.13 RAD 6638.3 VEL 11.429 PTH 6.48 VHP 2.998 DPA -14.69 RAP 305.95 ECC 1.1734
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 27 56 2255.94 4.84 56.18 202.61 137.39 19 5 32 1255.9 22.73 39.36
 60.00 20 8 16 1988.81 11.27 38.23 208.69 128.95 20 41 25 988.8 25.96 18.04
 69.36 23 19 39 1423.04 24.23 1.14 217.21 115.35 23 43 22 423.0 32.48 335.47
 69.36 23 19 39 1423.04 24.23 1.14 217.21 115.35 23 43 22 423.0 32.48 335.47
 69.36 23 19 39 1423.04 24.23 1.14 217.21 115.35 23 43 22 423.0 32.48 335.47
 69.36 23 19 39 1423.04 24.23 1.14 217.21 115.35 23 43 22 423.0 32.48 335.47
 69.36 23 19 39 1423.04 24.23 1.14 217.21 115.35 23 43 22 423.0 32.48 335.47

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2630 TRA .2858 TC3-2.1911 BAU .3278 SGT 1616.8 SGR 697.8 SG3 1746.1 ST 25.0 SR 12.6 SS 63.8
 RDE -.1229 RRA -.1992 RC3 .7821 FAU .23681 RRT -.7826 RRF -.9514 RTF .8249 CRT .6054 CRS .7301 CST -.0989
 FDE .7789 FRA 7.3381 FC-19.4543 BSP 2188 SGB 1760.9 R23 .4185 R13 -.8641 LSA 64.5 MSA 26.4 SSA .7
 BDE .2903 BRA .3484 BC3 2.3266 FSP 3012 SG1 1712.5 SG2 410.1 THA 160.15 EL1 26.4 EL2 9.5 ALF 19.63

LAUNCH DATE MAY 2 1971 FLIGHT TIME 206.00 ARRIVAL DATE NOV 24 1971

HELIOCENTRIC CONIC DISTANCE 495.058 EARTH TO MARS
 RL 150.76 LAL -.00 LOL 220.96 VL 32.240 GAL -1.33 AZL 92.67 HCA 162.15 SMA 184.02 ECC .18215 INC 2.6668 V1 29.554
 RP 212.57 LAP -.82 LOP 23.13 VP 22.966 GAP 5.54 AZP 87.46 TAL 351.38 TAP 193.93 RCA 150.50 APO 217.54 V2 25.819
 RC 132.153 GL -27.37 GP 6.77 ZAL 111.27 ZAP 100.59 ETS 178.23 ZAE 143.58 ETE 170.98 ZAC 108.38 ETC 274.74 LVI -19.96

PLANETOCENTRIC CONIC
 C3 10.646 VHL 3.263 DLA -34.80 RAL 348.72 RAD 6638.4 VEL 11.434 PTH 6.49 VHP 2.977 DPA -14.45 RAP 304.95 ECC 1.1752
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 32 19 2250.44 5.12 55.95 203.45 137.37 19 9 50 1250.4 22.99 39.09
 60.00 20 14 8 1979.32 11.88 37.75 209.64 128.85 20 47 7 979.3 26.30 17.47
 68.82 23 18 52 1434.54 24.37 2.11 218.03 115.65 23 42 47 434.5 32.72 336.44
 68.82 23 18 52 1434.54 24.37 2.11 218.03 115.65 23 42 47 434.5 32.72 336.44
 68.82 23 18 52 1434.54 24.37 2.11 218.03 115.65 23 42 47 434.5 32.72 336.44
 68.82 23 18 52 1434.54 24.37 2.11 218.03 115.65 23 42 47 434.5 32.72 336.44
 68.82 23 18 52 1434.54 24.37 2.11 218.03 115.65 23 42 47 434.5 32.72 336.44

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2621 TRA .3615 TC3-2.3637 BAU .3561 SGT 1785.6 SGR 746.5 SG3 1770.7 ST 25.9 SR 12.7 SS 64.8
 RDE -.1196 RRA -.2227 RC3 .8201 FAU .23959 RRT -.8229 RRF -.9627 RTF .7582 CRT .4767 CRS .7756 CST -.1828
 FDE .8120 FRA 7.4863 FC-19.4841 BSP 2533 SGB 1935.4 R23 .3877 R13 -.8883 LSA 65.5 MSA 26.7 SSA .6
 BDE .2881 BRA .4246 BC3 2.5019 FSP 3082 SG1 1893.6 SG2 399.9 THA 160.09 EL1 26.7 EL2 10.8 ALF 15.87

LAUNCH DATE MAY 2 1971 FLIGHT TIME 208.00 ARRIVAL DATE NOV 26 1971

HELIOCENTRIC CONIC DISTANCE 499.244 EARTH TO MARS
 RL 150.76 LAL -.00 LOL 220.96 VL 32.237 GAL -1.36 AZL 92.73 HCA 163.35 SMA 183.98 ECC .18205 INC 2.7312 V1 29.554
 RP 212.86 LAP -.78 LOP 24.32 VP 22.926 GAP 5.36 AZP 87.38 TAL 351.16 TAP 194.91 RCA 150.49 APO 217.47 V2 25.782
 RC 134.475 GL -27.90 GP 7.27 ZAL 111.47 ZAP 98.51 ETS 178.38 ZAE 141.49 ETE 171.03 ZAC 108.96 ETC 274.54 LVI -20.12

PLANETOCENTRIC CONIC
 C3 10.774 VHL 3.282 DLA -35.13 RAL 349.38 RAD 6638.4 VEL 11.440 PTH 6.49 VHP 2.960 DPA -14.15 RAP 303.94 ECC 1.1773
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 37 13 2244.26 5.43 55.69 204.39 137.34 19 14 37 1244.3 23.28 38.78
 60.00 20 20 48 1968.38 12.14 37.21 210.72 128.73 20 53 37 968.4 26.69 16.81
 68.23 23 17 59 1447.29 24.51 3.19 218.95 116.00 23 42 7 447.3 32.99 337.52
 68.23 23 17 59 1447.29 24.51 3.19 218.95 116.00 23 42 7 447.3 32.99 337.52
 68.23 23 17 59 1447.29 24.51 3.19 218.95 116.00 23 42 7 447.3 32.99 337.52
 68.23 23 17 59 1447.29 24.51 3.19 218.95 116.00 23 42 7 447.3 32.99 337.52
 68.23 23 17 59 1447.29 24.51 3.19 218.95 116.00 23 42 7 447.3 32.99 337.52

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2612 TRA .4405 TC3-2.5305 BAU .3849 SGT 1982.6 SGR 801.6 SG3 1789.7 ST 26.9 SR 13.0 SS 65.5
 RDE -.1171 RRA -.2492 RC3 .8588 FAU .24096 RRT -.8540 RRF -.9718 RTF .8793 CRT .3384 CRS .8203 CST -.2586
 FDE .8591 FRA 7.6312 FC-19.3615 BSP 2899 SGB 2120.0 R23 .3634 R13 -.9063 LSA 66.8 MSA 27.0 SSA .6
 BDE .2863 BRA .5062 BC3 2.6723 FSP 3109 SG1 2083.3 SG2 393.0 THA 160.03 EL1 27.4 EL2 12.0 ALF 11.54

LAUNCH DATE MAY 2 1971

FLIGHT TIME 210.00

ARRIVAL DATE NOV 28 1971

HELIOCENTRIC CONIC

DISTANCE 503.432

EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 32.236 GAL -1.39 AZL 92.80 HCA 164.94 SMA 183.95 ECC .18202 INC 2.8046 V1 29.554
RP 213.16 LAP -.75 LOP 25.52 VP 22.886 GAP 5.17 AZP 87.30 TAL 350.93 TAP 153.48 RCA 150.47 APO 217.44 V2 25.749
RC 136.814 GL -28.49 GP 7.85 ZAL 111.68 ZAP 96.45 ETS 178.55 ZAE 139.39 ETE 171.05 ZAC 109.60 ETC 274.34 LVI -20.35

PLANETOCENTRIC CONIC

C3 10.929 VHL 3.306 DLA -35.52 RAL 350.08 RAD 6638.5 VEL 11.446 PTH 6.50 VHP 2.947 DPA -13.77 RAP 302.94 ECC 1.1799
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 42 48 2237.11 5.79 55.39 205.45 137.31 19 20 2 1237.1 23.61 38.42
60.00 20 28 31 1955.37 12.70 36.85 211.95 128.58 21 1 6 955.4 27.15 16.01
67.56 23 16 57 1461.60 24.67 4.41 219.97 116.40 23 41 19 461.6 33.30 338.73
67.56 23 16 57 1461.60 24.67 4.41 219.97 116.40 23 41 19 461.6 33.30 338.73
67.56 23 16 57 1461.60 24.67 4.41 219.97 116.40 23 41 19 461.6 33.30 338.73
67.56 23 16 57 1461.60 24.67 4.41 219.97 116.40 23 41 19 461.6 33.30 338.73
67.56 23 16 57 1461.60 24.67 4.41 219.97 116.40 23 41 19 461.6 33.30 338.73

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2618 TRA .5213 TC3-2.6935 BAU .4152 SGT 2146.9 SGR 865.3 SG3 1804.7 ST 28.3 SR 13.5 SS 86.1
RDE -.1143 RRA -.2784 RC3 .9050 FAU .24305 RRT -.8794 RRF -.9791 RTF .8982 CRT .1971 CR8 .8587 CST -.3316
FDE .8831 FRA 7.7438 FC-19.2534 BSP 3261 SGB 2314.7 R23 .3409 R13 -.9211 LSA 67.8 MSA 27.4 S8A .5
BDE .2856 BRA .5910 BC3 2.8414 FSP 3129 SG1 2282.0 SG2 387.5 THA 159.88 EL1 28.4 EL2 13.0 ALF 6.73

LAUNCH DATE MAY 2 1971

FLIGHT TIME 212.00

ARRIVAL DATE NOV 30 1971

HELIOCENTRIC CONIC

DISTANCE 507.619

EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 32.235 GAL -1.43 AZL 92.89 HCA 165.73 SMA 183.94 ECC .18204 INC 2.8901 V1 29.554
RP 213.46 LAP -.71 LOP 26.71 VP 22.846 GAP 4.99 AZP 87.20 TAL 350.69 TAP 156.43 RCA 150.46 APO 217.42 V2 25.714
RC 139.171 GL -29.17 GP 8.50 ZAL 111.87 ZAP 94.41 ETS 178.76 ZAE 137.29 ETE 171.00 ZAC 110.33 ETC 274.15 LVI -20.65

PLANETOCENTRIC CONIC

C3 11.113 VHL 3.334 DLA -35.97 RAL 350.81 RAD 6638.6 VEL 11.454 PTH 6.50 VHP 2.940 DPA -13.30 RAP 301.95 ECC 1.1829
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 49 6 2228.65 6.21 55.03 206.64 137.27 19 26 14 1228.7 23.99 37.99
60.00 20 37 38 1939.48 13.37 35.75 213.36 128.38 21 9 57 939.5 27.70 15.03
66.79 23 15 45 1477.74 24.86 5.80 221.12 116.88 23 40 22 477.7 33.66 340.12
66.79 23 15 45 1477.74 24.86 5.80 221.12 116.88 23 40 22 477.7 33.66 340.12
66.79 23 15 45 1477.74 24.86 5.80 221.12 116.88 23 40 22 477.7 33.66 340.12
66.79 23 15 45 1477.74 24.86 5.80 221.12 116.88 23 40 22 477.7 33.66 340.12
66.79 23 15 45 1477.74 24.86 5.80 221.12 116.88 23 40 22 477.7 33.66 340.12

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2621 TRA .6062 TC3-2.8446 BAU .4457 SGT 2336.0 SGR 937.3 SG3 1811.9 ST 29.8 SR 13.9 SS 66.8
RDE -.1131 RRA -.3117 RC3 .9518 FAU .24329 RRT -.8988 RRF -.9848 RTF .9122 CRT .0591 CR8 .8944 CST -.3923
FDE .9312 FRA 7.8450 FC-18.9528 BSP 3650 SGB 2517.0 R23 .3230 R13 -.9323 LSA 69.1 MSA 27.8 S8A .5
BDE .2855 BRA .6816 BC3 2.9996 FSP 3152 SG1 2487.3 SG2 386.0 THA 159.66 EL1 29.6 EL2 13.9 ALF 2.02

LAUNCH DATE MAY 2 1971

FLIGHT TIME 214.00

ARRIVAL DATE DEC 2 1971

HELIOCENTRIC CONIC

DISTANCE 511.807

EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 32.235 GAL -1.47 AZL 92.99 HCA 166.92 SMA 183.94 ECC .18211 INC 2.9900 V1 29.554
RP 213.77 LAP -.68 LOP 27.90 VP 22.807 GAP 4.82 AZP 87.09 TAL 350.44 TAP 157.37 RCA 150.44 APO 217.43 V2 25.680
RC 141.545 GL -29.96 GP 9.26 ZAL 112.04 ZAP 92.40 ETS 179.00 ZAE 135.20 ETE 170.90 ZAC 111.15 ETC 273.96 LVI -21.05

PLANETOCENTRIC CONIC

C3 11.335 VHL 3.367 DLA -36.50 RAL 351.65 RAD 6638.7 VEL 11.464 PTH 6.51 VHP 2.937 DPA -12.72 RAP 300.96 ECC 1.1865
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 56 30 2218.39 6.72 54.60 208.02 137.21 19 33 28 1218.4 24.46 37.46
60.00 20 48 42 1919.39 14.22 34.73 213.03 128.12 21 20 41 919.4 28.39 13.77
65.89 23 14 15 1496.24 25.07 7.41 222.43 117.45 23 39 12 496.2 34.09 341.73
65.89 23 14 15 1496.24 25.07 7.41 222.43 117.45 23 39 12 496.2 34.09 341.73
65.89 23 14 15 1496.24 25.07 7.41 222.43 117.45 23 39 12 496.2 34.09 341.73
65.89 23 14 15 1496.24 25.07 7.41 222.43 117.45 23 39 12 496.2 34.09 341.73
65.89 23 14 15 1496.24 25.07 7.41 222.43 117.45 23 39 12 496.2 34.09 341.73

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2846 TRA .6927 TC3-2.9878 BAU .4777 SGT 2329.8 SGR 1021.4 SG3 1814.0 ST 31.6 SR 14.7 SS 87.2
RDE -.1118 RRA -.3494 RC3 1.0070 FAU .24383 RRT -.9146 RRF -.9892 RTF .5238 CRT -.0712 CR8 .9235 CST -.4473
FDE .9597 FRA 7.9162 FC-18.6238 BSP 4030 SGB 2728.2 R23 .3062 R13 -.9418 LSA 70.2 MSA 28.4 S8A .4
BDE .2872 BRA .7758 BC3 3.1527 FSP 3148 SG1 2700.7 SG2 387.0 THA 159.29 EL1 31.6 EL2 14.6 ALF 177.60

LAUNCH DATE MAY 2 1971

FLIGHT TIME 216.00

ARRIVAL DATE DEC 4 1971

HELIOCENTRIC CONIC

DISTANCE 515.994

EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 32.235 GAL -1.51 AZL 93.11 HCA 168.11 SMA 183.94 ECC .18224 INC 3.1094 V1 29.554
RP 214.08 LAP -.64 LOP 29.08 VP 22.788 GAP 4.64 AZP 86.96 TAL 350.18 TAP 158.29 RCA 150.42 APO 217.46 V2 25.645
RC 143.936 GL -30.88 GP 10.15 ZAL 112.19 ZAP 90.43 ETS 179.29 ZAE 133.10 ETE 170.71 ZAC 112.10 ETC 273.79 LVI -21.59

PLANETOCENTRIC CONIC

C3 11.604 VHL 3.406 DLA -37.15 RAL 352.80 RAD 6638.9 VEL 11.475 PTH 6.52 VHP 2.939 DPA -12.00 RAP 299.98 ECC 1.1910
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 5 19 2205.64 7.36 54.05 209.64 137.14 19 42 5 1205.6 25.05 36.81
60.00 21 2 35 1893.01 15.32 33.37 217.05 127.74 21 34 8 893.0 29.27 12.10
64.84 23 12 30 1517.48 25.32 9.27 223.94 118.14 23 37 47 517.5 34.59 343.60
64.84 23 12 30 1517.48 25.32 9.27 223.94 118.14 23 37 47 517.5 34.59 343.60
64.84 23 12 30 1517.48 25.32 9.27 223.94 118.14 23 37 47 517.5 34.59 343.60
64.84 23 12 30 1517.48 25.32 9.27 223.94 118.14 23 37 47 517.5 34.59 343.60
64.84 23 12 30 1517.48 25.32 9.27 223.94 118.14 23 37 47 517.5 34.59 343.60

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2887 TRA .7823 TC3-3.1156 BAU .5108 SGT 2728.7 SGR 1118.8 SG3 1807.8 ST 33.7 SR 15.6 SS 87.6
RDE -.1118 RRA -.3935 RC3 1.0636 FAU .24283 RRT -.9265 RRF -.9925 RTF .9324 CRT -.1885 CR8 .9475 CST -.4917
FDE .9961 FRA 7.9674 FC-18.1166 BSP 4423 SGB 2947.3 R23 .2928 R13 -.9490 LSA 71.5 MSA 29.1 S8A .4
BDE .2910 BRA .8757 BC3 3.2928 FSP 3142 SG1 2921.0 SG2 392.9 THA 158.78 EL1 33.8 EL2 15.3 ALF 173.70

LAUNCH DATE MAY 2 1971

FLIGHT TIME 218.00

ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC

RL 150.76 LAL -.00 LOL 220.96 VL 32.238 GAL -1.55 AZL 93.25 HCA 169.29 SMA 183.96 ECC .18242 INC 3.2345 V1 29.954
RP 214.39 LAP -.60 LOP 30.26 VP 22.729 GAP 4.47 AZP 86.60 TAL 349.90 TAP 159.19 RCA 150.40 APO 217.51 V2 25.609
RC 146.344 GL -31.98 GP 11.22 ZAL 112.30 ZAP 88.50 ETS 179.64 ZAE 131.00 ETE 170.44 ZAC 113.23 ETC 273.62 LVI -22.29

PLANETOCENTRIC CONIC

C3 11.937 VHL 3.455 DLA -37.94 RAL 353.69 RAD 6639.0 VEL 11.490 PTH 6.54 VHP 2.947 DPA -11.10 RAP 299.01 ECC 1.1964
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 16 6 2189.43 8.17 53.36 211.58 137.04 19 52 36 1189.4 25.78 35.96
60.00 21 20 58 1856.30 16.84 31.46 219.59 127.17 21 51 54 856.3 30.46 9.72
63.58 23 10 25 1542.08 25.62 11.46 225.71 119.00 23 36 7 542.1 35.21 345.81
63.58 23 10 25 1542.08 25.62 11.46 225.71 119.00 23 36 7 542.1 35.21 345.81
63.58 23 10 25 1542.08 25.62 11.46 225.71 119.00 23 36 7 542.1 35.21 345.81
63.58 23 10 25 1542.08 25.62 11.46 225.71 119.00 23 36 7 542.1 35.21 345.81

DIFFERENTIAL CORRECTIONS

TDE -.2732 TRA .8770 TC3-3.2191 BAU .5446
RDE -.1133 RRA -.4458 RC3 1.1326 FAU .24128
FDE 1.0338 FRA 7.9943 FC-17.4994 BSP 4845
BDE .2958 BRA .9830 BC3 3.4125 FSP 3126

MID-COURSE EXECUTION ACCURACY

SGT 2924.7 SGR 1235.5 SG3 1795.2
RRT -.9366 RRF -.9950 RTF .9399
SGB 3175.0 R23 .2784 R13 -.9555
SG1 3149.4 SG2 402.1 THA 158.04

ORBIT DETERMINATION ACCURACY

ST 35.9 SR 17.0 SS 68.0
CRT -.2956 CRS .9662 CST -.5313
LSA 72.9 MSA 29.8 SSA .3
EL1 36.3 EL2 16.0 ALF 170.12

LAUNCH DATE MAY 2 1971

FLIGHT TIME 220.00

ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC

RL 150.76 LAL -.00 LOL 220.96 VL 32.237 GAL -1.60 AZL 93.43 HCA 170.46 SMA 183.98 ECC .18264 INC 3.4342 V1 29.554
RP 214.72 LAP -.57 LOP 31.44 VP 22.690 GAP 4.30 AZP 86.61 TAL 349.62 TAP 160.08 RCA 150.38 APO 217.59 V2 25.573
RC 148.770 GL -33.31 GP 12.53 ZAL 112.35 ZAP 86.63 ETS 180.06 ZAE 128.90 ETE 170.05 ZAC 114.59 ETC 273.47 LVI -23.22

PLANETOCENTRIC CONIC

C3 12.358 VHL 3.515 DLA -38.93 RAL 354.96 RAD 6639.2 VEL 11.508 PTH 6.56 VHP 2.962 DPA -9.94 RAP 298.03 ECC 1.2034
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 29 40 2168.25 9.22 52.46 213.99 136.89 20 5 49 1168.2 26.73 34.84
60.00 21 47 38 1799.64 19.14 28.45 223.02 126.17 22 17 37 799.6 32.20 5.92
62.06 23 8 1 1570.95 25.97 14.07 227.84 120.08 23 34 12 570.9 35.97 348.46
62.06 23 8 1 1570.95 25.97 14.07 227.84 120.08 23 34 12 570.9 35.97 348.46
62.06 23 8 1 1570.95 25.97 14.07 227.84 120.08 23 34 12 570.9 35.97 348.46
62.06 23 8 1 1570.95 25.97 14.07 227.84 120.08 23 34 12 570.9 35.97 348.46

DIFFERENTIAL CORRECTIONS

TDE -.2818 TRA .9736 TC3-3.3018 BAU .5809
RDE -.1170 RRA -.9081 RC3 1.2083 FAU .23869
FDE 1.0749 FRA 7.9743 FC-16.7217 BSP 5258
BDE .3051 BRA 1.0982 BC3 3.5160 FSP 3083

MID-COURSE EXECUTION ACCURACY

SGT 3124.1 SGR 1375.2 SG3 1771.5
RRT -.9440 RRF -.9968 RTF .9455
SGB 3413.4 R23 .2662 R13 -.9607
SG1 3387.7 SG2 418.4 THA 157.07

ORBIT DETERMINATION ACCURACY

ST 36.4 SR 18.6 SS 68.1
CRT -.3828 CRS .9798 CST -.5594
LSA 74.3 MSA 30.7 SSA .3
EL1 39.2 EL2 16.9 ALF 167.04

LAUNCH DATE MAY 2 1971

FLIGHT TIME 222.00

ARRIVAL DATE DEC 10 1971

HELIOCENTRIC CONIC

RL 150.76 LAL -.00 LOL 220.96 VL 32.240 GAL -1.65 AZL 93.66 HCA 171.64 SMA 184.02 ECC .18291 INC 3.6638 V1 29.554
RP 215.04 LAP -.53 LOP 32.61 VP 22.652 GAP 4.13 AZP 86.37 TAL 349.32 TAP 160.96 RCA 150.36 APO 217.67 V2 25.536
RC 151.211 GL -34.98 GP 14.16 ZAL 112.30 ZAP 84.82 ETS 180.60 ZAE 126.77 ETE 169.52 ZAC 116.27 ETC 273.33 LVI -24.46

PLANETOCENTRIC CONIC

C3 12.908 VHL 3.593 DLA -40.18 RAL 356.48 RAD 6639.5 VEL 11.532 PTH 6.58 VHP 2.987 DPA -8.46 RAP 297.05 ECC 1.2124
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 47 28 2139.60 10.64 51.22 217.09 136.65 20 23 7 1139.6 28.00 33.29
60.00 22 43 10 1667.49 24.27 21.04 228.98 123.22 23 10 57 667.5 35.70 356.48
60.18 23 5 22 1605.07 26.39 17.22 230.47 121.46 23 32 7 605.1 36.90 351.68
60.18 23 5 22 1605.07 26.39 17.22 230.47 121.46 23 32 7 605.1 36.90 351.68
60.18 23 5 22 1605.07 26.39 17.22 230.47 121.46 23 32 7 605.1 36.90 351.68
60.18 23 5 22 1605.07 26.39 17.22 230.47 121.46 23 32 7 605.1 36.90 351.68

DIFFERENTIAL CORRECTIONS

TDE -.2893 TRA 1.0793 TC3-3.3378 BAU .6175
RDE -.1254 RRA -.5869 RC3 1.2899 FAU .23399
FDE 1.1416 FRA 7.9308 FC-15.6929 BSP 5740
BDE .3153 BRA 1.2286 BC3 3.5783 FSP 3035

MID-COURSE EXECUTION ACCURACY

SGT 3322.8 SGR 1549.1 SG3 1737.6
RRT -.9501 RRF -.9980 RTF .502
SGB 3666.0 R23 .2530 R13 -.9654
SG1 3639.3 SG2 441.1 THA 155.73

ORBIT DETERMINATION ACCURACY

ST 41.1 SR 21.0 SS 68.4
CRT -.4588 CRS .9893 CST -.5835
LSA 76.1 MSA 31.7 SSA .2
EL1 42.4 EL2 18.0 ALF 163.82

LAUNCH DATE MAY 2 1971

FLIGHT TIME 224.00

ARRIVAL DATE DEC 12 1971

HELIOCENTRIC CONIC

RL 150.76 LAL -.00 LOL 220.96 VL 32.242 GAL -1.69 AZL 93.97 HCA 172.81 SMA 184.06 ECC .18323 INC 3.9660 V1 29.554
RP 215.37 LAP -.50 LOP 33.78 VP 22.614 GAP 3.96 AZP 86.06 TAL 349.02 TAP 161.83 RCA 150.33 APO 217.78 V2 25.499
RC 193.669 GL -37.09 GP 16.27 ZAL 112.11 ZAP 83.11 ETS 181.28 ZAE 124.60 ETE 168.79 ZAC 118.41 ETC 273.22 LVI -26.14

PLANETOCENTRIC CONIC

C3 13.664 VHL 3.696 DLA -41.80 RAL 358.39 RAD 6639.9 VEL 11.564 PTH 6.61 VHP 3.026 DPA -6.49 RAP 296.05 ECC 1.2249
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 12 9 2098.82 12.66 49.44 221.33 136.26 20 47 8 1098.8 29.77 31.02
57.84 23 2 40 1646.02 26.88 21.08 233.83 123.30 23 30 6 646.0 38.08 355.68
57.84 23 2 40 1646.02 26.88 21.08 233.83 123.30 23 30 6 646.0 38.08 355.68
57.84 23 2 40 1646.02 26.88 21.08 233.83 123.30 23 30 6 646.0 38.08 355.68
57.84 23 2 40 1646.02 26.88 21.08 233.83 123.30 23 30 6 646.0 38.08 355.68
57.84 23 2 40 1646.02 26.88 21.08 233.83 123.30 23 30 6 646.0 38.08 355.68

DIFFERENTIAL CORRECTIONS

TDE -.3032 TRA 1.1873 TC3-3.3353 BAU .6597
RDE -.1392 RRA -.6854 RC3 1.3854 FAU .22823
FDE 1.2112 FRA 7.7981 FC-14.4605 BSP 6216
BDE .3336 BRA 1.3711 BC3 3.6116 FSP 2950

MID-COURSE EXECUTION ACCURACY

SGT 3520.9 SGR 1768.1 SG3 1685.7
RRT -.9545 RRF -.9989 RTF .9536
SGB 3939.9 R23 .2404 R13 -.9695
SG1 3911.2 SG2 474.4 THA 153.98

ORBIT DETERMINATION ACCURACY

ST 44.0 SR 24.0 SS 68.3
CRT -.5149 CRS .9951 CST -.5968
LSA 78.0 MSA 33.1 SSA .2
EL1 46.1 EL2 19.6 ALF 160.69

LAUNCH DATE MAY 2 1971

FLIGHT TIME 226.00

ARRIVAL DATE DEC 14 1971

HELIOCENTRIC CONIC

DISTANCE 536.913

EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 32.245 GAL -1.75 AZL 94.38 HCA 173.97 SMA 184.11 ECC .10356 INC 4.3843 V1 29.854
RP 215.71 LAP -.46 LOP 34.95 VP 22.376 GAP 3.79 AZP 85.64 TAL 348.70 TAP 162.68 RCA 150.31 APO 217.91 V2 25.461
RC 156.143 GL -39.88 GP 19.08 ZAL 111.89 ZAP 81.53 ETS 182.18 ZAE 122.33 ETE 167.77 ZAC 121.26 ETC 273.16 LVI -28.47

PLANETOCENTRIC CONIC

C3 14.768 VHL 3.843 DLA -43.94 RAL .90 RAD 6640.4 VEL 11.611 PTH 6.65 VHP 3.088 DPA -3.82 RAP 295.00 ECC 1.2430
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 49 54 2034.79 15.79 46.58 227.66 135.49 21 23 49 1034.8 32.45 27.27
54.85 23 0 28 1696.17 27.40 25.94 238.34 125.80 23 28 44 696.2 39.54 .80
54.85 23 0 28 1696.17 27.40 25.94 238.34 125.80 23 28 44 696.2 39.54 .80
54.85 23 0 28 1696.17 27.40 25.94 238.34 125.80 23 28 44 696.2 39.54 .80
54.85 23 0 28 1696.17 27.40 25.94 238.34 125.80 23 28 44 696.2 39.54 .80
54.85 23 0 28 1696.17 27.40 25.94 238.34 125.80 23 28 44 696.2 39.54 .80

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3123 TRA 1.3113 TC3-3.2460 BAU .7047 SGT 3716.7 SGR 2055.7 SG3 1609.8 ST 47.1 SR 28.3 SS 68.2
RDE -.1668 RRA -.8171 RC3 1.4842 FAU .21890 RRT -.9586 RRF -.9994 RTF .9570 CRT -.5634 CRS .9983 CST -.6098
FDE 1.3261 FRA 7.5740 FC-12.8329 BSP 6807 SGB 4247.4 R23 .2243 R13 -.9739 LSA 80.5 MSA 34.5 SSA .2
BDE .3541 BRA 1.5431 BC3 3.5692 FSP 2823 SG1 4215.9 SG2 515.8 THA 151.60 EL1 50.4 EL2 21.8 ALF 196.64

LAUNCH DATE MAY 2 1971

FLIGHT TIME 228.00

ARRIVAL DATE DEC 16 1971

HELIOCENTRIC CONIC

DISTANCE 541.094

EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 32.248 GAL -1.80 AZL 95.00 HCA 175.14 SMA 184.16 ECC .18398 INC 4.9991 V1 29.554
RP 216.04 LAP -.42 LOP 36.11 VP 22.538 GAP 3.63 AZP 85.02 TAL 348.38 TAP 163.52 RCA 150.28 APO 218.05 V2 25.424
RC 158.631 GL -43.68 GP 23.00 ZAL 110.88 ZAP 80.17 ETS 183.41 ZAE 119.86 ETE 166.33 ZAC 125.21 ETC 273.16 LVI -31.82

PLANETOCENTRIC CONIC

C3 16.539 VHL 4.067 DLA -46.86 RAL 4.47 RAD 6641.3 VEL 11.687 PTH 6.72 VHP 3.194 DPA -.03 RAP 293.85 ECC 1.2722
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 6 4 1894.92 22.45 39.95 239.55 133.12 22 37 39 894.9 37.81 18.22
50.93 23 0 5 1759.53 27.85 32.20 244.78 129.35 23 29 25 759.5 41.32 7.66
50.93 23 0 5 1759.53 27.85 32.20 244.78 129.35 23 29 25 759.5 41.32 7.66
50.93 23 0 5 1759.53 27.85 32.20 244.78 129.35 23 29 25 759.5 41.32 7.66
50.93 23 0 5 1759.53 27.85 32.20 244.78 129.35 23 29 25 759.5 41.32 7.66
50.93 23 0 5 1759.53 27.85 32.20 244.78 129.35 23 29 25 759.5 41.32 7.66

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3198 TRA 1.4417 TC3-3.0675 BAU .7657 SGT 3905.5 SGR 2436.6 SG3 1486.0 ST 50.1 SR 34.1 SS 66.8
RDE -.2162 RRA -.9869 RC3 1.6073 FAU .20870 RRT -.9631 RRF -.9997 RTF .9611 CRT -.5986 CRS .9997 CST -.6172
FDE 1.4594 FRA 7.0768 FC-10.9240 BSP 7352 SGB 4603.3 R23 .2022 R13 -.9791 LSA 82.8 MSA 35.8 SSA .1
BDE .3860 BRA 1.7471 BC3 3.4630 FSP 2546 SG1 4569.0 SG2 560.2 THA 148.47 EL1 55.3 EL2 24.8 ALF 151.61

LAUNCH DATE MAY 2 1971

FLIGHT TIME 230.00

ARRIVAL DATE DEC 18 1971

HELIOCENTRIC CONIC

DISTANCE 545.267

EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 32.252 GAL -1.85 AZL 96.00 HCA 176.29 SMA 184.23 ECC .18442 INC 5.9935 V1 29.554
RP 216.39 LAP -.39 LOP 37.27 VP 22.500 GAP 3.46 AZP 84.02 TAL 348.05 TAP 164.34 RCA 150.25 APO 218.20 V2 25.385
RC 161.134 GL -49.14 GP 28.78 ZAL 109.43 ZAP 79.24 ETS 185.13 ZAE 116.99 ETE 164.22 ZAC 131.00 ETC 273.30 LVI -36.84

PLANETOCENTRIC CONIC

C3 19.818 VHL 4.452 DLA -50.93 RAL 10.10 RAD 6642.8 VEL 11.825 PTH 6.84 VHP 3.395 DPA 5.61 RAP 292.54 ECC 1.3262
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
45.70 23 5 7 1844.01 27.81 40.55 254.74 134.56 23 35 51 844.0 43.24 17.38
45.70 23 5 7 1844.01 27.81 40.55 254.74 134.56 23 35 51 844.0 43.24 17.38
45.70 23 5 7 1844.01 27.81 40.55 254.74 134.56 23 35 51 844.0 43.24 17.38
45.70 23 5 7 1844.01 27.81 40.55 254.74 134.56 23 35 51 844.0 43.24 17.38
45.70 23 5 7 1844.01 27.81 40.55 254.74 134.56 23 35 51 844.0 43.24 17.38
45.70 23 5 7 1844.01 27.81 40.55 254.74 134.56 23 35 51 844.0 43.24 17.38

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2933 TRA 1.3891 TC3-2.7421 BAU .8528 SGT 4078.4 SGR 2975.7 SG3 1290.0 ST 52.3 SR 44.4 SS 66.2
RDE -.3581 RRA -1.2379 RC3 1.6857 FAU .18768 RRT -.9635 RRF -.9998 RTF .5006 CRT -.6103 CRS 1.0000 CST -.6081
FDE 1.8356 FRA 8.2724 FC3-8.1987 BSP 7948 SGB 5048.6 R23 .1869 R13 -.9823 LSA 87.6 MSA 37.9 SSA .1
BDE .4629 BRA 2.0144 BC3 3.2188 FSP 2177 SG1 5006.7 SG2 848.9 THA 144.20 EL1 61.9 EL2 29.8 ALF 142.54

LAUNCH DATE MAY 2 1971

FLIGHT TIME 232.00

ARRIVAL DATE DEC 20 1971

HELIOCENTRIC CONIC

DISTANCE 549.438

EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 32.257 GAL -1.91 AZL 97.88 HCA 177.45 SMA 184.30 ECC .18489 INC 7.8827 V1 29.554
RP 218.73 LAP -.35 LOP 38.43 VP 22.463 GAP 3.30 AZP 82.12 TAL 347.71 TAP 165.16 RCA 150.22 APO 218.37 V2 25.347
RC 163.648 GL -57.45 GP 37.79 ZAL 106.78 ZAP 79.25 ETS 187.52 ZAE 113.26 ETE 161.07 ZAC 140.00 ETC 273.87 LVI -44.66

PLANETOCENTRIC CONIC

C3 27.517 VHL 5.246 DLA -56.58 RAL 20.62 RAD 6646.0 VEL 12.144 PTH 7.11 VHP 3.863 DPA 14.49 RAP 290.92 ECC 1.4529
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
38.71 23 26 44 1968.40 25.85 51.84 271.97 142.27 23 59 32 968.4 44.10 31.98
38.71 23 26 44 1968.40 25.85 51.84 271.97 142.27 23 59 32 968.4 44.10 31.98
38.71 23 26 44 1968.40 25.85 51.84 271.97 142.27 23 59 32 968.4 44.10 31.98
38.71 23 26 44 1968.40 25.85 51.84 271.97 142.27 23 59 32 968.4 44.10 31.98
38.71 23 26 44 1968.40 25.85 51.84 271.97 142.27 23 59 32 968.4 44.10 31.98
38.71 23 26 44 1968.40 25.85 51.84 271.97 142.27 23 59 32 968.4 44.10 31.98

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.0207 TRA 1.8162 TC3-2.1170 BAU .9766 SGT 4231.5 SGR 3774.9 SG3 980.9 ST 54.1 SR 68.4 SS 69.1
RDE -.8801 RRA -1.6341 RC3 1.6019 FAU .14598 RRT -.9630 RRF -.9998 RTF .9584 CRT -.6967 CRS .9997 CST -.6792
FDE 2.7269 FRA 4.8260 FC3-4.5927 BSP 9173 SGB 5670.6 R23 .1679 R13 -.9858 LSA 105.2 MSA 36.3 SSA .0
BDE .8804 BRA 2.4431 BC3 2.6548 FSP 1651 SG1 5618.6 SG2 766.2 THA 138.39 EL1 80.8 EL2 32.9 ALF 125.64

LAUNCH DATE MAY 2 1971

FLIGHT TIME 240.00

ARRIVAL DATE DEC 28 1971

Heliocentric Conic

RL 150.76 LAL -.00 LOL 220.96 VL 32.277 GAL -2.17 AZL 84.33 HCA 182.06 SMA 184.64 ECC .18720 INC 5.6699 V1 29.554
 RP 218.15 LAP -.20 LOP 43.01 VP 22.315 GAP 2.67 AZP 95.66 TAL 346.18 TAP 168.25 RCA 150.07 APO 219.20 V2 25.189
 RC 173.829 GL 48.36 GP -42.45 ZAL 112.13 ZAP 75.91 ETS 165.61 ZAE 105.91 ETE 195.66 ZAC 59.95 ETC 272.21 LVI 29.24

DISTANCE 566.152

EARTH TO MARS

Planetocentric Conic

C3 19.368 VHL 4.401 DLA 36.04 RAL 325.15 RAD 6842.6 VEL 11.806 PTH 6.83 VHP 4.311 DPA -64.37 RAP 310.38 ECC 1.3108
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 11 34 44 3902.71 -45.33 166.14 215.87 73.66 12 39 47 2902.7 -46.73 131.12
 60.00 11 4 51 3982.65 -34.77 168.54 211.10 68.19 12 11 14 2982.7 -40.23 138.87
 66.66 9 34 47 4246.84 -20.90 182.42 203.51 59.95 10 45 33 3246.8 -31.41 158.30
 66.66 9 34 47 4246.84 -20.90 182.42 203.51 59.95 10 45 33 3246.8 -31.41 158.30
 66.66 9 34 47 4246.84 -20.90 182.42 203.51 59.95 10 45 33 3246.8 -31.41 158.30
 66.66 9 34 47 4246.84 -20.90 182.42 203.51 59.95 10 45 33 3246.8 -31.41 158.30
 66.66 9 34 47 4246.84 -20.90 182.42 203.51 59.95 10 45 33 3246.8 -31.41 158.30

Differential Corrections

TDE 2.9326 TRA 1.1021 TC3-3.2467 BAU .9936
 RDE 2.1458 RRA 1.4218 RC3-2.0450 FAU .09861
 FDE 4.5138 FRA 3.1623 FC3-4.4076 BSP 11743
 BDE 3.6338 BRA 1.7989 BC3 3.8371 FSP 1440

Mid-Course Execution Accuracy

SGT 5088.4 SGR 4035.4 SG3 750.8
 RRT .9678 RRF .9997 RTF .9625
 SGB 6494.4 R23 .1757 R13 .9843
 SG1 6444.6 SG2 802.6 THA 38.21

Orbit Determination Accuracy

ST 192.8 SR 143.9 88 113.1
 CRT .9947 CR3 -.9999 CST -.9933
 LSA 265.4 MSA 14.3 85A .1
 EL1 240.3 EL2 11.8 ALF 36.69

LAUNCH DATE MAY 2 1971

FLIGHT TIME 242.00

ARRIVAL DATE DEC 30 1971

Heliocentric Conic

RL 150.76 LAL -.00 LOL 220.96 VL 32.283 GAL -2.23 AZL 87.00 HCA 183.20 SMA 184.74 ECC .18785 INC 3.0012 V1 29.554
 RP 218.51 LAP -.17 LOP 44.15 VP 22.278 GAP 2.51 AZP 93.00 TAL 345.81 TAP 169.01 RCA 150.03 APO 219.44 V2 25.149
 RC 176.400 GL 28.16 GP -31.23 ZAL 118.24 ZAP 71.82 ETS 167.53 ZAE 106.93 ETE 191.09 ZAC 71.19 ETC 271.83 LVI 19.30

DISTANCE 570.303

EARTH TO MARS

Planetocentric Conic

C3 12.818 VHL 3.580 DLA 19.44 RAL 333.65 RAD 6639.5 VEL 11.528 PTH 6.57 VHP 3.622 DPA -53.84 RAP 302.58 ECC 1.2109
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 39 50 3426.74 -44.95 121.54 200.63 107.61 14 36 57 2426.7 -33.35 93.96
 60.00 13 56 22 3382.70 -39.12 119.54 202.59 100.56 14 52 45 2382.7 -30.78 91.87
 70.00 14 21 39 3308.26 -33.84 114.41 203.49 94.93 15 16 47 2308.3 -28.33 87.03
 80.00 15 3 38 3176.65 -29.84 104.67 203.73 90.98 15 56 35 2176.7 -26.41 77.78
 90.00 16 12 52 2953.17 -28.28 88.26 203.74 89.48 17 2 5 1953.2 -25.64 61.56
 100.00 17 46 30 2651.12 -29.84 66.04 203.73 90.98 18 30 41 1651.1 -26.41 39.15
 110.00 19 21 5 2355.08 -33.84 43.32 203.49 94.93 20 0 20 1355.1 -28.33 16.00

Differential Corrections

TDE 1.8083 TRA 1.4097 TC3-5.0859 BAU .9571
 RDE 1.0256 RRA 1.1460 RC3-2.3088 FAU .14683
 FDE 4.2519 FRA 5.0131 FC3-9.9173 BSP 10088
 BDE 2.0788 BRA 1.8168 BC3 5.5834 FSP 1994

Mid-Course Execution Accuracy

SGT 5230.7 SGR 3034.8 SG3 1123.6
 RRT .9716 RRF .9998 RTF .9689
 SGB 6047.3 R23 .1888 R13 .9818
 SG1 6015.0 SG2 624.4 THA 29.76

Orbit Determination Accuracy

ST 149.2 SR 87.1 88 113.0
 CRT .9951 CR3 -.9999 CST -.9933
 LSA 206.5 MSA 11.4 85A .1
 EL1 172.6 EL2 7.4 ALF 30.23

LAUNCH DATE MAY 2 1971

FLIGHT TIME 244.00

ARRIVAL DATE JAN 1 1972

Heliocentric Conic

RL 150.76 LAL -.00 LOL 220.96 VL 32.289 GAL -2.30 AZL 88.27 HCA 184.33 SMA 184.84 ECC .18853 INC 1.7325 V1 29.554
 RP 218.88 LAP -.13 LOP 45.28 VP 22.242 GAP 2.36 AZP 91.73 TAL 345.43 TAP 169.75 RCA 149.99 APO 219.69 V2 25.109
 RC 178.981 GL 16.94 GP -24.18 ZAL 121.12 ZAP 69.08 ETS 169.18 ZAE 106.64 ETE 188.13 ZAC 78.25 ETC 271.67 LVI 12.97

DISTANCE 574.455

EARTH TO MARS

Planetocentric Conic

C3 11.230 VHL 3.351 DLA 9.23 RAL 338.43 RAD 6636.7 VEL 11.459 PTH 6.51 VHP 3.382 DPA -47.06 RAP 299.44 ECC 1.1848
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 39 58 3189.38 -38.24 102.79 195.96 120.81 15 33 7 2189.4 -23.01 80.82
 60.00 15 9 33 3110.64 -33.58 98.66 198.92 113.73 16 1 24 2110.6 -21.08 75.42
 70.00 15 50 35 2989.94 -29.42 90.75 200.80 108.19 16 40 24 1989.9 -19.28 66.83
 80.00 16 48 33 2808.32 -26.39 77.98 201.80 104.50 17 35 22 1808.3 -17.94 53.76
 90.00 18 5 27 2560.14 -25.25 60.05 202.11 103.17 18 48 8 1560.1 -17.43 35.76
 100.00 19 31 25 2282.79 -26.39 39.35 201.80 104.50 20 9 28 1282.8 -17.94 15.13
 110.00 20 50 1 2036.76 -29.42 19.67 200.80 108.19 21 23 58 1036.8 -19.28 359.75

Differential Corrections

TDE 1.3805 TRA 1.6324 TC3-5.9388 BAU .9413
 RDE .6350 RRA .9312 RC3-2.0098 FAU .16793
 FDE 3.8529 FRA 6.1023 FC-12.9456 BSP 9824
 BDE 1.5014 BRA 1.8793 BC3 6.2697 FSP 2327

Mid-Course Execution Accuracy

SGT 5408.3 SGR 2365.3 SG3 1311.5
 RRT .9731 RRF .9996 RTF .514
 SGB 5902.9 R23 .1999 R13 .9794
 SG1 5881.6 SG2 501.3 THA 23.23

Orbit Determination Accuracy

ST 123.9 SR 59.5 88 106.0
 CRT .9975 CR3 -.9996 CST -.9930
 LSA 173.9 MSA 8.2 85A .3
 EL1 137.4 EL2 3.8 ALF 25.60

LAUNCH DATE MAY 2 1971

FLIGHT TIME 246.00

ARRIVAL DATE JAN 3 1972

Heliocentric Conic

RL 150.76 LAL -.00 LOL 220.96 VL 32.296 GAL -2.37 AZL 89.01 HCA 185.45 SMA 184.95 ECC .18925 INC .9910 V1 29.554
 RP 219.25 LAP -.09 LOP 46.41 VP 22.205 GAP 2.20 AZP 90.99 TAL 345.03 TAP 170.48 RCA 149.95 APO 219.95 V2 25.088
 RC 181.572 GL 9.80 GP -19.54 ZAL 122.60 ZAP 66.97 ETS 170.41 ZAE 105.77 ETE 186.15 ZAC 82.91 ETC 271.58 LVI 8.79

DISTANCE 578.604

EARTH TO MARS

Planetocentric Conic

C3 10.807 VHL 3.287 DLA 2.80 RAL 341.60 RAD 6638.5 VEL 11.441 PTH 6.49 VHP 3.294 DPA -42.56 RAP 297.73 ECC 1.1778
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 16 23 3052.88 -33.08 93.83 195.58 126.38 16 7 18 2052.9 -16.54 74.30
 60.00 15 53 2 2955.46 -28.84 88.26 198.78 119.47 16 42 18 1955.5 -14.77 67.15
 70.00 16 41 59 2811.52 -25.02 78.75 200.94 114.04 17 28 30 1811.5 -13.14 56.66
 80.00 17 47 16 2607.07 -22.25 64.48 202.17 110.44 18 30 43 1607.1 -11.92 41.86
 90.00 19 7 23 2348.52 -21.22 45.87 202.57 109.15 19 46 32 1348.5 -11.46 23.09
 100.00 20 30 8 2081.54 -22.25 25.85 202.17 110.44 21 4 49 1081.5 -11.92 3.22
 110.00 21 41 25 1858.34 -25.02 7.67 200.94 114.04 22 12 23 858.3 -13.14 345.58

Differential Corrections

TDE 1.1334 TRA 1.8050 TC3-6.3376 BAU .9466
 RDE .4546 RRA .7671 RC3-1.6631 FAU .17763
 FDE 3.5358 FRA 6.7057 FC-14.2302 BSP 9832
 BDE 1.2212 BRA 1.9612 BC3 6.5522 FSP 2488

Mid-Course Execution Accuracy

SGT 5584.3 SGR 1901.4 SG3 1399.7
 RRT .9736 RRF .9992 RTF .9729
 SGB 5899.2 R23 .2049 R13 .9779
 SG1 5884.8 SG2 412.0 THA 18.43

Orbit Determination Accuracy

ST 109.7 SR 44.4 88 100.7
 CRT .9995 CR3 -.9988 CST -.9973
 LSA 155.3 MSA 5.5 85A .6
 EL1 118.3 EL2 1.3 ALF 22.05

LAUNCH DATE MAY 2 1971

FLIGHT TIME 248.00

ARRIVAL DATE JAN 5 1972

HELIOCENTRIC CONIC

DISTANCE 582.753

EARTH TO MARS

RL 150.76 LAL -0.00 LOL 220.96 VL 32.303 GAL -2.44 AZL 89.49 HCA 186.58 SMA 185.06 ECC .10099 INC .5082 V1 29.594
 RP 219.82 LAP -0.06 LOP 47.54 VP 22.169 GAP 2.05 AZP 90.50 TAL 344.63 TAP 171.21 RCA 149.90 APO 220.22 V2 25.028
 RC 184.172 GL 5.00 GP -16.29 ZAL 123.50 ZAP 65.19 ETS 171.33 ZAE 104.64 ETE 184.77 ZAC 86.16 ETC 271.52 LVI 5.88

PLANETOCENTRIC CONIC

C3 10.765 VHL 3.281 DLA -1.45 RAL 343.90 RAD 6638.4 VEL 11.439 PTH 6.49 VHP 3.242 DPA -39.42 RAP 296.64 ECC 1.1772
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 41 6 2967.59 -29.52 86.82 196.39 129.17 16 30 33 1967.6 -12.38 70.47
 60.00 16 22 13 2858.22 -25.43 82.29 199.71 122.30 17 9 51 1858.2 -10.65 62.25
 70.00 17 16 9 2699.59 -21.73 71.73 202.02 117.02 18 1 9 1699.6 -9.04 50.58
 80.00 18 26 0 2480.91 -19.04 56.49 203.37 113.45 19 7 21 1480.9 -7.85 34.70
 90.00 19 48 6 2215.97 -18.03 37.46 203.82 112.16 20 25 2 1216.0 -7.40 15.47
 100.00 21 6 52 1955.38 -19.04 17.86 203.37 113.45 21 41 27 955.4 -7.85 356.07
 110.00 22 15 36 1746.41 -21.73 .65 202.02 117.02 22 44 42 746.4 -9.04 359.49

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.0052 TRA 1.9527 TC3-6.5405 BAU .9621 SGT 5756.5 SGR 1567.7 SG3 1436.3 ST 101.8 SR 35.3 S8 95.3
 RDE .3547 RRA .6402 RC3-1.3825 FAU .18303 RRT .9747 RRF .9984 RTF .9752 CRT .9992 CRS -.9972 CST -.9988
 FDE 3.2755 FRA 7.0197 FC-14.7187 BSP 9952 SGB 5966.1 R23 .1995 R13 .9783 LSA 143.8 MSA 3.7 SSA 1.1
 BDE 1.0660 BRA 2.0549 BC3 6.6850 FSP 2526 SG1 5956.5 SG2 358.6 THA 14.92 EL1 107.7 EL2 1.3 ALF 19.09

LAUNCH DATE MAY 2 1971

FLIGHT TIME 230.00

ARRIVAL DATE JAN 7 1972

HELIOCENTRIC CONIC

DISTANCE 586.894

EARTH TO MARS

RL 150.76 LAL -0.00 LOL 220.96 VL 32.310 GAL -2.51 AZL 89.84 HCA 187.70 SMA 185.18 ECC .19077 INC .1578 V1 29.594
 RP 219.99 LAP -0.02 LOP 48.66 VP 22.133 GAP 1.89 AZP 90.16 TAL 344.22 TAP 171.92 RCA 149.85 APO 220.50 V2 24.987
 RC 186.781 GL 1.60 GP -13.92 ZAL 124.17 ZAP 63.61 ETS 172.04 ZAE 103.41 ETE 183.78 ZAC 88.54 ETC 271.48 LVI 3.76

PLANETOCENTRIC CONIC

C3 10.878 VHL 3.298 DLA -4.38 RAL 345.70 RAD 6638.5 VEL 11.444 PTH 6.49 VHP 3.228 DPA -37.11 RAP 295.88 ECC 1.1790
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 59 0 2911.37 -27.06 85.72 197.55 130.75 16 47 32 1911.4 -9.60 68.03
 60.00 16 43 15 2793.71 -23.03 78.53 200.96 124.04 17 29 48 1793.7 -7.86 59.08
 70.00 17 40 40 2624.86 -19.35 67.24 203.36 118.71 18 24 25 1624.9 -6.24 46.60
 80.00 18 53 41 2396.26 -16.66 51.33 204.79 115.14 19 33 37 1396.3 -5.04 30.00
 90.00 20 17 11 2126.86 -15.65 32.00 205.27 113.86 20 52 38 1126.9 -4.59 10.44
 100.00 21 36 33 1870.73 -16.66 12.70 204.79 115.14 22 7 44 870.7 -5.04 351.36
 110.00 22 40 7 1671.67 -19.35 356.16 203.36 118.71 23 7 58 671.7 -6.24 335.52

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .9331 TRA 2.0903 TC3-6.6480 BAU .9809 SGT 5926.4 SGR 1323.1 SG3 1449.3 ST 98.0 SR 29.9 S8 93.1
 RDE .3017 RRA .5481 RC3-1.1384 FAU .18190 RRT .9719 RRF .9971 RTF .9742 CRT .9953 CRS -.9945 CST -.9996
 FDE 3.1588 FRA 7.2620 FC-14.4763 BSP 10189 SGB 6072.3 R23 .2028 R13 .9765 LSA 138.4 MSA 3.0 SSA 1.7
 BDE .9807 BRA 2.1610 BC3 6.7448 FSP 2596 SG1 6064.7 SG2 304.5 THA 12.27 EL1 102.4 EL2 2.8 ALF 16.90

LAUNCH DATE MAY 2 1971

FLIGHT TIME 252.00

ARRIVAL DATE JAN 9 1972

HELIOCENTRIC CONIC

DISTANCE 591.032

EARTH TO MARS

RL 150.76 LAL -0.00 LOL 220.96 VL 32.317 GAL -2.58 AZL 90.09 HCA 188.82 SMA 185.30 ECC .19157 INC .0788 V1 29.594
 RP 220.36 LAP .01 LOP 49.78 VP 22.097 GAP 1.74 AZP 89.91 TAL 343.81 TAP 172.62 RCA 149.80 APO 220.80 V2 24.946
 RC 189.399 GL -0.90 GP -12.12 ZAL 124.73 ZAP 62.17 ETS 172.60 ZAE 102.13 ETE 183.03 ZAC 90.35 ETC 271.45 LVI 2.14

PLANETOCENTRIC CONIC

C3 11.060 VHL 3.326 DLA -6.47 RAL 347.18 RAD 6638.6 VEL 11.452 PTH 6.50 VHP 3.229 DPA -35.36 RAP 295.33 ECC 1.1820
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 12 38 2872.98 -25.34 83.69 198.77 131.72 17 0 31 1873.0 -7.68 66.36
 60.00 16 59 8 2749.29 -21.31 76.02 202.25 125.05 17 44 58 1749.3 -5.93 56.92
 70.00 17 59 7 2572.96 -17.63 64.21 204.73 119.74 18 42 0 1573.0 -4.28 43.87
 80.00 19 14 28 2337.05 -14.92 47.80 206.23 116.17 19 53 25 1337.0 -3.05 26.73
 90.00 20 38 59 2064.33 -13.90 28.25 206.73 114.88 21 13 24 1064.3 -2.58 6.94
 100.00 21 57 20 1811.52 -14.92 9.17 206.23 116.17 22 27 31 811.5 -3.05 348.10
 110.00 22 38 33 1619.78 -17.63 353.12 204.73 119.74 23 25 33 619.8 -4.28 332.79

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .8914 TRA 2.2199 TC3-6.7132 BAU 1.0026 SGT 6092.0 SGR 1134.7 SG3 1445.9 ST 96.3 SR 26.1 S8 91.1
 RDE .2671 RRA .4733 RC3 -.9535 FAU .17992 RRT .9689 RRF .9950 RTF .5440 CRT .9877 CRS -.9904 CST -.9995
 FDE 3.0615 FRA 7.3968 FC-14.0839 BSP 10438 SGB 6196.7 R23 .1995 R13 .9756 LSA 135.1 MSA 4.0 SSA 1.5
 BDE .9308 BRA 2.2698 BC3 6.7806 FSP 2612 SG1 6190.6 SG2 276.3 THA 10.25 EL1 99.7 EL2 3.9 ALF 15.02

LAUNCH DATE MAY 2 1971

FLIGHT TIME 254.00

ARRIVAL DATE JAN 11 1972

HELIOCENTRIC CONIC

DISTANCE 595.167

EARTH TO MARS

RL 150.76 LAL -0.00 LOL 220.96 VL 32.324 GAL -2.86 AZL 90.29 HCA 189.93 SMA 185.42 ECC .19240 INC .2879 V1 29.594
 RP 220.74 LAP .05 LOP 50.89 VP 22.081 GAP 1.59 AZP 89.71 TAL 343.39 TAP 173.32 RCA 149.75 APO 221.10 V2 24.904
 RC 192.025 GL -2.80 GP -10.70 ZAL 125.24 ZAP 60.82 ETS 173.05 ZAE 100.83 ETE 182.46 ZAC 91.77 ETC 271.43 LVI .87

PLANETOCENTRIC CONIC

C3 11.277 VHL 3.358 DLA -8.01 RAL 348.44 RAD 6638.7 VEL 11.461 PTH 6.51 VHP 3.239 DPA -33.98 RAP 294.93 ECC 1.1886
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 23 23 2846.25 -24.12 82.31 199.98 132.34 17 10 49 1846.2 -6.35 65.25
 60.00 17 11 35 2718.05 -20.08 74.30 203.51 125.71 17 56 53 1718.1 -4.56 55.42
 70.00 18 13 28 2538.10 -16.37 62.09 206.06 120.40 18 55 44 1536.1 -2.88 41.94
 80.00 19 30 36 2294.84 -13.63 45.31 207.60 116.82 20 8 50 1294.6 -1.62 24.40
 90.00 20 55 54 2019.39 -12.59 25.60 208.13 115.53 21 29 34 1019.4 -1.14 4.43
 100.00 22 13 28 1769.11 -13.63 6.68 207.60 116.82 22 42 57 769.1 -1.62 345.77
 110.00 23 12 54 1582.92 -16.37 351.01 206.06 120.40 23 39 17 582.9 -2.88 330.86

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .8663 TRA 2.3411 TC3-6.7695 BAU 1.0279 SGT 6255.0 SGR 985.7 SG3 1432.3 ST 95.8 SR 23.3 S8 88.9
 RDE .2427 RRA .4104 RC3 -.8157 FAU .17858 RRT .9659 RRF .9918 RTF .9747 CRT .9769 CRS -.9843 CST -.9990
 FDE 2.9604 FRA 7.4437 FC-13.7106 BSP 10661 SGB 6332.2 R23 .1885 R13 .9758 LSA 132.6 MSA 5.2 SSA 1.3
 BDE .8996 BRA 2.3768 BC3 6.8185 FSP 2579 SG1 6327.2 SG2 252.5 THA 8.87 EL1 98.4 EL2 4.8 ALF 13.39

LAUNCH DATE MAY 2 1971

FLIGHT TIME 256.00

ARRIVAL DATE JAN 13 1972

HELIOCENTRIC CONIC

DISTANCE 599.295

EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 32.332 GAL -2.74 AZL 90.45 HCA 191.04 SMA 185.55 ECC .19326 INC .4482 V1 29.554
RP 221.12 LAP .09 LOP 52.00 VP 22.026 GAP 1.43 AZP 89.56 TAL 342.96 TAP 174.00 RCA 149.69 APO 221.41 V2 24.863
RC 194.659 GL -4.28 GP -9.56 ZAL 125.73 ZAP 50.55 ETS 173.42 ZAE 99.53 ETE 182.01 ZAC 92.91 ETC 271.41 LVI -.16

PLANETOCENTRIC CONIC

C3 11.514 VHL 3.393 DLA -9.13 RAL 349.54 RAD 6638.8 VEL 11.472 PTH 6.52 VHP 3.255 DPA -32.86 RAP 294.64 ECC 1.1895
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 32 5 2027.61 -23.26 81.37 201.14 132.75 17 19 13 1827.6 -5.42 64.46
60.00 17 21 35 2696.01 -19.20 73.10 204.73 126.14 18 6 31 1696.0 -3.59 54.36
70.00 18 24 55 2509.76 -15.45 60.60 207.32 120.84 19 6 45 1509.8 -1.87 40.56
80.00 19 43 25 2264.02 -12.68 43.53 208.91 117.26 20 21 9 1264.0 -.58 22.72
90.00 21 9 21 1986.81 -11.63 23.69 209.45 115.96 21 42 27 986.8 -.09 2.61
100.00 22 26 17 1738.49 -12.68 4.90 208.91 117.26 22 55 16 738.5 -.58 344.09
110.00 23 24 22 1556.58 -15.45 349.51 207.32 120.84 23 50 18 556.6 -1.87 329.48

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .8678 TRA 2.4729 TC3-6.7716 BAU 1.0478 SGT 6415.1 SGR 868.9 SG3 1416.4 ST 97.2 SR 21.6 S8 88.8
RDE .2304 RRA .3620 RC3 -.6917 FAU .17316 RRT .9590 RRF .9871 RTF .9734 CRT .9636 CRS -.9773 CST -.9981
FDE 2.9546 FRA 7.5285 FC-13.0199 BSP 11039 SGB 6473.7 R23 .1841 R13 .9743 LSA 133.2 MSA 6.4 S5A 1.2
BDE .8978 BRA 2.4993 BC3 6.8068 FSP 2608 SG1 6469.1 SG2 244.2 THA 7.41 EL1 99.4 EL2 5.6 ALF 12.11

LAUNCH DATE MAY 2 1971

FLIGHT TIME 258.00

ARRIVAL DATE JAN 15 1972

HELIOCENTRIC CONIC

DISTANCE 603.422

EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 32.340 GAL -2.82 AZL 90.58 HCA 192.15 SMA 185.68 ECC .19415 INC .5769 V1 29.554
RP 221.50 LAP .12 LOP 53.11 VP 21.990 GAP 1.28 AZP 89.43 TAL 342.53 TAP 174.68 RCA 149.63 APO 221.73 V2 24.821
RC 197.299 GL -5.45 GP -8.63 ZAL 126.22 ZAP 50.33 ETS 173.74 ZAE 98.25 ETE 181.64 ZAC 93.84 ETC 271.41 LVI -1.01

PLANETOCENTRIC CONIC

C3 11.762 VHL 3.430 DLA -10.01 RAL 350.53 RAD 6638.9 VEL 11.482 PTH 6.53 VHP 3.275 DPA -31.95 RAP 294.42 ECC 1.1936
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 39 18 2814.71 -22.67 80.73 202.25 133.02 17 26 13 1814.7 -4.77 63.92
60.00 17 29 46 2680.49 -18.57 72.27 205.89 126.43 18 14 27 1680.5 -2.91 53.62
70.00 18 34 15 2490.93 -14.79 59.54 208.52 121.14 19 15 46 1490.9 -1.15 39.58
80.00 19 53 49 2241.86 -11.99 42.25 210.15 117.55 20 31 11 1241.9 .17 21.50
90.00 21 20 13 1963.11 -10.92 22.31 210.70 116.25 21 52 56 963.1 .68 1.29
100.00 22 36 41 1716.33 -11.99 3.62 210.15 117.55 23 5 17 716.3 -.17 342.87
110.00 23 33 41 1537.75 -14.79 348.45 208.52 121.14 23 59 19 537.7 -1.15 328.50

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .8585 TRA 2.5816 TC3-6.8340 BAU 1.0789 SGT 8573.5 SGR 770.8 SG3 1392.4 ST 97.5 SR 19.9 S8 86.3
RDE .2173 RRA .3156 RC3 -.6112 FAU .17284 RRT .9533 RRF .9803 RTF .9750 CRT .9470 CRS -.9670 CST -.9973
FDE 2.8498 FRA 7.4778 FC-12.7214 BSP 11185 SGB 6618.6 R23 .1646 R13 .9756 LSA 131.5 MSA 7.3 S5A 1.2
BDE .8855 BRA 2.6009 BC3 6.8613 FSP 2512 SG1 6614.5 SG2 231.3 THA 6.39 EL1 99.3 EL2 6.3 ALF 10.96

LAUNCH DATE MAY 2 1971

FLIGHT TIME 260.00

ARRIVAL DATE JAN 17 1972

HELIOCENTRIC CONIC

DISTANCE 607.543

EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 32.348 GAL -2.90 AZL 90.69 HCA 193.23 SMA 185.81 ECC .19506 INC .6846 V1 29.554
RP 221.88 LAP .18 LOP 54.21 VP 21.955 GAP 1.13 AZP 89.33 TAL 342.09 TAP 175.35 RCA 149.57 APO 222.06 V2 24.780
RC 199.945 GL -6.40 GP -7.85 ZAL 126.70 ZAP 57.17 ETS 174.01 ZAE 96.98 ETE 181.35 ZAC 94.62 ETC 271.41 LVI -1.74

PLANETOCENTRIC CONIC

C3 12.021 VHL 3.467 DLA -10.66 RAL 351.44 RAD 6639.1 VEL 11.493 PTH 6.54 VHP 3.297 DPA -31.18 RAP 294.28 ECC 1.1978
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 45 24 2806.13 -22.27 80.30 203.32 133.20 17 32 10 1806.1 -4.34 63.56
60.00 17 36 37 2669.91 -18.14 71.70 206.99 126.62 18 21 7 1669.9 -2.44 53.11
70.00 18 41 57 2477.80 -14.33 58.80 209.67 121.34 19 23 15 1477.8 -.63 38.89
80.00 20 2 21 2228.16 -11.49 41.35 211.32 117.75 20 39 27 1226.2 .70 20.84
90.00 21 29 7 1948.21 -10.41 21.33 211.88 116.44 22 1 33 946.2 1.22 .35
100.00 22 45 13 1700.63 -11.49 2.72 211.32 117.75 23 13 33 700.6 .70 342.01
110.00 23 41 24 1524.62 -14.33 347.72 209.67 121.34 24 6 48 524.6 -.63 327.81

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .8673 TRA 2.7001 TC3-6.8552 BAU 1.1050 SGT 8728.0 SGR 691.6 SG3 1368.1 ST 99.1 SR 18.8 S8 85.3
RDE .2109 RRA .2781 RC3 -.5360 FAU .16949 RRT .9434 RRF .9711 RTF .5,50 CRT .9290 CRS -.9558 CST -.9984
FDE 2.8123 FRA 7.4628 FC-12.2065 BSP 11419 SGB 6763.4 R23 .1512 R13 .9756 LSA 131.8 MSA 8.2 S5A 1.1
BDE .8925 BRA 2.7144 BC3 6.8761 FSP 2469 SG1 6759.6 SG2 228.3 THA 5.54 EL1 100.7 EL2 6.9 ALF 10.04

LAUNCH DATE MAY 2 1971

FLIGHT TIME 262.00

ARRIVAL DATE JAN 19 1972

HELIOCENTRIC CONIC

DISTANCE 611.658

EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 32.356 GAL -2.98 AZL 90.78 HCA 194.35 SMA 185.95 ECC .19600 INC .7756 V1 29.554
RP 222.27 LAP .19 LOP 55.31 VP 21.920 GAP .97 AZP 89.25 TAL 341.65 TAP 176.00 RCA 149.51 APO 222.40 V2 24.738
RC 202.995 GL -7.18 GP -7.19 ZAL 127.19 ZAP 56.06 ETS 174.24 ZAE 95.73 ETE 181.11 ZAC 95.28 ETC 271.42 LVI -2.36

PLANETOCENTRIC CONIC

C3 12.286 VHL 3.505 DLA -11.15 RAL 352.27 RAD 6639.2 VEL 11.505 PTH 6.55 VHP 3.322 DPA -30.52 RAP 294.20 ECC 1.2022
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 50 37 2800.83 -22.02 80.04 204.34 133.31 17 37 18 1800.8 -4.08 63.34
60.00 17 42 24 2663.09 -17.87 71.34 208.05 126.75 18 26 48 1663.1 -2.14 52.78
70.00 18 48 25 2469.04 -14.02 58.31 210.76 121.47 19 29 34 1469.0 -.32 38.44
80.00 20 9 26 2215.41 -11.15 40.74 212.44 117.88 20 46 21 1215.4 1.07 20.05
90.00 21 36 29 1934.54 -10.05 20.66 213.01 116.57 22 8 44 934.5 1.60 359.70
100.00 22 52 18 1689.89 -11.15 2.11 212.44 117.88 23 20 28 689.9 1.07 341.42
110.00 23 47 51 1515.85 -14.02 347.23 210.76 121.47 24 13 7 515.9 -.32 327.35

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .8828 TRA 2.8194 TC3-6.8663 BAU 1.1305 SGT 6878.8 SGR 626.1 SG3 1342.1 ST 101.1 SR 18.0 S8 84.5
RDE .2075 RRA .2455 RC3 -.4724 FAU .16551 RRT .9299 RRF .9587 RTF .9748 CRT .9097 CRS -.9436 CST -.9956
FDE 2.7882 FRA 7.4410 FC-11.6624 BSP 11682 SGB 6907.2 R23 .1391 R13 .9752 LSA 132.7 MSA 9.1 S5A 1.1
BDE .9069 BRA 2.8301 BC3 6.8825 FSP 2429 SG1 6903.4 SG2 229.5 THA 4.84 EL1 102.4 EL2 7.4 ALF 9.27

LAUNCH DATE MAY 2 1971

FLIGHT TIME 264.00

ARRIVAL DATE JAN 21 1972

HELIOCENTRIC CONIC

DISTANCE 615.789

EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 32.364 GAL -3.06 AZL 90.85 HCA 195.45 SMA 186.09 ECC .19696 INC .8539 V1 29.554
 RP 222.85 LAP .23 LOP 56.40 VP 21.885 GAP .82 AZP 89.18 TAL 341.21 TAP 176.65 RCA 149.44 APO 222.74 V2 24.696
 RC 205.250 GL -7.82 GP -6.63 ZAL 127.68 ZAP 54.99 ETS 174.45 ZAE 94.51 ETE 180.81 ZAC 95.84 ETC 271.44 LVI -2.90

PLANETOCENTRIC CONIC

C3 12.559 VHL 3.544 DLA -11.52 RAL 353.05 RAD 6639.3 VEL 11.517 PTH 6.56 VHP 3.349 DPA -29.95 RAP 294.18 ECC 1.2087
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 58 8 2798.10 -21.89 79.90 205.33 133.36 17 41 46 1798.1 -3.94 63.22
 60.00 17 47 22 2639.21 -17.71 71.13 209.07 126.81 18 31 41 1659.2 -1.97 52.60
 70.00 18 53 32 2463.69 -13.83 58.01 211.81 121.54 19 34 58 1463.7 -.11 36.16
 80.00 20 15 22 2208.57 -10.93 40.35 213.50 117.96 20 52 11 1208.6 1.30 19.67
 90.00 21 42 39 1926.99 -9.82 20.22 214.09 116.65 22 14 46 927.0 1.84 359.27
 100.00 22 58 14 1693.04 -10.93 1.71 213.50 117.96 23 26 17 683.0 1.30 341.04
 110.00 23 53 19 1510.51 -13.83 346.93 211.81 121.54 24 18 29 510.5 -1.11 327.08

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .9032 TRA 2.9387 TC3-6.8757 BAU 1.1566 SGT 7027.9 SGR 571.9 SG3 1315.5 ST 103.3 SR 17.5 SS 83.7
 RDE .2059 RRA .2165 RC3 -4.201 FAU .16179 RRT .9128 RRF .925 RTF .9748 CRT .8899 CR8 -.9304 CST -.9949
 FDE 2.7861 FRA 7.4066 FC-11.1529 BSP 11945 SGB 7051.2 R23 .1267 R13 .9751 LSA 133.8 MSA 9.8 SSA 1.1
 BDE .9263 BRA 2.9466 BC3 6.8885 FSP 2385 SG1 7047.3 SG2 232.9 THA 4.25 EL1 104.5 EL2 7.9 ALF 6.62

LAUNCH DATE MAY 2 1971

FLIGHT TIME 266.00

ARRIVAL DATE JAN 23 1972

HELIOCENTRIC CONIC

DISTANCE 619.874

EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 32.372 GAL -3.15 AZL 90.92 HCA 196.54 SMA 186.23 ECC .19795 INC .9224 V1 29.554
 RP 223.04 LAP .26 LOP 57.50 VP 21.851 GAP .67 AZP 89.12 TAL 340.76 TAP 177.30 RCA 149.37 APO 223.10 V2 24.654
 RC 207.907 GL -8.33 GP -6.14 ZAL 128.17 ZAP 53.96 ETS 174.63 ZAE 93.31 ETE 180.74 ZAC 96.32 ETC 271.47 LVI -3.39

PLANETOCENTRIC CONIC

C3 12.837 VHL 3.583 DLA -11.78 RAL 353.79 RAD 6639.5 VEL 11.529 PTH 6.56 VHP 3.376 DPA -29.46 RAP 294.20 ECC 1.2113
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 59 7 2797.40 -21.86 79.87 206.29 133.37 17 45 44 1797.4 -3.90 63.19
 60.00 17 51 39 2657.67 -17.65 71.05 210.06 126.84 18 35 57 1657.7 -1.91 52.53
 70.00 18 58 32 2461.08 -13.74 57.87 212.82 121.58 19 39 33 1461.1 -.01 36.02
 80.00 20 20 23 2204.85 -10.81 40.13 214.53 118.00 20 57 8 1204.9 1.43 19.47
 90.00 21 47 49 1922.76 -9.69 19.98 215.12 116.70 22 19 52 922.8 1.98 359.04
 100.00 23 3 15 1679.32 -10.81 1.50 214.53 118.00 23 31 14 679.3 1.43 340.84
 110.00 0 1 54 1507.90 -13.74 346.79 212.82 121.58 0 27 2 507.9 -.01 326.94

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .9298 TRA 3.0611 TC3-6.8728 BAU 1.1813 SGT 7174.3 SGR 527.2 SG3 1288.5 ST 105.9 SR 17.1 SS 83.1
 RDE .2061 RRA .1908 RC3 -.3750 FAU .15762 RRT .8914 RRF .9221 RTF .9746 CRT .8703 CR8 -.9168 CST -.9943
 FDE 2.7536 FRA 7.3715 FC-10.6296 BSP 12232 SGB 7193.7 R23 .1157 R13 .9748 LSA 135.3 MSA 10.4 SSA 1.1
 BDE .9524 BRA 3.0671 BC3 6.8830 FSP 2345 SG1 7189.7 SG2 238.4 THA 3.75 EL1 106.9 EL2 8.4 ALF 6.07

LAUNCH DATE MAY 2 1971

FLIGHT TIME 268.00

ARRIVAL DATE JAN 25 1972

HELIOCENTRIC CONIC

DISTANCE 623.973

EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 32.381 GAL -3.23 AZL 90.98 HCA 197.63 SMA 186.38 ECC .19896 INC .9817 V1 29.554
 RP 223.42 LAP .30 LOP 58.58 VP 21.816 GAP .51 AZP 89.06 TAL 340.31 TAP 177.93 RCA 149.30 APO 223.46 V2 24.612
 RC 210.586 GL -8.80 GP -5.71 ZAL 128.67 ZAP 52.97 ETS 174.80 ZAE 92.13 ETE 180.59 ZAC 96.75 ETC 271.50 LVI -3.83

PLANETOCENTRIC CONIC

C3 13.123 VHL 3.623 DLA -11.97 RAL 354.49 RAD 6639.6 VEL 11.541 PTH 6.59 VHP 3.405 DPA -29.02 RAP 294.26 ECC 1.2160
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 2 38 2798.37 -21.91 79.92 207.22 133.36 17 49 16 1798.4 -3.95 63.23
 60.00 17 55 24 2658.05 -17.66 71.07 211.02 126.83 18 39 42 1658.0 -1.92 52.54
 70.00 19 2 32 2460.69 -13.72 57.85 213.80 121.59 19 43 32 1460.7 .00 36.00
 80.00 20 24 36 2203.68 -10.77 40.07 215.53 118.01 21 1 21 1203.7 1.47 19.41
 90.00 21 52 11 1921.22 -9.65 19.89 216.12 116.71 22 24 12 921.2 2.03 358.95
 100.00 23 7 30 1678.15 -10.77 1.44 215.53 118.01 23 35 28 678.2 1.47 340.77
 110.00 0 5 34 1507.51 -13.72 346.77 213.80 121.59 0 31 1 507.5 .00 326.92

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .9568 TRA 3.1807 TC3-6.8739 BAU 1.2074 SGT 7317.0 SGR 490.3 SG3 1260.5 ST 108.3 SR 16.9 SS 82.4
 RDE .2074 RRA .1872 RC3 -.3373 FAU .15372 RRT .8652 RRF .8969 RTF .544 CRT .8504 CR8 -.9027 CST -.9938
 FDE 2.7372 FRA 7.3214 FC-10.1416 BSP 12475 SGB 7333.4 R23 .1056 R13 .9746 LSA 136.7 MSA 11.0 SSA 1.1
 BDE .9791 BRA 3.1851 BC3 6.8822 FSP 2295 SG1 7329.3 SG2 245.5 THA 3.32 EL1 109.3 EL2 8.8 ALF 7.61

LAUNCH DATE MAY 2 1971

FLIGHT TIME 270.00

ARRIVAL DATE JAN 27 1972

HELIOCENTRIC CONIC

DISTANCE 628.068

EARTH TO MARS

RL 150.76 LAL -.00 LOL 220.96 VL 32.390 GAL -3.32 AZL 91.03 HCA 198.71 SMA 186.53 ECC .19999 INC 1.0340 V1 29.554
 RP 223.81 LAP .33 LOP 59.67 VP 21.782 GAP .36 AZP 89.02 TAL 339.85 TAP 178.56 RCA 149.22 APO 223.83 V2 24.571
 RC 213.227 GL -9.17 GP -5.34 ZAL 129.17 ZAP 52.01 ETS 174.95 ZAE 90.97 ETE 180.47 ZAC 97.12 ETC 271.54 LVI -4.24

PLANETOCENTRIC CONIC

C3 13.415 VHL 3.663 DLA -12.09 RAL 355.18 RAD 6639.8 VEL 11.553 PTH 6.60 VHP 3.435 DPA -28.82 RAP 294.36 ECC 1.2208
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 5 47 2800.69 -22.01 80.03 208.14 133.31 17 52 27 1800.7 -4.07 63.33
 60.00 17 58 41 2659.98 -17.74 71.18 211.95 126.80 18 43 1 1660.0 -2.01 52.64
 70.00 19 5 59 2462.13 -13.77 57.93 214.75 121.57 19 47 1 1462.1 -.05 36.08
 80.00 20 28 15 2204.62 -10.80 40.12 216.49 118.00 21 5 0 1204.6 1.43 19.46
 90.00 21 55 53 1921.92 -9.67 19.93 217.09 116.70 22 27 55 921.9 2.01 358.99
 100.00 23 11 7 1679.09 -10.80 1.49 216.49 118.00 23 39 6 679.1 1.43 340.83
 110.00 0 9 21 1508.95 -13.77 346.85 214.75 121.57 0 34 30 509.0 -.05 326.99

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .9872 TRA 3.3022 TC3-6.8724 BAU 1.2337 SGT 7459.1 SGR 460.5 SG3 1233.2 ST 110.9 SR 16.8 SS 81.8
 RDE .2097 RRA .1439 RC3 -.3050 FAU .14982 RRT .8340 RRF .8669 RTF .9741 CRT .8313 CR8 -.8889 CST -.9933
 FDE 2.7258 FRA 7.2725 FC3-9.6689 BSP 12726 SGB 7473.3 R23 .0969 R13 .9743 LSA 138.4 MSA 11.5 SSA 1.2
 BDE 1.0092 BRA 3.3055 BC3 6.8792 FSP 2251 SG1 7469.0 SG2 253.7 THA 2.95 EL1 111.8 EL2 9.3 ALF 7.22

LAUNCH DATE MAY 2 1971

FLIGHT TIME 272.00

ARRIVAL DATE JAN 20 1972

HELIOCENTRIC CONIC
 RL 150.76 LAL -.00 LOL 220.96 VL 32.399 GAL -3.41 AZL 91.08 HCA 199.79 SMA 186.68 ECC .20103 INC 1.0809 V1 29.854
 RP 224.20 LAP .37 LOP 60.75 VP 21.748 GAP .21 AZP 88.98 TAL 339.39 TAP 179.18 RCA 149.15 APO 224.21 V2 24.529
 RC 215.890 GL -9.48 GP -5.00 ZAL 129.67 ZAP 51.08 ETS 175.08 ZAE 89.84 ETE 180.36 ZAC 97.44 ETC 271.59 LVI -4.61

DISTANCE 632.156 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 13.713 VHL 3.703 DLA -12.16 RAL 355.81 RAD 6639.9 VEL 11.566 PTH 6.61 VHP 3.466 DPA -28.27 RAP 294.50 ECC 1.2257
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 8 36 2804.14 -22.17 80.20 209.03 133.24 17 55 21 1804.1 -4.24 63.47
 60.00 18 1 36 2863.22 -17.87 71.35 212.87 126.74 18 45 59 1663.2 -2.15 52.79
 70.00 19 8 59 2465.10 -13.88 58.09 215.68 121.52 19 50 4 1465.1 -1.17 38.23
 80.00 20 31 21 2207.30 -10.89 40.27 217.43 117.97 21 8 8 1207.3 1.34 19.60
 90.00 21 59 1 1924.47 -9.75 20.08 218.03 116.68 22 31 5 924.5 1.92 359.13
 100.00 23 14 12 1681.78 -10.89 1.64 217.43 117.97 23 42 14 681.8 1.34 340.97
 110.00 0 12 21 1511.92 -13.88 347.01 215.68 121.52 0 37 33 511.9 -1.17 327.15

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.0206 TRA 3.4249 TC3-6.8648 BAU 1.2596 SGT 7597.8 SGR 436.5 SG3 1205.6 ST 113.6 SR 16.7 SS 81.2
 RDE .2129 RRA .1263 RC3 -.2771 FAU .14586 RRT .7981 RRF -.8319 RTF .9738 CRT .8131 CRS -.8755 CST -.9929
 FDE 2.7161 FRA 7.2185 FC3-9.2080 BSP 12981 SGB 7610.3 R23 .0893 R13 .9740 LSA 140.1 MSA 12.0 SSA 1.2
 BDE 1.0426 BRA 3.4272 BC3 6.8704 FSP 2205 SG1 7605.8 SG2 262.8 THA 2.63 EL1 114.4 EL2 9.7 ALF 6.88

LAUNCH DATE MAY 2 1971

FLIGHT TIME 274.00

ARRIVAL DATE JAN 31 1972

HELIOCENTRIC CONIC
 RL 150.76 LAL -.00 LOL 220.96 VL 32.407 GAL -3.50 AZL 91.12 HCA 200.87 SMA 186.83 ECC .20213 INC 1.1230 V1 29.554
 RP 224.59 LAP .40 LOP 61.82 VP 21.714 GAP .05 AZP 88.95 TAL 338.93 TAP 179.79 RCA 149.07 APO 224.59 V2 24.487
 RC 218.554 GL -9.75 GP -4.70 ZAL 130.18 ZAP 50.19 ETS 175.21 ZAE 88.75 ETE 180.27 ZAC 97.73 ETC 271.64 LVI -4.96

DISTANCE 636.239 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 14.019 VHL 3.744 DLA -12.18 RAL 356.43 RAD 6640.1 VEL 11.579 PTH 6.62 VHP 3.497 DPA -27.94 RAP 294.67 ECC 1.2307
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 11 10 2808.54 -22.38 80.42 209.91 133.15 17 57 59 1808.5 -4.46 63.66
 60.00 18 4 11 2667.56 -18.05 71.58 213.77 126.67 18 48 39 1667.6 -2.34 53.00
 70.00 19 11 36 2469.35 -14.03 58.33 216.59 121.46 19 52 46 1469.4 -1.33 38.45
 80.00 20 34 0 2211.46 -11.02 40.51 218.35 117.92 21 10 51 1211.5 1.20 19.83
 90.00 22 1 41 1928.58 -9.87 20.32 218.95 116.64 22 33 49 928.6 1.79 359.36
 100.00 23 16 51 1685.93 -11.02 1.88 218.35 117.92 23 44 57 685.9 1.20 341.20
 110.00 0 14 59 1516.17 -14.03 347.25 216.59 121.46 0 40 15 516.2 -1.33 327.37

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.0573 TRA 3.5500 TC3-6.8522 BAU 1.2852 SGT 7735.1 SGR 418.0 SG3 1178.8 ST 116.4 SR 16.8 SS 80.8
 RDE .2169 RRA .1083 RC3 -.2528 FAU .14180 RRT .7578 RRF -.7926 RTF .9734 CRT .7963 CRS -.8630 CST -.9925
 FDE 2.7116 FRA 7.1667 FC3-8.7563 BSP 13239 SGB 7746.4 R23 .0829 R13 .9735 LSA 142.1 MSA 12.5 SSA 1.2
 BDE 1.0793 BRA 3.5516 BC3 6.8569 FSP 2162 SG1 7741.6 SG2 272.5 THA 2.35 EL1 117.2 EL2 10.1 ALF 6.60

LAUNCH DATE MAY 2 1971

FLIGHT TIME 276.00

ARRIVAL DATE FEB 2 1972

HELIOCENTRIC CONIC
 RL 150.76 LAL -.00 LOL 220.96 VL 32.417 GAL -3.59 AZL 91.16 HCA 201.94 SMA 186.98 ECC .20323 INC 1.1610 V1 29.554
 RP 224.98 LAP .43 LOP 62.90 VP 21.680 GAP -.10 AZP 88.92 TAL 338.46 TAP 180.40 RCA 148.98 APO 224.98 V2 24.445
 RC 221.219 GL -9.97 GP -4.44 ZAL 130.68 ZAP 49.33 ETS 175.32 ZAE 87.65 ETE 180.19 ZAC 97.99 ETC 271.69 LVI -5.29

DISTANCE 640.315 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 14.333 VHL 3.786 DLA -12.16 RAL 357.03 RAD 6640.2 VEL 11.593 PTH 6.64 VHP 3.528 DPA -27.64 RAP 294.87 ECC 1.2359
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 13 31 2813.76 -22.62 80.68 210.78 133.04 18 0 25 1813.8 -4.72 63.88
 60.00 18 6 30 2672.83 -18.26 71.86 214.65 126.57 18 51 3 1672.8 -2.57 53.25
 70.00 19 13 54 2474.68 -14.22 58.63 217.49 121.38 19 55 9 1474.7 -1.53 38.73
 80.00 20 36 16 2216.87 -11.20 40.82 219.25 117.86 21 13 13 1216.9 1.02 20.13
 90.00 22 3 56 1934.02 -10.04 20.63 219.86 116.58 22 36 10 934.0 1.62 359.67
 100.00 23 19 8 1691.34 -11.20 2.19 219.25 117.86 23 47 19 691.3 1.02 341.50
 110.00 0 17 16 1521.50 -14.22 347.54 217.49 121.38 0 42 38 521.5 -1.53 327.65

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.0981 TRA 3.6758 TC3-6.8361 BAU 1.3107 SGT 7869.5 SGR 404.0 SG3 1151.5 ST 119.3 SR 16.9 SS 80.2
 RDE .2215 RRA .0914 RC3 -.2317 FAU .13779 RRT .7138 RRF -.7496 RTF .9730 CRT .7807 CRS -.8511 CST -.9923
 FDE 2.7064 FRA 7.1096 FC3-8.3228 BSP 13489 SGB 7879.9 R23 .0773 R13 .9731 LSA 144.2 MSA 12.9 SSA 1.2
 BDE 1.1183 BRA 3.6770 BC3 6.8401 FSP 2118 SG1 7874.8 SG2 282.7 THA 2.10 EL1 120.0 EL2 10.5 ALF 6.36

LAUNCH DATE MAY 2 1971

FLIGHT TIME 278.00

ARRIVAL DATE FEB 4 1972

HELIOCENTRIC CONIC
 RL 150.76 LAL -.00 LOL 220.96 VL 32.426 GAL -3.68 AZL 91.20 HCA 203.01 SMA 187.14 ECC .20435 INC 1.1954 V1 29.554
 RP 225.37 LAP .47 LOP 63.96 VP 21.648 GAP -.26 AZP 88.90 TAL 337.99 TAP 181.00 RCA 148.90 APO 225.38 V2 24.403
 RC 223.884 GL -10.16 GP -4.20 ZAL 131.19 ZAP 48.49 ETS 175.43 ZAE 86.58 ETE 180.12 ZAC 98.22 ETC 271.76 LVI -5.61

DISTANCE 644.387 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 14.654 VHL 3.828 DLA -12.11 RAL 357.62 RAD 6640.4 VEL 11.606 PTH 6.65 VHP 3.560 DPA -27.37 RAP 295.10 ECC 1.2412
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 15 39 2819.66 -22.90 80.97 211.63 132.92 18 2 39 1819.7 -5.02 64.13
 60.00 18 8 36 2678.89 -18.51 72.18 215.52 126.46 18 53 14 1678.9 -2.84 53.54
 70.00 19 15 55 2480.94 -14.44 58.98 218.37 121.29 19 57 16 1480.9 -1.77 39.06
 80.00 20 38 13 2223.33 -11.40 41.19 220.14 117.78 21 15 17 1223.3 .80 20.48
 90.00 22 5 52 1940.58 -10.24 21.01 220.74 116.51 22 38 12 940.6 1.41 .03
 100.00 23 21 5 1697.80 -11.40 2.56 220.14 117.78 23 49 23 697.8 .80 341.85
 110.00 0 19 18 1527.76 -14.44 347.89 218.37 121.29 0 44 45 527.8 -1.77 327.98

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.1354 TRA 3.8021 TC3-6.8207 BAU 1.3369 SGT 8002.0 SGR 393.9 SG3 1124.7 ST 122.1 SR 17.0 SS 79.7
 RDE .2266 RRA .0756 RC3 -.2136 FAU .13397 RRT .6674 RRF -.7038 RTF .9725 CRT .7660 CRS -.8398 CST -.9920
 FDE 2.6985 FRA 7.0488 FC3-7.9146 BSP 13726 SGB 8011.7 R23 .0723 R13 .9726 LSA 146.1 MSA 13.4 SSA 1.2
 BDE 1.1578 BRA 3.8028 BC3 6.8240 FSP 2073 SG1 8006.3 SG2 293.2 THA 1.88 EL1 122.8 EL2 10.9 ALF 6.16

LAUNCH DATE MAY 2 1971

FLIGHT TIME 280.00

ARRIVAL DATE FEB 6 1972

HELIOCENTRIC CONIC

RL 130.76 LAL -.00 LOL 220.98 VL 32.439 GAL -3.78 AZL 91.23 HCA 204.08 BHA 187.30 ECC .20550 INC 1.2260 V1 29.854
 RP 225.78 LAP .50 LOP 65.03 VP 21.613 GAP -.41 AZP 88.88 TAL 337.52 TAP 181.59 RCA 148.81 APO 225.79 V2 24.361
 RC 226.550 GL -10.31 GP -3.98 ZAL 131.70 ZAP 47.69 ETS 175.53 ZAE 85.54 ETE 180.06 ZAC 98.42 ETC 271.82 LVI -8.91

DISTANCE 648.451

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.983 VHL 3.871 DLA -12.04 RAL 358.19 RAD 8640.5 VEL 11.620 PTH 6.66 VHP 3.593 DPA -27.11 RAP 295.38 ECC 1.2466
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 17 38 2826.16 -23.20 81.30 212.48 132.78 18 4 44 1828.2 -5.35 64.40
 60.00 18 10 29 2685.63 -18.78 72.54 216.39 126.34 18 55 14 1885.6 -3.14 53.86
 70.00 19 17 42 2488.00 -14.69 59.37 219.24 121.18 19 59 10 1488.0 -1.04 39.43
 80.00 20 39 54 2230.71 -11.63 41.61 221.01 117.69 21 17 5 1230.7 .55 20.89
 90.00 22 7 29 1948.11 -10.47 21.44 221.62 116.42 22 39 57 948.1 1.16 .45
 100.00 23 22 46 1705.18 -11.63 2.98 221.01 117.69 23 51 11 705.2 .55 342.26
 110.00 0 21 4 1534.82 -14.69 348.29 219.24 121.18 0 46 39 534.8 -1.04 328.34

DIFFERENTIAL CORRECTIONS

TDE 1.1774 TRA 3.9304 TC3-6.7994 BAU 1.3826
 RDE .2322 RRA .0607 RC3 -.1977 FAU .13008
 FDE 2.6929 FRA 6.9688 FC3-7.5161 BSP 13969
 BDE 1.2001 BRA 3.9308 BC3 6.8022 FSP 2029

MID-COURSE EXECUTION ACCURACY

SGT 8132.0 SGR 387.3 SG3 1098.4
 RRT .6195 RRF .6565 RTF .9721
 SGB 8141.2 R23 .0681 R13 .9721
 SG1 8135.6 SG2 303.9 THA 1.69

ORBIT DETERMINATION ACCURACY

ST 125.0 SR 17.2 SS 79.1
 CRT .7529 CR8 -.8295 CST -.9918
 LSA 148.3 MSA 13.7 S8A 1.2
 EL1 125.6 EL2 11.3 ALF 5.98

LAUNCH DATE MAY 3 1971

FLIGHT TIME 104.00

ARRIVAL DATE AUG 15 1971

HELIOCENTRIC CONIC

DISTANCE 304.746

EARTH TO MARS

RL 150.80 LAL -.00 LOL 221.93 VL 35.256 GAL -3.32 AZL 91.87 HCA 98.04 SMA 256.60 ECC .41560 INC 1.8680 V1 29.547
RP 207.32 LAP -1.85 LOP 319.97 VP 27.824 GAP 22.06 AZP 89.74 TAL 348.68 TAP 86.72 RCA 149.94 APO 363.27 V2 26.420
RC 56.291 GL -10.86 GP .56 ZAL 113.29 ZAP 175.73 ETS 172.36 ZAE 174.46 ETE 90.17 ZAC 100.89 ETC 277.29 LVI -17.91

PLANETOCENTRIC CONIC

C3 39.181 VHL 6.259 DLA -19.24 RAL 341.53 RAD 6650.4 VEL 12.612 PTH 7.47 VHP 11.018 DPA -17.35 RAP 318.60 ECC 1.8448
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 36 37 2911.32 -27.06 85.72 207.96 130.75 17 25 9 1911.3 -9.59 68.02
60.00 17 36 57 2745.59 -21.17 75.82 212.99 125.13 18 24 42 1745.6 -5.76 56.75
70.00 18 57 44 2513.95 -15.60 60.83 216.79 120.77 19 39 38 1513.9 -2.03 40.78
80.00 20 31 53 2219.29 -11.27 40.96 219.29 117.83 21 8 53 1219.3 .94 20.26
90.00 22 5 17 1917.99 -9.55 19.71 220.19 116.75 22 37 15 918.0 2.13 350.77
100.00 23 14 45 1693.77 -11.27 2.33 219.29 117.83 23 42 59 693.8 .94 341.63
110.00 0 1 7 1560.77 -15.60 349.75 216.79 120.77 0 27 7 560.8 -2.03 329.70

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5014 TRA-1.0912 TC3 -.0207 BAU .0427 SGT 1153.4 SGR 583.3 SG3 114.3 ST 27.9 SR 26.8 SS 16.8
RDE -.5815 RRA .2240 RC3 .0788 FAU .03395 RRT .0178 RRF -.0191 RTF -.6786 CRT .7473 CRS .5348 CST .9584
FDE .2437 FRA .9340 FC3 -.7501 BSP 1735 SGB 1292.5 R23 -.0029 R13 -.6787 LSA 38.0 MSA 16.4 SSA 1.1
BDE .7678 BRA 1.1139 BC3 .0815 FSP 142 SG1 1153.5 SG2 583.2 THA .69 EL1 36.2 EL2 13.7 ALF 43.48

LAUNCH DATE MAY 3 1971

FLIGHT TIME 106.00

ARRIVAL DATE AUG 17 1971

HELIOCENTRIC CONIC

DISTANCE 306.721

EARTH TO MARS

RL 150.80 LAL -.00 LOL 221.93 VL 35.067 GAL -3.21 AZL 91.87 HCA 99.30 SMA 250.19 ECC .40057 INC 1.8734 V1 29.547
RP 207.22 LAP -1.85 LOP 321.23 VP 27.394 GAP 21.55 AZP 89.70 TAL 348.75 TAP 88.05 RCA 149.97 APO 350.41 V2 26.432
RC 56.455 GL -10.88 GP .58 ZAL 113.29 ZAP 174.87 ETS 173.45 ZAE 174.40 ETE 80.90 ZAC 100.85 ETC 277.38 LVI -18.05

PLANETOCENTRIC CONIC

C3 36.756 VHL 6.083 DLA -19.52 RAL 341.70 RAD 6649.5 VEL 12.516 PTH 7.40 VHP 10.665 DPA -17.21 RAP 318.99 ECC 1.8049
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 38 30 2869.24 -26.07 84.54 207.17 131.32 17 26 40 1889.2 -8.50 67.08
60.00 17 41 15 2722.40 -20.25 74.54 212.19 125.62 18 26 37 1722.4 -4.75 55.63
70.00 19 0 35 2489.16 -14.73 59.44 216.00 121.17 19 42 4 1489.2 -1.09 39.49
80.00 20 35 20 2192.60 -10.42 39.44 218.52 118.14 21 11 53 1192.6 1.84 18.80
90.00 22 9 4 1890.27 -8.70 18.12 219.43 117.02 22 40 34 890.3 3.02 357.22
100.00 23 18 12 1667.07 -10.42 .80 218.52 118.14 23 45 59 667.1 1.84 340.17
110.00 0 3 57 1535.98 -14.73 348.35 216.00 121.17 0 29 33 536.0 -1.09 328.40

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4965 TRA-1.0819 TC3 -.0107 BAU .0419 SGT 1182.0 SGR 584.1 SG3 122.4 ST 28.6 SR 26.8 SS 17.4
RDE -.5636 RRA .2162 RC3 .0847 FAU .03503 RRT .0195 RRF -.0213 RTF -.6899 CRT .7466 CRS .5293 CST .9569
FDE .2505 FRA .9719 FC3 -.8252 BSP 1794 SGB 1318.5 R23 -.0035 R13 -.6899 LSA 39.5 MSA 16.7 SSA 1.1
BDE .7511 BRA 1.1033 BC3 .0853 FSP 154 SG1 1182.1 SG2 584.0 THA .73 EL1 36.6 EL2 13.9 ALF 42.62

LAUNCH DATE MAY 3 1971

FLIGHT TIME 108.00

ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC

DISTANCE 308.921

EARTH TO MARS

RL 150.80 LAL -.00 LOL 221.93 VL 34.889 GAL -3.10 AZL 91.88 HCA 100.56 SMA 244.45 ECC .38637 INC 1.8788 V1 29.547
RP 207.13 LAP -1.85 LOP 322.50 VP 27.176 GAP 21.05 AZP 89.66 TAL 348.84 TAP 89.41 RCA 150.00 APO 336.90 V2 26.443
RC 56.701 GL -11.21 GP .60 ZAL 113.28 ZAP 174.00 ETS 174.23 ZAE 174.21 ETE 72.28 ZAC 100.82 ETC 277.46 LVI -18.17

PLANETOCENTRIC CONIC

C3 34.530 VHL 5.876 DLA -19.82 RAL 341.84 RAD 6648.7 VEL 12.427 PTH 7.33 VHP 10.327 DPA -17.08 RAP 319.37 ECC 1.5683
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 40 22 2867.22 -25.08 83.39 206.39 131.86 17 28 10 1867.2 -7.40 66.14
60.00 17 43 33 2699.20 -19.33 73.28 211.41 126.08 18 28 33 1699.2 -3.73 54.51
70.00 19 3 26 2464.26 -13.85 58.05 215.24 121.54 19 44 33 1464.3 -.13 38.19
80.00 20 38 53 2165.66 -9.55 37.91 217.77 118.42 21 14 59 1165.7 2.75 17.32
90.00 22 12 57 1862.21 -7.82 18.52 218.69 117.26 22 43 59 862.2 3.92 359.63
100.00 23 21 45 1640.13 -9.55 359.28 217.77 118.42 23 49 5 640.1 2.75 338.69
110.00 0 6 51 1511.08 -13.85 348.96 215.24 121.54 0 32 2 511.1 -.13 327.11

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4920 TRA-1.0718 TC3 .0008 BAU .0419 SGT 1209.9 SGR 584.6 SG3 131.0 ST 29.2 SR 26.8 SS 18.0
RDE -.5462 RRA .2085 RC3 .0908 FAU .03618 RRT .0220 RRF -.0233 RTF -.09 CRT .7463 CRS .5228 CST .9549
FDE .2569 FRA 1.0114 FC3 -.9070 BSP 1839 SGB 1343.7 R23 -.0032 R13 -.7009 LSA 40.1 MSA 17.0 SSA 1.1
BDE .7331 BRA 1.0918 BC3 .0908 FSP 167 SG1 1210.0 SG2 584.4 THA .79 EL1 37.1 EL2 14.1 ALF 41.79

LAUNCH DATE MAY 3 1971

FLIGHT TIME 110.00

ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC

DISTANCE 311.318

EARTH TO MARS

RL 150.80 LAL -.00 LOL 221.93 VL 34.722 GAL -3.00 AZL 91.88 HCA 101.83 SMA 239.30 ECC .37303 INC 1.8843 V1 29.547
RP 207.05 LAP -1.84 LOP 323.76 VP 26.970 GAP 20.55 AZP 89.61 TAL 348.94 TAP 90.77 RCA 150.04 APO 328.57 V2 26.453
RC 37.030 GL -11.54 GP .62 ZAL 113.24 ZAP 173.11 ETS 174.82 ZAE 173.93 ETE 64.80 ZAC 100.79 ETC 277.54 LVI -18.30

PLANETOCENTRIC CONIC

C3 32.485 VHL 5.700 DLA -20.12 RAL 341.97 RAD 6648.0 VEL 12.345 PTH 7.27 VHP 10.001 DPA -16.95 RAP 319.74 ECC 1.5348
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 42 14 2845.31 -24.08 82.27 205.64 132.36 17 29 39 1845.3 -6.30 65.21
60.00 17 45 53 2676.04 -18.39 72.03 210.65 126.51 18 30 29 1676.0 -2.71 53.40
70.00 19 6 25 2439.30 -12.96 56.67 214.49 121.88 19 47 4 1439.3 .82 36.89
80.00 20 42 32 2138.49 -8.67 36.38 217.04 118.68 21 18 10 1138.5 3.67 15.82
90.00 22 16 59 1833.83 -6.94 14.91 217.97 117.48 22 47 32 833.8 4.83 354.06
100.00 23 25 24 1612.97 -8.67 357.75 217.04 118.68 23 52 16 613.0 3.67 337.19
110.00 0 9 47 1486.12 -12.96 345.58 214.49 121.88 0 34 33 486.1 .82 325.80

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4857 TRA-1.0626 TC3 .0140 BAU .0428 SGT 1238.1 SGR 584.5 SG3 140.1 ST 29.8 SR 26.8 SS 18.6
RDE -.5293 RRA .2009 RC3 .0971 FAU .03739 RRT .0233 RRF -.0254 RTF -.7117 CRT .7447 CRS .5158 CST .9533
FDE .2631 FRA 1.0322 FC3 -.9964 BSP 1900 SGB 1369.1 R23 -.0041 R13 -.7118 LSA 40.7 MSA 17.2 SSA 1.1
BDE .7184 BRA 1.0814 BC3 .0981 FSP 181 SG1 1238.2 SG2 584.3 THA .81 EL1 37.5 EL2 14.2 ALF 40.96

LAUNCH DATE MAY 3 1971

FLIGHT TIME 112.00

ARRIVAL DATE AUG 23 1971

HELIOCENTRIC CONIC

RL 150.80 LAL -.00 LOL 221.93 VL 34.563 GAL -2.89 AZL 91.89 HCA 103.09 SMA 234.86 ECC .36047 INC 1.8898 V1 29.547
 RP 206.97 LAP -1.84 LOP 325.03 VP 26.775 GAP 20.06 AZP 89.57 TAL 349.06 TAP 92.15 RCA 150.07 APO 319.25 V2 26.482
 RC 37.440 GL -11.87 GP .84 ZAL 113.18 ZAP 172.21 ETS 175.28 ZAE 173.58 ETE 57.98 ZAC 100.76 ETC 277.62 LVI -18.42

DISTANCE 313.888

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 30.605 VHL 5.532 DLA -20.45 RAL 342.08 RAD 6647.2 VEL 12.269 PTH 7.21 VHP 9.688 DPA -16.82 RAP 320.10 ECC 1.9037
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 30.00 16 44 5 2823.54 -23.08 81.17 204.91 132.84 17 31 8 1823.5 -5.21 64.29
 60.00 17 48 13 2652.96 -17.45 70.80 209.92 126.92 18 32 26 1653.0 -1.70 52.30
 70.00 19 9 24 2414.30 -12.05 55.29 213.76 122.20 19 49 39 1414.3 1.77 35.58
 80.00 20 46 16 2111.13 -7.77 34.84 216.33 118.92 21 21 28 1111.1 4.59 14.31
 90.00 22 21 8 1805.15 -6.03 13.28 217.27 117.88 22 31 13 805.2 5.74 352.44
 100.00 23 29 8 1585.60 -7.77 356.21 216.33 118.92 23 55 34 585.6 4.59 335.68
 110.00 0 12 47 1461.12 -12.05 344.21 213.76 122.20 0 37 8 461.1 1.77 324.50

DIFFERENTIAL CORRECTIONS

TDE -.4808 TRA -1.0529 TC3 .0286 BAW .0440
 RDE -.3130 RRA .1935 RC3 .1038 FAU .03871
 FDE .2696 FRA 1.0950 FC3 -1.0931 BSP 1962
 BDE .7029 BRA 1.0705 BC3 .1076 FSP 197

MID-COURSE EXECUTION ACCURACY

SGT 1266.2 SGR 584.1 SG3 149.9
 RRT .0258 RRF -.0281 RTF -.7218
 SGB 1394.4 R23 -.0044 R13 -.7219
 SG1 1266.3 SGT 583.9 THA .87

ORBIT DETERMINATION ACCURACY

ST 30.4 SR 26.8 SS 19.2
 CRT .7439 CRS .5090 CST .9314
 LSA 41.3 MSA 17.5 SSA 1.2
 EL1 37.9 EL2 14.4 ALF 40.12

LAUNCH DATE MAY 3 1971

FLIGHT TIME 114.00

ARRIVAL DATE AUG 25 1971

HELIOCENTRIC CONIC

RL 150.80 LAL -.00 LOL 221.93 VL 34.414 GAL -2.79 AZL 91.90 HCA 104.36 SMA 230.46 ECC .34866 INC 1.8954 V1 29.547
 RP 206.90 LAP -1.84 LOP 326.30 VP 26.589 GAP 19.58 AZP 89.53 TAL 349.19 TAP 93.55 RCA 150.11 APO 310.81 V2 26.469
 RC 57.930 GL -12.21 GP .68 ZAL 113.10 ZAP 171.30 ETS 175.64 ZAE 173.20 ETE 52.38 ZAC 100.74 ETC 277.69 LVI -18.54

DISTANCE 316.610

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 28.874 VHL 5.373 DLA -20.78 RAL 342.17 RAD 6646.6 VEL 12.199 PTH 7.16 VHP 9.582 DPA -16.69 RAP 320.44 ECC 1.4792
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 30.00 16 45 55 2801.89 -22.07 80.09 204.21 133.29 17 32 37 1801.9 -4.13 63.38
 60.00 17 50 35 2629.93 -16.51 69.59 209.20 127.30 18 34 25 1629.9 -.68 51.20
 70.00 19 12 27 2389.24 -11.14 53.92 213.05 122.50 19 52 16 1389.2 2.73 34.27
 80.00 20 50 8 2083.53 -6.86 33.30 215.64 119.13 21 24 52 1083.5 5.51 12.78
 90.00 22 25 26 1776.12 -5.11 11.65 216.59 117.85 22 55 2 776.1 6.66 350.80
 100.00 23 33 0 1558.00 -6.86 354.67 215.64 119.13 23 58 58 558.0 5.51 334.15
 110.00 0 15 49 1436.05 -11.14 342.84 213.05 122.50 0 39 45 436.1 2.73 323.19

DIFFERENTIAL CORRECTIONS

TDE -.4642 TRA -1.0327 TC3 .0582 BAW .0483
 RDE -.4971 RRA .1863 RC3 .1107 FAU .03998
 FDE .2784 FRA 1.1422 FC3 -1.1987 BSP 1895
 BDE .6802 BRA 1.0494 BC3 .1251 FSP 216

MID-COURSE EXECUTION ACCURACY

SGT 1279.1 SGR 583.3 SG3 160.4
 RRT .0262 RRF -.0312 RTF -.7421
 SGB 1405.8 R23 -.0066 R13 -.7422
 SG1 1279.2 SGT 583.0 THA .87

ORBIT DETERMINATION ACCURACY

ST 30.4 SR 26.7 SS 19.9
 CRT .7387 CRS .5044 CST .9523
 LSA 41.5 MSA 17.8 SSA 1.1
 EL1 37.8 EL2 14.5 ALF 39.99

LAUNCH DATE MAY 3 1971

FLIGHT TIME 116.00

ARRIVAL DATE AUG 27 1971

HELIOCENTRIC CONIC

RL 150.80 LAL -.00 LOL 221.93 VL 34.273 GAL -2.69 AZL 91.90 HCA 105.63 SMA 226.65 ECC .33756 INC 1.9010 V1 29.547
 RP 206.85 LAP -1.83 LOP 327.56 VP 26.413 GAP 19.11 AZP 89.49 TAL 349.32 TAP 94.95 RCA 150.14 APO 303.15 V2 26.476
 RC 58.496 GL -12.56 GP .68 ZAL 113.00 ZAP 170.37 ETS 175.94 ZAE 172.79 ETE 47.68 ZAC 100.71 ETC 277.76 LVI -18.66

DISTANCE 319.467

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 27.284 VHL 5.223 DLA -21.12 RAL 342.24 RAD 6645.9 VEL 12.134 PTH 7.10 VHP 9.088 DPA -16.57 RAP 320.77 ECC 1.4490
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 30.00 16 47 45 2780.50 -21.07 79.04 203.53 133.70 17 34 5 1780.5 -3.06 62.48
 60.00 17 52 37 2607.10 -15.56 68.40 208.31 127.66 18 36 24 1607.1 .32 50.11
 70.00 19 15 33 2364.27 -10.22 52.57 212.37 122.77 19 54 57 1364.3 3.68 32.96
 80.00 20 54 6 2055.85 -5.94 31.76 214.98 119.31 21 28 22 1055.9 6.43 11.25
 90.00 22 29 53 1746.89 -4.18 10.01 215.94 117.99 22 59 0 746.9 7.57 349.15
 100.00 23 36 58 1530.32 -5.94 353.13 214.98 119.31 24 2 28 530.3 6.43 332.82
 110.00 0 18 55 1411.09 -10.22 341.49 212.37 122.77 0 42 26 411.1 3.68 321.88

DIFFERENTIAL CORRECTIONS

TDE -.4631 TRA -1.0267 TC3 .0691 BAW .0498
 RDE -.4818 RRA .1792 RC3 .1178 FAU .04151
 FDE .2833 FRA 1.1874 FC3 -1.3171 BSP 2007
 BDE .6682 BRA 1.0422 BC3 .1368 FSP 232

MID-COURSE EXECUTION ACCURACY

SGT 1311.7 SGR 582.1 SG3 171.5
 RRT .0300 RRF -.0340 RTF -.1.63
 SGB 1435.1 R23 -.0061 R13 -.7463
 SG1 1311.9 SGT 581.7 THA .95

ORBIT DETERMINATION ACCURACY

ST 31.2 SR 26.6 SS 20.9
 CRT .7399 CRS .4931 CST .9487
 LSA 42.2 MSA 18.0 SSA 1.2
 EL1 38.3 EL2 14.6 ALF 38.91

LAUNCH DATE MAY 3 1971

FLIGHT TIME 118.00

ARRIVAL DATE AUG 29 1971

HELIOCENTRIC CONIC

RL 150.80 LAL -.00 LOL 221.93 VL 34.140 GAL -2.59 AZL 91.91 HCA 106.89 SMA 223.18 ECC .32712 INC 1.9068 V1 29.547
 RP 206.80 LAP -1.82 LOP 328.83 VP 26.248 GAP 18.64 AZP 89.45 TAL 349.47 TAP 96.37 RCA 150.17 APO 296.18 V2 26.482
 RC 59.137 GL -12.90 GP .70 ZAL 112.88 ZAP 169.43 ETS 176.19 ZAE 172.39 ETE 43.76 ZAC 100.69 ETC 277.83 LVI -18.77

DISTANCE 322.446

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 25.821 VHL 5.081 DLA -21.47 RAL 342.31 RAD 6645.3 VEL 12.074 PTH 7.06 VHP 8.803 DPA -16.44 RAP 321.08 ECC 1.4249
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 30.00 16 49 34 2759.33 -20.07 78.02 202.88 134.09 17 35 33 1759.3 -1.99 61.60
 60.00 17 55 20 2584.42 -14.61 67.24 207.85 127.99 18 38 25 1584.4 1.32 49.03
 70.00 19 18 42 2339.34 -9.30 51.23 211.72 123.01 19 57 42 1339.3 4.63 31.66
 80.00 20 58 11 2028.02 -5.01 30.22 214.34 119.47 21 31 59 1028.0 7.36 9.70
 90.00 22 34 29 1717.37 -3.23 8.35 215.32 118.11 23 3 7 717.4 8.49 347.46
 100.00 23 41 3 1502.50 -5.01 351.59 214.34 119.47 24 6 5 502.5 7.36 331.07
 110.00 0 22 5 1386.16 -9.30 340.15 211.72 123.01 0 45 11 386.2 4.63 320.57

DIFFERENTIAL CORRECTIONS

TDE -.4599 TRA -1.0187 TC3 .0842 BAW .0521
 RDE -.4669 RRA .1723 RC3 .1252 FAU .04311
 FDE .2866 FRA 1.2354 FC3 -1.4455 BSP 2096
 BDE .6553 BRA 1.0331 BC3 .1509 FSP 250

MID-COURSE EXECUTION ACCURACY

SGT 1341.5 SGR 580.5 SG3 183.4
 RRT .0337 RRF -.0371 RTF -.7523
 SGB 1461.7 R23 -.0060 R13 -.7524
 SG1 1341.7 SGT 580.0 THA 1.03

ORBIT DETERMINATION ACCURACY

ST 31.9 SR 26.5 SS 21.2
 CRT .7395 CRS .4860 CST .9454
 LSA 42.8 MSA 18.2 SSA 1.2
 EL1 38.8 EL2 14.7 ALF 37.98

LAUNCH DATE MAY 3 1971

FLIGHT TIME 120.00

ARRIVAL DATE AUG 31 1971

Heliocentric Conic: RL 150.80 LAL -.00 LOL 221.93 VL 34.014 GAL -2.49 AZL 91.91 HCA 108.16 SMA 220.01 ECC .31729 INC 1.9128 V1 29.547
 RP 206.75 LAP -1.82 LOP 330.10 VP 26.088 GAP 18.18 AZP 89.40 TAL 349.63 TAP 97.79 RCA 150.20 APO 289.82 V2 26.487
 RC 59.850 GL -13.25 GP .73 ZAL 112.75 ZAP 188.47 ETS 176.40 ZAE 172.01 ETE 40.50 ZAC 100.68 ETC 277.89 LVI -18.88

Planetocentric Conic: C3 24.473 VHL 4.947 DLA -21.83 RAL 342.35 RAD 8644.8 VEL 12.019 PTH 7.01 VHP 8.528 DPA -16.32 RAP 321.38 ECC 1.4028
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 51 23 2738.41 -19.07 77.03 202.25 134.46 17 37 2 1738.4 -1.94 80.72
 60.00 17 57 45 2561.93 -13.67 86.09 207.21 128.29 18 40 27 1561.9 2.31 47.95
 70.00 19 21 55 2314.48 -8.38 49.90 211.09 123.23 20 0 30 1314.5 5.57 30.35
 80.00 21 2 23 2000.06 -4.07 28.68 213.73 119.60 21 35 43 1000.1 8.28 8.13
 90.00 22 39 16 1687.57 -2.28 6.69 214.72 118.20 23 7 23 687.6 9.41 345.76
 100.00 23 45 15 1474.54 -4.07 350.04 213.73 119.60 24 9 49 474.5 8.28 329.50
 110.00 0 25 18 1361.29 -8.38 338.82 211.09 123.23 0 47 59 361.3 5.57 319.27

Differential Corrections: TDE -.4590 TRA -1.0096 TC3 .1005 BAU .0545 SGT 1369.1 SGR 578.4 SG3 196.0 ST 32.4 SR 26.4 SS 21.0
 RDE -.4525 RRA .1655 RC3 .1328 FAU .04480 RRT .0368 RRF -.0404 RTF -.7588 CRT .7388 CRS .4765 CST .9423
 FDE .2938 FRA 1.2860 FC3-1.5847 BSP 2172 SGB 1486.3 R23 -.0065 R13 -.7588 LSA 43.4 MSA 18.5 SSA 1.2
 BDE .6417 BRA 1.0231 BC3 .1666 FSP 270 SG1 1369.3 SG2 578.0 THA 1.08 EL1 39.1 EL2 14.7 ALF 37.16

LAUNCH DATE MAY 3 1971

FLIGHT TIME 122.00

ARRIVAL DATE SEP 2 1971

Heliocentric Conic: RL 150.80 LAL -.00 LOL 221.93 VL 33.896 GAL -2.40 AZL 91.92 HCA 109.43 SMA 217.12 ECC .30804 INC 1.9185 V1 29.547
 RP 206.72 LAP -1.81 LOP 331.37 VP 25.937 GAP 17.74 AZP 89.36 TAL 349.79 TAP 99.22 RCA 150.24 APO 284.00 V2 26.491
 RC 60.633 GL -13.60 GP .76 ZAL 112.60 ZAP 167.49 ETS 176.57 ZAE 171.67 ETE 37.78 ZAC 100.66 ETC 277.95 LVI -18.98

Planetocentric Conic: C3 23.232 VHL 4.820 DLA -22.20 RAL 342.38 RAD 8644.2 VEL 11.967 PTH 6.97 VHP 8.263 DPA -16.21 RAP 321.66 ECC 1.3823
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 53 12 2717.76 -18.09 76.06 201.65 134.79 17 38 30 1717.8 .10 59.86
 60.00 18 0 10 2539.65 -12.73 64.96 206.60 128.57 18 42 30 1539.7 3.29 46.89
 70.00 19 25 12 2289.71 -7.45 48.58 210.49 123.43 20 3 21 1289.7 6.51 29.04
 80.00 21 6 43 1971.98 -3.12 27.13 213.16 119.71 21 39 35 972.0 9.19 6.55
 90.00 22 44 13 1657.48 -1.31 5.01 214.16 118.25 23 11 51 657.5 10.33 344.02
 100.00 23 49 35 1446.45 -3.12 348.50 213.16 119.71 24 13 41 446.5 9.19 327.92
 110.00 0 28 34 1336.53 -7.45 337.50 210.49 123.43 0 50 50 336.5 6.51 317.96

Differential Corrections: TDE -.4492 TRA -.9996 TC3 .1196 BAU .0573 SGT 1394.8 SGR 576.1 SG3 209.6 ST 32.9 SR 26.2 SS 22.4
 RDE -.4388 RRA .1588 RC3 .1406 FAU .04659 RRT .0402 RRF -.0442 RTF -.7655 CRT .7375 CRS .4673 CST .9395
 FDE .2996 FRA 1.3395 FC3-1.7363 BSP 2234 SGB 1509.1 R23 -.0071 R13 -.7655 LSA 43.9 MSA 18.7 SSA 1.2
 BDE .6278 BRA 1.0121 BC3 .1846 FSP 292 SG1 1395.0 SG2 575.5 THA 1.15 EL1 39.4 EL2 14.8 ALF 36.40

LAUNCH DATE MAY 3 1971

FLIGHT TIME 124.00

ARRIVAL DATE SEP 4 1971

Heliocentric Conic: RL 150.80 LAL -.00 LOL 221.93 VL 33.784 GAL -2.31 AZL 91.92 HCA 110.70 SMA 214.47 ECC .29934 INC 1.9244 V1 29.547
 RP 206.70 LAP -1.80 LOP 332.64 VP 25.794 GAP 17.30 AZP 89.32 TAL 349.96 TAP 100.66 RCA 150.27 APO 278.66 V2 26.494
 RC 61.483 GL -13.96 GP .78 ZAL 112.43 ZAP 166.50 ETS 176.72 ZAE 171.36 ETE 35.52 ZAC 100.65 ETC 278.01 LVI -19.08

Planetocentric Conic: C3 22.088 VHL 4.700 DLA -22.58 RAL 342.40 RAD 8643.8 VEL 11.920 PTH 6.93 VHP 8.008 DPA -16.09 RAP 321.92 ECC 1.3635
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 55 1 2697.42 -17.11 75.12 201.08 135.10 17 39 58 1697.4 1.12 59.01
 60.00 18 2 37 2517.62 -11.79 63.85 206.01 128.82 18 44 35 1517.6 4.25 45.83
 70.00 19 28 32 2265.07 -6.53 47.27 209.91 123.60 20 6 17 1263.1 7.43 27.74
 80.00 21 11 11 1943.79 -2.17 25.58 212.61 119.79 21 43 35 943.8 10.11 4.96
 90.00 22 49 22 1627.10 -.33 3.31 213.63 118.28 23 16 29 627.1 11.25 342.26
 100.00 23 54 3 1418.26 -2.17 346.95 212.61 119.79 24 17 41 418.3 10.11 326.33
 110.00 0 31 54 1311.89 -6.52 336.19 209.91 123.60 0 53 46 311.9 7.43 316.65

Differential Corrections: TDE -.4431 TRA -.9887 TC3 .1403 BAU .0604 SGT 1418.9 SGR 573.3 SG3 224.1 ST 33.4 SR 26.1 SS 23.1
 RDE -.4252 RRA .1523 RC3 .1487 FAU .04832 RRT .0441 RRF -.0483 RTF -.7721 CRT .7364 CRS .4573 CST .9362
 FDE .3048 FRA 1.3954 FC3-1.9017 BSP 2281 SGB 1530.4 R23 -.0076 R13 -.7722 LSA 44.4 MSA 18.9 SSA 1.2
 BDE .6141 BRA 1.0004 BC3 .2044 FSP 315 SG1 1419.2 SG2 572.6 THA 1.22 EL1 39.7 EL2 14.8 ALF 35.68

LAUNCH DATE MAY 3 1971

FLIGHT TIME 126.00

ARRIVAL DATE SEP 6 1971

Heliocentric Conic: RL 150.80 LAL -.00 LOL 221.93 VL 33.879 GAL -2.22 AZL 91.93 HCA 111.97 SMA 212.03 ECC .29116 INC 1.9308 V1 29.547
 RP 206.68 LAP -1.79 LOP 333.91 VP 25.658 GAP 16.87 AZP 89.28 TAL 350.14 TAP 102.11 RCA 150.30 APO 273.76 V2 26.496
 RC 62.398 GL -14.31 GP .81 ZAL 112.26 ZAP 165.48 ETS 176.86 ZAE 171.11 ETE 33.64 ZAC 100.65 ETC 278.06 LVI -19.18

Planetocentric Conic: C3 21.033 VHL 4.586 DLA -22.96 RAL 342.41 RAD 8643.3 VEL 11.876 PTH 6.89 VHP 7.757 DPA -15.99 RAP 322.16 ECC 1.3462
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 58 49 2677.41 -16.14 74.20 200.53 135.39 17 41 28 1677.4 2.12 58.18
 60.00 18 5 5 2495.86 -10.86 62.77 205.45 129.05 18 46 41 1495.9 5.21 44.78
 70.00 19 31 55 2240.57 -5.60 45.98 209.37 123.75 20 9 16 1240.6 8.35 26.43
 80.00 21 15 47 1915.50 -1.21 24.02 212.09 119.84 21 47 43 915.5 11.01 3.35
 90.00 22 54 43 1596.40 .66 1.60 213.13 118.27 23 21 20 596.4 12.16 340.47
 100.00 0 2 35 1389.97 -1.21 345.39 212.09 119.84 0 25 45 390.0 11.01 324.72
 110.00 0 35 17 1287.39 -5.60 334.90 209.37 123.75 0 56 45 287.4 8.35 315.35

Differential Corrections: TDE -.4365 TRA -.9773 TC3 .1611 BAU .0633 SGT 1441.3 SGR 570.2 SG3 239.5 ST 33.8 SR 25.9 SS 23.8
 RDE -.4122 RRA .1460 RC3 .1570 FAU .05053 RRT .0480 RRF -.0526 RTF -.7783 CRT .7350 CRS .4468 CST .9328
 FDE .3098 FRA 1.4543 FC3-2.0799 BSP 2341 SGB 1550.0 R23 -.0083 R13 -.7784 LSA 44.8 MSA 19.1 SSA 1.3
 BDE .6004 BRA .9881 BC3 .2249 FSP 340 SG1 1441.7 SG2 569.4 THA 1.29 EL1 39.9 EL2 14.9 ALF 35.01

LAUNCH DATE MAY 3 1971

FLIGHT TIME 128.00

ARRIVAL DATE SEP 8 1971

HELIOCENTRIC CONIC

DISTANCE 338.754

EARTH TO MARS

RL 150.80 LAL -.00 LOL 221.93 VL 33.579 GAL -2.13 AZL 91.94 HCA 113.24 SMA 209.79 ECC .28346 INC 1.9368 V1 29.547
 RP 206.67 LAP -1.78 LOP 333.18 VP 25.528 GAP 16.45 AZP 89.24 TAL 350.33 TAP 103.56 RCA 150.32 APO 268.26 V2 26.496
 RC 63.376 GL -14.67 GP .85 ZAL 112.07 ZAP 164.44 ETS 176.97 ZAE 170.90 ETE 32.09 ZAC 100.64 ETC 278.11 LVI -19.27

PLANETOCENTRIC CONIC

C3 20.061 VHL 4.479 DLA -23.35 RAL 342.41 RAD 6642.9 VEL 11.835 PTH 6.85 VHP 7.517 DPA -15.88 RAP 322.38 ECC 1.3302
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 58 37 2637.75 -15.19 73.31 200.01 135.65 17 42 55 1657.7 3.11 57.35
 60.00 18 7 34 2474.39 -9.93 61.71 204.92 129.26 18 48 48 1474.4 6.15 43.75
 70.00 19 35 23 2216.24 -4.68 44.70 208.85 123.87 20 12 19 1216.2 9.25 25.13
 80.00 21 20 32 1887.11 -.25 22.47 211.60 119.86 21 52 0 887.1 11.91 1.72
 90.00 23 0 18 1565.36 1.66 359.87 212.67 118.24 23 26 23 565.4 13.07 338.65
 100.00 0 7 20 1361.58 -.25 343.83 211.60 119.86 0 30 2 361.6 11.91 323.09
 110.00 0 38 45 1263.06 -4.68 333.62 208.85 123.87 0 59 48 263.1 9.25 314.05

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4298 TRA -.9654 TC3 .1840 BAW .0664 SGT 1462.4 SGR 566.7 SG3 255.9 ST 34.1 SR 25.7 SS 24.5
 RDE -.3998 RRA .1398 RC3 .1654 FAU .05270 RRT .0525 RRF -.0575 RTF -.7845 CRT .7338 CRS .4364 CST .9293
 FDE .3149 FRA 1.5159 FC3-2.2743 BSP 2383 SGB 1568.4 R23 -.0090 R13 -.7846 LSA 45.2 MSA 19.4 S5A 1.3
 BDE .5868 BRA .9755 BC3 .2474 F8P 367 SG1 1462.8 SG2 565.8 THA 1.37 EL1 40.0 EL2 14.9 ALF 34.37

LAUNCH DATE MAY 3 1971

FLIGHT TIME 130.00

ARRIVAL DATE SEP 10 1971

HELIOCENTRIC CONIC

DISTANCE 342.240

EARTH TO MARS

RL 150.80 LAL -.00 LOL 221.93 VL 33.486 GAL -2.05 AZL 91.94 HCA 114.51 SMA 207.73 ECC .27622 INC 1.9431 V1 29.547
 RP 206.68 LAP -1.77 LOP 336.45 VP 25.403 GAP 16.03 AZP 89.19 TAL 350.51 TAP 105.02 RCA 150.35 APO 265.11 V2 26.496
 RC 64.414 GL -15.02 GP .88 ZAL 111.87 ZAP 163.39 ETS 177.07 ZAE 170.76 ETE 30.83 ZAC 100.65 ETC 278.15 LVI -19.36

PLANETOCENTRIC CONIC

C3 19.165 VHL 4.378 DLA -23.74 RAL 342.40 RAD 6642.5 VEL 11.798 PTH 6.82 VHP 7.285 DPA -15.79 RAP 322.58 ECC 1.3154
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 0 26 2638.46 -14.24 72.44 199.51 135.89 17 44 24 1638.5 4.08 56.54
 60.00 18 10 4 2453.24 -9.02 60.67 204.42 129.45 18 50 57 1453.2 7.07 42.72
 70.00 19 38 54 2192.11 -3.76 43.44 208.37 123.97 20 15 26 1192.1 10.15 23.83
 80.00 21 25 27 1858.62 .71 20.90 211.15 119.85 21 56 26 858.6 12.81 .08
 90.00 23 6 7 1533.93 2.67 358.11 212.24 118.16 23 31 41 533.9 13.98 336.78
 100.00 0 12 15 1333.09 .71 342.27 211.15 119.85 0 34 28 333.1 12.81 321.45
 110.00 0 42 16 1238.93 -3.76 332.35 208.37 123.97 1 2 55 238.9 10.15 312.75

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4227 TRA -.9531 TC3 .2062 BAW .0691 SGT 1481.8 SGR 562.9 SG3 273.4 ST 34.4 SR 25.5 SS 25.2
 RDE -.3874 RRA .1337 RC3 .1740 FAU .05498 RRT .0571 RRF -.0626 RTF -.7900 CRT .7324 CRS .4253 CST .9255
 FDE .3198 FRA 1.5808 FC3-2.4838 BSP 2425 SGB 1585.1 R23 -.0099 R13 -.7901 LSA 45.6 MSA 19.6 S5A 1.3
 BDE .5734 BRA .9624 BC3 .2698 F8P 395 SG1 1482.2 SG2 561.8 THA 1.45 EL1 40.2 EL2 14.9 ALF 33.76

LAUNCH DATE MAY 3 1971

FLIGHT TIME 132.00

ARRIVAL DATE SEP 12 1971

HELIOCENTRIC CONIC

DISTANCE 345.785

EARTH TO MARS

RL 150.80 LAL -.00 LOL 221.93 VL 33.397 GAL -1.97 AZL 91.95 HCA 115.78 SMA 205.83 ECC .26940 INC 1.9495 V1 29.547
 RP 206.69 LAP -1.76 LOP 337.72 VP 25.287 GAP 15.63 AZP 89.15 TAL 350.70 TAP 106.48 RCA 150.38 APO 261.28 V2 26.495
 RC 65.512 GL -15.38 GP .91 ZAL 111.66 ZAP 162.31 ETS 177.16 ZAE 170.68 ETE 29.82 ZAC 100.66 ETC 278.19 LVI -19.45

PLANETOCENTRIC CONIC

C3 18.339 VHL 4.282 DLA -24.13 RAL 342.39 RAD 6642.1 VEL 11.763 PTH 6.79 VHP 7.060 DPA -15.69 RAP 322.75 ECC 1.3018
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 2 14 2619.57 -13.32 71.60 199.04 136.11 17 45 53 1619.6 5.02 55.75
 60.00 18 12 35 2432.44 -8.12 59.65 203.95 129.61 18 53 8 1432.4 7.97 41.71
 70.00 19 42 28 2168.19 -2.85 42.18 207.91 124.05 20 18 36 1168.2 11.03 22.54
 80.00 21 30 31 1830.03 1.68 19.33 210.74 119.81 22 1 1 830.0 13.69 358.41
 90.00 23 12 12 1502.07 3.70 356.33 211.85 118.06 23 37 14 502.1 14.88 334.88
 100.00 0 17 19 1304.50 1.68 340.70 210.74 119.81 0 39 4 304.5 13.69 319.78
 110.00 0 45 30 1215.01 -2.85 331.10 207.91 124.05 1 6 6 215.0 11.03 311.45

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4196 TRA -.9406 TC3 .2292 BAW .0719 SGT 1499.8 SGR 558.7 SG3 292.1 ST 34.7 SR 25.3 SS 25.0
 RDE -.3756 RRA .1277 RC3 .1828 FAU .05745 RRT .0621 RRF -.0882 RTF -.7949 CRT .7311 CRS .4137 CST .9214
 FDE .3238 FRA 1.6489 FC3-2.7123 BSP 2471 SGB 1600.5 R23 -.0109 R13 -.7951 LSA 46.0 MSA 19.8 S5A 1.3
 BDE .5602 BRA .9492 BC3 .2932 F8P 426 SG1 1500.2 SG2 557.5 THA 1.54 EL1 40.2 EL2 14.9 ALF 33.17

LAUNCH DATE MAY 3 1971

FLIGHT TIME 134.00

ARRIVAL DATE SEP 14 1971

HELIOCENTRIC CONIC

DISTANCE 349.383

EARTH TO MARS

RL 150.80 LAL -.00 LOL 221.93 VL 33.314 GAL -1.89 AZL 91.96 HCA 117.04 SMA 204.07 ECC .26300 INC 1.9561 V1 29.547
 RP 206.71 LAP -1.74 LOP 338.99 VP 25.175 GAP 15.23 AZP 89.11 TAL 350.90 TAP 107.94 RCA 150.40 APO 257.75 V2 26.493
 RC 66.667 GL -15.73 GP .95 ZAL 111.45 ZAP 161.20 ETS 177.23 ZAE 170.66 ETE 29.06 ZAC 100.67 ETC 278.23 LVI -19.53

PLANETOCENTRIC CONIC

C3 17.877 VHL 4.192 DLA -24.82 RAL 342.38 RAD 6641.7 VEL 11.731 PTH 6.76 VHP 6.843 DPA -15.60 RAP 322.90 ECC 1.2893
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 4 8 2401.09 -12.41 70.78 198.60 136.11 17 47 23 1601.1 5.95 54.97
 60.00 18 15 8 2412.00 -7.23 58.65 203.91 129.76 18 55 20 1412.0 8.86 40.71
 70.00 19 46 7 2144.51 -1.95 40.95 207.49 124.10 20 21 51 1144.5 11.89 21.25
 80.00 21 35 46 1801.32 2.65 17.76 210.35 119.75 22 5 47 801.3 14.56 356.73
 90.00 23 18 35 1469.71 4.73 354.51 211.50 117.91 23 43 5 469.7 15.78 332.93
 100.00 0 22 34 1275.80 2.65 339.12 210.35 119.75 0 43 50 275.8 14.56 318.10
 110.00 0 49 29 1191.33 -1.95 329.86 207.49 124.10 1 9 20 191.3 11.89 310.16

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4083 TRA -.9273 TC3 .2519 BAW .0744 SGT 1515.3 SGR 554.2 SG3 311.9 ST 34.9 SR 25.0 SS 26.6
 RDE -.3643 RRA .1219 RC3 .1917 FAU .06007 RRT .0676 RRF -.0744 RTF -.7995 CRT .7299 CRS .4017 CST .9170
 FDE .3278 FRA 1.7204 FC3-2.9586 BSP 2506 SGB 1613.5 R23 -.0120 R13 -.7996 LSA 46.3 MSA 20.0 S5A 1.3
 BDE .5472 BRA .9353 BC3 .3165 F8P 459 SG1 1515.9 SG2 552.8 THA 1.63 EL1 40.3 EL2 14.8 ALF 32.62

LAUNCH DATE MAY 3 1971

FLIGHT TIME 136.00

ARRIVAL DATE SEP 16 1971

HELIOCENTRIC CONIC

DISTANCE 353.031

EARTH TO MARS

RL 150.80 LAL -.00 LOL 221.93 VL 33.236 GAL -1.82 AZL 91.96 HCA 118.31 SMA 202.45 ECC .25698 INC 1.9628 V1 29.547
RP 206.73 LAP -1.73 LOP 340.26 VP 25.068 GAP 14.84 AZP 89.07 TAL 351.09 TAP 109.40 RCA 150.43 APO 254.48 V2 26.480
RC 67.877 GL -16.08 GP .99 ZAL 111.24 ZAP 160.07 ETS 177.30 ZAE 170.71 ETE 28.52 ZAC 100.69 ETC 278.26 LVI -19.60

PLANETOCENTRIC CONIC

C3 16.874 VHL 4.108 DLA -24.91 RAL 342.33 RAD 6641.4 VEL 11.701 PTH 6.73 VHP 6.633 DPA -15.52 RAP 323.03 ECC 1.2777
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 5 50 2583.05 -11.52 69.99 190.19 136.49 17 48 53 1583.0 6.85 54.21
60.00 18 17 41 2391.95 -6.36 57.68 203.09 129.88 18 57 33 1391.9 9.73 39.73
70.00 19 49 49 2121.09 -1.05 39.72 207.09 124.14 20 25 10 1121.1 12.74 19.96
80.00 21 41 12 1772.49 3.63 16.17 210.01 119.66 22 10 44 772.5 15.43 355.03
90.00 23 25 18 1436.73 5.78 352.66 211.19 117.73 23 49 15 436.7 16.67 330.92
100.00 0 28 0 1246.96 3.63 337.54 210.01 119.66 0 48 47 247.0 15.43 316.40
110.00 0 53 11 1167.91 -1.05 328.64 207.09 124.14 1 12 39 167.9 12.74 308.88

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4014 TRA -.9141 TC3 .2722 BAU .0763 SGT 1529.7 SGR 549.5 SG3 332.9 ST 35.0 SR 24.8 SS 27.3
RDE -.3533 RRA .1161 RC3 .2008 FAU .06277 RRT .0734 RRF -.0809 RTF -.8034 CRT .7290 CRS .3901 CST .9125
FDE .3322 FRA 1.7968 FC3-3.2202 BSP 2540 SGB 1625.3 R23 -.0132 R13 -.8036 LSA 46.7 MSA 20.2 SSA 1.3
BDE .5347 BRA .9215 BC3 .3382 FSP 495 SG1 1530.3 SG2 547.8 THA 1.73 EL1 40.3 EL2 14.7 ALF 32.07

LAUNCH DATE MAY 3 1971

FLIGHT TIME 138.00

ARRIVAL DATE SEP 16 1971

HELIOCENTRIC CONIC

DISTANCE 356.725

EARTH TO MARS

RL 150.80 LAL -.00 LOL 221.93 VL 33.162 GAL -1.75 AZL 91.97 HCA 119.58 SMA 200.95 ECC .25133 INC 1.9697 V1 29.547
RP 206.77 LAP -1.71 LOP 341.52 VP 24.965 GAP 14.46 AZP 89.03 TAL 351.28 TAP 110.87 RCA 150.45 APO 251.46 V2 26.485
RC 69.140 GL -16.43 GP 1.03 ZAL 111.02 ZAP 158.92 ETS 177.36 ZAE 170.83 ETE 28.22 ZAC 100.71 ETC 278.28 LVI -19.67

PLANETOCENTRIC CONIC

C3 16.227 VHL 4.028 DLA -25.31 RAL 342.30 RAD 6641.1 VEL 11.673 PTH 6.71 VHP 6.430 DPA -15.45 RAP 323.13 ECC 1.2670
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 7 38 2565.45 -10.65 69.23 197.80 136.65 17 50 24 1565.5 7.73 53.46
60.00 18 20 16 2372.30 -5.50 56.73 202.71 129.99 18 59 48 1372.3 10.57 38.75
70.00 19 53 35 2097.94 -.17 38.52 206.73 124.15 20 28 33 1097.9 13.57 18.68
80.00 21 46 50 1743.50 4.60 14.57 209.70 119.53 22 15 53 743.5 16.28 353.30
90.00 23 32 24 1403.02 6.84 350.75 210.92 117.51 23 55 47 403.0 17.56 328.85
100.00 0 33 37 1217.97 4.60 335.94 209.70 119.53 0 53 55 218.0 16.28 314.67
110.00 0 56 57 1144.76 -.17 327.43 206.73 124.15 1 16 2 144.8 13.57 307.60

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3940 TRA -.9002 TC3 .2943 BAU .0784 SGT 1541.5 SGR 544.4 SG3 355.5 ST 35.2 SR 24.5 SS 28.0
RDE -.3427 RRA .1104 RC3 .2100 FAU .06574 RRT .0800 RRF -.0883 RTF -.8071 CRT .7281 CRS .3778 CST .9076
FDE .3358 FRA 1.8764 FC3-3.5076 BSP 2566 SGB 1634.8 R23 -.0147 R13 -.8073 LSA 47.0 MSA 20.4 SSA 1.3
BDE .5222 BRA .9070 BC3 .3615 FSP 531 SG1 1542.2 SG2 542.4 THA 1.85 EL1 40.3 EL2 14.7 ALF 31.57

LAUNCH DATE MAY 3 1971

FLIGHT TIME 140.00

ARRIVAL DATE SEP 20 1971

HELIOCENTRIC CONIC

DISTANCE 360.460

EARTH TO MARS

RL 150.80 LAL -.00 LOL 221.93 VL 33.093 GAL -1.68 AZL 91.98 HCA 120.85 SMA 199.56 ECC .24601 INC 1.9768 V1 29.547
RP 206.81 LAP -1.70 LOP 342.79 VP 24.868 GAP 14.09 AZP 88.99 TAL 351.48 TAP 112.33 RCA 150.47 APO 248.66 V2 26.480
RC 70.455 GL -16.78 GP 1.08 ZAL 110.80 ZAP 157.73 ETS 177.41 ZAE 171.02 ETE 28.15 ZAC 100.74 ETC 278.30 LVI -19.74

PLANETOCENTRIC CONIC

C3 15.629 VHL 3.953 DLA -25.70 RAL 342.27 RAD 6640.8 VEL 11.648 PTH 6.69 VHP 6.234 DPA -15.38 RAP 323.19 ECC 1.2572
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 9 27 2548.29 -9.80 68.49 197.44 136.80 17 51 59 1548.3 8.59 52.73
60.00 18 22 51 2353.04 -4.66 55.81 202.35 130.08 19 2 4 1353.0 11.40 37.80
70.00 19 57 25 2075.04 .71 37.32 206.40 124.15 20 32 0 1075.0 14.38 17.41
80.00 21 52 41 1714.24 5.58 12.95 209.42 119.38 22 21 15 714.2 17.13 351.54
90.00 23 39 58 1368.27 7.93 348.78 210.70 117.23 24 2 46 368.3 18.46 326.69
100.00 0 39 29 1188.71 5.58 334.32 209.42 119.38 0 59 18 188.7 17.13 312.91
110.00 1 0 47 1121.85 .71 326.24 206.40 124.15 1 19 29 121.9 14.38 306.33

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3775 TRA -.8762 TC3 .3365 BAU .0839 SGT 1533.0 SGR 539.0 SG3 379.2 ST 34.6 SR 24.2 SS 28.7
RDE -.3323 RRA .1050 RC3 .2195 FAU .06896 RRT .0867 RRF -.0962 RTF -.8172 CRT .7231 CRS .3630 CST .9040
FDE .3364 FRA 1.9568 FC3-3.8199 BSP 2479 SGB 1626.9 R23 -.0155 R13 -.8174 LSA 46.7 MSA 20.7 SSA 1.3
BDE .5029 BRA .8825 BC3 .4018 FSP 569 SG1 1533.8 SG2 536.7 THA 1.99 EL1 39.6 EL2 14.6 ALF 31.64

LAUNCH DATE MAY 3 1971

FLIGHT TIME 142.00

ARRIVAL DATE SEP 22 1971

HELIOCENTRIC CONIC

DISTANCE 364.233

EARTH TO MARS

RL 150.80 LAL -.00 LOL 221.93 VL 33.028 GAL -1.62 AZL 91.98 HCA 122.12 SMA 198.28 ECC .24103 INC 1.9840 V1 29.547
RP 206.87 LAP -1.68 LOP 344.06 VP 24.774 GAP 13.73 AZP 88.94 TAL 351.67 TAP 113.78 RCA 150.49 APO 246.07 V2 26.474
RC 71.818 GL -17.12 GP 1.12 ZAL 110.58 ZAP 156.52 ETS 177.46 ZAE 171.28 ETE 28.33 ZAC 100.78 ETC 278.31 LVI -19.80

PLANETOCENTRIC CONIC

C3 15.079 VHL 3.883 DLA -26.08 RAL 342.24 RAD 6640.6 VEL 11.625 PTH 6.66 VHP 6.045 DPA -15.32 RAP 323.23 ECC 1.2482
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 11 15 2531.66 -8.98 67.77 197.11 136.92 17 53 27 1531.7 9.41 52.01
60.00 18 25 28 2334.30 -3.83 54.91 202.02 130.15 19 4 22 1334.3 12.20 36.86
70.00 20 1 17 2052.53 1.57 36.15 206.11 124.12 20 35 30 1052.5 15.17 16.15
80.00 21 58 46 1684.86 6.56 11.32 209.19 119.19 22 26 50 684.9 17.96 349.75
90.00 23 48 2 1332.47 9.04 346.73 210.53 116.91 24 10 14 332.5 19.35 324.45
100.00 0 45 33 1159.33 6.56 332.69 209.19 119.19 1 4 53 159.3 17.96 311.12
110.00 1 4 40 1099.35 1.57 325.06 206.11 124.12 1 22 59 99.4 15.17 305.06

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3748 TRA -.8661 TC3 .3424 BAU .0830 SGT 1549.5 SGR 533.4 SG3 404.6 ST 34.9 SR 23.9 SS 29.5
RDE -.3224 RRA .0994 RC3 .2288 FAU .07220 RRT .0942 RRF -.1048 RTF -.8157 CRT .7248 CRS .3514 CST .8975
FDE .3406 FRA 2.0472 FC3-4.1456 BSP 2553 SGB 1638.8 R23 -.0178 R13 -.8160 LSA 47.2 MSA 20.9 SSA 1.3
BDE .4943 BRA .8718 BC3 .4110 FSP 613 SG1 1550.5 SG2 530.7 THA 2.10 EL1 39.8 EL2 14.5 ALF 30.92

LAUNCH DATE MAY 3 1971

FLIGHT TIME 144.00

ARRIVAL DATE SEP 24 1971

HELIOCENTRIC CONIC

RL 150.80 LAL -.00 LOL 221.93 VL 32.987 GAL -1.56 AZL 91.99 HCA 123.38 SMA 197.09 ECC .23635 INC 1.9915 V1 29.547
RP 206.93 LAP -1.66 LOP 345.33 VP 24.685 GAP 13.37 AZP 88.90 TAL 351.85 TAP 115.23 RCA 150.51 APO 243.67 V2 26.466
RC 73.228 GL -17.48 GP 1.17 ZAL 110.36 ZAP 155.28 ETS 177.50 ZAE 171.61 EYE 28.81 ZAC 100.83 ETC 278.32 LVI -19.85

DISTANCE 368.041

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.372 VHL 3.817 DLA -26.48 RAL 342.21 RAD 6640.3 VEL 11.603 PTH 6.64 VHP 5.863 DPA -15.26 RAP 323.24 ECC 1.2398
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 13 4 2515.53 -8.17 67.08 196.81 137.04 17 55 0 1515.5 10.21 51.32
60.00 18 28 5 2316.02 -3.03 94.03 201.73 130.21 19 6 41 1316.0 12.97 35.94
70.00 20 5 14 2030.35 2.41 34.99 205.85 124.08 20 39 4 1030.4 15.95 14.89
80.00 22 5 6 1655.17 7.54 9.66 209.00 118.97 22 32 41 655.2 18.78 347.93
90.00 0 0 42 1295.06 10.18 344.98 210.41 116.52 0 22 17 295.1 20.24 322.07
100.00 0 51 54 1129.64 7.54 331.03 209.00 118.97 1 10 43 129.6 18.78 309.30
110.00 1 8 36 1077.17 2.41 323.91 205.85 124.08 1 26 33 77.2 15.95 303.81

DIFFERENTIAL CORRECTIONS

TDE -.3701 TRA -.8932 TC3 .3511 BAU .0827
RDE -.3128 RRA .0940 RC3 .2363 FAU .07566
FDE .3441 FRA 2.1419 FC3-4.4952 B8P 2594
BDE .4845 BRA .8584 BC3 .4243 F8P 659

MID-COURSE EXECUTION ACCURACY

SGT 1557.8 SGR 527.5 SG3 431.5
RRR .1024 RRF -.1142 RTF -.8154
SG8 1644.7 R23 -.0202 R13 -.8158
SG1 1558.9 SG2 524.4 THA 2.24

ORBIT DETERMINATION ACCURACY

ST 35.1 SR 23.6 SS 30.4
CRT .7261 CRS .3395 CST .8910
LSA 47.6 MSA 21.1 SSA 1.3
EL1 39.8 EL2 14.3 ALF 30.34

LAUNCH DATE MAY 3 1971

FLIGHT TIME 146.00

ARRIVAL DATE SEP 26 1971

HELIOCENTRIC CONIC

RL 150.80 LAL -.00 LOL 221.93 VL 32.909 GAL -1.50 AZL 92.00 HCA 124.65 SMA 195.99 ECC .23196 INC 1.9992 V1 29.547
RP 207.00 LAP -1.64 LOP 346.59 VP 24.599 GAP 13.03 AZP 88.86 TAL 352.03 TAP 116.68 RCA 150.52 APO 241.45 V2 26.458
RC 74.683 GL -17.79 GP 1.22 ZAL 110.15 ZAP 154.01 ETS 177.53 ZAE 172.01 ETE 29.62 ZAC 100.88 ETC 278.32 LVI -19.90

DISTANCE 371.882

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.106 VHL 3.756 DLA -26.84 RAL 342.18 RAD 6640.1 VEL 11.583 PTH 6.63 VHP 5.687 DPA -15.22 RAP 323.22 ECC 1.2321
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 14 53 2499.90 -7.39 66.42 196.53 137.14 17 56 33 1499.9 10.99 50.64
60.00 18 30 43 2298.22 -2.25 53.18 201.46 130.25 19 9 1 1296.2 13.73 35.04
70.00 20 9 14 2008.52 3.25 33.85 205.62 124.02 20 42 42 1008.5 16.70 13.65
80.00 22 11 44 1625.08 8.53 7.98 208.85 118.72 22 38 49 625.1 19.59 346.07
90.00 0 10 18 1255.41 11.38 342.28 210.35 116.06 0 31 13 255.4 21.15 319.52
100.00 0 58 31 1099.56 8.53 329.35 208.85 118.72 1 16 51 99.6 19.59 307.43
110.00 1 12 36 1055.34 3.25 322.76 205.62 124.02 1 30 12 55.3 16.70 302.57

DIFFERENTIAL CORRECTIONS

TDE -.3646 TRA -.8377 TC3 .3599 BAU .0824
RDE -.3035 RRA .0886 RC3 .2479 FAU .07935
FDE .3479 FRA 2.2397 FC3-4.8700 B8P 2611
BDE .4744 BRA .8423 BC3 .4370 F8P 708

MID-COURSE EXECUTION ACCURACY

SGT 1560.0 SGR 521.5 SG3 459.8
RRR .1117 RRF -.1249 RTF -.8152
SG8 1644.9 R23 -.0227 R13 -.8156
SG1 1561.3 SG2 517.8 THA 2.40

ORBIT DETERMINATION ACCURACY

ST 35.1 SR 23.3 SS 31.2
CRT .7279 CRS .3285 CST .8845
LSA 47.9 MSA 21.3 SSA 1.3
EL1 39.7 EL2 14.1 ALF 29.87

LAUNCH DATE MAY 3 1971

FLIGHT TIME 148.00

ARRIVAL DATE SEP 28 1971

HELIOCENTRIC CONIC

RL 150.80 LAL -.00 LOL 221.93 VL 32.855 GAL -1.44 AZL 92.01 HCA 125.91 SMA 194.98 ECC .22785 INC 2.0070 V1 29.547
RP 207.08 LAP -1.63 LOP 347.86 VP 24.517 GAP 12.69 AZP 88.82 TAL 352.21 TAP 118.12 RCA 150.54 APO 239.38 V2 26.449
RC 76.180 GL -18.12 GP 1.28 ZAL 109.94 ZAP 152.70 ETS 177.57 ZAE 172.47 ETE 30.85 ZAC 100.94 ETC 278.31 LVI -19.94

DISTANCE 375.753

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 13.676 VHL 3.698 DLA -27.21 RAL 342.15 RAD 6639.9 VEL 11.565 PTH 6.61 VHP 5.517 DPA -15.18 RAP 323.16 ECC 1.2251
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 16 42 2484.80 -6.64 65.77 196.28 137.22 17 58 7 1484.8 11.73 49.98
60.00 18 33 21 2280.91 -1.49 52.35 201.22 130.28 19 11 22 1280.9 14.45 34.16
70.00 20 13 17 1987.05 4.06 32.72 205.42 123.94 20 46 24 987.0 17.43 12.41
80.00 22 18 41 1594.49 9.53 6.25 208.75 118.43 22 45 16 594.5 20.39 344.15
90.00 0 21 6 1212.44 12.65 339.77 210.37 115.50 0 41 18 212.4 22.09 316.72
100.00 1 9 29 1068.96 9.53 327.62 208.75 118.43 1 23 18 69.0 20.39 305.52
110.00 1 16 40 1033.87 4.06 321.64 205.42 123.94 1 33 53 33.9 17.43 301.33

DIFFERENTIAL CORRECTIONS

TDE -.3578 TRA -.8216 TC3 .3680 BAU .0821
RDE -.2944 RRA .0832 RC3 .2576 FAU .08328
FDE .3489 FRA 2.3446 FC3-5.2718 B8P 2823
BDE .4634 BRA .8258 BC3 .4492 F8P 758

MID-COURSE EXECUTION ACCURACY

SGT 1558.8 SGR 515.2 SG3 490.1
RRR .1210 RRF -.1382 RTF -.8151
SG8 1641.7 R23 -.0258 R13 -.8158
SG1 1560.2 SG2 510.9 THA 2.57

ORBIT DETERMINATION ACCURACY

ST 35.1 SR 22.9 SS 32.1
CRT .7289 CRS .3158 CST .8775
LSA 48.1 MSA 21.5 SSA 1.4
EL1 39.5 EL2 13.9 ALF 29.48

LAUNCH DATE MAY 3 1971

FLIGHT TIME 150.00

ARRIVAL DATE SEP 30 1971

HELIOCENTRIC CONIC

RL 150.80 LAL -.00 LOL 221.93 VL 32.804 GAL -1.39 AZL 92.02 HCA 127.18 SMA 194.01 ECC .22400 INC 2.0152 V1 29.547
RP 207.17 LAP -1.61 LOP 349.12 VP 24.437 GAP 12.36 AZP 88.78 TAL 352.37 TAP 119.55 RCA 150.55 APO 237.47 V2 26.439
RC 77.718 GL -18.45 GP 1.34 ZAL 109.75 ZAP 151.36 ETS 177.59 ZAE 172.99 ETE 32.62 ZAC 101.01 ETC 278.30 LVI -19.98

DISTANCE 379.851

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 13.281 VHL 3.644 DLA -27.57 RAL 342.13 RAD 6639.7 VEL 11.548 PTH 6.59 VHP 5.353 DPA -15.14 RAP 323.07 ECC 1.2188
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 18 31 2470.22 -5.91 65.16 196.06 137.30 17 59 42 1470.2 12.45 49.34
60.00 18 36 0 2264.13 -.75 51.55 201.02 130.30 19 13 44 1264.1 15.16 33.29
70.00 20 17 24 1965.97 4.86 31.61 205.25 123.85 20 50 10 966.0 18.14 11.19
80.00 22 28 3 1563.23 10.53 4.48 208.69 118.10 22 52 6 563.2 21.19 342.17
90.00 0 33 48 1164.04 14.05 336.91 210.48 114.80 0 53 10 164.0 23.08 313.51
100.00 1 12 50 1037.70 10.53 325.85 208.69 118.10 1 30 8 37.7 21.19 303.53
110.00 1 20 46 1012.78 4.86 320.53 205.25 123.85 1 37 39 12.8 18.14 300.11

DIFFERENTIAL CORRECTIONS

TDE -.3516 TRA -.8046 TC3 .3719 BAU .0813
RDE -.2857 RRA .0779 RC3 .2675 FAU .08738
FDE .3530 FRA 2.4554 FC3-5.6959 B8P 2625
BDE .4531 BRA .8083 BC3 .4581 F8P 815

MID-COURSE EXECUTION ACCURACY

SGT 1554.2 SGR 508.7 SG3 522.1
RRR .1316 RRF -.1487 RTF -.8143
SG8 1635.4 R23 -.0292 R13 -.8148
SG1 1555.8 SG2 503.8 THA 2.76

ORBIT DETERMINATION ACCURACY

ST 35.0 SR 22.6 SS 33.0
CRT .7311 CRS .3047 CST .8703
LSA 48.4 MSA 21.7 SSA 1.4
EL1 39.3 EL2 13.7 ALF 29.12

LAUNCH DATE MAY 3 1971

FLIGHT TIME 192.00

ARRIVAL DATE OCT 2 1971

DISTANCE 303.575 EARTH TO MARS

RL 150.80 LAL -.00 LOL 221.93 VL 32.757 GAL -1.35 AZL 92.02 HCA 128.44 SMA 193.13 ECC .22040 INC 2.0236 V1 29.547
 RP 207.26 LAP -1.58 LOP 350.39 VP 24.381 GAP 12.03 AZP 88.74 TAL 352.54 TAP 120.98 RCA 150.57 APO 235.70 V2 26.428
 RC 79.295 GL -18.77 GP 1.40 ZAL 109.56 ZAP 149.99 ETS 177.61 ZAE 173.56 ETE 35.10 ZAC 101.08 ETC 278.28 LVI -20.01

PLANETOCENTRIC CONIC

C3 12.918 VHL 3.594 DLA -27.93 RAL 342.11 RAD 6639.5 VEL 11.532 PTH 6.58 VHP 5.195 DPA -15.12 RAP 322.94 ECC 1.2126
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 20 21 2456.19 -5.21 64.57 195.87 137.36 18 1 17 1456.2 13.14 48.72
 60.00 18 30 40 2247.88 -.03 50.77 200.84 130.30 19 16 8 1247.9 15.83 32.45
 70.00 20 21 34 1945.29 5.65 30.53 205.12 123.74 20 53 59 945.3 18.83 9.98
 80.00 22 33 52 1531.06 11.56 2.64 208.67 117.72 22 59 23 531.1 21.98 340.10
 90.00 0 50 1 1104.64 15.72 333.34 210.74 113.82 1 8 26 104.6 24.19 309.52
 100.00 1 20 39 1005.53 11.56 324.01 208.67 117.72 1 37 25 5.5 21.98 301.47
 110.00 1 24 56 6280.14 5.65 297.35 205.12 123.74 3 9 36 5280.1 18.83 276.81

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.3445 TRA -.7862 TC3 .3727 BAU .0802 SGT 1544.5 SGR 502.1 SG3 555.7 ST 34.7 SR 22.2 SS 33.8
 RDE -.2772 RRA .0725 RC3 .2774 FAU .09171 RRT .1424 RRF -.1622 RTF -.8129 CRT .7332 CRS .2921 CST .8622
 FDE .3539 FRA 2.5718 FC3-6.1465 BSP 2607 SGB 1624.1 R23 -.0332 R13 -.8136 LSA 48.6 MSA 22.0 SSA 1.4
 BDE .4422 BRA .7895 BC3 .4646 F8P 872 SG1 1546.4 SG2 496.4 THA 2.95 EL1 39.0 EL2 13.5 ALF 28.84

LAUNCH DATE MAY 3 1971

FLIGHT TIME 154.00

ARRIVAL DATE OCT 4 1971

DISTANCE 387.522 EARTH TO MARS

RL 150.80 LAL -.00 LOL 221.93 VL 32.712 GAL -1.30 AZL 92.03 HCA 129.70 SMA 192.32 ECC .21703 INC 2.0323 V1 29.547
 RP 207.37 LAP -1.56 LOP 351.65 VP 24.288 GAP 11.72 AZP 88.70 TAL 352.69 TAP 122.39 RCA 150.58 APO 234.05 V2 26.419
 RC 80.909 GL -19.08 GP 1.46 ZAL 109.38 ZAP 148.58 ETS 177.65 ZAE 174.18 ETE 38.58 ZAC 101.17 ETC 278.25 LVI -20.03

PLANETOCENTRIC CONIC

C3 12.585 VHL 3.548 DLA -28.27 RAL 342.11 RAD 6639.4 VEL 11.518 PTH 6.57 VHP 5.044 DPA -15.11 RAP 322.78 ECC 1.2071
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 22 11 2442.71 -4.53 64.00 195.70 137.41 18 2 54 1442.7 13.80 48.12
 60.00 18 41 20 2232.10 .86 50.02 200.69 130.30 19 18 32 1232.2 16.48 31.63
 70.00 20 25 46 1925.03 6.41 29.46 205.02 123.62 20 57 51 925.0 19.49 8.79
 80.00 22 42 15 1497.66 12.61 .72 208.71 117.29 23 7 13 497.7 22.76 337.94
 90.00 1 23 46 6277.29 18.75 304.14 211.61 111.56 3 8 23 5277.3 26.00 279.46
 100.00 1 29 3 6260.17 12.61 299.99 208.71 117.29 3 13 23 5260.2 22.76 277.21
 110.00 1 29 8 6259.88 6.41 296.28 205.02 123.62 3 13 28 5259.9 19.49 275.61

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.3381 TRA -.7662 TC3 .3693 BAU .0788 SGT 1530.1 SGR 495.5 SG3 591.1 ST 34.5 SR 21.8 SS 34.8
 RDE -.2689 RRA .0672 RC3 .2876 FAU .09633 RRT .1549 RRF -.1773 RTF -.8103 CRT .7369 CRS .2819 CST .8539
 FDE .3562 FRA 2.6918 FC3-6.6265 BSP 2585 SGB 1608.4 R23 -.0379 R13 -.8111 LSA 48.8 MSA 22.2 SSA 1.4
 BDE .4320 BRA .7692 BC3 .4681 F8P 933 SG1 1532.3 SG2 488.8 THA 3.20 EL1 38.6 EL2 13.2 ALF 28.59

LAUNCH DATE MAY 3 1971

FLIGHT TIME 156.00

ARRIVAL DATE OCT 6 1971

DISTANCE 391.492 EARTH TO MARS

RL 150.80 LAL -.00 LOL 221.93 VL 32.670 GAL -1.26 AZL 92.04 HCA 130.98 SMA 191.56 ECC .21387 INC 2.0414 V1 29.547
 RP 207.48 LAP -1.54 LOP 352.91 VP 24.218 GAP 11.41 AZP 88.66 TAL 352.83 TAP 123.79 RCA 150.59 APO 232.53 V2 26.402
 RC 82.560 GL -19.39 GP 1.53 ZAL 109.20 ZAP 147.14 ETS 177.65 ZAE 174.83 ETE 43.51 ZAC 101.26 ETC 278.22 LVI -20.05

PLANETOCENTRIC CONIC

C3 12.279 VHL 3.504 DLA -28.61 RAL 342.11 RAD 6639.2 VEL 11.505 PTH 6.55 VHP 4.898 DPA -15.10 RAP 322.58 ECC 1.2021
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 24 1 2429.73 -3.88 63.45 195.56 137.46 18 4 31 1429.7 14.44 47.54
 60.00 18 44 0 2216.96 1.33 49.30 200.57 130.28 19 20 57 1217.0 17.11 30.84
 70.00 20 30 2 1905.10 7.16 28.40 204.95 123.48 21 1 47 905.1 20.14 7.60
 80.00 22 51 26 1462.26 13.71 358.68 208.81 116.79 23 15 49 462.3 23.56 335.61
 85.47 0 51 15 1089.32 19.53 333.88 211.53 111.33 1 9 24 89.3 26.61 309.02
 100.00 1 38 14 6224.77 13.71 297.94 208.81 116.79 3 21 59 5224.8 23.56 274.89
 110.00 1 33 24 6239.96 7.16 295.23 204.95 123.48 3 17 24 5240.0 20.14 274.43

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.3192 TRA -.7333 TC3 .4000 BAU .0819 SGT 1488.8 SGR 488.7 SG3 628.4 ST 33.2 SR 21.4 SS 35.4
 RDE -.2607 RRA .0620 RC3 .2988 FAU .10164 RRT .1695 RRF -.1937 RTF -.5.70 CRT .7340 CRS .2628 CST .8497
 FDE .3468 FRA 2.8077 FC3-7.1661 BSP 2398 SGB 1567.0 R23 -.0396 R13 -.8180 LSA 48.1 MSA 22.4 SSA 1.3
 BDE .4122 BRA .7359 BC3 .4992 F8P 984 SG1 1491.4 SG2 480.8 THA 3.56 EL1 37.3 EL2 12.9 ALF 29.14

LAUNCH DATE MAY 3 1971

FLIGHT TIME 158.00

ARRIVAL DATE OCT 8 1971

DISTANCE 395.481 EARTH TO MARS

RL 150.80 LAL -.00 LOL 221.93 VL 32.632 GAL -1.22 AZL 92.05 HCA 132.22 SMA 190.88 ECC .21093 INC 2.0507 V1 29.547
 RP 207.60 LAP -1.52 LOP 354.17 VP 24.190 GAP 11.10 AZP 88.62 TAL 352.96 TAP 125.18 RCA 150.60 APO 231.12 V2 26.388
 RC 84.247 GL -19.70 GP 1.60 ZAL 109.05 ZAP 145.66 ETS 177.67 ZAE 175.47 ETE 50.54 ZAC 101.37 ETC 278.17 LVI -20.06

PLANETOCENTRIC CONIC

C3 12.000 VHL 3.464 DLA -28.94 RAL 342.13 RAD 6639.1 VEL 11.493 PTH 6.54 VHP 4.758 DPA -15.10 RAP 322.33 ECC 1.1978
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 25 51 2417.42 -3.26 62.94 195.46 137.49 18 6 9 1417.4 15.04 46.99
 60.00 18 46 40 2202.45 1.97 48.60 200.49 130.26 19 23 22 1202.4 17.70 30.07
 70.00 20 34 20 1885.80 7.88 27.38 204.92 123.34 21 5 45 885.8 20.76 6.45
 80.00 23 1 36 1424.49 14.85 356.45 208.99 116.20 23 25 20 424.5 24.37 333.10
 83.61 0 36 9 1133.41 19.86 337.26 211.30 111.48 0 55 3 133.4 26.97 312.33
 100.00 1 48 23 6187.00 14.85 295.72 208.99 116.20 3 31 30 5187.0 24.37 272.37
 110.00 1 37 42 6220.66 7.88 294.20 204.92 123.34 3 21 23 5220.7 20.76 273.27

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.3241 TRA -.7229 TC3 .3486 BAU .0747 SGT 1487.4 SGR 482.0 SG3 667.6 ST 33.7 SR 21.0 SS 36.7
 RDE -.2531 RRA .0564 RC3 .3085 FAU .10621 RRT .1819 RRF -.2118 RTF -.8030 CRT .7458 CRS .2624 CST .8359
 FDE .3598 FRA 2.9543 FC3-7.6626 BSP 2489 SGB 1563.5 R23 -.0501 R13 -.8042 LSA 49.1 MSA 22.6 SSA 1.3
 BDE .4112 BRA .7251 BC3 .4656 F8P 1063 SG1 1490.3 SG2 473.0 THA 3.75 EL1 37.7 EL2 12.5 ALF 28.28

LAUNCH DATE MAY 3 1971 FLIGHT TIME 160.00 ARRIVAL DATE OCT 10 1971

HELIOCENTRIC CONIC DISTANCE 399.489 EARTH TO MARS
RL 150.80 LAL -.00 LOL 221.93 VL 32.595 GAL -1.19 AZL 92.06 HCA 133.48 SMA 190.21 ECC .20819 INC 2.0605 V1 29.547
RP 207.73 LAP -1.50 LOP 355.43 VP 24.084 GAP 10.81 AZP 88.58 TAL 353.08 TAP 126.56 RCA 150.61 APO 229.81 V2 26.373
RC 85.969 GL -19.99 GP 1.68 ZAL 108.91 ZAP 144.14 ETS 177.68 ZAE 176.05 ETE 60.69 ZAC 101.48 ETC 278.12 LVI -20.07

PLANETOCENTRIC CONIC
C3 11.745 VHL 3.427 DLA -29.25 RAL 342.15 RAD 6638.9 VEL 11.482 PTH 6.53 VHP 4.623 DPA -15.11 RAP 322.05 ECC 1.1933
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 27 42 2405.64 -2.87 62.44 195.38 137.52 18 7 48 1405.6 15.61 46.46
60.00 18 49 20 2186.47 2.58 47.93 200.43 130.23 19 25 49 1188.5 18.27 29.33
70.00 20 38 40 1866.90 8.59 26.37 204.92 123.18 21 9 47 866.9 21.35 5.30
80.00 23 13 24 1382.04 16.11 353.93 209.25 115.40 23 36 26 382.0 25.23 330.24
82.20 0 25 0 1165.13 20.18 339.74 211.11 111.63 0 44 25 165.1 27.32 314.75
100.00 2 0 12 6144.55 16.11 293.20 209.25 115.40 3 42 37 5144.5 25.23 269.51
110.00 1 42 2 6201.76 8.59 293.19 204.92 123.18 3 25 24 5201.8 21.35 272.13

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3203 TRA -.7027 TC3 .3199 BAU .0710 SGT 1465.6 SGR 475.3 SG3 709.0 ST 33.5 SR 20.6 SS 37.7
RDE -.2455 RRA .0508 RC3 .3192 FAU .11142 RRT .1962 RRF -.2315 RTF -.7947 CRT .7535 CRS .2551 CST .6252
FDE .3633 FRA 3.0995 FC3-8.2129 BSP 2463 SGB 1540.7 R23 -.0593 R13 -.7962 LSA 49.5 MSA 22.8 SSA 1.3
BDE .4035 BRA .7046 BC3 .4519 FSP 1136 SG1 1468.9 SG2 465.0 THA 4.05 EL1 37.4 EL2 12.1 ALF 28.01

LAUNCH DATE MAY 3 1971 FLIGHT TIME 162.00 ARRIVAL DATE OCT 12 1971

HELIOCENTRIC CONIC DISTANCE 403.514 EARTH TO MARS
RL 150.80 LAL -.00 LOL 221.93 VL 32.561 GAL -1.16 AZL 92.07 HCA 134.73 SMA 189.61 ECC .20564 INC 2.0706 V1 29.547
RP 207.86 LAP -1.47 LOP 356.68 VP 24.021 GAP 10.52 AZP 88.54 TAL 353.19 TAP 127.93 RCA 150.62 APO 228.60 V2 26.357
RC 87.725 GL -20.28 GP 1.76 ZAL 108.78 ZAP 142.58 ETS 177.69 ZAE 176.48 ETE 74.96 ZAC 101.61 ETC 278.06 LVI -20.08

PLANETOCENTRIC CONIC
C3 11.513 VHL 3.393 DLA -29.55 RAL 342.19 RAD 6638.8 VEL 11.471 PTH 6.52 VHP 4.495 DPA -15.12 RAP 321.73 ECC 1.1895
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 29 34 2394.41 -2.11 61.97 195.33 137.54 18 9 28 1394.4 16.15 45.95
60.00 18 52 1 2175.07 3.17 47.29 200.40 130.20 19 28 16 1175.1 18.81 28.61
70.00 20 43 3 1848.46 9.28 25.38 204.96 123.02 21 13 51 848.5 21.92 4.18
80.00 23 28 21 1330.20 17.60 350.80 209.65 114.51 23 50 31 330.2 26.18 326.68
81.04 0 16 2 1190.23 20.48 341.72 210.95 111.78 0 35 52 190.2 27.65 316.68
100.00 2 15 9 6092.71 17.60 290.07 209.65 114.51 3 56 42 5092.7 26.18 265.96
110.00 1 46 25 6183.32 9.28 292.20 204.96 123.02 3 29 28 5183.3 21.92 271.00

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3149 TRA -.6780 TC3 .2873 BAU .0674 SGT 1432.8 SGR 468.6 SG3 751.2 ST 33.1 SR 20.2 SS 38.8
RDE -.2382 RRA .0452 RC3 .3301 FAU .11679 RRT .2114 RRF -.2530 RTF -.7853 CRT .7622 CRS .2489 CST .8139
FDE .3665 FRA 3.2453 FC3-8.7822 BSP 2411 SGB 1507.4 R23 -.0697 R13 -.7872 LSA 49.7 MSA 23.0 SSA 1.3
BDE .3948 BRA .6795 BC3 .4376 FSP 1213 SG1 1436.6 SG2 456.8 THA 4.40 EL1 37.0 EL2 11.7 ALF 27.92

LAUNCH DATE MAY 3 1971 FLIGHT TIME 164.00 ARRIVAL DATE OCT 14 1971

HELIOCENTRIC CONIC DISTANCE 407.556 EARTH TO MARS
RL 150.80 LAL -.00 LOL 221.93 VL 32.529 GAL -1.13 AZL 92.08 HCA 135.99 SMA 189.05 ECC .20327 INC 2.0812 V1 29.547
RP 208.01 LAP -1.45 LOP 357.94 VP 23.959 GAP 10.24 AZP 88.50 TAL 353.29 TAP 129.28 RCA 150.62 APO 227.48 V2 26.340
RC 89.514 GL -20.57 GP 1.85 ZAL 108.67 ZAP 140.98 ETS 177.70 ZAE 176.63 ETE 93.09 ZAC 101.74 ETC 277.99 LVI -20.05

PLANETOCENTRIC CONIC
C3 11.301 VHL 3.362 DLA -29.85 RAL 342.24 RAD 6638.7 VEL 11.462 PTH 6.51 VHP 4.371 DPA -15.15 RAP 321.36 ECC 1.1860
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 31 26 2383.75 -1.57 61.53 195.31 137.56 18 11 9 1383.8 16.67 45.46
60.00 18 54 41 2162.25 3.73 46.68 200.40 130.16 19 30 43 1162.3 19.33 27.92
70.00 20 47 28 1830.49 9.94 24.41 205.02 122.84 21 17 58 830.5 22.47 3.07
80.00 0 1 11 1234.51 20.20 344.88 210.58 112.46 0 21 45 234.5 27.68 319.97
80.04 0 8 34 1210.93 20.78 343.38 210.83 111.92 0 28 45 210.9 27.97 318.28
100.00 2 44 3 5997.02 20.20 284.16 210.58 112.46 4 24 0 4997.0 27.68 259.24
110.00 1 50 50 6185.35 9.94 291.24 205.02 122.84 3 33 35 5165.3 22.47 269.89

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3091 TRA -.6524 TC3 .2924 BAU .0642 SGT 1396.3 SGR 462.2 SG3 796.1 ST 32.6 SR 19.7 SS 39.8
RDE -.2310 RRA .0395 RC3 .3414 FAU .12254 RRT .2277 RRF -.2766 RTF -.7749 CRT .7715 CRS .2430 CST .6017
FDE .3689 FRA 3.4012 FC3-9.3871 BSP 2330 SGB 1470.8 R23 -.0820 R13 -.7774 LSA 50.0 MSA 23.2 SSA 1.3
BDE .3859 BRA .6536 BC3 .4246 FSP 1290 SG1 1400.7 SG2 448.7 THA 4.80 EL1 36.4 EL2 11.2 ALF 27.89

LAUNCH DATE MAY 3 1971 FLIGHT TIME 166.00 ARRIVAL DATE OCT 16 1971

HELIOCENTRIC CONIC DISTANCE 411.613 EARTH TO MARS
RL 150.80 LAL -.00 LOL 221.93 VL 32.500 GAL -1.11 AZL 92.09 HCA 137.24 SMA 188.54 ECC .20106 INC 2.0922 V1 29.547
RP 208.18 LAP -1.42 LOP 359.19 VP 23.900 GAP 9.96 AZP 88.46 TAL 353.38 TAP 130.82 RCA 150.63 APO 226.44 V2 26.323
RC 91.337 GL -20.85 GP 1.95 ZAL 108.57 ZAP 139.33 ETS 177.71 ZAE 176.40 ETE 112.07 ZAC 101.89 ETC 277.92 LVI -20.04

PLANETOCENTRIC CONIC
C3 11.109 VHL 3.333 DLA -30.13 RAL 342.31 RAD 6638.6 VEL 11.454 PTH 6.50 VHP 4.253 DPA -15.18 RAP 320.95 ECC 1.1828
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 33 18 2373.63 -1.06 61.11 195.31 137.57 18 12 52 1373.6 17.16 45.00
60.00 18 57 21 2150.00 4.27 46.09 200.43 130.11 19 33 11 1150.0 19.82 27.25
70.00 20 51 55 1812.95 10.59 23.47 205.12 122.66 21 22 8 812.9 23.00 1.98
79.15 0 2 6 1228.83 21.05 344.83 210.74 112.06 0 22 35 228.8 28.28 319.68
79.15 0 2 6 1228.83 21.05 344.83 210.74 112.06 0 22 35 228.8 28.28 319.68
79.15 0 2 6 1228.83 21.05 344.83 210.74 112.06 0 22 35 228.8 28.28 319.68
110.00 1 55 18 6147.81 10.59 290.29 205.12 122.66 3 37 45 5147.8 23.00 268.81

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.2979 TRA -.6194 TC3 .2307 BAU .0627 SGT 1342.1 SGR 456.2 SG3 842.8 ST 31.6 SR 19.3 SS 40.8
RDE -.2238 RRA .0337 RC3 .3538 FAU .12896 RRT .2464 RRF -.3027 RTF -.7673 CRT .7795 CRS .2330 CST .7877
FDE .3633 FRA 3.5539 FC3-10.0494 BSP 2159 SGB 1417.5 R23 -.0937 R13 -.7705 LSA 49.8 MSA 23.3 SSA 1.3
BDE .3726 BRA .6203 BC3 .4224 FSP 1358 SG1 1347.4 SG2 440.4 THA 5.36 EL1 35.4 EL2 10.8 ALF 28.29

LAUNCH DATE MAY 3 1971

FLIGHT TIME 166.00

ARRIVAL DATE OCT 18 1971

HELIOCENTRIC CONIC

DISTANCE 415.692

EARTH TO MARS

RL 150.80 LAL -.00 LOL 221.93 VL 32.473 GAL -1.09 AZL 92.10 MCA 139.49 SMA 100.06 ECC .19082 INC 2.1038 VI 29.847
 RP 208.32 LAP -1.39 LOP .44 VP 23.842 GAP 9.69 AZP 88.42 TAL 353.45 TAP 131.94 RCA 150.63 APO 225.49 V2 26.304
 RC 93.190 GL -21.12 GP 2.04 ZAL 108.50 ZAP 137.66 ETS 177.72 ZAE 175.79 ETE 128.04 ZAC 102.04 ETC 277.83 LVI -20.01

PLANETOCENTRIC CONIC

C3 10.937 VHL 3.307 DLA -30.39 RAL 342.40 RAD 6630.5 VEL 11.447 PTH 6.50 VHP 4.141 DPA -15.22 RAP 320.50 ECC 1.1000
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 35 11 2364.13 -.59 60.71 195.35 137.57 18 14 35 1364.1 17.62 44.56
 60.00 19 0 1 2136.42 4.78 45.53 200.50 130.06 19 35 40 1138.4 20.28 26.62
 70.00 20 56 24 1796.03 11.21 22.55 205.25 122.48 21 26 20 796.0 23.50 .92
 78.37 23 52 41 1244.16 21.31 346.09 210.68 112.20 24 13 26 244.2 26.56 320.89
 78.37 23 52 41 1244.16 21.31 346.09 210.68 112.20 24 13 26 244.2 26.56 320.89
 78.37 23 52 41 1244.16 21.31 346.09 210.68 112.20 24 13 26 244.2 26.56 320.89
 110.00 1 59 46 6130.89 11.21 289.37 205.25 122.48 3 41 57 5130.9 23.50 267.75

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3000 TRA -.5981 TC3 .1495 BAW .0577 SGT 1312.6 SGR 450.3 SG3 890.7 ST 31.6 SR 18.8 SS 42.1
 RDE -.2171 RRA .0274 RC3 .3651 FAU .13452 RRT .2592 RRF -.3501 RTF -.7423 CRT .7959 CRS .2364 CST .7732
 FDE .3760 FRA 3.7340 FC-10.6476 B8P 2152 SGB 1387.7 R23 -.1183 R13 -.7466 LSA 50.7 M8A 23.6 S8A 1.3
 BDE .3703 BRA .5987 BC3 .3945 F8P 1453 SG1 1318.4 SG2 433.0 TMA 5.70 EL1 35.4 EL2 10.2 ALF 27.8

LAUNCH DATE MAY 3 1971

FLIGHT TIME 170.00

ARRIVAL DATE OCT 20 1971

HELIOCENTRIC CONIC

DISTANCE 419.765

EARTH TO MARS

RL 150.80 LAL -.00 LOL 221.93 VL 32.447 GAL -1.07 AZL 92.12 MCA 139.74 SMA 107.62 ECC .19713 INC 2.1159 VI 29.547
 RP 208.49 LAP -1.37 LOP 1.69 VP 23.786 GAP 9.43 AZP 88.38 TAL 353.51 TAP 133.24 RCA 150.64 APO 224.61 V2 26.294
 RC 95.074 GL -21.39 GP 2.15 ZAL 108.44 ZAP 135.94 ETS 177.73 ZAE 174.89 ETE 139.80 ZAC 102.21 ETC 277.74 LVI -19.90

PLANETOCENTRIC CONIC

C3 10.782 VHL 3.284 DLA -30.65 RAL 342.50 RAD 6630.4 VEL 11.440 PTH 6.49 VHP 4.034 DPA -15.26 RAP 320.00 ECC 1.1774
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 37 5 2355.15 -.14 60.33 195.41 137.58 18 16 20 1355.2 18.05 44.14
 60.00 19 2 41 2127.40 5.26 45.00 200.59 130.01 19 38 9 1127.4 20.71 26.01
 70.00 21 0 94 1779.55 11.81 21.65 205.42 122.28 21 30 34 779.5 23.98 358.88
 77.66 23 47 52 1257.80 21.56 347.22 210.66 112.33 24 8 50 257.8 26.84 321.97
 77.66 23 47 52 1257.80 21.56 347.22 210.66 112.33 24 8 50 257.8 26.84 321.97
 77.66 23 47 52 1257.80 21.56 347.22 210.66 112.33 24 8 50 257.8 26.84 321.97
 110.00 2 4 17 8114.41 11.81 288.47 205.42 122.28 3 46 11 5114.4 23.98 266.71

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2961 TRA -.5680 TC3 .0832 BAW .0557 SGT 1283.8 SGR 445.1 SG3 940.0 ST 31.1 SR 18.4 SS 43.2
 RDE -.2104 RRA .0211 RC3 .3774 FAU .14067 RRT .2738 RRF -.3603 RTF -.7191 CRT .8112 CRS .2376 CST .7573
 FDE .3833 FRA 3.9103 FC-11.2945 B8P 2046 SGB 1339.9 R23 -.1436 R13 -.7248 LSA 51.1 M8A 23.6 S8A 1.3
 BDE .3633 BRA .5684 BC3 .3865 F8P 1543 SG1 1270.4 SG2 425.8 TMA 6.21 EL1 34.8 EL2 9.6 ALF 27.93

LAUNCH DATE MAY 3 1971

FLIGHT TIME 172.00

ARRIVAL DATE OCT 22 1971

HELIOCENTRIC CONIC

DISTANCE 423.859

EARTH TO MARS

RL 150.80 LAL -.00 LOL 221.93 VL 32.424 GAL -1.05 AZL 92.13 MCA 140.98 SMA 107.22 ECC .19538 INC 2.1287 VI 29.547
 RP 208.67 LAP -1.34 LOP 2.93 VP 23.731 GAP 9.17 AZP 88.35 TAL 353.55 TAP 134.53 RCA 150.64 APO 223.80 V2 26.284
 RC 96.988 GL -21.66 GP 2.26 ZAL 108.40 ZAP 134.18 ETS 177.73 ZAE 173.77 ETE 148.06 ZAC 102.39 ETC 277.63 LVI -19.94

PLANETOCENTRIC CONIC

C3 10.644 VHL 3.262 DLA -30.90 RAL 342.62 RAD 6630.4 VEL 11.434 PTH 6.48 VHP 3.932 DPA -15.31 RAP 319.46 ECC 1.1752
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 39 0 2346.72 .29 59.98 195.50 137.58 18 18 7 1346.7 18.45 43.74
 60.00 19 5 21 2118.97 5.72 44.50 200.71 129.96 19 40 30 1117.0 21.12 25.43
 70.00 21 5 27 1763.55 12.39 20.77 205.61 122.09 21 34 51 763.6 24.44 358.87
 77.01 23 43 40 1269.98 21.79 348.24 210.68 112.46 24 4 50 270.0 29.10 322.94
 77.01 23 43 40 1269.98 21.79 348.24 210.68 112.46 24 4 50 270.0 29.10 322.94
 77.01 23 43 40 1269.98 21.79 348.24 210.68 112.46 24 4 50 270.0 29.10 322.94
 110.00 2 8 49 6098.41 12.39 287.60 205.61 122.09 3 50 28 5098.4 24.44 265.69

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2914 TRA -.5385 TC3 .0116 BAW .0556 SGT 1211.0 SGR 440.4 SG3 991.4 ST 30.4 SR 17.8 SS 44.4
 RDE -.2036 RRA .0145 RC3 .3908 FAU .14718 RRT .2860 RRF -.3928 RTF -.1.09 CRT .8271 CRS .2388 CST .7382
 FDE .3853 FRA 4.0940 FC-11.9712 B8P 1930 SGB 1288.6 R23 -.1752 R13 -.6986 LSA 51.4 M8A 24.0 S8A 1.3
 BDE .3556 BRA .5385 BC3 .3907 F8P 1634 SG1 1218.5 SG2 419.4 TMA 6.74 EL1 34.1 EL2 9.0 ALF 28.07

LAUNCH DATE MAY 3 1971

FLIGHT TIME 174.00

ARRIVAL DATE OCT 24 1971

HELIOCENTRIC CONIC

DISTANCE 427.964

EARTH TO MARS

RL 150.80 LAL -.00 LOL 221.93 VL 32.402 GAL -1.04 AZL 92.14 MCA 142.23 SMA 106.88 ECC .19377 INC 2.1421 VI 29.547
 RP 208.85 LAP -1.31 LOP 4.18 VP 23.678 GAP 8.92 AZP 88.31 TAL 353.58 TAP 135.81 RCA 150.64 APO 223.06 V2 26.243
 RC 98.928 GL -21.92 GP 2.38 ZAL 108.37 ZAP 132.38 ETS 177.74 ZAE 172.50 ETE 153.89 ZAC 102.58 ETC 277.52 LVI -19.90

PLANETOCENTRIC CONIC

C3 10.521 VHL 3.244 DLA -31.13 RAL 342.75 RAD 6630.3 VEL 11.429 PTH 6.48 VHP 3.836 DPA -15.36 RAP 318.88 ECC 1.1732
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 40 56 2338.82 .68 59.65 195.63 137.57 18 19 55 1338.8 18.83 43.37
 60.00 19 8 1 2107.11 6.15 44.02 200.86 129.91 19 43 8 1107.1 21.51 24.89
 70.00 21 10 2 1748.04 12.95 19.92 205.84 121.88 21 39 10 748.0 24.87 357.88
 76.42 23 40 0 1280.92 22.01 349.16 210.73 112.59 24 1 21 280.9 29.35 323.82
 76.42 23 40 0 1280.92 22.01 349.16 210.73 112.59 24 1 21 280.9 29.35 323.82
 76.42 23 40 0 1280.92 22.01 349.16 210.73 112.59 24 1 21 280.9 29.35 323.82
 110.00 2 13 24 6082.90 12.95 286.75 205.84 121.88 3 54 47 5082.9 24.87 264.70

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2877 TRA -.5024 TC3 -.0671 BAW .0576 SGT 1155.3 SGR 436.7 SG3 1044.2 ST 29.8 SR 17.4 SS 45.6
 RDE -.1978 RRA .0076 RC3 .4042 FAU .15388 RRT .2964 RRF -.4278 RTF -.6559 CRT .8456 CRS .2417 CST .7183
 FDE .3939 FRA 4.2832 FC-12.6618 B8P 1801 SGB 1235.1 R23 -.2141 R13 -.6864 LSA 51.9 M8A 24.1 S8A 1.2
 BDE .3490 BRA .5024 BC3 .4088 F8P 1730 SG1 1163.8 SG2 414.1 TMA 7.33 EL1 33.5 EL2 8.3 ALF 28.22

LAUNCH DATE MAY 3 1971

FLIGHT TIME 176.00

ARRIVAL DATE OCT 28 1971

HELIOCENTRIC CONIC

RL 150.80 LAL -.00 LOL 221.93 VL 32.382 GAL -1.03 AZL 92.16 HCA 143.47 SMA 186.51 ECC .19229 INC 2.1963 V1 29.547
RP 209.04 LAP -1.20 LOP 9.42 VP 23.626 GAP 8.67 AZP 88.27 TAL 353.59 TAP 137.06 RCA 150.65 APO 222.37 V2 26.221
RC 100.898 GL -22.18 GP 2.90 ZAL 108.37 ZAP 130.54 ETS 177.75 ZAE 171.10 ETE 158.10 ZAC 102.78 ETC 277.40 LVI -19.84

PLANETOCENTRIC CONIC

C3 10.414 VHL 3.227 DLA -31.35 RAL 342.91 RAD 6630.3 VEL 11.424 PTH 6.48 VHP 3.744 DPA -15.42 RAP 318.25 ECC 1.1714
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 42 54 2331.43 1.06 59.34 193.78 137.57 18 21 45 1331.4 19.18 43.02
60.00 19 10 42 2097.82 6.56 43.57 201.04 129.85 19 45 39 1097.8 21.87 24.37
70.00 21 14 39 1732.98 13.49 19.09 206.11 121.68 21 43 32 733.0 25.29 356.90
75.87 23 36 46 1291.02 22.21 350.01 210.81 112.72 23 58 17 291.0 29.58 324.63
75.87 23 36 46 1291.02 22.21 350.01 210.81 112.72 23 58 17 291.0 29.58 324.63
75.87 23 36 46 1291.02 22.21 350.01 210.81 112.72 23 58 17 291.0 29.58 324.63
110.00 2 18 1 6067.84 13.49 285.91 206.11 121.68 3 59 9 5067.8 25.29 263.73

DIFFERENTIAL CORRECTIONS

TDE -.2821 TRA -.4638 TC3 -.1533 BAV .0621
RDE -.1911 RRA .0006 RC3 .4186 FAU .16089
FDE .3958 FRA 4.4678 FC-13.3585 B8P 1630
BDE .3407 BRA .4638 BC3 .4458 F8P 1819

MID-COURSE EXECUTION ACCURACY

SGT 1091.1 SGR 433.8 S63 1096.7
RRT .3000 RRF -.4643 RTF -.6106
SG8 1174.2 R23 -.2827 R13 -.6250
SG1 1100.1 S62 410.4 THA 7.91

ORBIT DETERMINATION ACCURACY

ST 26.9 SR 17.0 SS 46.7
CRT .8650 CRS .2445 CST .6933
LSA 52.1 MSA 24.2 S8A 1.2
EL1 32.7 EL2 7.5 ALF 28.58

LAUNCH DATE MAY 3 1971

FLIGHT TIME 178.00

ARRIVAL DATE OCT 28 1971

HELIOCENTRIC CONIC

RL 150.80 LAL -.00 LOL 221.93 VL 32.364 GAL -1.03 AZL 92.17 HCA 144.71 SMA 186.20 ECC .19093 INC 2.1712 V1 29.547
RP 209.24 LAP -1.25 LOP 8.66 VP 23.575 GAP 8.43 AZP 88.23 TAL 353.59 TAP 138.30 RCA 150.65 APO 221.75 V2 26.198
RC 102.893 GL -22.43 GP 2.63 ZAL 108.38 ZAP 128.66 ETS 177.76 ZAE 169.61 ETE 161.23 ZAC 102.99 ETC 277.27 LVI -19.79

PLANETOCENTRIC CONIC

C3 10.321 VHL 3.213 DLA -31.56 RAL 343.09 RAD 6638.2 VEL 11.420 PTH 6.47 VHP 3.658 DPA -15.48 RAP 317.58 ECC 1.1699
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 44 53 2324.53 1.40 59.06 195.96 137.56 18 23 38 1324.5 19.51 42.70
60.00 19 13 23 2089.05 6.94 43.15 201.25 129.80 19 48 12 1089.0 22.21 23.87
70.00 21 19 19 1718.32 14.01 18.28 206.40 121.47 21 47 57 718.3 25.69 355.95
75.36 23 33 59 1300.16 22.40 350.79 210.93 112.84 23 55 39 300.2 29.80 325.37
75.36 23 33 59 1300.16 22.40 350.79 210.93 112.84 23 55 39 300.2 29.80 325.37
75.36 23 33 59 1300.16 22.40 350.79 210.93 112.84 23 55 39 300.2 29.80 325.37
110.00 2 22 41 6053.18 14.01 285.10 206.40 121.47 4 3 35 5053.2 25.69 262.78

DIFFERENTIAL CORRECTIONS

TDE -.2727 TRA -.4198 TC3 -.2303 BAV .0679
RDE -.1847 RRA -.0066 RC3 .4349 FAU .16837
FDE .3847 FRA 4.6483 FC-14.1229 B8P 1395
BDE .3294 BRA .4199 BC3 .4921 F8P 1893

MID-COURSE EXECUTION ACCURACY

SGT 1015.2 SGR 432.1 S63 1151.0
RRT .2986 RRF -.5030 RTF -.5575
SG8 1103.4 R23 -.3183 R13 -.5778
SG1 1025.0 S62 408.5 THA 8.62

ORBIT DETERMINATION ACCURACY

ST 27.7 SR 16.5 SS 47.6
CRT .8846 CRS .2423 CST .6615
LSA 52.1 MSA 24.2 S8A 1.2
EL1 31.5 EL2 6.8 ALF 29.26

LAUNCH DATE MAY 3 1971

FLIGHT TIME 180.00

ARRIVAL DATE OCT 30 1971

HELIOCENTRIC CONIC

RL 150.80 LAL -.00 LOL 221.93 VL 32.347 GAL -1.02 AZL 92.19 HCA 145.95 SMA 185.91 ECC .18969 INC 2.1871 V1 29.547
RP 209.44 LAP -1.22 LOP 7.90 VP 23.526 GAP 8.19 AZP 88.19 TAL 353.57 TAP 139.52 RCA 150.65 APO 221.18 V2 26.174
RC 104.913 GL -22.69 GP 2.77 ZAL 108.42 ZAP 126.75 ETS 177.78 ZAE 168.04 ETE 163.59 ZAC 103.22 ETC 277.12 LVI -19.72

PLANETOCENTRIC CONIC

C3 10.242 VHL 3.200 DLA -31.76 RAL 343.29 RAD 6638.2 VEL 11.417 PTH 6.47 VHP 3.577 DPA -15.54 RAP 316.87 ECC 1.1686
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 46 54 2318.20 1.72 58.79 196.17 137.55 18 25 32 1318.2 19.81 42.40
60.00 19 16 4 2080.92 7.29 42.76 201.50 129.75 19 50 45 1080.9 22.52 23.41
70.00 21 24 0 1704.28 14.51 17.49 206.73 121.26 21 52 25 704.3 26.06 355.03
74.90 23 31 35 1308.65 22.57 351.51 211.08 112.96 23 53 24 308.6 30.01 326.06
74.90 23 31 35 1308.65 22.57 351.51 211.08 112.96 23 53 24 308.6 30.01 326.06
74.90 23 31 35 1308.65 22.57 351.51 211.08 112.96 23 53 24 308.6 30.01 326.06
110.00 2 27 22 6039.14 14.51 284.32 206.73 121.26 4 8 2 5039.1 26.06 261.88

DIFFERENTIAL CORRECTIONS

TDE -.2794 TRA -.3883 TC3 -.3787 BAV .0804
RDE -.1792 RRA -.0150 RC3 .4488 FAU .17388
FDE .4258 FRA 4.8769 FC-14.6937 B8P 1342
BDE .3318 BRA .3886 BC3 .5871 F8P 2022

MID-COURSE EXECUTION ACCURACY

SGT 988.7 SGR 431.7 S63 1205.0
RRT .2733 RRF -.8430 RTF -.4.12
SG8 1078.9 R23 -.4018 R13 -.4960
SG1 997.2 S62 411.7 THA 8.21

ORBIT DETERMINATION ACCURACY

ST 27.9 SR 16.1 SS 49.2
CRT .9097 CRS .2699 CST .8384
LSA 53.4 MSA 24.8 S8A 1.2
EL1 31.6 EL2 5.9 ALF 28.75

LAUNCH DATE MAY 3 1971

FLIGHT TIME 182.00

ARRIVAL DATE NOV 1 1971

HELIOCENTRIC CONIC

RL 150.80 LAL -.00 LOL 221.93 VL 32.331 GAL -1.02 AZL 92.20 HCA 147.18 SMA 185.65 ECC .18857 INC 2.2041 V1 29.547
RP 209.66 LAP -1.19 LOP 9.13 VP 23.477 GAP 7.96 AZP 88.15 TAL 353.54 TAP 140.72 RCA 150.65 APO 220.66 V2 26.150
RC 106.958 GL -22.84 GP 2.92 ZAL 108.48 ZAP 124.81 ETS 177.79 ZAE 168.39 ETE 165.43 ZAC 103.46 ETC 276.98 LVI -19.65

PLANETOCENTRIC CONIC

C3 10.177 VHL 3.190 DLA -31.95 RAL 343.51 RAD 6638.1 VEL 11.414 PTH 6.47 VHP 3.501 DPA -15.60 RAP 316.12 ECC 1.1675
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 48 57 2312.28 2.02 58.54 196.42 137.54 18 27 30 1312.3 20.09 42.11
60.00 19 18 47 2073.25 7.63 42.38 201.77 129.69 19 53 20 1073.2 22.82 22.98
70.00 21 28 46 1690.51 14.99 16.72 207.10 121.05 21 56 57 690.5 26.42 354.13
74.47 23 29 31 1316.57 22.74 352.19 211.28 113.08 23 51 28 316.6 30.20 326.71
74.47 23 29 31 1316.57 22.74 352.19 211.28 113.08 23 51 28 316.6 30.20 326.71
74.47 23 29 31 1316.57 22.74 352.19 211.28 113.08 23 51 28 316.6 30.20 326.71
110.00 2 32 9 6025.37 14.99 283.54 207.10 121.05 4 12 34 5025.4 26.42 260.95

DIFFERENTIAL CORRECTIONS

TDE -.2756 TRA -.3465 TC3 -.5002 BAV .0929
RDE -.1732 RRA -.0235 RC3 .4649 FAU .18055
FDE .4314 FRA 5.0914 FC-15.3598 B8P 1165
BDE .3255 BRA .3473 BC3 .6829 F8P 2120

MID-COURSE EXECUTION ACCURACY

SGT 940.7 SGR 432.7 S63 1260.4
RRT .2355 RRF -.5836 RTF -.3762
SG8 1035.5 R23 -.4862 R13 -.4057
SG1 947.6 S62 417.5 THA 7.68

ORBIT DETERMINATION ACCURACY

ST 27.1 SR 15.6 SS 50.5
CRT .9312 CRS .2807 CST .6040
LSA 54.0 MSA 24.7 S8A 1.1
EL1 30.9 EL2 5.0 ALF 29.00

LAUNCH DATE MAY 3 1971

FLIGHT TIME 184.00

ARRIVAL DATE NOV 3 1971

HELIOCENTRIC CONIC

DISTANCE 448.621

EARTH TO MARS

RL 150.80 LAL -.00 LOL 221.93 VL 32.317 GAL -1.03 AZL 92.22 HCA 148.41 SMA 185.42 ECC .18754 INC 2.2222 V1 29.547
 RP 209.87 LAP -1.16 LOP 10.36 VP 23.430 GAP 7.73 AZP 88.11 TAL 353.49 TAP 141.91 RCA 150.64 APO 220.19 V2 26.124
 RC 109.028 GL -23.19 GP 3.08 ZAL 108.95 ZAP 122.93 ETS 177.81 ZAE 164.67 ZAC 103.71 ETC 276.82 LVI -19.58

PLANETOCENTRIC CONIC

C3 10.124 VHL 3.182 DLA -32.14 RAL 343.78 RAD 6638.1 VEL 11.411 PTH 6.46 VHP 3.430 DPA -15.65 RAP 315.34 ECC 1.1866
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 51 3 2306.80 2.29 58.31 196.69 137.53 18 29 30 1306.8 20.35 41.85
 60.00 19 21 31 2066.05 7.94 42.03 202.08 129.64 19 55 57 1066.1 23.09 22.57
 70.00 21 33 37 1677.06 15.46 15.96 207.50 120.84 22 1 34 677.1 26.77 393.23
 74.06 23 27 47 1324.00 22.89 352.82 211.51 113.20 23 49 51 324.0 30.39 327.31
 74.06 23 27 47 1324.00 22.89 352.82 211.51 113.20 23 49 51 324.0 30.39 327.31
 74.06 23 27 47 1324.00 22.89 352.82 211.51 113.20 23 49 51 324.0 30.39 327.31
 110.00 2 37 0 6011.91 15.46 282.79 207.50 120.84 4 17 12 5011.9 26.77 260.06

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2740 TRA -.3014 TC3 -.6300 BAU .1074 SGT 902.7 SGR 435.9 SG3 1314.8 ST 26.5 SR 15.1 SS 51.7
 RDE -.1676 RRA -.0324 RC3 .4823 FAU .18731 RRT .1779 RRF -.6256 RTF -.2576 CRT .9530 CRS .3012 C8T .5668
 FDE .4519 FRA 5.3000 FC-16.0177 BSP 984 SGB 1002.5 R23 -.5750 R13 -.2879 LSA 54.7 MSA 24.8 S8A 1.1
 BDE .3212 BRA .3031 BC3 .7934 F8P 2217 SG1 907.0 SG2 427.0 THA 6.32 EL1 30.2 EL2 4.0 ALF 29.14

LAUNCH DATE MAY 3 1971

FLIGHT TIME 186.00

ARRIVAL DATE NOV 5 1971

HELIOCENTRIC CONIC

DISTANCE 452.774

EARTH TO MARS

RL 150.80 LAL -.00 LOL 221.93 VL 32.305 GAL -1.03 AZL 92.24 HCA 149.64 SMA 185.21 ECC .18662 INC 2.2414 V1 29.547
 RP 210.10 LAP -1.13 LOP 11.59 VP 23.383 GAP 7.51 AZP 88.07 TAL 353.43 TAP 143.08 RCA 150.64 APO 219.77 V2 26.098
 RC 111.121 GL -23.44 GP 3.25 ZAL 108.65 ZAP 120.82 ETS 177.83 ZAE 162.90 ETE 168.02 ZAC 103.97 ETC 276.65 LVI -19.51

PLANETOCENTRIC CONIC

C3 10.084 VHL 3.176 DLA -32.31 RAL 344.02 RAD 6638.1 VEL 11.410 PTH 6.46 VHP 3.364 DPA -15.71 RAP 314.52 ECC 1.1680
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 53 13 2301.74 2.55 58.10 197.00 137.52 18 31 34 1301.7 20.59 41.61
 60.00 19 24 18 2059.30 8.23 41.70 202.42 129.59 19 58 38 1059.3 23.35 22.18
 70.00 21 38 35 1863.84 15.92 15.21 207.94 120.62 22 6 19 663.8 27.11 352.35
 73.68 23 26 18 1331.13 23.03 353.43 211.77 113.32 23 48 29 331.1 30.56 327.90
 73.68 23 26 18 1331.13 23.03 353.43 211.77 113.32 23 48 29 331.1 30.56 327.90
 73.68 23 26 18 1331.13 23.03 353.43 211.77 113.32 23 48 29 331.1 30.56 327.90
 110.00 2 41 57 5998.70 15.92 282.04 207.94 120.62 4 21 56 4998.7 27.11 259.18

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2714 TRA -.2532 TC3 -.7685 BAU .1237 SGT 877.7 SGR 441.0 SG3 1368.4 ST 25.8 SR 14.7 SS 52.9
 RDE -.1620 RRA -.0418 RC3 .5007 FAU .19406 RRT .0933 RRF -.6669 RTF -.1153 CRT .9722 CRS .3208 C8T .5210
 FDE .4655 FRA 5.5063 FC-16.6605 BSP 807 SGB 982.3 R23 -.6551 R13 -.1357 LSA 55.3 MSA 24.9 S8A 1.1
 BDE .3161 BRA .2566 BC3 .9172 F8P 2310 SG1 879.0 SG2 438.5 THA 3.58 EL1 29.5 EL2 3.0 ALF 29.28

LAUNCH DATE MAY 3 1971

FLIGHT TIME 188.00

ARRIVAL DATE NOV 7 1971

HELIOCENTRIC CONIC

DISTANCE 456.933

EARTH TO MARS

RL 150.80 LAL -.00 LOL 221.93 VL 32.293 GAL -1.04 AZL 92.26 HCA 150.87 SMA 185.01 ECC .18580 INC 2.2622 V1 29.547
 RP 210.33 LAP -1.10 LOP 12.82 VP 23.337 GAP 7.29 AZP 88.02 TAL 353.35 TAP 144.23 RCA 150.64 APO 219.39 V2 26.071
 RC 113.239 GL -23.70 GP 3.44 ZAL 108.76 ZAP 118.79 ETS 177.86 ZAE 161.07 ETE 168.95 ZAC 104.25 ETC 276.48 LVI -19.53

PLANETOCENTRIC CONIC

C3 10.056 VHL 3.171 DLA -32.48 RAL 344.31 RAD 6638.1 VEL 11.408 PTH 6.46 VHP 3.302 DPA -15.75 RAP 313.66 ECC 1.1655
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 55 26 2297.02 2.78 57.91 197.34 137.51 18 33 43 1297.0 20.81 41.38
 60.00 19 27 9 2052.92 8.51 41.39 202.79 129.54 20 1 22 1052.9 23.59 21.81
 70.00 21 43 42 1650.69 16.38 14.47 208.42 120.40 22 11 13 650.7 27.43 351.47
 73.31 23 25 2 1338.07 23.16 354.02 212.08 113.44 23 47 20 338.1 30.73 328.46
 73.31 23 25 2 1338.07 23.16 354.02 212.08 113.44 23 47 20 338.1 30.73 328.46
 73.31 23 25 2 1338.07 23.16 354.02 212.08 113.44 23 47 20 338.1 30.73 328.46
 110.00 2 47 4 5985.55 16.38 281.29 208.42 120.40 4 26 50 4985.6 27.43 258.29

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2653 TRA -.1992 TC3 -.8996 BAU .1398 SGT 858.6 SGR 448.5 SG3 1420.9 ST 24.8 SR 14.2 SS 55.8
 RDE -.1582 RRA -.0514 RC3 .5215 FAU .20140 RRT -.0169 RRF -.7074 RTF -.5.73 CRT .9872 CRS .3369 C8T .4823
 FDE .4648 FRA 5.6958 FC-17.3395 BSP 831 SGB 986.9 R23 .7063 R13 -.0810 LSA 55.6 MSA 24.8 S8A 1.0
 BDE .3078 BRA .2057 BC3 1.0399 F8P 2383 SG1 858.7 SG2 448.4 THA 179.31 EL1 28.5 EL2 2.0 ALF 29.64

LAUNCH DATE MAY 3 1971

FLIGHT TIME 190.00

ARRIVAL DATE NOV 9 1971

HELIOCENTRIC CONIC

DISTANCE 461.096

EARTH TO MARS

RL 150.80 LAL -.00 LOL 221.93 VL 32.283 GAL -1.05 AZL 92.28 HCA 152.09 SMA 184.84 ECC .18507 INC 2.2846 V1 29.547
 RP 210.57 LAP -1.07 LOP 14.04 VP 23.292 GAP 7.07 AZP 87.98 TAL 353.26 TAP 145.36 RCA 150.64 APO 219.05 V2 26.044
 RC 115.380 GL -23.96 GP 3.63 ZAL 108.89 ZAP 116.74 ETS 177.89 ZAE 159.19 ETE 169.71 ZAC 104.53 ETC 276.30 LVI -19.35

PLANETOCENTRIC CONIC

C3 10.041 VHL 3.169 DLA -32.65 RAL 344.62 RAD 6638.1 VEL 11.408 PTH 6.46 VHP 3.246 DPA -15.78 RAP 312.78 ECC 1.1652
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 57 43 2292.71 3.00 57.72 197.71 137.50 18 35 56 1292.7 21.02 41.17
 60.00 19 30 3 2046.96 8.77 41.10 203.21 129.50 20 4 10 1047.0 23.81 21.47
 70.00 21 48 59 1637.69 16.82 13.72 208.95 120.17 22 16 16 637.7 27.75 350.59
 72.97 23 24 3 1344.71 23.28 354.59 212.42 113.56 23 46 28 344.7 30.89 329.01
 72.97 23 24 3 1344.71 23.28 354.59 212.42 113.56 23 46 28 344.7 30.89 329.01
 72.97 23 24 3 1344.71 23.28 354.59 212.42 113.56 23 46 28 344.7 30.89 329.01
 110.00 2 52 21 5972.55 16.82 280.55 208.95 120.17 4 31 53 4972.5 27.75 257.42

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2684 TRA -.1508 TC3-1.0740 BAU .1614 SGT 896.5 SGR 458.4 SG3 1472.3 ST 24.8 SR 13.8 SS 55.3
 RDE -.1513 RRA -.0825 RC3 .5402 FAU .20668 RRT -.1380 RRF -.7461 RTF .2040 CRT .9956 CRS .3755 C8T .4156
 FDE .5102 FRA 5.9266 FC-17.8207 BSP 998 SGB 1006.9 R23 .7144 R13 -.2383 LSA 56.8 MSA 25.2 S8A 1.0
 BDE .3081 BRA .1633 BC3 1.2022 F8P 2503 SG1 899.5 SG2 452.5 THA 174.59 EL1 28.4 EL2 1.1 ALF 29.14

LAUNCH DATE MAY 3 1971 FLIGHT TIME 192.00 ARRIVAL DATE NOV 11 1971

DISTANCE 465.264 EARTH TO MARS

Heliocentric Conic
 RL 150.80 LAL -.00 LOL 221.93 VL 32.274 GAL -1.06 AZL 92.31 HCA 183.32 SMA 184.60 ECC .18442 INC 2.3080 V1 29.847
 RP 210.82 LAP -1.04 LOP 18.28 VP 23.248 GAP 6.86 AZP 87.94 TAL 393.15 TAP 148.47 RCA 150.63 APO 218.75 V2 26.019
 RC 117.945 GL -84.23 GP 3.84 ZAL 109.03 ZAP 114.66 ETS 177.93 ZAE 157.27 ETE 170.33 ZAC 104.84 ETC 276.11 LVI -19.28

Planetocentric Conic
 C3 10.037 VHL 3.168 DLA -32.81 RAL 344.98 RAD 8638.1 VEL 11.408 PTH 6.46 VHP 3.184 DPA -15.81 RAP 311.87 ECC 1.1652
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 0 6 2288.65 3.20 57.55 198.12 137.49 18 38 15 1288.7 21.21 40.97
 60.00 19 33 3 2041.25 9.01 40.82 203.65 129.45 20 7 4 1041.3 24.03 21.14
 70.00 21 54 32 1824.38 17.28 12.96 209.52 119.93 22 21 36 624.4 28.07 349.69
 72.63 23 23 13 1351.42 23.39 355.16 212.81 113.69 23 45 44 351.4 31.04 329.98
 72.63 23 23 13 1351.42 23.39 355.16 212.81 113.69 23 45 44 351.4 31.04 329.56
 72.63 23 23 13 1351.42 23.39 355.16 212.81 113.69 23 45 44 351.4 31.04 329.56
 110.00 2 57 54 5959.24 17.28 279.78 209.52 119.93 4 37 13 4959.2 28.07 236.51

Differential Corrections
 TDE -.2656 TRA -.0949 TC3-1.2367 BAU .1822 SGT 941.5 SGR 470.8 SG3 1520.8 ST 24.2 SR 13.4 SS 56.4
 RDE -.1460 RRA -.0740 RC3 .5614 FAU .21248 RRT -.2693 RRF -.7823 RTF .3590 CRT .9948 CRS .4046 CST .3490
 FDE .5261 FRA 6.1313 FC-18.3275 B8P 640 SGB 1052.7 R23 .6802 R13 -.4159 LSA 57.5 MSA 25.3 SSA 1.0
 BDE .3031 BRA .1203 BC3 1.3582 F8P 2590 SG1 952.5 SG2 448.1 THA 170.12 EL1 27.7 EL2 1.2 ALF 28.92

LAUNCH DATE MAY 3 1971 FLIGHT TIME 194.00 ARRIVAL DATE NOV 13 1971

DISTANCE 469.436 EARTH TO MARS

Heliocentric Conic
 RL 150.80 LAL -.00 LOL 221.93 VL 32.266 GAL -1.08 AZL 92.34 HCA 154.53 SMA 184.56 ECC .18386 INC 2.3351 V1 29.847
 RP 211.07 LAP -1.00 LOP 16.48 VP 23.204 GAP 6.66 AZP 87.89 TAL 353.03 TAP 147.56 RCA 150.62 APO 218.49 V2 25.986
 RC 119.734 GL -24.50 GP 4.07 ZAL 109.20 ZAP 112.57 ETS 177.98 ZAE 155.31 ETE 170.83 ZAC 105.16 ETC 275.92 LVI -19.21

Planetocentric Conic
 C3 10.046 VHL 3.170 DLA -32.97 RAL 345.32 RAD 8638.1 VEL 11.408 PTH 6.46 VHP 3.147 DPA -15.81 RAP 310.93 ECC 1.1653
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 2 35 2284.65 3.39 57.40 198.57 137.48 18 40 40 1284.9 21.38 40.79
 60.00 19 36 10 2035.77 9.25 40.55 204.14 129.40 20 10 6 1035.8 24.23 20.82
 70.00 22 0 26 1610.81 17.74 12.16 210.14 119.67 22 27 16 610.6 28.39 348.75
 72.30 23 22 35 1358.05 23.49 355.72 213.24 113.83 23 45 13 358.0 31.19 330.10
 72.30 23 22 35 1358.05 23.49 355.72 213.24 113.83 23 45 13 358.0 31.19 330.10
 72.30 23 22 35 1358.05 23.49 355.72 213.24 113.83 23 45 13 358.0 31.19 330.10
 110.00 3 3 48 5945.47 17.74 278.99 210.14 119.67 4 42 53 4945.3 28.39 255.37

Differential Corrections
 TDE -.2642 TRA -.0367 TC3-1.4066 BAU .2045 SGT 1014.5 SGR 486.4 SG3 1587.0 ST 23.9 SR 13.1 SS 57.5
 RDE -.1411 RRA -.0862 RC3 .5840 FAU .21807 RRT -.3924 RRF -.8160 RTF .4927 CRT .9815 CRS .4409 CST .2791
 FDE .5532 FRA 6.3298 FC-18.7927 B8P 792 SGB 1125.1 R23 .6258 R13 -.5562 LSA 58.3 MSA 25.4 SSA .9
 BDE .2995 BRA .0937 BC3 1.5230 F8P 2676 SG1 1036.4 SG2 437.9 THA 166.98 EL1 27.2 EL2 2.2 ALF 28.37

LAUNCH DATE MAY 3 1971 FLIGHT TIME 196.00 ARRIVAL DATE NOV 15 1971

DISTANCE 473.612 EARTH TO MARS

Heliocentric Conic
 RL 150.80 LAL -.00 LOL 221.93 VL 32.259 GAL -1.10 AZL 92.36 HCA 155.75 SMA 184.44 ECC .18338 INC 2.3636 V1 29.847
 RP 211.33 LAP -.97 LOP 17.70 VP 23.161 GAP 6.46 AZP 87.84 TAL 352.89 TAP 148.84 RCA 150.62 APO 218.26 V2 25.957
 RC 121.945 GL -24.79 GP 4.31 ZAL 109.38 ZAP 110.47 ETS 178.03 ZAE 153.32 ETE 171.25 ZAC 105.49 ETC 275.72 LVI -19.15

Planetocentric Conic
 C3 10.067 VHL 3.173 DLA -33.13 RAL 345.71 RAD 8638.1 VEL 11.409 PTH 6.46 VHP 3.105 DPA -15.80 RAP 309.98 ECC 1.1657
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 5 12 2281.24 3.58 57.24 199.06 137.47 18 43 13 1281.2 21.55 40.61
 60.00 19 39 26 2030.42 9.48 40.29 204.68 129.36 20 13 16 1030.4 24.43 20.51
 70.00 22 6 49 1595.95 18.24 11.31 210.83 119.39 22 33 25 596.0 28.72 347.74
 71.97 23 22 1 1365.00 23.59 356.30 213.71 113.97 23 44 46 365.0 31.33 330.67
 71.97 23 22 1 1365.00 23.59 356.30 213.71 113.97 23 44 46 365.0 31.33 330.67
 71.97 23 22 1 1365.00 23.59 356.30 213.71 113.97 23 44 46 365.0 31.33 330.67
 110.00 3 10 11 5930.81 18.24 278.13 210.83 119.39 4 49 2 4930.8 28.72 254.58

Differential Corrections
 TDE -.2629 TRA .0237 TC3-1.5815 BAU .2280 SGT 1111.4 SGR 505.4 SG3 1611.6 ST 23.6 SR 12.7 SS 58.6
 RDE -.1362 RRA -.0993 RC3 .6081 FAU .22335 RRT -.5010 RRF -.8467 RTF .1.07 CRT .9530 CRS .4806 CST .2034
 FDE .5816 FRA 6.3293 FC-19.2072 B8P 1014 SGB 1220.9 R23 .5684 R13 -.6999 LSA 59.2 MSA 25.6 SSA .9
 BDE .2961 BRA .1022 BC3 1.6844 F8P 2764 SG1 1144.6 SG2 424.7 THA 165.08 EL1 26.6 EL2 3.4 ALF 27.90

LAUNCH DATE MAY 3 1971 FLIGHT TIME 198.00 ARRIVAL DATE NOV 17 1971

DISTANCE 477.790 EARTH TO MARS

Heliocentric Conic
 RL 150.80 LAL -.00 LOL 221.93 VL 32.293 GAL -1.12 AZL 92.40 HCA 156.98 SMA 184.34 ECC .18297 INC 2.3951 V1 29.847
 RP 211.60 LAP -.94 LOP 18.91 VP 23.119 GAP 6.26 AZP 87.80 TAL 352.74 TAP 149.70 RCA 150.61 APO 218.07 V2 25.926
 RC 124.177 GL -25.09 GP 4.57 ZAL 109.87 ZAP 108.36 ETS 178.09 ZAE 151.30 ETE 171.59 ZAC 105.85 ETC 275.52 LVI -19.10

Planetocentric Conic
 C3 10.101 VHL 3.178 DLA -33.30 RAL 346.13 RAD 8638.1 VEL 11.410 PTH 6.46 VHP 3.067 DPA -15.77 RAP 309.01 ECC 1.1662
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 7 58 2277.75 3.75 57.10 199.59 137.46 18 45 36 1277.7 21.72 40.44
 60.00 19 42 53 2025.10 9.71 40.02 205.26 129.31 20 16 38 1025.1 24.63 20.19
 70.00 22 13 53 1579.84 18.77 10.37 211.59 119.07 22 40 12 579.8 29.08 346.62
 71.64 23 21 36 1372.15 23.68 356.90 214.23 114.13 23 44 28 372.2 31.48 331.26
 71.64 23 21 36 1372.15 23.68 356.90 214.23 114.13 23 44 28 372.2 31.48 331.26
 71.64 23 21 36 1372.15 23.68 356.90 214.23 114.13 23 44 28 372.2 31.48 331.26
 110.00 3 17 15 5914.70 18.77 277.19 211.59 119.07 4 59 50 4914.7 29.08 253.44

Differential Corrections
 TDE -.2613 TRA -.0871 TC3-1.7808 BAU .2527 SGT 1228.8 SGR 527.6 SG3 1651.9 ST 23.8 SR 12.4 SS 59.6
 RDE -.1315 RRA -.1138 RC3 .6330 FAU .22788 RRT -.5934 RRF -.8738 RTF .8853 CRT .9063 CRS .5230 CST .1214
 FDE .6094 FRA 6.7218 FC-19.5311 B8P 1285 SGB 1337.3 R23 .5149 R13 -.7358 LSA 60.1 MSA 25.7 SSA .8
 BDE .2926 BRA .1433 BC3 1.8711 F8P 2836 SG1 1272.9 SG2 410.0 THA 164.00 EL1 26.4 EL2 4.7 ALF 26.25

LAUNCH DATE MAY 3 1971

FLIGHT TIME 200.00

ARRIVAL DATE NOV 19 1971

Heliocentric Conic

DISTANCE 461.971

EARTH TO MARS

RL 150.80 LAL -.00 LOL 221.93 VL 32.247 GAL -1.14 AZL 92.43 HCA 158.17 SMA 184.25 ECC .18264 INC 2.4295 V1 29.547
 RP 211.87 LAP -.90 LOP 20.12 VP 23.077 GAP 6.06 AZP 87.74 TAL 352.57 TAP 150.75 RCA 150.60 APO 217.91 V2 29.896
 RC 126.431 GL -25.41 GP 4.06 ZAL 108.78 ZAP 106.24 ETS 178.17 ZAE 149.26 ETE 171.86 ZAC 106.23 ETC 275.31 LVI -19.07

Planetocentric Conic

C3 10.148 VHL 3.186 DLA -33.40 RAL 346.58 RAD 6638.1 VEL 11.412 PTH 6.46 VHP 3.033 DPA -15.71 RAP 308.03 ECC 1.1670
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 10 55 2274.29 3.92 56.95 200.17 137.45 18 48 49 1274.3 21.88 40.27
 60.00 19 46 33 2019.68 9.94 39.76 205.89 129.26 20 20 13 1019.7 24.83 19.88
 70.00 22 21 57 1561.32 19.38 9.28 212.45 118.69 22 47 58 561.3 29.48 345.32
 71.29 23 21 14 1379.72 23.77 357.53 214.80 114.29 23 44 14 379.7 31.63 331.88
 71.29 23 21 14 1379.72 23.77 357.53 214.80 114.29 23 44 14 379.7 31.63 331.88
 71.29 23 21 14 1379.72 23.77 357.53 214.80 114.29 23 44 14 379.7 31.63 331.88
 110.00 3 25 19 5896.17 19.38 276.10 212.45 118.69 5 3 35 4896.2 29.48 232.15

Differential Corrections

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2607 TRA .1526 TC3-1.9421 BAU .2783 SGT 1363.5 SGR 554.3 SG3 1690.4 ST 24.0 SR 12.2 SS 60.7
 RDE -.1272 RRA -.1293 RC3 .6608 FAU .23260 RRT -.6688 RRF -.8979 RTF .7497 CRT .8406 CRS .5698 CBT .0397
 FDE .6443 FRA 6.9035 FC-19.8435 BSP 1576 SGB 1471.9 R23 .4694 R13 -.7913 LSA 61.1 MSA 26.0 SSA .8
 BDE .2901 BRA .2000 BC3 2.0514 FSP 2904 SG1 1417.5 SG2 396.4 THA 163.46 EL1 26.3 EL2 6.0 ALF 24.48

LAUNCH DATE MAY 3 1971

FLIGHT TIME 202.00

ARRIVAL DATE NOV 21 1971

Heliocentric Conic

DISTANCE 486.155

EARTH TO MARS

RL 150.80 LAL -.00 LOL 221.93 VL 32.243 GAL -1.17 AZL 92.47 HCA 159.38 SMA 184.18 ECC .18237 INC 2.4679 V1 29.547
 RP 212.14 LAP -.87 LOP 21.32 VP 23.035 GAP 5.87 AZP 87.69 TAL 352.39 TAP 151.77 RCA 150.59 APO 217.77 V2 25.864
 RC 128.706 GL -25.75 GP 5.17 ZAL 110.00 ZAP 104.13 ETS 178.25 ZAE 147.20 ETE 172.08 ZAC 106.63 ETC 275.11 LVI -19.06

Planetocentric Conic

C3 10.209 VHL 3.195 DLA -33.66 RAL 347.07 RAD 6638.1 VEL 11.415 PTH 6.47 VHP 3.004 DPA -15.61 RAP 307.04 ECC 1.1680
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 14 5 2270.77 4.10 56.81 200.80 137.44 18 51 56 1270.8 22.04 40.10
 60.00 19 50 32 2014.00 10.19 39.48 206.58 129.21 20 24 6 1014.0 25.04 19.54
 70.00 22 31 35 1538.67 20.11 7.93 213.42 118.20 22 57 14 538.7 29.95 343.73
 70.93 23 20 54 1387.83 23.86 358.20 215.43 114.48 23 44 2 387.8 31.79 332.55
 70.93 23 20 54 1387.83 23.86 358.20 215.43 114.48 23 44 2 387.8 31.79 332.55
 70.93 23 20 54 1387.83 23.86 358.20 215.43 114.48 23 44 2 387.8 31.79 332.55
 110.00 3 34 57 5873.53 20.11 274.76 213.42 118.20 5 12 51 4873.5 29.95 250.55

Differential Corrections

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2591 TRA .2215 TC3-2.1251 BAU .3049 SGT 1512.5 SGR 584.4 SG3 1723.3 ST 24.4 SR 12.0 SS 61.6
 RDE -.1229 RRA -.1462 RC3 .6890 FAU .23611 RRT -.7306 RRF -.9182 RTF .7986 CRT .7538 CRS .6175 CBT -.0469
 FDE .6746 FRA 7.0793 FC-20.0223 BSP 1894 SGB 1821.5 R23 .4306 R13 -.8323 LSA 62.1 MSA 26.1 SSA .8
 BDE .2867 BRA .2654 BC3 2.2340 FSP 2970 SG1 1575.6 SG2 383.1 THA 163.21 EL1 26.2 EL2 7.4 ALF 22.20

LAUNCH DATE MAY 3 1971

FLIGHT TIME 204.00

ARRIVAL DATE NOV 23 1971

Heliocentric Conic

DISTANCE 490.340

EARTH TO MARS

RL 150.80 LAL -.00 LOL 221.93 VL 32.239 GAL -1.20 AZL 92.51 HCA 160.58 SMA 184.13 ECC .18217 INC 2.5108 V1 29.547
 RP 212.43 LAP -.83 LOP 22.53 VP 22.994 GAP 5.68 AZP 87.63 TAL 352.20 TAP 152.78 RCA 150.58 APO 217.67 V2 25.832
 RC 130.999 GL -26.12 GP 5.52 ZAL 110.22 ZAP 102.03 ETS 178.35 ZAE 145.13 ETE 172.25 ZAC 107.06 ETC 274.90 LVI -19.08

Planetocentric Conic

C3 10.285 VHL 3.207 DLA -33.87 RAL 347.58 RAD 6638.2 VEL 11.418 PTH 6.47 VHP 2.979 DPA -15.48 RAP 306.05 ECC 1.1693
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 17 31 2267.08 4.29 56.65 201.49 137.43 18 55 18 1267.1 22.22 39.91
 60.00 19 54 53 2007.88 10.45 39.17 207.34 129.15 20 28 20 1007.9 25.26 19.18
 70.00 22 44 7 1508.00 21.09 6.09 214.59 117.51 23 9 15 508.0 30.55 341.84
 70.53 23 20 33 1396.71 23.96 358.94 216.11 114.69 23 43 50 396.7 31.96 333.28
 70.53 23 20 33 1396.71 23.96 358.94 216.11 114.69 23 43 50 396.7 31.96 333.28
 70.53 23 20 33 1396.71 23.96 358.94 216.11 114.69 23 43 50 396.7 31.96 333.28
 110.00 3 47 29 5842.85 21.09 272.91 214.59 117.51 5 24 52 4842.9 30.55 248.36

Differential Corrections

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2578 TRA .2934 TC3-2.3047 BAU .3320 SGT 1872.0 SGR 619.7 SG3 1753.0 ST 25.0 SR 11.9 SS 62.9
 RDE -.1189 RRA -.1646 RC3 .7205 FAU .23966 RRT -.7807 RRF -.9356 RTF .5565 CRT .6479 CRS .6674 CBT -.1313
 FDE .7100 FRA 7.2395 FC-20.1730 BSP 2232 SGB 1783.2 R23 .3972 R13 -.8640 LSA 63.1 MSA 26.3 SSA .7
 BDE .2837 BRA .3364 BC3 2.4147 FSP 3028 SG1 1744.1 SG2 371.2 THA 163.07 EL1 26.3 EL2 8.6 ALF 19.29

LAUNCH DATE MAY 3 1971

FLIGHT TIME 206.00

ARRIVAL DATE NOV 25 1971

Heliocentric Conic

DISTANCE 494.526

EARTH TO MARS

RL 150.80 LAL -.00 LOL 221.93 VL 32.237 GAL -1.23 AZL 92.56 HCA 161.78 SMA 184.08 ECC .18203 INC 2.5586 V1 29.547
 RP 212.72 LAP -.80 LOP 23.73 VP 22.983 GAP 5.49 AZP 87.57 TAL 351.99 TAP 153.77 RCA 150.57 APO 217.59 V2 25.799
 RC 133.312 GL -26.53 GP 5.90 ZAL 110.46 ZAP 99.94 ETS 178.46 ZAE 143.05 ETE 172.36 ZAC 107.52 ETC 274.70 LVI -19.12

Planetocentric Conic

C3 10.378 VHL 3.221 DLA -34.10 RAL 348.14 RAD 6638.2 VEL 11.422 PTH 6.47 VHP 2.958 DPA -15.31 RAP 305.06 ECC 1.1708
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 21 17 2263.07 4.49 56.48 202.25 137.41 18 59 0 1263.1 22.40 39.72
 60.00 19 59 41 2001.07 10.74 38.84 208.18 129.08 20 33 2 1001.1 25.51 18.77
 70.00 23 5 13 1452.03 22.81 2.66 216.22 116.14 23 29 25 452.0 31.53 337.48
 70.10 23 20 8 1406.55 24.06 359.76 216.87 114.93 23 43 35 406.6 32.15 334.10
 70.10 23 20 8 1406.55 24.06 359.76 216.87 114.93 23 43 35 406.6 32.15 334.10
 70.10 23 20 8 1406.55 24.06 359.76 216.87 114.93 23 43 35 406.6 32.15 334.10
 110.00 4 8 35 5786.89 22.81 269.48 216.22 116.14 5 45 2 4786.9 31.53 244.30

Differential Corrections

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2573 TRA .3669 TC3-2.4874 BAU .3606 SGT 1843.6 SGR 659.2 SG3 1775.9 ST 25.9 SR 11.9 SS 63.3
 RDE -.1151 RRA -.1846 RC3 .7532 FAU .24217 RRT -.8199 RRF -.9500 RTF .8642 CRT .5287 CRS .7170 CBT -.2097
 FDE .7445 FRA 7.3810 FC-20.2016 BSP 2569 SGB 1958.0 R23 .3716 R13 -.8869 LSA 64.1 MSA 26.6 SSA .7
 BDE .2819 BRA .4107 BC3 2.5990 FSP 3073 SG1 1924.3 SG2 361.6 THA 163.04 EL1 26.7 EL2 9.7 ALF 15.78

LAUNCH DATE MAY 3 1971

FLIGHT TIME 208.00

ARRIVAL DATE NOV 27 1971

HELIOCENTRIC CONIC

RL 150.80 LAL -.00 LOL 221.93 VL 32.233 GAL -1.26 AZL 92.61 HCA 162.98 SMA 184.05 ECC .18198 INC 2.6130 V1 29.947
RP 213.01 LAP -.78 LOP 24.92 VP 22.913 GAP 5.31 AZP 87.30 TAL 351.77 TAP 154.75 RCA 150.56 APO 217.54 V2 25.766
RC 135.643 GL -26.98 GP 6.33 ZAL 110.70 ZAP 97.86 ETS 178.59 ZAE 140.96 ETE 172.43 ZAC 108.03 ETC 274.50 LVI -19.22

PLANETOCENTRIC CONIC

C3 10.489 VHL 3.239 DLA -34.36 RAL 348.74 RAD 6638.3 VEL 11.427 PTH 6.48 VHP 2.941 DPA -15.08 RAP 304.08 ECC 1.1726
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 25 27 2258.57 4.71 56.29 203.09 137.40 19 3 5 1258.6 22.61 39.49
60.00 20 5 5 1993.26 11.08 38.45 209.12 129.00 20 38 19 993.3 25.80 18.31
69.61 23 19 38 1417.49 24.17 .67 217.70 115.20 23 43 15 417.5 32.36 335.00
69.61 23 19 38 1417.49 24.17 .67 217.70 115.20 23 43 15 417.5 32.36 335.00
69.61 23 19 38 1417.49 24.17 .67 217.70 115.20 23 43 15 417.5 32.36 335.00
69.61 23 19 38 1417.49 24.17 .67 217.70 115.20 23 43 15 417.5 32.36 335.00
69.61 23 19 38 1417.49 24.17 .67 217.70 115.20 23 43 15 417.5 32.36 335.00

DIFFERENTIAL CORRECTIONS

TDE -.2568 TRA .4436 TC3-2.6646 BAU .3897
RDE -.1118 RRA -.2070 RC3 .7888 FAU .24413
FDE .7815 FRA 7.5174 FC-20.1501 BSP 2923
BDE .2800 BRA .4898 BC3 2.7789 FSP 3109

MID-COURSE EXECUTION ACCURACY

SGT 2022.2 SGR 704.9 SG3 1795.4
RRT -.8515 RRF -.9618 RTF .8857
SGB 2141.6 R23 .3501 R13 -.9048
SG1 2112.1 SG2 353.9 THA 162.98

ORBIT DETERMINATION ACCURACY

ST 26.9 SR 11.9 SS 64.1
CRT .3967 CR8 .7661 CST -.2037
LSA 65.2 MSA 26.9 SSA .6
EL1 27.4 EL2 10.8 ALF 11.62

LAUNCH DATE MAY 3 1971

FLIGHT TIME 210.00

ARRIVAL DATE NOV 29 1971

HELIOCENTRIC CONIC

RL 150.80 LAL -.00 LOL 221.93 VL 32.234 GAL -1.30 AZL 92.68 HCA 164.17 SMA 184.03 ECC .18194 INC 2.6751 V1 29.547
RP 213.31 LAP -.73 LOP 26.11 VP 22.873 GAP 5.13 AZP 87.43 TAL 351.54 TAP 155.71 RCA 150.55 APO 217.51 V2 25.732
RC 137.991 GL -27.49 GP 6.82 ZAL 110.94 ZAP 95.80 ETS 178.75 ZAE 138.88 ETE 172.46 ZAC 108.58 ETC 274.30 LVI -19.36

PLANETOCENTRIC CONIC

C3 10.621 VHL 3.259 DLA -34.67 RAL 349.38 RAD 6638.4 VEL 11.433 PTH 6.48 VHP 2.929 DPA -14.79 RAP 303.10 ECC 1.1748
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 30 8 2253.35 4.97 56.07 204.02 137.38 19 7 41 1253.3 22.85 39.23
60.00 20 11 16 1984.03 11.47 37.99 210.17 128.90 20 44 20 984.0 26.13 17.75
69.06 23 18 57 1429.91 24.29 1.71 218.62 115.53 23 42 47 429.9 32.61 336.04
69.06 23 18 57 1429.91 24.29 1.71 218.62 115.53 23 42 47 429.9 32.61 336.04
69.06 23 18 57 1429.91 24.29 1.71 218.62 115.53 23 42 47 429.9 32.61 336.04
69.06 23 18 57 1429.91 24.29 1.71 218.62 115.53 23 42 47 429.9 32.61 336.04
69.06 23 18 57 1429.91 24.29 1.71 218.62 115.53 23 42 47 429.9 32.61 336.04

DIFFERENTIAL CORRECTIONS

TDE -.2568 TRA .5228 TC3-2.8361 BAU .4195
RDE -.1088 RRA -.2318 RC3 .8281 FAU .24567
FDE .8204 FRA 7.6330 FC-20.0246 BSP 3286
BDE .2789 BRA .5719 BC3 2.9545 FSP 3140

MID-COURSE EXECUTION ACCURACY

SGT 2206.8 SGR 757.3 SG3 1809.5
RRT -.8767 RRF -.9713 RTF .9024
SGB 2333.1 R23 .3321 R13 -.9189
SG1 2306.9 SG2 348.4 THA 162.85

ORBIT DETERMINATION ACCURACY

ST 28.3 SR 12.1 SS 64.8
CRT .2598 CR8 .8127 CST -.3497
LSA 66.3 MSA 27.2 SSA .6
EL1 28.5 EL2 11.6 ALF 7.66

LAUNCH DATE MAY 3 1971

FLIGHT TIME 212.00

ARRIVAL DATE DEC 1 1971

HELIOCENTRIC CONIC

RL 150.80 LAL -.00 LOL 221.93 VL 32.233 GAL -1.34 AZL 92.75 HCA 165.36 SMA 184.02 ECC .18197 INC 2.7470 V1 29.547
RP 213.61 LAP -.69 LOP 27.30 VP 22.833 GAP 4.95 AZP 87.34 TAL 351.29 TAP 156.65 RCA 150.53 APO 217.50 V2 25.697
RC 140.356 GL -28.06 GP 7.37 ZAL 111.17 ZAP 93.77 ETS 178.93 ZAE 136.80 ETE 172.43 ZAC 109.21 ETC 274.10 LVI -19.57

PLANETOCENTRIC CONIC

C3 10.778 VHL 3.283 DLA -35.02 RAL 350.09 RAD 6638.4 VEL 11.440 PTH 6.49 VHP 2.921 DPA -14.42 RAP 302.13 ECC 1.1774
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 35 27 2247.10 5.29 55.81 205.06 137.35 19 12 54 1247.1 23.14 38.92
60.00 20 18 27 1972.79 11.95 37.43 211.36 128.78 20 51 20 972.8 26.53 17.07
68.42 23 18 5 1444.05 24.44 2.90 219.65 115.91 23 42 9 444.0 32.89 337.23
68.42 23 18 5 1444.05 24.44 2.90 219.65 115.91 23 42 9 444.0 32.89 337.23
68.42 23 18 5 1444.05 24.44 2.90 219.65 115.91 23 42 9 444.0 32.89 337.23
68.42 23 18 5 1444.05 24.44 2.90 219.65 115.91 23 42 9 444.0 32.89 337.23
68.42 23 18 5 1444.05 24.44 2.90 219.65 115.91 23 42 9 444.0 32.89 337.23

DIFFERENTIAL CORRECTIONS

TDE -.2569 TRA .8032 TC3-2.9974 BAU .4498
RDE -.1080 RRA -.2598 RC3 .8718 FAU .24686
FDE .8900 FRA 7.7323 FC-19.8134 BSP 3662
BDE .2779 BRA .8386 BC3 3.1216 FSP 3154

MID-COURSE EXECUTION ACCURACY

SGT 2395.4 SGR 817.5 SG3 1818.5
RRT -.8975 RRF -.9789 RTF .5.62
SGB 2531.0 R23 .3156 R13 -.9306
SG1 2507.5 SG2 344.5 THA 162.83

ORBIT DETERMINATION ACCURACY

ST 29.8 SR 12.5 SS 65.3
CRT .1192 CR8 .8844 CST -.4125
LSA 67.4 MSA 27.5 SSA .5
EL1 29.8 EL2 12.4 ALF 3.45

LAUNCH DATE MAY 3 1971

FLIGHT TIME 214.00

ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC

RL 150.80 LAL -.00 LOL 221.93 VL 32.233 GAL -1.38 AZL 92.83 HCA 168.55 SMA 184.02 ECC .18206 INC 2.8307 V1 29.547
RP 213.92 LAP -.66 LOP 28.49 VP 22.794 GAP 4.77 AZP 87.25 TAL 351.04 TAP 157.58 RCA 150.51 APO 217.52 V2 25.682
RC 142.739 GL -28.73 GP 8.01 ZAL 111.40 ZAP 91.77 ETS 179.14 ZAE 134.73 ETE 172.35 ZAC 109.91 ETC 273.92 LVI -19.87

PLANETOCENTRIC CONIC

C3 10.965 VHL 3.311 DLA -35.45 RAL 350.86 RAD 6638.5 VEL 11.448 PTH 6.50 VHP 2.917 DPA -13.96 RAP 301.17 ECC 1.1805
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 41 36 2239.47 5.67 55.49 206.25 137.32 19 18 55 1239.5 23.50 38.54
60.00 20 27 0 1958.73 12.55 36.72 212.74 128.62 20 59 38 958.7 27.03 16.22
67.67 23 16 55 1460.37 24.61 4.28 220.81 116.36 23 41 15 460.4 33.23 338.62
67.67 23 16 55 1460.37 24.61 4.28 220.81 116.36 23 41 15 460.4 33.23 338.62
67.67 23 16 55 1460.37 24.61 4.28 220.81 116.36 23 41 15 460.4 33.23 338.62
67.67 23 16 55 1460.37 24.61 4.28 220.81 116.36 23 41 15 460.4 33.23 338.62
67.67 23 16 55 1460.37 24.61 4.28 220.81 116.36 23 41 15 460.4 33.23 338.62

DIFFERENTIAL CORRECTIONS

TDE -.2588 TRA .6893 TC3-3.1524 BAU .4814
RDE -.1039 RRA -.2915 RC3 .9198 FAU .24701
FDE .8826 FRA 7.8085 FC-19.5036 BSP 4036
BDE .2789 BRA .7484 BC3 3.2838 FSP 3160

MID-COURSE EXECUTION ACCURACY

SGT 2589.0 SGR 887.0 SG3 1821.1
RRT -.9135 RRF -.9848 RTF .9267
SGB 2736.7 R23 .3024 R13 -.9396
SG1 2715.0 SG2 344.1 THA 162.33

ORBIT DETERMINATION ACCURACY

ST 31.5 SR 13.0 SS 65.8
CRT -.0137 CR8 .8916 CST -.4638
LSA 68.6 MSA 28.0 SSA .5
EL1 31.5 EL2 13.0 ALF 179.61

LAUNCH DATE MAY 3 1971

FLIGHT TIME 216.00

ARRIVAL DATE DEC 5 1971

Heliocentric Conic: RL 150.80 LAL -.00 LOL 221.93 VL 32.234 GAL -1.42 AZL 92.93 HCA 167.73 SMA 184.03 ECC .18220 INC 2.9304 V1 29.547
 RP 214.24 LAP -.62 LOP 29.67 VP 22.755 GAP 4.60 AZP 87.14 TAL 350.77 TAP 158.50 RCA 150.50 APO 217.56 V2 25.627
 RC 145.138 GL -29.51 GP 8.76 ZAL 111.61 ZAP 89.81 ETS 179.40 ZAE 132.67 ETE 172.22 ZAC 110.72 ETC 273.74 LVI -20.28

Planetocentric Conic: C3 11.189 VHL 3.345 DLA -35.97 RAL 351.72 RAD 6638.7 VEL 11.458 PTH 6.51 VHP 2.918 DPA -13.38 RAP 300.22 ECC 1.1841
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 48 51 2229.90 6.15 55.08 207.63 137.27 19 28 1 1229.9 23.94 36.05
 60.00 20 37 25 1940.62 13.32 35.81 214.36 128.40 21 9 46 940.6 27.66 15.10
 66.78 23 15 23 1479.35 24.82 5.91 222.13 116.92 23 40 3 479.3 33.65 340.25
 66.78 23 15 23 1479.35 24.82 5.91 222.13 116.92 23 40 3 479.3 33.65 340.25
 66.78 23 15 23 1479.35 24.82 5.91 222.13 116.92 23 40 3 479.3 33.65 340.25
 66.78 23 15 23 1479.35 24.82 5.91 222.13 116.92 23 40 3 479.3 33.65 340.25

Differential Corrections: TDE -.2607 TRA .7778 TC3-3.2889 BAU .5130 SGT 2784.0 SGR 968.3 SG3 1817.9 ST 33.5 SR 13.7 SS 66.3
 RDE -.1029 RRA -.3289 RC3 .9712 FAU .24589 RRT -.9261 RRF -.9894 RTF .9340 CRT -.1404 CRS .9236 CST -.5084
 FDE .9237 FRA 7.8809 FC-19.0252 BSP 4430 SGB 2947.6 R23 .2913 R13 -.9468 LSA 69.9 MSA 28.5 S5A .4
 BDE .2803 BRA .8445 BC3 3.4293 FSP 3163 SG1 2927.1 SG2 347.4 THA 161.88 EL1 33.5 EL2 13.5 ALF 176.07

Orbit Determination Accuracy: ST 33.5 SR 13.7 SS 66.3 CRT -.1404 CRS .9236 CST -.5084 LSA 69.9 MSA 28.5 S5A .4 EL1 33.5 EL2 13.5 ALF 176.07

LAUNCH DATE MAY 3 1971

FLIGHT TIME 218.00

ARRIVAL DATE DEC 7 1971

Heliocentric Conic: RL 150.80 LAL -.00 LOL 221.93 VL 32.235 GAL -1.46 AZL 93.05 HCA 168.91 SMA 184.05 ECC .18239 INC 3.0502 V1 29.547
 RP 214.55 LAP -.59 LOP 30.85 VP 22.716 GAP 4.43 AZP 87.01 TAL 350.49 TAP 159.40 RCA 150.48 APO 217.62 V2 25.591
 RC 147.555 GL -30.44 GP 9.65 ZAL 111.79 ZAP 87.89 ETS 179.70 ZAE 130.61 ETE 172.01 ZAC 111.66 ETC 273.57 LVI -20.82

Planetocentric Conic: C3 11.462 VHL 3.386 DLA -36.61 RAL 352.69 RAD 6638.8 VEL 11.469 PTH 6.52 VHP 2.923 DPA -12.64 RAP 299.28 ECC 1.1886
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 57 35 2217.66 6.76 54.57 209.25 137.21 19 34 32 1217.7 24.50 37.43
 60.00 20 50 36 1916.44 14.34 34.58 216.33 128.08 21 22 32 916.4 28.49 13.59
 65.71 23 13 29 1501.49 25.07 7.83 223.67 117.61 23 38 30 501.5 34.15 342.17
 65.71 23 13 29 1501.49 25.07 7.83 223.67 117.61 23 38 30 501.5 34.15 342.17
 65.71 23 13 29 1501.49 25.07 7.83 223.67 117.61 23 38 30 501.5 34.15 342.17
 65.71 23 13 29 1501.49 25.07 7.83 223.67 117.61 23 38 30 501.5 34.15 342.17

Differential Corrections: TDE -.2657 TRA .8677 TC3-3.4131 BAU .5464 SGT 2981.7 SGR 1064.7 SG3 1807.8 ST 35.6 SR 14.7 SS 66.6
 RDE -.1026 RRA -.3720 RC3 1.0322 FAU .24479 RRT -.9361 RRF -.9928 RTF .9414 CRT -.2514 CRS .9488 CST -.5434
 FDE .9592 FRA 7.9139 FC-18.4890 BSP 4816 SGB 3166.1 R23 .2810 R13 -.9528 LSA 71.2 MSA 29.2 S5A .4
 BDE .2848 BRA .9441 BC3 3.5658 FSP 3144 SG1 3146.1 SG2 354.8 THA 161.27 EL1 35.9 EL2 14.1 ALF 173.01

Orbit Determination Accuracy: ST 35.6 SR 14.7 SS 66.6 CRT -.2514 CRS .9488 CST -.5434 LSA 71.2 MSA 29.2 S5A .4 EL1 35.9 EL2 14.1 ALF 173.01

LAUNCH DATE MAY 3 1971

FLIGHT TIME 220.00

ARRIVAL DATE DEC 9 1971

Heliocentric Conic: RL 150.80 LAL -.00 LOL 221.93 VL 32.236 GAL -1.51 AZL 93.20 HCA 170.08 SMA 184.08 ECC .18263 INC 3.1983 V1 29.547
 RP 214.88 LAP -.55 LOP 32.03 VP 22.678 GAP 4.26 AZP 86.85 TAL 350.20 TAP 160.28 RCA 150.48 APO 217.69 V2 25.554
 RC 149.988 GL -31.56 GP 10.73 ZAL 111.92 ZAP 86.02 ETS 180.07 ZAE 128.56 ETE 171.71 ZAC 112.80 ETC 273.41 LVI -21.58

Planetocentric Conic: C3 11.801 VHL 3.435 DLA -37.42 RAL 353.81 RAD 6639.0 VEL 11.484 PTH 6.53 VHP 2.938 DPA -11.71 RAP 298.35 ECC 1.1942
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 8 23 2201.64 7.56 53.88 211.21 137.12 19 45 4 1201.6 25.23 36.00
 60.00 21 8 3 1882.51 15.76 32.83 218.82 127.59 21 39 25 882.5 29.62 11.43
 64.40 23 11 7 1527.60 25.37 10.13 225.48 118.48 23 36 35 527.6 34.78 344.49
 64.40 23 11 7 1527.60 25.37 10.13 225.48 118.48 23 36 35 527.6 34.78 344.49
 64.40 23 11 7 1527.60 25.37 10.13 225.48 118.48 23 36 35 527.6 34.78 344.49
 64.40 23 11 7 1527.60 25.37 10.13 225.48 118.48 23 36 35 527.6 34.78 344.49

Differential Corrections: TDE -.2702 TRA .9847 TC3-3.5042 BAU .5793 SGT 3178.7 SGR 1181.2 SG3 1790.7 ST 38.0 SR 16.0 SS 67.1
 RDE -.1048 RRA -.4250 RC3 1.0974 FAU .24173 RRT -.9440 RRF -.9953 RTF .5487 CRT -.3523 CRS .9684 CST -.5738
 FDE 1.0104 FRA 7.9437 FC-17.7320 BSP 5253 SGB 3391.1 R23 .2711 R13 -.9979 LSA 72.9 MSA 29.9 S5A .3
 BDE .2897 BRA 1.0542 BC3 3.6720 FSP 3135 SG1 3371.1 SG2 367.3 THA 160.43 EL1 38.5 EL2 14.8 ALF 170.08

Orbit Determination Accuracy: ST 38.0 SR 16.0 SS 67.1 CRT -.3523 CRS .9684 CST -.5738 LSA 72.9 MSA 29.9 S5A .3 EL1 38.5 EL2 14.8 ALF 170.08

LAUNCH DATE MAY 3 1971

FLIGHT TIME 222.00

ARRIVAL DATE DEC 11 1971

Heliocentric Conic: RL 150.80 LAL -.00 LOL 221.93 VL 32.239 GAL -1.56 AZL 93.38 HCA 171.26 SMA 184.11 ECC .18291 INC 3.3846 V1 29.547
 RP 215.21 LAP -.51 LOP 33.20 VP 22.639 GAP 4.09 AZP 86.65 TAL 349.90 TAP 161.15 RCA 150.44 APO 217.79 V2 25.518
 RC 152.438 GL -32.93 GP 12.08 ZAL 111.99 ZAP 84.21 ETS 180.54 ZAE 126.50 ETE 171.29 ZAC 114.19 ETC 273.27 LVI -22.54

Planetocentric Conic: C3 12.236 VHL 3.498 DLA -38.45 RAL 355.12 RAD 6639.2 VEL 11.503 PTH 6.55 VHP 2.953 DPA -10.50 RAP 297.42 ECC 1.2014
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 22 13 2180.11 8.63 52.97 213.66 136.97 19 58 33 1180.1 26.20 35.47
 60.00 21 33 8 1830.58 17.89 30.10 222.16 126.73 22 3 38 830.6 31.26 8.01
 62.79 23 8 17 1558.68 25.75 12.91 227.69 119.59 23 34 16 558.7 35.57 347.30
 62.79 23 8 17 1558.68 25.75 12.91 227.69 119.59 23 34 16 558.7 35.57 347.30
 62.79 23 8 17 1558.68 25.75 12.91 227.69 119.59 23 34 16 558.7 35.57 347.30
 62.79 23 8 17 1558.68 25.75 12.91 227.69 119.59 23 34 16 558.7 35.57 347.30

Differential Corrections: TDE -.2799 TRA 1.0634 TC3-3.5726 BAU .6153 SGT 3376.9 SGR 1324.1 SG3 1763.5 ST 40.7 SR 17.7 SS 67.1
 RDE -.1073 RRA -.4885 RC3 1.1775 FAU .23878 RRT -.9506 RRF -.9971 RTF .9514 CRT -.4368 CRS .9820 CST -.5984
 FDE 1.0387 FRA 7.9145 FC-16.8948 BSP 5668 SGB 3627.2 R23 .2600 R13 -.9627 LSA 74.3 MSA 30.8 S5A .3
 BDE .2998 BRA 1.1703 BC3 3.7616 FSP 3080 SG1 3606.8 SG2 384.8 THA 159.31 EL1 41.5 EL2 15.6 ALF 167.42

Orbit Determination Accuracy: ST 40.7 SR 17.7 SS 67.1 CRT -.4368 CRS .9820 CST -.5984 LSA 74.3 MSA 30.8 S5A .3 EL1 41.5 EL2 15.6 ALF 167.42

LAUNCH DATE MAY 3 1971

FLIGHT TIME 224.00

ARRIVAL DATE DEC 13 1971

HELIOCENTRIC CONIC

RL 150.80 LAL -.00 LOL 221.93 VL 32.241 GAL -1.61 AZL 93.63 HCA 172.42 SMA 184.16 ECC .18324 INC 3.6275 V1 29.547
RP 215.54 LAP -.48 LOP 34.37 VP 22.601 GAP 3.92 AZP 86.40 TAL 349.59 TAP 162.01 RCA 150.41 APO 217.90 V2 25.480
RC 154.904 GL -34.73 GP 13.81 ZAL 111.95 ZAP 82.47 ETS 181.13 ZAE 124.42 ETE 170.71 ZAC 115.96 ETC 273.15 LVI -23.88

DISTANCE 532.202

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 12.815 VHL 3.580 DLA -39.79 RAL 358.73 RAD 8639.5 VEL 11.528 PTH 6.57 VHP 2.982 DPA -8.91 RAP 296.47 ECC 1.2109
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 40 44 2150.14 10.12 51.68 216.90 136.74 20 16 35 1150.1 27.53 33.87
60.00 22 18 7 1728.55 21.95 24.53 227.44 124.69 22 46 55 728.6 34.18 .95
60.76 23 5 4 1596.02 26.22 16.33 230.46 121.07 23 31 40 596.0 36.59 350.79
60.76 23 5 4 1596.02 26.22 16.33 230.46 121.07 23 31 40 596.0 36.59 350.79
60.76 23 5 4 1596.02 26.22 16.33 230.46 121.07 23 31 40 596.0 36.59 350.79
60.76 23 5 4 1596.02 26.22 16.33 230.46 121.07 23 31 40 596.0 36.59 350.79

DIFFERENTIAL CORRECTIONS

TDE -.2912 TRA 1.1700 TC3-3.5929 BAU .6527
RDE -.1149 RRA -.5690 RC3 1.2672 FAU .23386
PDE 1.0938 FRA 7.8507 FC-15.7991 BSP 6134
BDE .3130 BRA 1.3014 BC3 3.8098 F8P 3020

MID-COURSE EXECUTION ACCURACY

SGT 3573.9 SGR 1505.2 SG3 1724.5
RRT -.9556 RRF -.9983 RTF .9551
SGB 3877.9 R23 .2488 R13 -.9668
SG1 3856.1 S22 411.2 THA 157.81

ORBIT DETERMINATION ACCURACY

ST 43.5 SR 20.1 SS 67.2
CRT -.5056 CRS .9911 CST -.6156
LSA 76.1 MSA 32.0 SSA .2
EL1 44.9 EL2 16.8 ALF 164.67

LAUNCH DATE MAY 3 1971

FLIGHT TIME 226.00

ARRIVAL DATE DEC 15 1971

HELIOCENTRIC CONIC

RL 150.80 LAL -.00 LOL 221.93 VL 32.245 GAL -1.66 AZL 93.96 HCA 173.59 SMA 184.21 ECC .18360 INC 3.9565 V1 29.547
RP 215.87 LAP -.44 LOP 35.53 VP 22.563 GAP 3.76 AZP 86.07 TAL 349.26 TAP 162.85 RCA 150.39 APO 218.03 V2 25.443
RC 157.385 GL -37.05 GP 16.10 ZAL 111.74 ZAP 80.85 ETS 181.91 ZAE 122.30 ETE 169.91 ZAC 118.28 ETC 273.06 LVI -25.75

DISTANCE 536.383

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 13.631 VHL 3.692 DLA -41.57 RAL 358.78 RAD 8639.9 VEL 11.563 PTH 6.61 VHP 3.027 DPA -6.76 RAP 295.50 ECC 1.2243
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 7 16 2106.04 12.30 49.76 221.44 136.33 20 42 22 1106.0 29.46 31.43
58.16 23 1 42 1641.71 26.77 20.63 234.10 123.07 23 29 4 641.7 37.89 355.22
58.16 23 1 42 1641.71 26.77 20.63 234.10 123.07 23 29 4 641.7 37.89 355.22
58.16 23 1 42 1641.71 26.77 20.63 234.10 123.07 23 29 4 641.7 37.89 355.22
58.16 23 1 42 1641.71 26.77 20.63 234.10 123.07 23 29 4 641.7 37.89 355.22
58.16 23 1 42 1641.71 26.77 20.63 234.10 123.07 23 29 4 641.7 37.89 355.22

DIFFERENTIAL CORRECTIONS

TDE -.3094 TRA 1.2809 TC3-3.5625 BAU .6957
RDE -.1281 RRA -.6751 RC3 1.3725 FAU .22736
PDE 1.1924 FRA 7.6988 FC-14.4397 BSP 6591
BDE .3349 BRA 1.4480 BC3 3.8177 F8P 2910

MID-COURSE EXECUTION ACCURACY

SGT 3769.6 SGR 1740.0 SG3 1666.2
RRT -.9592 RRF -.9991 RTF .9577
SGB 4151.8 R23 .2374 R13 -.9704
SG1 4127.4 S22 449.5 THA 155.81

ORBIT DETERMINATION ACCURACY

ST 46.7 SR 23.3 SS 67.0
CRT -.5561 CRS .9964 CST -.6239
LSA 78.1 MSA 33.4 SSA .2
EL1 48.8 EL2 18.5 ALF 161.78

LAUNCH DATE MAY 3 1971

FLIGHT TIME 228.00

ARRIVAL DATE DEC 17 1971

HELIOCENTRIC CONIC

RL 150.80 LAL -.00 LOL 221.93 VL 32.248 GAL -1.71 AZL 94.43 HCA 174.75 SMA 184.27 ECC .18401 INC 4.4294 V1 29.547
RP 216.21 LAP -.41 LOP 36.69 VP 22.526 GAP 3.59 AZP 85.59 TAL 348.94 TAP 163.69 RCA 150.36 APO 218.18 V2 25.405
RC 159.881 GL -40.20 GP 19.27 ZAL 111.24 ZAP 79.38 ETS 182.97 ZAE 120.06 ETE 168.76 ZAC 121.48 ETC 273.01 LVI -26.43

DISTANCE 540.563

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.880 VHL 3.857 DLA -44.02 RAL 1.59 RAD 8640.5 VEL 11.616 PTH 6.66 VHP 3.099 DPA -3.71 RAP 294.46 ECC 1.2449
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 49 32 2033.26 15.86 46.51 228.56 135.47 21 23 45 1033.3 32.51 27.18
54.74 22 58 53 1698.94 27.38 26.17 239.17 125.92 23 27 11 698.9 39.56 1.07
54.74 22 58 53 1698.94 27.38 26.17 239.17 125.92 23 27 11 698.9 39.56 1.07
54.74 22 58 53 1698.94 27.38 26.17 239.17 125.92 23 27 11 698.9 39.56 1.07
54.74 22 58 53 1698.94 27.38 26.17 239.17 125.92 23 27 11 698.9 39.56 1.07
54.74 22 58 53 1698.94 27.38 26.17 239.17 125.92 23 27 11 698.9 39.56 1.07

DIFFERENTIAL CORRECTIONS

TDE -.3308 TRA 1.4012 TC3-3.4448 BAU .7481
RDE -.1490 RRA -.8119 RC3 1.5091 FAU .22072
PDE 1.1918 FRA 7.3535 FC-12.8417 BSP 7047
BDE .3628 BRA 1.6194 BC3 3.7607 F8P 2679

MID-COURSE EXECUTION ACCURACY

SGT 3959.7 SGR 2093.5 SG3 1974.3
RRT -.9640 RRF -.9995 RTF .9521
SGB 4460.5 R23 .2168 R13 -.9757
SG1 4433.8 S22 487.5 THA 153.09

ORBIT DETERMINATION ACCURACY

ST 50.0 SR 27.5 SS 65.8
CRT -.6003 CRS .9990 CST -.6348
LSA 79.7 MSA 34.7 SSA .1
EL1 53.2 EL2 20.7 ALF 158.27

LAUNCH DATE MAY 3 1971

FLIGHT TIME 230.00

ARRIVAL DATE DEC 19 1971

HELIOCENTRIC CONIC

RL 150.80 LAL -.00 LOL 221.93 VL 32.252 GAL -1.77 AZL 95.17 HCA 175.91 SMA 184.34 ECC .18446 INC 5.1660 V1 29.547
RP 216.56 LAP -.37 LOP 37.85 VP 22.488 GAP 3.43 AZP 84.85 TAL 348.60 TAP 164.51 RCA 150.33 APO 218.34 V2 25.366
RC 162.390 GL -44.71 GP 23.91 ZAL 110.25 ZAP 78.23 ETS 184.47 ZAE 117.57 ETE 167.07 ZAC 126.14 ETC 273.06 LVI -32.46

DISTANCE 544.738

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 17.038 VHL 4.128 DLA -47.48 RAL 5.81 RAD 8641.5 VEL 11.708 PTH 6.74 VHP 3.229 DPA .80 RAP 293.29 ECC 1.2804
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 40 3 1819.80 25.89 36.12 244.90 131.42 23 10 22 819.8 40.33 12.61
50.12 22 58 39 1773.53 27.86 33.55 246.81 130.15 23 28 13 773.5 41.64 9.20
50.12 22 58 39 1773.53 27.86 33.55 246.81 130.15 23 28 13 773.5 41.64 9.20
50.12 22 58 39 1773.53 27.86 33.55 246.81 130.15 23 28 13 773.5 41.64 9.20
50.12 22 58 39 1773.53 27.86 33.55 246.81 130.15 23 28 13 773.5 41.64 9.20
50.12 22 58 39 1773.53 27.86 33.55 246.81 130.15 23 28 13 773.5 41.64 9.20

DIFFERENTIAL CORRECTIONS

TDE -.3481 TRA 1.5331 TC3-3.2016 BAU .8189
RDE -.2116 RRA -1.0133 RC3 1.6360 FAU .20619
PDE 1.3906 FRA 6.8056 FC-10.4774 BSP 7536
BDE .4074 BRA 1.8377 BC3 3.5954 F8P 2400

MID-COURSE EXECUTION ACCURACY

SGT 4139.5 SGR 2498.5 SG3 1430.0
RRT -.9651 RRF -.9998 RTF .9625
SGB 4835.1 R23 .2029 R13 -.9790
SG1 4802.1 S22 563.6 THA 149.31

ORBIT DETERMINATION ACCURACY

ST 53.2 SR 34.6 SS 64.5
CRT -.6134 CRS 1.0000 CST -.6198
LSA 82.5 MSA 37.1 SSA .1
EL1 58.4 EL2 24.9 ALF 152.98

LAUNCH DATE MAY 3 1971

FLIGHT TIME 244.00

ARRIVAL DATE JAN 2 1972

HELIOCENTRIC CONIC DISTANCE 573.911 EARTH TO MARS
 RL 150.80 LAL -.00 LOL 221.93 VL 32.290 GAL -2.22 AZL 88.35 MCA 183.92 SMA 184.97 ECC .18860 INC 1.6389 V1 29.547
 RP 219.06 LAP -.11 LOP 45.85 VP 22.230 GAP 2.33 AZP 91.64 TAL 345.96 TAP 169.88 RCA 150.08 APO 219.85 V2 25.089
 RC 180.275 GL 16.21 GP -23.68 ZAL 120.43 ZAP 66.62 ETS 189.19 ZAE 106.27 ETE 187.78 ZAC 78.75 ETC 271.71 LVI 12.45

PLANETOCENTRIC CONIC
 C3 11.027 VHL 3.321 DLA 8.59 RAL 338.80 RAD 6638.6 VEL 11.450 PTH 6.50 VHP 3.366 DPA -46.54 RAP 299.50 ECC 1.1815
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 39 55 3172.78 -37.65 101.63 195.71 121.56 15 32 48 2172.0 -22.24 79.99
 60.00 15 10 13 3092.13 -33.07 97.36 198.70 114.40 16 1 46 2092.1 -20.35 74.40
 70.00 15 52 4 2969.02 -28.98 89.29 200.61 108.95 16 41 33 1969.0 -18.39 65.60
 80.00 16 30 49 2784.99 -25.98 76.37 201.64 105.26 17 37 14 1785.0 -17.28 52.35
 90.00 18 8 4 2535.71 -24.86 58.37 201.97 103.93 18 50 20 1935.7 -16.78 34.25
 100.00 19 33 41 2259.47 -25.98 37.74 201.64 105.26 20 11 21 1259.5 -17.28 13.71
 110.00 20 51 31 2015.84 -26.96 18.21 200.61 108.95 21 25 7 1015.8 -18.59 354.52

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.3045 TRA 1.5893 TC3-6.1860 BAW .9600 SGT 5443.9 SGR 2295.6 SG3 1311.7 ST 120.1 SR 56.4 SS 104.1
 RDE .5952 RRA .8857 RC3-2.0349 FAU .17175 RRT .9722 RRF .9996 RTF .9706 CRT .9974 CRS -.9996 CST -.9951
 FDE 3.7307 FRA 5.9790 FC-13.4842 BSP 9542 SGB 5908.1 R23 .2054 R13 .9783 LSA 168.5 MSA 8.0 SSA .3
 BDE 1.4339 BRA 1.8194 BC3 6.5121 FSP 2279 SG1 5887.2 S62 496.8 THA 22.46 EL1 132.7 EL2 3.7 ALF 25.10

LAUNCH DATE MAY 3 1971

FLIGHT TIME 246.00

ARRIVAL DATE JAN 4 1972

HELIOCENTRIC CONIC DISTANCE 578.061 EARTH TO MARS
 RL 150.80 LAL -.00 LOL 221.93 VL 32.297 GAL -2.28 AZL 89.13 MCA 185.05 SMA 185.08 ECC .18932 INC .8574 V1 29.547
 RP 219.43 LAP -.08 LOP 46.98 VP 22.194 GAP 2.18 AZP 90.86 TAL 345.56 TAP 170.61 RCA 150.04 APO 220.12 V2 25.048
 RC 182.871 GL 8.61 GP -18.75 ZAL 121.88 ZAP 66.48 ETS 170.60 ZAE 105.41 ETE 185.78 ZAC 83.69 ETC 271.62 LVI 8.00

PLANETOCENTRIC CONIC
 C3 10.619 VHL 3.259 DLA 1.74 RAL 342.15 RAD 6638.4 VEL 11.433 PTH 6.48 VHP 3.264 DPA -41.76 RAP 297.74 ECC 1.1748
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 18 34 3028.31 -32.08 92.35 195.51 127.23 16 9 2 2028.3 -15.35 73.18
 60.00 15 56 18 2927.92 -27.90 86.53 198.73 120.35 16 45 6 1927.9 -13.62 65.74
 70.00 16 46 29 2780.32 -24.14 76.76 200.93 114.93 17 32 49 1780.3 -12.01 54.94
 80.00 17 52 54 2572.32 -21.41 62.24 202.19 111.32 18 35 47 1572.3 -10.82 39.87
 90.00 19 13 32 2312.17 -20.39 43.53 202.60 110.03 19 52 4 1312.2 -10.37 20.98
 100.00 20 35 46 2046.79 -21.41 23.61 202.19 111.32 21 9 53 1046.8 -10.82 1.23
 110.00 21 45 55 1827.14 -24.14 5.68 200.93 114.93 22 16 22 827.1 -12.01 343.86

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.0688 TRA 1.7756 TC3-6.5600 BAW .9599 SGT 5618.3 SGR 1807.7 SG3 1403.5 ST 105.2 SR 41.1 SS 97.7
 RDE .4148 RRA .7179 RC3-1.6391 FAU .18116 RRT .9730 RRF .9992 RTF .9724 CRT .9996 CRS -.9988 CST -.9977
 FDE 3.4015 FRA 6.6157 FC-14.7701 BSP 9662 SGB 5902.0 R23 .2093 R13 .9771 LSA 149.3 MSA 4.9 SSA .7
 BDE 1.1464 BRA 1.9152 BC3 6.7616 FSP 2462 SG1 5888.5 S62 398.1 THA 17.47 EL1 112.9 EL2 1.1 ALF 21.35

LAUNCH DATE MAY 3 1971

FLIGHT TIME 248.00

ARRIVAL DATE JAN 6 1972

HELIOCENTRIC CONIC DISTANCE 582.209 EARTH TO MARS
 RL 150.80 LAL -.00 LOL 221.93 VL 32.304 GAL -2.36 AZL 89.63 MCA 186.17 SMA 185.18 ECC .19006 INC .3592 V1 29.547
 RP 219.80 LAP -.04 LOP 48.10 VP 22.158 GAP 2.02 AZP 90.37 TAL 345.16 TAP 171.33 RCA 149.99 APO 220.39 V2 25.007
 RC 185.475 GL 3.69 GP -15.42 ZAL 122.73 ZAP 64.71 ETS 171.62 ZAE 104.27 ETE 184.43 ZAC 87.03 ETC 271.57 LVI 5.01

PLANETOCENTRIC CONIC
 C3 10.609 VHL 3.257 DLA -2.61 RAL 344.52 RAD 6638.4 VEL 11.432 PTH 6.48 VHP 3.225 DPA -38.53 RAP 296.66 ECC 1.1746
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 43 53 2941.52 -28.39 87.36 196.51 129.93 16 32 54 1941.5 -11.09 69.33
 60.00 16 26 14 2828.88 -24.35 80.56 199.85 123.16 17 13 22 1828.9 -9.39 60.80
 70.00 17 21 32 2666.22 -20.68 69.71 202.19 117.80 18 5 59 1666.2 -7.80 48.79
 80.00 18 32 38 2443.64 -18.01 54.20 203.57 114.22 19 13 21 1443.6 -6.62 32.62
 90.00 19 55 17 2176.95 -17.01 35.05 204.03 112.94 20 31 34 1177.0 -6.18 13.26
 100.00 21 15 30 1918.12 -18.01 15.57 203.57 114.22 21 47 28 918.1 -6.62 353.99
 110.00 22 20 59 1713.04 -20.68 358.63 202.19 117.80 22 49 32 713.0 -7.80 337.71

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .9329 TRA 1.9215 TC3-6.7578 BAW .9773 SGT 5789.7 SGR 1467.3 SG3 1438.1 ST 96.7 SR 32.0 SS 91.7
 RDE .3170 RRA .5888 RC3-1.3444 FAU .18734 RRT .9745 RRF .9984 RTF .5.51 CRT .9986 CRS -.9969 CST -.9992
 FDE 3.1125 FRA 6.9063 FC-15.2875 BSP 9752 SGB 5972.8 R23 .2015 R13 .9779 LSA 137.0 MSA 3.1 SSA 1.3
 BDE .9852 BRA 2.0097 BC3 6.8902 FSP 2478 SG1 5864.2 S62 319.6 THA 13.91 EL1 101.8 EL2 1.6 ALF 18.26

LAUNCH DATE MAY 3 1971

FLIGHT TIME 250.00

ARRIVAL DATE JAN 8 1972

HELIOCENTRIC CONIC DISTANCE 586.349 EARTH TO MARS
 RL 150.80 LAL -.00 LOL 221.93 VL 32.311 GAL -2.43 AZL 89.97 MCA 187.29 SMA 185.31 ECC .19084 INC .0000 V1 29.547
 RP 220.18 LAP -.00 LOP 49.22 VP 22.182 GAP 1.87 AZP 90.03 TAL 344.74 TAP 172.03 RCA 149.95 APO 220.68 V2 24.966
 RC 188.089 GL .28 GP -13.04 ZAL 123.38 ZAP 63.16 ETS 172.38 ZAE 103.03 ETE 183.47 ZAC 89.41 ETC 271.53 LVI 2.87

PLANETOCENTRIC CONIC
 C3 10.748 VHL 3.278 DLA -5.53 RAL 346.34 RAD 6638.4 VEL 11.438 PTH 6.49 VHP 3.213 DPA -36.22 RAP 295.93 ECC 1.1788
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 1 51 2885.96 -25.93 84.37 197.79 131.40 16 49 57 1886.0 -8.33 66.94
 60.00 16 47 20 2785.01 -21.92 76.90 201.22 124.70 17 33 25 1765.0 -6.61 57.68
 70.00 17 46 9 2592.07 -18.27 65.32 203.66 119.37 18 29 21 1592.1 -5.01 44.87
 80.00 19 0 26 2359.50 -15.59 49.13 205.12 115.79 19 39 46 1359.5 -3.81 27.97
 90.00 20 24 29 2088.29 -14.58 29.68 205.61 114.50 20 59 18 1088.3 -3.35 8.28
 100.00 21 43 18 1833.97 -15.59 10.50 205.12 115.79 22 13 52 834.0 -3.81 349.33
 110.00 22 45 35 1638.89 -18.27 354.23 203.66 119.37 23 12 54 638.9 -5.01 333.79

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .8738 TRA 2.0733 TC3-6.7980 BAW .9889 SGT 5954.1 SGR 1224.8 SG3 1449.1 ST 94.1 SR 27.1 SS 90.4
 RDE .2706 RRA .5010 RC3-1.0811 FAU .18403 RRT .9715 RRF .9970 RTF .9742 CRT .9933 CRS -.9938 CST -.9997
 FDE 3.0299 FRA 7.1760 FC-14.8254 BSP 10174 SGB 6078.8 R23 .2041 R13 .9761 LSA 133.2 MSA 3.0 SSA 1.7
 BDE .9147 BRA 2.1330 BC3 6.8634 FSP 2583 SG1 6072.1 S62 284.9 THA 11.33 EL1 97.9 EL2 3.0 ALF 15.98

LAUNCH DATE MAY 3 1971

FLIGHT TIME 252.00

ARRIVAL DATE JAN 10 1972

HELIOCENTRIC CONIC										DISTANCE 590.358										EARTH TO MARS																																																																																				
RL	150.80	LAL	-.00	LQL	221.93	VL	32.318	GAL	-2.52	AZL	90.22	HCA	188.41	SMA	185.43	ECC	.19171	INC	.2020	V1	29.547	RP	220.55	LAP	.03	LOP	50.33	VP	22.086	GAP	1.74	AZP	89.78	TAL	344.23	TAP	172.64	RCA	149.88	APO	220.98	V2	24.925	RC	190.711	GL	-2.15	GP	-11.28	ZAL	124.03	ZAP	61.88	ETS	173.00	ZAE	101.89	ETE	182.81	ZAC	91.17	ETC	271.54	LVI	1.24																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	10.976	VHL	3.313	DLA	-7.51	RAL	347.94	RAD	6638.5	VEL	11.448	PTH	6.50	VHP	3.212	DPA	-34.48	RAP	295.59	ECC	1.1806	SGT	6272.8	SGR	1322.2	SG3	1813.7	ST	134.1	SR	41.1	SS	163.9	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																													
50.00	16	15	36	2850.59	-24.32	82.54	199.26	132.24	17	3	7	1850.6	-6.57	65.43	60.00	17	3	15	2723.86	-20.31	74.62	202.76	125.59	17	48	39	1723.9	-4.81	55.70	70.00	18	4	31	2543.73	-16.63	62.53	205.27	120.27	18	46	55	1543.7	-3.17	42.34	80.00	19	21	4	2304.08	-13.92	45.86	206.79	116.68	19	59	28	1304.1	-1.94	24.92	90.00	20	46	7	2029.66	-12.89	26.20	207.31	115.39	21	19	57	1029.7	-1.47	5.00	100.00	22	3	56	1778.55	-13.92	7.23	206.79	116.68	22	33	35	778.6	-1.94	346.28	110.00	23	3	57	1590.55	-16.63	351.44	205.27	120.27	23	30	28	590.6	-3.17	331.26
TDE	1.3152	TRA	2.7059	TC3	-5.2048	BAU	.7641	SGT	6272.8	SGR	1322.2	SG3	1813.7	ST	134.1	SR	41.1	SS	163.9	RDE	.4368	RRA	.6192	RC3	-.1567	FAU	.03209	RRT	.8651	RRF	.9964	RTF	.8742	CRT	.9879	CRS	-.9974	CST	-.9963	FDE	6.0631	FRA10	3.807	FC3	-2.5310	BSP	16798	SG8	6410.6	R23	.4622	R13	.8830	LSA	215.5	MSA	9.8	SSA	1.1	BDE	1.3859	BRA	2.7759	BC3	5.2072	FSP	5970	SG1	6377.3	SG2	652.4	THA	10.44	EL1	140.1	EL2	6.1	ALF	16.88																									

LAUNCH DATE MAY 3 1971

FLIGHT TIME 254.00

ARRIVAL DATE JAN 12 1972

HELIOCENTRIC CONIC										DISTANCE 594.619										EARTH TO MARS																																																																																				
RL	150.80	LAL	-.00	LQL	221.93	VL	32.328	GAL	-2.58	AZL	90.41	HCA	189.52	SMA	185.56	ECC	.19248	INC	.4059	V1	29.547	RP	220.93	LAP	.07	LOP	51.45	VP	22.050	GAP	1.56	AZP	89.59	TAL	343.90	TAP	173.42	RCA	149.84	APO	221.28	V2	24.884	RC	193.341	GL	-3.98	GP	-9.90	ZAL	124.39	ZAP	60.41	ETS	173.43	ZAE	100.45	ETE	182.24	ZAC	92.56	ETC	271.48	LVI	.04																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	11.172	VHL	3.342	DLA	-9.03	RAL	349.07	RAD	6638.6	VEL	11.457	PTH	6.51	VHP	3.228	DPA	-33.15	RAP	295.04	ECC	1.1839	SGT	6281.2	SGR	898.5	SG3	1429.0	ST	92.1	SR	21.0	SS	86.6	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																													
50.00	16	25	49	2823.73	-23.08	81.18	200.34	132.83	17	12	52	1823.7	-5.22	64.30	60.00	17	15	10	2692.48	-19.06	72.91	203.90	126.21	18	0	2	1692.5	-3.44	54.19	70.00	18	18	22	2506.68	-15.35	60.42	206.48	120.89	19	0	8	1506.7	-1.75	40.40	80.00	19	36	43	2261.38	-12.60	43.38	208.05	117.29	20	14	24	1261.4	-.49	22.37	90.00	21	2	34	1984.37	-11.56	23.55	208.59	115.99	21	35	39	984.4	-.01	2.48	100.00	22	19	35	1735.85	-12.60	4.75	208.05	117.29	22	48	31	735.9	-.49	343.94	110.00	23	17	48	1553.50	-15.35	349.34	206.48	120.89	23	43	41	553.5	-1.75	329.32
TDE	.8072	TRA	2.3203	TC3	-6.9071	BAU	1.0379	SGT	6281.2	SGR	898.5	SG3	1429.0	ST	92.1	SR	21.0	SS	86.6	RDE	.2181	RRA	.3686	RC3	-.7599	FAU	1.8007	RRT	.9639	RRF	.9909	RTF	.9741	CRT	.9698	CRS	-.9818	CST	-.9982	FDE	2.8461	FRA	7.3491	FC3	-13.9542	BSP	10626	SG8	6345.1	R23	.1901	R13	.9751	LSA	128.0	MSA	5.8	SSA	1.2	BDE	.8361	BRA	2.3494	BC3	6.9488	FSP	2563	SG1	6340.7	SG2	237.0	THA	7.86	EL1	94.3	EL2	5.0	ALF	12.52																									

LAUNCH DATE MAY 3 1971

FLIGHT TIME 256.00

ARRIVAL DATE JAN 14 1972

HELIOCENTRIC CONIC										DISTANCE 598.746										EARTH TO MARS																																																																																				
RL	150.80	LAL	-.00	LQL	221.93	VL	32.334	GAL	-2.66	AZL	90.56	HCA	190.63	SMA	185.69	ECC	.19334	INC	.5583	V1	29.547	RP	221.31	LAP	.10	LOP	52.56	VP	22.015	GAP	1.41	AZP	89.45	TAL	343.47	TAP	174.10	RCA	149.79	APO	221.59	V2	24.842	RC	195.978	GL	-5.39	GP	-8.80	ZAL	124.88	ZAP	59.16	ETS	173.81	ZAE	99.15	ETE	181.82	ZAC	93.66	ETC	271.48	LVI	-.95																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	11.415	VHL	3.379	DLA	-10.10	RAL	350.16	RAD	6638.8	VEL	11.467	PTH	6.52	VHP	3.245	DPA	-32.08	RAP	294.77	ECC	1.1879	SGT	6440.1	SGR	787.0	SG3	1411.0	ST	93.3	SR	19.4	SS	86.1	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																													
50.00	16	34	14	2806.59	-22.29	80.32	201.53	133.19	17	21	1	1806.6	-4.36	63.58	60.00	17	24	49	2672.09	-18.23	71.82	205.14	126.59	18	9	21	1672.1	-2.54	53.21	70.00	18	29	25	2482.17	-14.49	59.05	207.77	121.27	19	10	47	1482.2	-.82	39.12	80.00	19	49	6	2232.74	-11.70	41.73	209.39	117.67	20	26	18	1232.7	.48	21.00	90.00	21	15	33	1953.82	-10.64	21.77	209.94	116.36	21	48	7	953.8	.98	.77	100.00	22	31	58	1707.21	-11.70	3.10	209.39	117.67	23	0	25	707.2	.48	342.37	110.00	23	28	51	1528.99	-14.49	347.98	207.77	121.27	23	54	20	529.0	-.82	328.04
TDE	.8048	TRA	2.4458	TC3	-6.9201	BAU	1.0608	SGT	6440.1	SGR	787.0	SG3	1411.0	ST	93.3	SR	19.4	SS	86.1	RDE	.2088	RRA	.3216	RC3	-.6441	FAU	1.7549	RRT	.9565	RRF	.9854	RTF	.9742	CRT	.9533	CRS	-.9733	CST	-.9989	FDE	2.8252	FRA	7.4085	FC3	-13.3093	BSP	10948	SG8	6488.0	R23	.1830	R13	.9740	LSA	128.2	MSA	7.1	SSA	1.1	BDE	.8309	BRA	2.4667	BC3	6.9500	FSP	2569	SG1	6484.0	SG2	228.1	THA	6.67	EL1	95.1	EL2	5.8	ALF	11.27																									

LAUNCH DATE MAY 3 1971

FLIGHT TIME 258.00

ARRIVAL DATE JAN 16 1972

HELIOCENTRIC CONIC										DISTANCE 602.872										EARTH TO MARS																																																																																				
RL	150.80	LAL	-.00	LQL	221.93	VL	32.341	GAL	-2.74	AZL	90.69	HCA	191.73	SMA	185.82	ECC	.19422	INC	.6827	V1	29.547	RP	221.69	LAP	.14	LOP	53.66	VP	21.979	GAP	1.26	AZP	89.33	TAL	343.04	TAP	174.77	RCA	149.73	APO	221.91	V2	24.801	RC	198.621	GL	-6.50	GP	-7.92	ZAL	125.37	ZAP	57.96	ETS	174.13	ZAE	97.87	ETE	181.49	ZAC	94.55	ETC	271.47	LVI	-1.77																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	11.867	VHL	3.416	DLA	-10.90	RAL	351.14	RAD	6638.9	VEL	11.478	PTH	6.53	VHP	3.266	DPA	-31.20	RAP	294.58	ECC	1.1920	SGT	6596.1	SGR	695.2	SG3	1386.4	ST	94.1	SR	18.0	SS	84.0	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																													
50.00	16	41	10	2795.10	-21.75	79.76	202.66	133.42	17	27	45	1795.1	-3.79	63.09	60.00	17	32	40	2658.14	-17.66	71.08	206.31	126.83	18	16	58	1658.1	-1.93	52.55	70.00	18	38	20	2465.10	-13.88	58.09	208.98	121.52	19	19	25	1465.1	-.17	38.23	80.00	19	59	1	2212.52	-11.06	40.57	210.63	117.91	20	35	54	1212.5	1.17	19.89	90.00	21	25	56	1932.13	-9.98	20.52	211.20	116.60	21	58	8	932.1	1.68	359.56	100.00	22	41	53	1686.99	-11.06	1.94	210.63	117.91	23	10	0	687.0	1.17	341.26	110.00	23	37	46	1511.92	-13.88	347.01	208.98	121.52	24	2	58	511.9	-.17	327.15
TDE	.8008	TRA	2.5568	TC3	-6.9634	BAU	1.0897	SGT	6596.1	SGR	695.2	SG3	1386.4	ST	94.1	SR	18.0	SS	84.0	RDE	.1965	RRA	.2786	RC3	-.5636	FAU	1.7420	RRT	.9491	RRF	.9774	RTF	.9745	CRT	.9337	CRS	-.9614	CST	-.9959	FDE	2.7407	FRA	7.3671	FC3	-12.9263	BSP	11128	SG8	6632.7	R23	.1634	R13	.9751	LSA	127.2	MSA	8.0	SSA	1.1	BDE	.8246	BRA	2.5719	BC3	6.9861	FSP	2489	SG1	6629.1	SG2	217.8	THA	5.72	EL1	95.6	EL2	6.3	ALF	10.16																									

LAUNCH DATE MAY 3 1971

FLIGHT TIME 260.00

ARRIVAL DATE JAN 18 1972

HELIOCENTRIC CONIC

RL 150.80 LAL -.00 LOL 221.93 VL 32.349 GAL -2.82 AZL 90.79 HCA 192.83 SMA 185.96 ECC .19313 INC .7865 V1 29.547
 RP 222.07 LAP .17 LOP 54.78 VP 21.944 GAP 1.10 AZP 89.23 TAL 342.60 TAP 175.43 RCA 149.67 APO 222.24 V2 24.759
 RC 201.270 GL -7.39 GP -7.18 ZAL 125.86 ZAP 96.82 ETS 174.40 ZAE 96.61 ETE 181.23 ZAC 95.28 ETC 271.48 LVI -2.45

PLANETOCENTRIC CONIC

C3 11.926 VHL 3.453 DLA -11.48 RAL 352.03 RAD 6639.0 VEL 11.489 PTH 6.54 VHP 3.290 DPA -30.47 RAP 294.46 ECC 1.1863
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 46 59 2787.00 -21.41 79.40 203.73 133.56 17 33 27 1787.6 -3.42 62.79
 60.00 17 39 11 2649.01 -17.29 70.59 207.42 126.99 18 23 20 1649.0 -1.52 52.11
 70.00 18 45 36 2453.63 -13.47 57.46 210.13 121.69 19 26 32 1453.6 .27 37.63
 80.00 20 7 6 2190.64 -10.61 39.78 211.81 118.07 20 43 44 1198.6 1.64 19.13
 90.00 21 34 21 1917.13 -9.52 19.66 212.38 116.75 22 6 10 917.1 2.16 350.72
 100.00 22 49 58 1673.11 -10.81 1.15 211.81 118.07 23 17 51 673.1 1.64 340.50
 110.00 23 45 5 1500.44 -13.47 346.37 210.13 121.69 24 10 5 500.4 .27 326.55

DIFFERENTIAL CORRECTIONS

TDE .8163 TRA 2.6797 TC3-6.9829 BAU 1.1129
 RDE .1922 RRA .2439 RC3 -.4901 FAU .16998
 FDE 2.7228 FRA 7.3642 FC-12.3375 B8P 11455
 BDE .8386 BRA 2.6907 BC3 6.9801 F8P 2462

DISTANCE 606.991

SGT 6746.6 SGR 622.0 SG3 1361.9
 RRT .9371 RRF .9863 RTF .9745
 SGB 8777.2 R23 .1497 R13 .9749
 SG1 6773.7 SG2 216.3 THA 4.94

EARTH TO MARS

ST 96.3 SR 17.1 SS 83.4
 CRT .9134 CR8 -.9489 CST -.9949
 LSA 128.2 MSA 8.9 S8A 1.1
 EL1 97.5 EL2 6.9 ALF 9.27

LAUNCH DATE MAY 3 1971

FLIGHT TIME 262.00

ARRIVAL DATE JAN 20 1972

HELIOCENTRIC CONIC

RL 150.80 LAL -.00 LOL 221.93 VL 32.358 GAL -2.90 AZL 90.87 HCA 193.93 SMA 186.10 ECC .19607 INC .8710 V1 29.547
 RP 222.46 LAP .21 LOP 55.86 VP 21.909 GAP .95 AZP 89.15 TAL 342.16 TAP 176.09 RCA 149.61 APO 222.58 V2 24.717
 RC 203.922 GL -8.11 GP -6.56 ZAL 126.35 ZAP 55.73 ETS 174.63 ZAE 95.37 ETE 181.01 ZAC 95.90 ETC 271.50 LVI -3.04

PLANETOCENTRIC CONIC

C3 12.191 VHL 3.492 DLA -11.92 RAL 352.85 RAD 6639.2 VEL 11.501 PTH 6.55 VHP 3.315 DPA -29.86 RAP 294.40 ECC 1.2006
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 51 57 2783.67 -21.22 79.20 204.75 133.64 17 38 21 1783.7 -3.22 62.62
 60.00 17 44 39 2643.52 -17.07 70.30 208.48 127.08 18 28 43 1643.5 -1.28 51.85
 70.00 18 51 42 2446.38 -13.21 57.06 211.22 121.79 19 32 29 1446.4 .55 37.25
 80.00 20 13 44 2189.59 -10.32 39.27 212.92 118.17 20 50 14 1189.6 1.94 18.63
 90.00 21 41 16 1907.23 -9.22 19.09 213.51 116.85 22 13 3 907.2 2.48 358.17
 100.00 22 56 36 1664.06 -10.32 .63 212.92 118.17 23 24 20 664.1 1.94 340.00
 110.00 23 51 9 1493.19 -13.21 345.97 211.22 121.79 24 16 2 493.2 .55 326.17

DIFFERENTIAL CORRECTIONS

TDE .8285 TRA 2.7931 TC3-6.9860 BAU 1.1408
 RDE .1895 RRA .2129 RC3 -.4323 FAU .16662
 FDE 2.6893 FRA 7.3274 FC-11.8327 B8P 11665
 BDE .8499 BRA 2.8012 BC3 6.9994 F8P 2406

DISTANCE 611.106

SGT 6898.7 SGR 561.6 SG3 1335.1
 RRT .9211 RRF .9513 RTF .9745
 SGB 8921.5 R23 .1358 R13 .9748
 SG1 6918.0 SG2 218.0 THA 4.29

EARTH TO MARS

ST 98.0 SR 16.5 SS 82.4
 CRT .8907 CR8 -.9344 CST -.9939
 LSA 128.8 MSA 9.7 S8A 1.1
 EL1 99.1 EL2 7.4 ALF 8.55

LAUNCH DATE MAY 3 1971

FLIGHT TIME 264.00

ARRIVAL DATE JAN 22 1972

HELIOCENTRIC CONIC

RL 150.80 LAL -.00 LOL 221.93 VL 32.366 GAL -2.98 AZL 90.95 HCA 195.02 SMA 186.24 ECC .19703 INC .9442 V1 29.547
 RP 222.84 LAP .25 LOP 56.95 VP 21.875 GAP .80 AZP 89.09 TAL 341.71 TAP 176.74 RCA 149.54 APO 222.93 V2 24.675
 RC 206.578 GL -8.69 GP -6.03 ZAL 126.85 ZAP 54.68 ETS 174.83 ZAE 94.15 ETE 180.83 ZAC 96.42 ETC 271.52 LVI -3.56

PLANETOCENTRIC CONIC

C3 12.481 VHL 3.530 DLA -12.23 RAL 353.62 RAD 6639.3 VEL 11.512 PTH 6.56 VHP 3.342 DPA -29.32 RAP 294.39 ECC 1.2051
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 56 14 2782.00 -21.14 79.12 205.74 133.67 17 42 36 1782.0 -3.13 62.55
 60.00 17 49 19 2640.85 -16.96 70.16 209.50 127.12 18 33 20 1640.9 -1.17 51.72
 70.00 18 56 48 2442.43 -13.07 56.84 212.26 121.84 19 37 31 1442.4 .70 37.05
 80.00 20 19 16 2184.32 -10.15 38.97 213.98 118.23 20 55 40 1184.3 2.12 18.34
 90.00 21 46 59 1901.34 -9.04 18.75 214.58 116.91 22 18 40 901.3 2.67 357.84
 100.00 23 2 8 1658.80 -10.15 .33 213.98 118.23 23 29 46 658.8 2.12 339.71
 110.00 0 0 11 1489.25 -13.07 345.76 212.26 121.84 0 25 0 489.2 .70 325.97

DIFFERENTIAL CORRECTIONS

TDE .8492 TRA 2.9109 TC3-6.9941 BAU 1.1669
 RDE .1890 RRA .1859 RC3 -.3834 FAU .16280
 FDE 2.6713 FRA 7.2926 FC-11.3103 B8P 11925
 BDE .8700 BRA 2.9168 BC3 7.0046 F8P 2362

DISTANCE 615.215

SGT 7046.5 SGR 512.5 SG3 1308.2
 RRT .9005 RRF .9318 RTF .5.44
 SGB 7085.1 R23 .1231 R13 .9746
 SG1 7081.6 SG2 222.4 THA 3.75

EARTH TO MARS

ST 100.3 SR 16.0 SS 81.7
 CRT .8683 CR8 -.9194 CST -.9931
 LSA 130.0 MSA 10.3 S8A 1.1
 EL1 101.3 EL2 7.9 ALF 7.95

LAUNCH DATE MAY 3 1971

FLIGHT TIME 266.00

ARRIVAL DATE JAN 24 1972

HELIOCENTRIC CONIC

RL 150.80 LAL -.00 LOL 221.93 VL 32.378 GAL -3.07 AZL 91.01 HCA 196.11 SMA 186.38 ECC .19801 INC 1.0080 V1 29.547
 RP 223.23 LAP .28 LOP 58.04 VP 21.840 GAP .85 AZP 89.03 TAL 341.26 TAP 177.37 RCA 149.48 APO 223.29 V2 24.633
 RC 209.236 GL -9.18 GP -5.58 ZAL 127.35 ZAP 53.66 ETS 175.01 ZAE 92.96 ETE 180.68 ZAC 96.87 ETC 271.54 LVI -4.02

PLANETOCENTRIC CONIC

C3 12.738 VHL 3.569 DLA -12.45 RAL 354.35 RAD 6639.4 VEL 11.524 PTH 6.57 VHP 3.370 DPA -28.86 RAP 294.43 ECC 1.2096
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 59 59 2782.27 -21.15 79.13 206.69 133.67 17 46 22 1782.3 -3.14 62.56
 60.00 17 53 20 2640.43 -16.94 70.14 210.48 127.13 18 37 20 1640.4 -1.15 51.70
 70.00 19 1 8 2441.11 -13.02 56.76 213.27 121.86 19 41 49 1441.1 .75 36.98
 80.00 20 23 53 2182.07 -10.08 38.84 215.00 118.25 21 0 15 1182.1 2.20 18.22
 90.00 21 51 44 1898.65 -8.95 18.60 215.60 116.94 22 23 22 898.7 2.75 357.69
 100.00 23 6 45 1656.58 -10.08 .21 215.00 118.25 23 34 21 656.5 2.20 339.59
 110.00 0 4 30 1487.92 -13.02 345.68 213.27 121.86 0 29 18 487.9 .75 325.90

DIFFERENTIAL CORRECTIONS

TDE .8766 TRA 3.0321 TC3-6.9895 BAU 1.1916
 RDE .1901 RRA .1620 RC3 -.3415 FAU .15858
 FDE 2.6635 FRA 7.2581 FC-10.7780 B8P 12213
 BDE .8970 BRA 3.0364 BC3 6.9978 F8P 2322

DISTANCE 619.318

SGT 7191.7 SGR 472.7 SG3 1281.1
 RRT .8746 RRF .9071 RTF .9742
 SGB 7207.2 R23 .1119 R13 .9744
 SG1 7203.5 SG2 228.8 THA 3.29

EARTH TO MARS

ST 102.9 SR 15.8 SS 81.3
 CRT .8466 CR8 -.9043 CST -.9925
 LSA 131.6 MSA 10.9 S8A 1.1
 EL1 103.8 EL2 8.3 ALF 7.44

LAUNCH DATE MAY 3 1971

FLIGHT TIME 268.00

ARRIVAL DATE JAN 26 1972

HELIOCENTRIC CONIC
 RL 150.80 LAL -.00 LOL 221.93 VL 32.303 GAL -3.15 AZL 91.06 HCA 197.20 SMA 186.53 ECC .19902 INC 1.0633 V1 29.547
 RP 223.62 LAP .31 LOP 59.13 VP 21.806 GAP .50 AZP 88.98 TAL 340.81 TAP 178.01 RCA 149.41 APO 223.65 V2 24.592
 RC 211.896 GL -9.58 GP -5.10 ZAL 127.86 ZAP 52.69 ETS 175.17 ZAE 91.79 ETE 180.55 ZAC 97.26 ETC 271.58 LVI -4.44

DISTANCE 623.416
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 13.020 VHL 3.608 DLA -12.59 RAL 355.04 RAD 6839.6 VEL 11.536 PTH 6.58 VHP 3.399 DPA -28.45 RAP 294.50 ECC 1.2143
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 3 18 2784.11 -21.24 79.22 207.62 133.63 17 49 43 1784.1 -3.24 62.63
 60.00 17 86 49 2641.81 -17.00 70.22 211.44 127.11 18 40 51 1641.8 -1.21 51.77
 70.00 19 4 49 2441.90 -13.05 56.81 214.24 121.85 19 45 31 1441.9 .72 37.02
 80.00 20 27 46 2182.26 -10.09 38.85 215.99 118.25 21 4 8 1182.3 2.19 18.23
 90.00 21 55 42 1898.55 -8.95 18.59 216.59 116.94 22 27 21 898.6 2.76 357.68
 100.00 23 10 37 1656.73 -10.09 .22 215.99 118.25 23 38 14 656.7 2.19 339.60
 110.00 0 8 11 1488.72 -13.05 345.73 214.24 121.85 0 33 0 488.7 .72 325.94

DIFFERENTIAL CORRECTIONS
 TDE .9061 TRA 3.1524 TC3-6.9853 BAU 1.2170 SGT 7334.0 SGR 440.6 SG3 1253.5 ST 105.6 SR 15.6 SS 80.8
 RDE .1922 RRA .1402 RC3 -.3063 FAU .15443 RRT .8430 RRF .8768 RTF .9739 CRT .8255 CRS -.8893 CST -.9919
 FDE 2.6574 FRA 7.2142 FC-10.2689 BSP 12463 SGB 7347.3 R23 .1021 R13 .9741 LSA 133.4 MSA 11.5 SBA 1.1
 BDE .9263 BRA 3.1555 BC3 6.9920 FSP 2279 SG1 7343.4 SG2 236.7 THA 2.90 EL1 106.4 EL2 8.8 ALF 7.02

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 3 1971

FLIGHT TIME 270.00

ARRIVAL DATE JAN 28 1972

HELIOCENTRIC CONIC
 RL 150.80 LAL -.00 LOL 221.93 VL 32.392 GAL -3.24 AZL 91.11 HCA 198.28 SMA 186.68 ECC .20005 INC 1.1118 V1 29.547
 RP 224.01 LAP .35 LOP 60.21 VP 21.771 GAP .34 AZP 88.94 TAL 340.35 TAP 178.63 RCA 149.33 APO 224.02 V2 24.550
 RC 214.558 GL -9.91 GP -4.83 ZAL 128.37 ZAP 51.74 ETS 175.32 ZAE 90.64 ETE 180.44 ZAC 97.60 ETC 271.62 LVI -4.82

DISTANCE 627.509
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 13.308 VHL 3.648 DLA -12.67 RAL 355.71 RAD 6639.7 VEL 11.549 PTH 6.59 VHP 3.429 DPA -28.08 RAP 294.62 ECC 1.2190
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 6 16 2787.23 -21.38 79.37 208.53 133.57 17 52 43 1787.2 -3.39 62.76
 60.00 17 59 52 2644.68 -17.11 70.37 212.36 127.06 18 43 57 1644.7 -1.33 51.90
 70.00 19 7 59 2444.44 -13.14 56.95 215.18 121.81 19 48 43 1444.4 .62 37.15
 80.00 20 31 2 2184.45 -10.16 38.97 216.94 118.23 21 7 27 1184.5 2.12 18.35
 90.00 21 59 2 1900.58 -9.01 18.71 217.55 116.92 22 30 42 900.6 2.69 357.80
 100.00 23 13 54 1658.92 -10.16 .34 216.94 118.23 23 41 33 658.9 2.12 339.72
 110.00 0 11 21 1491.26 -13.14 345.87 215.18 121.81 0 36 12 491.3 .62 326.07

DIFFERENTIAL CORRECTIONS
 TDE .9362 TRA 3.2721 TC3-6.9839 BAU 1.2435 SGT 7474.7 SGR 413.1 SG3 1226.1 ST 108.2 SR 15.6 SS 80.2
 RDE .1951 RRA .1204 RC3 -.2767 FAU .15051 RRT .8060 RRF .8408 RTF .9736 CRT .8050 CRS -.8743 CST -.9915
 FDE 2.6470 FRA 7.1659 FC3-9.7912 BSP 12726 SGB 7486.2 R23 .0934 R13 .9738 LSA 135.0 MSA 12.0 SBA 1.1
 BDE .9563 BRA 3.2743 BC3 6.9894 FSP 2232 SG1 7482.2 SG2 245.5 THA 2.57 EL1 108.9 EL2 9.2 ALF 6.87

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 3 1971

FLIGHT TIME 272.00

ARRIVAL DATE JAN 30 1972

HELIOCENTRIC CONIC
 RL 150.80 LAL -.00 LOL 221.93 VL 32.401 GAL -3.33 AZL 91.18 HCA 199.36 SMA 186.83 ECC .20110 INC 1.1553 V1 29.547
 RP 224.40 LAP .38 LOP 61.29 VP 21.737 GAP .19 AZP 88.91 TAL 339.89 TAP 179.25 RCA 149.26 APO 224.40 V2 24.508
 RC 217.222 GL -10.19 GP -4.53 ZAL 128.89 ZAP 50.83 ETS 175.45 ZAE 89.51 ETE 180.35 ZAC 97.90 ETC 271.67 LVI -5.17

DISTANCE 631.597
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 13.602 VHL 3.688 DLA -12.70 RAL 356.35 RAD 6639.9 VEL 11.561 PTH 6.61 VHP 3.459 DPA -27.75 RAP 294.77 ECC 1.2239
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 8 55 2791.41 -21.58 79.58 209.42 133.49 17 55 27 1791.4 -3.60 62.94
 60.00 18 2 34 2648.77 -17.28 70.58 213.27 126.99 18 46 42 1648.8 -1.51 52.10
 70.00 19 10 43 2448.41 -13.28 57.17 216.11 121.76 19 51 31 1448.4 .47 37.36
 80.00 20 33 49 2188.30 -10.28 39.19 217.87 118.19 21 10 17 1188.3 1.99 18.56
 90.00 22 1 49 1904.37 -9.13 18.92 218.48 116.88 22 33 33 904.4 2.57 358.01
 100.00 23 16 40 1662.77 -10.28 .56 217.87 118.19 23 44 23 662.8 1.99 339.93
 110.00 0 14 5 1495.23 -13.28 346.09 216.11 121.76 0 39 0 495.2 .47 326.28

DIFFERENTIAL CORRECTIONS
 TDE .9714 TRA 3.3948 TC3-6.9720 BAU 1.2887 SGT 7612.5 SGR 395.4 SG3 1198.7 ST 111.0 SR 15.6 SS 79.7
 RDE .1990 RRA .1022 RC3 -.2510 FAU .14635 RRT .7637 RRF .7997 RTF .533 CRT .7863 CRS -.8604 CST -.9911
 FDE 2.6441 FRA 7.1156 FC3-9.3149 BSP 12994 SGB 7622.8 R23 .0860 R13 .9734 LSA 137.0 MSA 12.5 SBA 1.1
 BDE .9916 BRA 3.3963 BC3 6.9765 FSP 2191 SG1 7618.5 SG2 255.0 THA 2.27 EL1 111.7 EL2 9.6 ALF 6.37

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 3 1971

FLIGHT TIME 274.00

ARRIVAL DATE FEB 1 1972

HELIOCENTRIC CONIC
 RL 150.80 LAL -.00 LOL 221.93 VL 32.410 GAL -3.42 AZL 91.19 HCA 200.44 SMA 186.98 ECC .20218 INC 1.1939 V1 29.547
 RP 224.79 LAP .42 LOP 62.36 VP 21.703 GAP .04 AZP 88.88 TAL 339.42 TAP 179.86 RCA 149.18 APO 224.79 V2 24.466
 RC 219.886 GL -10.42 GP -4.25 ZAL 129.40 ZAP 49.95 ETS 175.57 ZAE 88.41 ETE 180.26 ZAC 98.17 ETC 271.72 LVI -5.50

DISTANCE 635.678
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 13.904 VHL 3.729 DLA -12.88 RAL 356.98 RAD 6640.0 VEL 11.574 PTH 6.62 VHP 3.490 DPA -27.44 RAP 294.95 ECC 1.2288
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 11 20 2796.49 -21.82 79.83 210.29 133.39 17 57 56 1796.5 -3.86 63.15
 60.00 18 4 57 2653.89 -17.49 70.85 214.16 126.91 18 49 11 1653.9 -1.74 52.34
 70.00 19 13 5 2453.59 -13.47 57.45 217.01 121.69 19 53 59 1453.6 .27 37.63
 80.00 20 36 10 2193.54 -10.45 39.49 218.78 118.13 21 12 43 1193.5 1.81 18.85
 90.00 22 4 10 1909.64 -9.29 19.23 219.59 116.83 22 35 59 909.6 2.40 358.30
 100.00 23 19 2 1668.01 -10.45 .86 218.78 118.13 23 46 50 668.0 1.81 340.22
 110.00 0 16 27 1500.41 -13.47 346.37 217.01 121.69 0 41 28 500.4 .27 326.55

DIFFERENTIAL CORRECTIONS
 TDE 1.0080 TRA 3.5183 TC3-6.9587 BAU 1.2942 SGT 7748.4 SGR 380.7 SG3 1171.7 ST 113.9 SR 15.8 SS 79.3
 RDE .2035 RRA .0854 RC3 -.2288 FAU .14222 RRT .7171 RRF .7541 RTF .9728 CRT .7690 CRS -.8473 CST -.9908
 FDE 2.6421 FRA 7.0644 FC3-8.8557 BSP 13246 SGB 7757.7 R23 .0799 R13 .9729 LSA 139.1 MSA 12.9 SBA 1.1
 BDE 1.0284 BRA 3.5194 BC3 6.9625 FSP 2147 SG1 7753.2 SG2 265.2 THA 2.02 EL1 114.5 EL2 10.0 ALF 6.12

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 4 1971

FLIGHT TIME 104.00

ARRIVAL DATE AUG 16 1971

HELIOCENTRIC CONIC												DISTANCE 303.397												EARTH TO MARS																																																																																															
RL	150.83	LAL	.00	LOL	222.90	VL	35.199	GAL	-3.12	AZL	91.87	HCA	97.70	SMA	254.84	ECC	.41114	INC	1.8662	V1	29.940	RP	207.27	LAP	-1.85	LOP	320.80	VP	27.565	GAP	21.89	AZP	89.75	TAL	349.28	TAP	86.98	RCA	150.07	APO	359.62	V2	26.426	RC	56.362	GL	-10.69	GP	.49	ZAL	112.33	ZAP	175.53	ETS	173.59	ZAE	174.50	ETE	83.10	ZAC	100.76	ETC	277.38	LVI	-17.97																																																						
PLANETOCENTRIC CONIC												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																																																																																															
C3	38.071	VHL	6.170	DLA	-19.35	RAL	341.59	RAD	6650.0	VEL	12.968	PTH	7.44	VHP	10.895	DPA	-17.29	RAP	319.04	ECC	1.6266	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SGT	1147.1	SGR	584.4	SG3	115.9	ST	27.7	SR	26.8	SS	16.5	RDE	-.5737	RRA	.2224	RC3	.0803	FAU	.03425	RRT	.0153	RRF	-.0166	RTF	-.6769	CRT	.7455	CRS	.5254	CST	.9559	FDE	.2365	FRA	.9246	FC3	-.7789	BSP	1719	SGB	1287.4	R23	-.0027	R13	-.6769	LSA	38.6	MSA	16.5	SSA	1.1	BDE	.7545	BRA	1.0927	BC3	.0815	FSP	144	SG1	1147.2	SG2	584.3	THA	.60	EL1	36.0	EL2	13.7	ALF	43.80

LAUNCH DATE MAY 4 1971

FLIGHT TIME 106.00

ARRIVAL DATE AUG 18 1971

HELIOCENTRIC CONIC												DISTANCE 305.449												EARTH TO MARS																																																																																															
RL	150.83	LAL	.00	LOL	222.90	VL	35.013	GAL	-3.01	AZL	91.87	HCA	98.96	SMA	248.61	ECC	.39626	INC	1.8708	V1	29.940	RP	207.18	LAP	-1.85	LOP	321.87	VP	27.338	GAP	21.38	AZP	89.71	TAL	349.36	TAP	88.32	RCA	150.10	APO	347.13	V2	26.438	RC	56.568	GL	-11.01	GP	.51	ZAL	112.33	ZAP	174.66	ETS	174.47	ZAE	174.34	ETE	74.10	ZAC	100.73	ETC	277.46	LVI	-18.10																																																						
PLANETOCENTRIC CONIC												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																																																																																															
C3	35.718	VHL	5.976	DLA	-19.64	RAL	341.74	RAD	6649.2	VEL	12.475	PTH	7.37	VHP	10.948	DPA	-17.16	RAP	319.43	ECC	1.5878	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SGT	1175.7	SGR	585.3	SG3	124.1	ST	28.3	SR	26.9	SS	17.1	RDE	-.5561	RRA	.2147	RC3	.0862	FAU	.03537	RRT	.0168	RRF	-.0184	RTF	-.6883	CRT	.7446	CRS	.5191	CST	.9542	FDE	.2426	FRA	.9620	FC3	-.8572	BSP	1779	SGB	1313.3	R23	-.0030	R13	-.6883	LSA	39.2	MSA	16.8	SSA	1.1	BDE	.7379	BRA	1.0823	BC3	.0862	FSP	157	SG1	1175.7	SG2	585.2	THA	.64	EL1	36.5	EL2	13.9	ALF	42.94

LAUNCH DATE MAY 4 1971

FLIGHT TIME 108.00

ARRIVAL DATE AUG 20 1971

HELIOCENTRIC CONIC												DISTANCE 307.717												EARTH TO MARS																																																																																															
RL	150.83	LAL	.00	LOL	222.90	VL	34.838	GAL	-2.91	AZL	91.88	HCA	100.23	SMA	243.04	ECC	.38227	INC	1.8755	V1	29.940	RP	207.09	LAP	-1.85	LOP	323.13	VP	27.123	GAP	20.78	AZP	89.67	TAL	349.46	TAP	89.69	RCA	150.13	APO	335.94	V2	26.448	RC	56.856	GL	-11.34	GP	.52	ZAL	112.30	ZAP	173.78	ETS	175.11	ZAE	174.07	ETE	66.02	ZAC	100.69	ETC	277.54	LVI	-18.22																																																						
PLANETOCENTRIC CONIC												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																																																																																															
C3	33.558	VHL	5.793	DLA	-19.94	RAL	341.87	RAD	6648.4	VEL	12.388	PTH	7.30	VHP	10.213	DPA	-17.03	RAP	319.80	ECC	1.5923	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SGT	1202.6	SGR	585.8	SG3	132.8	ST	28.9	SR	26.9	SS	17.7	RDE	-.5390	RRA	.2072	RC3	.0923	FAU	.03654	RRT	.0181	RRF	-.0201	RTF	-.6998	CRT	.7432	CRS	.5113	CST	.9324	FDE	.2481	FRA	1.0008	FC3	-.9428	BSP	1877	SGB	1337.6	R23	-.0035	R13	-.6998	LSA	39.7	MSA	17.0	SSA	1.1	BDE	.7209	BRA	1.0708	BC3	.0929	FSP	170	SG1	1202.6	SG2	585.7	THA	.66	EL1	36.9	EL2	14.1	ALF	42.17

LAUNCH DATE MAY 4 1971

FLIGHT TIME 110.00

ARRIVAL DATE AUG 22 1971

HELIOCENTRIC CONIC												DISTANCE 310.174												EARTH TO MARS																																																																																															
RL	150.83	LAL	.00	LOL	222.90	VL	34.672	GAL	-2.81	AZL	91.88	HCA	101.49	SMA	238.02	ECC	.36912	INC	1.8803	V1	29.940	RP	207.01	LAP	-1.84	LOP	324.40	VP	26.919	GAP	20.39	AZP	89.63	TAL	349.57	TAP	91.06	RCA	150.16	APO	325.88	V2	26.457	RC	57.225	GL	-11.67	GP	.54	ZAL	112.24	ZAP	172.89	ETS	175.60	ZAE	173.73	ETE	59.02	ZAC	100.66	ETC	277.62	LVI	-18.34																																																						
PLANETOCENTRIC CONIC												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																																																																																															
C3	31.574	VHL	5.619	DLA	-20.26	RAL	341.98	RAD	6647.6	VEL	12.308	PTH	7.24	VHP	9.890	DPA	-16.90	RAP	320.17	ECC	1.5196	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SGT	1231.4	SGR	585.8	SG3	142.1	ST	29.6	SR	26.8	SS	18.3	RDE	-.5224	RRA	.1998	RC3	.0987	FAU	.03780	RRT	.0208	RRF	-.0223	RTF	-.7102	CRT	.7429	CRS	.5047	CST	.9502	FDE	.2543	FRA	1.0415	FC3	-1.0364	BSP	1896	SGB	1363.6	R23	-.0032	R13	-.7102	LSA	40.4	MSA	17.3	SSA	1.1	BDE	.7059	BRA	1.0604	BC3	.1016	FSP	185	SG1	1231.4	SG2	585.7	THA	.73	EL1	37.3	EL2	14.2	ALF	41.28

LAUNCH DATE MAY 4 1971

FLIGHT TIME 112.00

ARRIVAL DATE AUG 24 1971

Heliocentric Conic: RL 150.83 LAL .00 LOL 222.90 VL 34.516 GAL -2.70 AZL 91.89 HCA 102.76 SMA 233.80 ECC .35877 INC 1.8851 V1 29.840
 RP 206.94 LAP -1.84 LOP 325.66 VP 26.726 GAP 19.90 AZP 89.58 TAL 349.69 TAP 92.45 RCA 150.19 APO 316.00 V2 26.466
 RC 57.675 GL -12.00 GP .56 ZAL 112.17 ZAP 171.98 ETS 175.98 ZAE 173.34 ETE 53.07 ZAC 100.63 ETC 277.70 LVI -18.46

PLANETOCENTRIC CONIC
 C3 29.752 VHL 5.455 DLA -20.58 RAL 342.07 RAD 6646.9 VEL 12.235 PTH 7.18 VHP 9.578 DPA -16.77 RAP 320.52 ECC 1.4896
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 40 44 2813.51 -22.61 80.67 204.52 133.05 17 27 38 1813.5 -4.71 63.87
 60.00 17 45 8 2642.35 -17.02 70.24 209.51 127.10 18 29 8 1642.4 -1.23 51.79
 70.00 19 6 34 2402.85 -11.64 54.67 213.36 122.34 19 46 37 1402.9 2.21 34.98
 80.00 20 43 46 2098.63 -7.36 34.14 215.93 119.02 21 18 45 1098.6 5.01 13.62
 90.00 22 18 49 1792.09 -5.62 12.55 216.88 117.78 22 48 41 792.1 6.15 351.70
 100.00 23 26 38 1573.10 -7.36 355.51 215.93 119.02 23 52 51 573.1 5.01 334.99
 110.00 0 9 56 1449.67 -11.64 343.58 213.36 122.34 0 34 6 449.7 2.21 323.90

Differential Corrections: TDE -.4689 TRA-1.0313 TC3 .0383 BAU .0446 SGT 1258.4 SGR 585.5 SG3 152.0 ORBIT DETERMINATION ACCURACY
 RDE -.5063 RRA .1926 RC3 .1054 FAU .03912 RRT .0226 RRF -.0246 RTF -.7199 CRT .7416 CRS .4974 CST .9482
 FDE .2603 FRA 1.0638 FC3-1.1383 B8P 1950 SGB 1387.9 R23 -.0038 R13 -.7199 LSA 40.9 MSA 17.6 SSA 1.2
 BDE .6901 BRA 1.0492 BC3 .1121 F8P 200 SG1 1258.5 SG2 585.3 THA .77 EL1 37.7 EL2 14.4 ALF 40.49

LAUNCH DATE MAY 4 1971

FLIGHT TIME 114.00

ARRIVAL DATE AUG 26 1971

Heliocentric Conic: RL 150.83 LAL .00 LOL 222.90 VL 34.369 GAL -2.60 AZL 91.89 HCA 104.02 SMA 229.40 ECC .34514 INC 1.8899 V1 29.840
 RP 206.87 LAP -1.83 LOP 326.93 VP 26.543 GAP 19.42 AZP 89.54 TAL 349.83 TAP 93.85 RCA 150.23 APO 308.58 V2 26.473
 RC 58.203 GL -12.34 GP .58 ZAL 112.07 ZAP 171.06 ETS 176.28 ZAE 172.92 ETE 48.10 ZAC 100.60 ETC 277.77 LVI -18.57

PLANETOCENTRIC CONIC
 C3 28.074 VHL 5.299 DLA -20.92 RAL 342.15 RAD 6646.2 VEL 12.166 PTH 7.13 VHP 9.276 DPA -16.65 RAP 320.85 ECC 1.4620
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 42 32 2791.83 -21.60 79.60 203.81 133.48 17 29 4 1791.8 -3.62 62.96
 60.00 17 47 26 2619.26 -16.07 69.04 208.79 127.47 18 31 5 1619.3 -2.22 50.69
 70.00 19 9 36 2377.68 -10.72 53.30 212.65 122.62 19 49 14 1377.7 3.17 33.67
 80.00 20 47 39 2070.85 -6.44 32.60 215.24 119.22 21 22 9 1070.9 5.93 12.08
 90.00 22 23 9 1762.80 -4.69 10.90 216.20 117.92 22 52 32 762.8 7.08 350.05
 100.00 23 30 30 1545.32 -6.44 353.96 215.24 119.22 23 56 16 545.3 5.93 333.45
 110.00 0 12 59 1424.50 -10.72 342.22 212.65 122.62 0 36 43 424.5 3.17 322.58

Differential Corrections: TDE -.4531 TRA-1.0113 TC3 .0687 BAU .0494 SGT 1271.3 SGR 584.7 SG3 162.6 ORBIT DETERMINATION ACCURACY
 RDE -.4907 RRA .1855 RC3 .1123 FAU .04046 RRT .0231 RRF -.0273 RTF -.7395 CRT .7366 CRS .4913 CST .9485
 FDE .2677 FRA 1.1298 FC3-1.2476 B8P 1892 SGB 1399.3 R23 -.0056 R13 -.7396 LSA 41.1 MSA 17.8 SSA 1.2
 BDE .6679 BRA 1.0282 BC3 .1317 F8P 219 SG1 1271.4 SG2 584.5 THA .77 EL1 37.6 EL2 14.5 ALF 40.35

LAUNCH DATE MAY 4 1971

FLIGHT TIME 116.00

ARRIVAL DATE AUG 28 1971

Heliocentric Conic: RL 150.83 LAL .00 LOL 222.90 VL 34.230 GAL -2.51 AZL 91.89 HCA 105.29 SMA 225.68 ECC .33421 INC 1.8948 V1 29.840
 RP 206.82 LAP -1.83 LOP 328.20 VP 26.369 GAP 18.95 AZP 89.50 TAL 349.98 TAP 95.27 RCA 150.26 APO 301.11 V2 26.479
 RC 58.807 GL -12.68 GP .60 ZAL 111.96 ZAP 170.13 ETS 176.53 ZAE 172.50 ETE 43.94 ZAC 100.58 ETC 277.84 LVI -18.68

PLANETOCENTRIC CONIC
 C3 26.534 VHL 5.151 DLA -21.27 RAL 342.21 RAD 6645.6 VEL 12.103 PTH 7.08 VHP 8.985 DPA -16.53 RAP 321.18 ECC 1.4367
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 44 20 2770.43 -20.59 78.56 203.13 133.89 17 30 30 1770.4 -2.55 62.06
 60.00 17 49 46 2596.39 -15.12 67.85 208.10 127.82 18 33 2 1596.4 .79 49.60
 70.00 19 12 41 2352.63 -9.79 51.94 211.96 122.88 19 51 54 1352.6 4.12 32.35
 80.00 20 51 37 2043.01 -5.51 31.05 214.57 119.39 21 25 40 1043.0 6.86 10.53
 90.00 22 27 37 1733.35 -3.75 9.25 215.54 118.05 22 56 31 733.3 8.00 348.38
 100.00 23 34 29 1517.48 -5.51 392.42 214.57 119.39 23 59 46 517.5 6.86 331.90
 110.00 0 16 4 1399.45 -9.79 340.86 211.96 122.88 0 39 23 399.4 4.12 321.27

Differential Corrections: TDE -.4513 TRA-1.0054 TC3 .0809 BAU .0512 SGT 1303.5 SGR 583.5 SG3 174.0 ORBIT DETERMINATION ACCURACY
 RDE -.4756 RRA .1786 RC3 .1194 FAU .04202 RRT .0263 RRF -.0297 RTF -.7441 CRT .7368 CRS .4814 CST .9449
 FDE .2722 FRA 1.1751 FC3-1.3711 B8P 1997 SGB 1428.1 R23 -.0053 R13 -.7441 LSA 41.7 MSA 18.1 SSA 1.2
 BDE .6557 BRA 1.0212 BC3 .1443 F8P 236 SG1 1303.6 SG2 583.2 THA .84 EL1 38.1 EL2 14.6 ALF 39.31

LAUNCH DATE MAY 4 1971

FLIGHT TIME 118.00

ARRIVAL DATE AUG 30 1971

Heliocentric Conic: RL 150.83 LAL .00 LOL 222.90 VL 34.099 GAL -2.41 AZL 91.90 HCA 106.56 SMA 222.30 ECC .32394 INC 1.8998 V1 29.840
 RP 206.77 LAP -1.82 LOP 329.47 VP 26.204 GAP 18.49 AZP 89.46 TAL 350.13 TAP 96.69 RCA 150.29 APO 294.31 V2 26.485
 RC 59.485 GL -13.02 GP .62 ZAL 111.83 ZAP 169.18 ETS 176.74 ZAE 172.10 ETE 40.47 ZAC 100.56 ETC 277.90 LVI -18.79

PLANETOCENTRIC CONIC
 C3 25.117 VHL 5.012 DLA -21.62 RAL 342.25 RAD 6645.0 VEL 12.045 PTH 7.03 VHP 8.704 DPA -16.41 RAP 321.48 ECC 1.4134
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 46 6 2749.27 -19.59 77.54 202.47 134.27 17 31 56 1749.3 -1.49 61.18
 60.00 17 52 7 2573.70 -14.16 66.69 207.43 128.13 18 35 1 1573.7 1.79 48.52
 70.00 19 15 50 2327.63 -8.87 50.60 211.30 123.12 19 54 37 1327.6 5.07 31.04
 80.00 20 55 43 2015.03 -4.57 29.50 213.94 119.54 21 29 18 1015.0 7.78 8.97
 90.00 22 32 15 1703.82 -2.79 7.58 214.92 118.15 23 0 39 703.6 8.92 346.68
 100.00 23 38 34 1489.51 -4.57 390.87 213.94 119.54 24 3 24 489.5 7.78 330.34
 110.00 0 19 12 1374.45 -8.87 339.82 211.30 123.12 0 42 6 374.4 5.07 319.96

Differential Corrections: TDE -.4474 TRA-.9972 TC3 .0967 BAU .0535 SGT 1332.3 SGR 581.9 SG3 186.1 ORBIT DETERMINATION ACCURACY
 RDE -.4610 RRA .1719 RC3 .1268 FAU .04368 RRT .0293 RRF -.0325 RTF -.7500 CRT .7363 CRS .4713 CST .9414
 FDE .2767 FRA 1.2225 FC3-1.5055 B8P 2080 SGB 1453.8 R23 -.0054 R13 -.7501 LSA 42.3 MSA 18.3 SSA 1.2
 BDE .6423 BRA 1.0119 BC3 .1594 F8P 254 SG1 1332.4 SG2 581.6 THA .91 EL1 38.5 EL2 14.7 ALF 38.42

LAUNCH DATE MAY 4 1971

FLIGHT TIME 120.00

ARRIVAL DATE SEP 1 1971

Heliocentric Conic: RL 150.83 LAL .00 LOL 222.90 VL 33.975 GAL -2.32 AZL 91.90 HCA 107.83 SMA 219.21 ECC .31427 INC 1.9048 VI 29.540
 RP 206.74 LAP -1.81 LOP 330.73 VP 26.048 GAP 18.03 AZP 89.42 TAL 350.29 TAP 98.12 RCA 150.32 APO 288.10 V2 26.489
 RC 60.233 GL -13.37 GP .64 ZAL 111.68 ZAP 166.21 ETS 176.92 ZAE 171.73 ETE 37.58 ZAC 100.54 ETC 277.97 LVI -18.89

Distance 324.606 Earth to Mars

Planetocentric Conic: C3 23.812 VHL 4.880 DLA -21.99 RAL 342.28 RAD 6644.5 VEL 11.991 PTH 6.99 VHP 8.431 DPA -16.29 RAP 321.77 ECC 1.3919
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 47 53 2728.30 -18.59 76.56 201.84 134.62 17 33 21 1728.4 -4.4 60.30
 60.00 17 54 30 2591.21 -13.22 65.54 206.79 128.43 18 37 1 1531.2 2.78 47.44
 70.00 19 19 1 2302.73 -7.94 49.27 210.67 123.33 19 57 24 1302.7 6.02 29.73
 80.00 20 59 55 1986.94 -3.63 27.95 213.32 119.66 21 33 2 986.9 8.71 7.40
 90.00 22 37 3 1673.63 -1.83 5.91 214.32 118.23 23 4 57 673.6 9.84 344.96
 100.00 23 42 47 1461.41 -3.63 349.32 213.32 119.66 24 7 9 461.4 8.71 328.76
 110.00 0 22 23 1349.55 -7.94 338.19 210.67 123.33 0 44 53 349.5 6.02 318.65

Differential Corrections: TDE -.4424 TRA -.9881 TC3 .1142 BAU .0561 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 1359.3 SGR 580.0 SG3 198.9 ST 32.0 SR 26.4 SS 21.4
 RDE -.4469 RRA .1653 RC3 .1343 FAU .04539 RRT .0321 RRF -.0353 RTF -.7565 CRT .7352 CR8 .4609 CST .9360
 FDE .2812 FRA 1.2727 FC3-1.6503 B8P 2155 SGB 1477.9 R23 -.0056 R13 -.7566 LSA 42.8 MSA 18.6 SSA 1.2
 BDE .6288 BRA 1.0018 BC3 .1764 F8P 275 SG1 1359.5 SG2 579.6 THA .96 EL1 38.8 EL2 14.8 ALF 37.61

LAUNCH DATE MAY 4 1971

FLIGHT TIME 122.00

ARRIVAL DATE SEP 3 1971

Heliocentric Conic: RL 150.83 LAL .00 LOL 222.90 VL 33.859 GAL -2.22 AZL 91.91 HCA 109.10 SMA 216.38 ECC .30517 INC 1.9099 VI 29.540
 RP 206.71 LAP -1.80 LOP 332.00 VP 25.899 GAP 17.59 AZP 89.37 TAL 350.47 TAP 99.56 RCA 150.35 APO 292.42 V2 26.492
 RC 61.050 GL -13.72 GP .66 ZAL 111.51 ZAP 167.22 ETS 177.07 ZAE 171.39 ETE 35.17 ZAC 100.52 ETC 278.02 LVI -18.99

Distance 327.821 Earth to Mars

Planetocentric Conic: C3 22.610 VHL 4.755 DLA -22.36 RAL 342.30 RAD 6644.0 VEL 11.941 PTH 6.94 VHP 8.168 DPA -16.18 RAP 322.04 ECC 1.3721
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 49 39 2707.78 -17.61 75.60 201.24 134.95 17 34 46 1707.8 .60 59.44
 60.00 17 56 53 2528.97 -12.27 64.42 206.17 128.69 18 39 2 1529.0 3.76 46.37
 70.00 19 22 16 2277.94 -7.01 47.96 210.06 123.51 20 0 14 1277.9 6.95 28.42
 80.00 21 4 15 1958.75 -2.68 26.40 212.74 119.75 21 36 54 958.7 9.62 5.81
 90.00 22 42 2 1643.35 -.85 4.22 213.75 118.27 23 9 26 643.4 10.76 343.21
 100.00 23 47 7 1433.22 -2.68 347.77 212.74 119.75 24 11 1 433.2 9.62 327.17
 110.00 0 25 38 1324.76 -7.01 336.87 210.06 123.51 0 47 43 324.8 6.95 317.34

Differential Corrections: TDE -.4365 TRA -.9777 TC3 .1348 BAU .0592 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 1384.2 SGR 577.6 SG3 212.7 ST 32.5 SR 26.3 SS 22.0
 RDE -.4333 RRA .1588 RC3 .1421 FAU .04727 RRT .0354 RRF -.0389 RTF -.7633 CRT .7339 CR8 .4508 CST .9348
 FDE .2860 FRA 1.3251 FC3-1.8100 B8P 2212 SGB 1499.8 R23 -.0062 R13 -.7634 LSA 43.3 MSA 18.8 SSA 1.2
 BDE .6150 BRA .9905 BC3 .1959 F8P 297 SG1 1384.3 SG2 577.2 THA 1.02 EL1 39.1 EL2 14.9 ALF 36.87

LAUNCH DATE MAY 4 1971

FLIGHT TIME 124.00

ARRIVAL DATE SEP 5 1971

Heliocentric Conic: RL 150.83 LAL .00 LOL 222.90 VL 33.749 GAL -2.14 AZL 91.92 HCA 110.36 SMA 213.79 ECC .29662 INC 1.9151 VI 29.540
 RP 206.69 LAP -1.80 LOP 333.27 VP 25.757 GAP 17.15 AZP 89.33 TAL 350.65 TAP 101.01 RCA 150.38 APO 277.20 V2 26.495
 RC 61.933 GL -14.07 GP .69 ZAL 111.34 ZAP 166.22 ETS 177.20 ZAE 171.11 ETE 33.16 ZAC 100.51 ETC 278.08 LVI -19.09

Distance 331.120 Earth to Mars

Planetocentric Conic: C3 21.503 VHL 4.637 DLA -22.74 RAL 342.30 RAD 6643.5 VEL 11.895 PTH 6.91 VHP 7.914 DPA -16.08 RAP 322.30 ECC 1.3539
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 51 24 2687.51 -16.83 74.66 200.66 135.25 17 36 12 1687.5 1.62 58.60
 60.00 17 59 17 2506.98 -11.33 63.32 205.58 128.94 18 41 4 1507.0 4.72 45.32
 70.00 19 25 34 2253.30 -6.08 46.65 209.49 123.67 20 3 8 1253.3 7.87 27.11
 80.00 21 8 44 1930.47 -1.72 24.85 212.19 119.81 21 40 54 930.5 10.53 4.20
 90.00 22 47 13 1612.79 .13 2.51 213.22 118.28 23 14 6 612.8 11.67 341.43
 100.00 23 51 36 1404.94 -1.72 346.21 212.19 119.81 24 15 0 404.9 10.53 325.97
 110.00 0 28 57 1300.12 -6.08 335.57 209.49 123.67 0 50 37 300.1 7.87 316.03

Differential Corrections: TDE -.4302 TRA -.9666 TC3 .1554 BAU .0621 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 1407.3 SGR 574.9 SG3 227.4 ST 32.9 SR 26.1 SS 22.7
 RDE -.4201 RRA .1525 RC3 .1501 FAU .04921 RRT .0387 RRF -.0428 RTF -.7698 CRT .7326 CR8 .4406 CST .9315
 FDE .2909 FRA 1.3802 FC3-1.9812 B8P 2268 SGB 1520.2 R23 -.0068 R13 -.7698 LSA 43.8 MSA 19.1 SSA 1.3
 BDE .6013 BRA .9786 BC3 .2160 F8P 321 SG1 1407.5 SG2 574.4 THA 1.09 EL1 39.3 EL2 14.9 ALF 36.18

LAUNCH DATE MAY 4 1971

FLIGHT TIME 126.00

ARRIVAL DATE SEP 7 1971

Heliocentric Conic: RL 150.83 LAL .00 LOL 222.90 VL 33.645 GAL -2.05 AZL 91.92 HCA 111.83 SMA 211.41 ECC .28857 INC 1.9204 VI 29.540
 RP 206.68 LAP -1.79 LOP 334.54 VP 25.623 GAP 16.72 AZP 89.29 TAL 350.83 TAP 102.46 RCA 150.40 APO 272.42 V2 26.496
 RC 62.879 GL -14.42 GP .71 ZAL 111.15 ZAP 165.19 ETS 177.31 ZAE 170.87 ETE 31.48 ZAC 100.50 ETC 278.13 LVI -19.18

Distance 334.495 Earth to Mars

Planetocentric Conic: C3 20.482 VHL 4.526 DLA -23.12 RAL 342.29 RAD 6643.1 VEL 11.853 PTH 6.87 VHP 7.668 DPA -15.97 RAP 322.53 ECC 1.3371
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 53 9 2687.59 -15.66 73.75 200.11 135.52 17 37 37 1667.6 2.62 57.78
 60.00 18 1 42 2485.28 -10.40 62.25 205.02 129.16 18 43 7 1485.3 5.67 44.27
 70.00 19 28 56 2228.83 -5.16 45.36 208.94 123.81 20 6 5 1228.8 8.79 25.80
 80.00 21 13 20 1902.10 -.76 23.29 211.67 119.85 21 45 2 902.1 11.44 2.58
 90.00 22 52 36 1581.93 1.13 .79 212.72 118.26 23 18 58 581.9 12.59 339.62
 100.00 0 0 8 1376.57 -.76 344.66 211.67 119.85 0 23 4 376.6 11.44 323.95
 110.00 0 32 18 1275.65 -5.16 334.28 208.94 123.81 0 53 34 275.6 8.79 314.72

Differential Corrections: TDE -.4234 TRA -.9552 TC3 .1783 BAU .0653 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 1429.1 SGR 571.8 SG3 243.0 ST 33.3 SR 26.0 SS 23.3
 RDE -.4073 RRA .1464 RC3 .1582 FAU .05128 RRT .0423 RRF -.0461 RTF -.7763 CRT .7309 CR8 .4284 CST .9274
 FDE .2944 FRA 1.4386 FC3-2.1677 B8P 2313 SGB 1539.3 R23 -.0070 R13 -.7764 LSA 44.2 MSA 19.3 SSA 1.3
 BDE .5875 BRA .9664 BC3 .2384 F8P 346 SG1 1429.4 SG2 571.2 THA 1.15 EL1 39.5 EL2 14.9 ALF 35.52

LAUNCH DATE MAY 4 1971 FLIGHT TIME 128.00 ARRIVAL DATE SEP 9 1971

Heliocentric Conic: RL 150.83 LAL .00 LOL 222.90 VL 33.547 GAL -1.97 AZL 91.93 HCA 112.90 SMA 209.22 ECC .28101 INC 1.9257 V1 29.840
 RP 206.67 LAP -1.77 LOP 335.81 VP 23.494 GAP 16.31 AZP 89.25 TAL 351.02 TAP 103.92 RCA 150.43 APO 268.01 V2 26.496
 RC 63.888 GL -14.77 GP .74 ZAL 110.95 ZAP 164.15 ETS 177.41 ZAE 170.70 ETE 30.10 ZAC 100.50 ETC 278.18 LVI -19.28

Planetocentric Conic: C3 19.542 VHL 4.421 DLA -23.51 RAL 342.28 RAD 6642.6 VEL 11.813 PTH 6.83 VHP 7.430 DPA -15.88 RAP 322.74 ECC 1.3216
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 16 54 54 2648.04 -14.71 72.87 199.58 135.77 17 39 2 1648.0 3.60 56.95
 60.00 18 4 8 2483.92 -9.48 61.19 204.49 129.36 18 45 12 1463.9 6.60 43.24
 70.00 19 32 21 2204.55 -4.23 44.09 208.42 123.92 20 9 6 1204.6 9.69 24.80
 80.00 21 18 3 1873.66 .20 21.73 211.18 119.86 21 49 19 873.7 12.34 .98
 90.00 22 58 12 1550.73 2.13 359.05 212.25 118.21 23 24 3 550.7 13.49 337.76
 100.00 0 4 53 1346.13 .20 343.10 211.18 119.86 0 27 21 348.1 12.34 322.31
 110.00 0 35 44 1251.37 -4.23 333.01 208.42 123.92 0 56 35 251.4 9.69 313.42

Differential Corrections: YDE -.4167 TRA -.9435 TC3 .2013 BAU .0683 MID-COURSE EXECUTION ACCURACY: 8GT 1449.7 8GR 568.4 8G3 259.7 ORBIT DETERMINATION ACCURACY: ST 33.6 SR 25.0 SS 24.0
 RDE -.3949 RRA .1404 RC3 .1685 FAU .05352 RRT .0482 RRF -.0506 RTF -.7822 CRT .7294 CR8 .4175 C8T .9238
 FDE .2990 FRA 1.4996 FC3-2.3710 B8P 2365 8GB 1557.2 R23 -.0079 R13 -.7823 LSA 44.6 MSA 19.9 S8A 1.3
 BDE .5741 BRA .9539 BC3 .2613 F8P 374 8G1 1450.0 8G2 567.7 T8A 1.23 EL1 39.6 EL2 15.0 ALF 34.89

LAUNCH DATE MAY 4 1971 FLIGHT TIME 130.00 ARRIVAL DATE SEP 11 1971

Heliocentric Conic: RL 150.83 LAL .00 LOL 222.90 VL 33.455 GAL -1.89 AZL 91.93 HCA 114.17 SMA 207.21 ECC .27369 INC 1.9312 V1 29.540
 RP 206.68 LAP -1.76 LOP 337.08 VP 23.372 GAP 15.90 AZP 89.21 TAL 351.21 TAP 105.39 RCA 150.45 APO 263.96 V2 26.496
 RC 64.956 GL -15.11 GP .77 ZAL 110.74 ZAP 163.08 ETS 177.49 ZAE 170.58 ETE 28.97 ZAC 100.50 ETC 278.22 LVI -19.34

Planetocentric Conic: C3 18.676 VHL 4.322 DLA -23.90 RAL 342.25 RAD 6642.2 VEL 11.777 PTH 6.80 VHP 7.200 DPA -15.79 RAP 322.93 ECC 1.3074
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 16 56 39 2628.88 -13.78 72.01 199.08 136.01 17 40 28 1628.9 4.56 56.14
 60.00 18 6 35 2442.89 -8.57 60.16 203.98 129.53 18 47 18 1442.9 7.52 42.22
 70.00 19 35 50 2180.50 -3.32 42.83 207.93 124.01 20 12 11 1180.5 10.57 23.20
 80.00 21 22 59 1845.14 1.17 20.18 210.73 119.84 21 53 44 845.1 13.22 359.29
 90.00 23 4 4 1519.15 3.15 387.28 211.82 118.12 23 29 23 519.2 14.40 335.91
 100.00 0 9 47 1319.61 1.17 341.53 210.73 119.84 0 31 47 319.6 13.22 320.66
 110.00 0 39 12 1227.32 -3.32 331.74 207.93 124.01 0 59 40 227.3 10.57 312.12

Differential Corrections: YDE -.4094 TRA -.9309 TC3 .2247 BAU .0711 MID-COURSE EXECUTION ACCURACY: 8GT 1467.8 8GR 564.6 8G3 277.5 ORBIT DETERMINATION ACCURACY: ST 33.9 SR 25.6 SS 24.7
 RDE -.3830 RRA .1345 RC3 .1749 FAU .05588 RRT .0503 RRF -.0552 RTF -.7876 CRT .7278 CR8 .4055 C8T .9197
 FDE .3027 FRA 1.5633 FC3-2.5908 B8P 2399 8GB 1572.7 R23 -.0087 R13 -.7877 LSA 44.9 MSA 19.9 S8A 1.3
 BDE .5608 BRA .9405 BC3 .2848 F8P 402 8G1 1468.2 8G2 563.7 T8A 1.30 EL1 39.7 EL2 14.9 ALF 34.30

LAUNCH DATE MAY 4 1971 FLIGHT TIME 132.00 ARRIVAL DATE SEP 13 1971

Heliocentric Conic: RL 150.83 LAL .00 LOL 222.90 VL 33.368 GAL -1.81 AZL 91.94 HCA 115.44 SMA 205.35 ECC .26720 INC 1.9368 V1 29.540
 RP 206.70 LAP -1.75 LOP 338.35 VP 23.256 GAP 15.49 AZP 89.17 TAL 351.41 TAP 106.85 RCA 150.48 APO 260.22 V2 26.494
 RC 66.082 GL -15.46 GP .80 ZAL 110.52 ZAP 161.99 ETS 177.57 ZAE 170.53 ETE 28.07 ZAC 100.50 ETC 278.25 LVI -19.42

Planetocentric Conic: C3 17.877 VHL 4.228 DLA -24.29 RAL 342.22 RAD 6641.9 VEL 11.743 PTH 6.77 VHP 6.978 DPA -15.70 RAP 323.09 ECC 1.2942
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 16 58 23 2610.14 -12.86 71.18 198.61 136.21 17 41 54 1610.1 5.50 53.33
 60.00 18 9 3 2422.22 -7.68 59.15 203.51 129.69 18 49 25 1422.2 8.42 41.21
 70.00 19 39 22 2156.69 -2.41 41.58 207.47 124.08 20 15 19 1156.7 11.45 21.91
 80.00 21 28 3 1816.53 2.14 18.59 210.30 119.79 21 58 20 816.5 14.10 357.63
 90.00 23 10 11 1487.15 4.17 355.49 211.43 118.00 23 34 58 487.1 15.30 333.99
 100.00 0 14 51 1291.01 2.14 339.96 210.30 119.79 0 36 22 291.0 14.10 318.99
 110.00 0 42 44 1203.50 -2.41 330.50 207.47 124.08 1 2 48 203.5 11.45 310.83

Differential Corrections: YDE -.4024 TRA -.9183 TC3 .2478 BAU .0737 MID-COURSE EXECUTION ACCURACY: 8GT 1485.0 8GR 560.4 8G3 296.4 ORBIT DETERMINATION ACCURACY: ST 34.1 SR 25.3 SS 25.3
 RDE -.3719 RRA .1288 RC3 .1838 FAU .05840 RRT .0548 RRF -.0600 RTF -.7824 CRT .7284 CR8 .3924 C8T .9149
 FDE .3056 FRA 1.6307 FC3-2.8293 B8P 2443 8GB 1587.2 R23 -.0094 R13 -.7825 LSA 45.2 MSA 20.0 S8A 1.3
 BDE .5476 BRA .9273 BC3 .3083 F8P 434 8G1 1485.3 8G2 569.5 T8A 1.38 EL1 39.8 EL2 14.9 ALF 33.73

LAUNCH DATE MAY 4 1971 FLIGHT TIME 134.00 ARRIVAL DATE SEP 15 1971

Heliocentric Conic: RL 150.83 LAL .00 LOL 222.90 VL 33.287 GAL -1.73 AZL 91.94 HCA 116.71 SMA 203.63 ECC .26092 INC 1.9424 V1 29.540
 RP 206.72 LAP -1.74 LOP 339.82 VP 23.145 GAP 15.10 AZP 89.13 TAL 351.61 TAP 108.32 RCA 150.50 APO 256.76 V2 26.491
 RC 67.265 GL -18.81 GP .83 ZAL 110.30 ZAP 160.87 ETS 177.63 ZAE 170.55 ETE 27.40 ZAC 100.50 ETC 278.29 LVI -19.48

Planetocentric Conic: C3 17.140 VHL 4.140 DLA -24.68 RAL 342.18 RAD 6641.5 VEL 11.712 PTH 6.74 VHP 6.783 DPA -15.62 RAP 323.23 ECC 1.2821
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 17 0 8 2591.84 -11.96 70.38 198.17 136.40 17 43 20 1591.8 6.41 84.80
 60.00 18 11 31 2401.95 -6.79 58.17 203.06 129.82 18 51 33 1401.9 9.30 40.82
 70.00 19 42 57 2133.14 -1.51 40.35 207.04 124.12 20 18 31 1133.1 12.30 20.82
 80.00 21 33 17 1787.85 3.11 17.01 209.92 119.71 22 3 5 787.8 14.97 358.94
 90.00 23 16 36 1454.63 5.21 353.66 211.08 117.84 23 40 51 454.6 16.19 338.82
 100.00 0 20 5 1282.31 3.11 338.38 209.92 119.71 0 41 7 282.3 14.97 317.31
 110.00 0 46 20 1179.96 -1.51 329.27 207.04 124.12 1 6 0 180.0 12.30 309.54

Differential Corrections: YDE -.3947 TRA -.9054 TC3 .2708 BAU .0761 MID-COURSE EXECUTION ACCURACY: 8GT 1500.1 8GR 556.0 8G3 316.6 ORBIT DETERMINATION ACCURACY: ST 34.3 SR 25.1 SS 26.0
 RDE -.3603 RRA .1231 RC3 .1922 FAU .06108 RRT .0592 RRF -.0652 RTF -.7969 CRT .7244 CR8 .3788 C8T .9101
 FDE .3082 FRA 1.7020 FC3-3.0849 B8P 2476 8GB 1599.8 R23 -.0106 R13 -.7971 LSA 45.5 MSA 20.2 S8A 1.3
 BDE .5344 BRA .9138 BC3 .3321 F8P 467 8G1 1500.5 8G2 554.8 T8A 1.46 EL1 39.8 EL2 14.9 ALF 33.20

LAUNCH DATE MAY 4 1971

FLIGHT TIME 136.00

ARRIVAL DATE SEP 17 1971

HELIOCENTRIC CONIC DISTANCE 352.296 EARTH TO MARS

RL 150.83 LAL .00 LOL 222.90 VL 33.210 GAL -1.66 AZL 91.95 HCA 117.98 SMA 202.04 ECC .28901 INC 1.9483 V1 29.940
 RP 206.75 LAP -1.72 LOP 340.89 VP 25.039 GAP 14.72 AZP 89.09 TAL 351.80 TAP 109.78 RCA 150.52 APO 253.57 V2 26.467
 RC 68.302 GL -16.15 GP .87 ZAL 110.08 ZAP 189.73 ETS 177.69 ZAE 170.63 ETE 26.93 ZAC 100.53 ETC 278.31 LVI -19.56

PLANETOCENTRIC CONIC

C3 16.462 VHL 4.057 DLA -25.07 RAL 342.14 RAD 6641.2 VEL 11.683 PTH 6.72 VHP 6.555 DPA -15.55 RAP 323.35 ECC 1.2709
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 1 52 2573.99 -11.07 69.80 197.75 136.37 17 44 46 1574.0 7.30 33.82
 60.00 18 14 1 2382.09 -5.93 57.21 202.64 129.94 18 53 43 1382.1 10.15 39.24
 70.00 19 46 36 2109.80 -.62 39.14 206.64 124.15 20 21 46 1109.9 13.14 19.34
 80.00 21 38 42 1759.04 4.08 15.43 209.37 119.60 22 8 1 759.0 15.83 354.23
 90.00 23 23 21 1421.51 6.26 351.80 210.76 117.63 23 47 3 421.5 17.08 329.99
 100.00 0 25 30 1233.51 4.08 336.80 209.57 119.60 0 46 3 233.5 15.83 315.60
 110.00 0 49 58 1156.69 -.62 328.06 206.64 124.15 1 9 15 156.7 13.14 308.26

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.3880 TRA -.8924 TC3 .2922 BAU .0780 SGT 1514.0 SGR 551.2 SG3 338.0 ST 34.4 SR 24.8 SS 26.7
 RDE -.3495 RRA .1176 RC3 .2009 FAU .06390 RRT .0647 RRF -.0711 RTF -.8006 CRT .7235 CRS .3660 CST .9049
 FDE .3112 FRA 1.7772 FC3-3.3607 BSP 2510 SGB 1611.2 R23 -.0115 R13 -.8008 LSA 45.8 MSA 20.5 SSA 1.3
 BDE .5222 BRA .9001 BC3 .3546 FSP 503 SG1 1514.5 SG2 549.9 THA 1.55 EL1 39.8 EL2 14.8 ALF 32.64

LAUNCH DATE MAY 4 1971

FLIGHT TIME 138.00

ARRIVAL DATE SEP 19 1971

HELIOCENTRIC CONIC DISTANCE 356.006 EARTH TO MARS

RL 150.83 LAL .00 LOL 222.90 VL 33.137 GAL -1.59 AZL 91.95 HCA 119.25 SMA 200.58 ECC .24946 INC 1.9542 V1 29.940
 RP 206.79 LAP -1.71 LOP 342.16 VP 24.938 GAP 14.34 AZP 89.04 TAL 352.00 TAP 111.25 RCA 150.54 APO 250.61 V2 26.483
 RC 69.791 GL -16.49 GP .90 ZAL 109.85 ZAP 158.56 ETS 177.74 ZAE 170.79 ETE 26.68 ZAC 100.55 ETC 278.33 LVI -19.62

PLANETOCENTRIC CONIC

C3 15.836 VHL 3.979 DLA -25.46 RAL 342.09 RAD 6640.9 VEL 11.657 PTH 6.69 VHP 6.355 DPA -15.48 RAP 323.44 ECC 1.2606
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 3 36 2556.61 -10.21 68.85 197.35 136.73 17 46 13 1556.6 8.17 53.08
 60.00 18 16 31 2362.66 -5.08 56.27 202.25 130.03 18 55 54 1362.7 10.99 38.28
 70.00 19 50 18 2086.92 .25 37.94 206.28 124.15 20 25 5 1086.9 13.96 18.07
 80.00 21 44 18 1730.11 5.05 13.83 209.26 119.47 22 13 8 730.1 16.67 352.50
 90.00 23 30 30 1387.63 7.32 349.88 210.49 117.39 23 53 38 387.6 17.96 327.90
 100.00 0 31 6 1204.58 5.05 335.20 209.26 119.47 0 51 11 204.6 16.67 313.88
 110.00 0 53 40 1133.74 .25 326.86 206.28 124.15 1 12 34 133.7 13.96 306.99

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.3804 TRA -.8785 TC3 .3127 BAU .0797 SGT 1524.6 SGR 546.1 SG3 360.8 ST 34.5 SR 24.6 SS 27.5
 RDE -.3391 RRA .1122 RC3 .2097 FAU .06689 RRT .0699 RRF -.0772 RTF -.8040 CRT .7221 CRS .3520 CST .8994
 FDE .3132 FRA 1.8567 FC3-3.6567 BSP 2532 SGB 1619.5 R23 -.0128 R13 -.8042 LSA 46.0 MSA 20.7 SSA 1.3
 BDE .5098 BRA .8857 BC3 .3765 FSP 541 SG1 1525.2 SG2 544.6 THA 1.64 EL1 39.7 EL2 14.8 ALF 32.16

LAUNCH DATE MAY 4 1971

FLIGHT TIME 140.00

ARRIVAL DATE SEP 21 1971

HELIOCENTRIC CONIC DISTANCE 359.756 EARTH TO MARS

RL 150.83 LAL .00 LOL 222.90 VL 33.069 GAL -1.53 AZL 91.96 HCA 120.51 SMA 199.22 ECC .24425 INC 1.9603 V1 29.940
 RP 206.84 LAP -1.69 LOP 343.43 VP 24.841 GAP 13.97 AZP 89.00 TAL 352.20 TAP 112.71 RCA 150.56 APO 247.88 V2 26.477
 RC 71.130 GL -16.83 GP .94 ZAL 109.62 ZAP 157.37 ETS 177.79 ZAE 171.01 ETE 26.66 ZAC 100.57 ETC 278.35 LVI -19.68

PLANETOCENTRIC CONIC

C3 15.258 VHL 3.906 DLA -25.84 RAL 342.04 RAD 6640.7 VEL 11.632 PTH 6.67 VHP 6.161 DPA -15.42 RAP 323.50 ECC 1.2511
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 5 20 2539.67 -9.37 68.12 196.99 136.86 17 47 39 1539.7 9.01 52.36
 60.00 18 19 2 2345.64 -4.24 55.35 201.88 130.11 18 58 6 1343.0 11.80 37.33
 70.00 19 54 4 2064.24 1.12 36.76 205.94 124.14 20 28 28 1064.2 14.76 16.80
 80.00 21 50 8 1700.95 6.02 12.21 208.98 119.30 22 18 29 700.9 17.50 350.73
 90.00 23 38 7 1352.70 8.41 347.99 210.27 117.10 24 0 40 352.7 18.85 325.72
 100.00 0 36 96 1175.42 6.02 333.58 208.98 119.30 0 58 31 175.4 17.50 312.10
 110.00 0 57 28 1111.06 1.12 325.68 205.94 124.14 1 15 57 111.1 14.76 305.72

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.3845 TRA -.8592 TC3 .3548 BAU .0850 SGT 1518.3 SGR 540.7 SG3 385.1 ST 33.9 SR 24.3 SS 28.1
 RDE -.3289 RRA .1070 RC3 .2188 FAU .07024 RRT .0758 RRF -.0841 RTF -.8138 CRT .7167 CRS .3354 CST .8951
 FDE .3121 FRA 1.9365 FC3-3.9851 BSP 2450 SGB 1611.7 R23 -.0136 R13 -.8140 LSA 45.7 MSA 21.0 SSA 1.3
 BDE .4909 BRA .8819 BC3 .4169 FSP 579 SG1 1519.0 SG2 538.9 THA 1.77 EL1 39.0 EL2 14.7 ALF 32.25

LAUNCH DATE MAY 4 1971

FLIGHT TIME 142.00

ARRIVAL DATE SEP 23 1971

HELIOCENTRIC CONIC DISTANCE 363.543 EARTH TO MARS

RL 150.83 LAL .00 LOL 222.90 VL 33.005 GAL -1.47 AZL 91.97 HCA 121.78 SMA 197.98 ECC .23936 INC 1.9666 V1 29.940
 RP 206.90 LAP -1.67 LOP 344.69 VP 24.749 GAP 13.61 AZP 88.96 TAL 352.39 TAP 114.17 RCA 150.58 APO 245.35 V2 26.470
 RC 72.917 GL -17.16 GP .98 ZAL 109.40 ZAP 156.14 ETS 177.83 ZAE 171.31 ETE 26.87 ZAC 100.61 ETC 278.36 LVI -19.73

PLANETOCENTRIC CONIC

C3 14.728 VHL 3.838 DLA -26.22 RAL 341.99 RAD 6640.4 VEL 11.610 PTH 6.65 VHP 5.974 DPA -15.37 RAP 323.52 ECC 1.2424
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 7 4 2523.30 -8.56 67.41 196.65 136.98 17 49 7 1523.3 9.83 51.65
 60.00 18 21 33 2325.17 -3.43 54.47 201.55 130.18 19 0 19 1325.2 12.59 36.40
 70.00 19 57 52 2042.00 1.97 35.60 205.64 124.10 20 31 54 1042.0 15.54 18.55
 80.00 21 56 10 1671.69 7.00 10.59 208.74 119.10 22 24 2 671.7 18.32 348.95
 90.00 23 46 15 1316.67 9.52 345.83 210.10 116.75 24 8 12 316.7 19.73 323.45
 100.00 0 42 58 1146.16 7.00 331.95 208.74 119.10 1 2 4 146.2 18.32 310.32
 110.00 1 14 1088.82 1.97 324.51 205.64 124.10 1 19 23 88.8 15.54 304.47

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.3813 TRA -.8445 TC3 .3599 BAU .0839 SGT 1530.6 SGR 535.1 SG3 410.6 ST 34.2 SR 24.0 SS 28.9
 RDE -.3192 RRA .1018 RC3 .2276 FAU .07355 RRT .0821 RRF -.0916 RTF -.8121 CRT .7182 CRS .3250 CST .8882
 FDE .3150 FRA 2.0251 FC3-4.3223 BSP 2521 SGB 1621.4 R23 -.0158 R13 -.8123 LSA 46.2 MSA 21.2 SSA 1.3
 BDE .4821 BRA .8506 BC3 .4259 FSP 624 SG1 1531.3 SG2 533.0 THA 1.87 EL1 39.2 EL2 14.6 ALF 31.55

LAUNCH DATE MAY 4 1971

FLIGHT TIME 144.00

ARRIVAL DATE SEP 28 1971

HELIOCENTRIC CONIC DISTANCE 367.364 EARTH TO MARS
 RL 150.83 LAL .00 LOL 222.90 VL 32.943 GAL -1.41 AZL 91.97 HCA 123.09 SMA 196.80 ECC .23478 INC 1.9730 V1 29.340
 RP 206.96 LAP -1.63 LOP 345.96 VP 24.680 GAP 13.26 AZP 88.92 TAL 352.58 TAP 115.62 RCA 150.59 APO 243.00 V2 26.462
 RC 73.950 GL -17.49 GP 1.03 ZAL 109.18 ZAP 154.89 ETS 177.86 ZAE 171.67 ETE 27.37 ZAC 100.65 ETC 278.36 LVI -19.77

PLANETOCENTRIC CONIC
 C3 14.238 VHL 3.773 DLA -26.60 RAL 341.95 RAD 6840.2 VEL 11.589 PTH 6.63 VHP 5.794 DPA -15.33 RAP 323.52 ECC 1.2343
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 8 46 2507.44 -7.77 66.74 196.34 137.09 17 50 35 1507.4 10.61 50.97
 60.00 18 24 5 2307.18 -2.64 93.61 201.25 130.23 19 2 32 1307.2 13.35 35.49
 70.00 20 1 43 2020.12 2.80 34.45 205.37 124.05 20 35 23 1020.1 16.30 14.31
 80.00 22 2 28 1642.13 7.97 8.94 208.55 118.87 22 29 30 842.1 19.13 347.13
 90.00 23 55 6 1278.94 10.67 343.65 209.98 116.34 24 16 25 278.9 20.62 321.04
 100.00 0 49 16 1116.62 7.97 330.30 208.55 118.87 1 7 52 116.6 19.13 308.49
 110.00 1 5 5 1066.94 2.80 323.37 205.37 124.05 1 22 52 66.9 16.30 303.23

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3571 TRA -.8313 TC3 .3685 BAU .0834 SGT 1537.5 SGR 529.2 SG3 437.9 ST 34.4 SR 23.6 SS 29.7
 RDE -.3098 RRA .0968 RC3 .2366 FAU .07709 RRT .0899 RRF -.1003 RTF -.8115 CRT .7199 CRS .3114 CST .8614
 FDE .3183 FRA 2.1181 FC3-4.6872 BSP 2563 SGB 1626.1 R23 -.0177 R13 -.8118 LSA 46.5 MSA 21.4 SSA 1.4
 BDE .4728 BRA .8369 BC3 .4379 FSP 671 SG1 1538.4 SG2 526.7 THA 2.01 EL1 39.2 EL2 14.4 ALF 30.97

LAUNCH DATE MAY 4 1971

FLIGHT TIME 146.00

ARRIVAL DATE SEP 27 1971

HELIOCENTRIC CONIC DISTANCE 371.216 EARTH TO MARS
 RL 150.83 LAL .00 LOL 222.90 VL 32.889 GAL -1.35 AZL 91.98 HCA 124.31 SMA 195.72 ECC .23048 INC 1.9796 V1 29.340
 RP 207.04 LAP -1.64 LOP 347.23 VP 24.575 GAP 12.91 AZP 88.88 TAL 352.76 TAP 117.07 RCA 150.61 APO 240.83 V2 26.454
 RC 75.426 GL -17.81 GP 1.07 ZAL 108.96 ZAP 153.60 ETS 177.89 ZAE 172.11 ETE 28.20 ZAC 100.70 ETC 278.36 LVI -19.81

PLANETOCENTRIC CONIC
 C3 13.788 VHL 3.713 DLA -26.96 RAL 341.91 RAD 6639.9 VEL 11.569 PTH 6.61 VHP 5.620 DPA -15.29 RAP 323.49 ECC 1.2269
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 10 31 2492.11 -7.00 66.08 196.06 137.18 17 52 3 1492.1 11.37 50.30
 60.00 18 26 37 2289.69 -1.87 52.77 200.98 130.26 19 4 47 1289.7 14.09 34.60
 70.00 20 5 37 1998.62 3.62 33.33 205.13 123.98 20 38 55 998.6 17.04 13.08
 80.00 22 9 3 1612.24 8.95 7.26 208.39 118.60 22 35 55 612.2 19.93 345.26
 90.00 0 8 46 1238.82 11.87 341.32 209.92 115.85 0 29 25 238.8 21.92 318.44
 100.00 0 55 50 1086.72 8.95 328.62 208.39 118.60 1 13 57 86.7 19.93 306.63
 110.00 1 8 59 1045.44 3.62 322.25 205.13 123.98 1 26 24 45.4 17.04 302.00

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3511 TRA -.8169 TC3 .3774 BAU .0830 SGT 1540.2 SGR 523.0 SG3 466.9 ST 34.4 SR 23.3 SS 30.5
 RDE -.3006 RRA .0915 RC3 .2456 FAU .08088 RRT .0973 RRF -.1091 RTF -.8113 CRT .7204 CRS .2972 CST .8739
 FDE .3191 FRA 2.2175 FC3-5.0785 BSP 2577 SGB 1626.5 R23 -.0201 R13 -.8117 LSA 46.8 MSA 21.7 SSA 1.4
 BDE .4622 BRA .8220 BC3 .4503 FSP 719 SG1 1541.1 SG2 520.2 THA 2.14 EL1 39.0 EL2 14.3 ALF 30.51

LAUNCH DATE MAY 4 1971

FLIGHT TIME 148.00

ARRIVAL DATE SEP 29 1971

HELIOCENTRIC CONIC DISTANCE 375.098 EARTH TO MARS
 RL 150.83 LAL .00 LOL 222.90 VL 32.836 GAL -1.30 AZL 91.99 HCA 125.58 SMA 194.72 ECC .22645 INC 1.9865 V1 29.340
 RP 207.12 LAP -1.62 LOP 348.49 VP 24.494 GAP 12.58 AZP 88.84 TAL 352.94 TAP 118.51 RCA 150.62 APO 238.81 V2 26.444
 RC 76.944 GL -18.13 GP 1.12 ZAL 108.76 ZAP 152.29 ETS 177.92 ZAE 172.61 ETE 29.46 ZAC 100.75 ETC 278.35 LVI -19.84

PLANETOCENTRIC CONIC
 C3 13.373 VHL 3.657 DLA -27.33 RAL 341.87 RAD 6639.7 VEL 11.552 PTH 6.60 VHP 5.452 DPA -15.26 RAP 323.42 ECC 1.2201
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 12 15 2477.32 -6.26 65.46 195.80 137.26 17 53 32 1477.3 12.10 49.65
 60.00 18 29 10 2272.74 -1.13 51.96 200.73 130.29 19 7 3 1272.7 14.80 33.74
 70.00 20 9 33 1977.53 4.42 32.22 204.93 123.90 20 42 31 977.5 17.75 11.86
 80.00 22 15 57 1581.88 9.93 5.54 208.28 118.30 22 42 19 581.9 20.72 343.35
 90.00 0 19 49 1195.07 13.16 338.75 209.94 115.26 0 39 44 195.1 22.45 315.57
 100.00 1 2 44 1056.35 9.93 326.91 208.28 118.30 1 20 21 56.3 20.72 304.72
 110.00 1 12 56 1024.35 4.42 321.14 204.93 123.90 1 30 0 24.3 17.75 300.78

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3448 TRA -.8008 TC3 .3631 BAU .0822 SGT 1537.8 SGR 516.6 SG3 497.3 ST 34.3 SR 23.0 SS 31.4
 RDE -.2917 RRA .0865 RC3 .2547 FAU .08482 RRT .1055 RRF -.1189 RTF -.8108 CRT .7216 CRS .2843 CST .8664
 FDE .3204 FRA 2.3208 FC3-5.4910 BSP 2582 SGB 1622.2 R23 -.0227 R13 -.8111 LSA 47.0 MSA 21.9 SSA 1.4
 BDE .4517 BRA .8054 BC3 .4600 FSP 772 SG1 1538.9 SG2 513.3 THA 2.28 EL1 38.8 EL2 14.1 ALF 30.11

LAUNCH DATE MAY 4 1971

FLIGHT TIME 150.00

ARRIVAL DATE OCT 1 1971

HELIOCENTRIC CONIC DISTANCE 379.006 EARTH TO MARS
 RL 150.83 LAL .00 LOL 222.90 VL 32.788 GAL -1.25 AZL 91.99 HCA 126.84 SMA 193.79 ECC .22268 INC 1.9935 V1 29.340
 RP 207.21 LAP -1.60 LOP 349.76 VP 24.415 GAP 12.25 AZP 88.80 TAL 353.11 TAP 119.95 RCA 150.64 APO 236.94 V2 26.433
 RC 78.802 GL -18.44 GP 1.17 ZAL 108.55 ZAP 150.93 ETS 177.94 ZAE 173.17 ETE 31.26 ZAC 100.81 ETC 278.33 LVI -19.87

PLANETOCENTRIC CONIC
 C3 12.992 VHL 3.604 DLA -27.68 RAL 341.84 RAD 6639.6 VEL 11.535 PTH 6.58 VHP 5.291 DPA -15.24 RAP 323.32 ECC 1.2138
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 13 59 2463.08 -5.55 64.86 195.58 137.33 17 55 2 1463.1 12.80 49.03
 60.00 18 31 42 2256.33 -1.40 51.18 200.52 130.30 19 9 19 1256.3 15.48 32.89
 70.00 20 13 32 1956.87 5.21 31.14 204.75 123.80 20 46 9 956.9 18.45 10.66
 80.00 22 23 13 1550.89 10.93 3.78 208.21 117.96 22 49 4 550.9 21.49 341.38
 90.00 0 32 58 1145.13 14.59 335.78 210.06 114.50 0 52 3 145.1 23.45 312.25
 100.00 1 10 1 1025.36 10.93 325.15 208.21 117.96 1 27 6 25.4 21.49 302.75
 110.00 1 16 55 1003.69 5.21 320.05 204.75 123.80 1 33 38 3.7 18.45 299.58

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3382 TRA -.7830 TC3 .3859 BAU .0812 SGT 1530.3 SGR 510.0 SG3 529.6 ST 34.2 SR 22.6 SS 32.2
 RDE -.2831 RRA .0815 RC3 .2638 FAU .08905 RRT .1145 RRF -.1298 RTF -.8095 CRT .7233 CRS .2717 CST .8583
 FDE .3213 FRA 2.4290 FC3-5.9336 BSP 2574 SGB 1613.0 R23 -.0260 R13 -.8099 LSA 47.2 MSA 22.1 SSA 1.4
 BDE .4411 BRA .7872 BC3 .4674 FSP 827 SG1 1531.5 SG2 506.2 THA 2.45 EL1 38.6 EL2 13.8 ALF 29.79

LAUNCH DATE MAY 4 1971

FLIGHT TIME 152.00

ARRIVAL DATE OCT 3 1971

HELIOCENTRIC CONIC
 RL 150.83 LAL .00 LOL 222.90 VL 32.739 GAL -1.21 AZL 92.00 HCA 128.10 SMA 192.93 ECC .21916 INC 2.0007 V1 29.940
 RP 207.31 LAP -1.57 LOP 331.02 VP 24.340 GAP 11.93 AZP 88.77 TAL 353.27 TAP 121.37 RCA 190.65 APO 235.21 V2 26.422
 RC 80.098 GL -18.75 GP 1.22 ZAL 106.36 ZAP 149.55 ETS 177.96 ZAE 173.79 ETE 33.82 ZAC 100.88 ETC 278.31 LVI -19.89

DISTANCE 382.939 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 12.642 VHL 3.536 DLA -28.02 RAL 341.81 RAD 6639.4 VEL 11.520 PTH 6.57 VHP 5.135 DPA -15.23 RAP 323.18 ECC 1.2081
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 15 43 2449.40 -4.87 64.28 195.38 137.39 17 56 32 1449.4 13.47 48.42
 60.00 18 34 15 2240.48 .29 50.42 200.33 130.30 19 11 35 1240.5 16.14 32.07
 70.00 20 17 34 1936.66 5.97 30.07 204.61 123.69 20 49 50 936.7 19.11 9.48
 80.00 22 30 56 1519.05 11.94 1.95 208.19 117.57 22 56 15 519.1 22.26 339.33
 90.00 0 50 33 1081.47 16.35 331.94 210.36 113.40 1 8 35 81.5 24.59 307.94
 100.00 1 17 44 6281.56 11.94 301.23 208.19 117.57 3 2 26 5281.6 22.26 278.60
 110.00 1 20 56 6271.52 5.97 296.90 204.61 123.69 3 5 27 5271.5 19.11 276.30

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3319 TRA -.7648 TC3 .3865 BAW .0800 SGT 1520.0 SGR 503.2 SG3 563.7 ST 34.0 SR 22.2 SS 33.1
 RDE -.2748 RRA .0765 RC3 .2731 FAU .09353 RRT .1245 RRF -.1418 RTF -.8077 CRT .7258 CRS .2588 CST .8498
 FDE .3214 FRA 2.5432 FC3-6.4050 BSP 2563 SGB 1601.2 R23 -.0293 R13 -.8082 LSA 47.3 MSA 22.4 SSA 1.4
 BDE .4309 BRA .7686 BC3 .4732 FSP 887 SG1 1521.5 SG2 498.9 THA 2.64 EL1 37.3 EL2 13.6 ALF 29.49

LAUNCH DATE MAY 4 1971

FLIGHT TIME 154.00

ARRIVAL DATE OCT 5 1971

HELIOCENTRIC CONIC
 RL 150.83 LAL .00 LOL 222.90 VL 32.698 GAL -1.17 AZL 92.01 HCA 129.36 SMA 192.13 ECC .21586 INC 2.0082 V1 29.540
 RP 207.42 LAP -1.55 LOP 352.28 VP 24.268 GAP 11.61 AZP 88.73 TAL 353.42 TAP 122.78 RCA 150.66 APO 233.61 V2 26.409
 RC 81.730 GL -19.05 GP 1.28 ZAL 108.18 ZAP 148.12 ETS 177.98 ZAE 174.44 ETE 37.45 ZAC 100.96 ETC 278.28 LVI -19.90

DISTANCE 386.896 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 12.320 VHL 3.510 DLA -28.36 RAL 341.79 RAD 6639.2 VEL 11.506 PTH 6.55 VHP 4.985 DPA -15.23 RAP 323.00 ECC 1.2028
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 17 26 2436.29 -4.21 63.73 195.20 137.43 17 58 3 1436.3 14.12 47.84
 60.00 18 36 47 2225.21 .97 49.69 200.18 130.29 19 13 53 1225.2 16.77 31.27
 70.00 20 21 37 1916.93 6.72 29.03 204.50 123.57 20 53 34 916.9 19.76 8.31
 80.00 22 39 13 1486.03 12.97 .05 208.22 117.13 23 3 59 486.0 23.03 337.18
 87.83 1 5 43 1026.41 19.35 329.20 211.19 111.14 1 22 49 26.4 26.36 304.35
 100.00 1 26 1 6246.54 12.97 299.32 208.22 117.13 3 10 10 5248.5 23.03 276.45
 110.00 1 24 59 6251.78 6.72 295.85 204.50 123.57 3 9 11 5251.8 19.76 275.13

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3260 TRA -.7448 TC3 .3784 BAW .0778 SGT 1504.2 SGR 496.4 SG3 599.2 ST 33.7 SR 21.9 SS 34.0
 RDE -.2667 RRA .0715 RC3 .2823 FAU .09815 RRT .1352 RRF -.1551 RTF -.8042 CRT .7297 CRS .2488 CST .8412
 FDE .3235 FRA 2.6622 FC3-6.8965 BSP 2533 SGB 1584.0 R23 -.0337 R13 -.8048 LSA 47.5 MSA 22.6 SSA 1.4
 BDE .4212 BRA .7483 BC3 .4721 FSP 947 SG1 1505.9 SG2 491.3 THA 2.86 EL1 37.9 EL2 13.3 ALF 29.24

LAUNCH DATE MAY 4 1971

FLIGHT TIME 156.00

ARRIVAL DATE OCT 7 1971

HELIOCENTRIC CONIC
 RL 150.83 LAL .00 LOL 222.90 VL 32.655 GAL -1.13 AZL 92.02 HCA 130.62 SMA 191.39 ECC .21278 INC 2.0160 V1 29.540
 RP 207.54 LAP -1.53 LOP 353.54 VP 24.198 GAP 11.31 AZP 88.69 TAL 353.56 TAP 124.19 RCA 150.67 APO 232.12 V2 26.395
 RC 83.399 GL -19.34 GP 1.34 ZAL 108.01 ZAP 146.66 ETS 177.99 ZAE 175.13 ETE 42.70 ZAC 101.05 ETC 278.24 LVI -19.90

DISTANCE 390.874 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 12.025 VHL 3.468 DLA -28.68 RAL 341.78 RAD 6639.1 VEL 11.494 PTH 6.54 VHP 4.841 DPA -15.23 RAP 322.78 ECC 1.1979
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 19 10 2423.70 -3.58 63.20 195.06 137.47 17 59 34 1423.7 14.73 47.27
 60.00 18 39 20 2210.46 1.62 48.99 200.05 130.27 19 16 10 1210.5 17.38 30.49
 70.00 20 25 43 1897.59 7.44 28.00 204.42 123.43 20 57 20 897.6 20.38 7.15
 80.00 22 48 16 1451.11 14.05 358.01 208.31 116.62 23 12 27 451.1 23.81 334.87
 85.01 0 42 15 1097.08 19.60 334.52 210.92 111.29 1 0 32 97.1 26.73 309.61
 100.00 1 35 4 6213.62 14.05 297.29 208.31 116.62 3 18 37 5213.6 23.81 274.15
 110.00 1 29 5 6232.45 7.44 294.83 204.42 123.43 3 12 57 5232.4 20.38 273.98

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3083 TRA -.7144 TC3 .4029 BAW .0800 SGT 1465.5 SGR 489.3 SG3 637.2 ST 32.5 SR 21.4 SS 34.7
 RDE -.2586 RRA .0667 RC3 .2822 FAU .10352 RRT .1468 RRF -.1689 RTF -.8096 CRT .7262 CRS .2288 CST .8316
 FDE .3113 FRA 2.7802 FC3-7.4328 BSP 2358 SGB 1549.0 R23 -.0339 R13 -.8104 LSA 46.9 MSA 22.8 SSA 1.3
 BDE .4024 BRA .7175 BC3 .4977 FSP 1001 SG1 1467.5 SG2 483.3 THA 3.15 EL1 36.7 EL2 13.1 ALF 29.78

LAUNCH DATE MAY 4 1971

FLIGHT TIME 158.00

ARRIVAL DATE OCT 9 1971

HELIOCENTRIC CONIC
 RL 150.83 LAL .00 LOL 222.90 VL 32.617 GAL -1.09 AZL 92.02 HCA 131.88 SMA 190.71 ECC .20991 INC 2.0241 V1 29.540
 RP 207.66 LAP -1.51 LOP 354.80 VP 24.130 GAP 11.01 AZP 88.65 TAL 353.69 TAP 125.57 RCA 150.68 APO 230.74 V2 26.381
 RC 85.104 GL -19.63 GP 1.40 ZAL 107.86 ZAP 145.17 ETS 178.00 ZAE 175.80 ETE 50.39 ZAC 101.15 ETC 278.19 LVI -19.90

DISTANCE 394.870 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 11.756 VHL 3.429 DLA -28.99 RAL 341.79 RAD 6638.9 VEL 11.482 PTH 6.53 VHP 4.704 DPA -15.25 RAP 322.53 ECC 1.1935
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 20 54 2411.80 -2.98 62.70 194.94 137.50 18 1 6 1411.8 15.31 46.74
 60.00 18 41 51 2196.44 2.23 48.32 199.95 130.25 19 18 28 1196.4 17.95 29.75
 70.00 20 29 48 1878.93 8.14 27.01 204.38 123.28 21 1 7 878.9 20.97 6.03
 80.00 22 58 16 1413.89 15.17 355.82 208.46 116.03 23 21 49 413.9 24.59 332.39
 83.33 0 28 40 1136.24 20.01 337.53 210.69 111.43 0 47 36 136.2 27.08 312.57
 100.00 1 45 3 6176.40 15.17 295.09 208.46 116.03 3 28 0 5176.4 24.59 271.66
 110.00 1 33 11 6213.79 8.14 293.83 204.38 123.28 3 16 44 5213.8 20.97 272.85

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3122 TRA -.7018 TC3 .3549 BAW .0732 SGT 1459.1 SGR 482.2 SG3 676.8 ST 32.9 SR 21.1 SS 35.0
 RDE -.2511 RRA .0618 RC3 .3013 FAU .10834 RRT .1585 RRF -.1892 RTF -.7956 CRT .7380 CRS .2248 CST .8206
 FDE .3213 FRA 2.9212 FC3-7.9784 BSP 2436 SGB 1536.7 R23 -.0447 R13 -.7966 LSA 47.8 MSA 23.0 SSA 1.4
 BDE .4006 BRA .7045 BC3 .4656 FSP 1080 SG1 1461.3 SG2 475.4 THA 3.35 EL1 37.0 EL2 12.7 ALF 28.96

LAUNCH DATE MAY 4 1971

FLIGHT TIME 160.00

ARRIVAL DATE OCT 11 1971

HELIOCENTRIC CONIC
 RL 150.83 LAL .00 LOL 222.90 VL 32.981 GAL -1.08 AZL 92.03 HCA 133.14 SMA 190.07 ECC .20725 INC 2.0324 V1 29.540
 RP 207.80 LAP -1.48 LOP 356.05 VP 24.063 GAP 10.71 AZP 88.61 TAL 353.81 TAP 126.95 RCA 150.68 APO 229.46 V2 26.365
 RC 86.843 GL -19.91 GP 1.47 ZAL 107.72 ZAP 143.63 ETS 178.01 ZAE 176.40 ETE 61.85 ZAC 101.25 ETC 278.14 LVI -19.89

DISTANCE 398.885 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 11.510 VHL 3.393 DLA -29.29 RAL 341.81 RAD 6638.8 VEL 11.471 PTH 6.52 VHP 4.571 DPA -15.27 RAP 322.24 ECC 1.1894
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 22 38 2400.44 -2.41 62.23 194.86 137.53 18 2 38 1400.4 15.86 46.22
 60.00 18 44 23 2182.98 2.82 47.67 199.88 130.22 19 20 46 1183.0 18.49 29.03
 70.00 20 33 55 1860.73 8.82 26.04 204.37 123.13 21 4 56 660.7 21.54 4.93
 80.00 23 9 52 1372.09 16.40 353.33 208.71 115.30 23 32 44 372.1 25.42 329.58
 82.03 0 18 21 1165.21 20.31 339.80 210.49 111.57 0 37 46 165.2 27.41 314.77
 100.00 1 56 40 8134.80 16.40 292.60 208.71 115.30 3 38 54 3134.6 25.42 268.83
 110.00 1 37 18 6195.59 8.82 292.86 204.37 123.13 3 20 34 3193.6 21.54 271.75

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3078 TRA -.6820 TC3 .3246 BAU .0692 SGT 1436.3 SGR 475.0 SG3 718.7 ST 32.7 SR 20.8 SS 36.9
 RDE -.2436 RRA .0564 RC3 .3109 FAU .11366 RRT .1701 RRF -.2020 RTF -.7868 CRT .7448 CR8 .2148 CST .8089
 FDE .3211 FRA 3.0658 FC3-8.5490 B8P 2404 SGB 1512.8 R23 -.0531 R13 -.7881 LSA 48.1 MSA 23.3 S8A 1.4
 BDE .3926 BRA .6843 BC3 .4495 F8P 1154 SGI 1438.8 SG2 467.3 THA 3.60 EL1 36.7 EL2 12.3 ALF 28.70

LAUNCH DATE MAY 4 1971

FLIGHT TIME 162.00

ARRIVAL DATE OCT 13 1971

HELIOCENTRIC CONIC
 RL 150.83 LAL .00 LOL 222.90 VL 32.548 GAL -1.03 AZL 92.04 HCA 134.39 SMA 189.49 ECC .20474 INC 2.0411 V1 29.540
 RP 207.94 LAP -1.46 LOP 357.31 VP 24.002 GAP 10.43 AZP 88.57 TAL 353.92 TAP 126.31 RCA 150.69 APO 226.28 V2 26.349
 RC 88.616 GL -20.18 GP 1.54 ZAL 107.60 ZAP 142.06 ETS 178.02 ZAE 176.82 ETE 78.33 ZAC 101.37 ETC 278.08 LVI -19.88

DISTANCE 402.917 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 11.285 VHL 3.359 DLA -29.58 RAL 341.84 RAD 6638.7 VEL 11.462 PTH 6.51 VHP 4.444 DPA -15.30 RAP 321.90 ECC 1.1857
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 24 22 2389.67 -1.87 61.78 194.79 137.55 18 4 12 1389.7 16.38 45.73
 60.00 18 46 53 2170.13 3.39 47.06 199.84 130.18 19 23 4 1170.1 19.01 28.34
 70.00 20 38 4 1843.07 9.48 25.09 204.38 122.97 21 8 48 843.1 22.09 3.85
 80.00 23 24 35 1321.01 17.86 350.24 209.09 114.33 23 46 36 321.0 26.34 326.04
 80.95 0 9 58 1188.42 20.81 341.64 210.33 111.70 0 29 46 188.4 27.73 316.56
 100.00 2 11 23 6083.52 17.86 289.51 209.09 114.33 3 52 46 5083.5 26.34 265.32
 110.00 1 41 27 6177.93 9.48 291.91 204.38 122.97 3 24 25 5177.9 22.09 270.87

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3033 TRA -.6975 TC3 .2905 BAU .0653 SGT 1403.0 SGR 468.0 SG3 761.5 ST 32.3 SR 20.2 SS 38.0
 RDE -.2363 RRA .0513 RC3 .3207 FAU .11919 RRT .1840 RRF -.2214 RTF -.7767 CRT .7539 CR8 .2094 CST .7973
 FDE .3246 FRA 3.2104 FC3-9.1434 B8P 2340 SGB 1479.0 R23 -.0624 R13 -.7783 LSA 48.4 MSA 23.5 S8A 1.4
 BDE .3845 BRA .6595 BC3 .4327 F8P 1229 SGI 1406.0 SG2 459.0 THA 3.93 EL1 36.2 EL2 11.8 ALF 28.60

LAUNCH DATE MAY 4 1971

FLIGHT TIME 164.00

ARRIVAL DATE OCT 15 1971

HELIOCENTRIC CONIC
 RL 150.83 LAL .00 LOL 222.90 VL 32.517 GAL -1.01 AZL 92.05 HCA 135.65 SMA 188.94 ECC .20243 INC 2.0502 V1 29.540
 RP 208.08 LAP -1.43 LOP 358.56 VP 23.941 GAP 10.15 AZP 88.53 TAL 354.01 TAP 129.66 RCA 150.70 APO 227.19 V2 26.332
 RC 90.421 GL -20.45 GP 1.62 ZAL 107.49 ZAP 140.44 ETS 178.03 ZAE 176.89 ETE 98.97 ZAC 101.50 ETC 278.01 LVI -19.85

DISTANCE 406.965 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 11.081 VHL 3.329 DLA -29.86 RAL 341.88 RAD 6638.6 VEL 11.453 PTH 6.50 VHP 4.323 DPA -15.34 RAP 321.52 ECC 1.1824
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 26 8 2379.47 -1.36 61.35 194.76 137.56 18 5 46 1379.5 16.88 45.26
 60.00 18 49 23 2157.90 3.93 46.47 199.83 130.14 19 23 21 1157.9 19.50 27.68
 70.00 20 42 14 1825.96 10.11 24.17 204.43 122.80 21 12 40 826.0 22.61 2.79
 80.00 23 55 43 1218.20 20.62 343.86 210.08 112.08 24 16 1 218.2 27.90 318.81
 80.01 0 2 56 1207.71 20.88 343.19 210.20 111.83 0 23 3 207.7 28.03 318.08
 100.00 2 42 31 5980.70 20.62 283.13 210.08 112.08 4 22 11 4980.7 27.90 258.08
 110.00 1 45 36 6160.82 10.11 290.99 204.43 122.80 3 28 17 5160.8 22.61 269.61

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2975 TRA -.6312 TC3 .2536 BAU .0618 SGT 1363.8 SGR 461.0 SG3 806.6 ST 31.8 SR 19.8 SS 39.0
 RDE -.2292 RRA .0461 RC3 .3308 FAU .12514 RRT .1982 RRF -.2424 RTF -.7548 CRT .7632 CR8 .2011 CST .7833
 FDE .3233 FRA 3.3602 FC3-9.7766 B8P 2257 SGB 1439.6 R23 -.0736 R13 -.7669 LSA 48.5 MSA 23.7 S8A 1.3
 BDE .3756 BRA .6329 BC3 .4189 F8P 1308 SGI 1367.3 SG2 450.7 THA 4.30 EL1 35.6 EL2 11.4 ALF 28.60

LAUNCH DATE MAY 4 1971

FLIGHT TIME 166.00

ARRIVAL DATE OCT 17 1971

HELIOCENTRIC CONIC
 RL 150.83 LAL .00 LOL 222.90 VL 32.488 GAL -1.98 AZL 92.06 HCA 136.90 SMA 188.44 ECC .20028 INC 2.0597 V1 29.540
 RP 208.24 LAP -1.41 LOP 359.81 VP 23.882 GAP 9.87 AZP 88.50 TAL 354.10 TAP 130.99 RCA 150.70 APO 226.18 V2 26.313
 RC 92.259 GL -20.71 GP 1.70 ZAL 107.40 ZAP 138.79 ETS 178.04 ZAE 176.54 ETE 119.12 ZAC 101.63 ETC 277.93 LVI -19.82

DISTANCE 411.028 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 10.896 VHL 3.301 DLA -30.12 RAL 341.94 RAD 6638.5 VEL 11.445 PTH 6.50 VHP 4.207 DPA -15.39 RAP 321.10 ECC 1.1793
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 27 51 2369.83 -.87 60.95 194.76 137.57 18 7 21 1369.8 17.34 44.82
 60.00 18 51 53 2146.26 4.44 45.91 199.85 130.10 19 27 39 1146.3 19.97 27.05
 70.00 20 46 24 1809.36 10.72 23.27 204.51 122.62 21 16 33 809.4 23.11 1.76
 79.18 23 52 59 1224.17 21.15 344.53 210.10 111.96 24 13 23 224.2 28.32 319.34
 79.18 23 52 59 1224.17 21.15 344.53 210.10 111.96 24 13 23 224.2 28.32 319.34
 79.18 23 52 59 1224.17 21.15 344.53 210.10 111.96 24 13 23 224.2 28.32 319.34
 110.00 1 49 46 6144.22 10.72 290.10 204.51 122.62 3 32 10 5144.2 23.11 268.58

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2863 TRA -.5980 TC3 .2279 BAU .0598 SGT 1307.5 SGR 454.1 SG3 853.2 ST 30.7 SR 19.3 SS 39.8
 RDE -.2221 RRA .0409 RC3 .3416 FAU .13155 RRT .2140 RRF -.2652 RTF -.7560 CRT .7708 CR8 .1894 CST .7682
 FDE .3153 FRA 3.5093 FC3-10.4527 B8P 2082 SGB 1384.1 R23 -.0844 R13 -.7587 LSA 48.3 MSA 23.0 S8A 1.3
 BDE .3624 BRA .5994 BC3 .4106 F8P 1377 SGI 1311.6 SG2 442.2 THA 4.80 EL1 34.6 EL2 10.9 ALF 29.06

LAUNCH DATE MAY 4 1971 FLIGHT TIME 160.00 ARRIVAL DATE OCT 19 1971

Table for flight 160.00: HELIOCENTRIC CONIC, PLANETOCENTRIC CONIC, DIFFERENTIAL CORRECTIONS, MID-COURSE EXECUTION ACCURACY, ORBIT DETERMINATION ACCURACY.

LAUNCH DATE MAY 4 1971 FLIGHT TIME 170.00 ARRIVAL DATE OCT 21 1971

Table for flight 170.00: HELIOCENTRIC CONIC, PLANETOCENTRIC CONIC, DIFFERENTIAL CORRECTIONS, MID-COURSE EXECUTION ACCURACY, ORBIT DETERMINATION ACCURACY.

LAUNCH DATE MAY 4 1971 FLIGHT TIME 172.00 ARRIVAL DATE OCT 23 1971

Table for flight 172.00: HELIOCENTRIC CONIC, PLANETOCENTRIC CONIC, DIFFERENTIAL CORRECTIONS, MID-COURSE EXECUTION ACCURACY, ORBIT DETERMINATION ACCURACY.

LAUNCH DATE MAY 4 1971 FLIGHT TIME 174.00 ARRIVAL DATE OCT 25 1971

Table for flight 174.00: HELIOCENTRIC CONIC, PLANETOCENTRIC CONIC, DIFFERENTIAL CORRECTIONS, MID-COURSE EXECUTION ACCURACY, ORBIT DETERMINATION ACCURACY.

LAUNCH DATE MAY 4 1971 FLIGHT TIME 176.00 ARRIVAL DATE OCT 27 1971

HELIOCENTRIC CONIC DISTANCE 431.516 EARTH TO MARS
RL 150.83 LAL .00 LOL 222.90 VL 32.373 GAL -.92 AZL 92.11 HCA 143.12 SMA 186.47 ECC .19175 INC 2.1145 V1 29.840

PLANETOCENTRIC CONIC
C3 10.222 VHL 3.197 DLA -31.24 RAL 342.51 RAD 6636.2 VEL 11.416 PTH 6.47 VHP 3.707 DPA -15.73 RAP 318.34 ECC 1.1682
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.2739 TRA -.4449 TC3 -.1807 BAU .0597 SGT 1060.1 SGR 425.4 SG3 1108.3 ST 28.2 SR 17.0 SS 45.7

LAUNCH DATE MAY 4 1971 FLIGHT TIME 178.00 ARRIVAL DATE OCT 29 1971

HELIOCENTRIC CONIC DISTANCE 435.645 EARTH TO MARS
RL 150.83 LAL .00 LOL 222.90 VL 32.355 GAL -.91 AZL 92.13 HCA 144.36 SMA 186.17 ECC .19043 INC 2.1274 V1 29.540

PLANETOCENTRIC CONIC
C3 10.131 VHL 3.183 DLA -31.43 RAL 342.68 RAD 6638.1 VEL 11.412 PTH 6.48 VHP 3.623 DPA -15.81 RAP 317.66 ECC 1.1667
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.2646 TRA -.4015 TC3 -.2636 BAU .0662 SGT 986.1 SGR 421.6 SG3 1162.5 ST 27.0 SR 16.5 SS 46.6

LAUNCH DATE MAY 4 1971 FLIGHT TIME 180.00 ARRIVAL DATE OCT 31 1971

HELIOCENTRIC CONIC DISTANCE 439.779 EARTH TO MARS
RL 150.83 LAL .00 LOL 222.90 VL 32.339 GAL -.91 AZL 92.14 HCA 145.60 SMA 185.89 ECC .18923 INC 2.1409 V1 29.540

PLANETOCENTRIC CONIC
C3 10.054 VHL 3.171 DLA -31.60 RAL 342.87 RAD 6638.1 VEL 11.408 PTH 6.46 VHP 3.543 DPA -15.90 RAP 316.95 ECC 1.1655
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.2706 TRA -.3703 TC3 -.4177 BAU .0800 SGT 962.8 SGR 418.7 SG3 1216.3 ST 27.1 SR 16.1 SS 48.2

LAUNCH DATE MAY 4 1971 FLIGHT TIME 182.00 ARRIVAL DATE NOV 2 1971

HELIOCENTRIC CONIC DISTANCE 443.922 EARTH TO MARS
RL 150.83 LAL .00 LOL 222.90 VL 32.324 GAL -.91 AZL 92.16 HCA 146.83 SMA 185.64 ECC .18814 INC 2.1553 V1 29.540

PLANETOCENTRIC CONIC
C3 9.989 VHL 3.161 DLA -31.77 RAL 343.09 RAD 6638.0 VEL 11.406 PTH 6.46 VHP 3.469 DPA -15.98 RAP 316.19 ECC 1.1644
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.2687 TRA -.3286 TC3 -.5440 BAU .0932 SGT 920.0 SGR 417.2 SG3 1271.3 ST 26.5 SR 15.6 SS 49.4

LAUNCH DATE MAY 4 1971

FLIGHT TIME 184.00

ARRIVAL DATE NOV 4 1971

HELIOCENTRIC CONIC
 RL 150.83 LAL .00 LOL 222.90 VL 32.310 GAL -.92 AZL 92.17 HCA 148.06 SMA 189.41 ECC .18716 INC 2.1707 V1 29.540
 RP 209.99 LAP -1.15 LOP 10.98 VP 23.413 GAP 7.66 AZP 88.16 TAL 394.17 TAP 142.23 RCA 150.71 APO 220.12 V2 26.111
 RC 110.071 GL -22.84 GP 2.88 ZAL 107.40 ZAP 122.17 ETS 178.12 ZAE 164.21 ETE 168.92 ZAC 103.31 ETC 276.79 LVI -19.18

PLANETOCENTRIC CONIC
 C3 9.936 VHL 3.152 DLA -31.92 RAL 343.32 RAD 6638.0 VEL 11.403 PTH 6.46 VHP 3.399 DPA -16.06 RAP 315.40 ECC 1.1635
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 44 9 2308.29 2.22 58.38 196.00 137.54 18 22 34 1308.3 20.28 41.92
 60.00 19 13 48 2069.56 7.79 42.20 201.32 129.67 19 48 17 1069.6 22.96 22.77
 70.00 21 23 26 1687.89 15.08 16.97 206.59 121.01 21 51 34 687.9 26.49 353.95
 74.54 23 25 22 1310.22 22.84 351.75 210.76 112.93 23 47 12 310.2 30.24 326.23
 74.54 23 25 22 1310.22 22.84 351.75 210.76 112.93 23 47 12 310.2 30.24 326.23
 74.54 23 25 22 1310.22 22.84 351.75 210.76 112.93 23 47 12 310.2 30.24 326.23
 110.00 2 26 48 6022.75 15.08 283.40 206.59 121.01 4 7 11 5022.7 26.49 260.78

DIFFERENTIAL CORRECTIONS
 TDE -.2673 TRA -.2843 TC3 -.6827 BAU .1088 SGT 889.9 SGR 417.1 SG3 1324.9 ST 26.0 SR 15.1 SS 50.6
 RDE -.1862 RRA -.0178 RC3 .4524 FAU .19042 RRT .1272 RRF -.5668 RTF -.1948 CRT .9473 CRS .2466 CST .5344
 FDE .3933 FRA 5.2250 FC-16.5913 BSP 867 SGB 982.8 R23 -.5393 R13 -.2139 LSA 53.2 MSA 25.2 SSA 1.1
 BDE .3147 BRA .2849 BC3 .8190 FSP 2240 SG1 891.9 SG2 412.8 THA 4.34 EL1 29.7 EL2 4.2 ALF 29.54

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 4 1971

FLIGHT TIME 186.00

ARRIVAL DATE NOV 6 1971

HELIOCENTRIC CONIC
 RL 150.83 LAL .00 LOL 222.90 VL 32.298 GAL -.92 AZL 92.19 HCA 149.29 SMA 185.21 ECC .18627 INC 2.1872 V1 29.540
 RP 210.22 LAP -1.12 LOP 12.20 VP 23.368 GAP 7.44 AZP 88.12 TAL 354.11 TAP 143.40 RCA 150.71 APO 219.71 V2 26.085
 RC 112.177 GL -23.07 GP 2.82 ZAL 107.59 ZAP 120.16 ETS 178.13 ZAE 162.41 ETE 169.91 ZAC 103.55 ETC 276.62 LVI -19.07

PLANETOCENTRIC CONIC
 C3 9.895 VHL 3.146 DLA -32.07 RAL 343.58 RAD 6638.0 VEL 11.401 PTH 6.45 VHP 3.335 DPA -16.14 RAP 314.57 ECC 1.1629
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 46 1 2303.94 2.44 58.19 196.28 137.53 18 24 25 1303.9 20.49 41.71
 60.00 19 16 14 2063.84 8.03 41.92 201.63 129.63 19 50 38 1063.8 23.18 22.44
 70.00 21 27 31 1677.27 15.46 15.97 206.97 120.84 21 55 29 677.3 26.77 353.25
 74.21 23 24 12 1316.26 22.96 352.27 211.01 113.02 23 46 8 316.3 30.38 326.72
 74.21 23 24 12 1316.26 22.96 352.27 211.01 113.02 23 46 8 316.3 30.38 326.72
 74.21 23 24 12 1316.26 22.96 352.27 211.01 113.02 23 46 8 316.3 30.38 326.72
 110.00 2 30 54 6012.13 15.46 282.80 206.97 120.84 4 11 6 5012.1 26.77 260.07

DIFFERENTIAL CORRECTIONS
 TDE -.2648 TRA -.2373 TC3 -.8252 BAU .1255 SGT 872.9 SGR 418.7 SG3 1379.0 ST 25.3 SR 14.6 SS 51.8
 RDE -.1605 RRA -.0261 RC3 .4681 FAU .19714 RRT .0454 RRF -.6085 RTF -.0488 CRT .9671 CRS .2632 CST .4872
 FDE .4043 FRA 5.4350 FC-17.2475 BSP 681 SGB 968.1 R23 -.6062 R13 -.0570 LSA 53.8 MSA 25.3 SSA 1.1
 BDE .3094 BRA .2367 BC3 .9487 FSP 2333 SG1 873.1 SG2 418.1 THA 1.62 EL1 29.0 EL2 3.2 ALF 29.65

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 4 1971

FLIGHT TIME 188.00

ARRIVAL DATE NOV 8 1971

HELIOCENTRIC CONIC
 RL 150.83 LAL .00 LOL 222.90 VL 32.287 GAL -.93 AZL 92.20 HCA 150.51 SMA 185.02 ECC .18548 INC 2.2049 V1 29.540
 RP 210.45 LAP -1.09 LOP 13.43 VP 23.323 GAP 7.22 AZP 88.08 TAL 354.02 TAP 144.54 RCA 150.71 APO 219.34 V2 26.058
 RC 114.307 GL -23.29 GP 2.98 ZAL 107.71 ZAP 118.12 ETS 178.16 ZAE 160.56 ETE 170.71 ZAC 103.80 ETC 276.45 LVI -18.97

PLANETOCENTRIC CONIC
 C3 9.888 VHL 3.141 DLA -32.21 RAL 343.86 RAD 6638.0 VEL 11.400 PTH 6.45 VHP 3.275 DPA -16.21 RAP 313.71 ECC 1.1624
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 48 0 2299.97 2.64 58.03 196.60 137.52 18 26 20 1300.0 20.67 41.52
 60.00 19 18 43 2058.55 8.26 41.67 201.97 129.59 19 53 1 1058.6 23.38 22.14
 70.00 21 31 40 1667.05 15.81 15.40 207.39 120.67 21 59 27 667.0 27.03 352.57
 73.91 23 23 16 1322.03 23.07 352.76 211.29 113.12 23 45 18 322.0 30.52 327.19
 73.91 23 23 16 1322.03 23.07 352.76 211.29 113.12 23 45 18 322.0 30.52 327.19
 73.91 23 23 16 1322.03 23.07 352.76 211.29 113.12 23 45 18 322.0 30.52 327.19
 110.00 2 35 2 8001.91 15.81 282.22 207.39 120.67 4 15 4 5001.9 27.03 259.39

DIFFERENTIAL CORRECTIONS
 TDE -.2593 TRA -.1834 TC3 -.9648 BAU .1425 SGT 884.5 SGR 422.1 SG3 1429.8 ST 24.4 SR 14.2 SS 52.8
 RDE -.1547 RRA -.0344 RC3 .4858 FAU .20431 RRT -.0607 RRF -.6903 RTF .4.82 CRT .9837 CRS .2772 CST .4261
 FDE .4044 FRA 5.6141 FC-17.9282 BSP 519 SGB 968.1 R23 -.6419 R13 -.1304 LSA 54.1 MSA 25.2 SSA 1.1
 BDE .3019 BRA .1866 BC3 1.0001 FSP 2409 SG1 885.0 SG2 421.1 THA 177.78 EL1 28.1 EL2 2.2 ALF 29.92

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 4 1971

FLIGHT TIME 190.00

ARRIVAL DATE NOV 10 1971

HELIOCENTRIC CONIC
 RL 150.83 LAL .00 LOL 222.90 VL 32.277 GAL -.93 AZL 92.22 HCA 151.74 SMA 184.86 ECC .18478 INC 2.2238 V1 29.540
 RP 210.70 LAP -1.05 LOP 14.65 VP 23.278 GAP 7.01 AZP 88.04 TAL 353.93 TAP 145.66 RCA 150.70 APO 219.02 V2 26.030
 RC 116.460 GL -23.52 GP 3.14 ZAL 107.86 ZAP 116.06 ETS 178.18 ZAE 158.66 ETE 171.36 ZAC 104.06 ETC 276.26 LVI -18.86

PLANETOCENTRIC CONIC
 C3 9.849 VHL 3.138 DLA -32.34 RAL 344.17 RAD 6638.0 VEL 11.399 PTH 6.45 VHP 3.220 DPA -16.28 RAP 312.83 ECC 1.1621
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 50 2 2286.44 2.81 57.88 196.95 137.51 18 28 19 1296.4 20.84 41.35
 60.00 19 21 13 2053.76 8.47 41.43 202.34 129.55 19 55 27 1053.8 23.56 21.86
 70.00 21 38 49 1657.35 16.15 14.85 207.84 120.51 22 3 27 657.4 27.27 351.92
 73.62 23 22 37 1327.53 23.17 353.22 211.61 113.21 23 44 45 327.5 30.65 327.64
 73.62 23 22 37 1327.53 23.17 353.22 211.61 113.21 23 44 45 327.5 30.65 327.64
 73.62 23 22 37 1327.53 23.17 353.22 211.61 113.21 23 44 45 327.5 30.65 327.64
 110.00 2 39 12 5992.21 16.15 281.67 207.84 120.51 4 19 4 4992.2 27.27 258.74

DIFFERENTIAL CORRECTIONS
 TDE -.2624 TRA -.1366 TC3 -1.1470 BAU .1648 SGT 913.8 SGR 427.4 SG3 1480.9 ST 24.4 SR 13.7 SS 54.1
 RDE -.1496 RRA -.0442 RC3 .5013 FAU .20945 RRT -.1728 RRF -.6913 RTF .2682 CRT .9939 CRS .3118 CST .3777
 FDE .4442 FRA 5.8464 FC-18.4112 BSP 503 SGB 1008.8 R23 .6415 R13 -.2985 LSA 55.3 MSA 25.5 SSA 1.0
 BDE .3021 BRA .1436 BC3 1.2518 FSP 2523 SG1 917.6 SG2 419.3 THA 174.15 EL1 28.0 EL2 1.3 ALF 29.31

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 4 1971

FLIGHT TIME 200.00

ARRIVAL DATE NOV 20 1971

HELIOCENTRIC CONIC

DISTANCE 481.435

EARTH TO MARS

RL 150.83 LAL .00 LOL 222.90 VL 32.244 GAL -1.05 AZL 92.35 HCA 157.81 SMA 184.30 ECC .18247 INC 2.3462 V1 29.540
RP 212.01 LAP -.88 LOP 20.72 VP 23.063 GAP 6.01 AZP 87.83 TAL 353.21 TAP 151.02 RCA 150.67 APO 217.93 V2 25.880
RC 127.566 GL -24.76 GP 4.18 ZAL 108.85 ZAP 105.56 ETS 178.42 ZAE 148.68 ETE 173.23 ZAC 105.56 ETC 275.27 LVI -18.40

PLANETOCENTRIC CONIC

C3 9.931 VHL 3.151 DLA -32.96 RAL 346.07 RAD 6638.0 VEL 11.403 PTH 6.45 VHP 3.013 DPA -16.39 RAP 308.10 ECC 1.1634
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 1 36 2282.71 3.50 57.31 199.21 137.48 18 39 38 1282.7 21.49 40.68
60.00 19 33 9 2033.70 9.34 40.45 204.76 129.38 20 9 3 1033.7 24.31 20.70
70.00 21 59 18 1608.86 17.80 12.06 210.74 119.64 22 26 7 608.9 28.43 348.63
72.31 23 21 41 1355.59 23.55 355.55 213.83 113.76 23 44 16 355.6 31.21 329.92
72.31 23 21 41 1355.59 23.55 355.55 213.83 113.76 23 44 16 355.6 31.21 329.92
72.31 23 21 41 1355.59 23.55 355.55 213.83 113.76 23 44 16 355.6 31.21 329.92
110.00 3 2 40 5943.72 17.80 278.88 210.74 119.64 4 41 44 4943.7 28.43 255.45

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2561 TRA .1618 TC3-2.0468 BAU .2833 SGT 1415.6 SGR 494.8 SG3 1695.0 ST 23.9 SR 11.8 SS 59.3
RDE -.1246 RRA -.1015 RC3 .6045 FAU .23530 RRT -.6612 RRF -.8655 RTF .7687 CRT .8671 CR8 .4967 CST .0051
FDE .3797 FRA 6.7920 FC-20.5119 BSP 1624 SGB 1499.6 R23 .4282 R13 -.7964 LSA 59.6 MSA 26.0 SSA .8
BDE .2848 BRA .1910 BC3 2.1342 FSP 2916 SG1 1455.5 SG2 361.1 THA 166.11 EL1 26.2 EL2 5.4 ALF 24.25

LAUNCH DATE MAY 4 1971

FLIGHT TIME 202.00

ARRIVAL DATE NOV 22 1971

HELIOCENTRIC CONIC

DISTANCE 485.619

EARTH TO MARS

RL 150.83 LAL .00 LOL 222.90 VL 32.240 GAL -1.07 AZL 92.38 HCA 159.01 SMA 184.24 ECC .18223 INC 2.3785 V1 29.540
RP 212.29 LAP -.85 LOP 21.93 VP 23.022 GAP 5.82 AZP 87.78 TAL 353.02 TAP 152.04 RCA 150.66 APO 217.81 V2 25.848
RC 129.850 GL -25.05 GP 4.45 ZAL 109.09 ZAP 103.45 ETS 178.49 ZAE 146.62 ETE 173.42 ZAC 105.91 ETC 275.07 LVI -18.33

PLANETOCENTRIC CONIC

C3 9.983 VHL 3.160 DLA -33.10 RAL 346.53 RAD 6638.0 VEL 11.405 PTH 6.46 VHP 2.985 DPA -16.34 RAP 307.12 ECC 1.1643
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 4 19 2280.36 3.62 57.21 199.79 137.47 18 42 20 1280.4 21.60 40.57
60.00 19 38 25 2029.88 9.50 40.26 205.38 129.35 20 12 15 1029.9 24.45 20.47
70.00 22 5 10 1597.32 18.19 11.39 211.49 119.42 22 31 48 597.3 28.69 347.83
72.04 23 21 46 1362.05 23.61 356.08 214.40 113.90 23 44 28 362.1 31.33 330.44
72.04 23 21 46 1362.05 23.61 356.08 214.40 113.90 23 44 28 362.1 31.33 330.44
72.04 23 21 46 1362.05 23.61 356.08 214.40 113.90 23 44 28 362.1 31.33 330.44
110.00 3 8 33 5932.18 18.19 278.21 211.49 119.42 4 47 25 4932.2 28.69 254.65

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2546 TRA .2295 TC3-2.2355 BAU .3100 SGT 1567.1 SGR 517.8 SG3 1726.9 ST 24.4 SR 11.5 SS 60.2
RDE -.1201 RRA -.1158 RC3 .6289 FAU .23889 RRT -.7214 RRF -.8908 RTF .8130 CRT .7906 CR8 .5441 CST -.0763
FDE .6116 FRA 6.9580 FC-20.7167 BSP 1947 SGB 1650.4 R23 .3947 R13 -.8358 LSA 60.6 MSA 26.1 SSA .8
BDE .2815 BRA .2571 BC3 2.3223 FSP 2982 SG1 1613.2 SG2 348.4 THA 165.92 EL1 26.1 EL2 6.6 ALF 21.99

LAUNCH DATE MAY 4 1971

FLIGHT TIME 204.00

ARRIVAL DATE NOV 24 1971

HELIOCENTRIC CONIC

DISTANCE 489.805

EARTH TO MARS

RL 150.83 LAL .00 LOL 222.90 VL 32.236 GAL -1.10 AZL 92.41 HCA 160.21 SMA 184.18 ECC .18205 INC 2.4144 V1 29.540
RP 212.57 LAP -.82 LOP 23.13 VP 22.981 GAP 5.63 AZP 87.73 TAL 352.83 TAP 153.04 RCA 150.65 APO 217.71 V2 25.815
RC 132.153 GL -25.36 GP 4.74 ZAL 109.35 ZAP 101.35 ETS 178.57 ZAE 144.55 ETE 173.57 ZAC 106.29 ETC 274.86 LVI -18.31

PLANETOCENTRIC CONIC

C3 10.049 VHL 3.170 DLA -33.25 RAL 347.03 RAD 6638.1 VEL 11.408 PTH 6.46 VHP 2.981 DPA -16.27 RAP 306.15 ECC 1.1654
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 7 16 2277.93 3.74 57.11 200.41 137.46 18 43 14 1277.9 21.71 40.45
60.00 19 41 58 2025.85 9.68 40.06 206.06 129.32 20 15 44 1025.0 24.60 20.24
70.00 22 11 51 1583.94 18.63 10.61 212.33 119.15 22 38 15 583.9 28.99 346.90
71.74 23 21 51 1369.18 23.68 356.66 215.03 114.06 23 44 40 369.2 31.45 331.02
71.74 23 21 51 1369.18 23.68 356.66 215.03 114.06 23 44 40 369.2 31.45 331.02
71.74 23 21 51 1369.18 23.68 356.66 215.03 114.06 23 44 40 369.2 31.45 331.02
110.00 3 15 13 5918.80 18.63 277.43 212.33 119.15 4 53 52 4918.8 28.99 253.73

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2536 TRA .2992 TC3-2.4255 BAU .3375 SGT 1730.0 SGR 549.2 SG3 1756.1 ST 25.0 SR 11.3 SS 61.1
RDE -.1158 RRA -.1315 RC3 .6353 FAU .24211 RRT -.7706 RRF -.9128 RTF .5.61 CRT .6965 CR8 .5950 CST -.1580
FDE .6473 FRA 7.1208 FC-20.8588 BSP 2280 SGB 1813.9 R23 .3684 R13 -.8648 LSA 61.6 MSA 26.3 SSA .7
BDE .2788 BRA .3288 BC3 2.5125 FSP 3034 SG1 1782.2 SG2 337.3 THA 165.83 EL1 26.3 EL2 7.7 ALF 19.21

LAUNCH DATE MAY 4 1971

FLIGHT TIME 206.00

ARRIVAL DATE NOV 26 1971

HELIOCENTRIC CONIC

DISTANCE 493.992

EARTH TO MARS

RL 150.83 LAL .00 LOL 222.90 VL 32.234 GAL -1.14 AZL 92.45 HCA 161.41 SMA 184.14 ECC .18193 INC 2.4545 V1 29.540
RP 212.86 LAP -.78 LOP 24.32 VP 22.940 GAP 5.44 AZP 87.67 TAL 352.61 TAP 154.02 RCA 150.64 APO 217.64 V2 25.782
RC 134.475 GL -25.70 GP 5.06 ZAL 109.61 ZAP 99.27 ETS 178.67 ZAE 142.48 ETE 173.68 ZAC 106.69 ETC 274.66 LVI -18.30

PLANETOCENTRIC CONIC

C3 10.128 VHL 3.182 DLA -33.42 RAL 347.55 RAD 6638.1 VEL 11.412 PTH 6.46 VHP 2.941 DPA -16.15 RAP 305.17 ECC 1.1867
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 10 28 2275.35 3.87 57.00 201.09 137.46 18 48 23 1275.3 21.83 40.32
60.00 19 45 32 2021.39 9.87 39.84 206.79 129.27 20 19 33 1021.4 24.77 19.98
70.00 22 19 44 1567.58 19.17 9.65 213.27 118.82 22 45 51 567.6 29.35 345.76
71.41 23 21 53 1377.13 23.74 357.31 215.72 114.24 23 44 50 377.1 31.58 331.67
71.41 23 21 53 1377.13 23.74 357.31 215.72 114.24 23 44 50 377.1 31.58 331.67
71.41 23 21 53 1377.13 23.74 357.31 215.72 114.24 23 44 50 377.1 31.58 331.67
110.00 3 23 6 5902.44 19.17 276.47 213.27 118.82 5 1 28 4902.4 29.35 252.59

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2525 TRA .3717 TC3-2.6135 BAU .3658 SGT 1901.7 SGR 576.6 SG3 1779.5 ST 25.8 SR 11.2 SS 61.9
RDE -.1116 RRA -.1486 RC3 .6836 FAU .24488 RRT -.8112 RRF -.9314 RTF .8718 CRT .5860 CR8 .6470 CST -.2353
FDE .6816 FRA 7.2639 FC-20.9144 BSP 2626 SGB 1987.2 R23 .3462 R13 -.8873 LSA 62.7 MSA 26.5 SSA .7
BDE .2761 BRA .4003 BC3 2.7014 FSP 3082 SG1 1960.1 SG2 327.1 THA 165.78 EL1 26.8 EL2 8.7 ALF 15.94

LAUNCH DATE MAY 4 1971 FLIGHT TIME 200.00 ARRIVAL DATE NOV 28 1971

Heliocentric Conic: RL 150.83 LAL .00 LOL 222.90 VL 32.232 GAL -1.17 AZL 92.50 HCA 162.61 SMA 184.12 ECC .18187 INC 2.4897 V1 29.540
 RP 213.16 LAP -.75 LOP 25.52 VP 22.900 GAP 5.26 AZP 87.61 TAL 352.39 TAP 154.99 RCA 150.63 APO 217.60 V2 25.749
 RC 136.814 GL -26.08 GP 5.42 ZAL 109.88 ZAP 97.20 ETS 178.78 ZAE 140.40 ETE 173.75 ZAC 107.12 ETC 274.45 LVI -18.33

Planeto-centric Conic: C3 10.224 VHL 3.197 DLA -33.61 RAL 348.12 RAD 6638.2 VEL 11.416 PTH 6.47 VHP 2.925 DPA -15.99 RAP 304.20 ECC 1.1683
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 13 59 2272.42 4.02 56.87 201.84 137.45 18 51 51 1272.4 21.97 40.18
 60.00 19 50 12 2016.27 10.09 39.59 207.61 129.23 20 23 48 1016.3 24.96 19.68
 70.00 22 29 30 1546.22 19.87 8.30 214.37 118.37 22 55 16 546.2 29.79 344.26
 71.03 23 21 49 1386.13 23.82 358.05 216.48 114.44 23 44 55 386.1 31.74 332.40
 71.03 23 21 49 1386.13 23.82 358.05 216.48 114.44 23 44 55 386.1 31.74 332.40
 71.03 23 21 49 1386.13 23.82 358.05 216.48 114.44 23 44 55 386.1 31.74 332.40
 110.00 3 32 52 5881.08 19.87 275.21 214.37 118.37 5 10 53 4881.1 29.79 251.09

Differential Corrections: TDE -.2521 TRA .4461 TC3-2.7999 BAU .3950 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.1076 RRA -.1673 RC3 .7151 FAU .24702 SGT 2081.2 SGR 613.2 SG3 1799.1 ST 26.9 SR 11.1 SS 82.6
 FDE .7133 FRA 7.3933 FC-20.9174 B8P 2973 RRT -.8442 RRF -.9470 RTF .8917 CRT .4635 CRS .6992 CST -.3067
 BDE .2741 BRA .4765 BC3 2.8898 F8P 3112 SGB 2169.6 R23 .3284 R13 -.9047 LSA 63.7 MSA 26.7 SSA .6
 SG1 2146.1 SG2 318.7 THA 165.71 EL1 27.5 EL2 9.6 ALF 12.33

LAUNCH DATE MAY 4 1971 FLIGHT TIME 210.00 ARRIVAL DATE NOV 30 1971

Heliocentric Conic: RL 150.83 LAL .00 LOL 222.90 VL 32.231 GAL -1.21 AZL 92.55 HCA 163.80 SMA 184.10 ECC .18187 INC 2.5517 V1 29.540
 RP 213.46 LAP -.71 LOP 26.71 VP 22.860 GAP 5.08 AZP 87.55 TAL 352.15 TAP 155.94 RCA 150.62 APO 217.58 V2 25.714
 RC 139.171 GL -26.50 GP 5.62 ZAL 110.15 ZAP 95.15 ETS 178.92 ZAE 138.33 ETE 173.78 ZAC 107.60 ETC 274.25 LVI -18.41

Planeto-centric Conic: C3 10.337 VHL 3.215 DLA -33.84 RAL 348.73 RAD 6638.2 VEL 11.421 PTH 6.47 VHP 2.913 DPA -15.78 RAP 303.24 ECC 1.1701
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 17 54 2268.97 4.19 56.73 202.66 137.44 18 55 43 1269.0 22.13 40.01
 60.00 19 55 6 2010.20 10.35 39.29 208.51 129.17 20 28 37 1010.2 25.18 19.32
 70.00 22 42 43 1515.21 20.86 6.52 215.69 117.68 23 7 56 515.2 30.41 342.06
 70.60 23 21 35 1396.45 23.91 358.89 217.31 114.69 23 44 52 396.4 31.91 333.25
 70.60 23 21 35 1396.45 23.91 358.89 217.31 114.69 23 44 52 396.4 31.91 333.25
 70.60 23 21 35 1396.45 23.91 358.89 217.31 114.69 23 44 52 396.4 31.91 333.25
 110.00 3 46 5 5850.07 20.86 275.35 215.69 117.68 5 23 35 4850.1 30.41 248.88

Differential Corrections: TDE -.2506 TRA .3246 TC3-2.9761 BAU .4240 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.1045 RRA -.1885 RC3 .7476 FAU .24798 SGT 2264.6 SGR 655.3 SG3 1813.4 ST 28.1 SR 11.1 SS 63.5
 FDE .7669 FRA 7.5200 FC-20.7697 B8P 3346 RRT -.8706 RRF -.9598 RTF .9069 CRT .3301 CRS .7541 CST -.3687
 BDE .2715 BRA .3574 BC3 3.0686 F8P 3155 SGB 2357.5 R23 .3147 R13 -.9182 LSA 65.0 MSA 26.9 SSA .6
 SG1 2336.7 SG2 312.4 THA 165.60 EL1 28.4 EL2 10.4 ALF 8.61

LAUNCH DATE MAY 4 1971 FLIGHT TIME 212.00 ARRIVAL DATE DEC 2 1971

Heliocentric Conic: RL 150.83 LAL .00 LOL 222.90 VL 32.231 GAL -1.24 AZL 92.61 HCA 164.98 SMA 184.09 ECC .18192 INC 2.6110 V1 29.540
 RP 213.77 LAP -.68 LOP 27.90 VP 22.820 GAP 4.90 AZP 87.48 TAL 351.90 TAP 156.88 RCA 150.60 APO 217.58 V2 25.680
 RC 141.545 GL -26.98 GP 6.28 ZAL 110.43 ZAP 93.13 ETS 179.07 ZAE 136.27 ETE 173.77 ZAC 108.12 ETC 274.06 LVI -18.54

Planeto-centric Conic: C3 10.470 VHL 3.236 DLA -34.10 RAL 349.38 RAD 6638.3 VEL 11.426 PTH 6.48 VHP 2.904 DPA -15.50 RAP 302.29 ECC 1.1723
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 22 19 2284.78 4.40 56.55 203.58 137.42 19 0 4 1264.8 22.32 39.80
 60.00 20 0 45 2002.75 10.67 38.92 209.52 129.10 20 34 7 1002.8 25.45 18.87
 70.00 23 6 37 1452.68 22.79 2.70 217.59 116.15 23 30 49 452.7 31.52 337.53
 70.09 23 21 8 1408.39 24.01 359.87 218.23 114.98 23 44 37 408.4 32.13 334.23
 70.09 23 21 8 1408.39 24.01 359.87 218.23 114.98 23 44 37 408.4 32.13 334.23
 70.09 23 21 8 1408.39 24.01 359.87 218.23 114.98 23 44 37 408.4 32.13 334.23
 110.00 4 9 59 5787.53 22.79 269.52 217.59 116.15 5 46 27 4787.5 31.52 244.35

Differential Corrections: TDE -.2508 TRA .8041 TC3-3.1505 BAU .4545 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.1011 RRA -.2118 RC3 .7847 FAU .24884 SGT 2434.2 SGR 703.6 SG3 1821.6 ST 29.6 SR 11.3 SS 64.0
 FDE .7967 FRA 7.6154 FC-20.5759 B8P 3709 RRT -.8924 RRF -.8700 RTF .5.92 CRT .1942 CRS .8027 CST -.4273
 BDE .2704 BRA .6402 BC3 3.2468 F8P 3168 SGB 2553.1 R23 .3027 R13 -.9292 LSA 66.0 MSA 27.2 SSA .5
 SG1 2534.5 SG2 307.4 THA 165.43 EL1 29.7 EL2 11.0 ALF 4.90

LAUNCH DATE MAY 4 1971 FLIGHT TIME 214.00 ARRIVAL DATE DEC 4 1971

Heliocentric Conic: RL 150.83 LAL .00 LOL 222.90 VL 32.231 GAL -1.29 AZL 92.68 HCA 166.17 SMA 184.10 ECC .18203 INC 2.6804 V1 29.540
 RP 214.08 LAP -.64 LOP 29.08 VP 22.781 GAP 4.73 AZP 87.40 TAL 351.84 TAP 157.80 RCA 150.59 APO 217.61 V2 25.645
 RC 143.936 GL -27.53 GP 6.81 ZAL 110.70 ZAP 91.14 ETS 179.26 ZAE 134.22 ETE 173.72 ZAC 108.72 ETC 273.87 LVI -18.74

Planeto-centric Conic: C3 10.627 VHL 3.260 DLA -34.43 RAL 350.09 RAD 6638.4 VEL 11.433 PTH 6.48 VHP 2.900 DPA -15.15 RAP 301.36 ECC 1.1749
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 27 23 2259.53 4.66 56.33 204.61 137.40 19 5 3 1259.5 22.57 39.54
 60.00 20 7 21 1993.36 11.08 38.45 210.67 129.00 20 40 34 993.4 25.79 18.31
 69.49 23 20 24 1422.33 24.14 1.03 219.26 115.33 23 44 6 422.3 32.38 335.39
 69.49 23 20 24 1422.33 24.14 1.03 219.26 115.33 23 44 6 422.3 32.38 335.39
 69.49 23 20 24 1422.33 24.14 1.03 219.26 115.33 23 44 6 422.3 32.38 335.39
 69.49 23 20 24 1422.33 24.14 1.03 219.26 115.33 23 44 6 422.3 32.38 335.39
 69.49 23 20 24 1422.33 24.14 1.03 219.26 115.33 23 44 6 422.3 32.38 335.39

Differential Corrections: TDE -.2506 TRA .6875 TC3-3.3110 BAU .4848 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.0983 RRA -.2385 RC3 .8256 FAU .24894 SGT 2645.8 SGR 760.2 SG3 1826.1 ST 31.3 SR 11.5 SS 64.6
 FDE .8308 FRA 7.7077 FC-20.2798 B8P 4092 RRT -.9101 RRF -.9782 RTF .9292 CRT .0555 CRS .8483 CST -.4801
 BDE .2692 BRA .7277 BC3 3.4124 F8P 3187 SGB 2752.8 R23 .2923 R13 -.9382 LSA 67.3 MSA 27.5 SSA .5
 SG1 2735.9 SG2 304.7 THA 165.16 EL1 31.3 EL2 11.5 ALF 1.36

LAUNCH DATE MAY 4 1971

FLIGHT TIME 224.00

ARRIVAL DATE DEC 14 1971

Heliocentric Conic: RL 150.83 LAL .00 LOL 222.90 VL 32.241 GAL -1.52 AZL 93.32 HCA 172.04 SMA 184.26 ECC .18326 INC 3.3209 V1 29.540
 RP 215.71 LAP -.46 LOP 34.98 VP 22.589 GAP 3.88 AZP 86.71 TAL 350.16 TAP 182.20 RCA 180.49 APO 218.02 V2 25.461
 RC 156.143 GL -32.47 GP 11.53 ZAL 111.67 ZAP 81.84 ETS 180.95 ZAE 124.14 ETE 172.48 ZAC 113.68 ETC 273.09 LVI -21.78

Planetocentric Conic: C3 12.099 VHL 3.478 DLA -37.85 RAL 355.23 RAD 6639.1 VEL 11.497 PTH 6.55 VHP 2.948 DPA -11.16 RAP 296.88 ECC 1.1991
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 13 38 2194.87 7.90 53.60 213.19 137.07 19 80 13 1194.9 25.53 36.25
 60.00 21 17 30 1864.39 16.51 31.89 221.15 127.30 21 48 35 864.4 30.20 10.25
 63.72 23 9 25 1542.86 25.47 11.43 227.41 119.00 23 35 8 542.9 35.08 345.83
 63.72 23 9 25 1542.86 25.47 11.43 227.41 119.00 23 35 8 542.9 35.08 345.83
 63.72 23 9 25 1542.86 25.47 11.43 227.41 119.00 23 35 8 542.9 35.08 345.83
 63.72 23 9 25 1542.86 25.47 11.43 227.41 119.00 23 35 8 542.9 35.08 345.83

Differential Corrections: TDE -.2781 TRA 1.1489 TC3-3.8558 BAU .6502 RDE -.0981 RRA -.4643 RC3 1.1357 FAU .23822 FDE 1.0136 FRA 7.8402 FC-17.0462 BSP 6070 BDE .2949 BRA 1.2391 BC3 4.0196 FSP 3078
 Mid-Course Execution Accuracy: SGT 3626.0 SGR 1260.2 SG3 1751.4 RRT -.9555 RRF -.9973 RTF .9556 SGB 3638.8 R23 .2559 R13 -.9640 SG1 3622.6 SG2 352.8 THA 161.47
 Orbit Determination Accuracy: ST 42.8 SR 16.7 SS 86.2 CRT -.4794 CRS .9840 CST -.6275 LSA 74.4 MSA 30.9 SSA .2 EL1 43.6 EL2 14.3 ALF 168.13

LAUNCH DATE MAY 4 1971

FLIGHT TIME 226.00

ARRIVAL DATE DEC 16 1971

Heliocentric Conic: RL 150.83 LAL .00 LOL 222.90 VL 32.244 GAL -1.57 AZL 93.58 HCA 173.20 SMA 184.31 ECC .18363 INC 3.5775 V1 29.540
 RP 216.04 LAP -.42 LOP 36.11 VP 22.551 GAP 3.72 AZP 86.45 TAL 349.83 TAP 163.03 RCA 150.47 APO 218.16 V2 25.424
 RC 156.631 GL -34.36 GP 13.35 ZAL 111.64 ZAP 80.18 ETS 181.61 ZAE 122.12 ETE 171.86 ZAC 115.54 ETC 272.98 LVI -23.23

Planetocentric Conic: C3 12.704 VHL 3.564 DLA -39.28 RAL 356.92 RAD 6639.4 VEL 11.523 PTH 6.57 VHP 2.980 DPA -9.46 RAP 295.97 ECC 1.2091
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 32 54 2163.45 9.46 52.25 216.54 136.85 20 8 57 1163.5 26.94 34.59
 60.00 21 57 28 1776.83 20.06 27.21 226.13 125.72 22 27 5 776.8 32.86 4.35
 61.51 23 5 24 1584.19 25.99 15.19 230.33 120.56 23 31 48 584.2 36.18 349.64
 61.51 23 5 24 1584.19 25.99 15.19 230.33 120.56 23 31 48 584.2 36.18 349.64
 61.51 23 5 24 1584.19 25.99 15.19 230.33 120.56 23 31 48 584.2 36.18 349.64
 61.51 23 5 24 1584.19 25.99 15.19 230.33 120.56 23 31 48 584.2 36.18 349.64

Differential Corrections: TDE -.2955 TRA 1.2546 TC3-3.8628 BAU .6888 RDE -.1033 RRA -.5476 RC3 1.2362 FAU .23339 FDE 1.0360 FRA 7.7495 FC-15.9049 BSP 6490 BDE .3131 BRA 1.3689 BC3 4.0558 FSP 2988
 Mid-Course Execution Accuracy: SGT 3820.6 SGR 1448.3 SG3 1707.0 RRT -.9598 RRF -.9985 RTF .9587 SGB 4085.9 R23 .2461 R13 -.9677 SG1 4088.0 SG2 381.8 THA 159.82
 Orbit Determination Accuracy: ST 45.9 SR 19.0 SS 65.9 CRT -.5438 CRS .9927 CST -.6405 LSA 76.0 MSA 32.1 SSA .2 EL1 47.2 EL2 15.5 ALF 165.73

LAUNCH DATE MAY 4 1971

FLIGHT TIME 228.00

ARRIVAL DATE DEC 18 1971

Heliocentric Conic: RL 150.83 LAL .00 LOL 222.90 VL 32.248 GAL -1.63 AZL 93.94 HCA 174.36 SMA 184.38 ECC .18405 INC 3.9376 V1 29.540
 RP 216.39 LAP -.39 LOP 37.27 VP 22.513 GAP 3.56 AZP 86.08 TAL 349.50 TAP 163.86 RCA 150.44 APO 218.31 V2 25.385
 RC 161.134 GL -36.92 GP 15.86 ZAL 111.40 ZAP 78.65 ETS 182.50 ZAE 120.04 ETE 170.98 ZAC 118.07 ETC 272.90 LVI -25.32

Planetocentric Conic: C3 13.588 VHL 3.686 DLA -41.27 RAL 359.14 RAD 6639.8 VEL 11.561 PTH 6.61 VHP 3.029 DPA -7.08 RAP 295.03 ECC 1.2236
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 1 29 2115.43 11.84 50.17 221.43 136.43 20 36 44 1115.4 29.05 31.96
 58.59 23 1 3 1635.91 26.62 20.02 234.29 122.78 23 28 19 635.9 37.64 354.61
 58.59 23 1 3 1635.91 26.62 20.02 234.29 122.78 23 28 19 635.9 37.64 354.61
 58.59 23 1 3 1635.91 26.62 20.02 234.29 122.78 23 28 19 635.9 37.64 354.61
 58.59 23 1 3 1635.91 26.62 20.02 234.29 122.78 23 28 19 635.9 37.64 354.61
 58.59 23 1 3 1635.91 26.62 20.02 234.29 122.78 23 28 19 635.9 37.64 354.61

Differential Corrections: TDE -.3231 TRA 1.3642 TC3-3.8105 BAU .7350 RDE -.1145 RRA -.6590 RC3 1.3604 FAU .22726 FDE 1.0699 FRA 7.3604 FC-14.4791 BSP 6887 BDE .3428 BRA 1.5150 BC3 4.0461 FSP 2849
 Mid-Course Execution Accuracy: SGT 4012.9 SGR 1701.4 SG3 1842.0 RRT -.9627 RRF -.9992 RTF .9507 SGB 4358.7 R23 .2359 R13 -.9710 SG1 4337.8 SG2 425.9 THA 157.57
 Orbit Determination Accuracy: ST 49.4 SR 22.3 SS 65.3 CRT -.5870 CRS .9976 CST -.6418 LSA 77.8 MSA 33.8 SSA .2 EL1 51.3 EL2 17.4 ALF 163.13

LAUNCH DATE MAY 4 1971

FLIGHT TIME 230.00

ARRIVAL DATE DEC 20 1971

Heliocentric Conic: RL 150.83 LAL .00 LOL 222.90 VL 32.252 GAL -1.68 AZL 94.48 HCA 175.52 SMA 184.45 ECC .18450 INC 4.4826 V1 29.540
 RP 216.73 LAP -.35 LOP 38.43 VP 22.476 GAP 3.40 AZP 85.53 TAL 349.16 TAP 164.67 RCA 150.41 APO 218.48 V2 25.347
 RC 163.649 GL -40.56 GP 19.49 ZAL 110.81 ZAP 77.32 ETS 183.76 ZAE 117.83 ETE 169.68 ZAC 121.73 ETC 272.89 LVI -28.45

Planetocentric Conic: C3 15.022 VHL 3.876 DLA -44.11 RAL 2.33 RAD 6640.5 VEL 11.622 PTH 6.66 VHP 3.113 DPA -3.56 RAP 293.98 ECC 1.2472
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 50 19 2031.32 15.95 46.42 229.57 135.44 21 24 10 1031.3 32.59 27.06
 54.61 22 57 23 1702.39 27.34 26.45 240.08 126.07 23 25 45 702.4 39.59 1.39
 54.61 22 57 23 1702.39 27.34 26.45 240.08 126.07 23 25 45 702.4 39.59 1.39
 54.61 22 57 23 1702.39 27.34 26.45 240.08 126.07 23 25 45 702.4 39.59 1.39
 54.61 22 57 23 1702.39 27.34 26.45 240.08 126.07 23 25 45 702.4 39.59 1.39
 54.61 22 57 23 1702.39 27.34 26.45 240.08 126.07 23 25 45 702.4 39.59 1.39

Differential Corrections: TDE -.3473 TRA 1.4949 TC3-3.6228 BAU .7880 RDE -.1411 RRA -.8172 RC3 1.5071 FAU .21788 FDE 1.1489 FRA 7.2053 FC-12.5564 BSP 7405 BDE .3749 BRA 1.7037 BC3 3.9237 FSP 2628
 Mid-Course Execution Accuracy: SGT 4198.1 SGR 2059.0 SG3 1540.1 RRT -.9663 RRF -.9996 RTF .9639 SGB 4675.8 R23 .2173 R13 -.9758 SG1 4651.3 SG2 478.3 THA 154.35
 Orbit Determination Accuracy: ST 53.0 SR 27.4 SS 64.2 CRT -.6240 CRS .9996 CST -.6449 LSA 80.2 MSA 35.4 SSA .1 EL1 56.1 EL2 20.2 ALF 159.35

LAUNCH DATE MAY 4 1971

FLIGHT TIME 232.00

ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC
 RL 150.83 LAL .00 LOL 222.90 VL 32.257 GAL -1.74 AZL 95.40 HCA 176.67 SMA 184.92 ECC .18499 INC 5.3993 V1 29.540
 RP 217.08 LAP -.31 LOP 39.58 VP 22.438 GAP 3.24 AZP 84.61 TAL 348.81 TAP 165.47 RCA 150.39 APO 218.66 V2 25.308
 RC 166.178 GL -48.07 GP 25.17 ZAL 109.54 ZAP 78.45 ETB 185.86 ZAE 115.30 ETE 167.64 ZAC 127.42 ETC 275.00 LVI -33.45

DISTANCE 548.375 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 17.763 VHL 4.215 DLA -48.36 RAL 7.50 RAD 6641.8 VEL 11.738 PTH 6.77 VHP 3.279 DPA 1.99 RAP 292.75 ECC 1.2923
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 48.99 22 57 35 1792.67 27.85 35.41 249.47 131.28 23 27 28 792.7 42.06 11.34
 48.99 22 57 35 1792.67 27.85 35.41 249.47 131.28 23 27 28 792.7 42.06 11.34
 48.99 22 57 35 1792.67 27.85 35.41 249.47 131.28 23 27 28 792.7 42.06 11.34
 48.99 22 57 35 1792.67 27.85 35.41 249.47 131.28 23 27 28 792.7 42.06 11.34
 48.99 22 57 35 1792.67 27.85 35.41 249.47 131.28 23 27 28 792.7 42.06 11.34
 48.99 22 57 35 1792.67 27.85 35.41 249.47 131.28 23 27 28 792.7 42.06 11.34

MID-COURSE EXECUTION ACCURACY
 SGT 4367.9 SGR 2593.4 SG3 1364.0
 RRT -.9669 RRF -.9998 RTF .9637
 SGB 5079.8 R23 .2024 R13 -.9792
 SG1 5047.4 SG2 572.8 THA 149.71

ORBIT DETERMINATION ACCURACY
 ST 56.3 SR 36.0 SS 62.9
 CRT -.6299 CR8 1.0000 CST -.6235
 LSA 83.5 MSA 38.1 S8A .1
 EL1 61.7 EL2 25.5 ALF 153.16

LAUNCH DATE MAY 4 1971

FLIGHT TIME 234.00

ARRIVAL DATE DEC 24 1971

HELIOCENTRIC CONIC
 RL 150.83 LAL .00 LOL 222.90 VL 32.262 GAL -1.80 AZL 97.28 HCA 177.81 SMA 184.80 ECC .18552 INC 7.2702 V1 29.540
 RP 217.43 LAP -.28 LOP 40.73 VP 22.401 GAP 3.08 AZP 82.73 TAL 348.45 TAP 166.26 RCA 150.36 APO 218.85 V2 25.269
 RC 168.717 GL -55.15 GP 34.92 ZAL 106.86 ZAP 76.71 ETB 188.76 ZAE 111.89 ETE 164.25 ZAC 137.15 ETC 273.52 LVI -42.04

DISTANCE 552.540 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 24.759 VHL 4.976 DLA -54.87 RAL 17.86 RAD 6644.9 VEL 12.030 PTH 7.02 VHP 3.705 DPA 11.61 RAP 291.12 ECC 1.4075
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 40.80 23 13 42 1930.31 26.66 48.51 267.19 139.92 23 45 53 930.3 44.08 27.51
 40.80 23 13 42 1930.31 26.66 48.51 267.19 139.92 23 45 53 930.3 44.08 27.51
 40.80 23 13 42 1930.31 26.66 48.51 267.19 139.92 23 45 53 930.3 44.08 27.51
 40.80 23 13 42 1930.31 26.66 48.51 267.19 139.92 23 45 53 930.3 44.08 27.51
 40.80 23 13 42 1930.31 26.66 48.51 267.19 139.92 23 45 53 930.3 44.08 27.51
 40.80 23 13 42 1930.31 26.66 48.51 267.19 139.92 23 45 53 930.3 44.08 27.51

MID-COURSE EXECUTION ACCURACY
 SGT 4464.5 SGR 3422.2 SG3 1019.0
 RRT -.8642 RRF -.9998 RTF .9591
 SGB 5625.2 R23 .1871 R13 -.9823
 SG1 5578.1 SG2 726.5 THA 142.79

ORBIT DETERMINATION ACCURACY
 ST 56.4 SR 54.6 SS 82.1
 CRT -.6299 CR8 .9994 CST -.6031
 LSA 91.6 MSA 40.1 S8A .0
 EL1 70.8 EL2 33.7 ALF 136.49

LAUNCH DATE MAY 4 1971

FLIGHT TIME 240.00

ARRIVAL DATE DEC 30 1971

HELIOCENTRIC CONIC
 RL 150.83 LAL .00 LOL 222.90 VL 32.279 GAL -2.00 AZL 82.39 HCA 181.26 SMA 184.88 ECC .18733 INC 7.5928 V1 29.540
 RP 218.51 LAP -.17 LOP 44.15 VP 22.291 GAP 2.61 AZP 97.61 TAL 347.26 TAP 168.53 RCA 150.25 APO 219.52 V2 25.149
 RC 176.400 GL 55.89 GP -48.09 ZAL 107.95 ZAP 77.17 ETB 164.11 ZAE 104.01 ETE 196.81 ZAC 54.27 ETC 272.61 LVI 34.04

DISTANCE 565.071 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 26.618 VHL 5.159 DLA 44.71 RAL 319.79 RAD 6645.7 VEL 12.107 PTH 7.08 VHP 4.912 DPA -69.31 RAP 317.60 ECC 1.4381
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 9 33 25 4286.48 -34.26 193.73 216.53 94.71 10 44 32 3266.5 -45.40 165.56
 53.81 8 6 40 4490.04 -21.93 203.81 205.80 90.01 9 21 30 3490.0 -36.19 181.41
 53.81 8 6 40 4490.04 -21.93 203.81 205.80 90.01 9 21 30 3490.0 -36.19 181.41
 53.81 8 6 40 4490.04 -21.93 203.81 205.80 90.01 9 21 30 3490.0 -36.19 181.41
 53.81 8 6 40 4490.04 -21.93 203.81 205.80 90.01 9 21 30 3490.0 -36.19 181.41
 53.81 8 6 40 4490.04 -21.93 203.81 205.80 90.01 9 21 30 3490.0 -36.19 181.41
 53.81 8 6 40 4490.04 -21.93 203.81 205.80 90.01 9 21 30 3490.0 -36.19 181.41

MID-COURSE EXECUTION ACCURACY
 SGT 5007.5 SGR 4193.5 SG3 502.6
 RRT .9615 RRF .9994 RTF .5220
 SGB 6531.5 R23 .1954 R13 .9806
 SG1 6470.3 SG2 892.0 THA 39.75

ORBIT DETERMINATION ACCURACY
 ST 194.1 SR 156.9 SS 90.5
 CRT .9941 CR8 -.9999 CST -.9922
 LSA 265.0 MSA 15.0 S8A .1
 EL1 249.2 EL2 13.2 ALF 36.91

LAUNCH DATE MAY 4 1971

FLIGHT TIME 242.00

ARRIVAL DATE JAN 1 1972

HELIOCENTRIC CONIC
 RL 150.83 LAL .00 LOL 222.90 VL 32.285 GAL -2.06 AZL 86.86 HCA 182.39 SMA 184.99 ECC .18799 INC 3.1268 V1 29.540
 RP 218.88 LAP -.13 LOP 45.28 VP 22.254 GAP 2.46 AZP 93.14 TAL 346.89 TAP 169.28 RCA 150.21 APO 219.76 V2 25.108
 RC 178.981 GL 29.55 GP -31.93 ZAL 116.39 ZAP 71.32 ETB 166.85 ZAE 106.00 ETE 190.77 ZAC 70.48 ETC 271.93 LVI 19.83

DISTANCE 569.218 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 12.835 VHL 3.583 DLA 20.79 RAL 333.22 RAD 6639.5 VEL 11.528 PTH 6.58 VHP 3.650 DPA -54.45 RAP 303.37 ECC 1.2112
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 24 23 3455.35 -45.50 124.07 201.38 105.73 14 21 58 2455.3 -34.48 95.75
 60.00 13 38 52 3416.76 -39.51 122.35 203.13 98.68 14 35 49 2416.8 -31.83 94.15
 70.00 14 1 27 3350.25 -34.04 117.67 203.83 93.01 14 57 17 2350.2 -29.27 89.99
 80.00 14 40 20 3228.35 -29.84 108.52 203.92 88.96 15 34 8 2228.4 -27.23 81.40
 90.00 15 47 53 3010.27 -28.17 92.43 203.86 87.39 16 38 3 2010.3 -26.41 65.96
 100.00 17 23 12 2702.83 -29.84 69.88 203.92 88.96 18 8 15 1702.8 -27.23 42.76
 110.00 19 0 54 2397.08 -34.04 46.59 203.83 93.01 19 40 51 1397.1 -29.27 18.91

MID-COURSE EXECUTION ACCURACY
 SGT 5291.8 SGR 3023.9 SG3 1072.8
 RRT .9699 RRF .9998 RTF .9668
 SGB 6094.9 R23 .1971 R13 .9803
 SG1 6060.9 SG2 642.7 THA 29.36

ORBIT DETERMINATION ACCURACY
 ST 147.0 SR 85.2 SS 108.0
 CRT .9943 CR8 -.9999 CST -.9923
 LSA 200.9 MSA 11.7 S8A .1
 EL1 169.7 EL2 7.9 ALF 30.04

LAUNCH DATE MAY 4 1971

FLIGHT TIME 244.00

ARRIVAL DATE JAN 3 1972

Heliocentric Conic: RL 150.83 LAL .00 LOL 222.90 VL 32.291 GAL -2.13 AZL 88.46 HCA 185.52 SMA 185.10 ECC .18867 INC 1.5296 V1 29.540
 RP 219.25 LAP -.09 LOP 46.41 VP 22.218 GAP 2.30 AZP 91.54 TAL 346.50 TAP 170.01 RCA 150.17 APO 220.02 V2 25.068
 RC 181.572 GL 15.28 GP -23.05 ZAL 119.73 ZAP 68.14 ETS 169.25 ZAE 105.91 ETE 187.40 ZAC 79.37 ETC 271.75 LVI 11.82

Distance 573.367 Earth to Mars

Planeto-centric Conic: C3 10.813 VHL 3.288 DLA 7.76 RAL 339.24 RAD 6638.5 VEL 11.441 PTH 6.49 VHP 3.346 DPA -45.90 RAP 299.52 ECC 1.1780
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 40 50 3152.10 -36.91 100.22 195.43 122.47 15 33 22 2152.1 -21.27 78.98
 60.00 15 12 4 3068.98 -32.40 95.76 198.45 115.40 16 3 13 2089.0 -19.43 73.13
 70.00 15 54 58 2942.77 -28.37 87.48 200.40 109.87 16 44 1 1942.8 -17.71 64.08
 80.00 16 54 42 2755.66 -25.44 74.36 201.47 106.18 17 40 38 1755.7 -16.44 50.58
 90.00 18 12 23 2504.97 -24.34 58.27 201.81 104.88 18 54 8 1505.0 -15.95 32.38
 100.00 19 37 34 2230.14 -25.44 35.73 201.47 106.18 20 14 44 1230.1 -16.44 11.95
 110.00 20 54 24 1989.59 -28.37 16.40 200.40 109.87 21 27 34 989.6 -17.71 352.99

Differential Corrections: TDE 1.2553 TRA 1.5639 TC3-6.3922 BAU .9688 SGT 5479.0 SGR 2216.6 SG3 1315.5 ST 117.0 SR 53.2 SS 101.7
 RDE .5546 RRA .8409 RC3-2.0360 FAU .17478 RRT .9724 RRF .9997 RTF .9707 CRT .9974 CRS -.9996 CST -.9952
 FDE 3.6190 FRA 5.8920 FC-13.9936 BSP 9449 SGB 5910.4 R23 .2075 R13 .9779 LSA 163.7 MSA 7.7 SSA .3
 BDE 1.3723 BRA 1.7756 BC3 6.7086 FSP 2258 SG1 5690.8 SG2 481.3 THA 21.63 EL1 128.5 EL2 3.5 ALF 24.41

Mid-course Execution Accuracy Orbit Determination Accuracy

LAUNCH DATE MAY 4 1971

FLIGHT TIME 246.00

ARRIVAL DATE JAN 5 1972

Heliocentric Conic: RL 150.83 LAL .00 LOL 222.90 VL 32.298 GAL -2.20 AZL 89.28 HCA 184.64 SMA 185.21 ECC .18939 INC .7118 V1 29.540
 RP 219.62 LAP -.06 LOP 47.54 VP 22.182 GAP 2.15 AZP 90.72 TAL 346.09 TAP 170.73 RCA 150.13 APO 220.28 V2 25.028
 RC 184.172 GL 7.19 GP -17.81 ZAL 121.14 ZAP 65.96 ETS 170.87 ZAE 105.05 ETE 185.37 ZAC 84.63 ETC 271.67 LVI 7.07

Distance 577.515 Earth to Mars

Planeto-centric Conic: C3 10.434 VHL 3.230 DLA .46 RAL 342.79 RAD 6638.3 VEL 11.425 PTH 6.48 VHP 3.243 DPA -40.81 RAP 297.72 ECC 1.1717
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 21 50 2999.29 -30.87 90.63 195.48 128.19 16 11 49 1999.3 -13.93 71.87
 60.00 16 0 55 2895.30 -26.76 84.52 198.73 121.33 16 49 10 1895.3 -12.23 64.10
 70.00 16 52 37 2743.27 -23.06 74.43 200.96 115.92 17 38 20 1743.3 -10.66 52.93
 80.00 18 0 24 2530.99 -20.36 59.62 202.26 112.32 18 42 35 1531.0 -9.49 37.52
 90.00 19 21 37 2268.92 -19.35 40.78 202.69 111.03 19 59 26 1268.9 -9.05 18.49
 100.00 20 43 16 2005.46 -20.36 20.99 202.26 112.32 21 16 42 1005.5 -9.49 358.89
 110.00 21 52 3 1790.09 -23.06 3.35 200.96 115.92 22 21 53 790.1 -10.66 341.85

Differential Corrections: TDE 1.0185 TRA 1.7736 TC3-6.7005 BAU .9600 SGT 5648.0 SGR 1702.7 SG3 1411.3 ST 102.1 SR 38.0 SS 95.9
 RDE .3780 RRA .6714 RC3-1.5720 FAU .18204 RRT .9727 RRF .9993 RTF .9722 CRT .9997 CRS -.9988 CST -.9981
 FDE 3.3105 FRA 6.6008 FC-15.1046 BSP 9798 SGB 5899.1 R23 .2126 R13 .9764 LSA 145.1 MSA 4.3 SSA .7
 BDE 1.0864 BRA 1.8964 BC3 6.8825 FSP 2504 SG1 5886.8 SG2 379.3 THA 16.41 EL1 109.0 EL2 .9 ALF 20.42

Mid-course Execution Accuracy Orbit Determination Accuracy

LAUNCH DATE MAY 4 1971

FLIGHT TIME 248.00

ARRIVAL DATE JAN 7 1972

Heliocentric Conic: RL 150.83 LAL .00 LOL 222.90 VL 32.305 GAL -2.27 AZL 89.78 HCA 185.76 SMA 185.32 ECC .19014 INC .2008 V1 29.540
 RP 219.99 LAP -.02 LOP 48.66 VP 22.146 GAP 1.99 AZP 90.22 TAL 345.68 TAP 171.45 RCA 150.09 APO 220.56 V2 24.987
 RC 186.781 GL 2.17 GP -14.41 ZAL 121.93 ZAP 64.22 ETS 171.98 ZAE 103.91 ETE 184.06 ZAC 88.03 ETC 271.61 LVI 4.01

Distance 581.660 Earth to Mars

Planeto-centric Conic: C3 10.465 VHL 3.235 DLA -3.96 RAL 345.21 RAD 6638.3 VEL 11.426 PTH 6.48 VHP 3.208 DPA -37.50 RAP 296.66 ECC 1.1722
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 47 40 2911.76 -27.08 85.74 196.70 130.74 16 36 12 1911.8 -9.61 68.04
 60.00 16 31 28 2795.28 -23.08 78.62 200.07 124.00 17 18 3 1795.3 -7.93 59.16
 70.00 17 28 24 2627.88 -19.45 67.42 202.44 118.64 18 12 12 1627.9 -6.36 46.76
 80.00 18 40 57 2400.71 -16.79 51.60 203.86 115.06 19 20 58 1400.7 -5.19 30.24
 90.00 20 4 15 2131.95 -15.79 32.31 204.33 113.77 20 39 47 1131.9 -4.75 10.73
 100.00 21 23 49 1875.18 -16.79 12.96 203.86 115.06 21 55 4 875.2 -5.19 331.61
 110.00 22 27 50 1674.70 -19.45 356.34 202.44 118.64 22 55 45 674.7 -6.36 335.68

Differential Corrections: TDE .8819 TRA 1.9228 TC3-6.8691 BAU .9767 SGT 5817.7 SGR 1358.9 SG3 1444.8 ST 93.6 SR 29.4 SS 91.0
 RDE .2884 RRA .5446 RC3-1.2471 FAU .18573 RRT .9720 RRF .9984 RTF .5.30 CRT .9975 CRS -.9967 CST -.9995
 FDE 3.0640 FRA 6.9291 FC-15.3657 BSP 9934 SGB 5974.3 R23 .2124 R13 .9756 LSA 133.8 MSA 2.4 SSA 1.7
 BDE .9279 BRA 1.9985 BC3 6.9814 FSP 2566 SG1 5966.2 SG2 311.5 THA 12.83 EL1 98.1 EL2 2.0 ALF 17.40

Mid-course Execution Accuracy Orbit Determination Accuracy

LAUNCH DATE MAY 4 1971

FLIGHT TIME 250.00

ARRIVAL DATE JAN 9 1972

Heliocentric Conic: RL 150.83 LAL .00 LOL 222.90 VL 32.312 GAL -2.35 AZL 90.12 HCA 186.88 SMA 185.45 ECC .19092 INC .0951 V1 29.540
 RP 220.36 LAP .01 LOP 49.78 VP 22.110 GAP 1.84 AZP 89.88 TAL 345.27 TAP 172.15 RCA 150.04 APO 220.85 V2 24.946
 RC 189.399 GL -1.18 GP -12.05 ZAL 122.91 ZAP 62.69 ETS 172.79 ZAE 102.66 ETE 183.15 ZAC 90.39 ETC 271.58 LVI 1.88

Distance 585.801 Earth to Mars

Planeto-centric Conic: C3 10.629 VHL 3.280 DLA -6.84 RAL 347.04 RAD 6638.4 VEL 11.433 PTH 6.48 VHP 3.198 DPA -35.21 RAP 295.96 ECC 1.1749
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 5 33 2857.55 -24.64 82.89 198.11 132.08 16 53 11 1857.8 -6.92 65.73
 60.00 16 52 28 2732.80 -20.66 75.11 201.57 125.40 17 38 1 1732.0 -5.20 56.13
 70.00 17 52 53 2555.14 -17.02 63.18 204.04 120.07 18 35 28 1555.1 -3.60 42.93
 80.00 19 8 39 2317.93 -14.34 46.67 205.54 116.47 19 47 17 1317.9 -2.40 25.68
 90.00 20 33 22 2044.62 -13.33 27.08 206.04 115.17 21 7 27 1044.6 -1.95 5.83
 100.00 21 51 31 1792.38 -14.34 8.04 205.54 116.47 22 21 24 792.4 -2.40 347.05
 110.00 22 52 19 1601.96 -17.02 352.10 204.04 120.07 23 19 1 602.0 -3.60 331.85

Differential Corrections: TDE .8052 TRA 2.0557 TC3-6.9567 BAU .9990 SGT 5984.8 SGR 1117.2 SG3 1450.4 ST 89.6 SR 24.1 SS 87.4
 RDE .2384 RRA .4509 RC3-1.0123 FAU .18674 RRT .9708 RRF .9968 RTF .9741 CRT .9899 CRS -.9929 CST -.9994
 FDE 2.8867 FRA 7.0950 FC-15.2100 BSP 10117 SGB 6088.2 R23 .2056 R13 .9757 LSA 127.4 MSA 3.5 SSA 1.4
 BDE .8398 BRA 2.1045 BC3 7.0300 FSP 2962 SG1 6082.4 SG2 263.8 THA 10.29 EL1 92.8 EL2 3.3 ALF 14.95

Mid-course Execution Accuracy Orbit Determination Accuracy

LAUNCH DATE MAY 4 1971

FLIGHT TIME 252.00

ARRIVAL DATE JAN 11 1972

HELIOCENTRIC CONIC DISTANCE 509.939 EARTH TO MARS
 RL 150.83 LAL .00 LOL 222.90 VL 32.320 GAL -2.42 AZL 90.36 HCA 187.99 SMA 185.57 ECC .19173 INC .3638 V1 29.540
 RP 220.74 LAP .05 LOP 50.89 VP 22.074 GAP 1.69 AZP 89.84 TAL 344.85 TAP 172.84 RCA 149.99 APO 221.15 V2 24.904
 RC 192.025 GL -3.55 GP -10.33 ZAL 123.03 ZAP 61.30 ETS 173.40 ZAE 101.37 ETE 182.50 ZAC 92.12 ETC 271.56 LVI .33

PLANETOCENTRIC CONIC
 C3 10.844 VHL 3.293 DLA -8.79 RAL 348.80 RAD 6638.5 VEL 11.443 PTH 6.49 VHP 3.203 DPA -33.52 RAP 295.47 ECC 1.1785
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 30.00 16 18 43 2822.42 -23.02 81.11 199.48 132.86 17 5 45 1822.4 -5.16 64.24
 60.00 17 7 48 2891.89 -19.03 72.88 203.01 126.22 17 52 40 1691.9 -3.41 54.16
 70.00 18 10 41 2506.99 -15.36 60.44 205.56 120.89 18 52 28 1507.0 -1.77 40.42
 80.00 19 28 45 2282.80 -12.64 43.45 207.12 117.28 20 6 28 1262.6 -.53 22.64
 90.00 20 34 29 1986.01 -11.61 23.64 207.65 115.97 21 27 35 986.0 -.06 2.57
 100.00 22 11 37 1737.07 -12.64 4.82 207.12 117.28 22 40 34 737.1 -.93 344.01
 110.00 23 10 8 1553.81 -15.36 349.36 205.56 120.89 23 36 1 553.8 -1.77 329.33

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .7717 TRA 2.1882 TC3-6.9770 BAU 1.0187 SGT 6144.9 SGR 939.4 SG3 1441.5 ST 88.8 SR 20.9 SS 85.4
 RDE .2104 RRA .3804 RC3 -.8314 FAU .18457 RRT .9681 RRF .9940 RTF .9748 CRT .9776 CRS -.9868 CST -.9985
 FDE 2.7891 FRA 7.1985 FC-14.7345 BSP 10456 SGB 6216.3 R23 .1956 R13 .9759 LSA 124.9 MSA 5.0 SSA 1.2
 BDE .7999 BRA 2.2211 BC3 7.0263 FSP 2567 SG1 6211.9 SG2 233.0 THA 8.43 EL1 91.2 EL2 4.3 ALF 12.98

LAUNCH DATE MAY 4 1971

FLIGHT TIME 254.00

ARRIVAL DATE JAN 13 1972

HELIOCENTRIC CONIC DISTANCE 594.069 EARTH TO MARS
 RL 150.83 LAL .00 LOL 222.90 VL 32.327 GAL -2.50 AZL 90.54 HCA 189.10 SMA 185.70 ECC .19256 INC .5431 V1 29.540
 RP 221.12 LAP .09 LOP 52.00 VP 22.039 GAP 1.54 AZP 89.46 TAL 344.42 TAP 173.53 RCA 149.94 APO 221.46 V2 24.863
 RC 194.659 GL -5.29 GP -9.01 ZAL 123.52 ZAP 60.00 ETS 173.87 ZAE 100.07 ETE 182.01 ZAC 93.44 ETC 271.54 LVI -.86

PLANETOCENTRIC CONIC
 C3 11.082 VHL 3.329 DLA -10.16 RAL 349.73 RAD 6638.6 VEL 11.453 PTH 6.50 VHP 3.217 DPA -32.24 RAP 295.13 ECC 1.1824
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 30.00 16 28 51 2799.22 -21.94 79.96 200.77 133.34 17 15 30 1799.2 -4.00 63.27
 60.00 17 19 29 2664.52 -17.93 71.42 204.36 126.72 18 3 54 1664.5 -2.21 52.85
 70.00 18 24 10 2474.36 -14.21 58.61 206.97 121.39 19 5 25 1474.4 -.52 38.71
 80.00 19 43 56 2224.89 -11.44 41.27 208.58 117.77 20 21 0 1224.7 .75 20.56
 90.00 21 10 25 1945.66 -10.39 21.30 209.13 116.45 21 42 50 945.7 1.24 .32
 100.00 22 26 48 1699.16 -11.44 2.64 208.58 117.77 22 55 7 699.2 .75 341.93
 110.00 23 23 36 1521.18 -14.21 347.53 206.97 121.39 23 48 58 521.2 -.52 327.63

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .7531 TRA 2.3109 TC3-7.0034 BAU 1.0429 SGT 6305.7 SGR 805.1 SG3 1426.2 ST 89.0 SR 18.8 SS 84.4
 RDE .1942 RRA .3256 RC3 -.8919 FAU .18083 RRT .9618 RRF .9896 RTF .9739 CRT .9605 CRS -.9785 CST -.9969
 FDE 2.7411 FRA 7.2735 FC-14.1266 BSP 10722 SGB 6356.9 R23 .1891 R13 .9747 LSA 123.9 MSA 6.5 SSA 1.1
 BDE .7777 BRA 2.3337 BC3 7.0395 FSP 2567 SG1 6353.1 SG2 218.7 THA 7.01 EL1 90.8 EL2 5.1 ALF 11.49

LAUNCH DATE MAY 4 1971

FLIGHT TIME 256.00

ARRIVAL DATE JAN 15 1972

HELIOCENTRIC CONIC DISTANCE 598.196 EARTH TO MARS
 RL 150.83 LAL .00 LOL 222.90 VL 32.335 GAL -2.58 AZL 90.69 HCA 190.21 SMA 185.83 ECC .19342 INC .6861 V1 29.540
 RP 221.50 LAP .12 LOP 53.11 VP 22.004 GAP 1.39 AZP 89.32 TAL 343.99 TAP 174.20 RCA 149.89 APO 221.77 V2 24.821
 RC 197.299 GL -6.61 GP -7.98 ZAL 124.00 ZAP 58.77 ETS 174.25 ZAE 98.78 ETE 181.64 ZAC 94.47 ETC 271.54 LVI -1.81

PLANETOCENTRIC CONIC
 C3 11.330 VHL 3.366 DLA -11.15 RAL 350.81 RAD 6638.7 VEL 11.464 PTH 6.51 VHP 3.236 DPA -31.23 RAP 294.89 ECC 1.1865
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 30.00 16 36 54 2793.91 -21.23 79.21 201.98 133.64 17 23 18 1793.9 -3.23 62.63
 60.00 17 28 41 2648.17 -17.18 70.44 205.62 127.04 18 12 47 1648.2 -1.40 51.98
 70.00 18 34 41 2452.13 -13.42 57.37 208.28 121.71 19 15 33 1452.1 -.33 37.55
 80.00 19 55 42 2198.52 -10.61 39.77 209.93 118.07 20 32 21 1198.5 1.64 19.12
 90.00 21 22 46 1917.65 -9.54 19.69 210.50 116.75 21 54 43 917.6 2.14 358.75
 100.00 22 38 34 1672.99 -10.61 1.14 209.93 118.07 23 6 27 673.0 1.64 340.49
 110.00 23 34 8 1498.95 -13.42 346.29 208.28 121.71 23 59 7 498.9 .33 326.47

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .7515 TRA 2.4330 TC3-7.0153 BAU 1.0663 SGT 6462.0 SGR 700.2 SG3 1405.8 ST 90.3 SR 17.3 SS 83.8
 RDE .1845 RRA .2807 RC3 -.5837 FAU .17644 RRT .9533 RRF .9829 RTF .5.33 CRT .9403 CRS -.9681 CST -.9953
 FDE 2.7163 FRA 7.3135 FC-13.4812 BSP 11035 SGB 6499.9 R23 .1791 R13 .9739 LSA 124.1 MSA 7.8 SSA 1.0
 BDE .7738 BRA 2.4492 BC3 7.0395 FSP 2561 SG1 6496.5 SG2 210.3 THA 5.90 EL1 91.7 EL2 5.8 ALF 10.27

LAUNCH DATE MAY 4 1971

FLIGHT TIME 258.00

ARRIVAL DATE JAN 17 1972

HELIOCENTRIC CONIC DISTANCE 602.320 EARTH TO MARS
 RL 150.83 LAL .00 LOL 222.90 VL 32.343 GAL -2.65 AZL 90.80 HCA 191.31 SMA 185.96 ECC .19430 INC .8002 V1 29.540
 RP 221.88 LAP .16 LOP 54.21 VP 21.988 GAP 1.23 AZP 89.21 TAL 343.55 TAP 174.87 RCA 149.83 APO 222.10 V2 24.780
 RC 199.945 GL -7.63 GP -7.14 ZAL 124.49 ZAP 57.60 ETS 174.56 ZAE 97.50 ETE 181.34 ZAC 95.31 ETC 271.54 LVI -2.58

PLANETOCENTRIC CONIC
 C3 11.584 VHL 3.404 DLA -11.86 RAL 351.78 RAD 6638.8 VEL 11.475 PTH 6.52 VHP 3.258 DPA -30.40 RAP 294.72 ECC 1.1907
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 30.00 16 43 28 2774.08 -20.76 78.73 203.10 133.82 17 29 42 1774.1 -2.73 62.21
 60.00 17 36 6 2634.10 -16.68 69.81 206.79 127.24 18 20 0 1634.1 -.87 51.40
 70.00 18 43 5 2437.18 -12.88 56.55 209.50 121.91 19 23 42 1437.2 .90 36.77
 80.00 20 5 2 2180.63 -10.03 38.76 211.18 118.27 20 41 23 1180.6 2.25 18.14
 90.00 21 32 32 1898.38 -8.95 18.58 211.76 116.94 22 4 10 898.4 2.76 357.67
 100.00 22 47 54 1655.10 -10.03 .12 211.18 118.27 23 15 29 655.1 2.25 339.51
 110.00 23 42 31 1484.00 -12.88 345.47 209.50 121.91 24 7 15 484.0 .90 325.69

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .7479 TRA 2.5418 TC3-7.0590 BAU 1.0961 SGT 6617.5 SGR 615.7 SG3 1380.6 ST 91.2 SR 16.1 SS 82.0
 RDE .1765 RRA .2410 RC3 -.5067 FAU .17461 RRT .9434 RRF .9731 RTF .9741 CRT .9165 CRS -.9540 CST -.9939
 FDE 2.6443 FRA 7.2753 FC-13.0489 BSP 11202 SGB 6646.1 R23 .1606 R13 .9745 LSA 123.4 MSA 8.7 SSA 1.0
 BDE .7685 BRA 2.5532 BC3 7.0771 FSP 2485 SG1 6643.0 SG2 203.4 THA 5.02 EL1 92.4 EL2 6.4 ALF 9.24

LAUNCH DATE MAY 4 1971

FLIGHT TIME 260.00

ARRIVAL DATE JAN 19 1972

HELIOCENTRIC CONIC DISTANCE 606.437 EARTH TO MARS
 RL 150.83 LAL .00 LOL 222.90 VL 32.351 GAL -2.74 AZL 90.90 HCA 192.41 SMA 186.10 ECC .19521 INC .8953 V1 29.540
 RP 222.27 LAP .19 LOP 55.31 VP 21.933 GAP 1.08 AZP 89.12 TAL 343.11 TAP 175.53 RCA 149.77 APO 222.43 V2 24.738
 RC 202.595 GL -8.44 GP -6.46 ZAL 124.99 ZAP 56.48 ETS 174.83 ZAE 96.24 ETE 181.11 ZAC 95.99 ETC 271.55 LVI -3.22

PLANETOCENTRIC CONIC
 C3 11.843 VHL 3.441 DLA -12.38 RAL 352.64 RAD 8639.0 VEL 11.486 PTH 6.53 VHP 3.282 DPA -29.72 RAP 294.63 ECC 1.1949
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 48 57 2768.27 -20.49 78.45 204.17 133.93 17 35 5 1768.3 -2.44 61.97
 60.00 17 42 12 2626.66 -16.37 69.42 207.90 127.36 18 25 59 1626.7 -1.54 51.04
 70.00 18 49 54 2427.63 -12.54 56.02 210.64 122.03 19 30 22 1427.6 1.27 36.28
 80.00 20 12 33 2168.90 -9.66 38.09 212.35 118.39 20 48 42 1168.9 2.64 17.50
 90.00 21 40 22 1885.62 -8.55 17.85 212.94 117.06 22 11 47 885.6 3.17 356.96
 100.00 22 55 23 1643.37 -9.66 359.46 212.35 118.39 23 22 48 643.4 2.64 338.86
 110.00 23 49 20 1474.45 -12.54 344.94 210.64 122.03 24 13 55 474.4 1.27 325.19

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .7816 TRA 2.6600 TC3-7.0664 BAW 1.1210 SGT 6769.0 SGR 548.9 SG3 1355.3 ST 93.3 SR 15.4 SS 81.4
 RDE .1734 RRA .2085 RC3 -.4397 FAU .17064 RRT .9284 RRF .9593 RTF .9741 CRT .8922 CRS -.9391 CST -.9927
 FDE 2.6247 FRA 7.2629 FC-12.4736 BSP 11484 SGB 6791.3 R23 .1459 R13 .9744 LSA 124.4 MSA 9.6 SSA 1.0
 BDE .7811 BRA 2.6682 BC3 7.0800 F8P 2446 SG1 6788.2 SG2 203.4 THA 4.31 EL1 94.3 EL2 6.9 ALF 8.42

LAUNCH DATE MAY 4 1971

FLIGHT TIME 262.00

ARRIVAL DATE JAN 21 1972

HELIOCENTRIC CONIC DISTANCE 610.550 EARTH TO MARS
 RL 150.83 LAL .00 LOL 222.90 VL 32.360 GAL -2.82 AZL 90.97 HCA 193.51 SMA 186.24 ECC .19615 INC .9750 V1 29.540
 RP 222.65 LAP .23 LOP 56.40 VP 21.898 GAP .93 AZP 89.05 TAL 342.67 TAP 176.18 RCA 149.71 APO 222.77 V2 24.696
 RC 205.250 GL -9.09 GP -5.89 ZAL 125.49 ZAP 55.41 ETS 175.05 ZAE 95.01 ETE 180.91 ZAC 96.56 ETC 271.57 LVI -3.77

PLANETOCENTRIC CONIC
 C3 12.107 VHL 3.479 DLA -12.74 RAL 353.44 RAD 8639.1 VEL 11.497 PTH 6.55 VHP 3.308 DPA -29.15 RAP 294.59 ECC 1.1992
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 53 36 2765.47 -20.36 78.32 205.19 133.98 17 39 42 1765.5 -2.30 61.85
 60.00 17 47 18 2622.68 -16.21 69.21 208.95 127.42 18 31 0 1622.7 -1.37 50.85
 70.00 18 55 31 2422.13 -12.34 55.72 211.72 122.10 19 35 53 1422.1 1.48 35.99
 80.00 20 18 40 2161.82 -9.43 37.69 213.45 118.46 20 54 42 1161.8 2.88 17.11
 90.00 21 46 43 1877.79 -8.31 17.41 214.05 117.13 22 18 0 877.8 3.42 356.52
 100.00 23 1 32 1636.29 -9.43 359.06 213.45 118.46 23 28 49 636.3 2.88 338.47
 110.00 23 54 57 1468.95 -12.34 344.64 211.72 122.10 24 19 26 468.9 1.48 324.91

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .7803 TRA 2.7771 TC3-7.0711 BAW 1.1462 SGT 6917.1 SGR 494.9 SG3 1328.3 ST 95.5 SR 14.9 SS 80.7
 RDE .1723 RRA .1802 RC3 -.3853 FAU .16667 RRT .9085 RRF .9406 RTF .9741 CRT .8673 CRS -.9228 CST -.9918
 FDE 2.6067 FRA 7.2340 FC-11.9181 BSP 11768 SGB 6934.8 R23 .1313 R13 .9743 LSA 125.5 MSA 10.3 SSA 1.0
 BDE .7991 BRA 2.7829 BC3 7.0816 F8P 2405 SG1 6931.7 SG2 206.3 THA 3.72 EL1 96.4 EL2 7.4 ALF 7.75

LAUNCH DATE MAY 4 1971

FLIGHT TIME 264.00

ARRIVAL DATE JAN 23 1972

HELIOCENTRIC CONIC DISTANCE 614.658 EARTH TO MARS
 RL 150.83 LAL .00 LOL 222.90 VL 32.368 GAL -2.90 AZL 91.04 HCA 194.60 SMA 186.38 ECC .19710 INC 1.0420 V1 29.540
 RP 223.04 LAP .26 LOP 57.50 VP 21.864 GAP .78 AZP 88.99 TAL 342.22 TAP 176.82 RCA 149.65 APO 223.12 V2 24.654
 RC 207.907 GL -9.62 GP -5.40 ZAL 126.00 ZAP 54.37 ETS 175.25 ZAE 93.80 ETE 180.75 ZAC 97.04 ETC 271.59 LVI -4.25

PLANETOCENTRIC CONIC
 C3 12.375 VHL 3.518 DLA -12.99 RAL 354.20 RAD 8639.2 VEL 11.509 PTH 6.56 VHP 3.335 DPA -28.66 RAP 294.60 ECC 1.2037
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 57 37 2764.98 -20.34 78.30 206.17 133.99 17 43 42 1765.0 -2.28 61.83
 60.00 17 51 37 2621.38 -16.15 69.15 209.96 127.44 18 35 18 1621.4 -1.31 50.79
 70.00 19 0 11 2419.77 -12.25 55.59 212.76 122.13 19 40 31 1419.8 1.57 35.87
 80.00 20 23 42 2158.36 -9.31 37.50 214.50 118.50 20 59 40 1158.4 3.00 16.92
 90.00 21 51 54 1873.81 -8.18 17.18 215.11 117.16 22 23 8 873.0 3.55 356.30
 100.00 23 6 34 1632.83 -9.31 358.86 214.50 118.50 23 33 47 632.8 3.00 338.28
 110.00 0 3 34 1466.59 -12.25 344.51 212.76 122.13 0 28 0 466.6 1.57 324.78

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .8022 TRA 2.8939 TC3-7.0783 BAW 1.1724 SGT 7064.5 SGR 451.7 SG3 1301.5 ST 97.9 SR 14.6 SS 80.2
 RDE .1728 RRA .1553 RC3 -.3405 FAU .16270 RRT .8827 RRF .9161 RTF .5.39 CRT .8422 CRS -.9059 CST -.9910
 FDE 2.5947 FRA 7.2015 FC-11.3827 BSP 12027 SGB 7078.9 R23 .1186 R13 .9741 LSA 126.9 MSA 11.0 SSA 1.0
 BDE .8206 BRA 2.8981 BC3 7.0864 F8P 2360 SG1 7075.7 SG2 211.9 THA 3.23 EL1 98.7 EL2 7.8 ALF 7.21

LAUNCH DATE MAY 4 1971

FLIGHT TIME 266.00

ARRIVAL DATE JAN 25 1972

HELIOCENTRIC CONIC DISTANCE 618.760 EARTH TO MARS
 RL 150.83 LAL .00 LOL 222.90 VL 32.377 GAL -2.99 AZL 91.10 HCA 195.69 SMA 186.53 ECC .19808 INC 1.0990 V1 29.540
 RP 223.42 LAP .30 LOP 58.58 VP 21.829 GAP .63 AZP 88.94 TAL 341.76 TAP 177.48 RCA 149.58 APO 223.48 V2 24.612
 RC 210.368 GL -10.05 GP -4.98 ZAL 126.51 ZAP 53.37 ETS 173.42 ZAE 92.61 ETE 180.82 ZAC 97.45 ETC 271.62 LVI -4.68

PLANETOCENTRIC CONIC
 C3 12.647 VHL 3.556 DLA -13.16 RAL 354.92 RAD 8639.4 VEL 11.520 PTH 6.57 VHP 3.364 DPA -28.23 RAP 294.65 ECC 1.2081
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 1 6 2766.32 -20.40 78.36 207.12 133.97 17 47 13 1766.3 -2.34 61.89
 60.00 17 55 18 2622.18 -16.19 69.19 210.93 127.43 18 39 1 1622.2 -1.34 50.83
 70.00 19 4 7 2419.88 -12.26 55.60 213.75 122.13 19 44 27 1419.9 1.56 35.87
 80.00 20 27 52 2157.76 -9.29 37.46 215.51 118.50 21 3 49 1157.8 3.02 16.88
 90.00 21 56 10 1872.86 -8.16 17.12 216.12 117.17 22 27 23 872.9 3.58 356.25
 100.00 23 10 44 1632.23 -9.29 358.83 215.51 118.50 23 37 56 632.2 3.02 338.25
 110.00 0 7 29 1466.70 -12.26 344.52 213.75 122.13 0 31 56 466.7 1.56 324.79

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .8242 TRA 3.0067 TC3-7.0925 BAW 1.2003 SGT 7208.3 SGR 417.0 SG3 1273.5 ST 100.2 SR 14.4 SS 79.5
 RDE .1744 RRA .1328 RC3 -.3039 FAU .15915 RRT .8504 RRF .8852 RTF .9738 CRT .8170 CRS -.8884 CST -.9902
 FDE 2.5776 FRA 7.1502 FC-10.8942 BSP 12238 SGB 7220.3 R23 .1070 R13 .9739 LSA 128.1 MSA 11.6 SSA 1.0
 BDE .8424 BRA 3.0097 BC3 7.0990 F8P 2305 SG1 7217.0 SG2 219.1 THA 2.82 EL1 100.9 EL2 8.3 ALF 6.76

LAUNCH DATE MAY 4 1971

FLIGHT TIME 268.00

ARRIVAL DATE JAN 27 1972

HELIOCENTRIC CONIC

DISTANCE 822.857

EARTH TO MARS

RL 150.83 LAL .00 LOL 222.90 VL 32.306 GAL -3.07 AZL 91.15 HCA 196.77 SMA 186.60 ECC .19909 INC 1.1495 V1 29.540
 RP 223.81 LAP .33 LOP 59.67 VP 21.795 GAP .48 AZP 88.90 TAL 341.31 TAP 178.08 RCA 149.51 APO 223.84 V2 24.571
 RC 213.227 GL -10.40 GP -4.62 ZAL 127.03 ZAP 52.41 ETS 175.56 ZAE 91.44 EYE 180.91 ZAC 97.81 ETC 271.66 LVI -5.07

PLANETOCENTRIC CONIC

C3 12.925 VHL 3.595 DLA -13.28 RAL 355.80 RAD 6639.5 VEL 11.532 PTH 6.58 VHP 3.393 DPA -27.85 RAP 294.74 ECC 1.2127
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 4 12 2769.12 -20.53 78.49 208.04 133.92 17 50 21 1789.1 -2.48 62.01
 60.00 17 58 30 2624.68 -16.29 69.32 211.68 127.39 18 42 15 1624.7 -.45 50.95
 70.00 19 7 27 2422.00 -12.33 55.71 214.71 122.10 19 47 49 1422.0 1.48 35.98
 80.00 20 31 19 2159.46 -9.35 37.56 216.48 118.49 21 7 19 1159.5 2.96 16.98
 90.00 21 59 41 1874.37 -8.20 17.21 217.09 117.16 22 30 56 874.4 3.53 356.33
 100.00 23 14 11 1633.93 -9.35 359.93 216.48 118.49 23 41 25 633.9 2.96 338.34
 110.00 0 10 49 1468.81 -12.33 344.63 214.71 122.10 0 35 18 468.8 1.48 324.90

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .8545 TRA 3.1268 TC3-7.0866 BAU 1.2255 SGT 7350.3 SGR 390.2 SG3 1246.2 ST 102.9 SR 14.4 SS 79.1
 RDE .1773 RRA .1129 RC3 -.2718 FAU .15477 RRT .8115 RRF .8477 RTF .9733 CRT .7943 CR8 -.8721 CST -.9897
 FDE 2.5767 FRA 7.1129 FC-10.3663 BSP 12510 SGB 7360.6 R23 .0977 R13 .9735 LSA 130.0 MSA 12.1 SSA 1.1
 BDE .8727 BRA 3.1289 BC3 7.0918 FSP 2265 SG1 7357.1 SG2 227.8 THA 2.47 EL1 103.6 EL2 8.7 ALF 6.39

LAUNCH DATE MAY 4 1971

FLIGHT TIME 270.00

ARRIVAL DATE JAN 29 1972

HELIOCENTRIC CONIC

DISTANCE 626.948

EARTH TO MARS

RL 150.83 LAL .00 LOL 222.90 VL 32.394 GAL -3.16 AZL 91.19 HCA 197.85 SMA 186.83 ECC .20011 INC 1.1938 V1 29.540
 RP 224.20 LAP .37 LOP 60.75 VP 21.761 GAP .33 AZP 88.86 TAL 340.85 TAP 178.70 RCA 149.44 APO 224.22 V2 24.529
 RC 215.890 GL -10.69 GP -4.30 ZAL 127.56 ZAP 51.48 ETS 175.71 ZAE 90.30 EYE 180.41 ZAC 98.12 ETC 271.70 LVI -5.42

PLANETOCENTRIC CONIC

C3 13.209 VHL 3.834 DLA -13.28 RAL 356.26 RAD 6639.7 VEL 11.545 PTH 6.59 VHP 3.423 DPA -27.51 RAP 294.87 ECC 1.2174
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 6 56 2773.10 -20.72 78.69 208.94 133.84 17 53 9 1773.1 -2.68 62.17
 60.00 18 1 17 2628.56 -16.45 69.52 212.79 127.32 18 45 6 1628.6 -.62 51.13
 70.00 19 10 17 2425.73 -12.47 55.92 215.64 122.06 19 50 43 1425.7 1.34 36.18
 80.00 20 34 12 2163.04 -9.47 37.76 217.42 118.45 21 10 15 1163.0 2.84 17.17
 90.00 22 2 36 1877.88 -8.31 17.41 218.04 117.13 22 33 54 877.9 3.42 356.53
 100.00 23 17 4 1637.51 -9.47 359.13 217.42 118.45 23 44 22 637.5 2.84 338.54
 110.00 0 13 39 1472.55 -12.47 344.84 215.64 122.06 0 38 12 472.5 1.34 325.09

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .8866 TRA 3.2456 TC3-7.0821 BAU 1.2514 SGT 7489.5 SGR 369.6 SG3 1218.7 ST 105.7 SR 14.4 SS 78.6
 RDE .1809 RRA .0946 RC3 -.2452 FAU .15079 RRT .7666 RRF .8039 RTF .9731 CRT .7731 CR8 -.8563 CST -.9893
 FDE 2.5726 FRA 7.0631 FC3-9.8827 BSP 12763 SGB 7498.6 R23 .0890 R13 .9732 LSA 131.9 MSA 12.5 SSA 1.1
 BDE .9049 BRA 3.2470 BC3 7.0863 FSP 2218 SG1 7494.9 SG2 237.1 THA 2.17 EL1 106.2 EL2 9.1 ALF 6.08

LAUNCH DATE MAY 4 1971

FLIGHT TIME 272.00

ARRIVAL DATE JAN 31 1972

HELIOCENTRIC CONIC

DISTANCE 631.034

EARTH TO MARS

RL 150.83 LAL .00 LOL 222.90 VL 32.403 GAL -3.25 AZL 91.23 HCA 198.93 SMA 186.98 ECC .20116 INC 1.2332 V1 29.540
 RP 224.99 LAP .40 LOP 61.82 VP 21.727 GAP .17 AZP 88.83 TAL 340.38 TAP 179.31 RCA 149.37 APO 224.62 V2 24.487
 RC 218.554 GL -10.93 GP -4.03 ZAL 128.08 ZAP 50.58 ETS 175.84 ZAE 89.18 EYE 180.33 ZAC 98.39 ETC 271.75 LVI -5.75

PLANETOCENTRIC CONIC

C3 13.499 VHL 3.674 DLA -13.27 RAL 356.89 RAD 6639.8 VEL 11.557 PTH 6.60 VHP 3.453 DPA -27.20 RAP 295.04 ECC 1.2222
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 9 24 2778.08 -20.95 78.93 209.82 133.75 17 55 42 1778.1 -2.93 62.38
 60.00 18 3 44 2633.58 -16.66 69.78 213.69 127.24 18 47 38 1633.6 -.85 51.37
 70.00 19 12 43 2430.80 -12.65 56.20 216.55 121.99 19 53 14 1430.8 1.14 36.44
 80.00 20 36 37 2168.17 -9.63 38.05 218.34 118.40 21 12 45 1168.2 2.67 17.46
 90.00 22 5 0 1883.03 -8.47 17.70 218.98 117.08 22 36 23 883.0 3.26 356.82
 100.00 23 19 29 1642.64 -9.63 359.42 218.34 118.40 23 46 52 642.6 2.67 338.82
 110.00 0 16 5 1477.61 -12.65 345.11 216.55 121.99 0 40 43 477.6 1.14 325.36

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .9216 TRA 3.3664 TC3-7.0725 BAU 1.2770 SGT 7626.7 SGR 354.5 SG3 1191.5 ST 108.5 SR 14.6 SS 78.2
 RDE .1852 RRA .0778 RC3 -.2225 FAU .14677 RRT .7165 RRF .7547 RTF .5.28 CRT .7538 CR8 -.8417 CST -.9890
 FDE 2.5711 FRA 7.0127 FC3-9.4128 BSP 13023 SGB 7634.9 R23 .0817 R13 .9729 LSA 133.9 MSA 13.0 SSA 1.1
 BDE .9400 BRA 3.3673 BC3 7.0760 FSP 2175 SG1 7630.9 SG2 247.2 THA 1.91 EL1 109.1 EL2 9.5 ALF 5.62

LAUNCH DATE MAY 4 1971

FLIGHT TIME 274.00

ARRIVAL DATE FEB 2 1972

HELIOCENTRIC CONIC

DISTANCE 638.114

EARTH TO MARS

RL 150.83 LAL .00 LOL 222.90 VL 32.412 GAL -3.34 AZL 91.27 HCA 200.00 SMA 187.14 ECC .20223 INC 1.2682 V1 29.540
 RP 224.98 LAP .43 LOP 62.90 VP 21.693 GAP .02 AZP 88.81 TAL 339.92 TAP 179.92 RCA 149.29 APO 224.98 V2 24.445
 RC 221.219 GL -11.12 GP -3.78 ZAL 128.61 ZAP 49.72 ETS 175.95 ZAE 88.09 EYE 180.26 ZAC 98.63 ETC 271.81 LVI -6.06

PLANETOCENTRIC CONIC

C3 13.795 VHL 3.714 DLA -13.22 RAL 357.50 RAD 6639.9 VEL 11.570 PTH 6.61 VHP 3.484 DPA -26.93 RAP 295.23 ECC 1.2270
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 11 38 2783.87 -21.23 79.21 210.68 133.64 17 58 2 1783.9 -3.23 62.62
 60.00 18 5 54 2639.54 -16.90 70.10 214.57 127.15 18 49 54 1639.5 -1.11 51.66
 70.00 19 14 48 2436.98 -12.87 56.54 217.44 121.91 19 55 25 1437.0 .91 36.76
 80.00 20 38 38 2174.58 -9.84 38.41 219.23 118.33 21 14 53 1174.6 2.45 17.81
 90.00 22 6 59 1889.56 -8.67 18.08 219.85 117.02 22 38 29 889.6 3.05 357.18
 100.00 23 21 30 1649.08 -9.84 359.78 219.23 118.33 23 48 59 649.1 2.45 339.18
 110.00 0 18 11 1483.80 -12.87 345.46 217.44 121.91 0 42 54 483.8 .91 325.68

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .9585 TRA 3.4878 TC3-7.0602 BAU 1.3026 SGT 7761.3 SGR 344.2 SG3 1164.3 ST 111.4 SR 14.7 SS 77.8
 RDE .1901 RRA .0623 RC3 -.2020 FAU .14264 RRT .6823 RRF .7015 RTF .9723 CRT .7363 CR8 -.8282 CST -.9887
 FDE 2.5714 FRA 6.9605 FC3-8.9515 BSP 13275 SGB 7768.9 R23 .0758 R13 .9724 LSA 136.0 MSA 13.4 SSA 1.1
 BDE .9772 BRA 3.4884 BC3 7.0631 FSP 2132 SG1 7764.6 SG2 257.8 THA 1.68 EL1 111.9 EL2 9.9 ALF 5.61

LAUNCH DATE MAY 4 1971

FLIGHT TIME 276.00

ARRIVAL DATE FEB 4 1972

HELIOCENTRIC CONIC										DISTANCE 639.188										EARTH TO MARS																																																																																																	
RL	150.83	LAL	.00	LOL	222.90	VL	32.422	GAL	-3.43	AZL	91.30	HCA	201.07	SMA	187.29	ECC	.20332	INC	1.2997	V1	29.540	RP	225.37	LAP	.47	LOP	63.96	VP	21.660	GAP	-.13	AZP	88.79	TAL	339.45	TAP	180.52	RCA	149.21	APO	225.36	V2	24.403	RC	223.884	GL	-11.28	GP	-3.56	ZAL	129.14	ZAP	48.87	ETS	176.06	ZAE	87.01	ETE	180.20	ZAC	98.84	ETC	271.87	LVI	-6.36																																																				
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																	
C3	14.098	VHL	3.755	DLA	-13.13	RAL	358.09	RAD	6640.1	VEL	11.583	PTH	6.63	VHP	3.516	DPA	-26.67	RAP	295.46	ECC	1.2320	ST	114.2	SR	15.0	SS	77.4	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIME	INJ	2	LAT	INJ	2	LONG	SGT	7894.6	SGR	337.8	SG3	1137.8	RRT	.6064	RRF	.6460	RTF	.9719	CRS	-.8157	CST	-.9885	SGB	7901.9	R23	.0704	R13	.9720	LSA	138.1	MSA	13.8	SSA	1.1	100.00	23	23	11	1656.55	-10.08	.21	220.11	118.25	23	50	48	656.6	2.20	339.59	EL1	114.7	EL2	10.3	ALF	5.43	110.00	0	19	59	1490.92	-13.13	345.85	218.31	121.82	0	44	50	490.9	.64	326.05
TDE	.9967	TRA	3.6110	TC3	-7.0460	BAU	1.3285	RDE	.1995	RRA	.0478	RC3	-.1861	FAU	.15671	FDE	2.5686	FRA	6.9074	FC3	-8.5178	BSP	13521	BDE	1.0157	BRA	3.6113	BC3	7.0485	FSP	2088																																																																																						

LAUNCH DATE MAY 4 1971

FLIGHT TIME 278.00

ARRIVAL DATE FEB 6 1972

HELIOCENTRIC CONIC										DISTANCE 643.256										EARTH TO MARS																																																																																																	
RL	150.83	LAL	.00	LOL	222.90	VL	32.431	GAL	-3.52	AZL	91.33	HCA	202.14	SMA	187.45	ECC	.20444	INC	1.3282	V1	29.540	RP	225.76	LAP	.50	LOP	65.03	VP	21.627	GAP	-.29	AZP	88.77	TAL	338.98	TAP	181.11	RCA	149.13	APO	225.77	V2	24.361	RC	226.530	GL	-11.40	GP	-3.36	ZAL	129.67	ZAP	48.06	ETS	176.16	ZAE	85.96	ETE	180.15	ZAC	99.02	ETC	271.93	LVI	-6.64																																																				
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																	
C3	14.409	VHL	3.796	DLA	-13.02	RAL	358.67	RAD	6640.2	VEL	11.596	PTH	6.64	VHP	3.547	DPA	-26.43	RAP	295.71	ECC	1.2371	ST	117.1	SR	15.2	SS	76.9	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIME	INJ	2	LAT	INJ	2	LONG	SGT	8025.3	SGR	334.9	SG3	1111.4	RRT	.5499	RRF	.5900	RTF	.9715	CRS	-.8046	CST	-.9884	SGB	8032.3	R23	.0659	R13	.9716	LSA	140.2	MSA	14.1	SSA	1.1	100.00	23	24	36	1664.96	-10.35	.68	220.98	118.16	23	52	21	665.0	1.91	340.05	EL1	117.6	EL2	10.7	ALF	5.29	110.00	0	21	33	1498.84	-13.41	346.29	219.18	121.71	0	46	32	498.8	.33	326.47
TDE	1.0369	TRA	3.7347	TC3	-7.0293	BAU	1.3545	RDE	.2013	RRA	.0342	RC3	-.1718	FAU	.13487	FDE	2.5669	FRA	6.8494	FC3	-8.1037	BSP	13754	BDE	1.0562	BRA	3.7349	BC3	7.0314	FSP	2041																																																																																						

LAUNCH DATE MAY 4 1971

FLIGHT TIME 280.00

ARRIVAL DATE FEB 8 1972

HELIOCENTRIC CONIC										DISTANCE 647.318										EARTH TO MARS																																																																																																	
RL	150.83	LAL	.00	LOL	222.90	VL	32.440	GAL	-3.62	AZL	91.35	HCA	203.20	SMA	187.61	ECC	.20557	INC	1.3541	V1	29.540	RP	226.15	LAP	.53	LOP	66.09	VP	21.594	GAP	-.44	AZP	88.76	TAL	338.50	TAP	181.70	RCA	149.04	APO	226.18	V2	24.319	RC	229.216	GL	-11.50	GP	-3.18	ZAL	130.20	ZAP	47.27	ETS	176.25	ZAE	84.92	ETE	180.10	ZAC	99.19	ETC	272.00	LVI	-6.91																																																				
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																	
C3	14.727	VHL	3.838	DLA	-12.89	RAL	359.23	RAD	6640.4	VEL	11.610	PTH	6.65	VHP	3.579	DPA	-26.21	RAP	295.99	ECC	1.2424	ST	120.1	SR	15.5	SS	76.8	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIME	INJ	2	LAT	INJ	2	LONG	SGT	8154.2	SGR	334.7	SG3	1085.5	RRT	.4947	RRF	.5350	RTF	.9710	CRS	-.7947	CST	-.9883	SGB	8161.1	R23	.0622	R13	.9711	LSA	142.5	MSA	14.5	SSA	1.2	100.00	23	25	46	1674.14	-10.65	1.21	221.83	118.06	23	53	40	674.1	1.60	340.93	EL1	120.6	EL2	11.1	ALF	5.17	110.00	0	22	54	1507.43	-13.72	346.76	220.03	121.59	0	48	2	507.4	.01	326.91
TDE	1.0789	TRA	3.8603	TC3	-7.0087	BAU	1.3803	RDE	.2075	RRA	.0213	RC3	-.1593	FAU	.13098	FDE	2.5682	FRA	6.7929	FC3	-7.6993	BSP	13998	BDE	1.0967	BRA	3.8608	BC3	7.0103	FSP	1999																																																																																						

LAUNCH DATE MAY 5 1971

FLIGHT TIME 102.00

ARRIVAL DATE AUG 15 1971

HELIOCENTRIC CONIC DISTANCE 300.179 EARTH TO MARS

RL 150.87 LAL .00 LOL 223.87 VL 35.337 GAL -3.02 AZL 91.86 HCA 96.10 SMA 239.91 ECC .42224 INC 1.8602 V1 29.533
 RP 207.32 LAP -1.85 LOP 319.97 VP 27.742 GAP 22.24 AZP 89.80 TAL 349.81 TAP 85.91 RCA 150.16 APO 369.65 V2 26.420
 RC 56.291 GL -10.50 GP .41 ZAL 111.35 ZAP 176.20 ETS 173.73 ZAE 174.59 ETE 85.44 ZAC 100.68 ETC 277.38 LVI -17.90

PLANETOCENTRIC CONIC

C3 39.487 VHL 6.284 DLA -19.20 RAL 341.47 RAD 6650.5 VEL 12.624 PTH 7.48 VHP 11.131 DPA -17.36 RAP 319.10 ECC 1.6490
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 28 20 2914.09 -27.18 85.87 208.02 130.88 17 16 54 1914.1 -9.73 68.14
 60.00 17 30 36 2748.51 -21.28 75.98 213.05 125.07 18 16 25 1748.5 -5.89 56.89
 70.00 18 49 20 2517.08 -15.71 81.01 216.84 120.72 19 31 17 1517.1 -2.15 40.94
 80.00 20 23 24 2222.68 -11.38 41.15 219.34 117.79 21 0 26 1222.7 .82 20.45
 90.00 21 56 45 1921.92 -9.86 19.91 220.24 116.71 22 28 47 921.5 2.02 358.97
 100.00 23 6 18 1897.18 -11.38 2.52 219.34 117.79 23 34 33 897.2 .82 341.82
 110.00 23 48 46 1863.90 -15.71 349.93 216.84 120.72 24 14 50 563.9 -2.15 329.86

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.4833 TRA-1.0583 TC3 -.0184 BAU .0411 SGT 1112.9 SGR 584.2 SG3 109.8 ST 26.8 SR 26.0 SS 15.7
 RDE -.5840 RRA .2284 RC3 .0761 FAU .03351 RRT .0112 RRF -.0125 RTF -.8634 CRT .7442 CR8 .5215 CST .9849
 FDE .2231 FRA .8795 FC3 -.7347 BSP 1649 SGB 1256.9 R23 -.0022 R13 -.8634 LSA 37.7 MSA 16.2 SSA 1.1
 BDE .7580 BRA 1.0827 BC3 .0778 FSP 135 SG1 1113.0 SG2 584.1 THA .47 EL1 35.4 EL2 13.6 ALF 44.98

LAUNCH DATE MAY 5 1971

FLIGHT TIME 104.00

ARRIVAL DATE AUG 17 1971

HELIOCENTRIC CONIC DISTANCE 302.067 EARTH TO MARS

RL 150.87 LAL .00 LOL 223.87 VL 35.143 GAL -2.92 AZL 91.86 HCA 97.36 SMA 253.12 ECC .40663 INC 1.8641 V1 29.533
 RP 207.22 LAP -1.85 LOP 321.23 VP 27.506 GAP 21.72 AZP 89.76 TAL 349.89 TAP 87.25 RCA 150.19 APO 356.04 V2 26.432
 RC 56.455 GL -10.82 GP .42 ZAL 111.35 ZAP 175.33 ETS 174.74 ZAE 174.46 ETE 76.10 ZAC 100.64 ETC 277.47 LVI -18.02

PLANETOCENTRIC CONIC

C3 36.997 VHL 6.082 DLA -19.48 RAL 341.62 RAD 6649.6 VEL 12.525 PTH 7.41 VHP 10.775 DPA -17.23 RAP 319.49 ECC 1.6089
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 30 10 2891.72 -26.19 84.67 207.19 131.26 17 18 22 1891.7 -8.62 67.18
 60.00 17 32 51 2725.03 -20.36 74.68 212.22 125.56 18 18 16 1725.0 -4.86 55.75
 70.00 18 52 7 2492.02 -14.83 59.60 216.03 121.12 19 33 39 1492.0 -1.19 39.64
 80.00 20 26 47 2195.73 -10.52 39.61 218.54 118.10 21 3 23 1195.7 1.73 18.97
 90.00 22 0 28 1893.55 -8.80 18.31 219.45 116.99 22 32 1 893.5 2.92 357.40
 100.00 23 9 39 1870.20 -10.52 .98 218.54 118.10 23 37 29 670.2 1.73 340.34
 110.00 23 51 33 1838.84 -14.83 348.51 216.03 121.12 24 17 12 538.8 -1.19 328.55

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.4787 TRA-1.0487 TC3 -.0055 BAU .0405 SGT 1140.7 SGR 585.6 SG3 117.5 ST 27.5 SR 26.9 SS 16.3
 RDE -.5661 RRA .2208 RC3 .0817 FAU .03458 RRT .0130 RRF -.0141 RTF -.6755 CRT .7437 CR8 .5151 CST .9531
 FDE .2288 FRA .9147 FC3 -.8091 BSP 1706 SGB 1282.3 R23 -.0021 R13 -.6755 LSA 38.3 MSA 16.5 SSA 1.1
 BDE .7414 BRA 1.0716 BC3 .0819 FSP 147 SG1 1140.8 SG2 585.5 THA .52 EL1 35.9 EL2 13.8 ALF 44.12

LAUNCH DATE MAY 5 1971

FLIGHT TIME 106.00

ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC DISTANCE 304.193 EARTH TO MARS

RL 150.87 LAL .00 LOL 223.87 VL 34.959 GAL -2.82 AZL 91.87 HCA 98.63 SMA 247.06 ECC .39197 INC 1.8681 V1 29.533
 RP 207.13 LAP -1.85 LOP 322.50 VP 27.282 GAP 21.21 AZP 89.72 TAL 349.98 TAP 88.61 RCA 150.22 APO 343.91 V2 26.443
 RC 56.701 GL -11.14 GP .43 ZAL 111.33 ZAP 174.45 ETS 175.44 ZAE 174.21 ETE 67.61 ZAC 100.60 ETC 277.55 LVI -18.15

PLANETOCENTRIC CONIC

C3 34.713 VHL 5.892 DLA -19.78 RAL 341.76 RAD 6648.8 VEL 12.434 PTH 7.34 VHP 10.431 DPA -17.10 RAP 319.87 ECC 1.5713
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 31 59 2889.42 -25.18 83.51 206.38 131.80 17 19 49 1889.4 -7.51 66.23
 60.00 17 35 8 2701.56 -19.42 73.40 211.40 126.03 18 20 8 1701.6 -3.83 54.63
 70.00 18 54 57 2466.86 -13.94 58.19 215.22 121.50 19 36 4 1466.9 -2.23 38.32
 80.00 20 30 15 2168.54 -9.64 38.07 217.75 118.39 21 6 24 1168.5 2.65 17.48
 90.00 22 4 17 1865.25 -7.92 16.89 218.67 117.24 22 35 22 865.2 3.83 355.82
 100.00 23 13 8 1843.01 -9.64 359.44 217.75 118.39 23 40 31 643.0 2.65 338.84
 110.00 23 54 23 1813.68 -13.94 347.11 215.22 121.50 24 19 37 513.7 -2.23 327.24

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.4737 TRA-1.0393 TC3 .0066 BAU .0408 SGT 1169.7 SGR 586.5 SG3 125.8 ST 28.1 SR 26.9 SS 16.9
 RDE -.5487 RRA .2132 RC3 .0877 FAU .03572 RRT .0145 RRF -.0159 RTF -.6.71 CRT .7427 CR8 .5078 CST .9511
 FDE .2343 FRA .9519 FC3 -.8909 BSP 1767 SGB 1307.6 R23 -.0022 R13 -.8872 LSA 38.9 MSA 16.8 SSA 1.1
 BDE .7249 BRA 1.0610 BC3 .0879 FSP 159 SG1 1169.7 SG2 586.4 THA .56 EL1 36.3 EL2 13.9 ALF 43.29

LAUNCH DATE MAY 5 1971

FLIGHT TIME 108.00

ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC DISTANCE 306.526 EARTH TO MARS

RL 150.87 LAL .00 LOL 223.87 VL 34.786 GAL -2.72 AZL 91.87 HCA 99.89 SMA 241.84 ECC .37820 INC 1.8721 V1 29.533
 RP 207.05 LAP -1.84 LOP 323.76 VP 27.089 GAP 20.71 AZP 89.68 TAL 350.09 TAP 89.98 RCA 150.25 APO 333.03 V2 26.453
 RC 57.030 GL -11.46 GP .45 ZAL 111.29 ZAP 173.57 ETS 175.95 ZAE 173.88 ETE 60.21 ZAC 100.57 ETC 277.63 LVI -18.26

PLANETOCENTRIC CONIC

C3 32.618 VHL 5.711 DLA -20.08 RAL 341.87 RAD 6648.0 VEL 12.350 PTH 7.27 VHP 10.100 DPA -16.97 RAP 320.23 ECC 1.5368
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 33 47 2847.23 -24.17 82.36 205.60 132.32 17 21 14 1847.2 -6.40 65.29
 60.00 17 37 22 2678.13 -18.48 72.14 210.61 126.48 18 22 0 1678.1 -2.81 53.50
 70.00 18 57 49 2441.64 -13.04 56.79 214.44 121.85 19 38 31 1441.6 .73 37.01
 80.00 20 33 50 2141.13 -8.75 36.53 216.99 118.66 21 9 31 1141.1 3.58 15.97
 90.00 22 8 14 1836.64 -7.02 15.06 217.92 117.46 22 38 51 836.6 4.74 354.22
 100.00 23 16 42 1815.60 -8.75 357.89 216.99 118.66 23 43 38 615.6 3.58 337.34
 110.00 0 1 11 1488.45 -13.04 345.71 214.44 121.85 0 26 0 488.5 .73 325.93

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.4487 TRA-1.0172 TC3 .0551 BAU .0475 SGT 1177.8 SGR 587.0 SG3 134.9 ST 27.8 SR 26.9 SS 17.4
 RDE -.5318 RRA .2059 RC3 .0939 FAU .03710 RRT .0115 RRF -.0170 RTF -.7209 CRT .7318 CR8 .4970 CST .9524
 FDE .2374 FRA .9887 FC3 -.9847 BSP 2201 SGB 1316.0 R23 -.0059 R13 -.7209 LSA 38.7 MSA 17.2 SSA 1.1
 BDE .6958 BRA 1.0379 BC3 .1089 FSP 177 SG1 1177.8 SG2 586.9 THA .44 EL1 36.0 EL2 14.1 ALF 43.70

LAUNCH DATE MAY 5 1971

FLIGHT TIME 110.00

ARRIVAL DATE AUG 23 1971

Heliocentric Conic: RL 150.87 LAL .00 LOL 223.87 VL 34.823 GAL -2.62 AZL 91.88 HCA 101.16 SMA 236.76 ECC .36525 INC 1.8761 V1 29.933
 RP 206.97 LAP -1.84 LOP 325.03 VP 26.888 GAP 20.22 AZP 89.64 TAL 350.21 TAP 91.36 RCA 150.28 APO 323.24 V2 26.462
 RC 57.440 GL -11.79 GP .46 ZAL 111.22 ZAP 172.66 ETS 176.35 ZAE 173.48 ETE 53.91 ZAC 100.53 ETC 277.70 LVI -18.38

Planetocentric Conic: C3 30.694 VHL 5.540 DLA -20.40 RAL 341.96 RAD 6647.3 VEL 12.273 PTH 7.21 VHP 9.780 DPA -16.85 RAP 320.59 ECC 1.9052
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 35 34 2025.19 -23.15 81.25 204.84 132.80 17 22 39 1829.2 -5.30 64.36
 60.00 17 39 39 2634.78 -17.53 70.90 209.84 126.89 18 23 54 1654.8 -1.78 52.39
 70.00 19 0 44 2416.38 -12.13 55.41 213.68 122.17 19 41 1 1416.4 1.70 35.69
 80.00 20 37 30 2113.54 -7.85 34.98 216.24 118.90 21 12 44 1113.5 4.51 14.44
 90.00 22 12 18 1807.74 -6.11 13.43 217.18 117.66 22 42 26 807.7 5.66 352.59
 100.00 23 20 22 1588.01 -7.85 356.35 216.24 118.90 23 46 50 588.0 4.51 335.81
 110.00 0 4 7 1463.20 -12.13 344.32 213.68 122.17 0 28 30 463.2 1.70 324.61

Differential Corrections: TDE -.4627 TRA-1.0200 TC3 .0338 BAV .0434 MDC -.5156 RRA .1986 RC3 .1003 FAU .03822 FDE .2451 FRA 1.0305 FC3-1.0781 BSP 1883 BDE .6927 BRA 1.0392 BC3 .1058 FSP 188
 Mid-Course Execution Accuracy: SGT 1223.5 SGR 587.1 SG3 144.2 RRT .0176 RRF -.0190 RTF -.7082 SGB 1357.1 R23 -.0029 R13 -.7082 SG1 1223.6 SG2 587.0 THA .63
 Orbit Determination Accuracy: ST 29.3 SR 26.9 SS 18.0 CRT .7403 CRS .4924 CST .9469 LSA 40.0 MSA 17.4 SSA 1.2 EL1 37.1 EL2 14.3 ALF 41.68

LAUNCH DATE MAY 5 1971

FLIGHT TIME 112.00

ARRIVAL DATE AUG 25 1971

Heliocentric Conic: RL 150.87 LAL .00 LOL 223.87 VL 34.470 GAL -2.52 AZL 91.88 HCA 102.42 SMA 232.35 ECC .35309 INC 1.8802 V1 29.533
 RP 206.90 LAP -1.84 LOP 326.30 VP 26.677 GAP 19.74 AZP 89.60 TAL 350.34 TAP 92.76 RCA 150.31 APO 314.40 V2 26.469
 RC 57.930 GL -12.13 GP .48 ZAL 111.13 ZAP 171.75 ETS 176.65 ZAE 173.05 ETE 48.63 ZAC 100.50 ETC 277.78 LVI -18.49

Planetocentric Conic: C3 28.928 VHL 5.378 DLA -20.73 RAL 342.04 RAD 6646.6 VEL 12.201 PTH 7.16 VHP 9.471 DPA -16.73 RAP 320.93 ECC 1.4761
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 37 20 2803.32 -22.14 80.16 204.10 133.26 17 24 4 1803.3 -4.20 63.44
 60.00 17 41 56 2631.54 -16.57 69.68 209.09 127.28 18 25 47 1631.5 -0.76 51.28
 70.00 19 3 43 2391.13 -11.21 54.03 212.94 122.47 19 43 34 1391.1 2.66 34.37
 80.00 20 41 17 2085.77 -6.93 33.43 215.52 119.11 21 16 2 1085.8 5.44 12.91
 90.00 22 16 31 1778.56 -5.19 11.79 216.47 117.84 22 46 10 778.6 6.58 350.94
 100.00 23 24 9 1560.25 -6.93 354.79 215.52 119.11 23 50 9 560.2 5.44 334.28
 110.00 0 7 5 1437.95 -11.21 342.95 212.94 122.47 0 31 3 438.0 2.66 323.29

Differential Corrections: TDE -.4566 TRA-1.0102 TC3 .0506 BAV .0458 RDE -.4998 RRA .1916 RC3 .1069 FAU .03980 FDE .2502 FRA 1.0721 FC3-1.1852 BSP 1940 BDE .6769 BRA 1.0282 BC3 .1183 FSP 203
 Mid-Course Execution Accuracy: SGT 1250.5 SGR 586.8 SG3 154.3 RRT .0192 RRF -.0210 RTF -.7186 SGB 1381.3 R23 -.0033 R13 -.7186 SG1 1250.5 SG2 586.7 THA .66
 Orbit Determination Accuracy: ST 29.8 SR 26.8 SS 18.6 CRT .7387 CRS .4839 CST .9448 LSA 40.5 MSA 17.7 SSA 1.2 EL1 37.4 EL2 14.4 ALF 40.91

LAUNCH DATE MAY 5 1971

FLIGHT TIME 114.00

ARRIVAL DATE AUG 27 1971

Heliocentric Conic: RL 150.87 LAL .00 LOL 223.87 VL 34.324 GAL -2.42 AZL 91.88 HCA 103.69 SMA 228.36 ECC .34164 INC 1.8843 V1 29.533
 RP 206.85 LAP -1.83 LOP 327.56 VP 26.496 GAP 19.26 AZP 89.55 TAL 350.48 TAP 94.17 RCA 150.34 APO 306.38 V2 26.476
 RC 58.496 GL -12.46 GP .50 ZAL 111.02 ZAP 170.82 ETS 176.90 ZAE 172.62 ETE 44.22 ZAC 100.47 ETC 277.85 LVI -18.60

Planetocentric Conic: C3 27.302 VHL 5.225 DLA -21.08 RAL 342.10 RAD 6645.9 VEL 12.135 PTH 7.10 VHP 9.172 DPA -16.61 RAP 321.26 ECC 1.4493
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 39 6 2781.62 -21.12 79.10 203.39 133.68 17 25 27 1781.6 -3.11 62.53
 60.00 17 44 14 2608.41 -15.62 68.47 208.37 127.64 18 27 42 1608.4 -.26 50.17
 70.00 19 6 44 2365.87 -10.28 52.66 212.22 122.75 19 46 10 1365.9 3.62 33.05
 80.00 20 45 10 2057.82 -6.00 31.87 214.82 119.30 21 19 27 1057.8 6.37 11.36
 90.00 22 20 53 1749.08 -4.25 10.13 215.79 117.99 22 50 2 749.1 7.51 349.27
 100.00 23 28 1 1532.29 -6.00 353.24 214.82 119.30 23 53 34 532.3 6.37 332.73
 110.00 0 10 6 1412.69 -10.28 341.58 212.22 122.75 0 33 39 412.7 3.62 321.97

Differential Corrections: TDE -.4420 TRA -1.9911 TC3 .0802 BAV .0308 RDE -.4845 RRA .1847 RC3 .1138 FAU .04097 FDE .2570 FRA 1.1175 FC3-1.2990 BSP 1880 BDE .6558 BRA 1.0081 BC3 .1393 FSP 222
 Mid-Course Execution Accuracy: SGT 1264.3 SGR 586.1 SG3 163.0 RRT .0198 RRF -.0234 RTF -.7272 SGB 1393.5 R23 -.0049 R13 -.7372 SG1 1264.3 SG2 585.9 THA .67
 Orbit Determination Accuracy: ST 29.9 SR 26.8 SS 19.3 CRT .7340 CRS .4774 CST .9448 LSA 40.7 MSA 17.9 SSA 1.2 EL1 37.4 EL2 14.5 ALF 40.73

LAUNCH DATE MAY 5 1971

FLIGHT TIME 116.00

ARRIVAL DATE AUG 29 1971

Heliocentric Conic: RL 150.87 LAL .00 LOL 223.87 VL 34.187 GAL -2.32 AZL 91.89 HCA 104.96 SMA 224.73 ECC .33089 INC 1.8884 V1 29.533
 RP 206.80 LAP -1.82 LOP 328.83 VP 26.325 GAP 18.79 AZP 89.51 TAL 350.64 TAP 95.89 RCA 150.37 APO 299.10 V2 26.482
 RC 59.137 GL -12.80 GP .51 ZAL 110.89 ZAP 169.88 ETS 177.11 ZAE 172.20 ETE 40.55 ZAC 100.44 ETC 277.91 LVI -18.70

Planetocentric Conic: C3 25.810 VHL 5.080 DLA -21.43 RAL 342.14 RAD 6645.3 VEL 12.074 PTH 7.05 VHP 8.883 DPA -16.49 RAP 321.58 ECC 1.4248
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 40 50 2780.22 -20.11 78.07 202.71 134.08 17 26 51 1760.2 -2.04 61.83
 60.00 17 46 32 2585.51 -14.66 67.29 207.67 127.97 18 29 38 1585.5 1.27 49.08
 70.00 19 9 48 2340.73 -9.35 51.31 211.53 123.00 19 48 49 1340.7 4.58 31.73
 80.00 20 49 9 2029.81 -5.07 30.32 214.15 119.46 21 22 59 1029.8 7.30 9.80
 90.00 22 25 23 1719.39 -3.30 6.47 215.13 118.10 22 54 2 719.4 8.43 347.58
 100.00 23 32 1 1504.28 -5.07 351.69 214.15 119.46 23 57 5 504.3 7.30 331.17
 110.00 0 13 10 1387.55 -9.35 340.22 211.53 123.00 0 36 18 387.5 4.58 320.65

Differential Corrections: TDE -.4396 TRA -1.9843 TC3 .0936 BAV .0528 RDE -.4697 RRA .1780 RC3 .1210 FAU .04257 FDE .2608 FRA 1.1616 FC3-1.4279 BSP 1985 BDE .6433 BRA 1.0003 BC3 .1529 FSP 239
 Mid-Course Execution Accuracy: SGT 1295.0 SGR 584.9 SG3 176.5 RRT .0227 RRF -.0257 RTF -.7418 SGB 1421.0 R23 -.0045 R13 -.7418 SG1 1295.1 SG2 584.7 THA .74
 Orbit Determination Accuracy: ST 30.6 SR 26.7 SS 19.8 CRT .7340 CRS .4668 CST .9407 LSA 41.3 MSA 18.2 SSA 1.2 EL1 37.8 EL2 14.6 ALF 39.73

LAUNCH DATE MAY 5 1971

FLIGHT TIME 110.00

ARRIVAL DATE AUG 31 1971

Heliocentric Conic: RL 150.87 LAL .00 LOL 223.87 VL 34.058 GAL -2.23 AZL 91.89 HCA 106.22 SMA 221.43 ECC .32078 INC 1.8927 V1 29.533
 RP 206.75 LAP -1.82 LOP 330.10 VP 26.182 GAP 18.33 AZP 89.47 TAL 350.80 TAP 97.02 RCA 150.40 APO 292.46 V2 26.487
 RC 59.850 GL -13.14 GP .53 ZAL 110.74 ZAP 168.92 ETS 177.28 ZAE 171.80 ETE 37.48 ZAC 100.42 ETC 277.98 LVI -18.80

Planetocentric Conic: C3 24.437 VHL 4.943 DLA -21.79 RAL 342.17 RAD 6644.8 VEL 12.017 PTH 7.01 VHP 8.605 DPA -18.38 RAP 321.88 ECC 1.4022
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 42 34 2739.08 -19.11 77.06 202.05 134.44 17 28 13 1739.1 -.98 60.75
 60.00 17 48 51 2562.81 -13.71 66.13 207.00 128.28 18 31 34 1582.8 2.27 47.99
 70.00 19 12 55 2315.68 -8.42 49.96 210.87 123.22 19 51 31 1315.7 5.53 30.41
 80.00 20 53 15 2001.69 -4.12 28.77 213.51 119.60 21 26 36 1001.7 8.22 8.22
 90.00 22 30 3 1689.45 -2.34 6.79 214.50 118.19 22 58 12 689.4 9.35 345.87
 100.00 23 36 7 1476.16 -4.12 350.13 213.51 119.60 24 0 43 476.2 8.22 329.59
 110.00 0 16 17 1362.50 -0.42 338.88 210.87 123.22 0 39 0 362.5 5.53 319.33

Differential Corrections: TDE -.4354 TRA -.9759 TC3 .1101 BAW .0552 SGT 1323.0 SGR 583.4 SG3 188.7 ST 31.2 SR 26.6 SS 20.4
 RDE -.4593 RRA .1714 RC3 .1283 FAU .04424 RRT .0253 RRF -.0278 RTF -.7478 CRT .7332 CRS .4556 CST .9368
 FDE .2645 FRA 1.2088 FC3-1.5674 BSP 2067 SGB 1445.9 R23 -.0044 R13 -.7479 LSA 41.8 MSA 18.5 S8A 1.2
 BDE .6300 BRA .9909 BC3 .1690 FSP 258 SG1 1323.1 SG2 583.2 THA .79 EL1 38.2 EL2 14.7 ALF 38.87

LAUNCH DATE MAY 5 1971

FLIGHT TIME 120.00

ARRIVAL DATE SEP 2 1971

Heliocentric Conic: RL 150.87 LAL .00 LOL 223.87 VL 33.937 GAL -2.14 AZL 91.90 HCA 107.49 SMA 218.41 ECC .31128 INC 1.8969 V1 29.533
 RP 206.72 LAP -1.81 LOP 331.37 VP 26.007 GAP 17.88 AZP 89.43 TAL 350.97 TAP 98.46 RCA 150.43 APO 286.40 V2 26.491
 RC 60.633 GL -13.49 GP .55 ZAL 110.58 ZAP 167.94 ETS 177.43 ZAE 171.44 ETE 34.92 ZAC 100.40 ETC 278.04 LVI -18.90

Planetocentric Conic: C3 23.174 VHL 4.814 DLA -22.15 RAL 342.18 RAD 6644.2 VEL 11.965 PTH 6.96 VHP 8.335 DPA -16.27 RAP 322.16 ECC 1.3814
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 44 18 2718.23 -18.11 76.08 201.41 134.78 17 29 36 1718.2 .07 59.88
 60.00 17 51 11 2540.34 -12.76 64.99 206.35 128.56 18 33 31 1540.3 3.26 48.92
 70.00 19 16 5 2290.74 -7.49 48.64 210.23 123.42 19 54 16 1290.7 6.47 29.10
 80.00 20 57 28 1973.47 -3.17 27.21 212.90 119.70 21 30 21 973.5 9.14 6.64
 90.00 22 34 53 1659.25 -1.36 5.10 213.90 118.25 23 2 32 659.2 10.28 344.13
 100.00 23 40 20 1447.94 -3.17 348.58 212.90 119.70 24 4 28 447.9 9.14 328.00
 110.00 0 19 28 1337.55 -7.49 337.55 210.23 123.42 0 41 45 337.6 6.47 318.01

Differential Corrections: TDE -.4301 TRA -.9685 TC3 .1288 BAW .0580 SGT 1349.1 SGR 581.5 SG3 201.9 ST 31.7 SR 26.5 SS 21.0
 RDE -.4415 RRA .1650 RC3 .1358 FAU .04603 RRT .0278 RRF -.0306 RTF -.7543 CRT .7319 CRS .4450 CST .9334
 FDE .2687 FRA 1.2584 FC3-1.7197 BSP 2135 SGB 1469.1 R23 -.0048 R13 -.7543 LSA 42.3 MSA 18.7 S8A 1.2
 BDE .6163 BRA .9805 BC3 .1872 FSP 279 SG1 1349.2 SG2 581.2 THA .84 EL1 38.5 EL2 14.8 ALF 38.09

LAUNCH DATE MAY 5 1971

FLIGHT TIME 122.00

ARRIVAL DATE SEP 4 1971

Heliocentric Conic: RL 150.87 LAL .00 LOL 223.87 VL 33.822 GAL -2.05 AZL 91.90 HCA 108.76 SMA 215.65 ECC .30233 INC 1.9012 V1 29.533
 RP 206.70 LAP -1.80 LOP 332.64 VP 25.860 GAP 17.44 AZP 89.39 TAL 351.15 TAP 99.91 RCA 150.45 APO 280.85 V2 26.494
 RC 61.483 GL -13.83 GP .57 ZAL 110.40 ZAP 166.94 ETS 177.55 ZAE 171.12 ETE 32.78 ZAC 100.38 ETC 278.09 LVI -18.99

Planetocentric Conic: C3 22.010 VHL 4.692 DLA -22.53 RAL 342.18 RAD 6643.7 VEL 11.917 PTH 6.92 VHP 8.074 DPA -16.16 RAP 322.42 ECC 1.3622
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 46 1 2697.69 -17.12 75.13 200.80 135.10 17 30 58 1697.7 1.10 59.02
 60.00 17 53 32 2518.12 -11.81 63.88 205.73 128.82 18 35 30 1518.1 4.23 45.83
 70.00 19 19 19 2265.94 -6.56 47.32 209.62 123.59 19 57 5 1265.9 7.40 27.78
 80.00 21 1 48 1945.16 -2.22 25.65 212.31 119.78 21 34 14 945.2 10.06 5.04
 90.00 22 39 54 1628.78 -.38 3.40 213.33 118.28 23 7 3 628.8 11.20 342.36
 100.00 23 44 40 1419.63 -2.22 347.02 212.31 119.78 24 8 20 419.6 10.06 326.40
 110.00 0 22 41 1312.75 -6.56 336.24 209.62 123.59 0 44 34 312.8 7.40 316.70

Differential Corrections: TDE -.4258 TRA -.9558 TC3 .1502 BAW .0611 SGT 1372.9 SGR 579.2 SG3 215.9 ST 32.1 SR 26.3 SS 21.6
 RDE -.4281 RRA .1587 RC3 .1438 FAU .04794 RRT .0305 RRF -.0333 RTF -.7512 CRT .7302 CRS .4330 CST .9299
 FDE .2720 FRA 1.3103 FC3-1.8885 BSP 2191 SGB 1490.0 R23 -.0051 R13 -.7612 LSA 42.7 MSA 19.0 S8A 1.2
 BDE .6023 BRA .9689 BC3 .2077 FSP 302 SG1 1373.0 SG2 578.9 THA .90 EL1 38.7 EL2 14.9 ALF 37.39

LAUNCH DATE MAY 5 1971

FLIGHT TIME 124.00

ARRIVAL DATE SEP 6 1971

Heliocentric Conic: RL 150.87 LAL .00 LOL 223.87 VL 33.714 GAL -1.97 AZL 91.91 HCA 110.03 SMA 213.12 ECC .29393 INC 1.9056 V1 29.533
 RP 206.68 LAP -1.79 LOP 333.91 VP 25.720 GAP 17.01 AZP 89.35 TAL 351.34 TAP 101.37 RCA 150.46 APO 275.76 V2 26.496
 RC 62.398 GL -14.17 GP .59 ZAL 110.21 ZAP 165.93 ETS 177.66 ZAE 170.86 ETE 30.98 ZAC 100.36 ETC 278.15 LVI -19.08

Planetocentric Conic: C3 20.939 VHL 4.576 DLA -22.91 RAL 342.17 RAD 6643.3 VEL 11.872 PTH 6.89 VHP 7.823 DPA -16.06 RAP 322.67 ECC 1.3446
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 47 43 2677.50 -16.15 74.20 200.22 135.39 17 32 20 1677.5 2.12 58.18
 60.00 17 55 53 2496.20 -10.87 62.79 205.14 129.05 18 37 29 1496.2 5.19 44.80
 70.00 19 22 35 2241.31 -5.63 46.02 209.04 123.74 19 59 57 1241.3 8.32 26.47
 80.00 21 6 17 1916.79 -1.26 24.10 211.75 119.83 21 38 14 916.8 10.97 3.42
 90.00 22 43 6 1598.04 .61 1.69 212.79 118.27 23 11 44 598.0 12.11 340.57
 100.00 23 49 9 1391.26 -1.26 345.46 211.75 119.83 24 12 20 391.3 10.97 324.79
 110.00 0 25 58 1286.13 -5.63 334.94 209.04 123.74 0 47 26 288.1 8.32 315.39

Differential Corrections: TDE -.4173 TRA -.9451 TC3 .1717 BAW .0641 SGT 1395.7 SGR 576.5 SG3 230.7 ST 32.5 SR 26.2 SS 22.2
 RDE -.4151 RRA .1527 RC3 .1513 FAU .04994 RRT .0333 RRF -.0364 RTF -.7674 CRT .7285 CRS .4212 CST .9257
 FDE .2756 FRA 1.3649 FC3-2.0648 BSP 2248 SGB 1510.1 R23 -.0056 R13 -.7675 LSA 43.1 MSA 19.2 S8A 1.3
 BDE .5886 BRA .9573 BC3 .2298 FSP 326 SG1 1395.9 SG2 576.1 THA .95 EL1 38.9 EL2 15.0 ALF 36.70

LAUNCH DATE MAY 9 1971

FLIGHT TIME 126.00

ARRIVAL DATE SEP 8 1971

HELIOCENTRIC CONIC
 RL 150.87 LAL .00 LOL 223.87 VL 33.612 GAL -1.88 AZL 91.91 HCA 111.30 SMA 210.00 ECC .28602 INC 1.9101 V1 29.533
 RP 206.67 LAP -1.78 LOP 335.18 VP 25.587 GAP 16.58 AZP 89.31 TAL 351.53 TAP 102.83 RCA 150.50 APO 271.09 V2 26.496
 RC 63.376 GL -14.52 GP .61 ZAL 110.01 ZAP 164.89 ETS 177.75 ZAE 170.85 ETE 29.48 ZAC 100.35 ETC 278.19 LVI -19.17

PLANETOCENTRIC CONIC
 C3 19.952 VHL 4.467 DLA -23.29 RAL 342.14 RAD 6642.8 VEL 11.831 PTH 6.85 VHP 7.579 DPA -15.97 RAP 322.89 ECC 1.3284
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 49 25 2657.68 -15.18 73.30 199.67 135.65 17 33 42 1657.7 3.11 57.35
 60.00 17 58 15 2474.59 -9.94 61.72 204.57 129.26 18 39 30 1474.6 6.14 43.76
 70.00 19 25 55 2216.87 -4.70 44.73 208.49 123.87 20 2 52 1216.9 9.23 25.16
 80.00 21 10 53 1888.35 -.29 22.53 211.23 119.86 21 42 22 888.4 11.87 1.79
 90.00 22 50 31 1567.00 1.61 359.96 212.29 118.24 23 16 38 567.0 13.02 336.74
 100.00 23 53 45 1362.82 -.29 343.90 211.23 119.86 24 16 28 362.8 11.87 323.16
 110.00 0 29 17 1263.69 -4.70 333.65 208.49 123.87 0 50 21 263.7 9.23 314.08

DIFFERENTIAL CORRECTIONS
 TDE -.4106 TRA -.9335 TC3 .1956 BAU .0673 SGT 1416.8 SGR 573.5 SG3 246.7 ST 32.8 SR 26.0 SS 22.8
 RDE -.4026 RRA .1467 RC3 .1593 FAU .05209 RRT .0366 RRF -.0398 RTF -.7740 CRT .7268 CR8 .4089 CST .9215
 FDE .2789 FRA 1.4224 FC3-2.2603 B8P 2291 SGB 1528.4 R23 -.0059 R13 -.7741 LSA 43.5 M8A 19.5 S8A 1.3
 BDE .5790 BRA .9449 BC3 .2523 F8P 351 SG1 1417.0 SG2 573.0 THA 1.02 EL1 39.1 EL2 15.0 ALF 36.06

LAUNCH DATE MAY 5 1971

FLIGHT TIME 128.00

ARRIVAL DATE SEP 10 1971

HELIOCENTRIC CONIC
 RL 150.87 LAL .00 LOL 223.87 VL 33.515 GAL -1.80 AZL 91.91 HCA 112.57 SMA 208.66 ECC .27858 INC 1.9146 V1 29.533
 RP 206.68 LAP -1.77 LOP 336.45 VP 25.460 GAP 16.17 AZP 89.26 TAL 351.72 TAP 104.29 RCA 150.53 APO 266.78 V2 26.496
 RC 64.414 GL -14.86 GP .64 ZAL 109.80 ZAP 163.84 ETS 177.84 ZAE 170.50 ETE 28.24 ZAC 100.34 ETC 278.24 LVI -19.25

PLANETOCENTRIC CONIC
 C3 19.043 VHL 4.364 DLA -23.68 RAL 342.11 RAD 6642.4 VEL 11.792 PTH 6.82 VHP 7.344 DPA -15.88 RAP 323.09 ECC 1.3134
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 51 6 2638.26 -14.23 72.43 199.14 135.89 17 35 4 1638.3 4.09 56.53
 60.00 18 0 38 2453.33 -9.03 60.67 204.03 129.45 18 41 32 1453.3 7.07 42.73
 70.00 19 29 18 2192.66 -3.78 43.46 207.96 123.97 20 5 51 1192.7 10.13 23.86
 80.00 21 15 38 1859.86 .67 20.97 210.74 119.85 21 46 38 859.9 12.77 .15
 90.00 22 56 10 1535.64 2.62 358.21 211.82 118.17 23 21 45 535.6 13.93 336.89
 100.00 0 2 26 1334.33 .67 342.34 210.74 119.85 0 24 40 334.3 12.77 321.52
 110.00 0 32 40 1239.48 -3.78 332.38 207.96 123.97 0 53 20 239.5 10.13 312.78

DIFFERENTIAL CORRECTIONS
 TDE -.4033 TRA -.9215 TC3 .2184 BAU .0700 SGT 1436.0 SGR 570.1 SG3 263.6 ST 33.1 SR 25.8 SS 23.5
 RDE -.3905 RRA .1409 RC3 .1674 FAU .05437 RRT .0396 RRF -.0434 RTF -.7795 CRT .7248 CR8 .3962 CST .9173
 FDE .2818 FRA 1.4823 FC3-2.4717 B8P 2334 SGB 1545.0 R23 -.0068 R13 -.7795 LSA 43.8 M8A 19.7 S8A 1.3
 BDE .5614 BRA .9322 BC3 .2751 F8P 379 SG1 1436.2 SG2 569.5 THA 1.07 EL1 39.2 EL2 15.0 ALF 35.47

LAUNCH DATE MAY 5 1971

FLIGHT TIME 130.00

ARRIVAL DATE SEP 12 1971

HELIOCENTRIC CONIC
 RL 150.87 LAL .00 LOL 223.87 VL 33.425 GAL -1.72 AZL 91.92 HCA 113.84 SMA 206.69 ECC .27160 INC 1.9193 V1 29.533
 RP 206.69 LAP -1.76 LOP 337.72 VP 25.340 GAP 15.76 AZP 89.22 TAL 351.92 TAP 105.76 RCA 150.55 APO 262.82 V2 26.495
 RC 65.512 GL -15.20 GP .66 ZAL 109.58 ZAP 162.76 ETS 177.91 ZAE 170.41 ETE 27.23 ZAC 100.34 ETC 278.28 LVI -19.32

PLANETOCENTRIC CONIC
 C3 18.205 VHL 4.267 DLA -24.06 RAL 342.07 RAD 6642.0 VEL 11.757 PTH 6.78 VHP 7.116 DPA -15.79 RAP 323.27 ECC 1.2996
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 52 47 2619.24 -13.30 71.59 198.63 136.11 17 36 26 1619.2 5.04 55.74
 60.00 18 3 2 2432.42 -8.12 59.65 203.52 129.61 18 43 34 1432.4 7.98 41.71
 70.00 19 32 44 2168.69 -2.87 42.21 207.47 124.05 20 8 53 1168.7 11.01 22.56
 80.00 21 20 32 1831.31 1.64 19.40 210.28 119.82 21 51 4 831.3 13.65 358.49
 90.00 23 2 3 1503.90 3.64 356.43 211.39 118.06 23 27 7 503.9 14.83 334.99
 100.00 0 7 20 1305.78 1.64 340.77 210.28 119.82 0 29 6 305.8 13.65 319.86
 110.00 0 36 8 1215.51 -2.87 331.13 207.47 124.05 0 56 22 215.5 11.01 311.48

DIFFERENTIAL CORRECTIONS
 TDE -.3985 TRA -.9092 TC3 .2424 BAU .0729 SGT 1454.0 SGR 566.3 SG3 281.6 ST 33.3 SR 25.6 SS 24.1
 RDE -.3787 RRA .1353 RC3 .1796 FAU .05678 RRT .0435 RRF -.0473 RTF -.7848 CRT .7231 CR8 .3830 CST .9129
 FDE .2844 FRA 1.5453 FC3-2.7000 B8P 2375 SGB 1560.4 R23 -.0072 R13 -.7849 LSA 44.1 M8A 20.0 S8A 1.3
 BDE .5483 BRA .9192 BC3 .2993 F8P 409 SG1 1454.3 SG2 565.7 THA 1.14 EL1 39.3 EL2 15.0 ALF 34.87

LAUNCH DATE MAY 9 1971

FLIGHT TIME 132.00

ARRIVAL DATE SEP 14 1971

HELIOCENTRIC CONIC
 RL 150.87 LAL .00 LOL 223.87 VL 33.339 GAL -1.65 AZL 91.92 HCA 115.11 SMA 204.87 ECC .26503 INC 1.9239 V1 29.533
 RP 206.71 LAP -1.74 LOP 338.99 VP 25.228 GAP 15.36 AZP 89.18 TAL 352.12 TAP 107.23 RCA 150.57 APO 259.16 V2 26.493
 RC 66.667 GL -15.54 GP .69 ZAL 109.35 ZAP 161.86 ETS 177.97 ZAE 170.39 ETE 26.43 ZAC 100.34 ETC 278.31 LVI -19.39

PLANETOCENTRIC CONIC
 C3 17.433 VHL 4.175 DLA -24.45 RAL 342.02 RAD 6641.7 VEL 11.725 PTH 6.76 VHP 6.896 DPA -15.71 RAP 323.43 ECC 1.2869
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 54 28 2600.67 -12.39 70.77 198.16 136.31 17 37 48 1600.7 5.97 54.95
 60.00 18 5 26 2411.91 -7.23 58.65 203.04 129.76 18 45 38 1411.9 8.86 40.71
 70.00 19 36 13 2144.99 -1.97 40.97 207.01 124.10 20 11 58 1145.0 11.87 21.27
 80.00 21 25 36 1802.69 2.81 17.83 209.86 119.75 21 55 38 802.7 14.52 356.81
 90.00 23 8 13 1471.74 4.67 354.63 210.99 117.92 23 32 44 471.7 15.72 333.05
 100.00 0 12 23 1277.17 2.81 339.20 209.86 119.75 0 33 41 277.2 14.52 318.18
 110.00 0 39 36 1191.81 -1.97 329.89 207.01 124.10 0 59 27 191.8 11.87 310.19

DIFFERENTIAL CORRECTIONS
 TDE -.3892 TRA -.8969 TC3 .2659 BAU .0753 SGT 1470.5 SGR 562.2 SG3 300.8 ST 33.5 SR 25.4 SS 24.8
 RDE -.3674 RRA .1297 RC3 .1839 FAU .05936 RRT .0471 RRF -.0516 RTF -.7896 CRT .7212 CR8 .3692 CST .9076
 FDE .2867 FRA 1.6125 FC3-2.9479 B8P 2410 SGB 1574.3 R23 -.0080 R13 -.7897 LSA 44.4 M8A 20.2 S8A 1.3
 BDE .5352 BRA .9062 BC3 .3233 F8P 440 SG1 1470.8 SG2 561.5 THA 1.21 EL1 39.3 EL2 15.0 ALF 34.32

LAUNCH DATE MAY 5 1971

FLIGHT TIME 134.00

ARRIVAL DATE SEP 16 1971

Heliocentric Conic: RL 150.87 LAL .00 LOL 223.87 VL 33.259 GAL -1.58 AZL 91.93 HCA 116.38 SMA 203.19 ECC .25886 INC 1.9288 VI 29.533
 RP 206.73 LAP -1.73 LOP 340.26 VP 25.113 GAP 14.97 AZP 89.14 TAL 352.33 TAP 108.70 RCA 150.59 APO 255.79 V2 26.489
 RC 67.877 GL -15.88 GP .71 ZAL 109.12 ZAP 160.53 ETS 178.02 ZAE 170.44 ETE 25.82 ZAC 100.35 ETC 278.34 LVI -19.45

Planetocentric Conic: C3 16.722 VHL 4.089 DLA -24.84 RAL 341.98 RAD 6641.3 VEL 11.694 PTH 6.73 VHP 6.684 DPA -15.64 RAP 323.56 ECC 1.2752
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 56 8 2582.54 -11.50 69.97 197.70 136.49 17 39 11 1582.5 6.88 54.19
 60.00 18 7 51 2391.82 -6.35 57.68 202.59 129.88 18 47 43 1391.8 9.73 39.72
 70.00 19 39 46 2121.59 -1.07 39.75 206.57 124.14 20 15 7 1121.6 12.72 19.99
 80.00 21 30 49 1774.02 3.57 16.25 209.47 119.66 22 0 23 774.0 15.38 355.12
 90.00 23 14 40 1439.06 5.70 352.79 210.64 117.75 23 38 39 439.1 16.61 331.07
 100.00 0 17 37 1248.49 3.57 337.62 209.47 119.66 0 38 25 248.5 15.38 316.49
 110.00 0 43 8 1168.41 -1.07 328.67 206.57 124.14 1 2 36 168.4 12.72 308.91

Differential Corrections: TDE -.3817 TRA -.8839 TC3 .2888 BAW .0775 SGT 1484.7 SGR 557.7 SG3 321.3 ST 33.7 SR 25.1 SS 25.5
 RDE -.3565 RRA .1244 RC3 .1922 FAU .06209 RRT .0510 RRF -.0560 RTF -.7940 CRT .7192 CRS .3548 CST .9023
 FDE .2884 FRA 1.6830 FC3-3.2144 BSP 2447 SGB 1586.0 R23 -.0089 R13 -.7941 LSA 44.6 MSA 20.5 SSA 1.3
 BDE .5223 BRA .8926 BC3 .3469 FSP 475 SG1 1485.0 SG2 556.9 THA 1.28 EL1 39.3 EL2 15.0 ALF 33.80

LAUNCH DATE MAY 5 1971

FLIGHT TIME 136.00

ARRIVAL DATE SEP 18 1971

Heliocentric Conic: RL 150.87 LAL .00 LOL 223.87 VL 33.184 GAL -1.51 AZL 91.93 HCA 117.64 SMA 201.64 ECC .25306 INC 1.9337 VI 29.533
 RP 206.77 LAP -1.71 LOP 341.53 VP 25.010 GAP 14.59 AZP 89.10 TAL 352.53 TAP 110.17 RCA 150.61 APO 292.87 V2 26.485
 RC 69.140 GL -16.22 GP .74 ZAL 108.89 ZAP 159.38 ETS 178.07 ZAE 170.56 ETE 25.42 ZAC 100.36 ETC 278.36 LVI -19.51

Planetocentric Conic: C3 16.066 VHL 4.008 DLA -25.23 RAL 341.90 RAD 6641.0 VEL 11.667 PTH 6.70 VHP 6.479 DPA -15.58 RAP 323.66 ECC 1.2644
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 57 48 2564.90 -10.62 69.20 197.28 136.66 17 40 33 1564.9 7.76 53.43
 60.00 18 10 16 2372.16 -5.49 56.73 202.16 129.99 18 49 48 1372.2 10.58 38.75
 70.00 19 43 21 2098.50 -1.19 38.54 206.17 124.15 20 18 19 1098.5 13.55 18.71
 80.00 21 36 13 1745.25 4.54 14.67 209.11 119.54 22 5 18 745.3 16.23 353.40
 90.00 23 21 29 1405.76 6.76 390.91 210.32 117.53 23 44 54 405.8 17.49 329.02
 100.00 0 23 0 1219.73 4.54 336.04 209.11 119.54 0 43 20 219.7 16.23 314.77
 110.00 0 46 43 1145.32 -1.19 327.46 206.17 124.15 1 5 48 145.3 13.55 307.63

Differential Corrections: TDE -.3742 TRA -.8702 TC3 .3111 BAW .0795 SGT 1496.4 SGR 553.0 SG3 343.0 ST 33.8 SR 24.9 SS 26.1
 RDE -.3459 RRA .1191 RC3 .2006 FAU .06501 RRT .0553 RRF -.0609 RTF -.7976 CRT .7175 CRS .3398 CST .8964
 FDE .2893 FRA 1.7564 FC3-3.5031 BSP 2474 SGB 1595.3 R23 -.0098 R13 -.7977 LSA 44.8 MSA 20.7 SSA 1.3
 BDE .5096 BRA .8784 BC3 .3702 FSP 511 SG1 1496.8 SG2 552.0 THA 1.36 EL1 39.2 EL2 14.9 ALF 33.31

LAUNCH DATE MAY 5 1971

FLIGHT TIME 138.00

ARRIVAL DATE SEP 20 1971

Heliocentric Conic: RL 150.87 LAL .00 LOL 223.87 VL 33.112 GAL -1.44 AZL 91.94 HCA 118.91 SMA 200.20 ECC .24761 INC 1.9387 VI 29.533
 RP 206.81 LAP -1.70 LOP 342.79 VP 24.910 GAP 14.21 AZP 89.06 TAL 352.73 TAP 111.64 RCA 150.63 APO 249.77 V2 26.480
 RC 70.455 GL -16.55 GP .77 ZAL 108.65 ZAP 158.20 ETS 178.12 ZAE 170.75 ETE 25.21 ZAC 100.38 ETC 278.38 LVI -19.57

Planetocentric Conic: C3 15.460 VHL 3.932 DLA -25.61 RAL 341.84 RAD 6640.7 VEL 11.641 PTH 6.68 VHP 6.280 DPA -15.52 RAP 323.74 ECC 1.2544
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 59 28 2547.68 -9.77 68.46 196.88 136.80 17 41 55 1547.7 8.62 52.70
 60.00 18 12 42 2352.88 -4.65 55.80 201.76 130.08 18 51 55 1352.9 11.41 37.79
 70.00 19 46 59 2075.66 .68 37.35 205.80 124.15 20 21 35 1075.7 14.36 17.44
 80.00 21 41 49 1716.26 5.51 13.06 208.79 119.39 22 10 25 716.3 17.07 351.66
 90.00 23 28 42 1371.53 7.83 348.96 210.05 117.26 23 51 34 371.5 18.37 326.90
 100.00 0 28 37 1190.73 5.51 334.43 208.79 119.39 0 48 27 190.7 17.07 313.03
 110.00 0 50 21 1122.48 .68 326.27 205.80 124.15 1 9 4 122.5 14.36 306.36

Differential Corrections: TDE -.3530 TRA -.8418 TC3 .3698 BAW .0878 SGT 1483.1 SGR 547.9 SG3 366.2 ST 32.8 SR 24.6 SS 26.7
 RDE -.3356 RRA .1140 RC3 .2093 FAU .06827 RRT .0599 RRF -.0665 RTF -.8.35 CRT .7087 CRS .3220 CST .8938
 FDE .2874 FRA 1.8307 FC3-3.8232 BSP 2314 SGB 1581.1 R23 -.0101 R13 -.8136 LSA 44.2 MSA 21.0 SSA 1.3
 BDE .4871 BRA .8495 BC3 .4249 FSP 546 SG1 1483.6 SG2 546.7 THA 1.47 EL1 38.2 EL2 14.9 ALF 33.79

LAUNCH DATE MAY 5 1971

FLIGHT TIME 140.00

ARRIVAL DATE SEP 22 1971

Heliocentric Conic: RL 150.87 LAL .00 LOL 223.87 VL 33.045 GAL -1.38 AZL 91.94 HCA 120.18 SMA 198.88 ECC .24251 INC 1.9439 VI 29.533
 RP 206.87 LAP -1.68 LOP 344.06 VP 24.815 GAP 13.85 AZP 89.02 TAL 352.93 TAP 113.11 RCA 150.65 APO 247.10 V2 26.474
 RC 71.818 GL -16.87 GP .81 ZAL 108.42 ZAP 156.99 ETS 178.15 ZAE 171.02 ETE 25.21 ZAC 100.40 ETC 278.40 LVI -19.61

Planetocentric Conic: C3 14.904 VHL 3.861 DLA -25.99 RAL 341.78 RAD 6640.5 VEL 11.617 PTH 6.66 VHP 6.089 DPA -15.47 RAP 323.79 ECC 1.2453
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 1 7 2531.06 -8.95 67.75 196.51 136.93 17 43 18 1531.1 9.44 51.99
 60.00 18 15 8 2334.20 -3.83 54.90 201.40 130.15 18 54 2 1334.2 12.20 36.86
 70.00 19 50 40 2053.32 1.54 36.19 205.46 124.12 20 24 53 1053.3 15.15 16.19
 80.00 21 47 36 1687.32 6.48 11.46 208.51 119.21 22 15 43 687.3 17.89 349.90
 90.00 23 36 22 1336.54 8.91 346.97 209.82 116.95 23 58 39 336.5 19.25 324.70
 100.00 0 34 24 1161.79 6.48 332.82 208.51 119.21 0 53 45 161.8 17.89 311.27
 110.00 0 54 2 1100.14 1.54 325.11 205.46 124.12 1 12 22 100.1 15.15 305.11

Differential Corrections: TDE -.3528 TRA -.8349 TC3 .3713 BAW .0858 SGT 1502.2 SGR 542.5 SG3 390.8 ST 33.4 SR 24.3 SS 27.3
 RDE -.3257 RRA .1090 RC3 .2176 FAU .07149 RRT .0654 RRF -.0724 RTF -.8097 CRT .7112 CRS .3084 CST .8856
 FDE .2893 FRA 1.9145 FC3-4.1527 BSP 2429 SGB 1597.2 R23 -.0116 R13 -.8099 LSA 44.8 MSA 21.3 SSA 1.3
 BDE .4802 BRA .8420 BC3 .4304 FSP 589 SG1 1502.7 SG2 541.2 THA 1.55 EL1 38.5 EL2 14.8 ALF 32.84

LAUNCH DATE MAY 5 1971

FLIGHT TIME 142.00

ARRIVAL DATE SEP 24 1971

Heliocentric Conic: RL 150.87 LAL .00 LOL 223.87 VL 32.983 GAL -1.32 AZL 91.95 HCA 121.49 SMA 107.65 ECC .23772 INC 1.9491 V1 29.533
 RP 206.93 LAP -1.66 LOP 345.33 VP 24.723 GAP 13.49 AZP 88.98 TAL 353.12 TAP 114.57 RCA 150.68 APO 244.63 V2 26.468
 RC 73.228 GL -17.20 GP .04 ZAL 108.19 ZAP 155.75 ETS 178.19 ZAE 171.35 ETE 25.45 ZAC 100.43 ETC 278.40 LVI -19.68

Planetocentric Conic: C3 14.392 VHL 3.794 DLA -26.37 RAL 341.72 RAD 6640.2 VEL 11.595 PTH 6.64 VHP 5.904 DPA -15.43 RAP 323.81 ECC 1.2368
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 2 46 2514.95 -8.14 67.06 196.17 137.04 17 44 41 1515.0 10.24 51.29
 60.00 18 17 34 2316.00 -3.03 54.03 201.06 130.21 18 56 10 1316.0 12.98 35.84
 70.00 19 54 23 2031.35 2.37 35.04 205.15 124.08 20 28 14 1031.4 15.91 14.95
 80.00 21 53 36 1658.18 7.44 9.83 208.27 119.00 22 21 14 658.2 18.70 348.12
 90.00 23 44 36 1300.21 10.03 344.88 209.65 116.58 24 6 16 300.2 20.12 322.40
 100.00 0 40 24 1132.65 7.44 331.20 208.27 119.00 0 59 17 132.6 18.70 309.48
 110.00 0 57 45 1078.17 2.37 323.96 205.15 124.08 1 15 43 78.2 15.91 303.87

Differential Corrections: TDE -.3496 TRA -.8234 TC3 .3781 BAU .0848 SGT 1512.5 SGR 536.8 SG3 416.8 ST 33.6 SR 24.0 S8 28.3
 RDE -.3162 RRA .1040 RC3 .2260 FAU .07492 RRT .0714 RRF -.0790 RTF -.8081 CRT .7129 CRS .2949 CST .8779
 FDE .2907 FRA 2.0014 FC3-4.5067 BSP 2481 SGB 1604.9 R23 -.0130 R13 -.8083 LSA 45.2 MSA 21.5 S8A 1.4
 BDE .4714 BRA .8299 BC3 .4405 FSP 633 SG1 1513.0 SG2 535.3 THA 1.66 EL1 38.6 EL2 14.7 ALF 32.16

LAUNCH DATE MAY 5 1971

FLIGHT TIME 144.00

ARRIVAL DATE SEP 26 1971

Heliocentric Conic: RL 150.87 LAL .00 LOL 223.87 VL 32.924 GAL -1.26 AZL 91.95 HCA 122.71 SMA 196.51 ECC .23323 INC 1.9545 V1 29.533
 RP 207.00 LAP -1.64 LOP 346.39 VP 24.635 GAP 13.14 AZP 88.94 TAL 353.31 TAP 116.02 RCA 150.68 APO 242.34 V2 26.458
 RC 74.683 GL -17.51 GP .08 ZAL 107.97 ZAP 154.49 ETS 178.22 ZAE 171.75 ETE 25.96 ZAC 100.47 ETC 278.40 LVI -19.69

Planetocentric Conic: C3 13.919 VHL 3.731 DLA -26.73 RAL 341.66 RAD 6640.0 VEL 11.575 PTH 6.62 VHP 5.726 DPA -15.39 RAP 323.79 ECC 1.2291
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 4 25 2499.38 -7.37 66.39 195.85 137.14 17 46 4 1499.4 11.01 50.62
 60.00 18 20 0 2298.31 -2.25 53.18 200.75 130.25 18 58 19 1298.3 13.72 35.04
 70.00 19 58 8 2009.78 3.20 33.91 204.88 124.02 20 31 38 1009.8 16.66 13.72
 80.00 21 59 51 1628.79 8.41 8.19 208.07 118.75 22 27 0 628.8 19.49 346.30
 90.00 23 53 34 1282.07 11.18 342.67 209.53 116.15 24 14 36 262.1 21.00 319.95
 100.00 0 46 39 1103.26 8.41 329.55 208.07 118.75 1 5 2 103.3 19.49 307.66
 110.00 1 1 30 1056.60 3.20 322.83 204.88 124.02 1 19 7 56.6 16.66 302.64

Differential Corrections: TDE -.3442 TRA -.8105 TC3 .3871 BAU .0842 SGT 1518.3 SGR 530.9 SG3 444.5 ST 33.7 SR 23.7 S8 29.0
 RDE -.3069 RRA .0991 RC3 .2344 FAU .07857 RRT .0771 RRF -.0858 RTF -.8077 CRT .7129 CRS .2799 CST .8702
 FDE .2908 FRA 2.0946 FC3-4.8870 BSP 2516 SGB 1608.4 R23 -.0150 R13 -.8079 LSA 45.3 MSA 21.8 S8A 1.4
 BDE .4612 BRA .8165 BC3 .4526 FSP 681 SG1 1518.9 SG2 529.1 THA 1.76 EL1 38.6 EL2 14.5 ALF 31.63

LAUNCH DATE MAY 5 1971

FLIGHT TIME 146.00

ARRIVAL DATE SEP 28 1971

Heliocentric Conic: RL 150.87 LAL .00 LOL 223.87 VL 32.868 GAL -1.21 AZL 91.96 HCA 123.98 SMA 195.45 ECC .22902 INC 1.9601 V1 29.533
 RP 207.08 LAP -1.63 LOP 347.86 VP 24.551 GAP 12.80 AZP 88.90 TAL 353.50 TAP 117.47 RCA 150.69 APO 240.22 V2 26.449
 RC 76.180 GL -17.82 GP .92 ZAL 107.73 ZAP 153.19 ETS 178.24 ZAE 172.23 ETE 26.81 ZAC 100.51 ETC 278.40 LVI -19.72

Planetocentric Conic: C3 13.485 VHL 3.672 DLA -27.09 RAL 341.61 RAD 6639.8 VEL 11.556 PTH 6.60 VHP 5.554 DPA -15.37 RAP 323.75 ECC 1.2219
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 6 4 2484.35 -6.62 65.75 195.56 137.22 17 47 28 1484.3 11.75 49.96
 60.00 18 22 27 2281.16 -1.50 52.36 200.47 130.28 19 0 28 1281.2 14.44 34.17
 70.00 20 1 56 1988.63 4.00 32.80 204.63 123.95 20 35 4 988.6 17.38 12.51
 80.00 22 6 23 1599.07 9.38 6.51 207.91 118.48 22 33 2 999.1 20.27 344.44
 90.00 0 7 27 1221.34 12.39 340.29 209.48 115.62 0 27 48 221.3 21.90 317.30
 100.00 0 93 10 1073.54 9.38 327.88 207.91 118.48 1 11 4 73.5 20.27 305.80
 110.00 1 5 18 1035.45 4.00 321.72 204.63 123.95 1 22 34 35.5 17.38 301.42

Differential Corrections: TDE -.3382 TRA -.7952 TC3 .3952 BAU .0838 SGT 1518.3 SGR 524.6 SG3 473.7 ST 33.7 SR 23.4 S8 29.8
 RDE -.2979 RRA .0943 RC3 .2428 FAU .08245 RRT .0837 RRF -.0934 RTF -.8071 CRT .7136 CRS .2849 CST .8620
 FDE .2902 FRA 2.1909 FC3-5.2934 BSP 2531 SGB 1606.3 R23 -.0169 R13 -.8073 LSA 45.6 MSA 22.0 S8A 1.4
 BDE .4507 BRA .8008 BC3 .4638 FSP 731 SG1 1519.0 SG2 522.5 THA 1.88 EL1 38.4 EL2 14.4 ALF 31.20

LAUNCH DATE MAY 5 1971

FLIGHT TIME 148.00

ARRIVAL DATE SEP 30 1971

Heliocentric Conic: RL 150.87 LAL .00 LOL 223.87 VL 32.816 GAL -1.18 AZL 91.97 HCA 125.24 SMA 194.47 ECC .22508 INC 1.9659 V1 29.533
 RP 207.17 LAP -1.61 LOP 349.12 VP 24.471 GAP 12.47 AZP 88.87 TAL 353.67 TAP 118.91 RCA 150.70 APO 238.25 V2 26.439
 RC 77.718 GL -18.13 GP .96 ZAL 107.54 ZAP 151.86 ETS 178.26 ZAE 172.77 ETE 28.07 ZAC 100.56 ETC 278.39 LVI -19.74

Planetocentric Conic: C3 13.084 VHL 3.617 DLA -27.45 RAL 341.55 RAD 6639.6 VEL 11.539 PTH 6.59 VHP 5.388 DPA -15.35 RAP 323.67 ECC 1.2133
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 7 42 2469.88 -5.89 65.14 195.30 137.30 17 48 52 1469.9 12.47 49.33
 60.00 18 24 53 2264.57 -.77 51.57 200.22 130.29 19 2 58 1264.6 15.14 33.32
 70.00 20 5 45 1967.94 4.79 31.72 204.42 123.86 20 38 33 967.9 18.08 11.31
 80.00 22 13 13 1568.93 10.35 4.81 207.79 118.16 22 39 22 568.9 21.04 342.53
 90.00 0 18 49 1176.56 13.89 337.65 209.50 114.99 0 38 26 176.6 22.83 314.35
 100.00 1 0 1 1043.41 10.35 326.17 207.79 118.16 1 17 24 43.4 21.04 303.90
 110.00 1 9 8 1014.76 4.79 320.64 204.42 123.86 1 26 2 14.8 18.08 300.22

Differential Corrections: TDE -.3321 TRA -.7795 TC3 .3991 BAU .0825 SGT 1515.2 SGR 518.1 SG3 504.6 ST 33.6 SR 23.0 S8 30.7
 RDE -.2692 RRA .0896 RC3 .2511 FAU .08648 RRT .0903 RRF -.1016 RTF -.8061 CRT .7144 CRS .2505 CST .8538
 FDE .2897 FRA 2.2940 FC3-5.7220 BSP 2535 SGB 1601.4 R23 -.0193 R13 -.8064 LSA 45.8 MSA 22.3 S8A 1.4
 BDE .4404 BRA .7847 BC3 .4715 FSP 784 SG1 1516.1 SG2 515.7 THA 2.00 EL1 38.2 EL2 14.2 ALF 30.81

LAUNCH DATE MAY 5 1971

FLIGHT TIME 150.00

ARRIVAL DATE OCT 2 1971

HELIOCENTRIC CONIC
 RL 150.87 LAL .00 LOL 223.87 VL 32.767 GAL -1.11 AZL 91.97 HCA 126.50 SMA 193.57 ECC .22139 INC 1.9718 V1 29.533
 RP 207.26 LAP -1.58 LOP 350.39 VP 24.393 GAP 12.14 AZP 88.83 TAL 353.84 TAP 120.35 RCA 150.71 APO 236.42 V2 26.428
 RC 79.295 GL -18.43 GP 1.00 ZAL 107.34 ZAP 150.49 ETS 178.28 ZAE 173.37 ETE 29.91 ZAC 100.62 ETC 278.37 LVI -19.75

PLANETOCENTRIC CONIC
 C3 12.717 VHL 3.566 DLA -27.79 RAL 341.51 RAD 6639.4 VEL 11.523 PTH 6.57 VHP 5.229 DPA -15.34 RAP 323.55 ECC 1.2093
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 9 20 2459.98 -5.20 64.56 195.07 137.36 17 50 16 1456.0 13.15 48.71
 60.00 18 27 19 2248.55 -.06 80.81 200.00 130.30 19 4 47 1248.5 15.81 32.49
 70.00 20 9 37 1947.72 5.55 30.65 204.24 123.75 20 42 4 947.7 18.75 10.13
 80.00 22 20 25 1538.22 11.33 3.05 207.71 117.81 22 46 3 538.2 21.80 340.57
 90.00 0 32 39 1124.47 15.17 334.54 209.63 114.16 0 51 23 124.5 23.83 310.86
 100.00 1 7 12 1012.69 11.33 324.42 207.71 117.81 1 24 5 12.7 21.80 301.93
 110.00 1 12 59 6282.58 5.55 297.48 204.24 123.75 2 57 42 5282.6 18.75 276.95

DIFFERENTIAL CORRECTIONS
 TDE -.3249 TRA -.7615 TC3 .4022 BAU .0814 SGT 1505.8 SGR 511.4 SG3 937.2 ST 33.3 SR 22.7 SS 31.5
 RDE -.2808 RRA .0850 RC3 .2595 FAU .09085 RRT .0976 RRF -.1107 RTF -.8046 CRT .7153 CRS .2344 CST .8443
 FDE .2867 FRA 2.3996 FC3-6.1848 BSP 2523 SGB 1590.2 R23 -.0221 R13 -.8049 LSA 45.9 MSA 22.6 SSA 1.4
 BDE .4294 BRA .7662 BC3 .4787 FSP 840 SG1 1506.7 SG2 508.7 THA 2.14 EL1 37.8 EL2 14.0 ALF 30.54

LAUNCH DATE MAY 5 1971

FLIGHT TIME 152.00

ARRIVAL DATE OCT 4 1971

HELIOCENTRIC CONIC
 RL 150.87 LAL .00 LOL 223.87 VL 32.722 GAL -1.07 AZL 91.98 HCA 127.76 SMA 192.73 ECC .21794 INC 1.9779 V1 29.533
 RP 207.37 LAP -1.56 LOP 351.65 VP 24.318 GAP 11.82 AZP 88.79 TAL 354.00 TAP 121.77 RCA 150.72 APO 234.73 V2 26.415
 RC 80.909 GL -18.72 GP 1.05 ZAL 107.14 ZAP 149.09 ETS 178.30 ZAE 174.02 ETE 32.53 ZAC 100.69 ETC 278.34 LVI -19.76

PLANETOCENTRIC CONIC
 C3 12.379 VHL 3.518 DLA -28.12 RAL 341.47 RAD 6639.2 VEL 11.509 PTH 6.56 VHP 5.075 DPA -15.34 RAP 323.40 ECC 1.2037
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 10 58 2442.66 -4.53 64.00 194.86 137.41 17 51 40 1442.7 13.80 48.12
 60.00 18 29 44 2233.11 -.62 50.07 199.81 130.30 19 6 57 1233.1 16.44 31.68
 70.00 20 13 29 1928.00 6.30 29.61 204.09 123.64 20 45 37 928.0 19.40 8.96
 80.00 22 28 3 1506.70 12.33 1.24 207.68 117.41 22 53 9 506.7 22.55 338.53
 90.00 0 52 28 1093.60 17.10 330.23 210.00 112.88 1 10 1 53.6 25.05 306.03
 100.00 1 14 50 6269.21 12.33 300.52 207.68 117.41 2 59 20 5269.2 22.55 277.80
 110.00 1 16 52 6262.86 6.30 296.44 204.09 123.64 3 1 14 5262.9 19.40 275.79

DIFFERENTIAL CORRECTIONS
 TDE -.3192 TRA -.7439 TC3 .3978 BAU .0794 SGT 1495.0 SGR 504.5 SG3 571.8 ST 33.2 SR 22.3 SS 32.4
 RDE -.2726 RRA .0803 RC3 .2679 FAU .09536 RRT .1058 RRF -.1211 RTF -.8018 CRT .7178 CRS .2229 CST .8360
 FDE .2876 FRA 2.5139 FC3-6.6696 BSP 2510 SGB 1577.9 R23 -.0256 R13 -.8022 LSA 46.1 MSA 22.8 SSA 1.4
 BDE .4197 BRA .7482 BC3 .4796 FSP 900 SG1 1496.1 SG2 501.3 THA 2.30 EL1 37.5 EL2 13.7 ALF 30.22

LAUNCH DATE MAY 5 1971

FLIGHT TIME 154.00

ARRIVAL DATE OCT 6 1971

HELIOCENTRIC CONIC
 RL 150.87 LAL .00 LOL 223.87 VL 32.679 GAL -1.03 AZL 91.98 HCA 129.02 SMA 191.95 ECC .21472 INC 1.9842 V1 29.533
 RP 207.48 LAP -1.54 LOP 352.91 VP 24.247 GAP 11.51 AZP 88.75 TAL 354.16 TAP 123.18 RCA 150.73 APO 235.16 V2 26.402
 RC 82.560 GL -19.01 GP 1.09 ZAL 106.96 ZAP 147.65 ETS 178.31 ZAE 174.72 ETE 36.32 ZAC 100.76 ETC 278.31 LVI -19.76

PLANETOCENTRIC CONIC
 C3 12.068 VHL 3.474 DLA -28.44 RAL 341.45 RAD 6639.1 VEL 11.495 PTH 6.54 VHP 4.928 DPA -15.35 RAP 323.21 ECC 1.1986
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 12 35 2429.94 -3.89 63.46 194.68 137.45 17 53 5 1429.9 14.43 47.55
 60.00 18 32 9 2218.29 1.27 49.36 199.64 130.28 19 9 7 1218.3 17.05 30.91
 70.00 20 17 23 1908.81 7.02 28.60 203.97 123.51 20 49 12 908.8 20.02 7.82
 80.00 22 36 13 1474.07 13.34 359.35 207.71 116.96 23 0 47 474.1 23.30 336.39
 86.83 0 52 3 1049.08 19.51 330.93 210.57 111.11 1 9 32 49.1 26.50 306.04
 100.00 1 23 0 6236.58 13.34 298.63 207.71 116.96 3 6 57 5236.6 23.30 275.67
 110.00 1 20 45 6243.67 7.02 295.42 203.97 123.51 3 4 49 5243.7 20.02 274.65

DIFFERENTIAL CORRECTIONS
 TDE -.3130 TRA -.7245 TC3 .3909 BAU .0772 SGT 1478.8 SGR 497.4 SG3 608.1 ST 32.9 SR 21.9 SS 33.2
 RDE -.2846 RRA .0757 RC3 .2763 FAU .10018 RRT .1148 RRF -.1321 RTF -.7983 CRT .7209 CRS .2089 CST .8236
 FDE .2852 FRA 2.8324 FC3-7.1868 BSP 2481 SGB 1560.2 R23 -.0229 R13 -.7988 LSA 46.2 MSA 23.0 SSA 1.4
 BDE .4098 BRA .7284 BC3 .4787 FSP 963 SG1 1480.0 SG2 493.7 THA 2.49 EL1 37.2 EL2 13.4 ALF 29.98

LAUNCH DATE MAY 5 1971

FLIGHT TIME 156.00

ARRIVAL DATE OCT 8 1971

HELIOCENTRIC CONIC
 RL 150.87 LAL .00 LOL 223.87 VL 32.639 GAL -1.00 AZL 91.99 HCA 130.28 SMA 191.22 ECC .21171 INC 1.9907 V1 29.533
 RP 207.60 LAP -1.52 LOP 354.17 VP 24.177 GAP 11.21 AZP 88.71 TAL 354.30 TAP 124.58 RCA 150.74 APO 231.71 V2 26.388
 RC 84.247 GL -19.28 GP 1.15 ZAL 106.80 ZAP 146.18 ETS 178.32 ZAE 175.45 ETE 41.93 ZAC 100.84 ETC 278.26 LVI -19.75

PLANETOCENTRIC CONIC
 C3 11.783 VHL 3.433 DLA -28.75 RAL 341.43 RAD 6638.9 VEL 11.483 PTH 6.53 VHP 4.786 DPA -15.37 RAP 322.98 ECC 1.1939
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 14 13 2417.76 -3.28 62.95 194.53 137.49 17 54 31 1417.8 15.02 47.01
 60.00 18 34 33 2204.02 1.90 48.68 199.50 130.26 19 11 17 1204.0 17.64 30.15
 70.00 20 21 18 1890.08 7.72 27.60 203.87 123.37 20 52 48 890.1 20.62 6.70
 80.00 22 45 7 1439.62 14.40 357.34 207.78 116.44 23 9 7 439.6 24.05 334.11
 84.57 0 33 18 1104.41 19.84 335.12 210.30 111.25 0 51 43 104.4 26.85 310.18
 100.00 1 31 55 6202.13 14.40 296.61 207.78 116.44 3 15 17 5202.1 24.05 273.39
 110.00 1 24 40 6224.94 7.72 294.43 203.87 123.37 3 8 25 5224.9 20.62 273.53

DIFFERENTIAL CORRECTIONS
 TDE -.2977 TRA -.6936 TC3 .4110 BAU .0788 SGT 1438.9 SGR 490.2 SG3 646.2 ST 31.8 SR 21.5 SS 33.9
 RDE -.2567 RRA .0713 RC3 .2852 FAU .10569 RRT .1261 RRF -.1449 RTF -.8021 CRT .7195 CRS .1891 CST .8152
 FDE .2747 FRA 2.7443 FC3-7.7653 BSP 2329 SGB 1520.1 R23 -.0309 R13 -.8028 LSA 45.6 MSA 23.2 SSA 1.4
 BDE .3931 BRA .6972 BC3 .5003 FSP 1021 SG1 1440.4 SG2 485.8 THA 2.78 EL1 36.0 EL2 13.2 ALF 30.48

LAUNCH DATE MAY 5 1971

FLIGHT TIME 156.00

ARRIVAL DATE OCT 10 1971

HELIOCENTRIC CONIC
 RL 150.87 LAL .00 LOL 223.87 VL 32.602 GAL -.96 AZL 92.00 HCA 131.94 SMA 190.56 ECC .20891 INC 1.9975 V1 29.533
 RP 207.73 LAP -1.50 LOP 355.43 VP 24.111 GAP 10.91 AZP 88.68 TAL 354.43 TAP 125.97 RCA 150.75 APO 230.36 V2 26.373
 RC 85.969 GL -19.55 GP 1.20 ZAL 106.65 ZAP 144.87 ETS 178.33 ZAE 176.15 ETE 50.42 ZAC 100.93 ETC 278.21 LVI -19.74

PLANETOCENTRIC CONIC
 C3 11.924 VHL 3.395 DLA -29.05 RAL 341.42 RAD 6638.8 VEL 11.472 PTH 6.52 VHP 4.650 DPA -15.40 RAP 322.72 ECC 1.1896
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 15 50 2406.27 -2.70 62.47 194.40 137.52 17 55 56 1406.3 15.58 46.49
 60.00 18 36 57 2190.49 2.49 48.03 199.40 130.24 19 13 27 1190.5 18.19 29.43
 70.00 20 25 12 1872.07 8.40 26.64 203.82 123.23 20 56 24 872.1 21.19 5.62
 80.00 22 54 57 1402.93 15.50 355.17 207.93 115.84 23 18 20 402.9 24.81 331.65
 83.06 0 21 4 1139.18 20.15 337.81 210.06 111.38 0 40 3 139.2 27.18 312.80
 100.00 1 41 45 8165.44 15.50 294.44 207.93 115.84 3 24 31 5165.4 24.81 270.92
 110.00 1 28 34 8206.93 8.40 293.47 203.82 123.23 3 12 1 5206.9 21.19 272.44

DIFFERENTIAL CORRECTIONS
 TDE -.3011 TRA -.6818 TC3 .3576 BAW .0712
 RDE -.2493 RRA .0665 RC3 .2930 FAU .11040
 FDE .2829 FRA 2.8882 FC3-.8.2938 B8P 2375
 BDE .3909 BRA .6851 BC3 .4623 F8P 1096

MID-COURSE EXECUTION ACCURACY
 SGT 1431.9 SGR 482.8 SG3 685.9
 RRT .1346 RRF -.1579 RTF -.7874
 SGB 1511.1 R23 -.0390 R13 -.7881
 SG1 1433.5 SG2 477.8 THA 2.92

ORBIT DETERMINATION ACCURACY
 ST 32.2 SR 21.1 SS 35.1
 CRT .7304 CRS .1861 CST .8041
 LSA 46.5 MSA 23.5 SSA 1.4
 EL1 36.3 EL2 12.8 ALF 29.68

LAUNCH DATE MAY 5 1971

FLIGHT TIME 160.00

ARRIVAL DATE OCT 12 1971

HELIOCENTRIC CONIC
 RL 150.87 LAL .00 LOL 223.87 VL 32.567 GAL -.93 AZL 92.00 HCA 132.80 SMA 189.94 ECC .20630 INC 2.0045 V1 29.533
 RP 207.86 LAP -1.47 LOP 356.68 VP 24.046 GAP 10.62 AZP 88.64 TAL 354.55 TAP 127.34 RCA 150.75 APO 229.12 V2 26.357
 RC 87.725 GL -19.82 GP 1.26 ZAL 106.51 ZAP 143.12 ETS 178.34 ZAE 176.77 ETE 63.56 ZAC 101.03 ETC 278.16 LVI -19.72

PLANETOCENTRIC CONIC
 C3 11.286 VHL 3.359 DLA -29.34 RAL 341.43 RAD 6638.7 VEL 11.462 PTH 6.51 VHP 4.520 DPA -15.44 RAP 322.41 ECC 1.1857
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 17 27 2395.35 -2.16 62.01 194.31 137.54 17 57 22 1395.3 16.11 45.99
 60.00 18 39 19 2177.57 3.06 47.41 199.32 130.20 19 15 36 1177.6 18.71 28.74
 70.00 20 29 7 1854.60 9.05 25.71 203.79 123.07 21 0 2 854.6 21.73 4.55
 80.00 23 6 23 1361.75 16.70 352.71 208.16 115.11 23 29 5 361.8 25.61 328.85
 81.86 0 11 33 1165.56 20.45 339.88 209.86 111.51 0 30 58 165.6 27.50 314.82
 100.00 1 53 11 6124.26 16.70 291.98 208.16 115.11 3 35 15 5124.3 25.61 268.13
 110.00 1 32 29 6189.46 9.05 292.53 203.79 123.07 3 15 38 5189.5 21.73 271.38

DIFFERENTIAL CORRECTIONS
 TDE -.2969 TRA -.6610 TC3 .3259 BAW .0670
 RDE -.2419 RRA .0619 RC3 .3015 FAU .11587
 FDE .2819 FRA 3.0281 FC3-8.8886 B8P 2333
 BDE .3830 BRA .6639 BC3 .4440 F8P 1170

MID-COURSE EXECUTION ACCURACY
 SGT 1405.9 SGR 475.3 SG3 728.0
 RRT .1448 RRF -.1726 RTF -.7777
 SGB 1484.1 R23 -.0463 R13 -.7786
 SG1 1407.8 SG2 469.7 THA 3.15

ORBIT DETERMINATION ACCURACY
 ST 31.9 SR 20.7 SS 36.1
 CRT .7375 CRS .1761 CST .7916
 LSA 46.7 MSA 23.7 SSA 1.4
 EL1 35.9 EL2 12.4 ALF 29.44

LAUNCH DATE MAY 5 1971

FLIGHT TIME 162.00

ARRIVAL DATE OCT 14 1971

HELIOCENTRIC CONIC
 RL 150.87 LAL .00 LOL 223.87 VL 32.534 GAL -.91 AZL 92.01 HCA 134.05 SMA 189.36 ECC .20387 INC 2.0118 V1 29.533
 RP 208.01 LAP -1.45 LOP 357.94 VP 23.983 GAP 10.33 AZP 88.60 TAL 354.65 TAP 128.70 RCA 150.76 APO 227.97 V2 26.340
 RC 89.514 GL -20.08 GP 1.32 ZAL 106.39 ZAP 141.53 ETS 178.35 ZAE 177.15 ETE 82.89 ZAC 101.13 ETC 278.09 LVI -19.68

PLANETOCENTRIC CONIC
 C3 11.069 VHL 3.327 DLA -29.61 RAL 341.45 RAD 6638.6 VEL 11.452 PTH 6.50 VHP 4.395 DPA -15.49 RAP 322.06 ECC 1.1822
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 19 4 2385.02 -1.64 61.58 194.24 137.55 17 58 49 1385.0 16.81 45.52
 60.00 18 41 40 2165.28 3.60 46.82 199.27 130.17 19 17 45 1165.3 19.21 28.08
 70.00 20 33 1 1837.74 9.67 24.80 203.79 122.92 21 3 39 837.7 22.25 3.52
 80.00 23 20 54 1311.32 18.13 349.65 208.52 114.13 23 42 45 311.3 26.51 325.37
 80.85 0 3 44 1186.86 20.73 341.57 209.68 111.63 0 23 31 186.9 27.80 316.46
 100.00 2 7 42 6073.83 18.13 288.92 208.52 114.13 3 48 55 5073.8 26.51 264.65
 110.00 1 36 23 6172.59 9.67 291.63 203.79 122.92 3 19 16 5172.6 22.25 270.34

DIFFERENTIAL CORRECTIONS
 TDE -.2920 TRA -.6374 TC3 .2882 BAW .0628
 RDE -.2347 RRA .0572 RC3 .3100 FAU .12133
 FDE .2802 FRA 3.1717 FC3-9.5054 B8P 2272
 BDE .3747 BRA .6399 BC3 .4233 F8P 1248

MID-COURSE EXECUTION ACCURACY
 SGT 1372.4 SGR 467.8 SG3 771.4
 RRT .1896 RRF -.1887 RTF -.7581
 SGB 1449.9 R23 -.0590 R13 -.7674
 SG1 1374.6 SG2 461.3 THA 3.42

ORBIT DETERMINATION ACCURACY
 ST 31.5 SR 20.3 SS 37.1
 CRT .7456 CRS .1667 CST .7781
 LSA 46.9 MSA 24.0 SSA 1.4
 EL1 35.5 EL2 12.0 ALF 29.34

LAUNCH DATE MAY 5 1971

FLIGHT TIME 164.00

ARRIVAL DATE OCT 16 1971

HELIOCENTRIC CONIC
 RL 150.87 LAL .00 LOL 223.87 VL 32.504 GAL -.88 AZL 92.02 HCA 135.30 SMA 188.84 ECC .20161 INC 2.0194 V1 29.533
 RP 208.16 LAP -1.42 LOP 359.19 VP 23.923 GAP 10.06 AZP 88.56 TAL 354.74 TAP 130.05 RCA 150.76 APO 226.91 V2 26.323
 RC 91.337 GL -20.33 GP 1.38 ZAL 106.29 ZAP 139.90 ETS 178.35 ZAE 177.11 ETE 106.23 ZAC 101.25 ETC 278.01 LVI -19.64

PLANETOCENTRIC CONIC
 C3 10.872 VHL 3.297 DLA -29.87 RAL 341.49 RAD 6638.5 VEL 11.444 PTH 6.49 VHP 4.275 DPA -15.55 RAP 321.67 ECC 1.1789
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 20 41 2375.30 -1.15 61.18 194.19 137.57 18 0 16 1375.3 17.08 45.07
 60.00 18 44 0 2153.64 4.11 46.27 199.24 130.13 19 19 53 1153.6 19.67 27.45
 70.00 20 36 54 1821.50 10.27 23.93 203.82 122.75 21 7 16 821.5 22.74 2.51
 79.97 23 53 13 1204.69 20.99 343.01 209.54 111.75 24 13 18 204.7 28.09 317.84
 79.97 23 53 13 1204.69 20.99 343.01 209.54 111.75 24 13 18 204.7 28.09 317.84
 79.97 23 53 13 1204.69 20.99 343.01 209.54 111.75 24 13 18 204.7 28.09 317.84
 110.00 1 40 16 6156.36 10.27 280.75 203.82 122.75 3 22 53 5156.4 22.74 269.34

DIFFERENTIAL CORRECTIONS
 TDE -.2866 TRA -.6118 TC3 .2469 BAW .0586
 RDE -.2277 RRA .0524 RC3 .3187 FAU .12740
 FDE .2784 FRA 3.3220 FC-10.1511 B8P 2194
 BDE .3661 BRA .6140 BC3 .4031 F8P 1330

MID-COURSE EXECUTION ACCURACY
 SGT 1333.2 SGR 480.2 SG3 816.7
 RRT .1670 RRF -.2066 RTF -.7531
 SGB 1410.4 R23 -.0653 R13 -.7547
 SG1 1335.7 SG2 452.9 THA 3.73

ORBIT DETERMINATION ACCURACY
 ST 31.0 SR 19.8 SS 38.1
 CRT .7548 CRS .1583 CST .7638
 LSA 47.1 MSA 24.2 SSA 1.4
 EL1 34.9 EL2 11.5 ALF 29.34

LAUNCH DATE MAY 5 1971

FLIGHT TIME 166.00

ARRIVAL DATE OCT 18 1971

Heliocentric Conic: RL 150.87 LAL .00 LOL 223.87 VL 32.478 GAL -.86 AZL 92.03 HCA 136.55 SMA 180.35 ECC .19951 INC 2.0274 V1 29.533
 RP 208.32 LAP -1.39 LOP .44 VP 23.864 GAP 9.78 AZP 88.53 TAL 354.82 TAP 131.38 RCA 150.77 APO 225.92 V2 26.304
 RC 93.190 GL -20.37 GP 1.45 ZAL 106.21 ZAP 136.23 ETS 178.36 ZAE 176.60 ETE 126.88 ZAC 101.38 ETC 277.93 LVI -19.59

Planetocentric Conic: C3 10.692 VHL 3.270 DLA -30.11 RAL 341.54 RAD 6636.4 VEL 11.436 PTH 6.49 VHP 4.161 DPA -15.61 RAP 321.23 ECC 1.1760
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 22 18 2366.14 -.69 60.79 194.18 137.57 18 1 44 1366.1 17.52 44.65
 60.00 18 46 18 2142.62 4.60 45.74 199.25 130.08 19 22 1 1142.6 20.11 26.85
 70.00 20 40 47 1805.85 10.85 23.08 203.86 122.59 21 10 52 805.8 23.21 1.54
 79.20 23 47 36 1219.91 21.24 344.25 209.44 111.86 24 7 55 219.9 28.36 319.03
 79.20 23 47 36 1219.91 21.24 344.25 209.44 111.86 24 7 55 219.9 28.36 319.03
 79.20 23 47 36 1219.91 21.24 344.25 209.44 111.86 24 7 55 219.9 28.36 319.03
 110.00 1 44 9 6140.71 10.85 289.91 203.86 122.59 3 26 30 5140.7 23.21 268.36

Differential Corrections: TDE -.2749 TRA -.5777 TC3 .2222 BAU .0566 SGT 1273.8 SGR 452.7 SG3 864.1 ST 29.8 SR 19.4 SS 39.0
 RDE -.2207 RRA .0478 RC3 .3281 FAU .13421 RRT .1807 RRF -.2263 RTF -.7436 CRT .7617 CRS .1418 CST .7458
 FDE .2641 FRA 3.4665 FC-10.8668 BSP 2004 SGB 1351.8 R23 -.0745 R13 -.7457 LSA 46.8 MSA 24.3 SSA 1.3
 BDE .3525 BRA .5797 BC3 .3962 FSP 1398 SG1 1276.8 SG2 444.2 THA 4.10 EL1 33.8 EL2 11.1 ALF 29.91

LAUNCH DATE MAY 5 1971

FLIGHT TIME 168.00

ARRIVAL DATE OCT 20 1971

Heliocentric Conic: RL 150.87 LAL .00 LOL 223.87 VL 32.450 GAL -.84 AZL 92.04 HCA 137.80 SMA 187.90 ECC .19758 INC 2.0357 V1 29.533
 RP 208.49 LAP -1.37 LOP 1.69 VP 23.807 GAP 9.52 AZP 88.49 TAL 354.89 TAP 132.69 RCA 150.77 APO 225.02 V2 26.284
 RC 95.074 GL -20.80 GP 1.52 ZAL 106.15 ZAP 136.52 ETS 178.36 ZAE 175.72 ETE 141.33 ZAC 101.51 ETC 277.84 LVI -19.54

Planetocentric Conic: C3 10.531 VHL 3.245 DLA -30.34 RAL 341.61 RAD 6638.3 VEL 11.429 PTH 6.48 VHP 4.053 DPA -15.69 RAP 320.76 ECC 1.1733
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 23 54 2357.68 -.26 60.44 194.19 137.58 18 3 12 1357.7 17.93 44.26
 60.00 18 48 35 2132.36 5.05 45.24 199.28 130.04 19 24 7 1132.4 20.52 26.26
 70.00 20 44 36 1791.05 11.39 22.28 203.97 122.42 21 14 27 791.1 23.64 .61
 78.52 23 42 50 1232.89 21.48 345.32 209.37 111.96 24 3 23 232.9 28.61 320.06
 78.52 23 42 50 1232.89 21.48 345.32 209.37 111.96 24 3 23 232.9 28.61 320.06
 78.52 23 42 50 1232.89 21.48 345.32 209.37 111.96 24 3 23 232.9 28.61 320.06
 110.00 1 47 58 6125.90 11.39 289.10 203.97 122.42 3 30 4 5125.9 23.64 267.43

Differential Corrections: TDE -.2800 TRA -.5589 TC3 .1257 BAU .0508 SGT 1248.4 SGR 445.3 SG3 912.4 ST 30.1 SR 19.0 SS 40.3
 RDE -.2142 RRA .0426 RC3 .3363 FAU .13972 RRT .1890 RRF -.2476 RTF -.7121 CRT .7803 CRS .1498 CST .7315
 FDE .2816 FRA 3.6483 FC-11.4855 BSP 1997 SGB 1325.5 R23 -.0960 R13 -.7149 LSA 47.8 MSA 24.5 SSA 1.3
 BDE .3526 BRA .5606 BC3 .3590 FSP 1496 SG1 1251.7 SG2 436.1 THA 4.39 EL1 34.0 EL2 10.5 ALF 29.24

LAUNCH DATE MAY 5 1971

FLIGHT TIME 170.00

ARRIVAL DATE OCT 22 1971

Heliocentric Conic: RL 150.87 LAL .00 LOL 223.87 VL 32.426 GAL -.83 AZL 92.04 HCA 139.05 SMA 187.48 ECC .19579 INC 2.0444 V1 29.533
 RP 208.67 LAP -1.34 LOP 2.93 VP 23.752 GAP 9.26 AZP 88.46 TAL 354.94 TAP 133.98 RCA 150.77 APO 224.19 V2 26.264
 RC 96.988 GL -21.03 GP 1.60 ZAL 106.10 ZAP 134.77 ETS 178.36 ZAE 174.60 ETE 150.78 ZAC 101.65 ETC 277.73 LVI -19.47

Planetocentric Conic: C3 10.386 VHL 3.223 DLA -30.56 RAL 341.70 RAD 6638.2 VEL 11.423 PTH 6.47 VHP 3.949 DPA -15.77 RAP 320.24 ECC 1.1709
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 25 31 2349.73 .14 60.11 194.23 137.58 18 4 41 1349.7 18.31 43.89
 60.00 18 50 51 2122.71 5.47 44.78 199.34 129.99 19 26 13 1122.7 20.90 25.75
 70.00 20 48 23 1776.85 11.91 21.50 204.09 122.25 21 18 0 776.9 24.06 359.71
 77.91 23 38 40 1244.42 21.69 346.28 209.33 112.07 23 59 24 244.4 28.85 320.97
 77.91 23 38 40 1244.42 21.69 346.28 209.33 112.07 23 59 24 244.4 28.85 320.97
 77.91 23 38 40 1244.42 21.69 346.28 209.33 112.07 23 59 24 244.4 28.85 320.97
 110.00 1 51 46 6111.71 11.91 288.33 204.09 122.25 3 33 37 5111.7 24.06 266.54

Differential Corrections: TDE -.2783 TRA -.5292 TC3 .0547 BAU .0488 SGT 1198.5 SGR 438.0 SG3 962.5 ST 29.5 SR 18.5 SS 41.4
 RDE -.2076 RRA .0378 RC3 .3456 FAU .14626 RRT .1989 RRF -.2713 RTF -.6441 CRT .7951 CRS .1462 CST .7121
 FDE .2816 FRA 3.8170 FC-12.1915 BSP 1894 SGB 1276.1 R23 -.1177 R13 -.6879 LSA 48.1 MSA 24.7 SSA 1.3
 BDE .3456 BRA .5306 BC3 .3499 FSP 1589 SG1 1202.1 SG2 428.0 THA 4.76 EL1 33.4 EL2 9.9 ALF 29.31

LAUNCH DATE MAY 5 1971

FLIGHT TIME 172.00

ARRIVAL DATE OCT 24 1971

Heliocentric Conic: RL 150.87 LAL .00 LOL 223.87 VL 32.404 GAL -.82 AZL 92.05 HCA 140.29 SMA 187.10 ECC .19414 INC 2.0535 V1 29.533
 RP 208.85 LAP -1.31 LOP 4.18 VP 23.698 GAP 9.01 AZP 88.42 TAL 354.97 TAP 135.26 RCA 150.78 APO 223.42 V2 26.243
 RC 98.929 GL -21.26 GP 1.68 ZAL 106.08 ZAP 132.99 ETS 178.37 ZAE 173.32 ETE 157.05 ZAC 101.81 ETC 277.62 LVI -19.39

Planetocentric Conic: C3 10.256 VHL 3.203 DLA -30.76 RAL 341.81 RAD 6638.2 VEL 11.417 PTH 6.47 VHP 3.851 DPA -15.85 RAP 319.68 ECC 1.1688
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 27 8 2342.38 .51 59.80 194.30 137.57 18 6 11 1342.4 18.66 43.54
 60.00 18 53 5 2113.72 5.86 44.34 199.43 129.94 19 28 18 1113.7 21.25 25.25
 70.00 20 52 8 1763.38 12.39 20.76 204.24 122.08 21 21 32 763.4 24.44 358.86
 77.36 23 35 6 1254.54 21.89 347.12 209.32 112.17 23 56 0 254.5 29.07 321.77
 77.36 23 35 6 1254.54 21.89 347.12 209.32 112.17 23 56 0 254.5 29.07 321.77
 77.36 23 35 6 1254.54 21.89 347.12 209.32 112.17 23 56 0 254.5 29.07 321.77
 110.00 1 55 31 6098.23 12.39 287.59 204.24 122.08 3 37 9 5098.2 24.44 265.68

Differential Corrections: TDE -.2722 TRA -.4978 TC3 -.0275 BAU .0488 SGT 1145.4 SGR 431.0 SG3 1014.0 ST 28.9 SR 18.0 SS 42.5
 RDE -.2011 RRA .0323 RC3 .3551 FAU .15286 RRT .2056 RRF -.2966 RTF -.6487 CRT .8112 CRS .1429 CST .6903
 FDE .2803 FRA 3.9949 FC-12.9027 BSP 1760 SGB 1223.8 R23 -.1455 R13 -.6538 LSA 48.5 MSA 24.9 SSA 1.3
 BDE .3384 BRA .4989 BC3 .3561 FSP 1679 SG1 1149.3 SG2 420.3 THA 5.11 EL1 32.8 EL2 9.3 ALF 29.45

LAUNCH DATE MAY 5 1971

FLIGHT TIME 182.00

ARRIVAL DATE NOV 3 1971

Heliocentric Conic: RL 150.87 LAL .00 LOL 223.87 VL 32.317 GAL -.80 AZL 92.11 HCA 146.46 SMA 185.63 ECC .18774 INC 2.1073 V1 29.533
 RP 209.87 LAP -1.16 LOP 10.36 VP 23.447 GAP 7.82 AZP 88.24 TAL 354.92 TAP 141.39 RCA 150.78 APO 220.48 V2 26.124
 RC 109.028 GL -22.29 GP 2.16 ZAL 106.26 ZAP 123.50 ETS 178.40 ZAE 165.48 ETE 169.79 ZAC 102.71 ETC 276.93 LVI -18.89

Planetocentric Conic: C3 9.811 VHL 3.132 DLA -31.58 RAL 342.84 RAD 6637.9 VEL 11.398 PTH 6.45 VHP 3.438 DPA -16.36 RAP 316.25 ECC 1.1615
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 38 22 2313.99 1.93 58.62 195.06 137.55 18 13 55 1314.0 20.01 42.19
 60.00 19 3 55 2078.35 7.40 42.63 200.29 129.73 19 38 33 1078.4 22.62 23.27
 70.00 21 10 1 1707.13 14.41 17.65 205.37 121.31 21 38 28 707.1 25.99 355.22
 75.32 23 24 3 1291.00 22.68 350.22 209.80 112.59 23 45 34 291.0 29.95 324.71
 75.32 23 24 3 1291.00 22.68 350.22 209.80 112.59 23 45 34 291.0 29.95 324.71
 110.00 2 13 23 6041.99 14.41 284.47 205.37 121.31 3 54 5 5042.0 25.99 262.04

Differential Corrections: TDE -.2621 TRA -.3124 TC3 -.5934 BAU .0945 SGT 904.4 SGR 403.8 SG3 1282.1 ST 26.0 SR 15.6 SS 48.4
 RDE -.1708 RRA .0029 RC3 .4083 FAU .18690 RRT .1385 RRF -.4605 RTF -.2662 CRT .9188 CRS .1752 CST .5416
 FDE .3182 FRA 4.9528 FC-16.4926 BSP 929 SGB 990.5 R23 -.4186 R13 -.2805 LSA 51.1 MSA 25.5 S8A 1.2
 BDE .3128 BRA .3124 BC3 .7203 FSP 2158 SG1 906.6 SG2 399.0 THA 4.39 EL1 29.9 EL2 5.4 ALF 29.97

LAUNCH DATE MAY 5 1971

FLIGHT TIME 184.00

ARRIVAL DATE NOV 5 1971

Heliocentric Conic: RL 150.87 LAL .00 LOL 223.87 VL 32.304 GAL -.81 AZL 92.12 HCA 147.71 SMA 185.41 ECC .18679 INC 2.1201 V1 29.533
 RP 210.10 LAP -1.13 LOP 11.59 VP 23.400 GAP 7.59 AZP 88.21 TAL 354.86 TAP 142.57 RCA 150.78 APO 220.04 V2 26.090
 RC 111.121 GL -22.49 GP 2.27 ZAL 106.38 ZAP 121.50 ETS 178.41 ZAE 163.71 ETE 170.85 ZAC 102.91 ETC 276.77 LVI -18.77

Planetocentric Conic: C3 9.758 VHL 3.124 DLA -31.71 RAL 342.87 RAD 6637.9 VEL 11.395 PTH 6.45 VHP 3.370 DPA -16.47 RAP 315.45 ECC 1.1606
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 37 3 2309.87 2.14 58.44 195.29 137.54 18 15 33 1309.9 20.21 42.00
 60.00 19 6 2 2073.09 7.63 42.37 200.54 129.69 19 40 35 1073.1 22.82 22.97
 70.00 21 13 25 1698.11 14.72 17.15 205.68 121.17 21 41 43 698.1 26.23 354.63
 75.03 23 22 56 1296.32 22.79 350.67 210.00 112.66 23 44 32 296.3 30.08 325.14
 75.03 23 22 56 1296.32 22.79 350.67 210.00 112.66 23 44 32 296.3 30.08 325.14
 110.00 2 16 47 6032.96 14.72 283.97 205.68 121.17 3 57 20 5033.0 26.23 261.45

Differential Corrections: TDE -.2603 TRA -.2683 TC3 -.7379 BAU .1108 SGT 880.3 SGR 400.7 SG3 1334.9 ST 25.4 SR 15.1 SS 49.5
 RDE -.1650 RRA -.0039 RC3 .4203 FAU .19344 RRT .0801 RRF -.4992 RTF -.1301 CRT .9413 CRS .1873 CST .4980
 FDE .3278 FRA 5.1525 FC-17.1611 BSP 746 SGB 967.2 R23 -.4875 R13 -.1402 LSA 51.7 MSA 25.5 S8A 1.2
 BDE .3082 BRA .2683 BC3 .8492 FSP 2262 SG1 881.1 SG2 399.1 THA 2.63 EL1 29.2 EL2 4.4 ALF 30.05

LAUNCH DATE MAY 5 1971

FLIGHT TIME 186.00

ARRIVAL DATE NOV 7 1971

Heliocentric Conic: RL 150.87 LAL .00 LOL 223.87 VL 32.292 GAL -.82 AZL 92.13 HCA 148.93 SMA 185.21 ECC .18594 INC 2.1339 V1 29.533
 RP 210.33 LAP -1.10 LOP 12.82 VP 23.353 GAP 7.37 AZP 88.17 TAL 354.79 TAP 143.72 RCA 150.77 APO 219.63 V2 26.071
 RC 113.239 GL -22.69 GP 2.39 ZAL 106.50 ZAP 119.48 ETS 178.42 ZAE 161.89 ETE 171.69 ZAC 103.13 ETC 276.59 LVI -18.64

Planetocentric Conic: C3 9.717 VHL 3.117 DLA -31.82 RAL 343.13 RAD 6637.9 VEL 11.394 PTH 6.45 VHP 3.307 DPA -16.57 RAP 314.62 ECC 1.1599
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 38 46 2308.21 2.32 58.29 195.56 137.53 18 17 13 1306.2 20.38 41.82
 60.00 19 8 9 2068.37 7.84 42.14 200.82 129.66 19 42 37 1068.4 23.00 22.70
 70.00 21 16 45 1689.78 15.02 16.68 206.01 121.04 21 44 54 689.8 26.44 354.08
 74.76 23 22 7 1301.17 22.89 351.09 210.23 112.73 23 43 49 301.2 30.20 325.93
 74.76 23 22 7 1301.17 22.89 351.09 210.23 112.73 23 43 49 301.2 30.20 325.93
 110.00 2 20 7 6024.64 15.02 283.50 206.01 121.04 4 0 32 5024.6 26.44 260.90

Differential Corrections: TDE -.2591 TRA -.2214 TC3 -.8882 BAU .1282 SGT 872.5 SGR 399.2 SG3 1388.0 ST 24.9 SR 14.7 SS 50.6
 RDE -.1594 RRA -.0110 RC3 .4333 FAU .20032 RRT .0043 RRF -.5406 RTF .5217 CRT .9623 CRS .2055 CST .4510
 FDE .3456 FRA 5.3488 FC-17.8474 BSP 558 SGB 959.5 R23 -.5408 R13 .0211 LSA 52.4 MSA 25.5 S8A 1.1
 BDE .3042 BRA .2216 BC3 .9866 FSP 2354 SG1 872.5 SG2 399.2 THA .14 EL1 28.7 EL2 3.5 ALF 30.02

LAUNCH DATE MAY 5 1971

FLIGHT TIME 188.00

ARRIVAL DATE NOV 9 1971

Heliocentric Conic: RL 150.87 LAL .00 LOL 223.87 VL 32.281 GAL -.83 AZL 92.15 HCA 150.16 SMA 185.03 ECC .18518 INC 2.1485 V1 29.533
 RP 210.57 LAP -1.07 LOP 14.04 VP 23.308 GAP 7.16 AZP 88.14 TAL 354.70 TAP 144.86 RCA 150.77 APO 219.30 V2 26.044
 RC 115.380 GL -22.88 GP 2.52 ZAL 106.64 ZAP 117.43 ETS 178.44 ZAE 160.02 ETE 172.37 ZAC 103.36 ETC 276.41 LVI -18.51

Planetocentric Conic: C3 9.687 VHL 3.112 DLA -31.93 RAL 343.40 RAD 6637.9 VEL 11.392 PTH 6.44 VHP 3.249 DPA -16.67 RAP 313.76 ECC 1.1594
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 40 32 2302.97 2.49 58.15 195.85 137.53 18 18 55 1303.0 20.53 41.87
 60.00 19 10 17 2064.13 8.02 41.94 201.13 129.63 19 44 41 1064.1 23.17 22.46
 70.00 21 20 3 1682.08 15.29 16.25 206.37 120.92 21 48 5 682.1 26.64 353.57
 74.51 23 21 33 1305.74 22.98 351.48 210.49 112.80 23 43 19 305.7 30.31 325.91
 74.51 23 21 33 1305.74 22.98 351.48 210.49 112.80 23 43 19 305.7 30.31 325.91
 74.51 23 21 33 1305.74 22.98 351.48 210.49 112.80 23 43 19 305.7 30.31 325.91
 110.00 2 23 25 6016.94 15.29 283.07 206.37 120.92 4 3 42 5016.9 26.64 260.39

Differential Corrections: TDE -.2539 TRA -.1695 TC3-1.0334 BAU .1458 SGT 876.0 SGR 398.9 SG3 1439.4 ST 24.0 SR 14.1 SS 51.5
 RDE -.1535 RRA -.0183 RC3 .4478 FAU .20737 RRT -.0934 RRF -.5822 RTF .1860 CRT .9797 CRS .2148 CST .3878
 FDE .3411 FRA 5.5333 FC-18.5333 BSP 411 SGB 962.5 R23 .5626 R13 -.1997 LSA 52.7 MSA 25.5 S8A 1.1
 BDE .2967 BRA .1705 BC3 1.1262 FSP 2427 SG1 877.0 SG2 396.7 THA 176.94 EL1 27.8 EL2 2.5 ALF 30.24

LAUNCH DATE MAY 5 1971

FLIGHT TIME 190.00

ARRIVAL DATE NOV 11 1971

HELIOCENTRIC CONIC

DISTANCE 460.008

EARTH TO MARS

RL 150.87 LAL .00 LOL 223.87 VL 32.272 GAL -7.84 AZL 92.16 HCA 151.38 SMA 184.88 ECC .18451 INC 2.1643 V1 29.533
 RP 210.82 LAP -1.04 LOP 15.26 VP 23.263 GAP 6.95 AZP 88.10 TAL 354.59 TAP 145.97 RCA 150.77 APO 218.99 V2 26.015
 RC 117.545 GL -23.06 GP 2.66 ZAL 106.81 ZAP 115.37 ETS 178.46 ZAE 158.11 ETE 172.93 ZAC 103.59 ETC 276.23 LVI -18.38

PLANETOCENTRIC CONIC

C3 9.667 VHL 3.109 DLA -32.03 RAL 343.70 RAD 6637.9 VEL 11.392 PTH 6.44 VHP 3.195 DPA -16.77 RAP 312.87 ECC 1.1591
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 42 20 2300.20 2.62 58.04 196.17 137.52 18 20 40 1300.2 20.66 41.53
 60.00 19 12 25 2060.45 8.18 41.76 201.47 129.60 19 46 46 1060.4 23.31 22.25
 70.00 21 23 17 1675.12 15.53 15.85 206.76 120.81 21 51 12 675.1 26.82 353.11
 74.29 23 21 17 1309.91 23.06 351.83 210.80 112.87 23 43 7 309.9 30.41 326.24
 74.29 23 21 17 1309.91 23.06 351.83 210.80 112.87 23 43 7 309.9 30.41 326.24
 74.29 23 21 17 1309.91 23.06 351.83 210.80 112.87 23 43 7 309.9 30.41 326.24
 110.00 2 26 40 6009.98 15.53 282.68 206.76 120.81 4 6 49 5010.0 26.82 259.93

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2571 TRA -.1225 TC3-1.2196 BAU .1685 SGT 933.0 SGR 400.2 SG3 1489.0 ST 24.0 SR 13.7 SS 52.9
 RDE -.1483 RRA -.0265 RC3 .4609 FAU .21263 RRT -.1943 RRF -.6245 RTF .3307 CRT .9915 CRS .2477 CST .3368
 FDE .3814 FRA 5.7520 FC-19.0413 BSP 432 SGB 1015.2 R23 .5367 R13 -.3545 LSA 53.9 MSA 25.8 SSA 1.1
 BDE .2968 BRA .1253 BC3 1.3038 FSP 2543 SG1 936.9 SG2 391.0 THA 174.23 EL1 27.6 EL2 1.5 ALF 29.56

LAUNCH DATE MAY 5 1971

FLIGHT TIME 192.00

ARRIVAL DATE NOV 13 1971

HELIOCENTRIC CONIC

DISTANCE 464.179

EARTH TO MARS

RL 150.87 LAL .00 LOL 223.87 VL 32.263 GAL -7.86 AZL 92.18 HCA 152.60 SMA 184.74 ECC .18392 INC 2.1813 V1 29.533
 RP 211.07 LAP -1.00 LOP 16.48 VP 23.219 GAP 6.74 AZP 88.06 TAL 354.47 TAP 147.07 RCA 150.76 APO 218.71 V2 25.986
 RC 119.734 GL -23.27 GP 2.81 ZAL 106.99 ZAP 113.28 ETS 178.48 ZAE 156.15 ETE 173.38 ZAC 103.83 ETC 276.04 LVI -18.24

PLANETOCENTRIC CONIC

C3 9.658 VHL 3.108 DLA -32.12 RAL 344.02 RAD 6637.9 VEL 11.391 PTH 6.44 VHP 3.146 DPA -16.85 RAP 311.96 ECC 1.1590
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 44 11 2297.78 2.75 57.94 196.52 137.52 18 22 29 1297.8 20.78 41.42
 60.00 19 14 36 2057.15 8.32 41.60 201.84 129.58 19 48 53 1057.2 23.43 22.06
 70.00 21 26 32 1668.63 15.76 15.48 207.19 120.70 21 54 21 668.6 26.99 352.67
 74.09 23 21 10 1314.08 23.13 352.18 211.13 112.94 23 43 4 314.1 30.50 326.58
 74.09 23 21 10 1314.08 23.13 352.18 211.13 112.94 23 43 4 314.1 30.50 326.58
 74.09 23 21 10 1314.08 23.13 352.18 211.13 112.94 23 43 4 314.1 30.50 326.58
 110.00 2 29 55 6003.48 15.76 282.31 207.19 120.70 4 9 58 5003.5 26.99 259.50

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2561 TRA -.0688 TC3-1.3937 BAU .1902 SGT 997.9 SGR 403.6 SG3 1537.8 ST 23.8 SR 13.2 SS 54.1
 RDE -.1430 RRA -.0351 RC3 .4761 FAU .21856 RRT -.2988 RRF -.6671 RTF .4646 CRT .9961 CRS .2761 CST .2755
 FDE .4080 FRA 5.9531 FC-19.5905 BSP 584 SGB 1076.5 R23 .5278 R13 -.4936 LSA 54.7 MSA 25.8 SSA 1.0
 BDE .2933 BRA .0773 BC3 1.4728 FSP 2624 SG1 1006.4 SG2 381.9 THA 171.94 EL1 27.2 EL2 1.0 ALF 29.09

LAUNCH DATE MAY 5 1971

FLIGHT TIME 194.00

ARRIVAL DATE NOV 15 1971

HELIOCENTRIC CONIC

DISTANCE 468.355

EARTH TO MARS

RL 150.87 LAL .00 LOL 223.87 VL 32.256 GAL -7.88 AZL 92.20 HCA 153.81 SMA 184.62 ECC .18341 INC 2.1997 V1 29.533
 RP 211.33 LAP -.97 LOP 17.70 VP 23.176 GAP 6.54 AZP 88.03 TAL 354.34 TAP 148.15 RCA 150.76 APO 218.48 V2 25.957
 RC 121.945 GL -23.47 GP 2.97 ZAL 107.19 ZAP 111.19 ETS 178.51 ZAE 154.17 ETE 173.76 ZAC 104.09 ETC 275.84 LVI -18.11

PLANETOCENTRIC CONIC

C3 9.660 VHL 3.108 DLA -32.21 RAL 344.36 RAD 6637.9 VEL 11.391 PTH 6.44 VHP 3.102 DPA -16.93 RAP 311.03 ECC 1.1590
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 46 6 2295.70 2.85 57.85 196.91 137.51 18 24 21 1295.7 20.87 41.31
 60.00 19 16 49 2054.24 8.45 41.46 202.25 129.55 19 51 3 1054.2 23.54 21.89
 70.00 21 29 49 1662.60 15.97 15.14 207.64 120.60 21 57 31 662.6 27.14 352.27
 73.90 23 21 17 1318.02 23.19 352.51 211.51 113.01 23 43 15 318.0 30.58 326.90
 73.90 23 21 17 1318.02 23.19 352.51 211.51 113.01 23 43 15 318.0 30.58 326.90
 73.90 23 21 17 1318.02 23.19 352.51 211.51 113.01 23 43 15 318.0 30.58 326.90
 110.00 2 33 11 5997.46 15.57 281.97 207.64 120.60 4 13 8 4997.5 27.14 259.09

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2530 TRA -.0131 TC3-1.5763 BAU .2133 SGT 1087.2 SGR 409.1 SG3 1583.6 ST 23.6 SR 12.8 SS 55.1
 RDE -.1378 RRA -.0442 RC3 .4921 FAU .22412 RRT -.3992 RRF -.7085 RTF .1.60 CRT .9907 CRS .3061 CST .2055
 FDE .4328 FRA 6.1473 FC-20.0865 BSP 815 SGB 1161.6 R23 .4882 R13 -.6049 LSA 55.6 MSA 25.9 SSA 1.0
 BDE .2899 BRA .0461 BC3 1.6514 FSP 2708 SG1 1101.0 SG2 370.4 THA 170.36 EL1 26.8 EL2 1.5 ALF 28.37

LAUNCH DATE MAY 5 1971

FLIGHT TIME 196.00

ARRIVAL DATE NOV 17 1971

HELIOCENTRIC CONIC

DISTANCE 472.533

EARTH TO MARS

RL 150.87 LAL .00 LOL 223.87 VL 32.250 GAL -7.90 AZL 92.22 HCA 155.02 SMA 184.51 ECC .18298 INC 2.2197 V1 29.533
 RP 211.60 LAP -.94 LOP 18.91 VP 23.133 GAP 6.34 AZP 87.99 TAL 354.19 TAP 149.22 RCA 150.75 APO 218.27 V2 25.926
 RC 124.177 GL -23.68 GP 3.14 ZAL 107.40 ZAP 109.08 ETS 178.55 ZAE 152.18 ETE 174.06 ZAC 104.35 ETC 275.64 LVI -17.98

PLANETOCENTRIC CONIC

C3 9.672 VHL 3.110 DLA -32.20 RAL 344.73 RAD 6637.9 VEL 11.392 PTH 6.44 VHP 3.082 DPA -16.99 RAP 310.08 ECC 1.1592
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 48 5 2293.91 2.94 57.78 197.32 137.51 18 26 19 1293.9 20.96 41.23
 60.00 19 19 6 2051.65 8.56 41.33 202.68 129.53 19 53 18 1051.7 23.64 21.74
 70.00 21 33 9 1656.91 16.16 14.82 208.13 120.50 22 0 46 656.9 27.28 351.89
 73.72 23 21 33 1322.01 23.24 352.83 211.92 113.08 23 43 35 322.0 30.65 327.22
 73.72 23 21 33 1322.01 23.24 352.83 211.92 113.08 23 43 35 322.0 30.65 327.22
 73.72 23 21 33 1322.01 23.24 352.83 211.92 113.08 23 43 35 322.0 30.65 327.22
 110.00 2 36 31 5991.77 16.16 281.84 208.13 120.50 4 16 23 4991.8 27.28 258.71

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2538 TRA -.0458 TC3-1.7650 BAU .2375 SGT 1197.4 SGR 416.6 SG3 1624.7 ST 23.5 SR 12.3 SS 56.1
 RDE -.1325 RRA -.0538 RC3 .5088 FAU .22916 RRT -.4912 RRF -.7479 RTF .6659 CRT .9728 CRS .3375 CST .1276
 FDE .4534 FRA 6.3265 FC-20.5125 BSP 1086 SGB 1267.8 R23 .4458 R13 -.6914 LSA 56.3 MSA 25.9 SSA .9
 BDE .2863 BRA .0707 BC3 1.8369 FSP 2789 SG1 1216.4 SG2 357.2 THA 169.38 EL1 26.4 EL2 2.5 ALF 27.36

LAUNCH DATE MAY 5 1971

FLIGHT TIME 198.00

ARRIVAL DATE NOV 19 1971

HELIOCENTRIC CONIC
 RL 150.87 LAL .00 LOL 223.87 VL 32.244 GAL -.92 AZL 92.24 HCA 156.23 SMA 184.42 ECC .18262 INC 2.2415 V1 29.533
 RP 211.87 LAP -.90 LOP 20.12 VP 23.091 GAP 6.14 AZP 87.95 TAL 354.03 TAP 150.26 RCA 150.74 APO 218.10 V2 25.896
 RC 126.431 GL -23.89 GP 3.32 ZAL 107.84 ZAP 106.98 ETS 178.59 ZAE 150.13 ETE 174.32 ZAC 104.62 ETC 275.44 LVI -17.86

PLANETOCENTRIC CONIC
 C3 9.694 VHL 3.114 DLA -32.38 RAL 345.13 RAD 6637.9 VEL 11.393 PTH 6.44 VHP 3.026 DPA -17.03 RAP 309.13 ECC 1.1595
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 50 10 2292.37 3.02 57.71 197.77 137.50 18 28 22 1292.4 21.03 41.15
 60.00 19 21 29 2049.32 8.66 41.21 203.16 129.51 19 55 39 1049.3 23.73 21.60
 70.00 21 36 35 1651.42 16.35 14.51 208.65 120.41 22 4 7 651.4 27.42 351.32
 73.54 23 21 57 1326.09 23.28 353.17 212.37 113.16 23 44 4 326.1 30.72 327.55
 73.54 23 21 57 1326.09 23.28 353.17 212.37 113.16 23 44 4 326.1 30.72 327.55
 73.54 23 21 57 1326.09 23.28 353.17 212.37 113.16 23 44 4 326.1 30.72 327.55
 110.00 2 39 58 5986.27 16.35 281.33 208.65 120.41 4 19 44 4986.3 27.42 258.34

DIFFERENTIAL CORRECTIONS
 TDE -.2530 TRA .1067 TC3-1.9582 BAU .2628 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.1276 RRA -.0642 RC3 .5263 FAU .23354 SGT 1325.8 SGR 426.8 SG3 1663.4 ST 23.6 SR 11.9 SS 57.1
 FDE .4886 FRA 6.5089 FC-20.8569 BSP 1381 RRT -.5706 RRF -.7853 RTF .7333 CRT .9406 CRS .3775 CST .0322
 BDE .2833 BRA .1245 BC3 2.0277 FSP 2863 SGB 1392.8 R23 .4094 R13 -.7548 LSA 57.3 MSA 26.0 SSA .9
 EL1 26.2 EL2 3.7 ALF 25.98

LAUNCH DATE MAY 5 1971

FLIGHT TIME 200.00

ARRIVAL DATE NOV 21 1971

HELIOCENTRIC CONIC
 RL 150.87 LAL .00 LOL 223.87 VL 32.240 GAL -.95 AZL 92.27 HCA 157.44 SMA 184.35 ECC .18233 INC 2.2655 V1 29.533
 RP 212.14 LAP -.87 LOP 21.32 VP 23.049 GAP 5.95 AZP 87.91 TAL 353.85 TAP 151.29 RCA 150.74 APO 217.96 V2 25.864
 RC 126.706 GL -24.12 GP 3.52 ZAL 107.89 ZAP 104.87 ETS 178.64 ZAE 148.08 ETE 174.52 ZAC 104.91 ETC 275.23 LVI -17.74

PLANETOCENTRIC CONIC
 C3 9.727 VHL 3.119 DLA -32.46 RAL 345.54 RAD 6637.9 VEL 11.394 PTH 6.45 VHP 2.995 DPA -17.06 RAP 308.16 ECC 1.1601
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 52 21 2291.01 3.09 57.65 198.26 137.50 18 30 32 1291.0 21.10 41.09
 60.00 19 23 59 2047.14 8.76 41.11 203.67 129.50 19 58 6 1047.1 23.81 21.48
 70.00 21 40 12 1645.91 16.54 14.19 209.22 120.32 22 7 38 645.9 27.55 351.15
 73.36 23 22 27 1330.39 23.32 353.51 212.86 113.24 23 44 38 330.4 30.79 327.89
 73.36 23 22 27 1330.39 23.32 353.51 212.86 113.24 23 44 38 330.4 30.79 327.89
 73.36 23 22 27 1330.39 23.32 353.51 212.86 113.24 23 44 38 330.4 30.79 327.89
 110.00 2 43 35 5980.77 16.54 281.02 209.22 120.32 4 23 15 4980.8 27.55 257.97

DIFFERENTIAL CORRECTIONS
 TDE -.2518 TRA .1703 TC3-2.1530 BAU .2888 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.1227 RRA -.0754 RC3 .5456 FAU .23781 SGT 1467.9 SGR 439.9 SG3 1699.0 ST 23.9 SR 11.5 SS 58.0
 FDE .5170 FRA 6.6794 FC-21.1657 BSP 1692 RRT -.6405 RRF -.8200 RTF .7858 CRT .8922 CRS .4182 CST -.0289
 BDE .2801 BRA .1882 BC3 2.2210 FSP 2931 SGB 1532.4 R23 .3768 R13 -.8034 LSA 58.2 MSA 26.0 SSA .9
 EL1 26.1 EL2 4.8 ALF 24.20

LAUNCH DATE MAY 5 1971

FLIGHT TIME 202.00

ARRIVAL DATE NOV 23 1971

HELIOCENTRIC CONIC
 RL 150.87 LAL .00 LOL 223.87 VL 32.236 GAL -.98 AZL 92.29 HCA 158.64 SMA 184.29 ECC .18210 INC 2.2919 V1 29.533
 RP 212.43 LAP -.83 LOP 22.53 VP 23.008 GAP 5.76 AZP 87.87 TAL 353.66 TAP 152.30 RCA 150.73 APO 217.65 V2 25.832
 RC 130.999 GL -24.35 GP 3.74 ZAL 108.15 ZAP 102.77 ETS 178.70 ZAE 146.02 ETE 174.69 ZAC 105.22 ETC 275.02 LVI -17.64

PLANETOCENTRIC CONIC
 C3 9.771 VHL 3.126 DLA -32.55 RAL 345.99 RAD 6637.9 VEL 11.396 PTH 6.45 VHP 2.968 DPA -17.08 RAP 307.20 ECC 1.1608
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 54 41 2289.77 3.15 57.60 198.79 137.50 18 32 50 1289.8 21.15 41.03
 60.00 19 26 38 2045.04 8.85 41.00 204.22 129.48 20 0 43 1045.0 23.89 21.36
 70.00 21 44 5 1640.16 16.74 13.86 209.84 120.21 22 11 25 640.2 27.69 350.76
 73.18 23 23 1 1335.05 23.35 353.89 213.39 113.34 23 45 16 335.0 30.86 328.26
 73.18 23 23 1 1335.05 23.35 353.89 213.39 113.34 23 45 16 335.0 30.86 328.26
 73.18 23 23 1 1335.05 23.35 353.89 213.39 113.34 23 45 16 335.0 30.86 328.26
 110.00 2 47 27 5975.02 16.74 280.69 209.84 120.21 4 27 2 4975.0 27.69 257.58

DIFFERENTIAL CORRECTIONS
 TDE -.2510 TRA .2359 TC3-2.3499 BAU .3158 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.1180 RRA -.0879 RC3 .5681 FAU .24159 SGT 1822.7 SGR 456.3 SG3 1731.6 ST 24.4 SR 11.2 SS 58.9
 FDE .5550 FRA 6.8457 FC-21.4044 BSP 2013 RRT -.8997 RRF -.8915 RTF .2449 CRT .8274 CRS .4654 CST -.1058
 BDE .2773 BRA .2516 BC3 2.4172 FSP 2994 SGB 1685.6 R23 .3512 R13 -.8394 LSA 59.2 MSA 26.2 SSA .8
 EL1 26.2 EL2 5.9 ALF 21.98

LAUNCH DATE MAY 5 1971

FLIGHT TIME 204.00

ARRIVAL DATE NOV 25 1971

HELIOCENTRIC CONIC
 RL 150.87 LAL .00 LOL 223.87 VL 32.233 GAL -1.01 AZL 92.32 HCA 159.84 SMA 184.24 ECC .18194 INC 2.3213 V1 29.533
 RP 212.72 LAP -.80 LOP 23.73 VP 22.967 GAP 5.58 AZP 87.82 TAL 353.45 TAP 153.30 RCA 150.72 APO 217.76 V2 25.799
 RC 133.312 GL -24.61 GP 3.97 ZAL 108.43 ZAP 100.67 ETS 178.77 ZAE 143.95 ETE 174.82 ZAC 105.54 ETC 274.82 LVI -17.56

PLANETOCENTRIC CONIC
 C3 9.827 VHL 3.135 DLA -32.64 RAL 346.46 RAD 6638.0 VEL 11.398 PTH 6.45 VHP 2.944 DPA -17.03 RAP 306.23 ECC 1.1617
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 57 10 2288.57 3.21 57.55 199.36 137.49 18 35 19 1288.6 21.21 40.97
 60.00 19 29 29 2042.88 8.94 40.90 204.82 129.46 20 3 32 1042.9 23.97 21.23
 70.00 21 48 19 1633.85 16.95 13.50 210.52 120.10 22 15 33 633.8 27.84 350.33
 72.98 23 23 36 1340.22 23.39 354.30 213.97 113.44 23 45 57 340.2 30.94 328.68
 72.98 23 23 36 1340.22 23.39 354.30 213.97 113.44 23 45 57 340.2 30.94 328.68
 72.98 23 23 36 1340.22 23.39 354.30 213.97 113.44 23 45 57 340.2 30.94 328.68
 110.00 2 51 42 5968.71 16.95 280.33 210.52 120.10 4 31 10 4968.7 27.84 257.16

DIFFERENTIAL CORRECTIONS
 TDE -.2497 TRA .3044 TC3-2.5469 BAU .3434 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.1135 RRA -.1006 RC3 .5879 FAU .24464 SGT 1787.4 SGR 476.0 SG3 1759.4 ST 25.0 SR 10.9 SS 59.8
 FDE .5950 FRA 7.0012 FC-21.5516 BSP 2351 RRT -.7502 RRF -.8794 RTF .8550 CRT .7453 CRS .5160 CST -.1815
 BDE .2743 BRA .3206 BC3 2.6138 FSP 3043 SGB 1849.7 R23 .3300 R13 -.8671 LSA 60.3 MSA 26.3 SSA .8
 EL1 26.4 EL2 6.9 ALF 19.36

LAUNCH DATE MAY 5 1971	FLIGHT TIME 206.00	ARRIVAL DATE NOV 27 1971
HELIOCENTRIC CONIC		EARTH TO MARS
RL 150.87 LAL .00 LOL 223.87 VL 32.231 GAL -1.04 AZL 92.35 HCA 161.04 SMA 184.21 ECC .18184 INC 2.3541 V1 29.533		
RP 213.01 LAP -.76 LOP 24.92 VP 22.926 GAP 5.39 AZP 87.77 TAL 353.23 TAP 154.27 RCA 150.71 APO 217.70 V2 25.766		
RC 135.643 GL -24.89 GP 4.24 ZAL 108.72 ZAP 96.59 ETS 178.85 ZAE 141.88 ETE 174.91 ZAC 105.88 ETC 274.81 LVI -17.50		
PLANETOCENTRIC CONIC		
C3 9.896 VHL 3.146 DLA -32.75 RAL 346.97 RAD 6638.0 VEL 11.401 PTH 6.45 VHP 2.925 DPA -16.87 RAP 305.27 ECC 1.1629		
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG		
50.00 17 59 51 2287.30 3.27 57.50 199.97 137.49 18 37 59 1287.3 21.27 40.91		
60.00 19 32 35 2040.52 9.04 40.78 205.47 129.44 20 6 35 1040.5 24.06 21.09		
70.00 21 53 5 1826.54 17.20 13.08 211.26 119.97 22 20 12 626.5 28.02 349.83		
72.76 23 24 10 1346.08 23.42 354.76 214.60 113.57 23 46 36 346.1 31.02 329.15		
72.76 23 24 10 1346.08 23.42 354.76 214.60 113.57 23 46 36 346.1 31.02 329.15		
72.76 23 24 10 1346.08 23.42 354.76 214.60 113.57 23 46 36 346.1 31.02 329.15		
110.00 2 56 27 3961.40 17.20 279.91 211.26 119.97 4 35 49 4961.4 28.02 256.66		
DIFFERENTIAL CORRECTIONS		ORBIT DETERMINATION ACCURACY
TDE -.2487 TRA .3749 TC3-2.7436 BAU .3719		ST 25.8 SR 10.6 SS 60.8
RDE -.1091 RRA -.1149 RC3 .6114 FAU .24711		CRT .6483 CRS .5686 CST -.2537
FDE .6327 FRA 7.1416 FC-21.6191 BSP 2692		LSA 61.3 HSA 26.4 SSA .7
BDE .2716 BRA .3921 BC3 2.8109 FSP 3090		EL1 26.8 EL2 7.8 ALF 16.34

LAUNCH DATE MAY 5 1971	FLIGHT TIME 208.00	ARRIVAL DATE NOV 29 1971
HELIOCENTRIC CONIC		EARTH TO MARS
RL 150.87 LAL .00 LOL 223.87 VL 32.230 GAL -1.07 AZL 92.39 HCA 162.23 SMA 184.18 ECC .18180 INC 2.3914 V1 29.533		
RP 213.31 LAP -.73 LOP 26.11 VP 22.886 GAP 5.21 AZP 87.72 TAL 353.00 TAP 155.24 RCA 150.70 APO 217.67 V2 25.732		
RC 137.991 GL -25.19 GP 4.53 ZAL 109.02 ZAP 96.53 ETS 178.95 ZAE 139.81 ETE 174.98 ZAC 106.25 ETC 274.41 LVI -17.47		
PLANETOCENTRIC CONIC		
C3 9.977 VHL 3.159 DLA -32.87 RAL 347.50 RAD 6638.0 VEL 11.405 PTH 6.46 VHP 2.910 DPA -16.88 RAP 304.32 ECC 1.1642		
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG		
50.00 18 2 48 2285.85 3.34 57.44 200.64 137.49 18 40 53 1285.9 21.34 40.84		
60.00 19 36 0 2037.77 9.16 40.65 206.18 129.42 20 9 58 1037.8 24.16 20.94		
70.00 21 58 34 1617.64 17.51 12.57 212.09 119.81 22 25 32 617.6 28.23 349.23		
72.50 23 24 38 1352.86 23.46 355.30 215.29 113.71 23 47 11 352.9 31.11 329.69		
72.50 23 24 38 1352.86 23.46 355.30 215.29 113.71 23 47 11 352.9 31.11 329.69		
72.50 23 24 38 1352.86 23.46 355.30 215.29 113.71 23 47 11 352.9 31.11 329.69		
110.00 3 1 57 5952.50 17.51 279.39 212.09 119.81 4 41 9 4952.5 28.23 256.05		
DIFFERENTIAL CORRECTIONS		ORBIT DETERMINATION ACCURACY
TDE -.2466 TRA .4490 TC3-2.9338 BAU .4004		ST 26.8 SR 10.4 SS 61.4
RDE -.1049 RRA -.1306 RC3 .6365 FAU .24881		CRT .5347 CRS .6234 CST -.3241
FDE .6709 FRA 7.2722 FC-21.5898 BSP 3053		LSA 62.4 HSA 26.5 SSA .7
BDE .2680 BRA .4676 BC3 3.0021 FSP 3128		EL1 27.5 EL2 8.6 ALF 13.05

LAUNCH DATE MAY 5 1971	FLIGHT TIME 210.00	ARRIVAL DATE DEC 1 1971
HELIOCENTRIC CONIC		EARTH TO MARS
RL 150.87 LAL .00 LOL 223.87 VL 32.229 GAL -1.11 AZL 92.43 HCA 163.42 SMA 184.17 ECC .18181 INC 2.4332 V1 29.533		
RP 213.61 LAP -.69 LOP 27.30 VP 22.847 GAP 5.03 AZP 87.67 TAL 352.76 TAP 156.18 RCA 150.69 APO 217.66 V2 25.697		
RC 140.356 GL -25.53 GP 4.86 ZAL 109.33 ZAP 94.49 ETS 179.06 ZAE 137.75 ETE 175.01 ZAC 106.64 ETC 274.21 LVI -17.48		
PLANETOCENTRIC CONIC		
C3 10.074 VHL 3.174 DLA -33.02 RAL 348.07 RAD 6638.1 VEL 11.409 PTH 6.46 VHP 2.898 DPA -16.74 RAP 303.38 ECC 1.1658		
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG		
50.00 18 6 2 2284.07 3.43 57.36 201.37 137.48 18 44 6 1284.1 21.42 40.75		
60.00 19 39 50 2034.42 9.31 40.48 206.96 129.39 20 13 44 1034.4 24.28 20.74		
70.00 22 5 5 1806.30 17.89 11.91 213.01 119.59 22 31 51 606.3 28.49 348.45		
72.19 23 24 58 1360.79 23.51 355.94 216.04 113.89 23 47 39 360.8 31.23 330.32		
72.19 23 24 58 1360.79 23.51 355.94 216.04 113.89 23 47 39 360.8 31.23 330.32		
72.19 23 24 58 1360.79 23.51 355.94 216.04 113.89 23 47 39 360.8 31.23 330.32		
110.00 3 8 27 5941.16 17.89 278.74 213.01 119.59 4 47 20 4941.2 28.49 255.27		
DIFFERENTIAL CORRECTIONS		ORBIT DETERMINATION ACCURACY
TDE -.2459 TRA .5238 TC3-3.1240 BAU .4301		ST 28.1 SR 10.3 SS 62.0
RDE -.1008 RRA -.1476 RC3 .8646 FAU .25023		CRT .4156 CRS .6785 CST -.3895
FDE .7058 FRA 7.3785 FC-21.5054 BSP 3403		LSA 63.4 HSA 26.7 SSA .6
BDE .2658 BRA .5442 BC3 3.1939 FSP 3151		EL1 28.4 EL2 9.3 ALF 9.68

LAUNCH DATE MAY 5 1971	FLIGHT TIME 212.00	ARRIVAL DATE DEC 3 1971
HELIOCENTRIC CONIC		EARTH TO MARS
RL 150.87 LAL .00 LOL 223.87 VL 32.229 GAL -1.15 AZL 92.48 HCA 164.61 SMA 184.17 ECC .18188 INC 2.4813 V1 29.533		
RP 213.92 LAP -.66 LOP 28.49 VP 22.807 GAP 4.86 AZP 87.61 TAL 352.50 TAP 157.11 RCA 150.67 APO 217.67 V2 25.662		
RC 142.738 GL -25.92 GP 5.23 ZAL 109.64 ZAP 92.48 ETS 179.19 ZAE 135.70 ETE 175.01 ZAC 107.08 ETC 274.02 LVI -17.53		
PLANETOCENTRIC CONIC		
C3 10.187 VHL 3.192 DLA -33.21 RAL 348.88 RAD 6638.1 VEL 11.414 PTH 6.47 VHP 2.890 DPA -16.54 RAP 302.45 ECC 1.1676		
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG		
50.00 18 9 40 2281.78 3.55 57.27 202.17 137.48 18 47 41 1281.8 21.53 40.64		
60.00 19 44 11 2030.17 9.49 40.27 207.83 129.35 20 18 1 1030.2 24.44 20.49		
70.00 22 13 6 1591.15 18.40 11.03 214.08 119.50 22 39 37 591.1 28.83 347.40		
71.83 23 25 5 1370.19 23.57 356.69 216.86 114.09 23 47 56 370.2 31.37 331.08		
71.83 23 25 5 1370.19 23.57 356.69 216.86 114.09 23 47 56 370.2 31.37 331.08		
71.83 23 25 5 1370.19 23.57 356.69 216.86 114.09 23 47 56 370.2 31.37 331.08		
110.00 3 18 28 5926.00 18.40 277.85 214.08 119.50 4 55 14 4926.0 28.83 254.23		
DIFFERENTIAL CORRECTIONS		ORBIT DETERMINATION ACCURACY
TDE -.2451 TRA .6019 TC3-3.3065 BAU .4602		ST 29.5 SR 10.3 SS 62.7
RDE -.0971 RRA -.1672 RC3 .6955 FAU .25100		CRT .2820 CRS .7344 CST -.4419
FDE .7423 FRA 7.4941 FC-21.3317 BSP 3767		LSA 64.7 HSA 26.9 SSA .6
BDE .2636 BRA .6247 BC3 3.3789 FSP 3175		EL1 29.6 EL2 9.8 ALF 6.30

LAUNCH DATE MAY 5 1971

FLIGHT TIME 214.00

ARRIVAL DATE DEC 5 1971

HELIOCENTRIC CONIC

DISTANCE 510.209

EARTH TO MARS

RL 150.87 LAL .00 LOL 223.87 VL 32.230 GAL -1.19 AZL 92.54 HCA 165.79 SMA 184.18 ECC .18200 INC 2.3373 V1 29.933
RP 214.24 LAP -.62 LOP 29.87 VP 22.788 GAP 4.68 AZP 87.94 TAL 352.24 TAP 158.03 RCA 150.66 APO 217.70 V2 25.627
RC 145.138 GL -28.36 GP 5.66 ZAL 109.95 ZAP 90.50 ETS 179.34 ZAE 133.67 ETE 174.98 ZAC 107.57 ETC 273.83 LVI -17.64

PLANETOCENTRIC CONIC

C3 10.319 VHL 3.212 DLA -33.43 RAL 349.34 RAD 6638.2 VEL 11.420 PTH 6.47 VHP 2.885 DPA -16.29 RAP 301.54 ECC 1.1698
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 13 46 2278.73 3.70 57.14 203.06 137.47 18 51 45 1278.7 21.67 40.49
60.00 19 49 14 2024.60 9.73 40.00 208.80 129.30 20 22 59 1024.6 24.65 20.17
70.00 22 23 28 1569.67 19.11 9.77 215.33 118.86 22 49 38 569.7 29.30 345.91
71.38 23 24 54 1381.46 23.65 357.60 217.77 114.35 23 47 56 381.5 31.54 332.00
71.38 23 24 54 1381.46 23.65 357.60 217.77 114.35 23 47 56 381.5 31.54 332.00
71.38 23 24 54 1381.46 23.65 357.60 217.77 114.35 23 47 56 381.5 31.54 332.00
110.00 3 26 51 5904.53 19.11 276.59 215.33 118.86 5 5 15 4904.5 29.30 252.73

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2442 TRA .6824 TC3-3.4788 BAU .4904 SGT 2704.1 SGR 640.6 SG3 1826.8 ST 31.1 SR 10.4 SS 63.2
RDE -.0938 RRA -.1888 RC3 .7294 FAU .25093 RRT -.9022 RRF -.9676 RTF .9310 CRT .1478 CRS .7890 CST -.4692
FDE .7870 FRA 7.5758 FC-21.0520 BSP 4138 SGB 2778.9 R23 .2761 R13 -.9371 LSA 65.8 MSA 27.2 SSA .5
BDE .2616 BRA .7080 BC3 3.5544 FSP 3190 SG1 2765.8 SG2 270.2 THA 167.82 EL1 31.1 EL2 10.2 ALF 3.16

LAUNCH DATE MAY 5 1971

FLIGHT TIME 216.00

ARRIVAL DATE DEC 7 1971

HELIOCENTRIC CONIC

DISTANCE 514.396

EARTH TO MARS

RL 150.87 LAL .00 LOL 223.87 VL 32.231 GAL -1.24 AZL 92.60 HCA 166.97 SMA 184.20 ECC .18217 INC 2.6026 V1 29.533
RP 214.55 LAP -.59 LOP 30.85 VP 22.729 GAP 4.51 AZP 87.46 TAL 351.96 TAP 158.93 RCA 150.64 APO 217.75 V2 25.591
RC 147.555 GL -26.88 GP 6.15 ZAL 110.26 ZAP 88.56 ETS 179.52 ZAE 131.65 ETE 174.91 ZAC 108.13 ETC 273.65 LVI -17.83

PLANETOCENTRIC CONIC

C3 10.475 VHL 3.236 DLA -33.72 RAL 350.06 RAD 6638.3 VEL 11.427 PTH 6.48 VHP 2.884 DPA -15.95 RAP 300.65 ECC 1.1724
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 18 31 2274.59 3.91 56.97 204.06 137.45 18 56 25 1274.6 21.87 40.28
60.00 19 55 12 2017.19 10.05 39.64 209.89 129.24 20 28 49 1017.2 24.92 19.73
70.00 22 38 8 1536.23 20.19 7.79 216.88 118.15 23 3 44 536.2 30.00 343.55
70.82 23 24 21 1394.94 23.75 358.70 218.79 114.67 23 47 36 394.9 31.77 333.10
70.82 23 24 21 1394.94 23.75 358.70 218.79 114.67 23 47 36 394.9 31.77 333.10
70.82 23 24 21 1394.94 23.75 358.70 218.79 114.67 23 47 36 394.9 31.77 333.10
110.00 3 41 30 5871.09 20.19 274.61 216.88 118.15 5 19 21 4871.1 30.00 250.38

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2452 TRA .7644 TC3-3.6447 BAU .5216 SGT 2898.5 SGR 693.0 SG3 1827.1 ST 32.9 SR 10.6 SS 63.7
RDE -.0906 RRA -.2136 RC3 .7691 FAU .25084 RRT -.9183 RRF -.9767 RTF .9384 CRT .0145 CRS .6382 CST -.5317
FDE .8164 FRA 7.6487 FC-20.7321 BSP 4498 SGB 2980.2 R23 .2716 R13 -.9440 LSA 67.0 MSA 27.5 SSA .5
BDE .2614 BRA .7937 BC3 3.7250 FSP 3185 SG1 2968.1 SG2 267.9 THA 167.51 EL1 32.9 EL2 10.6 ALF .30

LAUNCH DATE MAY 5 1971

FLIGHT TIME 218.00

ARRIVAL DATE DEC 9 1971

HELIOCENTRIC CONIC

DISTANCE 518.583

EARTH TO MARS

RL 150.87 LAL .00 LOL 223.87 VL 32.232 GAL -1.28 AZL 92.68 HCA 168.15 SMA 184.22 ECC .18238 INC 2.6808 V1 29.533
RP 214.88 LAP -.55 LOP 32.03 VP 22.690 GAP 4.34 AZP 87.38 TAL 351.67 TAP 159.81 RCA 150.62 APO 217.82 V2 25.554
RC 149.988 GL -27.50 GP 6.74 ZAL 110.56 ZAP 86.65 ETS 179.74 ZAE 129.65 ETE 174.80 ZAC 108.77 ETC 273.48 LVI -18.10

PLANETOCENTRIC CONIC

C3 10.859 VHL 3.285 DLA -34.08 RAL 350.84 RAD 6638.4 VEL 11.435 PTH 6.49 VHP 2.887 DPA -15.51 RAP 299.78 ECC 1.1754
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 24 5 2268.94 4.19 56.73 205.20 137.44 19 1 54 1268.9 22.13 40.01
60.00 20 2 25 2007.17 10.48 39.14 211.16 129.14 20 35 52 1007.2 25.29 19.14
70.00 23 5 50 1464.49 22.43 3.43 219.17 116.45 23 30 15 464.5 31.32 338.39
70.13 23 23 17 1411.29 23.89 .04 219.93 115.06 23 46 48 411.3 32.06 334.44
70.13 23 23 17 1411.29 23.89 .04 219.93 115.06 23 46 48 411.3 32.06 334.44
70.13 23 23 17 1411.29 23.89 .04 219.93 115.06 23 46 48 411.3 32.06 334.44
110.00 4 9 12 5799.34 22.43 270.25 219.17 116.45 5 45 52 4799.3 31.32 245.21

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2463 TRA .8502 TC3-3.7928 BAU .5527 SGT 3092.8 SGR 754.5 SG3 1820.7 ST 34.8 SR 11.0 SS 64.1
RDE -.0883 RRA -.2425 RC3 .8122 FAU .24930 RRT -.9308 RRF -.9837 RTF .5441 CRT -.1150 CRS .8830 CST -.5666
FDE .8574 FRA 7.7109 FC-20.2497 BSP 4875 SGB 3183.5 R23 .2688 R13 -.9495 LSA 68.3 MSA 27.9 SSA .4
BDE .2616 BRA .8841 BC3 3.8788 FSP 3181 SG1 3172.1 SG2 268.8 THA 167.11 EL1 34.8 EL2 10.9 ALF 177.70

LAUNCH DATE MAY 5 1971

FLIGHT TIME 220.00

ARRIVAL DATE DEC 11 1971

HELIOCENTRIC CONIC

DISTANCE 522.768

EARTH TO MARS

RL 150.87 LAL .00 LOL 223.87 VL 32.238 GAL -1.33 AZL 92.78 HCA 169.32 SMA 184.26 ECC .18264 INC 2.7753 V1 29.533
RP 215.21 LAP -.51 LOP 33.20 VP 22.652 GAP 4.17 AZP 87.27 TAL 351.36 TAP 160.68 RCA 150.61 APO 217.91 V2 25.518
RC 152.438 GL -28.24 GP 7.45 ZAL 110.84 ZAP 84.79 ETS 180.00 ZAE 127.67 ETE 174.64 ZAC 109.52 ETC 273.32 LVI -18.49

PLANETOCENTRIC CONIC

C3 10.879 VHL 3.298 DLA -34.55 RAL 351.72 RAD 6638.5 VEL 11.444 PTH 6.49 VHP 2.893 DPA -14.95 RAP 298.93 ECC 1.1790
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 30 47 2261.15 4.58 56.40 206.52 137.41 19 8 28 1261.2 22.49 39.62
60.00 20 11 21 1993.36 11.08 38.45 212.66 129.00 20 44 35 993.4 25.79 18.31
69.27 23 21 36 1431.19 24.08 1.69 221.24 115.57 23 45 27 431.2 32.43 336.10
69.27 23 21 36 1431.19 24.08 1.69 221.24 115.57 23 45 27 431.2 32.43 336.10
69.27 23 21 36 1431.19 24.08 1.69 221.24 115.57 23 45 27 431.2 32.43 336.10
69.27 23 21 36 1431.19 24.08 1.69 221.24 115.57 23 45 27 431.2 32.43 336.10
69.27 23 21 36 1431.19 24.08 1.69 221.24 115.57 23 45 27 431.2 32.43 336.10

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2500 TRA .9379 TC3-3.9275 BAU .5849 SGT 3288.5 SGR 828.8 SG3 1809.5 ST 37.0 SR 11.5 SS 64.4
RDE -.0860 RRA -.2762 RC3 .8646 FAU .24794 RRT -.9411 RRF -.9891 RTF .9492 CRT -.2353 CRS .9197 CST -.5971
FDE .8818 FRA 7.7452 FC-19.7306 BSP 5246 SGB 3391.3 R23 .2649 R13 -.9545 LSA 69.5 MSA 28.4 SSA .4
BDE .2644 BRA .9777 BC3 4.0215 FSP 3162 SG1 3380.3 SG2 272.6 THA 166.57 EL1 37.1 EL2 11.2 ALF 175.38

LAUNCH DATE MAY 5 1971

FLIGHT TIME 222.00

ARRIVAL DATE DEC 13 1971

HELIOCENTRIC CONIC

RL 150.87 LAL .00 LOL 223.87 VL 32.237 GAL -1.38 AZL 92.89 HCA 170.49 SMA 184.30 ECC .18294 INC 2.8935 V1 29.533
RP 215.54 LAP -.48 LOP 34.37 VP 22.614 GAP 4.01 AZP 87.15 TAL 351.05 TAP 161.34 RCA 150.59 APO 218.02 V2 25.480
RC 154.904 GL -29.15 GP 8.31 ZAL 111.09 ZAP 82.98 ETS 180.33 ZAE 125.71 ETE 174.40 ZAC 110.43 ETC 273.17 LVI -19.05

PLANETOCENTRIC CONIC

C3 11.149 VHL 3.339 DLA -35.17 RAL 352.71 RAD 6638.6 VEL 11.456 PTH 6.51 VHP 2.904 DPA -14.22 RAP 298.09 ECC 1.1835
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 39 4 2250.32 5.13 55.94 208.09 137.37 19 16 34 1250.3 23.00 39.08
60.00 20 22 31 1973.90 11.91 37.48 214.49 128.79 20 55 45 973.9 26.49 17.14
68.17 23 19 12 1455.42 24.32 3.73 222.79 116.22 23 43 28 455.4 32.92 338.14
68.17 23 19 12 1455.42 24.32 3.73 222.79 116.22 23 43 28 455.4 32.92 338.14
68.17 23 19 12 1455.42 24.32 3.73 222.79 116.22 23 43 28 455.4 32.92 338.14
68.17 23 19 12 1455.42 24.32 3.73 222.79 116.22 23 43 28 455.4 32.92 338.14
68.17 23 19 12 1455.42 24.32 3.73 222.79 116.22 23 43 28 455.4 32.92 338.14

DIFFERENTIAL CORRECTIONS

TDE -.2515 TRA 1.0338 TC3-4.0257 BAU .6156
RDE -.0858 RRA -.3181 RC3 .9230 FAU .24495
FDE .9316 FRA 7.7872 FC-19.0196 BSP 5683
BDE .2657 BRA 1.0816 BC3 4.1302 FSP 3161

MID-COURSE EXECUTION ACCURACY

SGT 3481.8 SGR 920.5 SG3 1793.9
RRT -.9492 RRF -.9930 RTF .9535
SCB 3601.4 R23 .2604 R13 -.9588
SG1 3590.4 SG2 280.8 THA 165.82

ORBIT DETERMINATION ACCURACY

ST 39.3 SR 12.5 SS 64.9
CRT -.3491 CR3 .9499 CST -.6239
LSA 71.2 MSA 28.9 SSA .3
EL1 39.5 EL2 11.6 ALF 173.07

LAUNCH DATE MAY 5 1971

FLIGHT TIME 224.00

ARRIVAL DATE DEC 15 1971

HELIOCENTRIC CONIC

RL 150.87 LAL .00 LOL 223.87 VL 32.240 GAL -1.43 AZL 93.04 HCA 171.65 SMA 184.36 ECC .18329 INC 3.0420 V1 29.533
RP 215.87 LAP -.44 LOP 35.53 VP 22.576 GAP 3.84 AZP 86.99 TAL 350.73 TAP 162.39 RCA 150.57 APO 218.15 V2 25.443
RC 157.385 GL -30.31 GP 9.40 ZAL 111.29 ZAP 81.22 ETS 180.75 ZAE 123.76 ETE 174.08 ZAC 111.56 ETC 273.03 LVI -19.82

PLANETOCENTRIC CONIC

C3 11.491 VHL 3.390 DLA -35.99 RAL 353.86 RAD 6638.8 VEL 11.471 PTH 6.52 VHP 2.921 DPA -13.25 RAP 297.26 ECC 1.1891
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 49 37 2235.06 5.89 55.30 210.03 137.30 19 26 52 1235.1 23.70 38.31
60.00 20 36 17 1945.54 13.11 36.06 216.82 128.46 21 10 43 945.5 27.49 15.41
66.76 23 15 56 1485.23 24.65 6.29 224.64 117.09 23 40 41 485.2 33.57 340.69
66.76 23 15 56 1485.23 24.65 6.29 224.64 117.09 23 40 41 485.2 33.57 340.69
66.76 23 15 56 1485.23 24.65 6.29 224.64 117.09 23 40 41 485.2 33.57 340.69
66.76 23 15 56 1485.23 24.65 6.29 224.64 117.09 23 40 41 485.2 33.57 340.69
66.76 23 15 56 1485.23 24.65 6.29 224.64 117.09 23 40 41 485.2 33.57 340.69

DIFFERENTIAL CORRECTIONS

TDE -.2644 TRA 1.1249 TC3-4.1212 BAU .6514
RDE -.0850 RRA -.3675 RC3 .9986 FAU .24266
FDE .9368 FRA 7.7563 FC-18.2824 BSP 6011
BDE .2778 BRA 1.1834 BC3 4.2405 FSP 3087

MID-COURSE EXECUTION ACCURACY

SGT 3678.0 SGR 1033.6 SG3 1767.8
RRT -.9552 RRF -.9937 RTF .9567
SCB 3820.4 R23 .2565 R13 -.9623
SG1 3809.0 SG2 295.4 THA 164.88

ORBIT DETERMINATION ACCURACY

ST 41.9 SR 13.6 SS 64.7
CRT -.4373 CR3 .9709 CST -.6395
LSA 72.4 MSA 29.8 SSA .3
EL1 42.4 EL2 12.1 ALF 171.20

LAUNCH DATE MAY 5 1971

FLIGHT TIME 226.00

ARRIVAL DATE DEC 17 1971

HELIOCENTRIC CONIC

RL 150.87 LAL .00 LOL 223.87 VL 32.244 GAL -1.49 AZL 93.24 HCA 172.82 SMA 184.41 ECC .18367 INC 3.2388 V1 29.533
RP 216.21 LAP -.41 LOP 36.69 VP 22.538 GAP 3.68 AZP 86.79 TAL 350.40 TAP 163.22 RCA 150.54 APO 218.29 V2 25.405
RC 159.881 GL -31.81 GP 10.83 ZAL 111.40 ZAP 79.54 ETS 181.28 ZAE 121.82 ETE 173.62 ZAC 113.02 ETC 272.92 LVI -20.91

PLANETOCENTRIC CONIC

C3 11.939 VHL 3.455 DLA -37.10 RAL 355.28 RAD 6639.0 VEL 11.490 PTH 6.54 VHP 2.944 DPA -11.95 RAP 296.42 ECC 1.1985
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 3 42 2213.05 6.99 54.37 212.54 137.10 19 40 35 1213.1 24.71 37.19
60.00 21 0 32 1901.60 14.96 33.82 219.97 127.87 21 32 13 901.6 28.99 12.65
64.92 23 11 43 1522.17 25.09 9.52 226.97 118.26 23 37 6 522.2 34.44 343.94
64.92 23 11 43 1522.17 25.09 9.52 226.97 118.26 23 37 6 522.2 34.44 343.94
64.92 23 11 43 1522.17 25.09 9.52 226.97 118.26 23 37 6 522.2 34.44 343.94
64.92 23 11 43 1522.17 25.09 9.52 226.97 118.26 23 37 6 522.2 34.44 343.94
64.92 23 11 43 1522.17 25.09 9.52 226.97 118.26 23 37 6 522.2 34.44 343.94

DIFFERENTIAL CORRECTIONS

TDE -.2776 TRA 1.2269 TC3-4.1611 BAU .6884
RDE -.0873 RRA -.4332 RC3 1.0859 FAU .23824
FDE .9689 FRA 7.7331 FC-17.2747 BSP 6423
BDE .2910 BRA 1.3011 BC3 4.3004 FSP 3041

MID-COURSE EXECUTION ACCURACY

SGT 3871.2 SGR 1181.2 SG3 1735.8
RRT -.9587 RRF -.9975 RTF .9592
SCB 4047.4 R23 .2516 R13 -.9653
SG1 4034.8 SG2 318.5 THA 163.57

ORBIT DETERMINATION ACCURACY

ST 44.9 SR 15.4 SS 64.8
CRT -.3150 CR3 .9858 CST -.6522
LSA 74.1 MSA 30.9 SSA .2
EL1 45.6 EL2 13.0 ALF 169.10

LAUNCH DATE MAY 5 1971

FLIGHT TIME 228.00

ARRIVAL DATE DEC 19 1971

HELIOCENTRIC CONIC

RL 150.87 LAL .00 LOL 223.87 VL 32.248 GAL -1.54 AZL 93.51 HCA 173.97 SMA 184.48 ECC .18410 INC 3.5100 V1 29.533
RP 216.56 LAP -.37 LOP 37.85 VP 22.501 GAP 3.52 AZP 86.51 TAL 350.06 TAP 164.03 RCA 150.52 APO 218.44 V2 25.366
RC 162.390 GL -33.84 GP 12.76 ZAL 111.37 ZAP 77.95 ETS 182.01 ZAE 119.86 ETE 172.97 ZAC 114.98 ETC 272.82 LVI -22.49

PLANETOCENTRIC CONIC

C3 12.567 VHL 3.545 DLA -38.84 RAL 357.03 RAD 6639.3 VEL 11.517 PTH 6.56 VHP 2.979 DPA -10.13 RAP 295.56 ECC 1.2068
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 23 39 2180.12 8.63 52.97 216.00 136.97 19 59 59 1180.1 26.20 35.47
60.00 21 37 15 1823.33 18.19 29.72 224.75 126.61 22 7 38 823.3 31.49 7.53
62.49 23 6 34 1588.54 25.68 13.68 230.04 119.93 23 32 43 568.5 35.64 348.15
62.49 23 6 34 1588.54 25.68 13.68 230.04 119.93 23 32 43 568.5 35.64 348.15
62.49 23 6 34 1588.54 25.68 13.68 230.04 119.93 23 32 43 568.5 35.64 348.15
62.49 23 6 34 1588.54 25.68 13.68 230.04 119.93 23 32 43 568.5 35.64 348.15
62.49 23 6 34 1588.54 25.68 13.68 230.04 119.93 23 32 43 568.5 35.64 348.15

DIFFERENTIAL CORRECTIONS

TDE -.2976 TRA 1.3358 TC3-4.1431 BAU .7244
RDE -.0927 RRA -.5203 RC3 1.1948 FAU .23268
FDE .9948 FRA 7.6436 FC-16.0294 BSP 6854
BDE .3117 BRA 1.4336 BC3 4.3119 FSP 2959

MID-COURSE EXECUTION ACCURACY

SGT 4062.1 SGR 1378.1 SG3 1688.8
RRT -.9633 RRF -.9987 RTF .9615
SCB 4289.5 R23 .2439 R13 -.9885
SG1 4275.0 SG2 351.7 THA 161.78

ORBIT DETERMINATION ACCURACY

ST 48.1 SR 17.8 SS 64.6
CRT -.5764 CR3 .9942 CST -.6802
LSA 76.0 MSA 32.1 SSA .2
EL1 49.3 EL2 14.2 ALF 166.82

LAUNCH DATE MAY 5 1971

FLIGHT TIME 230.00

ARRIVAL DATE DEC 21 1971

HELIOCENTRIC CONIC
 RL 130.87 LAL .00 LOL 223.87 VL 32.252 GAL -1.60 AZL 93.91 HCA 175.13 SMA 184.55 ECC .18456 INC 3.9054 V1 29.533
 RP 216.81 LAP -.33 LOP 39.00 VP 22.463 GAP 3.36 AZP 86.11 TAL 349.72 TAP 164.84 RCA 150.49 APO 218.61 V2 25.327
 RC 164.912 GL -36.89 GP 15.92 ZAL 111.10 ZAP 76.51 ETS 183.03 ZAE 117.84 ETE 172.02 ZAC 117.77 ETC 272.77 LVI -24.83

PLANETOCENTRIC CONIC
 C3 13.528 VHL 3.678 DLA -40.88 RAL 359.45 RAD 6639.8 VEL 11.558 PTH 6.60 VHP 3.034 DPA -7.48 RAP 294.63 ECC 1.2226
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 54 35 2127.36 11.25 50.69 221.25 136.54 20 30 2 1127.4 28.53 32.62
 59.16 23 0 48 1628.02 26.44 19.21 234.37 122.39 23 27 56 628.0 37.32 353.80
 59.16 23 0 48 1628.02 26.44 19.21 234.37 122.39 23 27 56 628.0 37.32 353.80
 59.16 23 0 48 1628.02 26.44 19.21 234.37 122.39 23 27 56 628.0 37.32 353.80
 59.16 23 0 48 1628.02 26.44 19.21 234.37 122.39 23 27 56 628.0 37.32 353.80
 59.16 23 0 48 1628.02 26.44 19.21 234.37 122.39 23 27 56 628.0 37.32 353.80

DIFFERENTIAL CORRECTIONS
 TDE -3.3472 TRA 1.4333 TC3-4.0934 BAU .7801 SGT 4252.0 SGR 1650.6 SG3 1613.9 ST 52.1 SR 21.0 SS 62.5
 RDE -.0948 RRA -1.6327 RC3 1.3617 FAU .23058 RRT -.9669 RRF -.9994 RTF .9645 CRT -.6167 CRS .9984 CST -.6596
 FDE .9173 FRA 7.3450 FC-14.7579 BSP 7017 SGB 4561.1 R23 .2300 R13 -.9726 LSA 77.0 MSA 37.3 SSA .1
 BDE .3599 BRA 1.5667 BC3 4.3140 FSP 2699 SG1 4544.0 SG2 394.4 THA 159.26 EL1 53.8 EL2 16.0 ALF 164.69

LAUNCH DATE MAY 5 1971

FLIGHT TIME 232.00

ARRIVAL DATE DEC 23 1971

HELIOCENTRIC CONIC
 RL 150.87 LAL .00 LOL 223.87 VL 32.257 GAL -1.66 AZL 94.55 HCA 176.28 SMA 184.63 ECC .18506 INC 4.5490 V1 29.533
 RP 217.26 LAP -.30 LOP 40.15 VP 22.426 GAP 3.20 AZP 85.46 TAL 349.36 TAP 165.64 RCA 150.47 APO 218.80 V2 25.286
 RC 167.446 GL -40.98 GP 19.78 ZAL 110.37 ZAP 75.36 ETS 184.58 ZAE 115.66 ETE 170.51 ZAC 122.04 ETC 272.79 LVI -28.56

PLANETOCENTRIC CONIC
 C3 15.208 VHL 3.900 DLA -44.26 RAL 3.13 RAD 6640.6 VEL 11.630 PTH 6.67 VHP 3.133 DPA -3.33 RAP 293.57 ECC 1.2503
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 51 49 2027.84 16.12 46.26 230.75 135.39 21 25 36 1027.8 32.73 26.85
 54.42 22 55 53 1707.18 27.31 26.86 241.12 126.29 23 24 20 707.2 39.65 1.85
 54.42 22 55 53 1707.18 27.31 26.86 241.12 126.29 23 24 20 707.2 39.65 1.85
 54.42 22 55 53 1707.18 27.31 26.86 241.12 126.29 23 24 20 707.2 39.65 1.85
 54.42 22 55 53 1707.18 27.31 26.86 241.12 126.29 23 24 20 707.2 39.65 1.85
 54.42 22 55 53 1707.18 27.31 26.86 241.12 126.29 23 24 20 707.2 39.65 1.85

DIFFERENTIAL CORRECTIONS
 TDE -.3587 TRA 1.5965 TC3-3.7663 BAU .8236 SGT 4431.0 SGR 2072.3 SG3 1504.0 ST 55.9 SR 27.6 SS 63.4
 RDE -.1385 RRA -.8301 RC3 1.4913 FAU .21236 RRT -.9678 RRF -.9997 RTF .9648 CRT -.6455 CRS .9999 CST -.6529
 FDE 1.1480 FRA 7.0857 FC-12.0891 BSP 7875 SGB 4891.6 R23 .2191 R13 -.9755 LSA 81.3 MSA 36.1 SBA .1
 BDE .3845 BRA 1.7995 BC3 4.0508 FSP 2613 SG1 4868.5 SG2 474.5 THA 155.40 EL1 59.1 EL2 19.9 ALF 159.99

LAUNCH DATE MAY 5 1971

FLIGHT TIME 234.00

ARRIVAL DATE DEC 25 1971

HELIOCENTRIC CONIC
 RL 150.87 LAL .00 LOL 223.87 VL 32.262 GAL -1.72 AZL 95.76 HCA 177.42 SMA 184.72 ECC .18559 INC 5.7548 V1 29.533
 RP 217.61 LAP -.26 LOP 41.30 VP 22.389 GAP 3.04 AZP 84.25 TAL 349.00 TAP 166.42 RCA 150.44 APO 219.00 V2 25.249
 RC 169.992 GL -48.03 GP 27.07 ZAL 108.65 ZAP 74.90 ETS 187.06 ZAE 113.00 ETE 167.97 ZAC 129.33 ETC 273.01 LVI -35.04

PLANETOCENTRIC CONIC
 C3 18.927 VHL 4.351 DLA -49.67 RAL 9.84 RAD 6642.4 VEL 11.788 PTH 6.81 VHP 3.358 DPA 3.83 RAP 292.21 ECC 1.3115
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 47.29 22 57 22 1821.17 27.77 38.17 253.27 133.00 23 27 43 821.2 42.63 14.58
 47.29 22 57 22 1821.17 27.77 38.17 253.27 133.00 23 27 43 821.2 42.63 14.58
 47.29 22 57 22 1821.17 27.77 38.17 253.27 133.00 23 27 43 821.2 42.63 14.58
 47.29 22 57 22 1821.17 27.77 38.17 253.27 133.00 23 27 43 821.2 42.63 14.58
 47.29 22 57 22 1821.17 27.77 38.17 253.27 133.00 23 27 43 821.2 42.63 14.58
 47.29 22 57 22 1821.17 27.77 38.17 253.27 133.00 23 27 43 821.2 42.63 14.58

DIFFERENTIAL CORRECTIONS
 TDE -.3626 TRA 1.7704 TC3-3.2228 BAU .9149 SGT 4590.5 SGR 2748.8 SG3 1280.3 ST 59.2 SR 38.9 SS 62.2
 RDE -.2609 RRA -1.1422 RC3 1.6390 FAU .18785 RRT -.9677 RRF -.9998 RTF .9637 CRT -.6432 CRS .9997 CST -.6242
 FDE 1.5077 FRA 6.2107 FC3-8.5924 BSP 8513 SGB 5350.6 R23 .2024 R13 -.9792 LSA 85.6 MSA 39.4 SBA .0
 BDE .4467 BRA 2.1069 BC3 3.6156 FSP 2194 SG1 5317.0 SG2 598.4 THA 149.48 EL1 65.6 EL2 26.9 ALF 151.95

LAUNCH DATE MAY 5 1971

FLIGHT TIME 236.00

ARRIVAL DATE DEC 27 1971

HELIOCENTRIC CONIC
 RL 150.87 LAL .00 LOL 223.87 VL 32.268 GAL -1.78 AZL 98.86 HCA 178.58 SMA 184.81 ECC .18615 INC 8.8611 V1 29.533
 RP 217.97 LAP -.22 LOP 42.44 VP 22.352 GAP 2.89 AZP 81.14 TAL 348.63 TAP 167.19 RCA 150.41 APO 219.21 V2 25.209
 RC 172.547 GL -61.15 GP 41.22 ZAL 104.55 ZAP 76.66 ETS 190.98 ZAE 108.90 ETE 163.18 ZAC 143.42 ETC 274.13 LVI -47.50

PLANETOCENTRIC CONIC
 C3 32.198 VHL 5.674 DLA -58.48 RAL 26.80 RAD 6647.8 VEL 12.334 PTH 7.26 VHP 4.144 DPA 17.84 RAP 290.21 ECC 1.5299
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 36.42 23 33 30 2019.81 24.25 55.75 280.75 145.01 24 7 9 1019.8 43.47 37.50
 36.42 23 33 30 2019.81 24.25 55.75 280.75 145.01 24 7 9 1019.8 43.47 37.50
 36.42 23 33 30 2019.81 24.25 55.75 280.75 145.01 24 7 9 1019.8 43.47 37.50
 36.42 23 33 30 2019.81 24.25 55.75 280.75 145.01 24 7 9 1019.8 43.47 37.50
 36.42 23 33 30 2019.81 24.25 55.75 280.75 145.01 24 7 9 1019.8 43.47 37.50
 36.42 23 33 30 2019.81 24.25 55.75 280.75 145.01 24 7 9 1019.8 43.47 37.50

DIFFERENTIAL CORRECTIONS
 TDE .1092 TRA 2.0463 TC3-2.1295 BAU 1.1336 SGT 4633.7 SGR 3917.7 SG3 777.6 ST 59.6 SR 74.5 SS 64.1
 RDE -1.0963 RRA -1.7197 RC3 1.5492 FAU .12909 RRT -.9639 RRF -.9996 RTF .9564 CRT -.7353 CRS .9991 CST -.7061
 FDE 2.7337 FRA 3.9384 FC3-3.4709 BSP 9248 SGB 6068.0 R23 .1833 R13 -.9830 LSA 108.8 MSA 37.3 SBA .0
 BDE 1.1017 BRA 2.6729 BC3 2.6334 FSP 1282 SG1 6014.4 SG2 804.1 THA 139.96 EL1 89.3 EL2 33.7 ALF 126.52

LAUNCH DATE MAY 5 1971 FLIGHT TIME 240.00 ARRIVAL DATE DEC 31 1971

HELIOCENTRIC CONIC DISTANCE 564.328 EARTH TO MARS
 RL 150.87 LAL .00 LOL 223.87 VL 32.280 GAL -1.92 AZL 80.06 HCA 180.86 SMA 185.01 ECC .18741 INC 9.9403 V1 29.533
 RP 218.69 LAP -.13 LOP 44.72 VP 22.279 GAP 2.58 AZP 99.94 TAL 347.80 TAP 188.67 RCA 150.33 APO 219.68 V2 25.129
 RC 177.690 GL 64.10 GP -52.90 ZAL 104.07 ZAP 78.76 ETS 183.49 ZAE 102.75 ETE 198.21 ZAC 49.43 ETC 273.11 LVI 38.02

PLANETOCENTRIC CONIC
 C3 38.326 VML 6.191 DLA 52.01 RAL 313.90 RAD 6850.1 VEL 12.578 PTH 7.44 VHP 5.698 DPA -73.13 RAP 326.97 ECC 1.6308
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 44.34 7 7 1 4660.77 -20.09 218.59 207.33 40.94 8 24 42 3660.8 -37.67 199.37
 44.34 7 7 1 4660.77 -20.09 218.59 207.33 40.94 8 24 42 3660.8 -37.67 199.37
 44.34 7 7 1 4660.77 -20.09 218.59 207.33 40.94 8 24 42 3660.8 -37.67 199.37
 44.34 7 7 1 4660.77 -20.09 218.59 207.33 40.94 8 24 42 3660.8 -37.67 199.37
 44.34 7 7 1 4660.77 -20.09 218.59 207.33 40.94 8 24 42 3660.8 -37.67 199.37
 44.34 7 7 1 4660.77 -20.09 218.59 207.33 40.94 8 24 42 3660.8 -37.67 199.37
 44.34 7 7 1 4660.77 -20.09 218.59 207.33 40.94 8 24 42 3660.8 -37.67 199.37

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 4.9053 TRA .4350 TC3-1.8759 BAU 1.2186 SGT 5141.2 SGR 4671.2 SG3 341.4 ST 227.2 SR 197.0 SS 80.0
 RDE 4.2157 RRA 1.2120 RC3-1.4619 FAU .05447 RRT .9622 RRF .9985 RTF .9467 CRT .9954 CRS -.9998 CST -.9931
 FDE 3.4657 FRA 1.1536 FC3-1.2304 BSP 12261 SGB 6946.4 R23 .2019 R13 .9793 LSA 310.8 MSA 15.5 S5A .1
 BDE 6.4679 BRA 1.2077 BC3 2.3782 FSP 668 SG1 6881.1 SG2 950.1 THA 42.15 EL1 300.4 EL2 14.3 ALF 40.91

LAUNCH DATE MAY 5 1971 FLIGHT TIME 242.00 ARRIVAL DATE JAN 2 1972

HELIOCENTRIC CONIC DISTANCE 568.671 EARTH TO MARS
 RL 150.87 LAL .00 LOL 223.87 VL 32.286 GAL -1.98 AZL 86.75 HCA 181.98 SMA 185.11 ECC .18807 INC 3.2448 V1 29.533
 RP 219.06 LAP -.11 LOP 45.85 VP 22.242 GAP 2.43 AZP 93.25 TAL 347.43 TAP 169.41 RCA 150.30 APO 219.92 V2 25.089
 RC 180.275 GL 30.59 GP -32.48 ZAL 115.37 ZAP 71.13 ETS 166.45 ZAE 105.50 ETE 190.67 ZAC 69.92 ETC 271.98 LVI 20.27

PLANETOCENTRIC CONIC
 C3 12.933 VML 3.596 DLA 21.77 RAL 332.84 RAD 6639.5 VEL 11.533 PTH 6.58 VHP 3.675 DPA -54.94 RAP 303.88 ECC 1.2128
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 14 33 3477.86 -45.90 126.09 202.01 104.21 14 12 30 2477.9 -35.35 97.19
 60.00 13 27 27 3443.46 -39.76 124.58 203.60 97.19 14 24 51 2443.5 -32.62 95.98
 70.00 13 47 55 3383.21 -34.13 120.24 204.13 91.49 14 44 18 2383.2 -29.96 92.31
 80.00 14 24 13 3269.38 -29.75 111.56 204.08 87.36 15 18 42 2269.4 -27.82 84.30
 90.00 15 30 18 3055.98 -27.98 95.76 203.96 85.74 16 21 14 2056.0 -26.94 68.80
 100.00 17 7 5 2743.85 -29.75 72.93 204.08 87.36 17 52 48 1743.8 -27.82 45.67
 110.00 18 47 21 2430.03 -34.13 49.16 204.13 91.49 19 27 51 1430.0 -29.96 21.23

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.8984 TRA 1.2390 TC3-5.3350 BAU 1.0156 SGT 5328.2 SGR 3059.8 SG3 1049.5 ST 154.7 SR 89.2 SS 110.3
 RDE 1.0645 RRA 1.0684 RC3-2.4585 FAU .14526 RRT .9698 RRF .9998 RTF .9664 CRT .9944 CRS -.9999 CST -.9928
 FDE 4.1270 FRA 4.3384 FC3-9.7236 BSP 9715 SGB 6144.3 R23 .1982 R13 .9801 LSA 209.5 MSA 12.0 S5A .1
 BDE 2.1765 BRA 1.6360 BC3 5.8742 FSP 1788 SG1 6109.7 SG2 651.2 THA 29.48 EL1 178.3 EL2 8.2 ALF 29.90

LAUNCH DATE MAY 5 1971 FLIGHT TIME 244.00 ARRIVAL DATE JAN 4 1972

HELIOCENTRIC CONIC DISTANCE 572.820 EARTH TO MARS
 RL 150.87 LAL .00 LOL 223.87 VL 32.293 GAL -2.05 AZL 88.60 HCA 183.11 SMA 185.22 ECC .18876 INC 1.3926 V1 29.533
 RP 219.43 LAP -.08 LOP 46.98 VP 22.206 GAP 2.27 AZP 91.40 TAL 347.03 TAP 170.14 RCA 150.26 APO 220.18 V2 25.048
 RC 182.871 GL 14.07 GP -22.25 ZAL 119.04 ZAP 67.63 ETS 169.40 ZAE 105.56 ETE 186.99 ZAC 80.16 ETC 271.78 LVI 11.02

PLANETOCENTRIC CONIC
 C3 10.587 VML 3.254 DLA 6.66 RAL 339.78 RAD 6638.3 VEL 11.431 PTH 6.48 VHP 3.322 DPA -45.09 RAP 299.48 ECC 1.1742
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 43 6 3125.77 -35.93 98.46 195.11 123.58 15 35 12 2125.8 -20.03 77.71
 60.00 15 19 33 3039.42 -31.52 93.75 198.18 116.53 16 6 13 2039.4 -18.24 71.54
 70.00 15 59 50 2909.18 -27.57 85.20 200.18 111.01 16 48 19 1909.2 -16.57 62.14
 80.00 17 0 50 2718.10 -24.70 71.81 201.29 107.33 17 46 8 1718.1 -15.33 48.34
 90.00 18 19 5 2465.58 -23.63 53.60 201.84 106.01 19 0 11 1465.6 -14.86 30.00
 100.00 19 43 42 2192.57 -24.70 33.18 201.29 107.33 20 20 15 1192.6 -15.33 9.70
 110.00 20 59 16 1956.00 -27.57 14.11 200.18 111.01 21 31 52 956.0 -16.57 351.06

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.1963 TRA 1.5434 TC3-6.6065 BAU .9776 SGT 5314.3 SGR 2122.8 SG3 1323.5 ST 113.2 SR 49.7 SS 99.2
 RDE .9100 RRA .7933 RC3-2.0158 FAU .17776 RRT .9722 RRF .9997 RTF .5.06 CRT .9976 CRS -.9998 CST -.9934
 FDE 3.5049 FRA 5.8363 FC-14.5363 BSP 9384 SGB 5908.8 R23 .2107 R13 .9773 LSA 158.4 MSA 7.3 S5A .3
 BDE 1.3004 BRA 1.7354 BC3 6.9072 FSP 2258 SG1 5890.4 SG2 465.1 THA 20.65 EL1 123.6 EL2 3.2 ALF 23.64

LAUNCH DATE MAY 5 1971 FLIGHT TIME 246.00 ARRIVAL DATE JAN 6 1972

HELIOCENTRIC CONIC DISTANCE 576.967 EARTH TO MARS
 RL 150.87 LAL .00 LOL 223.87 VL 32.299 GAL -2.12 AZL 89.46 HCA 184.23 SMA 185.34 ECC .18948 INC .5211 V1 29.533
 RP 219.80 LAP -.04 LOP 48.10 VP 22.170 GAP 2.12 AZP 90.54 TAL 346.83 TAP 170.86 RCA 150.22 APO 220.45 V2 25.007
 RC 185.475 GL 5.46 GP -16.67 ZAL 120.37 ZAP 85.42 ETS 171.25 ZAE 104.70 ETE 184.93 ZAC 85.76 ETC 271.71 LVI 5.96

PLANETOCENTRIC CONIC
 C3 10.256 VML 3.203 DLA -1.11 RAL 343.53 RAD 6638.2 VEL 11.417 PTH 6.47 VHP 3.219 DPA -39.66 RAP 297.65 ECC 1.1688
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 26 34 2964.60 -29.39 88.65 195.52 129.26 16 15 58 1964.6 -12.23 70.34
 60.00 16 7 19 2856.20 -25.36 82.17 198.81 122.44 16 54 55 1856.2 -10.56 62.15
 70.00 17 0 51 2698.75 -21.70 71.68 201.08 117.04 17 45 50 1698.7 -9.01 50.93
 80.00 18 10 20 2481.22 -19.04 56.51 202.42 113.44 18 51 41 1481.2 -7.86 34.72
 90.00 19 32 17 2216.79 -18.05 37.51 202.86 112.15 20 9 13 1216.8 -7.43 15.32
 100.00 20 53 12 1955.89 -19.04 17.88 202.42 113.44 21 25 47 .955.7 -7.86 356.09
 110.00 22 0 18 1745.57 -21.70 .60 201.08 117.04 22 29 23 745.6 -9.01 339.45

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .9273 TRA 1.7453 TC3-6.9513 BAU .9756 SGT 5685.9 SGR 1577.4 SG3 1420.0 ST 95.5 SR 33.7 SS 91.7
 RDE .3291 RRA .6112 RC3-1.5180 FAU .18745 RRT .9724 RRF .9993 RTF .9721 CRT .9996 CRS -.9987 CST -.9986
 FDE 3.1193 FRA 6.3231 FC-15.8227 BSP 9550 SGB 5900.6 R23 .2158 R13 .9757 LSA 136.6 MSA 3.5 S5A .8
 BDE .9840 BRA 1.8492 BC3 7.1152 FSP 2462 SG1 5689.9 SG2 355.2 THA 15.15 EL1 101.3 EL2 .9 ALF 19.45

LAUNCH DATE MAY 5 1971 FLIGHT TIME 264.00 ARRIVAL DATE JAN 24 1972

HELIOCENTRIC CONIC DISTANCE 614.099 EARTH TO MARS
 RL 150.87 LAL .00 LOL 223.87 VL 32.370 GAL -2.82 AZL 91.14 HCA 194.18 SMA 186.53 ECC .19718 INC 1.1428 V1 29.533
 RP 223.23 LAP .28 LOP 58.04 VP 21.853 GAP .76 AZP 88.89 TAL 342.73 TAP 176.90 RCA 149.75 APO 223.31 V2 24.633
 RC 209.236 GL -10.80 GP -4.73 ZAL 125.13 ZAP 54.07 ETS 175.71 ZAE 93.44 ETE 180.69 ZAC 97.70 ETC 271.66 LVI -4.98

PLANETOCENTRIC CONIC
 C3 12.300 VHL 3.507 DLA -13.81 RAL 354.80 RAD 8639.2 VEL 11.505 PTH 6.55 VHP 3.329 DPA -27.95 RAP 294.80 ECC 1.2024
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 39 17 2746.99 -19.48 77.44 208.64 134.31 17 45 4 1747.0 -1.37 61.08
 60.00 17 54 18 2600.70 -15.29 68.07 210.46 127.75 18 37 38 1600.7 .60 49.80
 70.00 19 4 4 2395.58 -11.37 54.27 213.29 122.42 19 44 0 1395.6 2.49 34.60
 80.00 20 28 46 2130.49 -8.40 35.93 215.07 118.76 21 4 16 1130.5 3.94 15.38
 90.00 21 57 30 1844.18 -7.26 15.49 215.69 117.41 22 28 14 844.2 4.50 354.64
 100.00 23 11 37 1604.97 -8.40 357.30 215.07 118.76 23 38 22 605.0 3.94 336.75
 110.00 0 7 26 1442.40 -11.37 343.19 213.29 122.42 0 31 29 442.4 2.49 323.52

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .7423 TRA 2.8671 TC3-7.1877 BAU 1.1830 SGT 7082.0 SGR 388.8 SG3 1293.3 ST 94.7 SR 13.1 SS 78.1
 RDE .1562 RRA .1233 RC3 -.2957 FAU .16366 RRT .8555 RRF .8915 RTF .9734 CRT .8047 CRS -.8863 CST -.9878
 FDE 2.4938 FRA 7.0877 FC-11.5189 BSP 12005 SGB 7092.7 R23 .1122 R13 .9736 LSA 122.9 MSA 11.8 SSA 1.0
 BDE .7586 BRA 2.8697 BC3 7.1938 FSP 2335 SG1 7089.8 SG2 201.1 THA 2.69 EL1 95.3 EL2 7.8 ALF 6.41

LAUNCH DATE MAY 5 1971 FLIGHT TIME 266.00 ARRIVAL DATE JAN 26 1972

HELIOCENTRIC CONIC DISTANCE 618.200 EARTH TO MARS
 RL 150.87 LAL .00 LOL 223.87 VL 32.379 GAL -2.91 AZL 91.20 HCA 195.26 SMA 186.68 ECC .19816 INC 1.1949 V1 29.533
 RP 223.62 LAP .31 LOP 59.13 VP 21.818 GAP .61 AZP 88.85 TAL 342.27 TAP 177.53 RCA 149.69 APO 223.67 V2 24.592
 RC 211.896 GL -10.97 GP -4.35 ZAL 125.65 ZAP 53.09 ETS 175.87 ZAE 92.26 ETE 180.57 ZAC 98.07 ETC 271.70 LVI -5.37

PLANETOCENTRIC CONIC
 C3 12.568 VHL 3.545 DLA -13.92 RAL 355.50 RAD 8639.3 VEL 11.517 PTH 6.56 VHP 3.358 DPA -27.56 RAP 294.87 ECC 1.2068
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 2 29 2749.50 -19.60 77.56 207.58 134.27 17 48 19 1749.5 -1.50 61.19
 60.00 17 57 37 2602.88 -15.39 68.19 211.42 127.72 18 41 0 1602.9 .51 49.91
 70.00 19 7 33 2397.31 -11.44 54.36 214.27 122.40 19 47 30 1397.3 2.42 34.69
 80.00 20 32 23 2131.76 -8.45 36.00 216.06 118.74 21 7 55 1131.8 3.89 15.45
 90.00 22 1 12 1845.22 -7.29 15.55 216.68 117.40 22 31 57 845.2 4.47 354.70
 100.00 23 15 15 1606.23 -8.45 357.37 216.06 118.74 23 42 1 606.2 3.89 336.82
 110.00 0 10 55 1444.13 -11.44 343.28 214.27 122.40 0 34 59 444.1 2.42 323.61

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .7700 TRA 2.9829 TC3-7.1894 BAU 1.2088 SGT 7225.0 SGR 360.7 SG3 1265.7 ST 97.4 SR 13.1 SS 77.7
 RDE .1589 RRA .1031 RC3 -.2626 FAU .15958 RRT .8139 RRF .8514 RTF .9732 CRT .7785 CRS -.8675 CST -.9872
 FDE 2.4919 FRA 7.0464 FC-10.9925 BSP 12271 SGB 7234.0 R23 .1009 R13 .9734 LSA 124.6 MSA 12.3 SSA 1.0
 BDE .7862 BRA 2.9847 BC3 7.1942 FSP 2290 SG1 7231.0 SG2 209.4 THA 2.33 EL1 97.9 EL2 8.2 ALF 6.02

LAUNCH DATE MAY 5 1971 FLIGHT TIME 268.00 ARRIVAL DATE JAN 28 1972

HELIOCENTRIC CONIC DISTANCE 622.295 EARTH TO MARS
 RL 150.87 LAL .00 LOL 223.87 VL 32.388 GAL -2.99 AZL 91.24 HCA 196.34 SMA 186.83 ECC .19916 INC 1.2400 V1 29.533
 RP 224.01 LAP .35 LOP 60.21 VP 21.784 GAP .46 AZP 88.81 TAL 341.81 TAP 178.16 RCA 149.62 APO 224.04 V2 24.550
 RC 214.558 GL -11.27 GP -4.03 ZAL 126.19 ZAP 52.14 ETS 176.01 ZAE 91.10 ETE 180.48 ZAC 98.39 ETC 271.74 LVI -5.73

PLANETOCENTRIC CONIC
 C3 12.842 VHL 3.584 DLA -13.95 RAL 356.17 RAD 8639.5 VEL 11.529 PTH 6.58 VHP 3.387 DPA -27.22 RAP 294.98 ECC 1.2113
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 9 18 2753.35 -19.78 77.74 208.48 134.20 17 51 12 1753.4 -1.69 61.35
 60.00 18 0 29 2606.80 -15.54 68.38 212.34 127.66 18 43 56 1606.6 .34 50.09
 70.00 19 10 28 2400.88 -11.57 54.56 215.21 122.36 19 50 29 1400.9 2.29 34.88
 80.00 20 35 21 2135.16 -8.56 36.19 217.01 118.71 21 10 57 1135.2 3.78 15.64
 90.00 22 4 12 1848.54 -7.40 15.74 217.63 117.37 22 35 1 848.5 4.36 354.88
 100.00 23 18 13 1609.63 -8.56 357.56 217.01 118.71 23 45 3 609.6 3.78 337.01
 110.00 0 13 90 1447.70 -11.57 343.48 215.21 122.36 0 37 58 447.7 2.29 323.80

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .8002 TRA 3.0999 TC3-7.1873 BAU 1.2348 SGT 7365.7 SGR 339.7 SG3 1238.3 ST 100.1 SR 13.2 SS 77.3
 RDE .1625 RRA .0849 RC3 -.2348 FAU .15544 RRT .7648 RRF .8037 RTF .5330 CRT .7542 CRS -.8496 CST -.9867
 FDE 2.4911 FRA 7.0036 FC-10.4792 BSP 12529 SGB 7373.5 R23 .0914 R13 .9731 LSA 126.5 MSA 12.7 SSA 1.0
 BDE .8165 BRA 3.1011 BC3 7.1912 FSP 2246 SG1 7370.3 SG2 218.7 THA 2.02 EL1 100.6 EL2 8.6 ALF 5.70

LAUNCH DATE MAY 5 1971 FLIGHT TIME 270.00 ARRIVAL DATE JAN 30 1972

HELIOCENTRIC CONIC DISTANCE 626.385 EARTH TO MARS
 RL 150.87 LAL .00 LOL 223.87 VL 32.397 GAL -3.08 AZL 91.28 HCA 197.42 SMA 186.98 ECC .20018 INC 1.2792 V1 29.533
 RP 224.40 LAP .38 LOP 61.29 VP 21.750 GAP .31 AZP 88.78 TAL 341.35 TAP 178.77 RCA 149.55 APO 224.41 V2 24.508
 RC 217.222 GL -11.51 GP -3.75 ZAL 126.72 ZAP 51.22 ETS 176.14 ZAE 89.96 ETE 180.39 ZAC 98.66 ETC 271.78 LVI -6.05

PLANETOCENTRIC CONIC
 C3 13.120 VHL 3.622 DLA -13.94 RAL 356.81 RAD 8639.6 VEL 11.541 PTH 6.59 VHP 3.417 DPA -26.91 RAP 295.12 ECC 1.2159
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 7 49 2758.29 -20.02 77.97 209.37 134.11 17 53 47 1758.3 -1.94 61.55
 60.00 18 2 58 2611.59 -15.75 68.64 213.25 127.59 18 46 30 1611.6 .12 50.32
 70.00 19 12 56 2405.94 -11.75 54.83 216.12 122.30 19 53 2 1405.9 2.09 35.14
 80.00 20 37 48 2140.28 -8.73 36.48 217.93 118.67 21 13 28 1140.3 3.61 15.92
 90.00 22 6 38 1853.70 -7.56 16.03 218.56 117.33 22 37 32 853.7 4.20 355.17
 100.00 23 20 40 1614.75 -8.72 357.85 217.93 118.67 23 47 35 614.8 3.61 337.29
 110.00 0 16 18 1452.75 -11.75 343.75 216.12 122.30 0 40 31 452.8 2.09 324.06

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .8324 TRA 3.2171 TC3-7.1839 BAU 1.2606 SGT 7504.0 SGR 324.7 SG3 1210.9 ST 102.9 SR 13.3 SS 76.9
 RDE .1667 RRA .0683 RC3 -.2115 FAU .15135 RRT .7094 RRF .7494 RTF .9726 CRT .7322 CRS -.8330 CST -.9864
 FDE 2.4911 FRA 6.9570 FC3-9.9868 BSP 12779 SGB 7511.0 R23 .0834 R13 .9727 LSA 128.4 MSA 13.2 SSA 1.0
 BDE .8489 BRA 3.2178 BC3 7.1870 FSP 2202 SG1 7507.5 SG2 228.7 THA 1.76 EL1 103.3 EL2 9.0 ALF 5.45

LAUNCH DATE MAY 8 1971 FLIGHT TIME 272.00 ARRIVAL DATE FEB 1 1972

Heliocentric Conic: RL 190.87 LAL .00 LOL 223.87 VL 32.406 GAL -3.17 AZL 91.31 HCA 199.90 SMA 187.13 ECC .20123 INC 1.3143 V1 29.933
 RP 224.79 LAP .42 LOP 62.36 VP 21.717 GAP .16 AZP 88.75 TAL 340.88 TAP 179.38 RCA 149.48 APO 224.79 V2 24.466
 RC 219.886 GL -11.70 GP -3.50 ZAL 127.26 ZAP 50.34 ETS 176.26 ZAE 88.85 ETE 180.32 ZAC 98.90 ETC 271.83 LVI -6.36

Planetary Conic: C3 13.404 VHL 3.861 DLA -13.88 RAL 357.43 RAD 6639.0 VEL 11.583 PTH 6.60 VHP 3.448 DPA -26.64 RAP 295.30 ECC 1.2208
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 10 4 2764.12 -20.29 78.23 210.24 134.01 17 56 8 1764.1 -2.23 61.80
 60.00 18 5 9 2617.61 -16.00 68.95 214.13 127.50 18 48 47 1617.6 -1.14 50.61
 70.00 19 18 1 2412.21 -11.98 55.18 217.01 122.23 19 55 13 1412.2 1.85 35.47
 80.00 20 39 48 2146.82 -8.94 36.85 216.83 118.61 21 15 35 1146.8 3.30 16.20
 90.00 22 8 36 1860.36 -7.77 16.41 219.46 117.28 22 39 36 860.4 3.98 355.55
 100.00 23 22 40 1621.29 -8.94 358.21 218.83 118.61 23 49 41 621.3 3.30 337.65
 110.00 0 18 23 1459.03 -11.98 344.09 217.01 122.23 0 42 42 459.0 1.85 324.39

Differential Corrections: TDE .8687 TRA 3.3375 TC3-7.1735 BAU 1.2860 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE .1716 RRA .0531 RC3 -.1917 FAU .14722 SGT 7640.7 SGR 314.9 SG3 1184.0 ST 105.8 SR 13.5 SS 76.6
 FDE 2.4947 FRA 6.9037 FC3-9.5086 BSP 13043 RRT .6495 RRF .6903 RTF .9723 CRT .7132 CRS -.8180 CST -.9862
 BDE .8655 BRA 3.3377 BC3 7.1760 FSP 2159 SGB 7647.1 R23 .0766 R13 .9723 LSA 130.6 MSA 13.5 S3A 1.0
 EL1 106.2 EL2 9.4 ALF 5.24

LAUNCH DATE MAY 5 1971 FLIGHT TIME 274.00 ARRIVAL DATE FEB 3 1972

Heliocentric Conic: RL 190.87 LAL .00 LOL 223.87 VL 32.415 GAL -3.26 AZL 91.35 HCA 199.57 SMA 187.29 ECC .20229 INC 1.3453 V1 29.933
 RP 225.18 LAP .45 LOP 63.43 VP 21.683 GAP .00 AZP 88.73 TAL 340.42 TAP 179.98 RCA 149.40 APO 225.18 V2 24.424
 RC 222.551 GL -11.85 GP -3.28 ZAL 127.80 ZAP 49.48 ETS 176.36 ZAE 87.76 ETE 180.26 ZAC 99.11 ETC 271.89 LVI -6.65

Planetary Conic: C3 13.695 VHL 3.701 DLA -13.79 RAL 358.03 RAD 6639.9 VEL 11.565 PTH 6.61 VHP 3.479 DPA -26.39 RAP 295.90 ECC 1.2254
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 12 5 2770.69 -20.61 78.57 211.09 133.89 17 58 16 1770.7 -2.56 62.07
 60.00 18 7 4 2624.49 -16.28 69.31 215.00 127.39 18 50 48 1624.5 -.45 50.94
 70.00 19 16 48 2419.49 -12.24 55.58 217.89 122.14 19 57 7 1419.5 1.58 35.85
 80.00 20 41 27 2154.53 -9.19 37.28 219.71 118.53 21 17 21 1154.5 3.13 16.70
 90.00 22 10 11 1868.28 -8.01 16.86 220.34 117.21 22 41 19 868.3 3.73 355.99
 100.00 23 24 19 1629.00 -9.19 358.65 219.71 118.53 23 51 28 629.0 3.13 338.07
 110.00 0 20 10 1466.31 -12.24 344.49 217.89 122.14 0 44 36 466.3 1.58 324.77

Differential Corrections: TDE .9056 TRA 3.4575 TC3-7.1620 BAU 1.3117 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE .1770 RRA .0389 RC3 -.1748 FAU .14311 SGT 7774.7 SGR 309.3 SG3 1157.1 ST 108.7 SR 13.7 SS 76.3
 FDE 2.4971 FRA 6.8597 FC3-9.0468 BSP 13296 RRT .5872 RRF .6286 RTF .9718 CRT .6960 CRS -.8044 CST -.9861
 BDE .9228 BRA 3.4578 BC3 7.1641 FSP 2117 SGB 7780.9 R23 .0709 R13 .9719 LSA 132.8 MSA 13.9 S3A 1.1
 EL1 109.1 EL2 9.6 ALF 5.07

LAUNCH DATE MAY 5 1971 FLIGHT TIME 276.00 ARRIVAL DATE FEB 5 1972

Heliocentric Conic: RL 190.87 LAL .00 LOL 223.87 VL 32.424 GAL -3.35 AZL 91.37 HCA 200.64 SMA 187.45 ECC .20338 INC 1.3732 V1 29.933
 RP 225.57 LAP .48 LOP 64.50 VP 21.650 GAP -.15 AZP 88.71 TAL 339.95 TAP 180.58 RCA 149.32 APO 225.57 V2 24.382
 RC 225.217 GL -11.97 GP -3.09 ZAL 128.34 ZAP 48.65 ETS 176.46 ZAE 86.69 ETE 180.21 ZAC 99.29 ETC 271.95 LVI -6.92

Planetary Conic: C3 13.992 VHL 3.741 DLA -13.66 RAL 358.62 RAD 6640.0 VEL 11.578 PTH 6.62 VHP 3.510 DPA -26.15 RAP 295.74 ECC 1.2303
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 13 57 2777.88 -20.94 78.92 211.93 133.75 18 0 14 1777.9 -2.92 62.37
 60.00 18 8 46 2632.09 -16.60 69.70 215.85 127.27 18 52 38 1632.1 -.78 51.30
 70.00 19 18 19 2427.62 -12.54 56.02 218.75 122.03 19 58 47 1427.6 1.27 36.28
 80.00 20 42 47 2163.21 -9.47 37.77 220.57 118.45 21 18 51 1163.2 2.83 17.18
 90.00 22 11 26 1877.22 -8.29 17.37 221.20 117.13 22 42 43 877.2 3.44 356.49
 100.00 23 25 39 1637.68 -9.47 359.14 220.57 118.45 23 52 57 637.7 2.83 338.55
 110.00 0 21 41 1474.43 -12.54 344.94 218.75 122.03 0 46 18 474.4 1.27 325.19

Differential Corrections: TDE .9443 TRA 3.5784 TC3-7.1494 BAU 1.3377 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE .1827 RRA .0256 RC3 -.1807 FAU .13927 SGT 7906.8 SGR 307.2 SG3 1130.6 ST 111.6 SR 14.0 SS 75.8
 FDE 2.4973 FRA 6.8041 FC3-8.6167 BSP 13533 RRT .8250 RRF .8667 RTF .5.15 CRT .6811 CRS -.7922 CST -.9860
 BDE .9618 BRA 3.5785 BC3 7.1512 FSP 2070 SGB 7912.8 R23 .0659 R13 .9715 LSA 134.9 MSA 14.2 S3A 1.1
 EL1 119.0 EL2 10.2 ALF 4.93

LAUNCH DATE MAY 5 1971 FLIGHT TIME 278.00 ARRIVAL DATE FEB 7 1972

Heliocentric Conic: RL 190.87 LAL .00 LOL 223.87 VL 32.433 GAL -3.44 AZL 91.40 HCA 201.70 SMA 187.61 ECC .20449 INC 1.3983 V1 29.933
 RP 225.96 LAP .52 LOP 65.56 VP 21.617 GAP -.30 AZP 88.70 TAL 339.47 TAP 181.17 RCA 149.24 APO 225.97 V2 24.340
 RC 227.883 GL -12.06 GP -2.91 ZAL 128.88 ZAP 47.85 ETS 176.55 ZAE 85.65 ETE 180.17 ZAC 99.45 ETC 272.02 LVI -7.18

Planetary Conic: C3 14.297 VHL 3.781 DLA -13.52 RAL 359.19 RAD 6640.2 VEL 11.591 PTH 6.63 VHP 3.541 DPA -25.94 RAP 296.00 ECC 1.2353
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 15 38 2785.61 -21.31 79.29 212.76 133.61 18 2 4 1785.6 -3.31 62.70
 60.00 18 10 17 2640.30 -16.93 70.14 216.70 127.13 18 54 17 1640.3 -1.14 51.70
 70.00 19 18 37 2436.45 -12.85 56.51 219.60 121.92 20 0 14 1436.5 .93 36.74
 80.00 20 43 53 2172.71 -9.78 38.31 221.42 118.35 21 20 5 1172.7 2.51 17.70
 90.00 22 12 26 1887.04 -8.60 17.93 222.05 117.05 22 43 53 887.0 3.13 357.04
 100.00 23 26 45 1647.18 -9.78 359.68 221.42 118.35 23 54 12 647.2 2.51 339.07
 110.00 0 22 59 1483.27 -12.85 345.43 219.60 121.92 0 47 43 483.3 .93 325.65

Differential Corrections: TDE .9841 TRA 3.7009 TC3-7.1336 BAU 1.3638 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE .1889 RRA .0132 RC3 -.1485 FAU .13538 SGT 8037.0 SGR 308.1 SG3 1104.5 ST 114.5 SR 14.3 SS 75.4
 FDE 2.4978 FRA 6.7496 FC3-8.1979 BSP 13762 RRT .4847 RRF .5065 RTF .9710 CRT .6681 CRS -.7815 CST -.9860
 BDE 1.0021 BRA 3.7010 BC3 7.1352 FSP 2025 SGB 8042.9 R23 .0818 R13 .9710 LSA 137.1 MSA 14.6 S3A 1.1
 EL1 114.9 EL2 10.6 ALF 4.82

LAUNCH DATE MAY 5 1971

FLIGHT TIME 280.00

ARRIVAL DATE FEB 9 1972

HELIOCENTRIC CONIC										DISTANCE 646.748										EARTH TO MARS															
RL	130.87	LAL	.00	LOL	223.87	VL	32.443	GAL	-3.34	AZL	91.42	HCA	202.76	SMA	187.77	ECC	.20562	INC	1.4213	V1	29.533														
RP	226.35	LAP	.55	LOP	66.62	VP	21.584	GAP	-.45	AZP	88.69	TAL	338.99	TAP	181.75	RCA	149.16	APO	226.38	V2	24.299														
RC	230.548	GL	-12.13	GP	-2.75	ZAL	129.42	ZAP	47.07	ETS	176.63	ZAE	84.62	ETE	180.13	ZAC	99.60	ETC	272.09	LVI	-7.43														
PLANETOCENTRIC CONIC																																			
C3	14.609	VHL	3.822	DLA	-13.35	RAL	359.75	RAD	6640.3	VEL	11.604	PTH	6.65	VHP	3.573	DPA	-25.74	RAP	296.29	ECC	1.2404														
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG										
50.00	17	17	12	2793.79	-21.89	79.69	213.59	133.45	18	3	46	1793.8	-3.72	63.04																					
60.00	18	11	38	2649.02	-17.29	70.60	217.53	126.99	18	59	47	1649.0	-1.53	52.11																					
70.00	19	20	44	2445.89	-13.19	57.03	220.44	121.79	20	1	30	1445.9	.57	37.23																					
80.00	20	44	45	2182.90	-10.11	38.89	222.26	118.24	21	21	8	1182.9	2.17	18.26																					
90.00	22	13	12	1897.59	-8.92	18.54	222.89	116.95	22	44	49	897.6	2.79	357.63																					
100.00	23	27	37	1657.37	-10.11	.25	222.26	118.24	23	55	15	857.4	2.17	339.63																					
110.00	0	24	6	1492.71	-13.19	345.95	220.44	121.79	0	48	59	492.7	.57	326.19																					
DIFFERENTIAL CORRECTIONS										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY															
TDE	1.0276	TRA	3.8263	TC3	-7.1095	BAU	1.3888	8GT	8164.7	8GR	311.3	8G3	1078.6	8T	117.6	8R	14.6	88	75.1																
RDE	.1984	RRA	.0014	RC3	-.1379	FAU	.13136	RRT	.4077	RRF	.4495	RTP	.9705	CRT	.6575	CR8	-.7724	CST	-.0061																
PDE	2.5008	FRA	8.6943	FC3	-7.7847	B8P	14018	8GB	8170.6	R23	.0584	R13	.9705	L8A	139.5	M8A	14.9	88A	1.1																
BDE	1.0460	BRA	3.8263	BC3	7.1108	F8P	1984	8G1	8165.7	8G2	284.3	THA	.89	EL1	117.9	EL2	11.0	ALP	4.73																

LAUNCH DATE MAY 6 1971

FLIGHT TIME 102.00

ARRIVAL DATE AUG 16 1971

Heliocentric Conic
 RL 150.91 LAL .00 LOL 224.84 VL 35.270 GAL -2.82 AZL 91.86 HCA 95.76 SMA 258.01 ECC .41753 INC 1.8587 V1 29.526
 RP 207.27 LAP -1.85 LOP 320.60 VP 27.681 GAP 22.06 AZP 89.81 TAL 350.42 TAP 86.18 RCA 150.29 APO 365.74 V2 26.426
 RC 56.362 GL -10.63 GP .34 ZAL 110.36 ZAP 175.99 ETS 175.05 ZAE 174.58 ETE 78.25 ZAC 100.56 ETC 277.47 LVI -17.95

Planetocentric Conic
 C3 38.374 VHL 6.195 DLA -19.33 RAL 341.49 RAD 6650.1 VEL 12.580 PTH 7.44 VHP 11.008 DPA -17.30 RAP 319.54 ECC 1.6315
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 25 4 2904.14 -26.74 85.33 207.81 130.94 17 13 28 1904.1 -9.24 67.72
 60.00 17 27 31 2738.05 -20.87 75.40 212.64 125.29 18 13 9 1738.0 -5.43 56.38
 70.00 18 46 29 2503.89 -15.32 60.38 216.44 120.90 19 28 15 1505.9 -1.72 40.36
 80.00 20 20 50 2210.62 -11.00 40.46 218.94 117.93 20 57 41 1210.6 1.23 19.79
 90.00 21 54 20 1909.00 -9.27 19.19 219.85 116.84 22 26 9 909.0 2.42 358.27
 100.00 23 3 42 1685.10 -11.00 1.83 218.94 117.93 23 31 47 685.1 1.23 341.16
 110.00 23 45 56 1552.71 -15.32 349.29 216.44 120.90 24 11 48 552.7 -1.72 329.28

Differential Corrections
 TDE -.4724 TRA -1.0376 TC3 -.0085 BAU .0400
 RDE -.5762 RRA .2266 RC3 .0774 FAU .03381
 FDE .2158 FRA .8699 FC3 -.7627 BSP 1638
 BDE .7451 BRA 1.0621 BC3 .0779 FSP 137

Mid-course Execution Accuracy
 SGT 1107.0 SGR 585.3 SG3 111.3
 RRT .0092 RRF -.0102 RTF -.6622
 SGB 1252.2 R23 -.0017 R13 -.6622
 SG1 1107.0 SG2 585.2 THA .39

Orbit Determination Accuracy
 ST 26.6 SR 26.9 SS 15.5
 CRT .7425 CRS .5111 CST .9521
 LSA 37.5 MSA 16.3 SSA 1.1
 EL1 35.3 EL2 13.6 ALF 45.30

LAUNCH DATE MAY 6 1971

FLIGHT TIME 104.00

ARRIVAL DATE AUG 18 1971

Heliocentric Conic
 RL 150.91 LAL .00 LOL 224.84 VL 35.086 GAL -2.72 AZL 91.86 HCA 97.03 SMA 251.42 ECC .40215 INC 1.8620 V1 29.526
 RP 207.18 LAP -1.85 LOP 321.87 VP 27.447 GAP 21.55 AZP 89.77 TAL 350.51 TAP 87.53 RCA 150.31 APO 352.54 V2 26.438
 RC 56.568 GL -10.95 GP .35 ZAL 110.35 ZAP 175.12 ETS 175.82 ZAE 174.35 ETE 69.37 ZAC 100.52 ETC 277.55 LVI -18.07

Planetocentric Conic
 C3 35.957 VHL 5.996 DLA -19.62 RAL 341.63 RAD 6649.2 VEL 12.484 PTH 7.37 VHP 10.656 DPA -17.17 RAP 319.92 ECC 1.5918
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 26 52 2881.65 -25.73 84.14 206.77 131.51 17 14 53 1881.6 -8.12 66.75
 60.00 17 29 45 2714.42 -19.93 74.10 211.80 125.78 18 14 59 1714.4 -4.40 55.24
 70.00 18 49 16 2480.63 -14.43 58.96 215.61 121.30 19 30 37 1480.6 -0.76 39.04
 80.00 20 24 14 2183.41 -10.12 38.91 218.13 118.24 21 0 38 1183.4 2.15 18.29
 90.00 21 58 4 1880.72 -8.40 17.57 219.05 117.10 22 29 25 880.7 3.33 356.69
 100.00 23 7 6 1657.88 -10.12 .28 218.13 118.24 23 34 44 657.9 2.15 339.66
 110.00 23 48 43 1527.45 -14.43 347.88 215.61 121.30 24 14 10 527.4 -0.76 327.96

Differential Corrections
 TDE -.4670 TRA -1.0280 TC3 .0026 BAU .0400
 RDE -.5586 RRA .2191 RC3 .0832 FAU .03491
 FDE .2210 FRA .9047 FC3 -.8405 BSP 1691
 BDE .7281 BRA 1.0510 BC3 .0832 FSP 149

Mid-course Execution Accuracy
 SGT 1134.2 SGR 586.7 SG3 119.2
 RRT .0102 RRF -.0115 RTF -.6738
 SGB 1277.0 R23 -.0021 R13 -.6739
 SG1 1134.2 SG2 586.6 THA .41

Orbit Determination Accuracy
 ST 27.2 SR 26.9 SS 16.0
 CRT .7414 CRS .5041 CST .9502
 LSA 38.0 MSA 16.6 SSA 1.1
 EL1 35.7 EL2 13.8 ALF 44.49

LAUNCH DATE MAY 6 1971

FLIGHT TIME 106.00

ARRIVAL DATE AUG 20 1971

Heliocentric Conic
 RL 150.91 LAL .00 LOL 224.84 VL 34.906 GAL -2.62 AZL 91.87 HCA 98.29 SMA 245.54 ECC .38771 INC 1.8652 V1 29.526
 RP 207.09 LAP -1.85 LOP 323.13 VP 27.226 GAP 21.05 AZP 89.73 TAL 350.61 TAP 88.90 RCA 150.34 APO 340.74 V2 26.448
 RC 56.856 GL -11.27 GP .36 ZAL 110.31 ZAP 174.24 ETS 176.35 ZAE 174.02 ETE 61.56 ZAC 100.48 ETC 277.63 LVI -18.19

Planetocentric Conic
 C3 33.741 VHL 5.809 DLA -19.92 RAL 341.75 RAD 6648.4 VEL 12.396 PTH 7.31 VHP 10.315 DPA -17.05 RAP 320.29 ECC 1.5553
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 28 38 2899.25 -24.72 82.98 205.96 132.04 17 16 18 1859.2 -7.00 65.80
 60.00 17 31 58 2690.82 -18.99 72.82 210.98 126.24 18 16 49 1690.8 -3.36 54.11
 70.00 18 52 6 2455.29 -13.53 57.55 214.80 121.66 19 33 1 1455.3 .21 37.72
 80.00 20 27 44 2155.97 -9.24 37.36 217.34 118.32 21 3 40 1156.0 3.08 16.78
 90.00 22 1 55 1852.13 -7.51 15.94 218.27 117.34 22 32 48 852.1 4.25 355.08
 100.00 23 10 36 1630.44 -9.24 358.73 217.34 118.52 23 37 46 630.4 3.08 338.15
 110.00 23 51 32 1502.11 -13.53 346.47 214.80 121.66 24 16 34 502.1 .21 326.64

Differential Corrections
 TDE -.4622 TRA -1.0180 TC3 .0153 BAU .0408
 RDE -.3415 RRA .2117 RC3 .0891 FAU .03607
 FDE .2262 FRA .9412 FC3 -.9254 BSP 1745
 BDE .7120 BRA 1.0397 BC3 .0904 FSP 162

Mid-course Execution Accuracy
 SGT 1161.4 SGR 587.7 SG3 127.6
 RRT .0120 RRF -.0128 RTF -.6554
 SGB 1301.6 R23 -.0018 R13 -.6854
 SG1 1161.4 SG2 587.6 THA .47

Orbit Determination Accuracy
 ST 27.9 SR 26.9 SS 16.6
 CRT .7407 CRS .4987 CST .9480
 LSA 38.6 MSA 16.9 SSA 1.1
 EL1 36.1 EL2 13.9 ALF 43.66

LAUNCH DATE MAY 6 1971

FLIGHT TIME 108.00

ARRIVAL DATE AUG 22 1971

Heliocentric Conic
 RL 150.91 LAL .00 LOL 224.84 VL 34.735 GAL -2.52 AZL 91.87 HCA 99.56 SMA 240.27 ECC .37415 INC 1.8685 V1 29.528
 RP 207.01 LAP -1.84 LOP 324.40 VP 27.016 GAP 20.55 AZP 89.69 TAL 350.72 TAP 90.28 RCA 150.37 APO 330.16 V2 26.457
 RC 57.225 GL -11.59 GP .37 ZAL 110.25 ZAP 173.34 ETS 176.75 ZAE 173.63 ETE 54.89 ZAC 100.44 ETC 277.71 LVI -18.30

Planetocentric Conic
 C3 31.709 VHL 5.631 DLA -20.23 RAL 341.84 RAD 6647.7 VEL 12.314 PTH 7.25 VHP 9.987 DPA -16.92 RAP 320.66 ECC 1.5219
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 30 24 2836.98 -23.70 81.84 205.17 132.55 17 17 41 1837.0 -5.89 64.86
 60.00 17 34 13 2667.28 -18.04 71.56 210.18 126.67 18 18 40 1667.3 -2.33 52.99
 70.00 18 54 58 2429.91 -12.62 56.15 214.02 122.00 19 35 27 1429.9 1.18 36.40
 80.00 20 31 19 2128.33 -8.33 35.81 216.57 118.77 21 6 47 1128.3 4.01 15.26
 90.00 22 5 54 1823.24 -6.60 14.31 217.51 117.56 22 36 17 823.2 5.17 353.46
 100.00 23 14 11 1602.80 -8.33 357.17 216.57 118.77 23 40 54 602.8 4.01 336.63
 110.00 23 54 24 1476.73 -12.62 345.07 214.02 122.00 24 19 1 476.7 1.18 325.31

Differential Corrections
 TDE -.4565 TRA -1.0075 TC3 .0320 BAU .0426
 RDE -.5250 RRA .2045 RC3 .0953 FAU .03733
 FDE .2309 FRA .9789 FC3 -1.0191 BSP 1841
 BDE .6957 BRA 1.0281 BC3 .1006 FSP 176

Mid-course Execution Accuracy
 SGT 1187.7 SGR 588.2 SG3 136.6
 RRT .0139 RRF -.0143 RTF -.6978
 SGB 1325.4 R23 -.0015 R13 -.6978
 SG1 1187.8 SG2 588.2 THA .52

Orbit Determination Accuracy
 ST 28.4 SR 26.9 SS 17.1
 CRT .7395 CRS .4883 CST .9456
 LSA 39.1 MSA 17.1 SSA 1.1
 EL1 36.5 EL2 14.1 ALF 42.89

LAUNCH DATE MAY 6 1971 FLIGHT TIME 110.00 ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC DISTANCE 307.921 EARTH TO MARS
RL 150.91 LAL .00 LOL 224.84 VL 34.375 GAL -2.42 AZL 91.87 HCA 100.82 SMA 235.52 ECC .36141 INC 1.8718 V1 29.526
RP 206.94 LAP -1.84 LOP 323.66 VP 26.817 GAP 20.06 AZP 89.65 TAL 350.85 TAP 91.67 RCA 150.40 APO 320.63 V2 26.466
RC 57.675 GL -11.92 GP .39 ZAL 110.17 ZAP 172.43 ETS 177.06 ZAE 173.20 ETE 49.29 ZAC 100.40 ETC 277.78 LVI -18.41

PLANETOCENTRIC CONIC
C3 29.844 VHL 5.463 DLA -20.56 RAL 341.92 RAD 6646.9 VEL 12.238 PTH 7.19 VHP 9.670 DPA -16.80 RAP 321.01 ECC 1.4912
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 32 9 2014.89 -22.67 80.74 204.41 133.02 17 19 3 1814.9 -4.78 63.93
60.00 17 36 27 2643.85 -17.08 70.32 209.40 127.07 18 20 31 1643.8 -1.30 51.86
70.00 18 57 52 2404.52 -11.70 54.76 213.25 122.32 19 37 57 1404.5 2.15 35.07
80.00 20 35 0 2100.52 -7.42 34.25 215.82 119.00 21 10 1 1100.5 4.94 13.73
90.00 22 10 0 1794.05 -5.68 12.66 216.77 117.75 22 39 54 794.1 6.09 351.82
100.00 23 17 52 1574.99 -7.42 355.62 215.82 119.00 23 44 7 575.0 4.94 335.09
110.00 0 1 14 1451.34 -11.70 343.67 213.25 122.32 0 25 26 451.3 2.15 323.99

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4507 TRA -.9987 TC3 .0440 BAU .0442 SGT 1215.3 SGR 588.4 SG3 146.2 ST 29.0 SR 26.9 SS 17.7
RDE -.5089 RRA .1974 RC3 .1018 FAU .03864 RRT .0144 RRF -.0155 RTF -.7061 CRT .7378 CRS .4787 CST .9430
FDE .2351 FRA 1.0188 FC3-1.1209 BSP 1866 SGB 1350.3 R23 -.0023 R13 -.7061 LSA 39.6 MSA 14.7 SSA 1.2
BDE .6798 BRA 1.0180 BC3 .1109 FSP 190 SG1 1215.4 SG2 588.3 THA .52 EL1 36.9 EL2 14.3 ALF 42.10

LAUNCH DATE MAY 6 1971 FLIGHT TIME 112.00 ARRIVAL DATE AUG 26 1971

HELIOCENTRIC CONIC DISTANCE 310.646 EARTH TO MARS
RL 150.91 LAL .00 LOL 224.84 VL 34.423 GAL -2.33 AZL 91.88 HCA 102.09 SMA 231.22 ECC .34944 INC 1.8752 V1 29.526
RP 206.87 LAP -1.83 LOP 326.93 VP 26.629 GAP 19.58 AZP 89.61 TAL 350.99 TAP 93.08 RCA 150.42 APO 312.02 V2 26.473
RC 58.203 GL -12.25 GP .40 ZAL 110.06 ZAP 171.51 ETS 177.31 ZAE 172.75 ETE 44.62 ZAC 100.37 ETC 277.85 LVI -18.52

PLANETOCENTRIC CONIC
C3 28.132 VHL 5.304 DLA -20.89 RAL 341.98 RAD 6646.3 VEL 12.169 PTH 7.13 VHP 9.364 DPA -16.68 RAP 321.34 ECC 1.4630
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 33 52 2792.99 -21.65 79.65 203.67 133.46 17 20 25 1793.0 -3.68 63.01
60.00 17 38 43 2620.55 -16.12 69.10 208.65 127.45 18 22 23 1620.5 -2.27 50.75
70.00 19 0 50 2379.15 -10.77 53.38 212.50 122.61 19 40 29 1379.2 3.12 33.74
80.00 20 38 47 2072.56 -6.49 32.69 215.09 119.21 21 13 20 1072.6 5.88 12.18
90.00 22 14 15 1764.64 -4.75 11.00 216.05 117.91 22 43 40 764.6 7.02 350.15
100.00 23 21 39 1547.03 -6.49 354.06 215.09 119.21 23 47 26 547.0 5.88 333.54
110.00 0 4 12 1425.97 -10.77 342.30 212.50 122.61 0 27 58 426.0 3.12 322.66

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4447 TRA -.9890 TC3 .0617 BAU .0469 SGT 1242.0 SGR 588.1 SG3 156.4 ST 29.5 SR 26.9 SS 18.3
RDE -.4934 RRA .1906 RC3 .1084 FAU .04006 RRT .0159 RRF -.0173 RTF -.7164 CRT .7361 CRS .4695 CST .9404
FDE .2396 FRA 1.0597 FC3-1.2328 BSP 1918 SGB 1374.2 R23 -.0026 R13 -.7164 LSA 40.1 MSA 14.7 SSA 1.2
BDE .6642 BRA 1.0072 BC3 .1247 FSP 207 SG1 1242.1 SG2 588.0 THA .56 EL1 37.2 EL2 14.4 ALF 41.34

LAUNCH DATE MAY 6 1971 FLIGHT TIME 114.00 ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC DISTANCE 313.508 EARTH TO MARS
RL 150.91 LAL .00 LOL 224.84 VL 34.280 GAL -2.23 AZL 91.88 HCA 103.35 SMA 227.33 ECC .33818 INC 1.8785 V1 29.526
RP 206.82 LAP -1.83 LOP 328.20 VP 26.450 GAP 19.10 AZP 89.57 TAL 351.15 TAP 94.50 RCA 150.45 APO 304.21 V2 26.479
RC 58.807 GL -12.59 GP .41 ZAL 109.93 ZAP 170.57 ETS 177.50 ZAE 172.31 ETE 40.73 ZAC 100.34 ETC 277.92 LVI -18.62

PLANETOCENTRIC CONIC
C3 26.358 VHL 5.153 DLA -21.24 RAL 342.02 RAD 6645.6 VEL 12.104 PTH 7.08 VHP 9.068 DPA -16.57 RAP 321.67 ECC 1.4371
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 35 35 2771.28 -20.63 78.60 202.95 133.88 17 21 46 1771.3 -2.59 62.10
60.00 17 40 58 2597.38 -15.16 67.90 207.92 127.80 18 24 16 1597.4 .75 49.65
70.00 19 3 50 2353.80 -9.84 52.01 211.78 122.87 19 43 4 1353.8 4.08 32.42
80.00 20 42 41 2044.43 -5.56 31.13 214.39 119.38 21 16 45 1044.4 6.81 10.61
90.00 22 18 38 1734.91 -3.80 9.33 215.36 118.05 22 47 33 734.9 7.95 348.46
100.00 23 25 33 1518.90 -5.56 352.50 214.39 119.38 23 50 52 518.9 6.81 331.98
110.00 0 7 12 1400.62 -9.84 340.93 211.78 122.87 0 30 33 400.6 4.08 321.33

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4308 TRA -.9708 TC3 .0921 BAU .0524 SGT 1256.7 SGR 587.4 SG3 167.4 ST 29.6 SR 26.8 SS 18.9
RDE -.4784 RRA .1838 RC3 .1153 FAU .04150 RRT .0164 RRF -.0194 RTF -.7346 CRT .7313 CRS .4620 CST .9401
FDE .2456 FRA 1.1044 FC3-1.3328 BSP 1872 SGB 1387.2 R23 -.0040 R13 -.7346 LSA 40.3 MSA 18.0 SSA 1.2
BDE .6438 BRA .9880 BC3 .1476 FSP 225 SG1 1256.7 SG2 587.3 THA .56 EL1 37.2 EL2 14.5 ALF 41.14

LAUNCH DATE MAY 6 1971 FLIGHT TIME 116.00 ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC DISTANCE 316.492 EARTH TO MARS
RL 150.91 LAL .00 LOL 224.84 VL 34.145 GAL -2.14 AZL 91.88 HCA 104.62 SMA 223.80 ECC .32761 INC 1.8819 V1 29.526
RP 206.77 LAP -1.82 LOP 329.47 VP 26.280 GAP 18.64 AZP 89.52 TAL 351.31 TAP 95.93 RCA 150.48 APO 297.11 V2 26.485
RC 59.485 GL -12.92 GP .43 ZAL 109.79 ZAP 169.82 ETS 177.67 ZAE 171.89 ETE 37.49 ZAC 100.31 ETC 277.99 LVI -18.72

PLANETOCENTRIC CONIC
C3 25.112 VHL 5.011 DLA -21.59 RAL 342.04 RAD 6645.0 VEL 12.045 PTH 7.03 VHP 8.782 DPA -16.46 RAP 321.97 ECC 1.4133
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 37 17 2749.89 -19.62 77.57 202.26 134.26 17 23 7 1749.9 -1.52 61.20
60.00 17 43 15 2574.45 -14.20 66.73 207.22 128.12 18 26 9 1574.5 1.76 48.55
70.00 19 6 53 2326.59 -8.90 50.65 211.09 123.11 19 45 41 1328.6 5.04 31.09
80.00 20 46 41 2016.25 -4.61 29.57 213.72 119.53 21 20 17 1016.3 7.74 9.04
90.00 22 23 10 1705.00 -2.84 7.66 214.70 118.15 22 51 35 705.0 8.88 346.76
100.00 23 29 33 1490.73 -4.61 350.94 213.72 119.53 23 54 23 490.7 7.74 330.41
110.00 0 10 15 1375.41 -8.90 339.57 211.09 123.11 0 33 11 375.4 5.04 320.01

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4278 TRA -.9637 TC3 .1068 BAU .0545 SGT 1286.4 SGR 586.4 SG3 179.1 ST 30.2 SR 26.7 SS 19.4
RDE -.4638 RRA .1773 RC3 .1224 FAU .04314 RRT .0188 RRF -.0211 RTF -.7394 CRT .7309 CRS .4500 CST .9357
FDE .2484 FRA 1.1482 FC3-1.4873 BSP 1972 SGB 1413.8 R23 -.0036 R13 -.7395 LSA 40.9 MSA 18.3 SSA 1.2
BDE .6310 BRA .9798 BC3 .1625 FSP 243 SG1 1286.5 SG2 586.2 THA .62 EL1 37.6 EL2 14.7 ALF 40.19

LAUNCH DATE MAY 6 1971 FLIGHT TIME 118.00 ARRIVAL DATE SEP 1 1971

MELIOCENTRIC CONIC DISTANCE 319.584 EARTH TO MARS
RL 150.91 LAL .00 LOL 224.84 VL 34.018 GAL -2.05 AZL 91.89 HCA 105.89 SMA 220.57 ECC .31766 INC 1.8854 V1 29.526

PLANETOCENTRIC CONIC
C3 23.783 VHL 4.877 DLA -21.96 RAL 342.05 RAD 6644.5 VEL 11.990 PTH 6.99 VHP 8.508 DPA -16.35 RAP 322.26 ECC 1.3914

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4232 TRA -.9546 TC3 .1244 BAW .0571 SGT 1313.1 SGR 584.9 SG3 191.5 ST 30.8 SR 26.6 SS 20.0

LAUNCH DATE MAY 6 1971 FLIGHT TIME 120.00 ARRIVAL DATE SEP 3 1971

MELIOCENTRIC CONIC DISTANCE 322.773 EARTH TO MARS
RL 150.91 LAL .00 LOL 224.84 VL 33.898 GAL -1.96 AZL 91.89 HCA 107.16 SMA 217.63 ECC .30831 INC 1.8888 V1 29.526

PLANETOCENTRIC CONIC
C3 22.560 VHL 4.750 DLA -22.33 RAL 342.05 RAD 6644.0 VEL 11.939 PTH 6.94 VHP 8.239 DPA -16.24 RAP 322.54 ECC 1.3713

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4174 TRA -.9451 TC3 .1443 BAW .0600 SGT 1338.4 SGR 583.0 SG3 204.8 ST 31.2 SR 26.5 SS 20.6

LAUNCH DATE MAY 6 1971 FLIGHT TIME 122.00 ARRIVAL DATE SEP 5 1971

MELIOCENTRIC CONIC DISTANCE 326.050 EARTH TO MARS
RL 150.91 LAL .00 LOL 224.84 VL 33.785 GAL -1.88 AZL 91.89 HCA 108.43 SMA 214.93 ECC .29952 INC 1.8924 V1 29.526

PLANETOCENTRIC CONIC
C3 21.434 VHL 4.630 DLA -22.70 RAL 342.03 RAD 6643.5 VEL 11.893 PTH 6.90 VHP 7.981 DPA -16.14 RAP 322.79 ECC 1.3527

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4112 TRA -.9347 TC3 .1652 BAW .0629 SGT 1361.9 SGR 580.8 SG3 219.0 ST 31.6 SR 26.4 SS 21.2

LAUNCH DATE MAY 6 1971 FLIGHT TIME 124.00 ARRIVAL DATE SEP 7 1971

MELIOCENTRIC CONIC DISTANCE 329.405 EARTH TO MARS
RL 150.91 LAL .00 LOL 224.84 VL 33.679 GAL -1.79 AZL 91.90 HCA 109.70 SMA 212.48 ECC .29126 INC 1.8960 V1 29.526

PLANETOCENTRIC CONIC
C3 20.398 VHL 4.516 DLA -23.08 RAL 342.00 RAD 6643.0 VEL 11.849 PTH 6.87 VHP 7.732 DPA -16.05 RAP 323.03 ECC 1.3357

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4045 TRA -.9235 TC3 .1892 BAW .0662 SGT 1383.7 SGR 578.1 SG3 234.2 ST 32.0 SR 26.2 SS 21.7

LAUNCH DATE MAY 6 1971

FLIGHT TIME 134.00

ARRIVAL DATE SEP 17 1971

Heliocentric Conic: RL 150.91 LAL .00 LOL 224.84 VL 33.232 GAL -1.42 AZL 91.91 HCA 116.04 SMA 202.75 ECC .25883 INC 1.9150 V1 29.528

Distance 347.134

Planetocentric Conic: C3 16.321 VHL 4.040 DLA -25.01 RAL 341.71 RAD 6641.2 VEL 11.677 PTH 6.71 VHP 6.605 DPA -15.67 RAP 323.88 ECC 1.2686

Differential Corrections: TDE -.3688 TRA -.8624 TC3 .3077 BAW .0791 SGT 1468.7 SGR 559.5 SG3 326.1 ST 33.1 SR 25.2 SS 24.9

LAUNCH DATE MAY 6 1971

FLIGHT TIME 136.00

ARRIVAL DATE SEP 19 1971

Heliocentric Conic: RL 150.91 LAL .00 LOL 224.84 VL 33.157 GAL -1.35 AZL 91.92 HCA 117.31 SMA 201.24 ECC .25114 INC 1.9190 V1 29.526

Distance 350.833

Planetocentric Conic: C3 15.687 VHL 3.961 DLA -25.40 RAL 341.64 RAD 6640.9 VEL 11.650 PTH 6.69 VHP 6.402 DPA -15.61 RAP 323.97 ECC 1.2502

Differential Corrections: TDE -.3611 TRA -.8490 TC3 .3300 BAW .0809 SGT 1479.7 SGR 554.8 SG3 348.1 ST 33.1 SR 24.9 SS 25.5

LAUNCH DATE MAY 6 1971

FLIGHT TIME 138.00

ARRIVAL DATE SEP 21 1971

Heliocentric Conic: RL 150.91 LAL .00 LOL 224.84 VL 33.087 GAL -1.29 AZL 91.92 HCA 118.58 SMA 199.83 ECC .24580 INC 1.9231 V1 29.528

Distance 354.574

Planetocentric Conic: C3 15.103 VHL 3.888 DLA -25.78 RAL 341.56 RAD 6640.6 VEL 11.626 PTH 6.67 VHP 6.206 DPA -15.56 RAP 324.04 ECC 1.2406

Differential Corrections: TDE -.3409 TRA -.8221 TC3 .3878 BAW .0889 SGT 1468.1 SGR 549.7 SG3 371.8 ST 32.2 SR 24.7 SS 26.1

LAUNCH DATE MAY 6 1971

FLIGHT TIME 140.00

ARRIVAL DATE SEP 23 1971

Heliocentric Conic: RL 150.91 LAL .00 LOL 224.84 VL 33.022 GAL -1.23 AZL 91.93 HCA 119.85 SMA 198.53 ECC .24080 INC 1.9273 V1 29.528

Distance 358.353

Planetocentric Conic: C3 14.566 VHL 3.816 DLA -26.15 RAL 341.49 RAD 6640.3 VEL 11.603 PTH 6.64 VHP 6.017 DPA -15.52 RAP 324.07 ECC 1.2397

Differential Corrections: TDE -.3406 TRA -.8141 TC3 .3888 BAW .0866 SGT 1484.3 SGR 544.3 SG3 396.6 ST 32.7 SR 24.4 SS 26.9

LAUNCH DATE MAY 6 1971

FLIGHT TIME 142.00

ARRIVAL DATE SEP 25 1971

HELIOCENTRIC CONIC

DISTANCE 362.166

EARTH TO MARS

RL 150.91 LAL .00 LOL 224.84 VL 32.960 GAL -1.17 AZL 91.93 HCA 121.11 SMA 197.33 ECC .23611 INC 1.9316 V1 29.526
RP 206.96 LAP -1.65 LOP 345.96 VP 24.697 GAP 13.37 AZP 89.00 TAL 353.86 TAP 114.97 RCA 150.74 APO 243.92 V2 26.462
RC 73.950 GL -17.22 GP .70 ZAL 106.96 ZAP 195.36 ETS 178.54 ZAE 171.40 ETE 24.06 ZAC 100.26 ETC 278.44 LVI -19.50

PLANETOCENTRIC CONIC

C3 14.071 VHL 3.751 DLA -26.52 RAL 341.41 RAD 6640.1 VEL 11.581 PTH 6.62 VHP 5.835 DPA -15.49 RAP 324.08 ECC 1.2316
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 58 22 2506.63 -7.73 66.70 195.66 137.09 17 40 9 1506.6 10.65 50.93
60.00 18 13 30 2306.82 -2.63 53.59 200.55 130.23 18 51 57 1306.8 13.36 35.47
70.00 19 50 50 2020.61 2.78 34.48 204.64 124.05 20 24 31 1020.6 16.28 14.34
80.00 21 51 3 1644.34 7.90 9.06 207.79 118.89 22 18 27 644.3 19.07 347.26
90.00 23 43 5 1283.05 10.55 343.89 209.19 116.39 24 4 28 283.0 20.52 321.30
100.00 0 37 50 1118.82 7.90 330.43 207.79 118.89 0 56 29 118.8 19.07 308.63
110.00 0 54 12 1067.43 2.78 323.40 204.64 124.05 1 12 0 67.4 16.28 303.26

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3366 TRA -.8031 TC3 .3949 BAU .0854 SGT 1493.8 SGR 538.6 SG3 422.9 ST 32.9 SR 24.1 SS 27.6
RDE -.3134 RRA .1061 RC3 .2238 FAU .07629 RRT .0590 RRF -.0654 RTF -.8039 CRT .7054 CRS .2620 CST .8661
FDE .2635 FRA 1.9774 FC3-4.6936 BSP 2457 SGB 1587.9 R23 -.0109 R13 -.8040 LSA 44.1 MSA 21.8 SSA 1.4
BDE .4599 BRA .8101 BC3 .4539 F8P 645 SG1 1494.2 SG2 537.5 THA 1.40 EL1 38.0 EL2 14.8 ALF 32.88

LAUNCH DATE MAY 6 1971

FLIGHT TIME 144.00

ARRIVAL DATE SEP 27 1971

HELIOCENTRIC CONIC

DISTANCE 366.012

EARTH TO MARS

RL 150.91 LAL .00 LOL 224.84 VL 32.902 GAL -1.12 AZL 91.94 HCA 122.38 SMA 196.22 ECC .23171 INC 1.9361 V1 29.526
RP 207.04 LAP -1.64 LOP 347.23 VP 24.610 GAP 13.03 AZP 88.96 TAL 354.05 TAP 116.43 RCA 150.75 APO 241.69 V2 26.454
RC 75.426 GL -17.53 GP .73 ZAL 106.73 ZAP 154.08 ETS 178.56 ZAE 171.85 ETE 24.58 ZAC 100.29 ETC 278.44 LVI -19.60

PLANETOCENTRIC CONIC

C3 13.615 VHL 3.690 DLA -26.88 RAL 341.34 RAD 6639.9 VEL 11.562 PTH 6.61 VHP 5.659 DPA -15.46 RAP 324.06 ECC 1.2241
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 59 56 2491.35 -6.97 66.05 195.34 137.19 17 41 28 1491.3 11.41 50.27
60.00 18 15 50 2289.45 -1.86 52.76 200.23 130.27 18 54 0 1289.5 14.10 34.59
70.00 19 54 30 1999.36 3.59 33.37 204.36 123.99 20 27 49 999.4 17.01 13.12
80.00 21 57 15 1615.10 8.86 7.42 207.58 118.63 22 24 10 615.1 19.85 345.44
90.00 23 52 13 1244.39 11.71 341.64 209.07 115.93 24 12 57 244.4 21.40 318.80
100.00 0 44 3 1089.58 8.86 328.78 207.58 118.63 1 2 13 89.6 19.85 306.81
110.00 0 57 52 1046.18 3.59 322.28 204.36 123.99 1 15 18 46.2 17.01 302.04

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3317 TRA -.7893 TC3 .4049 BAU .0849 SGT 1497.6 SGR 532.7 SG3 451.2 ST 33.0 SR 23.8 SS 28.4
RDE -.3043 RRA .1015 RC3 .2316 FAU .08012 RRT .0646 RRF -.0716 RTF -.8033 CRT .7062 CRS .2472 CST .8579
FDE .2632 FRA 2.0685 FC3-5.0945 BSP 2485 SGB 1589.5 R23 -.0122 R13 -.8034 LSA 44.4 MSA 22.1 SSA 1.4
BDE .4501 BRA .7959 BC3 .4665 F8P 694 SG1 1498.0 SG2 531.4 THA 1.51 EL1 37.9 EL2 14.6 ALF 32.36

LAUNCH DATE MAY 6 1971

FLIGHT TIME 146.00

ARRIVAL DATE SEP 29 1971

HELIOCENTRIC CONIC

DISTANCE 369.888

EARTH TO MARS

RL 150.91 LAL .00 LOL 224.84 VL 32.848 GAL -1.07 AZL 91.94 HCA 123.64 SMA 195.19 ECC .22759 INC 1.9406 V1 29.526
RP 207.12 LAP -1.62 LOP 348.49 VP 24.527 GAP 12.69 AZP 88.92 TAL 354.24 TAP 117.88 RCA 150.77 APO 239.61 V2 26.444
RC 76.944 GL -17.83 GP .78 ZAL 106.51 ZAP 152.76 ETS 178.58 ZAE 172.36 ETE 25.42 ZAC 100.33 ETC 278.43 LVI -19.62

PLANETOCENTRIC CONIC

C3 13.195 VHL 3.633 DLA -27.23 RAL 341.27 RAD 6639.7 VEL 11.544 PTH 6.59 VHP 5.489 DPA -15.45 RAP 324.00 ECC 1.2172
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 1 29 2478.63 -6.23 65.43 195.05 137.26 17 42 46 1476.6 12.13 49.62
60.00 18 18 11 2272.65 -1.12 51.96 199.95 130.29 18 56 3 1272.6 14.80 33.73
70.00 19 58 11 1978.59 4.38 32.28 204.11 123.91 20 31 10 978.6 17.72 11.92
80.00 22 3 44 1595.58 9.81 5.75 207.41 118.34 22 30 9 585.6 20.62 343.59
90.00 0 6 20 1202.67 12.93 339.21 209.02 115.37 0 26 23 202.9 22.29 316.09
100.00 0 50 31 1060.05 9.81 327.12 207.41 118.34 1 8 11 60.1 20.62 304.95
110.00 1 1 33 1025.41 4.38 321.20 204.11 123.91 1 18 39 25.4 17.72 300.84

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3261 TRA -.7746 TC3 .4109 BAU .0839 SGT 1497.2 SGR 526.4 SG3 480.7 ST 33.0 SR 23.4 SS 29.2
RDE -.2955 RRA .0970 RC3 .2393 FAU .08404 RRT .0699 RRF -.0779 RTF -.8023 CRT .7068 CRS .2321 CST .8494
FDE .2621 FRA 2.1642 FC3-5.5135 BSP 2505 SGB 1587.1 R23 -.0140 R13 -.8025 LSA 44.5 MSA 22.4 SSA 1.4
BDE .4401 BRA .7807 BC3 .4755 F8P 746 SG1 1497.7 SG2 524.9 THA 1.61 EL1 37.8 EL2 14.5 ALF 31.92

LAUNCH DATE MAY 6 1971

FLIGHT TIME 148.00

ARRIVAL DATE OCT 1 1971

HELIOCENTRIC CONIC

DISTANCE 373.790

EARTH TO MARS

RL 150.91 LAL .00 LOL 224.84 VL 32.797 GAL -1.02 AZL 91.95 HCA 124.90 SMA 194.23 ECC .22373 INC 1.9453 V1 29.526
RP 207.21 LAP -1.60 LOP 349.78 VP 24.447 GAP 12.36 AZP 88.89 TAL 354.42 TAP 119.32 RCA 150.78 APO 237.69 V2 26.433
RC 78.502 GL -18.12 GP .79 ZAL 106.29 ZAP 151.42 ETS 178.60 ZAE 172.94 ETE 26.69 ZAC 100.37 ETC 278.42 LVI -19.53

PLANETOCENTRIC CONIC

C3 12.809 VHL 3.579 DLA -27.57 RAL 341.21 RAD 6639.5 VEL 11.527 PTH 6.57 VHP 5.325 DPA -15.44 RAP 323.91 ECC 1.2108
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 3 2 2462.50 -5.52 64.83 194.78 137.33 17 44 5 1462.5 12.83 49.00
60.00 18 20 30 2256.43 -.41 51.18 199.69 130.30 18 58 7 1256.4 15.48 32.90
70.00 20 1 53 1938.31 5.15 31.21 203.89 123.81 20 34 32 958.3 18.40 10.75
80.00 22 10 30 1555.67 10.78 4.05 207.28 118.01 22 36 26 555.7 21.37 341.68
90.00 0 18 9 1156.68 14.26 336.47 209.05 114.68 0 37 26 156.7 23.22 313.02
100.00 0 57 18 1030.14 10.78 325.42 207.28 118.01 1 14 28 30.1 21.37 303.05
110.00 1 5 16 1005.12 5.15 320.13 203.89 123.81 1 22 1 5.1 18.40 299.65

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3200 TRA -.7585 TC3 .4164 BAU .0829 SGT 1492.5 SGR 519.9 SG3 512.3 ST 32.8 SR 23.1 SS 30.0
RDE -.2869 RRA .0926 RC3 .2469 FAU .08828 RRT .0758 RRF -.0848 RTF -.8012 CRT .7075 CRS .2158 CST .8399
FDE .2594 FRA 2.2653 FC3-5.9668 BSP 2489 SGB 1580.4 R23 -.0157 R13 -.8014 LSA 44.7 MSA 22.7 SSA 1.4
BDE .4298 BRA .7641 BC3 .4841 F8P 797 SG1 1493.1 SG2 518.2 THA 1.72 EL1 37.5 EL2 14.3 ALF 31.56

LAUNCH DATE MAY 6 1971

FLIGHT TIME 150.00

ARRIVAL DATE OCT 3 1971

HELIOCENTRIC CONIC

DISTANCE 377.719

EARTH TO MARS

RL 150.91 LAL .00 LOL 224.84 VL 32.749 GAL -.98 AZL 91.95 HCA 126.17 SMA 193.35 ECC .22013 INC 1.9501 V1 29.526
 RP 207.31 LAP -1.57 LOP 351.02 VP 24.370 GAP 12.03 AZP 88.85 TAL 354.59 TAP 120.76 RCA 150.79 APO 235.91 V2 26.422
 RC 80.098 GL -18.41 GP .83 ZAL 106.09 ZAP 150.04 ETS 178.62 ZAE 173.98 ETE 28.94 ZAC 100.43 ETC 278.40 LVI -19.63

PLANETOCENTRIC CONIC

C3 12.454 VHL 3.529 DLA -27.90 RAL 341.15 RAD 6639.3 VEL 11.512 PTH 6.56 VHP 5.168 DPA -15.45 RAP 323.78 ECC 1.2050
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 4 35 2448.96 -4.85 64.26 194.54 137.39 17 45 24 1449.0 13.50 48.40
 60.00 18 22 50 2240.81 .28 50.44 199.46 130.30 19 0 10 1240.8 16.13 32.09
 70.00 20 5 37 1938.55 5.90 30.17 203.70 123.70 20 37 55 938.5 19.05 9.59
 80.00 22 17 37 1525.23 11.74 2.31 207.20 117.65 22 43 3 525.2 22.12 339.73
 90.00 0 32 58 1101.45 15.81 333.15 209.21 113.76 0 51 19 101.4 24.25 309.30
 100.00 1 4 25 6287.74 11.74 301.58 207.20 117.65 2 49 13 5287.7 22.12 279.00
 110.00 1 8 59 6273.40 5.90 296.99 203.70 123.70 2 53 32 5273.4 19.05 276.41

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3135 TRA -.7410 TC3 .4181 BAU .0815 SGT 1483.0 SGR 513.1 SG3 545.4 ST 32.6 SR 22.8 SS 30.8
 RDE -.2786 RRA .0883 RC3 .2545 FAU .09275 RRT .0821 RRF -.0922 RTF -.7993 CRT .7088 CRS .1990 CST .8296
 FDE .2554 FRA 2.3710 FC3-6.4476 BSP 2485 SGB 1569.3 R23 -.0178 R13 -.7996 LSA 44.7 MSA 23.0 SSA 1.4
 BDE .4194 BRA .7463 BC3 .4895 FSP 855 SG1 1483.7 SG2 511.1 TMA 1.85 EL1 37.2 EL2 14.1 ALF 31.26

LAUNCH DATE MAY 6 1971

FLIGHT TIME 152.00

ARRIVAL DATE OCT 5 1971

HELIOCENTRIC CONIC

DISTANCE 381.670

EARTH TO MARS

RL 150.91 LAL .00 LOL 224.84 VL 32.704 GAL -.93 AZL 91.96 HCA 127.43 SMA 192.52 ECC .21675 INC 1.9551 V1 29.526
 RP 207.42 LAP -1.55 LOP 352.28 VP 24.297 GAP 11.72 AZP 88.81 TAL 354.75 TAP 122.18 RCA 150.79 APO 234.25 V2 26.409
 RC 81.730 GL -18.68 GP .87 ZAL 105.90 ZAP 148.62 ETS 178.63 ZAE 174.28 ETE 31.22 ZAC 100.49 ETC 278.37 LVI -19.63

PLANETOCENTRIC CONIC

C3 12.128 VHL 3.483 DLA -28.22 RAL 341.10 RAD 6639.1 VEL 11.498 PTH 6.55 VHP 5.016 DPA -15.46 RAP 323.62 ECC 1.1996
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 6 6 2436.01 -4.20 63.72 194.32 137.44 17 46 42 1436.0 14.13 47.83
 60.00 18 25 8 2225.81 .94 49.72 199.26 130.29 19 2 14 1225.8 16.75 31.30
 70.00 20 9 20 1919.34 6.62 29.16 203.54 123.58 20 41 20 919.3 19.68 8.45
 80.00 22 25 10 1494.04 12.72 .51 207.16 117.24 22 50 4 494.0 22.85 337.70
 90.00 0 57 35 1015.09 18.10 327.85 209.72 112.11 1 14 30 15.1 25.64 303.36
 100.00 1 11 58 6256.55 12.72 299.79 207.16 117.24 2 56 14 5256.6 22.85 276.98
 110.00 1 12 43 6254.20 6.62 295.98 203.54 123.58 2 56 57 5254.2 19.68 275.28

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3079 TRA -.7229 TC3 .4114 BAU .0791 SGT 1469.9 SGR 506.0 SG3 579.9 ST 32.4 SR 22.4 SS 31.6
 RDE -.2706 RRA .0840 RC3 .2619 FAU .09731 RRT .0889 RRF -.1006 RTF -.7959 CRT .7112 CRS .1860 CST .8200
 FDE .2541 FRA 2.4819 FC3-6.9460 BSP 2453 SGB 1554.6 R23 -.0206 R13 -.7962 LSA 44.9 MSA 23.2 SSA 1.4
 BDE .4099 BRA .7277 BC3 .4877 FSP 913 SG1 1470.7 SG2 503.8 TMA 1.99 EL1 36.9 EL2 13.8 ALF 30.97

LAUNCH DATE MAY 6 1971

FLIGHT TIME 154.00

ARRIVAL DATE OCT 7 1971

HELIOCENTRIC CONIC

DISTANCE 385.644

EARTH TO MARS

RL 150.91 LAL .00 LOL 224.84 VL 32.662 GAL -.90 AZL 91.96 HCA 128.69 SMA 191.76 ECC .21361 INC 1.9602 V1 29.526
 RP 207.54 LAP -1.53 LOP 353.54 VP 24.225 GAP 11.41 AZP 88.77 TAL 354.90 TAP 123.59 RCA 150.80 APO 232.72 V2 26.395
 RC 83.399 GL -18.95 GP .91 ZAL 105.72 ZAP 147.17 ETS 178.64 ZAE 175.02 ETE 35.18 ZAC 100.55 ETC 278.33 LVI -19.62

PLANETOCENTRIC CONIC

C3 11.829 VHL 3.439 DLA -28.53 RAL 341.07 RAD 6639.0 VEL 11.485 PTH 6.53 VHP 4.871 DPA -15.49 RAP 323.42 ECC 1.1947
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 7 38 2423.68 -3.58 63.20 194.14 137.47 17 48 2 1423.7 14.73 47.27
 60.00 18 27 25 2211.44 1.57 49.03 199.08 130.28 19 4 16 1211.4 17.34 30.54
 70.00 20 13 4 1900.71 7.33 28.17 203.41 123.45 20 44 45 900.7 20.28 7.34
 80.00 22 33 14 1461.79 13.72 358.64 207.18 116.78 22 57 35 461.8 23.57 335.58
 86.05 0 40 8 1065.81 19.67 332.22 209.93 111.09 0 57 54 65.8 26.63 307.30
 100.00 1 20 1 6224.30 13.72 297.91 207.18 116.78 3 3 46 5224.3 23.57 274.86
 110.00 1 18 26 6235.57 7.33 294.99 203.41 123.45 3 0 22 5235.6 20.28 274.16

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3021 TRA -.7044 TC3 .3997 BAU .0762 SGT 1453.6 SGR 498.8 SG3 616.7 ST 32.2 SR 22.0 SS 32.5
 RDE -.2628 RRA .0797 RC3 .2693 FAU .10218 RRT .0956 RRF -.1097 RTF -.7914 CRT .7141 CRS .1719 CST .8094
 FDE .2512 FRA 2.6006 FC3-7.4784 BSP 2424 SGB 1536.8 R23 -.0241 R13 -.7918 LSA 45.0 MSA 23.5 SSA 1.4
 BDE .4004 BRA .7089 BC3 .4820 FSP 978 SG1 1454.5 SG2 496.2 TMA 2.13 EL1 36.5 EL2 13.6 ALF 30.71

LAUNCH DATE MAY 6 1971

FLIGHT TIME 156.00

ARRIVAL DATE OCT 9 1971

HELIOCENTRIC CONIC

DISTANCE 389.638

EARTH TO MARS

RL 150.91 LAL .00 LOL 224.84 VL 32.623 GAL -.86 AZL 91.97 HCA 129.94 SMA 191.06 ECC .21067 INC 1.9656 V1 29.526
 RP 207.66 LAP -1.51 LOP 354.80 VP 24.157 GAP 11.11 AZP 88.74 TAL 355.04 TAP 124.99 FCA 150.81 APO 231.31 V2 26.381
 RC 85.104 GL -19.22 GP .95 ZAL 105.55 ZAP 145.68 ETS 178.65 ZAE 175.78 ETE 41.20 ZAC 100.63 ETC 278.28 LVI -19.60

PLANETOCENTRIC CONIC

C3 11.554 VHL 3.399 DLA -28.83 RAL 341.04 RAD 6638.8 VEL 11.473 PTH 6.52 VHP 4.731 DPA -15.52 RAP 323.17 ECC 1.1901
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 9 9 2411.91 -2.99 62.71 193.97 137.50 17 49 21 1411.9 15.30 46.74
 60.00 18 29 41 2197.66 2.18 48.37 198.94 130.25 19 6 19 1197.7 17.90 29.82
 70.00 20 16 48 1882.60 8.00 27.21 203.30 123.31 20 48 11 882.6 20.86 6.25
 80.00 22 42 0 1427.81 14.75 356.64 207.24 116.26 23 5 48 427.8 24.30 333.32
 84.15 0 24 24 1111.34 19.99 335.69 209.65 111.22 0 42 55 111.3 26.97 310.71
 100.00 1 28 48 6190.32 14.75 295.92 207.24 116.26 3 11 58 5190.3 24.30 272.60
 110.00 1 20 11 6217.46 8.00 294.03 203.30 123.31 3 3 48 5217.5 20.86 273.08

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2884 TRA -.6756 TC3 .4138 BAU .0769 SGT 1416.0 SGR 491.4 SG3 655.5 ST 31.2 SR 21.6 SS 33.2
 RDE -.2951 RRA .0758 RC3 .2769 FAU .10772 RRT .1047 RRF -.1200 RTF -.7940 CRT .7129 CRS .1517 CST .7982
 FDE .2402 FRA 2.7144 FC3-8.0718 BSP 2276 SGB 1498.8 R23 -.0258 R13 -.7945 LSA 44.9 MSA 23.7 SSA 1.4
 BDE .3850 BRA .6798 BC3 .4979 FSP 1035 SG1 1417.0 SG2 488.3 TMA 2.36 EL1 35.5 EL2 13.3 ALF 31.15

LAUNCH DATE MAY 6 1971

FLIGHT TIME 150.00

ARRIVAL DATE OCT 11 1971

Heliocentric Conic: RL 150.91 LAL .00 LOL 224.84 VL 32.587 GAL -.83 AZL 91.97 HCA 131.20 SMA 190.41 ECC .20793 INC 1.9710 V1 29.526
 RP 207.80 LAP -1.48 LOP 356.05 VP 24.091 GAP 10.81 AZP 88.70 TAL 355.17 TAP 126.37 RCA 150.81 APO 230.00 V2 26.365
 RC 86.843 GL -19.47 GP .99 ZAL 105.41 ZAP 144.16 ETS 178.65 ZAE 176.52 ETE 50.69 ZAC 100.71 ETC 278.23 LVI -19.57

Planetocentric Conic: C3 11.303 VHL 3.382 DLA -29.11 RAL 341.03 RAD 6638.7 VEL 11.462 PTH 6.51 VHP 4.597 DPA -15.56 RAP 322.89 ECC 1.1860
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 10 39 2400.84 -2.43 62.24 193.84 137.53 17 50 40 1400.8 15.84 46.24
 60.00 18 31 55 2184.64 2.75 47.75 198.82 130.22 19 8 20 1184.6 18.43 29.12
 70.00 20 20 31 1865.27 8.65 26.28 203.23 123.17 20 51 36 865.3 21.40 5.20
 80.00 22 51 41 1391.63 15.83 354.50 207.37 115.65 23 14 53 391.6 25.04 330.89
 92.79 0 13 21 1142.26 20.29 338.09 209.41 111.34 0 32 23 142.3 27.29 313.05
 100.00 1 38 29 6154.14 15.83 293.77 207.37 115.65 3 21 3 5154.1 25.04 270.16
 110.00 1 23 53 6200.13 8.65 293.10 203.23 123.17 3 7 13 5200.1 21.40 272.03

Differential Corrections: TDE -.2902 TRA -.6613 TC3 .3658 BAU .0700 SGT 1403.2 SGR 483.8 SG3 695.6 ST 31.4 SR 21.2 SS 34.3
 RDE -.2477 RRA .0713 RC3 .2839 FAU .11281 RRT .1124 RRF -.1314 RTF -.7793 CRT .7232 CRS .1461 CST .7857
 FDE .2442 FRA 2.8492 FC3-8.6405 BSP 2378 SGB 1484.2 R23 -.0324 R13 -.7799 LSA 45.1 MSA 24.0 SSA 1.4
 BDE .3818 BRA .6651 BC3 .4630 FSP 1117 SG1 1404.4 SG2 480.3 THA 2.51 EL1 35.6 EL2 12.9 ALF 30.46

LAUNCH DATE MAY 6 1971

FLIGHT TIME 160.00

ARRIVAL DATE OCT 13 1971

Heliocentric Conic: RL 150.91 LAL .00 LOL 224.84 VL 32.553 GAL -.80 AZL 91.98 HCA 132.46 SMA 189.80 ECC .20538 INC 1.9768 V1 29.526
 RP 207.94 LAP -1.46 LOP 357.31 VP 24.026 GAP 10.52 AZP 88.67 TAL 355.29 TAP 127.74 RCA 150.82 APO 228.78 V2 26.349
 RC 88.616 GL -19.72 GP 1.04 ZAL 105.27 ZAP 142.59 ETS 178.66 ZAE 177.14 ETE 66.05 ZAC 100.80 ETC 278.17 LVI -19.53

Planetocentric Conic: C3 11.074 VHL 3.378 DLA -29.38 RAL 341.03 RAD 6638.6 VEL 11.453 PTH 6.50 VHP 4.469 DPA -15.62 RAP 322.57 ECC 1.1822
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 12 9 2390.36 -1.91 61.80 193.74 137.55 17 52 0 1390.4 16.35 45.76
 60.00 18 34 9 2172.26 3.30 47.16 198.73 130.19 19 10 21 1172.3 18.93 28.46
 70.00 20 24 12 1848.54 9.27 25.38 203.19 123.02 20 55 0 848.5 21.92 4.18
 80.00 23 2 56 1351.05 17.01 352.06 207.59 114.91 23 25 27 351.0 25.81 328.12
 81.68 0 4 35 1166.14 20.57 339.98 209.20 111.45 0 24 2 166.1 27.59 314.88
 100.00 1 49 44 6113.56 17.01 291.34 207.59 114.91 3 31 37 5113.6 25.81 267.39
 110.00 1 27 34 6183.40 9.27 292.21 203.19 123.02 3 10 37 5183.4 21.92 271.01

Differential Corrections: TDE -.2854 TRA -.6412 TC3 .3284 BAU .0650 SGT 1376.4 SGR 475.9 SG3 737.7 ST 31.1 SR 20.8 SS 35.3
 RDE -.2405 RRA .0671 RC3 .2911 FAU .11826 RRT .1189 RRF -.1423 RTF -.7682 CRT .7290 CRS .1314 CST .7710
 FDE .2374 FRA 2.9887 FC3-9.2455 BSP 2286 SGB 1456.3 R23 -.0391 R13 -.7689 LSA 45.3 MSA 24.2 SSA 1.4
 BDE .3732 BRA .6447 BC3 .4388 FSP 1192 SG1 1377.7 SG2 472.1 THA 2.67 EL1 35.2 EL2 12.6 ALF 30.26

LAUNCH DATE MAY 6 1971

FLIGHT TIME 162.00

ARRIVAL DATE OCT 15 1971

Heliocentric Conic: RL 150.91 LAL .00 LOL 224.84 VL 32.521 GAL -.78 AZL 91.98 HCA 133.71 SMA 189.24 ECC .20302 INC 1.9827 V1 29.526
 RP 208.08 LAP -1.43 LOP 356.56 VP 23.964 GAP 10.24 AZP 88.63 TAL 355.39 TAP 129.10 RCA 150.82 APO 227.66 V2 26.332
 RC 90.421 GL -19.96 GP 1.09 ZAL 105.16 ZAP 140.99 ETS 178.66 ZAE 177.46 ETE 89.05 ZAC 100.90 ETC 278.16 LVI -19.49

Planetocentric Conic: C3 10.864 VHL 3.296 DLA -29.64 RAL 341.04 RAD 6638.5 VEL 11.443 PTH 6.49 VHP 4.346 DPA -15.68 RAP 322.21 ECC 1.1788
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 13 39 2380.50 -1.41 61.39 193.66 137.56 17 53 20 1380.5 16.83 45.31
 60.00 18 36 20 2160.54 3.81 46.60 198.67 130.15 19 12 20 1160.5 19.40 27.82
 70.00 20 27 51 1832.48 9.87 24.52 203.18 122.86 20 58 24 832.5 22.41 3.19
 80.00 23 17 18 1301.11 18.42 349.02 207.94 113.92 23 38 59 301.1 26.68 324.66
 80.74 23 53 25 1185.64 20.84 341.53 209.02 111.56 24 13 10 185.6 27.88 316.39
 100.00 2 4 6 6063.63 18.42 288.30 207.94 113.92 3 45 10 5063.6 26.68 263.94
 110.00 1 31 14 6167.34 9.87 291.34 203.18 122.86 3 14 1 5167.3 22.41 270.02

Differential Corrections: TDE -.2810 TRA -.6179 TC3 .2858 BAU .0600 SGT 1342.0 SGR 468.0 SG3 781.5 ST 30.7 SR 20.4 SS 36.3
 RDE -.2334 RRA .0628 RC3 .2982 FAU .12396 RRT .1273 RRF -.1554 RTF -.7591 CRT .7373 CRS .1210 CST .7563
 FDE .2340 FRA 3.1323 FC3-9.8778 BSP 2217 SGB 1421.3 R23 -.0466 R13 -.7561 LSA 45.5 MSA 24.5 SSA 1.4
 BDE .3653 BRA .6210 BC3 .4130 FSP 1270 SG1 1343.5 SG2 463.7 THA 2.89 EL1 34.8 EL2 12.1 ALF 30.16

LAUNCH DATE MAY 6 1971

FLIGHT TIME 164.00

ARRIVAL DATE OCT 17 1971

Heliocentric Conic: RL 150.91 LAL .00 LOL 224.84 VL 32.492 GAL -.76 AZL 91.99 HCA 134.96 SMA 188.73 ECC .20082 INC 1.9889 V1 29.526
 RP 208.24 LAP -1.41 LOP 359.81 VP 23.904 GAP 9.97 AZP 88.59 TAL 355.48 TAP 130.44 RCA 150.83 APO 226.63 V2 26.313
 RC 92.259 GL -20.19 GP 1.14 ZAL 105.07 ZAP 139.34 ETS 178.66 ZAE 177.28 ETE 114.92 ZAC 101.01 ETC 278.02 LVI -19.43

Planetocentric Conic: C3 10.674 VHL 3.267 DLA -29.88 RAL 341.07 RAD 6638.4 VEL 11.435 PTH 6.49 VHP 4.228 DPA -15.75 RAP 321.81 ECC 1.1757
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 15 9 2371.25 -.95 61.01 193.61 137.57 17 54 40 1371.3 17.27 44.89
 60.00 18 38 29 2149.50 4.29 46.07 198.63 130.11 19 14 19 1149.5 19.84 27.22
 70.00 20 31 29 1817.13 10.43 23.69 203.20 122.71 21 1 46 817.1 22.87 2.24
 79.93 23 47 19 1201.89 21.09 342.85 208.87 111.66 24 7 21 201.9 28.15 317.65
 79.93 23 47 19 1201.89 21.09 342.85 208.87 111.66 24 7 21 201.9 28.15 317.65
 79.93 23 47 19 1201.89 21.09 342.85 208.87 111.66 24 7 21 201.9 28.15 317.65
 110.00 1 34 51 6151.99 10.43 290.52 203.20 122.71 3 17 23 5152.0 22.87 269.07

Differential Corrections: TDE -.2773 TRA -.5914 TC3 .2407 BAU .0555 SGT 1300.8 SGR 460.1 SG3 826.6 ST 30.2 SR 19.9 SS 37.3
 RDE -.2265 RRA .0586 RC3 .3054 FAU .12998 RRT .1383 RRF -.1712 RTF -.7401 CRT .7485 CRS .1166 CST .7422
 FDE .2360 FRA 3.2757 FC-10.5425 BSP 2121 SGB 1379.8 R23 -.0551 R13 -.7413 LSA 45.7 MSA 24.6 SSA 1.4
 BDE .3581 BRA .5943 BC3 .3888 FSP 1349 SG1 1302.6 SG2 455.1 THA 3.19 EL1 34.3 EL2 11.7 ALF 30.13

LAUNCH DATE MAY 6 1971 FLIGHT TIME 166.00 ARRIVAL DATE OCT 19 1971

HELIOCENTRIC CONIC DISTANCE 409.856 EARTH TO MARS
 RL 150.91 LAL .00 LOL 224.84 VL 32.484 GAL -.74 AZL 92.00 HCA 136.21 SMA 188.25 ECC .19878 INC 1.9954 V1 29.526
 RP 208.41 LAP -1.38 LOP 1.06 VP 23.846 GAP 9.70 AZP 98.56 TAL 355.56 TAP 131.76 RCA 130.83 APO 225.67 V2 26.294
 RC 94.128 GL -20.41 GP 1.20 ZAL 104.99 ZAP 137.66 ETS 178.67 ZAE 176.59 ETE 135.05 ZAC 101.12 ETC 277.93 LVI -19.36

PLANETOCENTRIC CONIC
 C3 10.500 VHL 3.240 DLA -30.11 RAL 341.11 RAD 6638.3 VEL 11.428 PTH 6.48 VHP 4.116 DPA -15.84 RAP 321.36 ECC 1.1728
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 16 37 2362.58 -.51 60.64 193.58 137.57 17 56 0 1362.6 17.69 44.48
 60.00 18 40 37 2139.10 4.75 45.37 198.63 130.07 19 16 16 1139.1 20.25 26.65
 70.00 20 35 3 1802.44 10.97 22.90 203.24 122.55 21 5 6 802.4 23.31 1.33
 79.22 23 42 5 1215.83 21.33 343.99 208.76 111.76 24 2 21 215.8 28.40 318.74
 79.22 23 42 5 1215.83 21.33 343.99 208.76 111.76 24 2 21 215.8 28.40 318.74
 79.22 23 42 5 1215.83 21.33 343.99 208.76 111.76 24 2 21 215.8 28.40 318.74
 110.00 1 38 26 6137.30 10.97 289.72 203.24 122.55 3 20 43 5137.3 23.31 268.15

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2646 TRA -.5579 TC3 .2178 BAU .0536 SGT 1240.5 SGR 452.1 SG3 875.1 ST 29.0 SR 19.5 SS 38.1
 RDE -.2196 RRA .0544 RC3 .3134 FAU .13704 RRT .1489 RRF -.1875 RTF -.7305 CRT .7538 CRS .0957 CST .7224
 FDE .2163 FRA 3.4180 FC-11.2993 B8P 1905 SGB 1320.4 R23 -.0632 R13 -.7321 LSA 45.3 MSA 24.8 SSA 1.4
 BDE .3439 BRA .5805 BC3 .3816 F8P 1410 SG1 1242.6 SG2 446.3 THA 3.57 EL1 33.1 EL2 11.2 ALF 30.81

LAUNCH DATE MAY 6 1971 FLIGHT TIME 166.00 ARRIVAL DATE OCT 21 1971

HELIOCENTRIC CONIC DISTANCE 413.940 EARTH TO MARS
 RL 150.91 LAL .00 LOL 224.84 VL 32.439 GAL -.72 AZL 92.00 HCA 137.46 SMA 187.81 ECC .19689 INC 2.0021 V1 29.526
 RP 208.58 LAP -1.35 LOP 2.31 VP 23.790 GAP 9.44 AZP 98.52 TAL 355.61 TAP 133.07 RCA 150.83 APO 224.79 V2 26.274
 RC 96.027 GL -20.83 GP 1.26 ZAL 104.93 ZAP 135.94 ETS 178.67 ZAE 175.58 ETE 147.86 ZAC 101.24 ETC 277.84 LVI -19.29

PLANETOCENTRIC CONIC
 C3 10.344 VHL 3.216 DLA -30.32 RAL 341.18 RAD 6638.2 VEL 11.421 PTH 6.47 VHP 4.009 DPA -15.93 RAP 320.87 ECC 1.1702
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 18 6 2354.62 -.11 60.31 193.59 137.58 17 57 21 1354.6 18.07 44.11
 60.00 18 42 43 2129.51 8.17 45.11 198.65 130.02 19 18 12 1129.5 20.63 26.13
 70.00 20 38 33 1788.70 11.47 22.15 203.31 122.39 21 8 22 788.7 23.71 .46
 78.59 23 37 40 1227.69 21.55 344.96 208.68 111.86 23 58 8 227.7 28.64 319.67
 78.59 23 37 40 1227.69 21.55 344.96 208.68 111.86 23 58 8 227.7 28.64 319.67
 78.59 23 37 40 1227.69 21.55 344.96 208.68 111.86 23 58 8 227.7 28.64 319.67
 110.00 1 41 55 6123.55 11.47 288.97 203.31 122.39 3 23 59 5123.5 23.71 267.29

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2708 TRA -.5397 TC3 .1154 BAU .0471 SGT 1216.1 SGR 444.0 SG3 923.9 ST 29.3 SR 19.1 SS 39.5
 RDE -.2131 RRA .0499 RC3 .3201 FAU .14271 RRT .1553 RRF -.2054 RTF -.6953 CRT .7732 CRS .1037 CST .7069
 FDE .2326 FRA 3.5988 FC-11.9439 B8P 1923 SGB 1294.6 R23 -.0823 R13 -.6975 LSA 46.4 MSA 25.1 SSA 1.4
 BDE .3446 BRA .5420 BC3 .3403 F8P 1518 SG1 1218.3 SG2 437.8 THA 3.73 EL1 33.3 EL2 10.6 ALF 30.03

LAUNCH DATE MAY 6 1971 FLIGHT TIME 170.00 ARRIVAL DATE OCT 23 1971

HELIOCENTRIC CONIC DISTANCE 418.037 EARTH TO MARS
 RL 150.91 LAL .00 LOL 224.84 VL 32.415 GAL -.71 AZL 92.01 HCA 138.70 SMA 187.41 ECC .19515 INC 2.0093 V1 29.526
 RP 208.76 LAP -1.33 LOP 3.55 VP 23.735 GAP 9.18 AZP 88.49 TAL 355.66 TAP 134.36 RCA 150.84 APO 223.98 V2 26.254
 RC 97.955 GL -20.84 GP 1.32 ZAL 104.90 ZAP 134.17 ETS 178.67 ZAE 174.36 ETE 155.90 ZAC 101.38 ETC 277.73 LVI -19.21

PLANETOCENTRIC CONIC
 C3 10.204 VHL 3.194 DLA -30.51 RAL 341.26 RAD 6638.1 VEL 11.415 PTH 6.47 VHP 3.908 DPA -16.03 RAP 320.34 ECC 1.1679
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 19 35 2347.21 .26 60.00 193.61 137.58 17 58 42 1347.2 18.43 43.77
 60.00 18 44 46 2120.55 5.56 44.67 198.69 129.98 19 20 7 1120.6 20.98 25.63
 70.00 20 42 0 1775.64 11.95 21.44 203.40 122.24 21 11 35 775.6 24.09 359.64
 78.03 23 33 52 1238.05 21.75 345.83 208.63 111.94 23 54 30 238.0 28.85 320.49
 78.03 23 33 52 1238.05 21.75 345.83 208.63 111.94 23 54 30 238.0 28.85 320.49
 78.03 23 33 52 1238.05 21.75 345.83 208.63 111.94 23 54 30 238.0 28.85 320.49
 110.00 1 45 22 6110.50 11.95 288.26 203.40 122.24 3 27 13 5110.5 24.09 266.46

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2672 TRA -.5110 TC3 .0329 BAU .0449 SGT 1167.0 SGR 435.9 SG3 973.3 ST 28.8 SR 18.6 SS 40.6
 RDE -.2066 RRA .0453 RC3 .3273 FAU .14892 RRT .1603 RRF -.2240 RTF -.5228 CRT .7876 CRS .0984 CST .6863
 FDE .2302 FRA 3.7693 FC-12.6347 B8P 1808 SGB 1245.7 R23 -.1023 R13 -.6657 LSA 46.7 MSA 25.2 SSA 1.3
 BDE .3378 BRA .5130 BC3 .3289 F8P 1609 SG1 1169.4 SG2 429.4 THA 3.96 EL1 32.8 EL2 10.1 ALF 30.09

LAUNCH DATE MAY 6 1971 FLIGHT TIME 172.00 ARRIVAL DATE OCT 25 1971

HELIOCENTRIC CONIC DISTANCE 422.144 EARTH TO MARS
 RL 150.91 LAL .00 LOL 224.84 VL 32.394 GAL -.70 AZL 92.02 HCA 139.94 SMA 187.04 ECC .19355 INC 2.0166 V1 29.526
 RP 208.94 LAP -1.30 LOP 4.80 VP 23.681 GAP 8.93 AZP 88.46 TAL 355.69 TAP 135.64 RCA 150.84 APO 223.24 V2 26.232
 RC 99.910 GL -21.04 GP 1.38 ZAL 104.88 ZAP 132.37 ETS 178.67 ZAE 173.01 ETE 161.14 ZAC 101.52 ETC 277.62 LVI -19.11

PLANETOCENTRIC CONIC
 C3 10.078 VHL 3.175 DLA -30.70 RAL 341.36 RAD 6638.1 VEL 11.409 PTH 6.46 VHP 3.812 DPA -16.13 RAP 319.77 ECC 1.1659
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 21 3 2340.41 .60 59.72 193.67 137.57 18 0 4 1340.4 18.75 43.45
 60.00 18 46 48 2112.28 5.92 44.27 198.77 129.94 19 22 0 1112.3 21.31 25.17
 70.00 20 45 22 1763.40 12.39 20.77 203.52 122.08 21 14 45 763.4 24.44 358.86
 77.53 23 30 40 1247.00 21.94 346.58 208.62 112.02 23 51 27 247.0 29.06 321.20
 77.53 23 30 40 1247.00 21.94 346.58 208.62 112.02 23 51 27 247.0 29.06 321.20
 77.53 23 30 40 1247.00 21.94 346.58 208.62 112.02 23 51 27 247.0 29.06 321.20
 110.00 1 48 44 6098.25 12.39 287.59 203.52 122.08 3 30 22 5098.3 24.44 265.68

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2644 TRA -.4795 TC3 -.0502 BAU .0456 SGT 1114.3 SGR 428.1 SG3 1025.2 ST 28.2 SR 18.1 SS 41.6
 RDE -.2003 RRA .0408 RC3 .3351 FAU .15585 RRT .1669 RRF -.2463 RTF -.6239 CRT .8049 CRS .0963 CST .6635
 FDE .2304 FRA 3.9394 FC-13.3883 B8P 1667 SGB 1193.7 R23 -.1266 R13 -.6277 LSA 47.0 MSA 25.4 SSA 1.3
 BDE .3317 BRA .4812 BC3 .3388 F8P 1698 SG1 1116.9 SG2 421.1 THA 4.28 EL1 32.2 EL2 9.4 ALF 30.18

LAUNCH DATE MAY 6 1971 FLIGHT TIME 174.00 ARRIVAL DATE OCT 27 1971

HELIOCENTRIC CONIC DISTANCE 426.262 EARTH TO MARS
 RL 150.91 LAL .00 LOL 224.84 VL 32.374 GAL -.69 AZL 92.02 HCA 141.19 SMA 186.70 ECC .19208 INC 2.0244 V1 29.526
 RP 209.14 LAP -1.27 LOP 6.04 VP 23.629 GAP 8.68 AZP 88.42 TAL 359.71 TAP 136.89 RCA 150.84 APO 222.56 V2 26.209
 RC 101.892 GL -21.24 GP 1.45 ZAL 104.89 ZAP 130.93 ETS 178.67 ZAE 171.96 ETE 164.74 ZAC 101.86 ETC 277.49 LVI -19.01

PLANETOCENTRIC CONIC
 C3 9.866 VHL 3.157 DLA -30.87 RAL 341.49 RAD 6630.0 VEL 11.404 PTH 6.48 VHP 3.721 DPA -16.25 RAP 319.15 ECC 1.1640
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 22 31 2334.19 .92 39.46 193.75 137.57 18 1 26 1334.2 19.05 43.16
 60.00 18 48 47 2104.69 6.26 43.91 198.87 129.89 19 23 51 1104.7 21.60 24.75
 70.00 20 48 38 1751.98 12.81 20.14 203.67 121.94 21 17 50 752.0 24.76 358.13
 77.09 23 27 56 1254.96 22.11 347.25 208.64 112.10 23 48 51 255.0 29.24 321.84
 77.09 23 27 56 1254.96 22.11 347.25 208.64 112.10 23 48 51 255.0 29.24 321.84
 77.09 23 27 56 1254.96 22.11 347.25 208.64 112.10 23 48 51 255.0 29.24 321.84
 110.00 1 52 1 6086.84 12.81 286.96 203.67 121.94 3 33 27 5086.8 24.76 264.95

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2617 TRA -.4458 TC3 -.1444 BAU .0496 SGT 1059.5 SGR 420.4 S63 1077.7 ST 27.6 SR 17.6 S8 42.7
 RDE -.1940 RRA .0361 RC3 .3430 FAU .16278 RRT .1698 RRF -.2707 RTF -.5742 CRT .8240 CRS .0974 CST .6389
 FDE .2336 FRA 4.1147 FC-14.1407 B8P 1522 SGB 1139.9 R23 -.1579 R13 -.5794 LSA 47.4 MSA 25.5 S8A 1.3
 BDE .3258 BRA .4473 BC3 .3722 F8P 1794 S61 1062.4 S62 413.2 THA 4.54 EL1 31.6 EL2 8.7 ALF 30.31

LAUNCH DATE MAY 6 1971 FLIGHT TIME 176.00 ARRIVAL DATE OCT 29 1971

HELIOCENTRIC CONIC DISTANCE 430.368 EARTH TO MARS
 RL 150.91 LAL .00 LOL 224.84 VL 32.355 GAL -.69 AZL 92.03 HCA 142.42 SMA 186.39 ECC .19073 INC 2.0326 V1 29.526
 RP 209.34 LAP -1.24 LOP 7.28 VP 23.578 GAP 8.44 AZP 88.39 TAL 355.71 TAP 136.13 RCA 150.84 APO 221.94 V2 26.186
 RC 103.900 GL -21.43 GP 1.53 ZAL 104.92 ZAP 128.65 ETS 178.67 ZAE 170.02 ETE 167.31 ZAC 101.82 ETC 277.36 LVI -18.90

PLANETOCENTRIC CONIC
 C3 9.867 VHL 3.141 DLA -31.02 RAL 341.63 RAD 6630.0 VEL 11.400 PTH 6.45 VHP 3.635 DPA -16.37 RAP 318.49 ECC 1.1624
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 24 0 2328.59 1.20 59.22 193.86 137.56 18 2 48 1328.5 19.32 42.89
 60.00 18 50 44 2097.76 6.56 43.57 198.99 129.85 19 25 42 1097.8 21.87 24.36
 70.00 20 51 50 1741.39 13.19 19.55 203.84 121.79 21 20 51 741.4 25.06 357.45
 76.69 23 25 39 1261.95 22.27 347.84 208.69 112.17 23 46 41 261.9 29.41 322.40
 76.69 23 25 39 1261.95 22.27 347.84 208.69 112.17 23 46 41 261.9 29.41 322.40
 76.69 23 25 39 1261.95 22.27 347.84 208.69 112.17 23 46 41 261.9 29.41 322.40
 110.00 1 55 12 6076.25 13.19 286.38 203.84 121.79 3 36 28 5076.3 25.06 264.27

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2570 TRA -.4100 TC3 -.2457 BAU .0565 SGT 1002.5 SGR 412.8 S63 1131.0 ST 26.9 SR 17.2 S8 43.8
 RDE -.1878 RRA .0312 RC3 .3512 FAU .16979 RRT .1658 RRF -.2959 RTF -.5126 CRT .8430 CRS .0924 CST .6078
 FDE .2260 FRA 4.2959 FC-14.8978 B8P 1335 SGB 1084.2 R23 -.1969 R13 -.5194 LSA 47.7 MSA 25.6 S8A 1.3
 BDE .3183 BRA .4112 BC3 .4286 F8P 1883 S61 1005.3 S62 406.0 THA 4.67 EL1 30.8 EL2 8.0 ALF 30.62

LAUNCH DATE MAY 6 1971 FLIGHT TIME 178.00 ARRIVAL DATE OCT 31 1971

HELIOCENTRIC CONIC DISTANCE 434.523 EARTH TO MARS
 RL 150.91 LAL .00 LOL 224.84 VL 32.339 GAL -.69 AZL 92.04 HCA 143.86 SMA 186.10 ECC .18949 INC 2.0412 V1 29.526
 RP 209.55 LAP -1.21 LOP 8.51 VP 23.528 GAP 8.20 AZP 88.36 TAL 355.69 TAP 139.35 RCA 150.84 APO 220.37 V2 26.182
 RC 105.933 GL -21.61 GP 1.60 ZAL 104.97 ZAP 126.74 ETS 178.67 ZAE 168.40 ETE 169.21 ZAC 101.99 ETC 277.21 LVI -18.77

PLANETOCENTRIC CONIC
 C3 9.780 VHL 3.127 DLA -31.18 RAL 341.79 RAD 6637.9 VEL 11.396 PTH 6.45 VHP 3.954 DPA -16.49 RAP 317.80 ECC 1.1609
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 25 28 2323.45 1.46 39.01 194.00 137.56 18 4 12 1323.4 19.56 42.65
 60.00 18 52 39 2091.47 6.83 43.27 199.14 129.82 19 27 31 1091.5 22.12 24.01
 70.00 20 54 55 1731.62 13.54 19.01 204.04 121.66 21 23 47 731.6 25.33 356.82
 76.34 23 23 48 1268.06 22.41 348.37 208.77 112.24 23 44 56 268.1 29.56 322.89
 76.34 23 23 48 1268.06 22.41 348.37 208.77 112.24 23 44 56 268.1 29.56 322.89
 76.34 23 23 48 1268.06 22.41 348.37 208.77 112.24 23 44 56 268.1 29.56 322.89
 110.00 1 58 18 6066.48 13.54 285.84 204.04 121.66 3 39 24 5066.5 25.33 263.64

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2490 TRA -.3669 TC3 -.3393 BAU .0647 SGT 932.8 SGR 405.7 S63 1184.8 ST 25.7 SR 16.7 S8 44.6
 RDE -.1819 RRA .0263 RC3 .3604 FAU .17757 RRT .1375 RRF -.3243 RTF -.5771 CRT .8635 CRS .0832 CST .5681
 FDE .2085 FRA 4.4615 FC-15.7191 B8P 1078 SGB 1017.2 R23 -.2429 R13 -.4461 LSA 47.7 MSA 25.5 S8A 1.3
 BDE .3061 BRA .3678 BC3 .4950 F8P 1950 S61 935.5 S62 399.5 THA 4.80 EL1 29.7 EL2 7.3 ALF 31.33

LAUNCH DATE MAY 6 1971 FLIGHT TIME 180.00 ARRIVAL DATE NOV 2 1971

HELIOCENTRIC CONIC DISTANCE 438.663 EARTH TO MARS
 RL 150.91 LAL .00 LOL 224.84 VL 32.323 GAL -.69 AZL 92.05 HCA 144.89 SMA 185.85 ECC .18837 INC 2.0504 V1 29.526
 RP 209.76 LAP -1.18 LOP 9.75 VP 23.479 GAP 7.97 AZP 88.32 TAL 355.66 TAP 140.55 RCA 150.84 APO 220.75 V2 26.137
 RC 107.990 GL -21.79 GP 1.69 ZAL 105.04 ZAP 124.80 ETS 178.67 ZAE 166.72 ETE 170.65 ZAC 102.16 ETC 277.06 LVI -18.64

PLANETOCENTRIC CONIC
 C3 9.708 VHL 3.115 DLA -31.28 RAL 341.97 RAD 6637.9 VEL 11.393 PTH 6.45 VHP 3.478 DPA -16.62 RAP 317.06 ECC 1.1597
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 26 57 2318.98 1.68 58.82 194.17 137.55 18 5 36 1319.0 19.77 42.43
 60.00 18 54 32 2085.95 7.07 43.00 199.32 129.78 19 29 18 1085.9 22.33 23.70
 70.00 20 57 53 1722.90 13.85 18.53 204.26 121.54 21 26 36 722.9 25.56 356.25
 76.03 23 22 22 1273.36 22.53 348.82 208.89 112.30 23 43 36 273.4 29.70 323.32
 76.03 23 22 22 1273.36 22.53 348.82 208.89 112.30 23 43 36 273.4 29.70 323.32
 76.03 23 22 22 1273.36 22.53 348.82 208.89 112.30 23 43 36 273.4 29.70 323.32
 110.00 2 2 15 6057.76 13.85 285.35 204.26 121.54 3 42 13 5057.8 25.56 263.07

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2565 TRA -.3373 TC3 -.5051 BAU .0811 SGT 921.2 SGR 398.9 S63 1238.5 ST 26.0 SR 16.2 S8 46.2
 RDE -.1759 RRA .0207 RC3 .3680 FAU .18322 RRT .1306 RRF -.3550 RTF -.3275 CRT .8890 CRS .1076 CST .5436
 FDE .2445 FRA 4.6832 FC-16.3430 B8P 1012 SGB 1003.8 R23 -.3051 R13 -.3367 LSA 49.0 MSA 25.8 S8A 1.2
 BDE .3110 BRA .3360 BC3 .6249 F8P 2084 S61 923.0 S62 394.8 THA 3.96 EL1 29.9 EL2 6.4 ALF 30.55

LAUNCH DATE MAY 6 1971 FLIGHT TIME 182.00 ARRIVAL DATE NOV 4 1971

HELIOCENTRIC CONIC DISTANCE 442.812 EARTH TO MARS
 RL 130.91 LAL .00 LOL 224.84 VL 32.309 GAL -.69 AZL 92.06 HCA 146.12 SMA 185.81 ECC .18736 INC 2.0601 V1 29.526
 RP 209.99 LAP -1.15 LOP 10.98 VP 23.431 GAP 7.75 AZP 88.29 TAL 355.61 TAP 141.74 RCA 150.84 APO 220.39 V2 26.111
 RC 110.071 GL -21.96 GP 1.77 ZAL 105.14 ZAP 122.82 ETS 178.68 ZAE 164.98 ETE 171.77 ZAC 102.34 ETC 276.91 LVI -18.51
 PLANETOCENTRIC CONIC
 C3 9.643 VHL 3.105 DLA -31.40 RAL 342.18 RAD 6637.9 VEL 11.390 PTH 6.44 VHP 3.407 DPA -16.75 RAP 316.29 ECC 1.1587
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 28 27 2315.00 1.88 58.66 194.36 137.55 18 7 2 1315.0 19.96 42.24
 60.00 18 36 23 2080.99 7.29 42.76 199.53 129.75 19 31 4 1081.0 22.52 23.42
 70.00 21 0 45 1714.94 14.13 18.09 204.50 121.42 21 29 20 714.9 25.78 355.73
 75.76 23 21 18 1278.02 22.64 349.22 209.04 112.35 23 42 36 278.0 29.82 323.70
 75.76 23 21 18 1278.02 22.64 349.22 209.04 112.35 23 42 36 278.0 29.82 323.70
 75.76 23 21 18 1278.02 22.64 349.22 209.04 112.35 23 42 36 278.0 29.82 323.70
 110.00 2 4 8 6049.80 14.13 284.91 204.50 121.42 3 44 57 5049.8 25.78 262.53
 DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2557 TRA -.2962 TC3 -.6430 BAU .0961 SGT 890.0 SGR 392.9 SG3 1292.3 ST 25.5 SR 15.7 SS 47.3
 RDE -.1700 RRA .0152 RC3 .3771 FAU .19016 RRT .0955 RRF -.3888 RTF -.2056 CRT .9129 CRS .1185 CST .5051
 FDE .2567 FRA 4.8754 FC-17.0727 BSP 818 SGB 972.8 R23 -.3661 R13 -.2140 LSA 49.6 MSA 25.9 SSA 1.2
 BDE .3071 BRA .2968 BC3 .7454 FSP 2181 SG1 890.9 SG2 390.7 THA 2.99 EL1 29.4 EL2 5.6 ALF 30.56

LAUNCH DATE MAY 6 1971 FLIGHT TIME 184.00 ARRIVAL DATE NOV 6 1971

HELIOCENTRIC CONIC DISTANCE 446.966 EARTH TO MARS
 RL 150.91 LAL .00 LOL 224.84 VL 32.297 GAL -.70 AZL 92.07 HCA 147.35 SMA 185.40 ECC .18644 INC 2.0704 V1 29.526
 RP 210.22 LAP -1.12 LOP 12.20 VP 23.384 GAP 7.53 AZP 88.26 TAL 355.55 TAP 142.90 RCA 150.83 APO 219.97 V2 26.085
 RC 112.177 GL -22.13 GP 1.87 ZAL 105.25 ZAP 120.82 ETS 178.68 ZAE 163.18 ETE 172.65 ZAC 102.52 ETC 276.74 LVI -18.36
 PLANETOCENTRIC CONIC
 C3 9.591 VHL 3.097 DLA -31.50 RAL 342.40 RAD 6637.8 VEL 11.388 PTH 6.44 VHP 3.341 DPA -16.88 RAP 315.49 ECC 1.1578
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 29 57 2311.54 2.06 58.51 194.58 137.54 18 8 29 1311.5 20.13 42.08
 60.00 18 58 13 2076.65 7.48 42.55 199.76 129.72 19 32 50 1076.7 22.69 23.17
 70.00 21 3 31 1707.83 14.38 17.69 204.77 121.32 21 31 59 707.8 25.97 355.27
 75.52 23 20 32 1282.17 22.74 349.58 209.23 112.40 23 41 54 282.2 29.92 324.04
 75.52 23 20 32 1282.17 22.74 349.58 209.23 112.40 23 41 54 282.2 29.92 324.04
 75.52 23 20 32 1282.17 22.74 349.58 209.23 112.40 23 41 54 282.2 29.92 324.04
 110.00 2 6 53 6042.69 14.38 284.51 204.77 121.32 3 47 36 5042.7 25.97 262.09
 DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2550 TRA -.2534 TC3 -.7931 BAU .1131 SGT 875.3 SGR 387.5 SG3 1345.6 ST 25.0 SR 15.2 SS 48.5
 RDE -.1643 RRA .0094 RC3 .3865 FAU .19675 RRT .0430 RRF -.4246 RTF -.0653 CRT .9358 CRS .1330 CST .4637
 FDE .2733 FRA 5.0757 FC-17.7604 BSP 618 SGB 957.3 R23 -.4215 R13 -.0697 LSA 50.3 MSA 25.9 SSA 1.2
 BDE .3033 BRA .2536 BC3 .8823 FSP 2270 SG1 875.5 SG2 387.1 THA 1.35 EL1 28.9 EL2 4.6 ALF 30.52

LAUNCH DATE MAY 6 1971 FLIGHT TIME 186.00 ARRIVAL DATE NOV 8 1971

HELIOCENTRIC CONIC DISTANCE 451.128 EARTH TO MARS
 RL 150.91 LAL .00 LOL 224.84 VL 32.285 GAL -.71 AZL 92.08 HCA 148.58 SMA 185.21 ECC .18562 INC 2.0815 V1 29.526
 RP 210.45 LAP -1.09 LOP 13.43 VP 23.338 GAP 7.31 AZP 88.22 TAL 355.47 TAP 144.05 RCA 150.83 APO 219.59 V2 26.058
 RC 114.307 GL -22.30 GP 1.98 ZAL 105.39 ZAP 118.79 ETS 178.69 ZAE 161.34 ETE 173.36 ZAC 102.72 ETC 276.58 LVI -18.21
 PLANETOCENTRIC CONIC
 C3 9.549 VHL 3.090 DLA -31.58 RAL 342.65 RAD 6637.8 VEL 11.386 PTH 6.44 VHP 3.280 DPA -17.01 RAP 314.65 ECC 1.1572
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 31 28 2308.57 2.20 58.39 194.82 137.54 18 9 57 1308.6 20.27 41.94
 60.00 19 0 2 2072.90 7.64 42.37 200.01 129.69 19 34 35 1072.9 22.83 22.96
 70.00 21 6 11 1701.57 14.60 17.34 205.06 121.22 21 34 32 701.6 26.14 354.85
 75.31 23 20 5 1285.82 22.82 349.89 209.44 112.45 23 41 31 285.8 30.02 324.33
 75.31 23 20 5 1285.82 22.82 349.89 209.44 112.45 23 41 31 285.8 30.02 324.33
 75.31 23 20 5 1285.82 22.82 349.89 209.44 112.45 23 41 31 285.8 30.02 324.33
 110.00 2 9 33 6036.42 14.60 284.16 205.06 121.22 3 50 10 5036.4 26.14 261.68
 DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2535 TRA -.2069 TC3 -.9485 BAU .1313 SGT 876.0 SGR 382.9 SG3 1397.4 ST 24.5 SR 14.7 SS 49.5
 RDE -.1386 RRA .0034 RC3 .3968 FAU .20353 RRT -.0265 RRF -.4626 RTF .5002 CRT .9571 CRS .1450 CST .4122
 FDE .2827 FRA 5.2639 FC-18.4528 BSP 436 SGB 956.1 R23 .4598 R13 -.0931 LSA 50.9 MSA 25.9 SSA 1.2
 BDE .2990 BRA .2070 BC3 1.0281 FSP 2377 SG1 876.1 SG2 382.8 THA 179.18 EL1 28.3 EL2 3.7 ALF 30.48

LAUNCH DATE MAY 6 1971 FLIGHT TIME 188.00 ARRIVAL DATE NOV 10 1971

HELIOCENTRIC CONIC DISTANCE 455.292 EARTH TO MARS
 RL 150.91 LAL .00 LOL 224.84 VL 32.275 GAL -.72 AZL 92.09 HCA 149.80 SMA 185.04 ECC .18489 INC 2.0933 V1 29.526
 RP 210.70 LAP -1.05 LOP 14.65 VP 23.293 GAP 7.10 AZP 88.19 TAL 355.38 TAP 145.18 RCA 150.83 APO 219.25 V2 26.030
 RC 116.460 GL -22.46 GP 2.07 ZAL 105.54 ZAP 116.73 ETS 178.70 ZAE 159.45 ETE 173.93 ZAC 102.92 ETC 276.38 LVI -18.05
 PLANETOCENTRIC CONIC
 C3 9.518 VHL 3.085 DLA -31.66 RAL 342.92 RAD 6637.8 VEL 11.385 PTH 6.44 VHP 3.223 DPA -17.14 RAP 313.79 ECC 1.1566
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 33 1 2306.04 2.33 58.28 195.09 137.53 18 11 27 1306.0 20.39 41.81
 60.00 19 1 50 2069.68 7.78 42.21 200.30 129.67 19 36 20 1069.7 22.95 22.77
 70.00 21 8 45 1696.05 14.80 17.03 205.37 121.14 21 37 1 696.1 26.28 354.49
 75.13 23 19 54 1289.09 22.89 350.17 209.69 112.49 23 41 24 289.1 30.10 324.60
 75.13 23 19 54 1289.09 22.89 350.17 209.69 112.49 23 41 24 289.1 30.10 324.60
 75.13 23 19 54 1289.09 22.89 350.17 209.69 112.49 23 41 24 289.1 30.10 324.60
 110.00 2 12 8 6030.92 14.80 283.86 205.37 121.14 3 52 39 5030.9 26.28 261.32
 DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2492 TRA -.1563 TC3 -1.1008 BAU .1494 SGT 889.8 SGR 379.5 SG3 1449.8 ST 23.7 SR 14.2 SS 50.4
 RDE -.1528 RRA -.0029 RC3 .4082 FAU .21079 RRT -.1113 RRF -.5029 RTF .2504 CRT .9754 CRS .1531 CST .3487
 FDE .2809 FRA 5.4485 FC-19.1736 BSP 321 SGB 967.4 R23 .4717 R13 -.2620 LSA 51.4 MSA 25.8 SSA 1.1
 BDE .2923 BRA .1563 BC3 1.1740 FSP 2445 SG1 891.0 SG2 376.6 THA 176.69 EL1 27.5 EL2 2.7 ALF 30.60

LAUNCH DATE MAY 6 1971

FLIGHT TIME 190.00

ARRIVAL DATE NOV 12 1971

HELIOCENTRIC CONIC
 RL 190.91 LAL .00 LOL 224.84 VL 32.266 GAL -.74 AZL 92.11 HCA 151.02 SMA 184.89 ECC .18425 INC 2.1059 V1 29.926
 RP 210.95 LAP -1.02 LOP 19.87 VP 23.248 GAP 6.89 AZP 88.16 TAL 355.27 TAP 146.29 RCA 150.83 APO 218.96 V2 26.001
 RC 118.637 GL -22.63 GP 2.18 ZAL 108.72 ZAP 114.67 ETS 178.72 ZAE 157.52 ETE 174.40 ZAC 103.12 ETC 276.19 LVI -17.89

PLANETOCENTRIC CONIC
 C3 9.497 VHL 3.082 DLA -31.73 RAL 343.21 RAD 6637.8 VEL 11.384 PTH 6.44 VHP 3.171 DPA -17.26 RAP 312.90 ECC 1.1563
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 34 35 2304.02 2.43 58.20 195.39 137.53 18 12 59 1304.0 20.48 41.72
 60.00 19 3 38 2067.05 7.89 42.08 200.61 129.65 19 38 5 1067.1 23.05 22.62
 70.00 21 11 13 1691.45 14.98 16.77 205.71 121.07 21 39 25 691.5 26.40 354.19
 74.98 23 20 2 1291.94 22.95 350.41 209.97 112.54 23 41 34 291.9 30.17 324.03
 74.98 23 20 2 1291.94 22.95 350.41 209.97 112.54 23 41 34 291.9 30.17 324.83
 74.98 23 20 2 1291.94 22.95 350.41 209.97 112.54 23 41 34 291.9 30.17 324.83
 110.00 2 14 36 6026.31 14.96 283.60 205.71 121.07 3 55 2 5026.3 26.40 261.01

DIFFERENTIAL CORRECTIONS
 TDE -.2529 TRA -.1100 TC3-1.2957 BAU .1729 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.1475 RRA -.0099 RC3 .4181 FAU .21569 SGT 957.4 SGR 377.0 S63 1497.5 ST 23.8 SR 13.7 SS 51.8
 FDE .3243 FRA 5.6620 FC-19.6627 BSP 400 RRT -.1984 RRF -.5441 RTF .3868 CRT .9887 CR8 .1853 C8T .3014
 BDE .2928 BRA .1104 BC3 1.3615 FSP 2593 SGB 1029.0 R23 .4629 R13 -.4033 LSA 52.5 MSA 26.0 SSA 1.1
 S61 960.9 S62 368.2 THA 174.76 EL1 27.4 EL2 1.8 ALF 29.61

LAUNCH DATE MAY 6 1971

FLIGHT TIME 192.00

ARRIVAL DATE NOV 14 1971

HELIOCENTRIC CONIC
 RL 190.91 LAL .00 LOL 224.84 VL 32.258 GAL -.75 AZL 92.12 HCA 152.24 SMA 184.78 ECC .18369 INC 2.1197 V1 29.926
 RP 211.20 LAP -.99 LOP 17.09 VP 23.205 GAP 6.68 AZP 88.12 TAL 355.14 TAP 147.38 RCA 150.82 APO 218.70 V2 25.972
 RC 120.836 GL -22.79 GP 2.30 ZAL 105.92 ZAP 112.58 ETS 178.73 ZAE 155.55 ETE 174.78 ZAC 103.34 ETC 276.00 LVI -17.72

PLANETOCENTRIC CONIC
 C3 9.485 VHL 3.080 DLA -31.79 RAL 343.52 RAD 6637.8 VEL 11.384 PTH 6.44 VHP 3.124 DPA -17.37 RAP 311.99 ECC 1.1581
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 36 12 2302.37 2.52 58.13 195.72 137.53 18 14 34 1302.4 20.56 41.64
 60.00 19 5 26 2064.88 7.99 41.97 200.94 129.63 19 39 51 1064.9 23.14 22.50
 70.00 21 13 38 1687.49 15.10 16.55 206.08 121.01 21 41 45 687.5 26.50 353.83
 74.84 23 20 22 1294.56 22.99 350.63 210.29 112.58 23 41 57 294.6 30.22 325.04
 74.84 23 20 22 1294.56 22.99 350.63 210.29 112.58 23 41 57 294.6 30.22 325.04
 74.84 23 20 22 1294.56 22.99 350.63 210.29 112.58 23 41 57 294.6 30.22 325.04
 110.00 2 17 0 6022.35 15.10 283.37 206.08 121.01 3 57 22 5022.3 26.50 260.75

DIFFERENTIAL CORRECTIONS
 TDE -.2518 TRA -.0569 TC3-1.4782 BAU .1952 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.1422 RRA -.0170 RC3 .4297 FAU .22127 SGT 1031.5 SGR 376.0 S63 1543.7 ST 23.5 SR 13.2 SS 52.8
 FDE .3504 FRA 5.8521 FC-20.1961 BSP 607 RRT -.2898 RRF -.5867 RTF .5115 CRT .9954 CR8 .2105 C8T .2380
 BDE .2892 BRA .0594 BC3 1.5394 FSP 2646 SGB 1097.9 R23 .4366 R13 -.5300 LSA 53.3 MSA 26.0 SSA 1.1
 S61 1038.1 S62 357.6 THA 173.15 EL1 27.0 EL2 1.1 ALF 29.30

LAUNCH DATE MAY 6 1971

FLIGHT TIME 194.00

ARRIVAL DATE NOV 16 1971

HELIOCENTRIC CONIC
 RL 190.91 LAL .00 LOL 224.84 VL 32.251 GAL -.77 AZL 92.13 HCA 153.45 SMA 184.65 ECC .18321 INC 2.1343 V1 29.926
 RP 211.46 LAP -.95 LOP 18.30 VP 23.161 GAP 6.48 AZP 88.09 TAL 355.00 TAP 148.43 RCA 150.82 APO 218.47 V2 25.942
 RC 123.058 GL -22.96 GP 2.43 ZAL 106.14 ZAP 110.48 ETS 178.75 ZAE 153.56 ETE 175.09 ZAC 103.56 ETC 275.80 LVI -17.56

PLANETOCENTRIC CONIC
 C3 9.483 VHL 3.079 DLA -31.84 RAL 343.86 RAD 6637.8 VEL 11.384 PTH 6.44 VHP 3.081 DPA -17.48 RAP 311.06 ECC 1.1561
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 37 51 2301.11 2.58 58.08 196.07 137.52 18 16 12 1301.1 20.62 41.56
 60.00 19 7 16 2063.15 8.06 41.89 201.31 129.62 19 41 39 1063.2 23.20 22.40
 70.00 21 16 0 1684.17 15.21 16.36 206.47 120.95 21 44 4 684.2 26.59 353.71
 74.73 23 20 55 1296.99 23.03 350.83 210.64 112.61 23 42 32 297.0 30.27 325.23
 74.73 23 20 55 1296.99 23.03 350.83 210.64 112.61 23 42 32 297.0 30.27 325.23
 74.73 23 20 55 1296.99 23.03 350.83 210.64 112.61 23 42 32 297.0 30.27 325.23
 110.00 2 19 22 6019.03 15.21 283.19 206.47 120.95 3 59 41 5019.0 26.59 260.53

DIFFERENTIAL CORRECTIONS
 TDE -.2506 TRA -.0017 TC3-1.6656 BAU .2189 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.1367 RRA -.0246 RC3 .4426 FAU .22715 SGT 1126.8 SGR 376.7 S63 1589.0 ST 23.4 SR 12.7 SS 53.8
 FDE .3606 FRA 6.0348 FC-20.7364 BSP 865 RRT -.3791 RRF -.6300 RTF .1.47 CRT .9933 CR8 .2309 C8T .1619
 BDE .2654 BRA .0246 BC3 1.7234 FSP 2729 SGB 1188.1 R23 .4025 R13 -.6323 LSA 54.0 MSA 26.0 SSA 1.0
 S61 1136.8 S62 345.5 THA 172.04 EL1 26.6 EL2 1.3 ALF 28.53

LAUNCH DATE MAY 6 1971

FLIGHT TIME 196.00

ARRIVAL DATE NOV 18 1971

HELIOCENTRIC CONIC
 RL 190.91 LAL .00 LOL 224.84 VL 32.245 GAL -.80 AZL 92.15 HCA 154.66 SMA 184.55 ECC .18280 INC 2.1504 V1 29.926
 RP 211.73 LAP -.92 LOP 19.51 VP 23.119 GAP 6.28 AZP 88.06 TAL 354.85 TAP 149.51 RCA 150.81 APO 218.28 V2 25.911
 RC 125.302 GL -23.12 GP 2.56 ZAL 106.37 ZAP 108.38 ETS 178.78 ZAE 151.54 ETE 175.35 ZAC 103.79 ETC 275.60 LVI -17.40

PLANETOCENTRIC CONIC
 C3 9.491 VHL 3.081 DLA -31.88 RAL 344.22 RAD 6637.8 VEL 11.384 PTH 6.44 VHP 3.042 DPA -17.57 RAP 310.12 ECC 1.1562
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 39 33 2300.20 2.62 58.04 196.46 137.52 18 17 53 1300.2 20.66 41.53
 60.00 19 9 8 2061.82 8.12 41.83 201.71 129.61 19 43 29 1061.8 23.25 22.32
 70.00 21 18 20 1681.42 15.31 16.21 206.89 120.91 21 46 21 681.4 26.66 353.52
 74.63 23 21 41 1299.26 23.06 351.02 211.02 112.65 23 43 20 299.3 30.31 325.41
 74.63 23 21 41 1299.26 23.06 351.02 211.02 112.65 23 43 20 299.3 30.31 325.41
 74.63 23 21 41 1299.26 23.06 351.02 211.02 112.65 23 43 20 299.3 30.31 325.41
 110.00 2 21 42 6016.28 15.31 283.03 206.89 120.91 4 1 59 5016.3 26.66 260.35

DIFFERENTIAL CORRECTIONS
 TDE -.2500 TRA .0553 TC3-1.8610 BAU .2431 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.1315 RRA -.0327 RC3 .4557 FAU .23206 SGT 1243.3 SGR 379.2 S63 1630.6 ST 23.4 SR 12.3 SS 54.8
 FDE .3923 FRA 6.2195 FC-21.1672 BSP 1152 RRT -.4603 RRF -.6732 RTF .6932 CRT .9805 CR8 .2632 C8T .0909
 BDE .2825 BRA .0643 BC3 1.9160 FSP 2801 SGB 1299.8 R23 .3708 R13 -.7086 LSA 55.0 MSA 26.0 SSA 1.0
 S61 1256.4 S62 333.1 THA 171.40 EL1 26.3 EL2 2.1 ALF 27.44

LAUNCH DATE MAY 6 1971

FLIGHT TIME 198.00

ARRIVAL DATE NOV 20 1971

HELIOCENTRIC CONIC

DISTANCE 476.173

EARTH TO MARS

RL 150.91 LAL .00 LOL 224.84 VL 32.240 GAL -.82 AZL 92.17 HCA 155.87 SMA 184.46 ECC .18246 INC 2.1677 V1 29.526
RP 212.01 LAP -.89 LOP 20.72 VP 23.077 GAP 6.09 AZP 88.02 TAL 354.68 TAP 150.55 RCA 150.81 APO 218.12 V2 25.880
RC 127.566 GL -23.29 GP 2.71 ZAL 106.63 ZAP 106.27 ETS 178.81 ZAE 149.50 ETE 175.56 ZAC 104.03 ETC 275.39 LVI -17.24

PLANETOCENTRIC CONIC

C3 9.509 VHL 3.084 DLA -31.92 RAL 344.60 RAD 6637.8 VEL 11.385 PTH 6.44 VHP 3.008 DPA -17.65 RAP 309.17 ECC 1.1565
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 41 20 2299.58 2.66 58.01 196.88 137.52 18 19 39 1299.6 20.69 41.50
60.00 19 11 2 2060.83 8.16 41.78 202.13 129.60 19 45 23 1060.8 23.29 22.27
70.00 21 20 41 1679.12 15.39 16.08 207.34 120.87 21 48 40 679.1 26.72 353.37
74.54 23 22 34 1301.60 23.07 351.20 211.44 112.70 23 44 16 301.6 30.35 325.60
74.54 23 22 34 1301.60 23.07 351.20 211.44 112.70 23 44 16 301.6 30.35 325.60
74.54 23 22 34 1301.60 23.07 351.20 211.44 112.70 23 44 16 301.6 30.35 325.60
110.00 2 24 4 6013.97 15.39 282.90 207.34 120.87 4 4 18 5014.0 26.72 260.19

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2497 TRA .1149 TC3-2.0814 BAU .2688 SGT 1376.5 SGR 383.8 SG3 1668.2 ST 23.8 SR 11.8 SS 53.8
RDE -.1264 RRA -.0414 RC3 .4697 FAU .23648 RRT -.5339 RRF -.7154 RTF .7537 CRT .9353 CRS .3005 CST .0190
FDE .4300 FRA 6.3923 FC-21.5307 BSP 1452 SGB 1429.0 R23 .3426 R13 -.7666 LSA 55.9 MSA 26.1 SSA .9
BDE .2799 BRA .1222 BC3 2.1143 FSP 2877 SG1 1392.6 SG2 320.7 THA 171.05 EL1 26.2 EL2 3.1 ALF 26.01

LAUNCH DATE MAY 6 1971

FLIGHT TIME 200.00

ARRIVAL DATE NOV 22 1971

HELIOCENTRIC CONIC

DISTANCE 480.357

EARTH TO MARS

RL 150.91 LAL .00 LOL 224.84 VL 32.236 GAL -.85 AZL 92.19 HCA 157.07 SMA 184.39 ECC .18219 INC 2.1869 V1 29.526
RP 212.29 LAP -.85 LOP 21.93 VP 23.035 GAP 5.90 AZP 87.99 TAL 354.49 TAP 151.57 RCA 150.80 APO 217.99 V2 25.848
RC 129.850 GL -23.47 GP 2.07 ZAL 106.90 ZAP 104.17 ETS 178.85 ZAE 147.45 ETE 175.74 ZAC 104.27 ETC 275.19 LVI -17.09

PLANETOCENTRIC CONIC

C3 9.536 VHL 3.088 DLA -31.96 RAL 345.01 RAD 6637.8 VEL 11.386 PTH 6.44 VHP 2.978 DPA -17.71 RAP 308.21 ECC 1.1569
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 43 11 2299.21 2.67 58.00 197.32 137.52 18 21 30 1299.2 20.71 41.48
60.00 19 13 2 2060.10 8.20 41.74 202.59 129.60 19 47 22 1060.1 23.32 22.23
70.00 21 23 6 1677.12 15.46 15.97 207.83 120.84 21 51 3 677.1 26.77 353.24
74.45 23 23 36 1303.98 23.08 351.39 211.90 112.74 23 45 20 304.0 30.37 325.79
74.45 23 23 36 1303.98 23.08 351.39 211.90 112.74 23 45 20 304.0 30.37 325.79
74.45 23 23 36 1303.98 23.08 351.39 211.90 112.74 23 45 20 304.0 30.37 325.79
110.00 2 26 28 6011.98 15.46 282.79 207.83 120.84 4 6 40 5012.0 26.77 260.06

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2484 TRA .1772 TC3-2.2636 BAU .2951 SGT 1522.2 SGR 390.4 SG3 1702.0 ST 23.9 SR 11.4 SS 56.6
RDE -.1213 RRA -.0506 RC3 .4847 FAU .24054 RRT -.6017 RRF -.7556 RTF .8011 CRT .9158 CRS .3353 CST -.0613
FDE .4539 FRA 6.5539 FC-21.8377 BSP 1768 SGB 1571.5 R23 .3166 R13 -.8117 LSA 56.8 MSA 26.1 SSA .9
BDE .2765 BRA .1843 BC3 2.3149 FSP 2940 SG1 1541.0 SG2 308.0 THA 170.86 EL1 26.1 EL2 4.2 ALF 24.25

LAUNCH DATE MAY 6 1971

FLIGHT TIME 202.00

ARRIVAL DATE NOV 24 1971

HELIOCENTRIC CONIC

DISTANCE 484.543

EARTH TO MARS

RL 150.91 LAL .00 LOL 224.84 VL 32.233 GAL -.88 AZL 92.21 HCA 158.28 SMA 184.34 ECC .18199 INC 2.2079 V1 29.526
RP 212.57 LAP -.82 LOP 23.13 VP 22.994 GAP 5.71 AZP 87.95 TAL 354.30 TAP 152.57 RCA 150.79 APO 217.89 V2 25.815
RC 132.153 GL -23.66 GP 3.04 ZAL 107.19 ZAP 102.07 ETS 178.90 ZAE 145.39 ETE 175.88 ZAC 104.53 ETC 274.98 LVI -16.95

PLANETOCENTRIC CONIC

C3 9.573 VHL 3.094 DLA -32.00 RAL 345.44 RAD 6637.8 VEL 11.387 PTH 6.44 VHP 2.952 DPA -17.76 RAP 307.26 ECC 1.1576
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 45 8 2299.03 2.68 57.99 197.81 137.52 18 23 27 1299.0 20.72 41.48
60.00 19 15 7 2059.57 8.22 41.72 203.09 129.59 19 49 27 1059.6 23.34 22.19
70.00 21 25 38 1675.29 15.52 15.86 208.35 120.81 21 53 33 675.3 26.82 353.12
74.36 23 24 43 1306.61 23.09 351.59 212.39 112.79 23 46 30 306.6 30.40 325.99
74.36 23 24 43 1306.61 23.09 351.59 212.39 112.79 23 46 30 306.6 30.40 325.99
74.36 23 24 43 1306.61 23.09 351.59 212.39 112.79 23 46 30 306.6 30.40 325.99
110.00 2 29 0 6010.15 15.52 282.89 208.35 120.81 4 9 10 5010.1 26.82 259.94

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2477 TRA .2413 TC3-2.4677 BAU .3223 SGT 1679.3 SGR 400.1 SG3 1733.8 ST 24.4 SR 11.0 SS 57.5
RDE -.1164 RRA -.0608 RC3 .5011 FAU .24433 RRT -.6613 RRF -.7940 RTF .5664 CRT .8622 CRS .3792 CST -.1342
FDE .4931 FRA 6.7136 FC-22.0854 BSP 2093 SGB 1726.3 R23 .2974 R13 -.8451 LSA 57.8 MSA 26.2 SSA .9
BDE .2737 BRA .2487 BC3 2.5181 FSP 2994 SG1 1700.6 SG2 296.3 THA 170.76 EL1 26.2 EL2 5.2 ALF 22.11

LAUNCH DATE MAY 6 1971

FLIGHT TIME 204.00

ARRIVAL DATE NOV 26 1971

HELIOCENTRIC CONIC

DISTANCE 488.730

EARTH TO MARS

RL 150.91 LAL .00 LOL 224.84 VL 32.230 GAL -.91 AZL 92.23 HCA 159.47 SMA 184.30 ECC .18185 INC 2.2314 V1 29.526
RP 212.86 LAP -.78 LOP 24.32 VP 22.953 GAP 5.52 AZP 87.91 TAL 354.08 TAP 153.96 RCA 150.78 APO 217.81 V2 25.782
RC 134.475 GL -23.86 GP 3.23 ZAL 107.49 ZAP 99.98 ETS 178.95 ZAE 143.32 ETE 175.99 ZAC 104.80 ETC 274.78 LVI -16.83

PLANETOCENTRIC CONIC

C3 9.621 VHL 3.102 DLA -32.04 RAL 345.89 RAD 6637.8 VEL 11.390 PTH 6.44 VHP 2.929 DPA -17.78 RAP 306.30 ECC 1.1583
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 47 13 2298.98 2.69 57.99 198.32 137.52 18 25 32 1299.0 20.72 41.47
60.00 19 17 21 2059.12 8.24 41.69 203.62 129.59 19 51 40 1059.1 23.36 22.17
70.00 21 28 20 1673.41 15.59 15.76 208.91 120.78 21 56 14 673.4 26.86 352.99
74.27 23 25 55 1309.53 23.09 351.82 212.93 112.85 23 47 45 309.5 30.43 326.22
74.27 23 25 55 1309.53 23.09 351.82 212.93 112.85 23 47 45 309.5 30.43 326.22
74.27 23 25 55 1309.53 23.09 351.82 212.93 112.85 23 47 45 309.5 30.43 326.22
110.00 2 31 43 6008.27 15.59 282.58 208.91 120.78 4 11 51 5008.3 26.86 259.82

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2462 TRA .3084 TC3-2.6777 BAU .3501 SGT 1845.9 SGR 412.3 SG3 1759.9 ST 25.0 SR 10.6 SS 58.5
RDE -.1118 RRA -.0715 RC3 .5177 FAU .24682 RRT -.7138 RRF -.8290 RTF .8630 CRT .7929 CRS .4297 CST -.2037
FDE .5422 FRA 6.8691 FC-22.2109 BSP 2431 SGB 1891.4 R23 .2826 R13 -.8703 LSA 58.9 MSA 26.2 SSA .8
BDE .2704 BRA .3165 BC3 2.7224 FSP 3048 SG1 1869.8 SG2 285.1 THA 170.72 EL1 26.5 EL2 6.1 ALF 19.66

LAUNCH DATE MAY 6 1971

FLIGHT TIME 206.00

ARRIVAL DATE NOV 28 1971

HELIOCENTRIC CONIC
 RL 150.91 LAL .00 LOL 224.84 VL 32.228 GAL -1.94 AZL 92.26 HCA 160.67 SMA 184.27 ECC .18177 INC 2.2973 V1 29.526
 RP 213.16 LAP -.75 LOP 25.82 VP 22.913 GAP 5.34 AZP 87.87 TAL 353.86 TAP 154.53 RCA 150.77 APO 217.76 V2 25.749
 RC 136.814 GL -24.08 GP 3.44 ZAL 107.80 ZAP 97.91 ETS 179.01 ZAE 141.25 ETE 176.07 ZAC 105.09 ETC 274.57 LVI -16.72

PLANETOCENTRIC CONIC
 C3 9.679 VHL 3.111 DLA -32.09 RAL 346.37 RAD 6637.9 VEL 11.392 PTH 6.44 VHP 2.011 DPA -17.77 RAP 305.36 ECC 1.1593
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 49 26 2298.97 2.69 57.99 198.88 137.52 18 27 45 1299.0 20.72 41.47
 60.00 19 19 44 2058.65 8.26 41.67 204.20 129.59 19 54 3 1058.7 23.37 22.14
 70.00 21 31 18 1671.25 15.67 15.63 209.53 120.74 21 59 10 671.2 26.92 352.85
 74.16 23 27 6 1312.99 23.10 352.08 213.51 112.92 23 48 59 313.0 30.46 326.49
 74.16 23 27 6 1312.99 23.10 352.08 213.51 112.92 23 48 59 313.0 30.46 326.49
 74.16 23 27 6 1312.99 23.10 352.08 213.51 112.92 23 48 59 313.0 30.46 326.49
 110.00 2 34 41 6006.11 15.67 282.46 209.53 120.74 4 14 47 5006.1 26.92 259.67

DIFFERENTIAL CORRECTIONS
 TDE -.2450 TRA .3772 TC3-2.8770 BAU .3787
 RDE -.1070 RRA -.0831 RC3 .5362 FAU .24913
 FDE .5782 FRA 7.0007 FC-22.2831 B8P 2771
 BDE .2673 BRA .3862 BC3 2.9265 F8P 3093

MID-COURSE EXECUTION ACCURACY
 SGT 2019.9 SGR 427.5 S63 1781.1
 RRT -.7600 RRF -.8605 RTF .8841
 S6B 2064.7 R23 .2706 R13 -.8903
 S61 2046.4 S62 274.3 THA 170.69

ORBIT DETERMINATION ACCURACY
 ST 25.8 SR 10.2 SS 59.2
 CRT .7100 CR8 .4789 CST -.2734
 LSA 59.9 MSA 26.3 SSA .8
 EL1 26.9 EL2 6.9 ALF 16.86

LAUNCH DATE MAY 6 1971

FLIGHT TIME 206.00

ARRIVAL DATE NOV 30 1971

HELIOCENTRIC CONIC
 RL 150.91 LAL .00 LOL 224.84 VL 32.227 GAL -1.98 AZL 92.29 HCA 161.86 SMA 184.25 ECC .18174 INC 2.2864 V1 29.526
 RP 213.46 LAP -.71 LOP 26.71 VP 22.873 GAP 5.16 AZP 87.83 TAL 353.62 TAP 155.48 RCA 150.76 APO 217.73 V2 25.714
 RC 139.171 GL -24.32 GP 3.67 ZAL 108.13 ZAP 95.86 ETS 179.09 ZAE 139.19 ETE 176.13 ZAC 105.39 ETC 274.37 LVI -16.64

PLANETOCENTRIC CONIC
 C3 9.749 VHL 3.122 DLA -32.15 RAL 346.88 RAD 6637.9 VEL 11.395 PTH 6.45 VHP 2.896 DPA -17.74 RAP 304.42 ECC 1.1804
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 51 51 2298.92 2.69 57.98 199.48 137.52 18 30 10 1298.9 20.72 41.47
 60.00 19 22 22 2058.02 8.29 41.64 204.82 129.58 19 56 40 1058.0 23.40 22.11
 70.00 21 34 39 1668.48 15.76 15.48 210.20 120.70 22 2 27 668.5 26.99 352.66
 74.03 23 28 15 1317.19 23.10 352.40 214.13 113.01 23 50 12 317.2 30.50 326.82
 74.03 23 28 15 1317.19 23.10 352.40 214.13 113.01 23 50 12 317.2 30.50 326.82
 74.03 23 28 15 1317.19 23.10 352.40 214.13 113.01 23 50 12 317.2 30.50 326.82
 110.00 2 36 1 6003.34 15.76 282.30 210.20 120.70 4 18 5 5003.3 26.99 259.49

DIFFERENTIAL CORRECTIONS
 TDE -.2434 TRA .4483 TC3-3.0784 BAU .4077
 RDE -.1024 RRA -.0957 RC3 .5568 FAU .25112
 FDE .6104 FRA 7.1226 FC-22.3012 B8P 3118
 BDE .2641 BRA .4585 BC3 3.1284 F8P 3126

MID-COURSE EXECUTION ACCURACY
 SGT 2199.8 SGR 446.4 S63 1798.9
 RRT -.8005 RRF -.8883 RTF .9011
 S6B 2244.7 R23 .2610 R13 -.9063
 S61 2229.1 S62 264.0 THA 170.64

ORBIT DETERMINATION ACCURACY
 ST 26.8 SR 9.9 SS 59.8
 CRT .6130 CR8 .5307 CST -.3405
 LSA 60.9 MSA 26.4 SSA .7
 EL1 27.6 EL2 7.6 ALF 13.84

LAUNCH DATE MAY 6 1971

FLIGHT TIME 210.00

ARRIVAL DATE DEC 2 1971

HELIOCENTRIC CONIC
 RL 150.91 LAL .00 LOL 224.84 VL 32.227 GAL -1.02 AZL 92.32 HCA 163.05 SMA 184.24 ECC .18177 INC 2.3198 V1 29.526
 RP 213.77 LAP -.68 LOP 27.90 VP 22.833 GAP 4.99 AZP 87.73 TAL 353.37 TAP 156.42 RCA 150.75 APO 217.73 V2 25.680
 RC 141.545 GL -24.58 GP 3.93 ZAL 108.47 ZAP 93.83 ETS 179.18 ZAE 137.14 ETE 176.16 ZAC 105.72 ETC 274.17 LVI -16.58

PLANETOCENTRIC CONIC
 C3 9.831 VHL 3.133 DLA -32.23 RAL 347.42 RAD 6638.0 VEL 11.399 PTH 6.45 VHP 2.885 DPA -17.66 RAP 303.50 ECC 1.1618
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 54 29 2298.70 2.70 57.98 200.13 137.52 18 32 48 1298.7 20.73 41.46
 60.00 19 25 17 2057.06 8.33 41.59 205.50 129.58 19 59 34 1057.1 23.43 22.05
 70.00 21 36 30 1664.72 15.89 15.26 210.93 120.64 22 6 15 664.7 27.08 352.41
 73.86 23 29 16 1322.39 23.11 352.80 214.81 113.12 23 51 18 322.4 30.55 327.23
 73.86 23 29 16 1322.39 23.11 352.80 214.81 113.12 23 51 18 322.4 30.55 327.23
 73.86 23 29 16 1322.39 23.11 352.80 214.81 113.12 23 51 18 322.4 30.55 327.23
 110.00 2 41 53 5999.58 15.89 282.09 210.93 120.64 4 21 52 4999.6 27.08 259.24

DIFFERENTIAL CORRECTIONS
 TDE -.2412 TRA .5224 TC3-3.2733 BAU .4369
 RDE -.0882 RRA -.1099 RC3 .5789 FAU .25228
 FDE .6397 FRA 7.2452 FC-22.2164 B8P 3478
 BDE .2804 BRA .5339 BC3 3.3241 F8P 3151

MID-COURSE EXECUTION ACCURACY
 SGT 2383.5 SGR 469.5 S63 1813.4
 RRT -.8347 RRF -.9125 RTF .541
 S6B 2429.3 R23 .2553 R13 -.9187
 S61 2415.9 S62 256.1 THA 170.56

ORBIT DETERMINATION ACCURACY
 ST 28.0 SR 9.7 SS 60.8
 CRT .5022 CR8 .5902 CST -.3984
 LSA 62.1 MSA 26.5 SSA .7
 EL1 28.4 EL2 8.2 ALF 10.77

LAUNCH DATE MAY 6 1971

FLIGHT TIME 212.00

ARRIVAL DATE DEC 4 1971

HELIOCENTRIC CONIC
 RL 150.91 LAL .00 LOL 224.84 VL 32.227 GAL -1.06 AZL 92.36 HCA 164.23 SMA 184.24 ECC .18185 INC 2.3578 V1 29.526
 RP 214.08 LAP -.64 LOP 29.08 VP 22.794 GAP 4.81 AZP 87.73 TAL 353.11 TAP 157.35 RCA 150.74 APO 217.75 V2 25.645
 RC 143.936 GL -24.88 GP 4.22 ZAL 108.81 ZAP 91.83 ETS 179.28 ZAE 135.10 ETE 176.17 ZAC 106.08 ETC 273.98 LVI -16.57

PLANETOCENTRIC CONIC
 C3 9.927 VHL 3.151 DLA -32.33 RAL 348.00 RAD 6638.0 VEL 11.403 PTH 6.45 VHP 2.877 DPA -17.55 RAP 302.60 ECC 1.1634
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 57 24 2298.17 2.73 57.95 200.84 137.52 18 35 42 1298.2 20.76 41.43
 60.00 19 28 34 2055.56 8.39 41.52 206.25 129.56 20 2 49 1055.6 23.49 21.96
 70.00 21 43 4 1659.42 16.08 14.96 211.75 120.55 22 10 43 659.4 27.22 352.06
 73.64 23 30 7 1326.78 23.12 353.30 215.54 113.25 23 52 16 328.0 30.62 327.73
 73.64 23 30 7 1326.78 23.12 353.30 215.54 113.25 23 52 16 328.0 30.62 327.73
 73.64 23 30 7 1326.78 23.12 353.30 215.54 113.25 23 52 16 328.0 30.62 327.73
 110.00 2 46 26 5994.28 16.08 281.79 211.75 120.55 4 26 21 4994.3 27.22 258.88

DIFFERENTIAL CORRECTIONS
 TDE -.2390 TRA .5986 TC3-3.4628 BAU .4665
 RDE -.0942 RRA -.1255 RC3 .6035 FAU .25293
 FDE .7042 FRA 7.3471 FC-22.0588 B8P 3843
 BDE .2569 BRA .6116 BC3 3.5150 F8P 3181

MID-COURSE EXECUTION ACCURACY
 SGT 2570.9 SGR 496.9 S63 1822.3
 RRT -.8637 RRF -.9328 RTF .9247
 S6B 2618.5 R23 .2514 R13 -.9288
 S61 2606.8 S62 247.0 THA 170.44

ORBIT DETERMINATION ACCURACY
 ST 29.3 SR 9.5 SS 61.3
 CRT .3813 CR8 .6502 CST -.4518
 LSA 63.2 MSA 26.6 SSA .6
 EL1 29.5 EL2 8.7 ALF 7.72

LAUNCH DATE MAY 6 1971

FLIGHT TIME 214.00

ARRIVAL DATE DEC 6 1971

HELIOCENTRIC CONIC
 RL 150.91 LAL .00 LOL 224.84 VL 32.228 GAL -1.10 AZL 92.40 HCA 165.42 SMA 184.26 ECC .18198 INC 2.4013 V1 29.526
 RP 214.39 LAP -.60 LOP 30.26 VP 22.755 GAP 4.64 AZP 87.68 TAL 332.84 TAP 158.25 RCA 150.73 APO 217.79 V2 25.609
 RC 146.344 GL -25.22 GP 4.55 ZAL 109.16 ZAP 89.66 ETS 179.40 ZAE 133.08 ETE 176.16 ZAC 106.48 ETC 273.79 LVI -16.59

PLANETOCENTRIC CONIC
 C3 10.038 VML 3.168 DLA -32.48 RAL 346.61 RAD 6638.1 VEL 11.408 PTH 6.46 VHP 2.872 DPA -17.38 RAP 301.72 ECC 1.1652
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 0 41 2297.14 2.70 57.91 201.62 137.51 18 38 58 1297.1 20.81 41.38
 60.00 19 32 20 2053.22 8.49 41.41 207.07 129.55 20 6 33 1053.2 23.50 21.83
 70.00 21 48 37 1651.79 16.34 14.53 212.68 120.42 22 16 9 651.8 27.41 331.94
 73.35 23 30 42 1336.80 23.16 353.93 216.35 113.41 23 52 59 336.8 30.72 328.36
 73.35 23 30 42 1336.80 23.16 353.93 216.35 113.41 23 52 59 336.8 30.72 328.36
 73.35 23 30 42 1336.80 23.16 353.93 216.35 113.41 23 52 59 336.8 30.72 328.36
 110.00 2 51 59 5986.65 16.34 281.35 212.68 120.42 4 31 46 4986.7 27.41 258.37

DIFFERENTIAL CORRECTIONS
 TDE -.2381 TRA .6758 TC3-3.6487 BAU .4969 SGT 2762.0 SGR 529.2 SG3 1825.4 ST 30.8 SR 9.4 SS 61.7
 RDE -.0901 RRA -.1427 RC3 .6312 FAU .25306 RRT -.8876 RRF -.9496 RTF .9331 CRT .2555 CRS .7088 CST -.4987
 FDE .7395 FRA 7.4233 FC-21.0250 BSP 4199 SGB 2812.3 R23 .2496 R13 -.9369 LSA 64.3 MSA 26.8 SSA .6
 BDE .2546 BRA .6907 BC3 3.7029 FSP 3190 SG1 2802.0 SG2 240.2 THA 170.28 EL1 30.9 EL2 9.0 ALF 4.87

LAUNCH DATE MAY 6 1971

FLIGHT TIME 216.00

ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC
 RL 150.91 LAL .00 LOL 224.84 VL 32.229 GAL -1.15 AZL 92.45 HCA 166.59 SMA 184.28 ECC .18216 INC 2.4525 V1 29.526
 RP 214.72 LAP -.57 LOP 31.44 VP 22.716 GAP 4.47 AZP 87.61 TAL 332.55 TAP 159.15 RCA 150.71 APO 217.85 V2 25.573
 RC 148.770 GL -25.62 GP 4.94 ZAL 109.51 ZAP 87.93 ETS 179.55 ZAE 131.08 ETE 176.11 ZAC 106.92 ETC 273.61 LVI -16.60

PLANETOCENTRIC CONIC
 C3 10.167 VML 3.189 DLA -32.64 RAL 349.27 RAD 6638.1 VEL 11.413 PTH 6.46 VHP 2.871 DPA -17.15 RAP 300.85 ECC 1.1673
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 4 25 2295.36 2.87 57.84 202.47 137.51 18 42 40 1295.4 20.89 41.30
 60.00 19 36 44 2049.60 8.65 41.23 207.98 129.52 20 10 53 1049.7 23.71 21.63
 70.00 21 55 34 1640.68 16.72 13.89 213.74 120.22 22 22 54 640.7 27.68 330.79
 72.98 23 30 52 1346.96 23.20 354.73 217.24 113.63 23 53 19 347.0 30.85 329.17
 72.98 23 30 52 1346.96 23.20 354.73 217.24 113.63 23 53 19 347.0 30.85 329.17
 72.98 23 30 52 1346.96 23.20 354.73 217.24 113.63 23 53 19 347.0 30.85 329.17
 110.00 2 58 56 5975.54 16.72 280.72 213.74 120.22 4 38 31 4975.5 27.68 257.62

DIFFERENTIAL CORRECTIONS
 TDE -.2365 TRA .7588 TC3-3.8215 BAU .5272 SGT 2954.3 SGR 568.4 SG3 1826.4 ST 32.4 SR 9.4 SS 62.3
 RDE -.0865 RRA -.1628 RC3 .6625 FAU .25266 RRT -.9076 RRF -.9496 RTF .9402 CRT .1207 CRS .7673 CST -.5422
 FDE .7765 FRA 7.5082 FC-21.5138 BSP 4571 SGB 3008.5 R23 .2487 R13 -.9437 LSA 65.5 MSA 26.9 SSA .5
 BDE .2518 BRA .7741 BC3 3.8785 FSP 3195 SG1 2999.3 SG2 235.0 THA 170.03 EL1 32.5 EL2 9.3 ALF 2.18

LAUNCH DATE MAY 6 1971

FLIGHT TIME 216.00

ARRIVAL DATE DEC 10 1971

HELIOCENTRIC CONIC
 RL 150.91 LAL .00 LOL 224.84 VL 32.231 GAL -1.19 AZL 92.51 HCA 167.77 SMA 184.31 ECC .18239 INC 2.5126 V1 29.526
 RP 215.04 LAP -.53 LOP 32.61 VP 22.677 GAP 4.30 AZP 87.54 TAL 332.26 TAP 160.03 RCA 150.69 APO 217.93 V2 25.536
 RC 151.211 GL -26.10 GP 5.40 ZAL 109.86 ZAP 86.03 ETS 179.72 ZAE 129.10 ETE 176.04 ZAC 107.43 ETC 273.44 LVI -16.84

PLANETOCENTRIC CONIC
 C3 10.318 VML 3.212 DLA -32.88 RAL 349.98 RAD 6638.2 VEL 11.420 PTH 6.47 VHP 2.873 DPA -16.84 RAP 300.02 ECC 1.1698
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 8 46 2292.52 3.01 57.72 203.43 137.50 18 46 58 1292.5 21.02 41.16
 60.00 19 41 58 2044.41 8.80 40.97 209.02 129.47 20 16 3 1044.4 23.91 21.32
 70.00 22 4 36 1624.15 17.29 12.94 214.98 119.93 22 31 40 624.1 26.07 349.67
 72.49 23 30 33 1359.69 23.28 355.74 218.22 113.90 23 53 13 359.7 31.03 330.19
 72.49 23 30 33 1359.69 23.28 355.74 218.22 113.90 23 53 13 359.7 31.03 330.19
 72.49 23 30 33 1359.69 23.28 355.74 218.22 113.90 23 53 13 359.7 31.03 330.19
 110.00 3 7 58 5959.00 17.29 279.77 214.98 119.93 4 47 17 4959.0 26.07 256.50

DIFFERENTIAL CORRECTIONS
 TDE -.2376 TRA .8379 TC3-3.9895 BAU .5587 SGT 3148.9 SGR 614.8 SG3 1821.0 ST 34.3 SR 9.5 SS 62.6
 RDE -.0829 RRA -.1430 RC3 .6991 FAU .25191 RRT -.9234 RRF -.9739 RTF .557 CRT -.0097 CRS .8215 CST -.9766
 FDE .8049 FRA 7.5597 FC-21.1363 BSP 4917 SGB 3208.4 R23 .2496 R13 -.9491 LSA 66.6 MSA 27.2 SSA .5
 BDE .2517 BRA .8581 BC3 4.0503 FSP 3181 SG1 3200.0 SG2 232.2 THA 169.73 EL1 34.3 EL2 9.5 ALF 179.83

LAUNCH DATE MAY 6 1971

FLIGHT TIME 220.00

ARRIVAL DATE DEC 12 1971

HELIOCENTRIC CONIC
 RL 150.91 LAL .00 LOL 224.84 VL 32.234 GAL -1.24 AZL 92.59 HCA 168.94 SMA 184.35 ECC .18266 INC 2.5859 V1 29.526
 RP 215.37 LAP -.50 LOP 33.78 VP 22.639 GAP 4.13 AZP 87.46 TAL 331.95 TAP 160.89 RCA 150.68 APO 218.02 V2 25.499
 RC 153.669 GL -26.67 GP 5.94 ZAL 110.19 ZAP 84.18 ETS 179.93 ZAE 127.15 ETE 175.92 ZAC 108.02 ETC 273.28 LVI -17.09

PLANETOCENTRIC CONIC
 C3 10.498 VML 3.240 DLA -33.19 RAL 350.76 RAD 6638.3 VEL 11.428 PTH 6.48 VHP 2.879 DPA -16.43 RAP 299.20 ECC 1.1727
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 13 54 2288.14 3.23 57.53 204.52 137.49 18 52 3 1288.1 21.23 40.93
 60.00 19 48 23 2036.67 9.21 40.59 210.21 129.41 20 22 20 1036.7 24.20 20.87
 70.00 22 17 1 1598.49 18.15 11.46 216.50 119.44 22 43 39 598.5 26.67 347.91
 71.85 23 29 35 1375.73 23.39 357.03 219.34 114.25 23 52 31 375.7 31.27 331.49
 71.85 23 29 35 1375.73 23.39 357.03 219.34 114.25 23 52 31 375.7 31.27 331.49
 71.85 23 29 35 1375.73 23.39 357.03 219.34 114.25 23 52 31 375.7 31.27 331.49
 110.00 3 20 23 5933.35 18.15 278.28 216.50 119.44 4 59 16 4933.3 26.67 254.74

DIFFERENTIAL CORRECTIONS
 TDE -.2363 TRA .9250 TC3-4.1314 BAU .5890 SGT 3340.9 SGR 671.0 SG3 1811.3 ST 36.2 SR 9.8 SS 63.1
 RDE -.0806 RRA -.1217 RC3 .7397 FAU .24985 RRT -.9359 RRF -.9821 RTF .9504 CRT -.1423 CRS .8730 CST -.6058
 FDE .8586 FRA 7.6137 FC-20.6083 BSP 5308 SGB 3407.7 R23 .2508 R13 -.9537 LSA 68.1 MSA 27.6 SSA .4
 BDE .2497 BRA .9489 BC3 4.1971 FSP 3176 SG1 3399.7 SG2 232.3 THA 169.30 EL1 36.3 EL2 9.7 ALF 177.62

LAUNCH DATE MAY 6 1971

FLIGHT TIME 222.00

ARRIVAL DATE DEC 14 1971

MELIOCENTRIC CONIC
 RL 150.91 LAL .00 LOL 224.84 VL 32.236 GAL -1.29 AZL 92.68 HCA 170.10 SMA 104.40 ECC .18297 INC 2.6754 V1 29.526
 RP 215.71 LAP -.46 LOP 34.95 VP 22.601 GAP 3.97 AZP 87.36 TAL 351.84 TAP 161.74 RCA 150.66 APO 210.14 V2 25.461
 RC 156.143 GL -27.37 GP 6.60 ZAL 110.51 ZAP 82.37 ETS 180.19 ZAE 125.21 ETE 175.76 ZAC 108.73 ETC 275.13 LVI -17.46

DISTANCE 526.414 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 10.709 VML 3.273 DLA -33.62 RAL 351.62 RAD 6638.4 VEL 11.437 PTH 6.49 VHP 2.888 DPA -15.90 RAP 298.40 ECC 1.1763
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 20 10 2281.58 3.96 57.26 205.78 137.47 18 58 11 1281.6 21.54 40.63
 60.00 19 58 25 2025.33 9.70 40.04 211.62 129.31 20 30 11 1025.3 24.62 20.21
 70.00 22 36 0 1554.44 19.60 8.87 218.49 118.54 23 1 54 554.4 29.62 344.84
 71.01 23 27 50 1395.84 23.56 358.67 220.62 114.71 23 51 6 395.8 31.61 333.13
 71.01 23 27 50 1395.84 23.56 358.67 220.62 114.71 23 51 6 395.8 31.61 333.13
 71.01 23 27 50 1395.84 23.56 358.67 220.62 114.71 23 51 6 395.8 31.61 333.13
 110.00 3 39 22 5889.30 19.60 275.69 218.49 118.54 5 17 31 4889.3 29.62 251.67

DIFFERENTIAL CORRECTIONS
 TDE -.2390 TRA 1.0137 TC3-4.2614 BAU .6205
 RDE -.0784 RRA -.2437 RC3 .7893 FAU .24769
 FDE .0902 FRA 7.6578 FC-20.0229 BSP 5680
 BDE .2515 BRA 1.0426 BC3 4.3339 FSP 3157

MID-COURSE EXECUTION ACCURACY
 SGT 3535.1 SGR 740.4 SG3 1798.7
 RRT -.9457 RRF -.9883 RTF .9541
 SGB 3611.8 R23 .2520 R13 -.9574
 SG1 3604.1 SG2 236.0 THA 168.75

ORBIT DETERMINATION ACCURACY
 ST 38.4 SR 10.3 SS 63.5
 CRT -.2653 CRS .9149 CST -.6310
 LSA 69.5 MSA 28.1 S8A .4
 EL1 38.5 EL2 9.9 ALF 175.63

LAUNCH DATE MAY 6 1971

FLIGHT TIME 224.00

ARRIVAL DATE DEC 16 1971

MELIOCENTRIC CONIC
 RL 150.91 LAL .00 LOL 224.84 VL 32.240 GAL -1.34 AZL 92.79 HCA 171.27 SMA 104.45 ECC .18333 INC 2.7875 V1 29.526
 RP 216.04 LAP -.42 LOP 36.11 VP 22.563 GAP 3.81 AZP 87.24 TAL 351.31 TAP 162.58 RCA 150.64 APO 218.27 V2 25.424
 RC 158.631 GL -28.25 GP 7.44 ZAL 110.80 ZAP 80.81 ETS 180.52 ZAE 123.31 ETE 175.53 ZAC 109.60 ETC 272.99 LVI -18.00

DISTANCE 530.596 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 10.971 VML 3.312 DLA -34.20 RAL 352.61 RAD 6638.5 VEL 11.448 PTH 6.50 VHP 2.901 DPA -15.19 RAP 297.62 ECC 1.1808
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 28 0 2271.85 4.05 56.85 207.30 137.44 19 5 52 1271.9 21.99 40.15
 60.00 20 8 52 2008.61 10.42 39.21 213.34 129.15 20 40 21 1008.6 25.24 18.22
 69.91 23 25 4 1421.23 23.80 .77 222.13 115.32 23 48 45 421.2 32.08 335.22
 69.91 23 25 4 1421.23 23.80 .77 222.13 115.32 23 48 45 421.2 32.08 335.22
 69.91 23 25 4 1421.23 23.80 .77 222.13 115.32 23 48 45 421.2 32.08 335.22
 69.91 23 25 4 1421.23 23.80 .77 222.13 115.32 23 48 45 421.2 32.08 335.22
 69.91 23 25 4 1421.23 23.80 .77 222.13 115.32 23 48 45 421.2 32.08 335.22

DIFFERENTIAL CORRECTIONS
 TDE -.2483 TRA 1.1014 TC3-4.3811 BAU .6546
 RDE -.0762 RRA -.2817 RC3 .8513 FAU .24561
 FDE .0987 FRA 7.6542 FC-19.3804 BSP 6000
 BDE .2597 BRA 1.1369 BC3 4.4630 FSP 3103

MID-COURSE EXECUTION ACCURACY
 SGT 3730.2 SGR 826.2 SG3 1778.1
 RRT -.9531 RRF -.9883 RTF .9571
 SGB 3820.6 R23 .2528 R13 -.9606
 SG1 3812.7 SG2 244.5 THA 168.03

ORBIT DETERMINATION ACCURACY
 ST 40.9 SR 11.1 SS 63.4
 CRT -.3703 CRS .9471 CST -.6481
 LSA 70.7 MSA 28.8 S8A .3
 EL1 41.1 EL2 10.2 ALF 173.91

LAUNCH DATE MAY 6 1971

FLIGHT TIME 226.00

ARRIVAL DATE DEC 18 1971

MELIOCENTRIC CONIC
 RL 150.91 LAL .00 LOL 224.84 VL 32.244 GAL -1.40 AZL 92.94 HCA 172.43 SMA 104.52 ECC .18372 INC 2.9349 V1 29.526
 RP 216.39 LAP -.39 LOP 37.27 VP 22.525 GAP 3.64 AZP 87.09 TAL 350.97 TAP 163.40 RCA 150.62 APO 218.42 V2 25.385
 RC 161.134 GL -29.40 GP 8.51 ZAL 111.04 ZAP 78.91 ETS 180.94 ZAE 121.42 ETE 175.20 ZAC 110.70 ETC 272.87 LVI -18.78

DISTANCE 534.775 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 11.304 VML 3.362 DLA -35.01 RAL 353.77 RAD 6638.7 VEL 11.462 PTH 6.51 VHP 2.919 DPA -14.23 RAP 296.84 ECC 1.1860
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 38 11 2257.38 4.77 56.24 209.19 137.39 19 15 49 1257.4 22.67 39.43
 60.00 20 21 6 1983.32 11.51 37.95 215.55 128.90 20 54 9 983.3 26.15 17.71
 68.45 23 21 8 1453.29 24.13 3.46 223.98 116.16 23 45 21 453.3 32.73 337.92
 68.45 23 21 8 1453.29 24.13 3.46 223.98 116.16 23 45 21 453.3 32.73 337.92
 68.45 23 21 8 1453.29 24.13 3.46 223.98 116.16 23 45 21 453.3 32.73 337.92
 68.45 23 21 8 1453.29 24.13 3.46 223.98 116.16 23 45 21 453.3 32.73 337.92
 68.45 23 21 8 1453.29 24.13 3.46 223.98 116.16 23 45 21 453.3 32.73 337.92

DIFFERENTIAL CORRECTIONS
 TDE -.2537 TRA 1.2017 TC3-4.4418 BAU .6856
 RDE -.0769 RRA -.3318 RC3 .9215 FAU .24098
 FDE .9466 FRA 7.6717 FC-18.4332 BSP 6430
 BDE .2651 BRA 1.2467 BC3 4.5364 FSP 3083

MID-COURSE EXECUTION ACCURACY
 SGT 3919.0 SGR 936.8 SG3 1752.4
 RRT -.9587 RRF -.9957 RTF .9596
 SGB 4029.5 R23 .2520 R13 -.9634
 SG1 4021.1 SG2 259.6 THA 167.04

ORBIT DETERMINATION ACCURACY
 ST 43.5 SR 12.3 SS 63.9
 CRT -.4690 CRS .9717 CST -.6639
 LSA 72.5 MSA 29.5 S8A .3
 EL1 43.9 EL2 10.8 ALF 171.97

LAUNCH DATE MAY 6 1971

FLIGHT TIME 228.00

ARRIVAL DATE DEC 20 1971

MELIOCENTRIC CONIC
 RL 150.91 LAL .00 LOL 224.84 VL 32.248 GAL -1.45 AZL 93.13 HCA 173.58 SMA 104.59 ECC .18415 INC 3.1329 V1 29.526
 RP 216.73 LAP -.35 LOP 38.43 VP 22.488 GAP 3.48 AZP 86.89 TAL 350.63 TAP 164.21 RCA 150.59 APO 218.58 V2 25.347
 RC 163.649 GL -30.94 GP 9.95 ZAL 111.18 ZAP 77.29 ETS 181.51 ZAE 119.54 ETE 174.74 ZAC 112.17 ETC 272.76 LVI -19.91

DISTANCE 538.952 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 11.750 VML 3.428 DLA -36.14 RAL 355.18 RAD 6638.9 VEL 11.482 PTH 6.53 VHP 2.944 DPA -12.90 RAP 296.06 ECC 1.1934
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 52 8 2235.49 5.87 55.32 211.67 137.30 19 29 23 1235.5 23.68 38.34
 60.00 20 41 50 1943.18 13.21 35.94 218.56 128.43 21 14 13 943.2 27.97 15.26
 66.49 23 15 49 1494.17 24.61 6.98 226.33 117.35 23 40 43 494.2 33.64 341.43
 66.49 23 15 49 1494.17 24.61 6.98 226.33 117.35 23 40 43 494.2 33.64 341.43
 66.49 23 15 49 1494.17 24.61 6.98 226.33 117.35 23 40 43 494.2 33.64 341.43
 66.49 23 15 49 1494.17 24.61 6.98 226.33 117.35 23 40 43 494.2 33.64 341.43
 66.49 23 15 49 1494.17 24.61 6.98 226.33 117.35 23 40 43 494.2 33.64 341.43

DIFFERENTIAL CORRECTIONS
 TDE -.2740 TRA 1.2986 TC3-4.4870 BAU .7228
 RDE -.0772 RRA -.3952 RC3 1.0192 FAU .23774
 FDE .9417 FRA 7.6103 FC-17.5172 BSP 6760
 BDE .2847 BRA 1.3574 BC3 4.6013 FSP 2999

MID-COURSE EXECUTION ACCURACY
 SGT 4110.6 SGR 1083.5 SG3 1716.8
 RRT -.9630 RRF -.9977 RTF .9618
 SGB 4251.0 R23 .2486 R13 -.9662
 SG1 4241.6 SG2 283.1 THA 165.69

ORBIT DETERMINATION ACCURACY
 ST 46.6 SR 13.9 SS 63.5
 CRT -.5429 CRS .9869 CST -.6710
 LSA 73.9 MSA 30.7 S8A .2
 EL1 47.2 EL2 11.5 ALF 170.21

LAUNCH DATE MAY 6 1971

FLIGHT TIME 230.00

ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC

DISTANCE 943.129

EARTH TO MARS

RL 150.91 LAL .00 LOL 224.84 VL 32.252 GAL -1.51 AZL 93.42 HCA 174.74 SMA 184.86 ECC .18462 INC 3.4185 V1 29.526
RP 217.08 LAP -.31 LOP 39.58 VP 22.451 GAP 3.33 AZP 86.60 TAL 350.28 TAP 165.01 RCA 150.57 APO 218.75 V2 25.308
RC 166.178 GL -33.10 GP 11.97 ZAL 111.16 ZAP 75.77 ETS 182.31 ZAE 117.65 ETE 174.07 ZAC 114.23 ETC 272.68 LVI -21.59

PLANETOCENTRIC CONIC

C3 12.391 VHL 3.920 DLA -37.81 RAL 357.02 RAD 6639.3 VEL 11.509 PTH 6.56 VHP 2.980 DPA -10.98 RAP 295.23 ECC 1.2039
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 12 36 2201.04 7.59 53.86 215.19 137.11 19 49 17 1201.0 25.25 36.57
60.00 21 16 4 1871.67 16.21 32.27 223.17 127.42 21 47 15 871.7 29.97 10.72
63.79 23 9 2 1546.99 25.28 11.65 229.52 119.11 23 34 49 547.0 34.95 346.13
63.79 23 9 2 1546.99 25.28 11.65 229.52 119.11 23 34 49 547.0 34.95 346.13
63.79 23 9 2 1546.99 25.28 11.65 229.52 119.11 23 34 49 547.0 34.95 346.13
63.79 23 9 2 1546.99 25.28 11.65 229.52 119.11 23 34 49 547.0 34.95 346.13
63.79 23 9 2 1546.99 25.28 11.65 229.52 119.11 23 34 49 547.0 34.95 346.13

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2946 TRA 1.4140 TC3-4.4318 BAU .7583 SGT 4295.5 SGR 1288.3 S63 1667.7 ST 50.1 SR 16.3 SS 62.8
RDE -.0795 RRA -.4833 RC3 1.1464 FAU .23346 RRT -.9680 RRF -.9989 RTF .9660 CRT -.6158 CRS .9954 CST -.6882
FDE .9201 FRA 7.4960 FC-16.3106 BSP 7220 SGB 4484.5 R23 .2344 R13 -.9710 LSA 75.8 MSA 31.3 SSA .2
BDE .3051 BRA 1.4944 BC3 4.5777 F8P 2878 SG1 4473.8 S62 310.2 THA 163.73 EL1 51.1 EL2 12.6 ALF 167.90

LAUNCH DATE MAY 6 1971

FLIGHT TIME 232.00

ARRIVAL DATE DEC 24 1971

HELIOCENTRIC CONIC

DISTANCE 547.299

EARTH TO MARS

RL 150.91 LAL .00 LOL 224.84 VL 32.257 GAL -1.57 AZL 93.86 HCA 175.88 SMA 184.74 ECC .18513 INC 3.8583 V1 29.526
RP 217.43 LAP -.28 LOP 40.73 VP 22.413 GAP 3.17 AZP 86.15 TAL 349.92 TAP 165.80 RCA 150.54 APO 218.94 V2 25.289
RC 168.717 GL -36.32 GP 15.05 ZAL 110.85 ZAP 74.44 ETS 183.50 ZAE 115.70 ETE 173.03 ZAC 117.32 ETC 272.65 LVI -24.25

PLANETOCENTRIC CONIC

C3 13.432 VHL 3.665 DLA -40.35 RAL 359.67 RAD 6639.8 VEL 11.554 PTH 6.60 VHP 3.040 DPA -8.01 RAP 294.33 ECC 1.2211
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 46 9 2142.75 10.49 51.36 220.86 136.68 20 21 52 1142.8 27.86 33.47
59.93 23 1 12 1616.86 26.19 18.08 234.28 121.87 23 28 9 616.9 36.88 352.67
59.93 23 1 12 1616.86 26.19 18.08 234.28 121.87 23 28 9 616.9 36.88 352.67
59.93 23 1 12 1616.86 26.19 18.08 234.28 121.87 23 28 9 616.9 36.88 352.67
59.93 23 1 12 1616.86 26.19 18.08 234.28 121.87 23 28 9 616.9 36.88 352.67
59.93 23 1 12 1616.86 26.19 18.08 234.28 121.87 23 28 9 616.9 36.88 352.67
59.93 23 1 12 1616.86 26.19 18.08 234.28 121.87 23 28 9 616.9 36.88 352.67

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3403 TRA 1.5300 TC3-4.3016 BAU .8072 SGT 4480.5 SGR 1592.5 S63 1592.3 ST 54.3 SR 20.3 SS 62.4
RDE -.0912 RRA -.4833 RC3 1.3046 FAU .22476 RRT -.9686 RRF -.9995 RTF .9655 CRT -.6443 CRS .9993 CST -.6725
FDE .9572 FRA 7.3069 FC-14.4865 BSP 7565 SGB 4755.1 R23 .2321 R13 -.9722 LSA 78.1 MSA 33.8 SSA .1
BDE .3523 BRA 1.6497 BC3 4.4950 F8P 2742 SG1 4740.3 S62 374.5 THA 160.88 EL1 56.0 EL2 15.1 ALF 165.35

LAUNCH DATE MAY 6 1971

FLIGHT TIME 234.00

ARRIVAL DATE DEC 26 1971

HELIOCENTRIC CONIC

DISTANCE 551.466

EARTH TO MARS

RL 150.91 LAL .00 LOL 224.84 VL 32.263 GAL -1.63 AZL 94.64 HCA 177.03 SMA 184.83 ECC .18566 INC 4.6382 V1 29.526
RP 217.79 LAP -.24 LOP 41.87 VP 22.376 GAP 3.01 AZP 85.37 TAL 349.55 TAP 166.58 RCA 150.51 APO 219.15 V2 25.229
RC 171.268 GL -41.54 GP 20.20 ZAL 109.91 ZAP 73.50 ETS 185.43 ZAE 113.53 ETE 171.25 ZAC 122.48 ETC 272.71 LVI -20.82

PLANETOCENTRIC CONIC

C3 15.464 VHL 3.932 DLA -44.50 RAL 4.06 RAD 6640.7 VEL 11.641 PTH 6.68 VHP 3.158 DPA -2.96 RAP 293.21 ECC 1.2545
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 55 28 2020.72 16.47 45.93 232.30 135.29 21 29 9 1020.7 33.02 26.42
54.08 22 54 22 1714.29 27.29 27.49 242.38 126.63 23 22 56 714.3 39.76 2.56
54.08 22 54 22 1714.29 27.29 27.49 242.38 126.63 23 22 56 714.3 39.76 2.56
54.08 22 54 22 1714.29 27.29 27.49 242.38 126.63 23 22 56 714.3 39.76 2.56
54.08 22 54 22 1714.29 27.29 27.49 242.38 126.63 23 22 56 714.3 39.76 2.56
54.08 22 54 22 1714.29 27.29 27.49 242.38 126.63 23 22 56 714.3 39.76 2.56
54.08 22 54 22 1714.29 27.29 27.49 242.38 126.63 23 22 56 714.3 39.76 2.56

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3706 TRA 1.7006 TC3-3.8821 BAU .8588 SGT 4656.6 SGR 2095.4 S63 1461.8 ST 58.9 SR 27.9 SS 62.4
RDE -.1371 RRA -.8477 RC3 1.4785 FAU .20640 RRT -.9694 RRF -.9998 RTF .5437 CRT -.6652 CRS 1.0000 CST -.6394
FDE 1.1478 FRA 6.9377 FC-11.5555 BSP 8364 SGB 5106.4 R23 .2195 R13 -.9755 LSA 82.5 MSA 36.7 SSA .1
BDE .3952 BRA 1.9002 BC3 4.1541 F8P 2575 SG1 5084.6 S62 471.3 THA 156.22 EL1 62.1 EL2 19.7 ALF 160.46

LAUNCH DATE MAY 6 1971

FLIGHT TIME 236.00

ARRIVAL DATE DEC 28 1971

HELIOCENTRIC CONIC

DISTANCE 555.828

EARTH TO MARS

RL 150.91 LAL .00 LOL 224.84 VL 32.268 GAL -1.69 AZL 96.30 HCA 178.17 SMA 184.82 ECC .18623 INC 6.3733 V1 29.526
RP 218.15 LAP -.20 LOP 43.01 VP 22.340 GAP 2.86 AZP 83.62 TAL 349.17 TAP 167.34 RCA 150.48 APO 219.36 V2 25.189
RC 173.829 GL -51.20 GP 30.28 ZAL 107.39 ZAP 73.78 ETS 188.88 ZAE 110.61 ETE 167.85 ZAC 132.55 ETC 273.13 LVI -37.84

PLANETOCENTRIC CONIC

C3 21.143 VHL 4.398 DLA -51.87 RAL 13.60 RAD 6643.3 VEL 11.880 PTH 6.89 VHP 3.500 DPA 6.99 RAP 291.59 ECC 1.3480
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
44.52 22 59 41 1867.84 27.45 42.64 259.51 135.90 23 30 49 867.8 43.41 20.02
44.52 22 59 41 1867.84 27.45 42.64 259.51 135.90 23 30 49 867.8 43.41 20.02
44.52 22 59 41 1867.84 27.45 42.64 259.51 135.90 23 30 49 867.8 43.41 20.02
44.52 22 59 41 1867.84 27.45 42.64 259.51 135.90 23 30 49 867.8 43.41 20.02
44.52 22 59 41 1867.84 27.45 42.64 259.51 135.90 23 30 49 867.8 43.41 20.02
44.52 22 59 41 1867.84 27.45 42.64 259.51 135.90 23 30 49 867.8 43.41 20.02
44.52 22 59 41 1867.84 27.45 42.64 259.51 135.90 23 30 49 867.8 43.41 20.02

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4058 TRA 1.8478 TC3-3.1731 BAU 1.0182 SGT 4761.7 SGR 2977.4 S63 1138.9 ST 61.5 SR 42.3 SS 58.3
RDE -.3099 RRA -1.2395 RC3 1.7056 FAU .18004 RRT -.9669 RRF -.9998 RTF .9617 CRT -.6232 CRS .9991 CST -.5886
FDE 1.5314 FRA 5.5220 FC3-7.3721 BSP 8179 SGB 5615.9 R23 .2045 R13 -.9788 LSA 85.1 MSA 41.7 SSA .0
BDE .5106 BRA 2.2250 BC3 3.6024 F8P 1824 SG1 5578.3 S62 648.9 THA 148.37 EL1 68.5 EL2 29.7 ALF 150.84

LAUNCH DATE MAY 6 1971

FLIGHT TIME 242.00

ARRIVAL DATE JAN 3 1972

HELIOCENTRIC CONIC
 RL 150.91 LAL .00 LOL 224.84 VL 32.287 GAL -1.90 AZL 86.58 HCA 181.58 SMA 185.23 ECC .18815 INC 3.4125 V1 29.526
 RP 219.25 LAP -.09 LOP 46.41 VP 22.230 GAP 2.40 AZP 93.42 TAL 347.97 TAP 169.55 RCA 150.38 APO 220.09 V2 25.068
 RC 181.572 GL 32.08 GP -33.30 ZAL 114.23 ZAP 71.02 ETS 185.96 ZAE 104.97 ETE 190.63 ZAC 69.09 ETC 272.04 LVI 20.95

PLANETOCENTRIC CONIC
 C3 13.160 VHL 3.628 DLA 23.15 RAL 332.26 RAD 6639.6 VEL 11.542 PTH 6.59 VHP 3.715 DPA -55.69 RAP 304.54 ECC 1.2168
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 1 52 3511.45 -46.42 129.17 203.04 101.89 14 0 23 2511.4 -36.62 99.41
 60.00 13 12 25 3483.32 -40.05 127.93 204.33 94.94 14 10 29 2483.3 -33.73 98.77
 70.00 13 29 35 3432.79 -34.15 124.11 204.60 89.20 14 26 47 2432.8 -30.90 95.86
 80.00 14 1 38 3332.21 -29.46 116.21 204.32 84.93 14 57 11 2332.2 -26.57 88.82
 90.00 15 5 10 3127.09 -27.52 100.91 204.09 83.20 15 57 17 2127.1 -27.59 73.90
 100.00 16 44 30 2806.68 -29.46 77.58 204.32 84.93 17 31 17 1806.7 -28.57 50.19
 110.00 18 29 1 2479.60 -34.15 53.03 204.60 69.20 19 10 20 1479.6 -30.90 24.78

DIFFERENTIAL CORRECTIONS
 TDE 1.9481 TRA 1.1482 TC3-5.4041 BAU 1.0504 SGT 5360.1 SGR 3097.2 SG3 1010.6 ST 156.8 SR 90.9 SS 108.4
 RDE 1.0994 RRA 1.0390 RC3-2.5386 FAU .14491 RRT .9689 RRF .9998 RTF .9651 CRT .9940 CRS -.9999 CST -.9925
 FDE 4.0675 FRA 4.0213 FC3-9.5331 BSP 9336 SGB 6190.6 R23 .2017 R13 .9794 LSA 210.8 MSA 12.3 SSA .1
 BDE 2.2369 BRA 1.5485 BC3 5.9707 FSP 1660 SGI 6154.4 SG2 667.9 THA 29.63 EL1 181.0 EL2 8.6 ALF 30.03

LAUNCH DATE MAY 6 1971

FLIGHT TIME 244.00

ARRIVAL DATE JAN 5 1972

HELIOCENTRIC CONIC
 RL 150.91 LAL .00 LOL 224.84 VL 32.294 GAL -1.96 AZL 88.77 HCA 182.70 SMA 185.35 ECC .18885 INC 1.2128 V1 29.526
 RP 219.62 LAP -.06 LOP 47.54 VP 22.194 GAP 2.24 AZP 91.23 TAL 347.57 TAP 170.28 RCA 150.34 APO 220.35 V2 25.028
 RC 184.172 GL 12.43 GP -21.19 ZAL 118.36 ZAP 67.07 ETS 169.66 ZAE 105.24 ETE 186.51 ZAC 81.22 ETC 271.82 LVI 9.99

PLANETOCENTRIC CONIC
 C3 10.347 VHL 3.217 DLA 5.17 RAL 340.44 RAD 6638.2 VEL 11.421 PTH 6.47 VHP 3.293 DPA -44.02 RAP 299.37 ECC 1.1703
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 47 22 3091.32 -34.61 96.23 194.79 124.95 15 38 53 2091.3 -18.39 76.08
 60.00 15 21 26 3000.66 -30.32 91.18 197.90 117.94 16 11 27 2000.7 -16.65 69.49
 70.00 16 7 32 2865.06 -26.46 82.25 199.97 112.43 16 55 17 1865.1 -15.04 59.64
 80.00 17 10 14 2668.72 -23.66 68.51 201.13 108.76 17 54 42 1668.7 -13.84 45.43
 90.00 18 29 13 2413.83 -22.61 50.15 201.50 107.45 19 9 27 1413.8 -13.39 26.92
 100.00 19 53 6 2143.20 -23.66 29.88 201.13 108.76 20 28 49 1143.2 -13.84 6.80
 110.00 21 6 59 1911.88 -26.46 11.17 199.97 112.43 21 38 51 911.9 -15.04 348.56

DIFFERENTIAL CORRECTIONS
 TDE 1.1157 TRA 1.5230 TC3-6.8574 BAU .9870 SGT 5552.6 SGR 2006.3 SG3 1337.0 ST 107.6 SR 45.4 SS 96.3
 RDE .4577 RRA .7400 RC3-1.9715 FAU .18140 RRT .9713 RRF .9998 RTF .9698 CRT .9978 CRS -.9997 CST -.9959
 FDE 3.3702 FRA 5.8126 FC-15.1780 BSP 9257 SGB 5903.9 R23 .2169 R13 .9760 LSA 151.3 MSA 6.6 SSA .3
 BDE 1.2060 BRA 1.6933 BC3 7.1352 FSP 2268 SGI 5886.7 SG2 449.8 THA 19.46 EL1 116.8 EL2 2.8 ALF 22.83

LAUNCH DATE MAY 6 1971

FLIGHT TIME 246.00

ARRIVAL DATE JAN 7 1972

HELIOCENTRIC CONIC
 RL 150.91 LAL .00 LOL 224.84 VL 32.301 GAL -2.04 AZL 89.67 HCA 183.82 SMA 185.48 ECC .18957 INC .2780 V1 29.526
 RP 219.99 LAP -.02 LOP 48.66 VP 22.158 GAP 2.09 AZP 90.33 TAL 347.17 TAP 170.99 RCA 150.31 APO 220.62 V2 24.987
 RC 186.781 GL 3.32 GP -15.26 ZAL 119.57 ZAP 64.85 ETS 171.77 ZAE 104.37 ETE 184.44 ZAC 87.15 ETC 271.75 LVI 4.60

PLANETOCENTRIC CONIC
 C3 10.093 VHL 3.177 DLA -3.06 RAL 344.41 RAD 6636.1 VEL 11.410 PTH 6.46 VHP 3.193 DPA -38.25 RAP 297.52 ECC 1.1661
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 33 17 2922.59 -27.56 86.33 195.70 130.45 16 21 59 1922.6 -10.15 68.51
 60.00 16 16 6 2808.69 -23.59 79.39 199.02 123.67 17 2 55 1808.7 -8.51 59.81
 70.00 17 11 57 2644.47 -19.99 68.41 201.35 118.29 17 56 1 1644.5 -6.98 47.64
 80.00 18 23 31 2420.39 -17.35 52.79 202.73 114.68 19 3 51 1420.4 -5.85 31.33
 90.00 19 48 23 2153.02 -16.37 33.59 203.19 113.39 20 22 16 1153.0 -5.42 11.91
 100.00 21 6 23 1894.86 -17.35 14.15 202.73 114.68 21 37 58 894.9 -5.85 352.70
 110.00 22 11 23 1691.29 -19.99 357.32 201.35 118.29 22 39 34 691.3 -6.98 336.56

DIFFERENTIAL CORRECTIONS
 TDE .8287 TRA 1.7288 TC3-7.1726 BAU .9866 SGT 3722.8 SGR 1428.0 SG3 1431.7 ST 88.5 SR 29.2 SS 87.7
 RDE .2792 RRA .5464 RC3-1.4182 FAU .19177 RRT .9716 RRF .9993 RTF .5115 CRT .9991 CRS -.9985 CST -.9992
 FDE 2.9321 FRA 6.4902 FC-16.4489 BSP 9395 SGB 5898.2 R23 .2209 R13 .9746 LSA 127.9 MSA 2.5 SSA 1.2
 BDE .8745 BRA 1.8129 BC3 7.3114 FSP 2454 SGI 5889.1 SG2 328.6 THA 13.67 EL1 93.2 EL2 1.2 ALF 18.28

LAUNCH DATE MAY 6 1971

FLIGHT TIME 248.00

ARRIVAL DATE JAN 9 1972

HELIOCENTRIC CONIC
 RL 150.91 LAL .00 LOL 224.84 VL 32.308 GAL -2.11 AZL 90.17 HCA 184.94 SMA 185.59 ECC .19032 INC .1474 V1 29.526
 RP 220.36 LAP .01 LOP 49.78 VP 22.122 GAP 1.94 AZP 89.83 TAL 346.75 TAP 171.69 RCA 150.26 APO 220.91 V2 24.946
 RC 189.399 GL -1.68 GP -11.84 ZAL 120.20 ZAP 63.18 ETS 173.05 ZAE 103.19 ETE 183.24 ZAC 90.58 ETC 271.71 LVI 1.49

PLANETOCENTRIC CONIC
 C3 10.232 VHL 3.199 DLA -7.44 RAL 346.89 RAD 6638.2 VEL 11.416 PTH 6.47 VHP 3.167 DPA -34.91 RAP 296.54 ECC 1.1684
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 59 21 2837.72 -23.73 81.88 197.43 132.53 16 46 39 1837.7 -5.92 64.89
 60.00 16 48 56 2711.19 -19.81 73.93 200.88 125.84 17 32 7 1711.2 -4.26 55.09
 70.00 17 48 6 2531.32 -16.20 61.82 203.35 120.48 18 30 18 1531.3 -2.69 41.69
 80.00 19 4 35 2291.92 -13.54 45.15 204.85 116.86 19 42 47 1291.9 -1.52 24.25
 90.00 20 29 36 2017.61 -12.54 25.49 205.36 115.56 21 3 13 1017.6 -1.08 4.33
 100.00 21 47 27 1766.39 -13.54 6.52 204.85 116.86 22 16 53 766.4 -1.52 345.62
 110.00 22 47 33 1578.14 -16.20 350.74 203.35 120.48 23 13 51 578.1 -2.69 330.61

DIFFERENTIAL CORRECTIONS
 TDE .7237 TRA 1.9088 TC3-7.1556 BAU .9891 SGT 5875.9 SGR 1086.1 SG3 1456.1 ST 83.2 SR 22.2 SS 84.6
 RDE .2109 RRA .4267 RC3-1.0399 FAU .19056 RRT .9705 RRF .9982 RTF .9725 CRT .9916 CRS -.9954 CST -.9991
 FDE 2.7541 FRA 6.8537 FC-16.1237 BSP 9943 SGB 5975.4 R23 .2178 R13 .9743 LSA 120.6 MSA 3.3 SSA 1.2
 BDE .7538 BRA 1.9560 BC3 7.2307 FSP 2581 SGI 5969.9 SG2 257.8 THA 10.19 EL1 86.1 EL2 2.8 ALF 14.82

LAUNCH DATE MAY 6 1971

FLIGHT TIME 258.00

ARRIVAL DATE JAN 19 1972

HELIOCENTRIC CONIC

DISTANCE 601.207 EARTH TO MARS
 RL 150.91 LAL .00 LOL 224.84 VL 32.347 GAL -2.49 AZL 91.06 HCA 190.48 SMA 186.24 ECC .19448 INC 1.0585 V1 29.528
 RP 222.27 LAP .19 LOP 55.31 VP 21.946 GAP 1.19 AZP 88.96 TAL 344.59 TAP 175.06 RCA 150.02 APO 222.46 V2 24.738
 RC 202.595 GL -10.17 GP -5.41 ZAL 122.65 ZAP 56.88 ETS 175.61 ZAE 96.75 ETE 181.05 ZAC 97.02 ETC 271.67 LVI -4.37

PLANETOCENTRIC CONIC

C3 11.469 VHL 3.387 DLA -14.05 RAL 353.11 RAD 6638.8 VEL 11.470 PTH 6.52 VHP 3.243 DPA -28.61 RAP 294.98 ECC 1.1887
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 49 34 2727.36 -18.55 76.51 204.19 134.64 17 35 2 1727.4 -3.39 60.26
 60.00 17 44 53 2580.27 -14.44 67.02 207.95 128.04 18 27 53 1580.3 1.50 48.83
 70.00 18 55 1 2374.10 -10.59 53.10 210.75 122.66 19 34 35 1374.1 3.31 33.48
 80.00 20 20 4 2107.90 -7.66 34.66 212.52 118.95 20 55 12 1107.9 4.70 14.13
 90.00 21 48 58 1821.05 -6.53 14.18 213.13 117.58 22 19 20 821.0 5.24 353.34
 100.00 23 2 55 1582.37 -7.66 356.03 212.52 118.95 23 29 18 582.4 4.70 335.50
 110.00 23 54 27 1420.92 -10.59 342.02 210.75 122.66 24 18 8 420.9 3.31 322.40

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .6235 TRA 2.5079 TC3-7.2501 BAU 1.1131 SGT 6660.2 SGR 442.7 S63 1367.5 ST 84.5 SR 12.3 SS 77.5
 RDE .1364 RRA .1605 RC3 -.3747 FAU .17620 RRT .9204 RRF .9547 RTF .9732 CRT .8543 CRS -.9265 CST -.9867
 FDE 2.4244 FRA 7.0812 FC-13.3007 BSP 11260 SGB 6674.9 R23 .1493 R13 .9734 LSA 114.8 MSA 10.8 SSA .8
 BDE .6382 BRA 2.5130 BC3 7.2598 FSP 2459 S61 6672.6 S62 172.8 THA 3.50 EL1 85.2 EL2 6.3 ALF 7.12

LAUNCH DATE MAY 6 1971

FLIGHT TIME 260.00

ARRIVAL DATE JAN 21 1972

HELIOCENTRIC CONIC

DISTANCE 605.322 EARTH TO MARS
 RL 150.91 LAL .00 LOL 224.84 VL 32.355 GAL -2.57 AZL 91.14 HCA 191.57 SMA 186.39 ECC .19539 INC 1.1350 V1 29.526
 RP 222.65 LAP .23 LOP 56.40 VP 21.911 GAP 1.04 AZP 88.89 TAL 344.14 TAP 175.71 RCA 149.97 APO 222.80 V2 24.696
 RC 205.250 GL -10.78 GP -4.85 ZAL 123.17 ZAP 55.80 ETS 175.84 ZAE 95.50 ETE 180.88 ZAC 97.57 ETC 271.69 LVI -4.90

PLANETOCENTRIC CONIC

C3 11.723 VHL 3.424 DLA -14.38 RAL 353.93 RAD 6638.9 VEL 11.481 PTH 6.53 VHP 3.269 DPA -28.06 RAP 294.93 ECC 1.1929
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 54 9 2725.23 -18.44 76.41 205.23 134.67 17 39 34 1725.2 -2.28 60.17
 60.00 17 49 52 2577.05 -14.31 66.86 209.02 128.09 18 32 49 1577.0 1.64 48.87
 70.00 19 0 30 2369.43 -10.41 52.85 211.85 122.71 19 39 59 1369.4 3.49 33.23
 80.00 20 26 1 2101.70 -7.46 34.32 213.64 118.99 21 1 2 1101.7 4.90 13.80
 90.00 21 55 11 1814.11 -6.31 13.79 214.26 117.62 22 25 25 814.1 5.46 352.95
 100.00 23 6 54 1578.17 -7.46 355.68 213.64 118.99 23 35 10 576.2 4.90 335.16
 110.00 0 3 52 1416.25 -10.41 341.77 211.85 122.71 0 27 28 416.3 3.49 322.15

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .6396 TRA 2.6209 TC3-7.2609 BAU 1.1391 SGT 6809.4 SGR 392.5 S63 1340.6 ST 86.8 SR 11.9 SS 77.0
 RDE .1362 RRA .1338 RC3 -.3221 FAU .17228 RRT .8933 RRF .9293 RTF .9732 CRT .8198 CRS -.9043 CST -.9854
 FDE 2.4107 FRA 7.0557 FC-12.7227 BSP 11531 SGB 6820.7 R23 .1172 R13 .9734 LSA 116.0 MSA 11.5 SSA .8
 BDE .6539 BRA 2.6243 BC3 7.2680 FSP 2414 S61 6818.4 S62 176.2 THA 2.95 EL1 87.3 EL2 6.8 ALF 6.46

LAUNCH DATE MAY 6 1971

FLIGHT TIME 262.00

ARRIVAL DATE JAN 23 1972

HELIOCENTRIC CONIC

DISTANCE 609.432 EARTH TO MARS
 RL 150.91 LAL .00 LOL 224.84 VL 32.364 GAL -2.66 AZL 91.20 HCA 192.86 SMA 186.53 ECC .19632 INC 1.1980 V1 29.526
 RP 223.04 LAP .28 LOP 57.50 VP 21.878 GAP .89 AZP 88.83 TAL 343.69 TAP 176.36 RCA 149.91 APO 223.15 V2 24.654
 RC 207.907 GL -11.27 GP -4.40 ZAL 123.70 ZAP 54.77 ETS 176.04 ZAE 94.28 ETE 180.74 ZAC 98.03 ETC 271.71 LVI -5.36

PLANETOCENTRIC CONIC

C3 11.979 VHL 3.461 DLA -14.58 RAL 354.89 RAD 6639.0 VEL 11.492 PTH 6.54 VHP 3.296 DPA -27.59 RAP 294.94 ECC 1.1972
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 58 0 2725.84 -18.46 76.43 206.21 134.67 17 43 26 1725.6 -3.30 60.19
 60.00 17 53 59 2576.77 -14.29 66.84 210.04 128.09 18 36 58 1576.8 1.66 48.86
 70.00 19 4 54 2368.26 -10.37 52.79 212.89 122.72 19 44 23 1368.3 3.53 33.17
 80.00 20 30 45 2099.57 -7.39 34.20 214.70 119.01 21 5 44 1099.6 4.98 13.67
 90.00 22 0 2 1811.51 -6.23 13.64 215.32 117.64 22 30 14 811.5 5.54 352.80
 100.00 23 13 37 1574.04 -7.39 355.56 214.70 119.01 23 39 51 574.0 4.98 335.04
 110.00 0 8 17 1415.08 -10.37 341.71 212.89 122.72 0 31 52 415.1 3.53 322.09

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .6611 TRA 2.7344 TC3-7.2671 BAU 1.1647 SGT 6955.6 SGR 354.2 S63 1313.2 ST 89.3 SR 11.8 SS 76.6
 RDE .1377 RRA .1109 RC3 -.2797 FAU .16805 RRT .8568 RRF .8947 RTF .9732 CRT .7867 CRS -.8619 CST -.9844
 FDE 2.4077 FRA 7.0264 FC-12.1444 BSP 11801 SGB 6964.6 R23 .1172 R13 .9732 LSA 117.6 MSA 12.1 SSA .9
 BDE .6753 BRA 2.7366 BC3 7.2725 FSP 2371 S61 6962.2 S62 182.4 THA 2.50 EL1 89.8 EL2 7.2 ALF 5.95

LAUNCH DATE MAY 6 1971

FLIGHT TIME 264.00

ARRIVAL DATE JAN 25 1972

HELIOCENTRIC CONIC

DISTANCE 613.537 EARTH TO MARS
 RL 150.91 LAL .00 LOL 224.84 VL 32.372 GAL -2.74 AZL 91.25 HCA 193.75 SMA 186.68 ECC .19727 INC 1.2512 V1 29.526
 RP 223.42 LAP .30 LOP 58.58 VP 21.842 GAP .74 AZP 88.78 TAL 343.24 TAP 176.99 RCA 149.85 APO 223.50 V2 24.612
 RC 210.566 GL -11.65 GP -4.01 ZAL 124.23 ZAP 53.77 ETS 176.21 ZAE 93.08 ETE 180.62 ZAC 98.40 ETC 271.74 LVI -5.75

PLANETOCENTRIC CONIC

C3 12.239 VHL 3.498 DLA -14.69 RAL 355.41 RAD 6639.2 VEL 11.503 PTH 6.55 VHP 3.324 DPA -27.20 RAP 294.99 ECC 1.2014
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 1 18 2727.96 -18.58 76.54 207.16 134.63 17 46 46 1728.0 -4.2 60.29
 60.00 17 57 25 2578.74 -14.38 66.94 211.01 128.06 18 40 23 1578.7 1.57 48.76
 70.00 19 8 30 2369.74 -10.43 52.87 213.88 122.71 19 48 0 1369.7 3.47 33.25
 80.00 20 34 30 2100.54 -7.42 34.25 215.70 119.00 21 9 31 1100.5 4.94 13.73
 90.00 22 3 52 1812.24 -6.26 13.68 216.33 117.64 22 34 5 812.2 5.52 352.84
 100.00 23 17 22 1575.02 -7.42 355.62 215.70 119.00 23 43 37 575.0 4.94 335.09
 110.00 0 11 52 1416.56 -10.43 341.79 213.88 122.71 0 35 29 416.6 3.47 322.17

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .6668 TRA 2.8481 TC3-7.2708 BAU 1.1903 SGT 7099.2 SGR 325.4 S63 1285.5 ST 91.9 SR 11.7 SS 76.3
 RDE .1403 RRA .0907 RC3 -.2453 FAU .16383 RRT .8106 RRF .8502 RTF .9728 CRT .7561 CRS -.8601 CST -.9838
 FDE 2.4081 FRA 6.9902 FC-11.5890 BSP 12079 SGB 7106.6 R23 .1043 R13 .9729 LSA 119.4 MSA 12.6 SSA .9
 BDE .7010 BRA 2.8495 BC3 7.2749 FSP 2330 S61 7104.1 S62 190.4 THA 2.13 EL1 92.4 EL2 7.6 ALF 5.55

LAUNCH DATE MAY 6 1971 FLIGHT TIME 266.00 ARRIVAL DATE JAN 27 1972

HELIOCENTRIC CONIC										DISTANCE 617.637										EARTH TO MARS																																																																																																																																																	
RL	150.91	LAL	.00	LOL	224.84	VL	32.301	GAL	-2.82	AZL	91.30	HCA	194.84	SMA	186.82	ECC	.19824	INC	1.2960	V1	29.526	RP	223.81	LAP	.33	LOP	59.67	VP	21.808	GAP	.59	AZP	88.75	TAL	342.78	TAP	177.62	RCA	149.79	APO	223.86	V2	24.571	RC	213.227	GL	-11.94	GP	-3.69	ZAL	124.77	ZAP	52.80	ETS	176.35	ZAE	91.91	ETE	180.53	ZAC	98.72	ETC	271.77	LVI	-6.10																																																																																																				
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																																																																	
C3	12.502	VHL	3.536	DLA	-14.73	RAL	356.09	RAD	6639.3	VEL	11.514	PTH	6.56	VHP	3.353	DPA	-26.86	RAP	295.07	ECC	1.2057	SGT	7242.0	SGR	304.6	SG3	1257.9	ST	94.5	SR	11.8	SS	75.8	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CR1	.7273	CR5	-.8389	CST	-.9833	50.00	17	4	9	2731.78	-18.76	76.72	208.07	134.57	17	49	41	1731.8	-.61	60.45	80.00	20	37	31	2103.93	-7.53	34.44	216.65	118.98	21	12	35	1103.9	4.83	13.91	100.00	23	20	23	1578.40	-7.53	355.81	216.65	118.98	23	46	41	578.4	4.83	335.20	110.00	0	14	80	1420.11	-10.56	341.98	214.83	122.67	0	38	30	420.1	3.34	322.35	FDE	2.4034	FRA	6.9447	FC	-11.0812	BSP	12310	SG8	7248.4	R23	.0931	R13	.9728	LSA	121.0	MSA	13.1	SSA	.9	BDE	.7274	BRA	2.9813	BC3	7.2840	FSP	2277	SG1	7245.7	SG2	199.6	THA	1.82	EL1	94.9	EL2	8.1	ALF	5.22

LAUNCH DATE MAY 6 1971 FLIGHT TIME 268.00 ARRIVAL DATE JAN 29 1972

HELIOCENTRIC CONIC										DISTANCE 621.731										EARTH TO MARS																																																																																																																																																	
RL	150.91	LAL	.00	LOL	224.84	VL	32.390	GAL	-2.91	AZL	91.34	HCA	195.92	SMA	186.98	ECC	.19924	INC	1.3353	V1	29.526	RP	224.20	LAP	.37	LOP	60.75	VP	21.774	GAP	.44	AZP	88.72	TAL	342.32	TAP	178.24	RCA	149.72	APO	224.23	V2	24.529	RC	215.890	GL	-12.18	GP	-3.41	ZAL	125.32	ZAP	51.87	ETS	176.48	ZAE	90.76	ETE	180.45	ZAC	99.00	ETC	271.82	LVI	-6.42																																																																																																				
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																																																																	
C3	12.769	VHL	3.573	DLA	-14.70	RAL	356.74	RAD	6639.4	VEL	11.526	PTH	6.57	VHP	3.382	DPA	-26.56	RAP	295.20	ECC	1.2101	SGT	7380.7	SGR	290.4	SG3	1230.1	ST	97.4	SR	12.0	SS	75.6	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CR1	.7029	CR5	-.8202	CST	-.9830	50.00	17	6	40	2736.78	-19.00	76.95	208.96	134.48	17	52	17	1736.8	-.86	60.65	80.00	20	39	55	2109.23	-7.71	34.74	217.58	118.94	21	15	5	1109.2	4.65	14.21	100.00	23	22	47	1583.70	-7.71	356.10	217.58	118.94	23	49	11	583.7	4.65	335.57	110.00	0	17	16	1425.30	-10.75	342.26	215.74	122.62	0	41	2	425.3	3.14	322.63	FDE	2.4086	FRA	6.9007	FC	-10.5564	BSP	12576	SG8	7386.4	R23	.0841	R13	.9725	LSA	123.1	MSA	13.5	SSA	.9	BDE	.7598	BRA	3.0765	BC3	7.2794	FSP	2233	SG1	7383.4	SG2	209.7	THA	1.56	EL1	97.7	EL2	8.5	ALF	4.97

LAUNCH DATE MAY 6 1971 FLIGHT TIME 270.00 ARRIVAL DATE JAN 31 1972

HELIOCENTRIC CONIC										DISTANCE 625.819										EARTH TO MARS																																																																																																																																																	
RL	150.91	LAL	.00	LOL	224.84	VL	32.399	GAL	-3.00	AZL	91.37	HCA	196.99	SMA	187.13	ECC	.20026	INC	1.3689	V1	29.526	RP	224.59	LAP	.40	LOP	61.82	VP	21.740	GAP	.29	AZP	88.69	TAL	341.86	TAP	178.85	RCA	149.65	APO	224.23	V2	24.467	RC	218.554	GL	-12.38	GP	-3.18	ZAL	125.86	ZAP	50.97	ETS	176.60	ZAE	89.63	ETE	180.38	ZAC	99.23	ETC	271.86	LVI	-6.71																																																																																																				
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																																																																	
C3	13.041	VHL	3.611	DLA	-14.63	RAL	357.37	RAD	6639.6	VEL	11.537	PTH	6.58	VHP	3.412	DPA	-26.29	RAP	295.36	ECC	1.2146	SGT	7518.7	SGR	281.8	SG3	1203.1	ST	100.1	SR	12.2	SS	75.2	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CR1	.6806	CR5	-.8029	CST	-.9828	50.00	17	8	34	2742.75	-19.28	77.23	209.82	134.38	17	54	37	1742.8	-1.16	60.90	80.00	20	41	91	2116.08	-7.93	35.12	218.47	118.88	21	17	8	1116.1	4.42	14.58	100.00	23	24	43	1590.55	-7.93	356.49	218.47	118.88	23	51	14	590.5	4.42	335.95	110.00	0	19	19	1431.81	-10.99	342.61	216.63	122.54	0	43	11	431.8	2.89	322.97	FDE	2.4115	FRA	6.8356	FC	-10.0682	BSP	12807	SG8	7523.9	R23	.0767	R13	.9721	LSA	123.1	MSA	13.9	SSA	1.0	BDE	.7920	BRA	3.1912	BC3	7.2803	FSP	2186	SG1	7520.7	SG2	220.4	THA	1.34	EL1	100.5	EL2	8.9	ALF	4.77

LAUNCH DATE MAY 6 1971 FLIGHT TIME 272.00 ARRIVAL DATE FEB 2 1972

HELIOCENTRIC CONIC										DISTANCE 629.902										EARTH TO MARS																																																																																																																																																	
RL	150.91	LAL	.00	LOL	224.84	VL	32.408	GAL	-3.09	AZL	91.40	HCA	198.07	SMA	187.28	ECC	.20130	INC	1.3990	V1	29.526	RP	224.98	LAP	.43	LOP	62.90	VP	21.708	GAP	.14	AZP	88.67	TAL	341.39	TAP	179.45	RCA	149.58	APO	224.98	V2	24.445	RC	221.219	GL	-12.51	GP	-2.95	ZAL	126.42	ZAP	50.09	ETS	176.70	ZAE	88.52	ETE	180.32	ZAC	99.43	ETC	271.92	LVI	-6.99																																																																																																				
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																																																																	
C3	13.319	VHL	3.650	DLA	-14.53	RAL	357.98	RAD	6639.7	VEL	11.549	PTH	6.59	VHP	3.442	DPA	-26.04	RAP	295.55	ECC	1.2192	SGT	7653.9	SGR	277.7	SG3	1175.9	ST	103.0	SR	12.4	SS	74.9	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CR1	.6622	CR5	-.7877	CST	-.9828	50.00	17	10	54	2749.50	-19.60	77.56	210.67	134.27	17	56	44	1749.5	-1.50	61.19	80.00	20	43	24	2124.17	-8.20	35.57	219.35	118.81	21	18	40	1124.2	4.15	15.03	100.00	23	26	16	1598.64	-8.20	356.94	219.35	118.81	23	52	55	598.6	4.15	336.40	110.00	0	21	1	1439.40	-11.26	343.02	217.51	122.46	0	45	1	439.4	2.60	323.36	FDE	2.4147	FRA	6.8050	FC	-9.5978	BSP	13062	SG8	7658.9	R23	.0702	R13	.9718	LSA	127.2	MSA	14.2	SSA	1.0	BDE	.8285	BRA	3.3084	BC3	7.2727	FSP	2142	SG1	7655.4	SG2	231.5	THA	1.15	EL1	103.4	EL2	9.3	ALF	4.61

LAUNCH DATE MAY 6 1971

FLIGHT TIME 274.00

ARRIVAL DATE FEB 4 1972

Heliocentric Conic: RL 150.91 LAL .00 LOL 224.84 VL 32.417 GAL -3.18 AZL 91.43 HCA 199.13 SMA 187.44 ECC .20236 INC 1.4256 V1 29.526
 RP 225.37 LAP .47 LOP 63.96 VP 21.673 GAP -.01 AZP 88.65 TAL 340.92 TAP 180.05 RCA 149.51 APO 225.37 V2 24.403
 RC 223.884 GL -12.62 GP -2.76 ZAL 126.97 ZAP 49.25 ETS 176.80 ZAE 87.44 ETE 180.27 ZAC 99.61 ETC 271.97 LVI -7.25

Planetocentric Conic: C3 13.604 VHL 3.688 DLA -14.39 RAL 358.58 RAD 6639.9 VEL 11.561 PTH 6.61 VHP 3.473 DPA -25.82 RAP 295.77 ECC 1.2239
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 12 43 2758.90 -19.95 77.91 211.51 134.14 17 58 40 1756.9 -1.87 61.30
 60.00 18 8 27 2608.70 -15.63 68.49 215.44 127.63 18 51 56 1608.7 .25 50.19
 70.00 19 19 5 2401.06 -11.57 54.57 218.36 122.36 19 59 6 1401.1 2.28 34.89
 80.00 20 44 37 2133.30 -8.50 36.09 220.20 118.73 21 20 11 1133.3 3.84 15.54
 90.00 22 13 46 1845.69 -7.31 15.58 220.84 117.40 22 44 32 845.7 4.45 354.72
 100.00 23 27 29 1607.77 -8.50 357.45 220.20 118.73 23 54 17 607.8 3.84 336.90
 110.00 0 22 27 1447.87 -11.57 343.49 218.36 122.36 0 46 35 447.9 2.28 323.81

Differential Corrections: TDE .8502 TRA 3.4266 TC3-7.2628 BAU 1.3211 SGT 7787.5 SGR 277.3 SG3 1149.4 ORBIT DETERMINATION ACCURACY
 RDE .1640 RRA .0151 RC3 -.1447 FAU .14368 RRT .4824 RRF .5260 RTF .9714 CRT .6463 CRS -.7746 CST -.9828
 FDE 2.4194 FRA 6.7546 FC3-9.1435 BSP 13301 SGB 7792.5 R23 .0650 R13 .9714 LSA 129.4 MSA 14.5 SSA 1.0
 BDE .8659 BRA 3.4266 BC3 7.2642 FSP 2097 SG1 7788.7 SG2 242.8 THA .98 EL1 106.2 EL2 9.7 ALF 4.48

LAUNCH DATE MAY 6 1971

FLIGHT TIME 276.00

ARRIVAL DATE FEB 6 1972

Heliocentric Conic: RL 150.91 LAL .00 LOL 224.84 VL 32.428 GAL -3.27 AZL 91.45 HCA 200.20 SMA 187.60 ECC .20344 INC 1.4497 V1 29.526
 RP 225.76 LAP .50 LOP 65.03 VP 21.640 GAP -.16 AZP 88.64 TAL 340.44 TAP 180.65 RCA 149.43 APO 225.77 V2 24.361
 RC 226.590 GL -12.69 GP -2.60 ZAL 127.92 ZAP 48.43 ETS 176.89 ZAE 86.38 ETE 180.23 ZAC 99.78 ETC 272.04 LVI -7.50

Planetocentric Conic: C3 13.695 VHL 3.728 DLA -14.23 RAL 359.15 RAD 6640.0 VEL 11.574 PTH 6.62 VHP 3.504 DPA -25.62 RAP 296.02 ECC 1.2287
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 14 22 2784.86 -20.33 78.29 212.34 133.99 18 0 27 1764.9 -2.27 61.83
 60.00 18 9 54 2617.20 -15.98 68.93 216.28 127.50 18 53 31 1617.2 -.12 50.59
 70.00 19 20 17 2410.27 -11.91 55.07 219.21 122.25 20 0 27 1410.3 1.93 35.37
 80.00 20 45 35 2143.27 -8.82 36.65 221.05 118.64 21 21 18 1143.3 3.51 16.08
 90.00 22 14 37 1856.04 -7.63 16.17 221.69 117.31 22 45 33 856.0 4.12 355.30
 100.00 23 28 27 1617.74 -8.82 358.01 221.05 118.64 23 55 25 617.7 3.51 337.45
 110.00 0 23 39 1457.09 -11.91 343.99 219.21 122.25 0 47 56 457.1 1.93 324.29

Differential Corrections: TDE .8909 TRA 3.5478 TC3-7.2445 BAU 1.3480 SGT 7918.0 SGR 279.8 SG3 1123.0 ORBIT DETERMINATION ACCURACY
 RDE .1702 RRA .0032 RC3 -.1330 FAU .13951 RRT .4162 RRF .4597 RTF .9709 CRT .6336 CRS -.7636 CST -.9830
 FDE 2.4285 FRA 6.7048 FC3-8.6924 BSP 13586 SGB 7922.9 R23 .0607 R13 .9709 LSA 131.7 MSA 14.8 SSA 1.1
 BDE .9070 BRA 3.5478 BC3 7.2457 FSP 2056 SG1 7918.9 SG2 254.4 THA .84 EL1 109.3 EL2 10.1 ALF 4.39

LAUNCH DATE MAY 6 1971

FLIGHT TIME 278.00

ARRIVAL DATE FEB 8 1972

Heliocentric Conic: RL 150.91 LAL .00 LOL 224.84 VL 32.436 GAL -3.36 AZL 91.47 HCA 201.26 SMA 187.78 ECC .20454 INC 1.4712 V1 29.526
 RP 226.15 LAP .53 LOP 66.09 VP 21.607 GAP -.32 AZP 88.63 TAL 339.97 TAP 181.23 RCA 149.36 APO 226.17 V2 24.319
 RC 229.216 GL -12.75 GP -2.45 ZAL 128.08 ZAP 47.64 ETS 176.97 ZAE 85.34 ETE 180.19 ZAC 99.90 ETC 272.11 LVI -7.74

Planetocentric Conic: C3 14.193 VHL 3.767 DLA -14.04 RAL 359.72 RAD 6640.1 VEL 11.587 PTH 6.63 VHP 3.536 DPA -25.42 RAP 296.29 ECC 1.2336
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 15 53 2773.27 -20.73 78.69 213.16 133.84 18 2 6 1773.3 -2.69 62.18
 60.00 18 11 11 2626.23 -16.35 69.40 217.11 127.36 18 54 57 1626.2 -.52 51.02
 70.00 19 21 18 2420.10 -12.26 55.61 220.04 122.13 20 1 38 1420.1 1.55 35.88
 80.00 20 46 19 2153.96 -9.17 37.25 221.88 118.54 21 22 13 1154.0 3.15 16.67
 90.00 22 15 14 1867.14 -7.98 16.90 222.52 117.22 22 46 21 867.1 3.77 355.93
 100.00 23 29 11 1628.43 -9.17 358.62 221.88 118.54 23 56 20 628.4 3.15 338.04
 110.00 0 24 40 1466.92 -12.26 344.53 220.04 122.13 0 49 7 466.9 1.55 324.80

Differential Corrections: TDE .9317 TRA 3.6691 TC3-7.2292 BAU 1.3719 SGT 8047.6 SGR 284.6 SG3 1097.2 ORBIT DETERMINATION ACCURACY
 RDE .1767 RRA -.0081 RC3 -.1231 FAU .13355 RRT .3551 RRF .3984 RTF .5.03 CRT .6227 CRS -.7541 CST -.9831
 FDE 2.4318 FRA 6.6529 FC3-8.2686 BSP 13798 SGB 8032.6 R23 .0572 R13 .9704 LSA 134.0 MSA 15.1 SSA 1.1
 BDE .9483 BRA 3.6691 BC3 7.2302 FSP 2012 SG1 8048.2 SG2 266.0 THA .72 EL1 112.3 EL2 10.5 ALF 4.31

LAUNCH DATE MAY 6 1971

FLIGHT TIME 280.00

ARRIVAL DATE FEB 10 1972

Heliocentric Conic: RL 150.91 LAL .00 LOL 224.84 VL 32.445 GAL -3.46 AZL 91.49 HCA 202.32 SMA 187.92 ECC .20567 INC 1.4907 V1 29.526
 RP 226.55 LAP .57 LOP 67.15 VP 21.574 GAP -.47 AZP 88.62 TAL 339.49 TAP 181.81 RCA 149.27 APO 226.57 V2 24.278
 RC 231.880 GL -12.78 GP -2.31 ZAL 128.63 ZAP 46.87 ETS 177.04 ZAE 84.31 ETE 180.16 ZAC 100.02 ETC 272.18 LVI -7.97

Planetocentric Conic: C3 14.498 VHL 3.808 DLA -13.84 RAL .27 RAD 6640.3 VEL 11.600 PTH 6.64 VHP 3.567 DPA -25.24 RAP 296.59 ECC 1.2388
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 17 17 2782.09 -21.14 79.12 213.98 133.67 18 3 39 1782.1 -3.14 62.55
 60.00 18 12 20 2635.70 -16.75 69.89 217.94 127.21 18 56 16 1635.7 -.94 51.48
 70.00 19 22 9 2430.46 -12.64 56.18 220.86 122.00 20 2 39 1430.5 1.16 36.42
 80.00 20 46 53 2165.24 -9.54 37.89 222.70 118.43 21 22 58 1165.2 2.77 17.29
 90.00 22 15 39 1878.86 -8.34 17.47 223.34 117.12 22 46 58 878.9 3.39 356.58
 100.00 23 29 44 1639.71 -9.54 359.25 222.70 118.43 23 57 4 639.7 2.77 338.66
 110.00 0 25 31 1477.28 -12.64 345.10 220.86 122.00 0 50 8 477.3 1.16 325.34

Differential Corrections: TDE .9747 TRA 3.7927 TC3-7.2087 BAU 1.3974 SGT 8175.3 SGR 291.2 SG3 1071.9 ORBIT DETERMINATION ACCURACY
 RDE .1835 RRA -.0188 RC3 -.1148 FAU .13169 RRT .3001 RRF .3430 RTF .9699 CRT .6140 CRS -.7461 CST -.9833
 FDE 2.4365 FRA 6.5994 FC3-7.8640 BSP 14040 SGB 8180.5 R23 .0541 R13 .9699 LSA 136.4 MSA 15.4 SSA 1.1
 BDE .9918 BRA 3.7927 BC3 7.2097 FSP 1970 SG1 8175.8 SG2 277.7 THA .61 EL1 115.3 EL2 10.9 ALF 4.26

LAUNCH DATE MAY 7 1971

FLIGHT TIME 100.00

ARRIVAL DATE AUG 15 1971

HELIOCENTRIC CONIC

DISTANCE 295.614

EARTH TO MARS

RL 150.94 LAL .00 LOL 225.80 VL 35.420 GAL -2.71 AZL 91.85 HCA 94.17 SMA 263.35 ECC .42898 INC 1.8546 V1 29.519
RP 207.32 LAP -1.85 LOP 319.97 VP 27.863 GAP 22.41 AZP 89.87 TAP 350.96 TAP 85.12 RCA 150.38 APO 376.32 V2 26.420
RC 56.291 GL -10.45 GP .26 ZAL 109.35 ZAP 176.65 ETS 175.44 ZAE 174.69 ETE 80.56 ZAC 100.48 ETC 277.47 LVI -17.88

PLANETOCENTRIC CONIC

C3 39.859 VHL 6.313 DLA -19.19 RAL 341.35 RAD 6650.6 VEL 12.638 PTH 7.49 VHP 11.249 DPA -17.37 RAP 319.59 ECC 1.6560
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 19 57 2918.60 -27.30 86.01 208.03 130.61 17 8 33 1916.7 -9.86 68.26
60.00 17 22 11 2751.15 -21.38 76.13 213.07 125.01 18 8 3 1751.1 -6.01 57.01
70.00 18 40 54 2519.78 -15.80 61.16 216.87 120.68 19 22 53 1519.8 -2.25 41.08
80.00 20 14 56 2225.45 -11.47 41.31 219.36 117.76 20 52 2 1225.5 .73 20.60
90.00 21 48 17 1924.33 -9.74 20.07 220.26 116.68 22 20 21 924.3 1.93 359.12
100.00 22 57 48 1699.92 -11.47 2.68 219.36 117.76 23 26 8 699.9 .73 341.97
110.00 23 40 20 1566.60 -15.80 350.08 216.87 120.68 24 6 27 566.6 -2.25 330.00

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4670 TRA-1.0268 TC3 -.0115 BAU .0395 SGT 1073.9 SGR 584.4 SG3 105.4 ST 25.8 SR 26.8 SB 14.7
RDE -.5864 RRA .2323 RC3 .0733 FAU .03307 RRT .0064 RRF -.0068 RTF -.6478 CRT .7420 CRS .5072 CST .9507
FDE .2033 FRA .8263 FC3 -.7183 BSP 1561 SGB 1222.6 R23 -.0010 R13 -.6478 LSA 36.7 MSA 16.0 SSA 1.1
BDE .7496 BRA 1.0527 BC3 .0742 FSP 128 SG1 1073.9 SG2 584.4 THA .28 EL1 34.8 EL2 13.4 ALF 46.42

LAUNCH DATE MAY 7 1971

FLIGHT TIME 102.00

ARRIVAL DATE AUG 17 1971

HELIOCENTRIC CONIC

DISTANCE 297.409

EARTH TO MARS

RL 150.94 LAL .00 LOL 225.80 VL 35.219 GAL -2.62 AZL 91.86 HCA 95.43 SMA 256.18 ECC .41285 INC 1.8571 V1 29.519
RP 207.22 LAP -1.85 LOP 321.23 VP 27.619 GAP 21.89 AZP 89.82 TAP 351.04 TAP 86.47 RCA 150.40 APO 381.91 V2 26.432
RC 56.455 GL -10.76 GP .27 ZAL 109.35 ZAP 175.78 ETS 176.27 ZAE 174.48 ETE 71.29 ZAC 100.43 ETC 277.56 LVI -18.00

PLANETOCENTRIC CONIC

C3 37.297 VHL 6.107 DLA -19.47 RAL 341.49 RAD 6649.7 VEL 12.537 PTH 7.41 VHP 10.886 DPA -17.24 RAP 319.97 ECC 1.6138
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 21 44 2894.00 -26.29 84.79 207.17 131.20 17 9 58 1894.0 -8.73 67.28
60.00 17 24 23 2727.37 -20.45 74.81 212.20 125.52 18 9 51 1727.4 -4.97 55.87
70.00 18 43 38 2494.42 -14.92 59.73 216.01 121.09 19 25 12 1494.4 -1.29 39.76
80.00 20 18 16 2198.21 -10.60 39.76 218.53 118.08 20 54 55 1198.2 1.65 19.11
90.00 21 51 56 1896.07 -8.87 18.45 219.44 116.96 22 23 32 896.1 2.84 357.55
100.00 23 1 8 1672.68 -10.60 1.12 218.53 118.08 23 29 1 672.7 1.65 340.47
110.00 23 43 4 1541.24 -14.92 348.65 216.01 121.09 24 8 45 541.2 -1.29 328.68

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4613 TRA-1.0172 TC3 -.0009 BAU .0393 SGT 1100.8 SGR 586.3 SG3 112.9 ST 26.4 SR 26.9 SB 15.2
RDE -.5685 RRA .2247 RC3 .0788 FAU .03413 RRT .0068 RRF -.0077 RTF -.6601 CRT .7406 CRS .4997 CST .9488
FDE .2080 FRA .8598 FC3 -.7923 BSP 1619 SGB 1247.2 R23 -.0014 R13 -.6601 LSA 37.2 MSA 16.3 SSA 1.1
BDE .7322 BRA 1.0417 BC3 .0788 FSP 139 SG1 1100.8 SG2 586.3 THA .29 EL1 35.2 EL2 13.6 ALF 45.65

LAUNCH DATE MAY 7 1971

FLIGHT TIME 104.00

ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC

DISTANCE 299.458

EARTH TO MARS

RL 150.94 LAL .00 LOL 225.80 VL 35.030 GAL -2.52 AZL 91.86 HCA 96.69 SMA 249.78 ECC .39771 INC 1.8596 V1 29.519
RP 207.13 LAP -1.85 LOP 322.50 VP 27.388 GAP 21.38 AZP 89.78 TAP 351.14 TAP 87.83 RCA 150.43 APO 349.09 V2 26.443
RC 56.701 GL -11.08 GP .28 ZAL 109.32 ZAP 174.90 ETS 176.82 ZAE 174.17 ETE 63.07 ZAC 100.39 ETC 277.64 LVI -18.12

PLANETOCENTRIC CONIC

C3 34.951 VHL 5.912 DLA -19.76 RAL 341.61 RAD 6648.9 VEL 12.444 PTH 7.34 VHP 10.537 DPA -17.12 RAP 320.35 ECC 1.5752
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 23 29 2871.40 -25.27 83.61 206.34 131.76 17 11 21 1871.4 -7.61 66.32
60.00 17 26 35 2703.59 -19.50 73.51 211.36 125.99 18 11 39 1703.6 -3.92 54.72
70.00 18 46 24 2488.96 -14.02 58.31 215.18 121.47 19 27 33 1469.0 -1.31 38.43
80.00 20 21 43 2170.73 -9.71 38.19 217.71 118.37 20 57 54 1170.7 2.58 17.59
90.00 21 55 42 1867.49 -7.99 16.82 218.63 117.22 22 26 50 867.5 3.75 355.95
100.00 23 4 34 1645.20 -9.71 359.56 217.71 118.37 23 31 59 645.2 2.58 338.96
110.00 23 45 51 1515.78 -14.02 347.23 215.18 121.47 24 11 6 515.8 -1.31 327.35

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4568 TRA-1.0075 TC3 .0119 BAU .0399 SGT 1128.1 SGR 587.8 SG3 120.9 ST 27.1 SR 26.9 SB 15.8
RDE -.5512 RRA .2173 RC3 .0845 FAU .03525 RRT .0085 RRF -.0088 RTF -.624 CRT .7399 CRS .4923 CST .9468
FDE .2129 FRA .8945 FC3 -.8731 BSP 1683 SGB 1272.0 R23 -.0010 R13 -.6724 LSA 37.8 MSA 16.6 SSA 1.1
BDE .7159 BRA 1.0306 BC3 .0853 FSP 151 SG1 1128.1 SG2 587.8 THA .35 EL1 35.6 EL2 13.8 ALF 44.81

LAUNCH DATE MAY 7 1971

FLIGHT TIME 106.00

ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC

DISTANCE 301.726

EARTH TO MARS

RL 150.94 LAL .00 LOL 225.80 VL 34.852 GAL -2.42 AZL 91.86 HCA 97.96 SMA 244.04 ECC .38349 INC 1.8622 V1 29.519
RP 207.03 LAP -1.84 LOP 323.76 VP 27.169 GAP 20.88 AZP 89.74 TAP 351.25 TAP 89.20 RCA 150.45 APO 337.71 V2 26.453
RC 57.030 GL -11.39 GP .29 ZAL 109.26 ZAP 174.01 ETS 177.22 ZAE 173.78 ETE 56.01 ZAC 100.35 ETC 277.63 LVI -18.23

PLANETOCENTRIC CONIC

C3 32.802 VHL 5.727 DLA -20.07 RAL 341.71 RAD 6648.1 VEL 12.358 PTH 7.28 VHP 10.200 DPA -16.99 RAP 320.72 ECC 1.5398
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 25 14 2848.92 -24.24 82.45 205.52 132.28 17 12 43 1848.9 -6.48 65.36
60.00 17 28 48 2679.87 -18.55 72.24 210.53 126.44 18 13 28 1679.9 -2.88 53.59
70.00 18 49 13 2443.45 -13.11 58.89 214.36 121.82 19 29 57 1443.5 .66 37.10
80.00 20 25 12 2143.04 -8.82 36.63 216.91 118.64 21 0 55 1143.0 3.51 16.07
90.00 21 59 35 1838.60 -7.09 15.18 217.84 117.45 22 30 14 838.6 4.68 354.33
100.00 23 8 4 1617.51 -8.81 358.00 216.91 118.64 23 35 2 617.5 3.51 337.44
110.00 23 48 39 1490.27 -13.11 345.81 214.36 121.82 24 13 30 490.3 .66 328.02

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4508 TRA -.9978 TC3 .0242 BAU .0411 SGT 1154.8 SGR 588.8 SG3 129.4 ST 27.6 SR 26.9 SB 16.3
RDE -.9343 RRA .2101 RC3 .0905 FAU .03645 RRT .0090 RRF -.0097 RTF -.6831 CRT .7383 CRS .4831 CST .9441
FDE .2170 FRA .9304 FC3 -.9619 BSP 1726 SGB 1296.3 R23 -.0013 R13 -.6831 LSA 38.3 MSA 16.9 SSA 1.1
BDE .6992 BRA 1.0197 BC3 .0937 FSP 164 SG1 1154.8 SG2 588.8 THA .36 EL1 36.0 EL2 14.0 ALF 44.05

LAUNCH DATE MAY 7 1971 FLIGHT TIME 108.00 ARRIVAL DATE AUG 23 1971

HELIOCENTRIC CONIC DISTANCE 304.185 EARTH TO MARS
 RL 150.94 LAL .00 LOL 225.80 VL 34.684 GAL -2.33 AZL 91.86 HCA 99.22 SMA 238.91 ECC .37015 INC 1.8648 V1 29.519
 RP 206.97 LAP -1.84 LOP 325.03 VP 26.962 GAP 20.38 AZP 89.70 TAL 351.37 TAP 90.59 RCA 150.48 APO 327.35 V2 26.462
 RC 57.440 GL -11.72 GP .30 ZAL 109.19 ZAP 173.10 ETS 177.52 ZAE 173.35 ETE 50.07 ZAC 100.31 ETC 277.79 LVI -18.34

PLANETOCENTRIC CONIC
 C3 30.832 VHL 5.553 DLA -20.39 RAL 341.79 RAD 6647.3 VEL 12.278 PTH 7.22 VHP 9.875 DPA -16.87 RAP 321.07 ECC 1.5074
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 26 57 2826.59 -23.22 81.32 204.73 132.77 17 14 3 1826.6 -5.37 64.42
 60.00 17 31 0 2656.24 -17.59 70.98 209.73 126.86 18 15 17 1656.2 -1.84 52.46
 70.00 18 52 4 2417.92 -12.19 55.49 213.57 122.16 19 32 22 1417.9 -1.64 35.77
 80.00 20 28 48 2115.17 -7.90 35.07 216.13 118.89 21 4 4 1115.2 4.45 14.54
 90.00 22 3 35 1809.43 -6.17 13.53 217.07 117.65 22 33 45 809.4 5.60 352.68
 100.00 23 11 40 1589.64 -7.90 356.44 216.13 118.89 23 38 10 589.6 4.45 335.90
 110.00 23 51 31 1464.74 -12.19 344.41 213.57 122.16 24 15 55 464.7 1.64 324.69

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.4438 TRA -.9887 TC3 .0414 BAU .0434 SGT 1181.8 SGR 589.5 SG3 138.6 ST 28.1 SR 26.9 SS 16.8
 RDE -.5182 RRA .2031 RC3 .0968 FAU .03775 RRT .0093 RRF -.0110 RTF -.6955 CRT .7357 CRS .4741 CST .9421
 FDE .2213 FRA .9678 FC3-1.0600 B8P 1807 SGB 1320.6 R23 -.0023 R13 -.6955 LSA 38.8 MSA 17.2 SSA 1.2
 BDE .6823 BRA 1.0094 BC3 .1052 F8P 179 SGI 1181.8 SG2 589.4 THA .36 EL1 36.3 EL2 14.1 ALF 43.34

LAUNCH DATE MAY 7 1971 FLIGHT TIME 110.00 ARRIVAL DATE AUG 25 1971

HELIOCENTRIC CONIC DISTANCE 306.812 EARTH TO MARS
 RL 150.94 LAL .00 LOL 225.80 VL 34.526 GAL -2.23 AZL 91.87 HCA 100.49 SMA 234.29 ECC .35761 INC 1.8673 V1 29.519
 RP 206.90 LAP -1.84 LOP 326.30 VP 26.766 GAP 19.90 AZP 89.66 TAL 351.51 TAP 92.00 RCA 150.51 APO 318.07 V2 26.469
 RC 57.930 GL -12.04 GP .31 ZAL 109.09 ZAP 172.19 ETS 177.75 ZAE 172.89 ETE 45.13 ZAC 100.27 ETC 277.86 LVI -18.44

PLANETOCENTRIC CONIC
 C3 29.025 VHL 5.387 DLA -20.72 RAL 341.85 RAD 6646.6 VEL 12.205 PTH 7.16 VHP 9.561 DPA -16.76 RAP 321.42 ECC 1.4777
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 28 39 2804.44 -22.19 80.22 203.96 133.23 17 15 23 1804.4 -4.26 63.49
 60.00 17 33 13 2632.73 -16.62 69.74 208.95 127.26 18 17 6 1632.7 -.81 51.33
 70.00 18 54 58 2392.40 -11.26 54.10 212.80 122.46 19 34 51 1392.4 2.61 34.44
 80.00 20 32 30 2087.15 -6.98 33.50 215.38 119.10 21 7 17 1087.1 5.39 12.99
 90.00 22 7 44 1780.00 -5.23 11.87 216.33 117.83 22 37 24 780.0 6.54 351.02
 100.00 23 15 22 1561.62 -6.98 354.87 215.38 119.10 23 41 24 561.6 5.39 334.35
 110.00 23 54 25 1439.22 -11.26 343.01 212.80 122.46 24 18 24 439.2 2.61 323.35

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.4389 TRA -.9783 TC3 .0570 BAU .0457 SGT 1207.9 SGR 589.7 SG3 148.3 ST 28.7 SR 26.9 SS 17.4
 RDE -.5025 RRA .1962 RC3 .1032 FAU .03909 RRT .0113 RRF -.0122 RTF -.7052 CRT .7349 CRS .4643 CST .9388
 FDE .2251 FRA 1.0066 FC3-1.1661 B8P 1846 SGB 1344.1 R23 -.0017 R13 -.7052 LSA 39.3 MSA 17.5 SSA 1.2
 BDE .6671 BRA .9978 BC3 .1179 F8P 194 SGI 1207.9 SG2 589.6 THA .42 EL1 36.7 EL2 14.3 ALF 42.54

LAUNCH DATE MAY 7 1971 FLIGHT TIME 112.00 ARRIVAL DATE AUG 27 1971

HELIOCENTRIC CONIC DISTANCE 309.586 EARTH TO MARS
 RL 150.94 LAL .00 LOL 225.80 VL 34.376 GAL -2.14 AZL 91.87 HCA 101.75 SMA 230.11 ECC .34582 INC 1.8700 V1 29.519
 RP 206.85 LAP -1.83 LOP 327.56 VP 26.580 GAP 19.42 AZP 89.62 TAL 351.66 TAP 93.41 RCA 150.53 APO 309.68 V2 26.476
 RC 58.496 GL -12.37 GP .32 ZAL 108.96 ZAP 171.26 ETS 177.93 ZAE 172.43 ETE 41.01 ZAC 100.23 ETC 277.93 LVI -18.54

PLANETOCENTRIC CONIC
 C3 27.363 VHL 5.231 DLA -21.06 RAL 341.89 RAD 6646.0 VEL 12.137 PTH 7.11 VHP 9.257 DPA -16.64 RAP 321.75 ECC 1.4503
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 30 20 2782.47 -21.16 79.14 203.21 133.67 17 16 42 1782.5 -3.15 62.56
 60.00 17 35 26 2609.31 -15.65 68.52 208.19 127.62 18 18 56 1609.3 .22 50.22
 70.00 18 57 55 2366.86 -10.32 52.71 212.04 122.74 19 37 22 1366.9 3.58 33.10
 80.00 20 36 19 2058.92 -6.04 31.93 214.64 119.30 21 10 38 1058.9 6.33 11.42
 90.00 22 12 1 1750.23 -4.29 10.19 215.60 117.98 22 41 11 750.2 7.47 349.34
 100.00 23 19 10 1533.39 -6.04 353.30 214.64 119.30 23 44 44 533.4 6.33 332.79
 110.00 0 1 17 1413.68 -10.32 341.63 212.04 122.74 0 24 51 413.7 3.58 322.02

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.4207 TRA -.9555 TC3 .0923 BAU .0525 SGT 1218.3 SGR 589.4 SG3 158.7 ST 28.5 SR 26.9 SS 18.0
 RDE -.4872 RRA .1893 RC3 .1099 FAU .04043 RRT .0106 RRF -.0142 RTF -.1.87 CRT .7283 CRS .4584 CST .9401
 FDE .2318 FRA 1.0495 FC3-1.2790 B8P 1750 SGB 1351.6 R23 -.0041 R13 -.7287 LSA 39.3 MSA 17.8 SSA 1.2
 BDE .6437 BRA .9741 BC3 .1435 F8P 213 SGI 1218.3 SG2 589.4 THA .39 EL1 36.5 EL2 14.4 ALF 42.68

LAUNCH DATE MAY 7 1971 FLIGHT TIME 114.00 ARRIVAL DATE AUG 29 1971

HELIOCENTRIC CONIC DISTANCE 312.493 EARTH TO MARS
 RL 150.94 LAL .00 LOL 225.80 VL 34.238 GAL -2.05 AZL 91.87 HCA 103.02 SMA 226.32 ECC .33475 INC 1.8726 V1 29.519
 RP 206.80 LAP -1.82 LOP 328.83 VP 26.403 GAP 18.94 AZP 89.58 TAL 351.82 TAP 94.84 RCA 150.56 APO 302.08 V2 26.482
 RC 59.137 GL -12.71 GP .33 ZAL 108.82 ZAP 170.31 ETS 178.08 ZAE 171.98 ETE 37.98 ZAC 100.20 ETC 278.00 LVI -18.64

PLANETOCENTRIC CONIC
 C3 25.840 VHL 5.083 DLA -21.41 RAL 341.91 RAD 6645.3 VEL 12.075 PTH 7.06 VHP 8.964 DPA -16.53 RAP 322.06 ECC 1.4253
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 32 0 2760.82 -20.14 78.10 202.49 134.07 17 18 1 1760.8 -2.07 61.66
 60.00 17 37 40 2586.17 -14.69 67.33 207.46 127.96 18 20 46 1586.2 1.24 49.11
 70.00 19 0 54 2341.49 -9.36 51.35 211.32 122.99 19 39 56 1341.5 4.55 31.77
 80.00 20 40 13 2030.69 -5.10 30.37 213.94 119.46 21 14 3 1030.7 7.27 9.85
 90.00 22 16 25 1720.33 -3.33 8.52 214.91 118.10 22 45 6 720.3 8.40 347.63
 100.00 23 23 4 1505.16 -5.10 351.74 213.94 119.46 23 48 10 505.2 7.27 331.21
 110.00 0 4 16 1388.30 -9.36 340.26 211.32 122.99 0 27 25 388.3 4.55 320.69

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.4196 TRA -.9502 TC3 .1042 BAU .0540 SGT 1248.3 SGR 588.8 SG3 169.8 ST 29.3 SR 26.8 SS 18.5
 RDE -.4725 RRA .1829 RC3 .1167 FAU .04204 RRT .0131 RRF -.0154 RTF -.7317 CRT .7286 CRS .4454 CST .9349
 FDE .2338 FRA 1.0905 FC3-1.4083 B8P 1868 SGB 1380.2 R23 -.0031 R13 -.7317 LSA 39.9 MSA 18.1 SSA 1.2
 BDE .6319 BRA .9676 BC3 .1564 F8P 229 SGI 1248.3 SG2 588.8 THA .46 EL1 36.9 EL2 14.6 ALF 41.59

LAUNCH DATE MAY 7 1971 FLIGHT TIME 116.00 ARRIVAL DATE AUG 31 1971

HELIOCENTRIC CONIC DISTANCE 315.516 EARTH TO MARS

RL 150.94 LAL .00 LOL 225.80 VL 34.103 GAL -1.96 AZL 91.88 HCA 104.29 SMA 222.87 ECC .32435 INC 1.8753 V1 29.910
 RP 206.75 LAP -1.82 LOP 330.10 VP 26.236 GAP 18.48 AZP 89.54 TAL 351.99 TAP 96.28 RCA 150.58 APO 295.16 V2 26.487
 RC 59.850 GL -13.04 GP .34 ZAL 108.67 ZAP 169.55 ETS 178.21 ZAE 171.57 ETE 34.71 ZAC 100.17 ETC 278.06 LVI -18.73

PLANETOCENTRIC CONIC

C3 24.440 VHL 4.944 DLA -21.77 RAL 341.92 RAD 6644.6 VEL 12.017 PTH 7.01 VHP 8.681 DPA -16.43 RAP 322.36 ECC 1.4022
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 33 39 2739.44 -19.12 77.08 201.80 134.44 17 19 18 1739.4 -0.99 60.77
 60.00 17 39 54 2563.24 -13.72 66.15 206.75 128.27 18 22 37 1563.2 2.25 48.01
 70.00 19 3 56 2316.21 -8.44 49.99 210.62 123.22 19 42 32 1316.2 5.51 30.44
 80.00 20 44 13 2002.35 -4.15 28.80 213.26 119.59 21 17 35 1002.4 8.20 8.26
 90.00 22 21 0 1690.20 -2.36 6.83 214.24 118.19 22 49 10 690.2 9.33 345.91
 100.00 23 27 5 1476.63 -4.15 350.17 213.26 119.59 23 51 42 476.8 8.20 329.63
 110.00 0 7 18 1363.03 -8.44 338.91 210.62 123.22 0 30 1 363.0 5.51 319.36

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.4160 TRA -.9430 TC3 .1203 BAU .0564 SGT 1277.3 SGR 587.8 SG3 181.7 ST 29.9 SR 26.8 SS 19.0
 RDE -.4582 RRA .1766 RC3 .1237 FAU .04372 RRT .0150 RRF -.0170 RTF -.7370 CRT .7277 CRS .4331 CST .9306
 FDE .2364 FRA 1.1339 FC3-1.5485 BSP 1950 SGB 1406.0 R23 -.0029 R13 -.7370 LSA 40.4 MSA 18.4 S8A 1.2
 BDE .6189 BRA .9593 BC3 .1725 FSP 247 SG1 1277.3 SG2 587.7 THA .50 EL1 37.3 EL2 14.7 ALF 40.68

LAUNCH DATE MAY 7 1971 FLIGHT TIME 118.00 ARRIVAL DATE SEP 2 1971

HELIOCENTRIC CONIC DISTANCE 318.644 EARTH TO MARS

RL 150.94 LAL .00 LOL 225.80 VL 33.978 GAL -1.87 AZL 91.88 HCA 105.56 SMA 219.72 ECC .31457 INC 1.8780 V1 29.519
 RP 206.72 LAP -1.81 LOP 331.37 VP 26.077 GAP 18.03 AZP 89.50 TAL 352.17 TAP 97.72 RCA 150.60 APO 288.84 V2 26.491
 RC 60.633 GL -13.37 GP .35 ZAL 108.49 ZAP 168.37 ETS 178.32 ZAE 171.19 ETE 32.30 ZAC 100.14 ETC 278.12 LVI -18.82

PLANETOCENTRIC CONIC

C3 23.153 VHL 4.812 DLA -22.14 RAL 341.91 RAD 6644.2 VEL 11.964 PTH 6.96 VHP 8.408 DPA -16.32 RAP 322.64 ECC 1.3810
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 35 17 2718.36 -18.12 78.09 201.13 134.78 17 20 35 1718.4 .07 59.89
 60.00 17 42 9 2540.55 -12.76 65.01 206.07 128.56 18 24 29 1540.5 3.25 46.93
 70.00 19 7 1 2291.06 -7.50 48.65 209.95 123.42 19 45 12 1291.1 6.46 29.11
 80.00 20 48 20 1973.94 -3.19 27.24 212.61 119.70 21 21 14 973.9 9.13 6.66
 90.00 22 25 43 1659.82 -1.38 5.14 213.61 118.25 22 53 23 659.8 10.26 344.16
 100.00 23 31 12 1448.41 -3.19 348.60 212.61 119.70 23 55 20 448.4 9.13 328.03
 110.00 0 10 23 1337.88 -7.50 337.57 209.95 123.42 0 32 41 337.9 6.46 318.03

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.4110 TRA -.9342 TC3 .1388 BAU .0591 SGT 1303.7 SGR 586.4 SG3 194.4 ST 30.4 SR 26.7 SS 19.6
 RDE -.4444 RRA .1704 RC3 .1309 FAU .04550 RRT .0168 RRF -.0183 RTF -.7430 CRT .7262 CRS .4194 CST .9259
 FDE .2384 FRA 1.1802 FC3-1.7012 BSP 2032 SGB 1429.5 R23 -.0027 R13 -.7431 LSA 40.8 MSA 18.7 S8A 1.2
 BDE .6053 BRA .9496 BC3 .1908 FSP 267 SG1 1303.8 SG2 586.3 THA .54 EL1 37.6 EL2 14.8 ALF 39.88

LAUNCH DATE MAY 7 1971 FLIGHT TIME 120.00 ARRIVAL DATE SEP 4 1971

HELIOCENTRIC CONIC DISTANCE 321.866 EARTH TO MARS

RL 150.94 LAL .00 LOL 225.80 VL 33.880 GAL -1.79 AZL 91.88 HCA 106.83 SMA 218.85 ECC .30538 INC 1.8807 V1 29.519
 RP 206.70 LAP -1.80 LOP 332.64 VP 25.926 GAP 17.58 AZP 89.46 TAL 352.35 TAP 99.18 RCA 150.63 APO 283.07 V2 26.494
 RC 61.483 GL -13.71 GP .36 ZAL 108.30 ZAP 167.38 ETS 178.41 ZAE 170.87 ETE 30.27 ZAC 100.11 ETC 278.17 LVI -18.91

PLANETOCENTRIC CONIC

C3 21.989 VHL 4.687 DLA -22.51 RAL 341.89 RAD 6643.7 VEL 11.915 PTH 6.92 VHP 8.144 DPA -16.22 RAP 322.91 ECC 1.3618
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 36 54 2697.62 -17.12 75.13 200.49 135.10 17 21 52 1697.6 1.11 59.02
 60.00 17 44 23 2518.14 -11.81 63.88 205.41 128.82 18 26 22 1518.1 4.23 45.85
 70.00 19 10 8 2266.07 -6.56 47.33 209.30 123.59 19 47 54 1266.1 7.40 27.79
 80.00 20 52 34 1945.47 -2.23 25.67 211.98 119.78 21 25 0 945.5 10.05 5.05
 90.00 22 30 38 1629.20 -.40 3.43 213.00 118.28 22 57 47 629.2 11.18 342.39
 100.00 23 35 26 1419.94 -2.23 347.04 211.98 119.78 23 59 6 419.9 10.05 326.42
 110.00 0 13 30 1312.89 -6.56 336.25 209.30 123.59 0 35 23 312.9 7.40 316.71

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.4054 TRA -.9245 TC3 .1601 BAU .0621 SGT 1328.4 SGR 584.6 SG3 207.9 ST 30.8 SR 26.5 SS 20.1
 RDE -.4311 RRA .1643 RC3 .1382 FAU .04737 RRT .0188 RRF -.0204 RTF -.7499 CRT .7244 CRS .4072 CST .9218
 FDE .2411 FRA 1.2283 FC3-1.8667 BSP 2093 SGB 1451.3 R23 -.0029 R13 -.7499 LSA 41.2 MSA 19.0 S8A 1.3
 BDE .5917 BRA .9390 BC3 .2115 FSP 288 SG1 1328.4 SG2 584.4 THA .59 EL1 37.9 EL2 14.9 ALF 39.15

LAUNCH DATE MAY 7 1971 FLIGHT TIME 122.00 ARRIVAL DATE SEP 6 1971

HELIOCENTRIC CONIC DISTANCE 325.172 EARTH TO MARS

RL 150.94 LAL .00 LOL 225.80 VL 33.749 GAL -1.70 AZL 91.88 HCA 108.10 SMA 214.22 ECC .29675 INC 1.8835 V1 29.519
 RP 206.68 LAP -1.79 LOP 333.91 VP 25.782 GAP 17.15 AZP 89.41 TAL 352.55 TAP 100.64 RCA 150.65 APO 277.79 V2 26.496
 RC 62.398 GL -14.04 GP .37 ZAL 108.10 ZAP 166.36 ETS 178.49 ZAE 170.59 ETE 28.55 ZAC 100.09 ETC 278.23 LVI -18.99

PLANETOCENTRIC CONIC

C3 20.880 VHL 4.569 DLA -22.89 RAL 341.85 RAD 6643.2 VEL 11.869 PTH 6.88 VHP 7.889 DPA -16.13 RAP 323.16 ECC 1.3436
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 38 30 2677.24 -16.13 74.19 199.87 135.39 17 23 8 1677.2 2.13 58.17
 60.00 17 46 39 2496.03 -10.86 62.78 204.78 129.05 18 28 15 1496.0 5.20 44.79
 70.00 19 13 18 2241.28 -5.63 46.02 208.68 123.74 19 50 39 1241.3 8.32 26.47
 80.00 20 56 56 1916.96 -1.26 24.10 211.39 119.83 21 28 53 917.0 10.97 3.43
 90.00 22 35 43 1598.34 .60 1.71 212.43 118.27 23 2 21 598.3 12.10 340.59
 100.00 23 39 48 1391.43 -1.26 345.47 211.39 119.83 24 2 59 391.4 10.97 324.80
 110.00 0 16 40 1288.10 -5.63 334.94 208.68 123.74 0 38 8 288.1 8.32 315.39

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.3988 TRA -.9139 TC3 .1828 BAU .0652 SGT 1350.9 SGR 582.4 SG3 222.3 ST 31.2 SR 26.4 SS 20.7
 RDE -.4182 RRA .1584 RC3 .1456 FAU .04936 RRT .0206 RRF -.0222 RTF -.7565 CRT .7222 CRS .3932 CST .9171
 FDE .2429 FRA 1.2789 FC3-2.0464 BSP 2149 SGB 1471.1 R23 -.0030 R13 -.7566 LSA 41.6 MSA 19.3 S8A 1.3
 BDE .5779 BRA .9275 BC3 .2337 FSP 312 SG1 1351.0 SG2 582.2 THA .63 EL1 38.0 EL2 15.0 ALF 38.48

LAUNCH DATE MAY 7 1971

FLIGHT TIME 124.00

ARRIVAL DATE SEP 8 1971

HELIOCENTRIC CONIC
 RL 150.94 LAL .00 LOL 225.80 VL 33.644 GAL -1.82 AZL 91.89 HCA 109.36 SMA 211.80 ECC .28863 INC 1.8863 V1 29.519
 RP 206.67 LAP -1.78 LOP 335.18 VP 25.646 GAP 16.72 AZP 89.37 TAL 352.75 TAP 102.11 RCA 150.67 APO 272.94 V2 26.496
 RC 63.376 GL -14.38 GP .39 ZAL 107.88 ZAP 165.33 ETS 178.35 ZAE 170.38 ETE 27.10 ZAC 100.07 ETC 278.27 LVI -19.06

PLANETOCENTRIC CONIC
 C3 19.878 VHL 4.458 DLA -23.27 RAL 341.80 RAD 6642.8 VEL 11.827 PTH 6.85 VHP 7.642 DPA -16.04 RAP 323.38 ECC 1.3271
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 40 6 2637.25 -15.16 73.29 199.28 135.66 17 24 23 1657.3 3.14 57.33
 60.00 17 48 54 2474.26 -9.93 61.70 204.18 129.26 18 30 8 1474.3 6.15 43.74
 70.00 19 16 31 2216.70 -4.70 44.73 208.09 123.87 19 53 27 1216.7 9.24 25.15
 80.00 21 1 25 1888.41 -.30 22.54 210.83 119.86 21 32 53 888.4 11.87 1.80
 90.00 22 41 0 1567.21 1.60 359.97 211.88 118.24 23 7 7 567.2 13.02 338.76
 100.00 23 44 16 1362.88 -.30 343.91 210.83 119.86 24 6 59 362.9 11.87 323.16
 110.00 0 19 53 1263.52 -4.70 333.64 208.09 123.87 0 40 57 263.5 9.24 314.07

DIFFERENTIAL CORRECTIONS
 TDE -.3919 TRA -.9029 TC3 .2074 BAU .0685 SGT 1372.2 SGR 579.8 SG3 237.8 ST 31.5 SR 26.3 SS 21.3
 RDE -.4057 RRA .1527 RC3 .1532 FAU .05152 RRT .0226 RRF -.0242 RTF -.7630 CRT .7198 CRS .3783 CST .9121
 FDE .2440 FRA 1.3320 FC3-2.2437 BSP 2196 SGB 1489.7 R23 -.0032 R13 -.7630 LSA 41.8 MSA 19.5 SSA 1.3
 BDE .5641 BRA .9157 BC3 .2578 FSP 337 SG1 1372.3 SG2 579.6 THA .67 EL1 38.2 EL2 15.1 ALF 37.86

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 7 1971

FLIGHT TIME 126.00

ARRIVAL DATE SEP 10 1971

HELIOCENTRIC CONIC
 RL 150.94 LAL .00 LOL 225.80 VL 33.545 GAL -1.54 AZL 91.89 HCA 110.63 SMA 209.58 ECC .28100 INC 1.8891 V1 29.519
 RP 206.68 LAP -1.77 LOP 336.45 VP 25.518 GAP 16.30 AZP 89.33 TAL 352.95 TAP 103.58 RCA 150.69 APO 268.48 V2 26.496
 RC 64.414 GL -14.71 GP .40 ZAL 107.65 ZAP 164.27 ETS 178.61 ZAE 170.22 ETE 25.88 ZAC 100.05 ETC 278.32 LVI -19.13

PLANETOCENTRIC CONIC
 C3 18.955 VHL 4.354 DLA -23.65 RAL 341.74 RAD 6642.4 VEL 11.789 PTH 6.81 VHP 7.403 DPA -15.96 RAP 323.59 ECC 1.3120
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 41 41 2637.67 -14.21 72.41 198.72 135.90 17 25 38 1637.7 4.12 56.51
 60.00 17 51 10 2452.85 -9.00 60.65 203.61 129.45 18 32 3 1452.9 7.09 42.70
 70.00 19 19 46 2192.37 -3.77 43.45 207.53 123.97 19 56 19 1192.4 10.14 23.84
 80.00 21 6 1 1859.84 .67 20.97 210.30 119.85 21 37 1 859.8 12.77 .15
 90.00 22 46 29 1535.80 2.61 358.22 211.37 118.17 23 12 5 535.8 13.92 336.90
 100.00 23 48 53 1334.31 .67 342.34 210.30 119.85 24 11 8 334.3 12.77 321.52
 110.00 0 23 9 1239.19 -3.77 332.37 207.53 123.97 0 43 48 239.2 10.14 312.76

DIFFERENTIAL CORRECTIONS
 TDE -.3847 TRA -.8911 TC3 .2311 BAU .0713 SGT 1391.4 SGR 576.8 SG3 254.1 ST 31.8 SR 26.1 SS 21.8
 RDE -.3937 RRA .1472 RC3 .1607 FAU .05375 RRT .0245 RRF -.0264 RTF -.7688 CRT .7173 CRS .3635 CST .9071
 FDE .2452 FRA 1.3875 FC3-2.4550 BSP 2241 SGB 1506.2 R23 -.0036 R13 -.7688 LSA 42.1 MSA 19.8 SSA 1.3
 BDE .9504 BRA .9032 BC3 .2815 FSP 363 SG1 1391.4 SG2 576.6 THA .70 EL1 38.2 EL2 15.1 ALF 37.28

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 7 1971

FLIGHT TIME 128.00

ARRIVAL DATE SEP 12 1971

HELIOCENTRIC CONIC
 RL 150.94 LAL .00 LOL 225.80 VL 33.492 GAL -1.47 AZL 91.89 HCA 111.90 SMA 207.54 ECC .27383 INC 1.8920 V1 29.519
 RP 206.69 LAP -1.76 LOP 337.72 VP 25.392 GAP 15.89 AZP 89.29 TAL 353.16 TAP 105.06 RCA 150.71 APO 264.37 V2 26.495
 RC 65.512 GL -15.04 GP .42 ZAL 107.42 ZAP 163.19 ETS 178.67 ZAE 170.13 ETE 24.87 ZAC 100.04 ETC 278.36 LVI -19.20

PLANETOCENTRIC CONIC
 C3 18.105 VHL 4.255 DLA -24.04 RAL 341.68 RAD 6642.0 VEL 11.753 PTH 6.78 VHP 7.173 DPA -15.88 RAP 323.78 ECC 1.2980
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 43 14 2618.53 -13.27 71.55 198.18 136.12 17 26 53 1618.5 5.08 55.71
 60.00 17 53 26 2431.84 -8.09 59.62 203.06 129.62 18 33 58 1431.8 8.00 41.68
 70.00 19 23 4 2168.32 -2.86 42.19 207.00 124.05 19 59 13 1168.3 11.02 22.54
 80.00 21 10 46 1831.25 1.64 19.40 209.80 119.82 21 41 18 831.2 13.65 358.49
 90.00 22 52 13 1504.07 3.63 356.44 210.90 118.06 23 17 17 504.1 14.82 335.00
 100.00 23 53 38 1305.72 1.64 340.77 209.80 119.82 24 15 24 305.7 13.65 319.85
 110.00 0 26 27 1215.13 -2.86 331.11 207.00 124.05 0 46 42 215.1 11.02 311.46

DIFFERENTIAL CORRECTIONS
 TDE -.3778 TRA -.8793 TC3 .2540 BAU .0738 SGT 1409.3 SGR 573.5 SG3 271.5 ST 32.0 SR 25.9 SS 22.4
 RDE -.3820 RRA .1418 RC3 .1684 FAU .05612 RRT .0266 RRF -.0287 RTF -.739 CRT .7149 CRS .3481 CST .9016
 FDE .2460 FRA 1.4464 FC3-2.6833 BSP 2286 SGB 1521.5 R23 -.0041 R13 -.7740 LSA 42.3 MSA 20.1 SSA 1.3
 BDE .5372 BRA .8907 BC3 .3048 FSP 393 SG1 1409.4 SG2 573.2 THA .74 EL1 38.3 EL2 15.1 ALF 36.71

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 7 1971

FLIGHT TIME 130.00

ARRIVAL DATE SEP 14 1971

HELIOCENTRIC CONIC
 RL 150.94 LAL .00 LOL 225.80 VL 33.384 GAL -1.40 AZL 91.90 HCA 113.17 SMA 205.66 ECC .26709 INC 1.8950 V1 29.519
 RP 206.71 LAP -1.74 LOP 338.99 VP 25.274 GAP 15.49 AZP 89.25 TAL 353.37 TAP 106.54 RCA 150.73 APO 260.59 V2 26.493
 RC 66.667 GL -15.37 GP .43 ZAL 107.18 ZAP 162.09 ETS 178.71 ZAE 170.11 ETE 24.04 ZAC 100.03 ETC 278.39 LVI -19.26

PLANETOCENTRIC CONIC
 C3 17.323 VHL 4.162 DLA -24.42 RAL 341.60 RAD 6641.6 VEL 11.720 PTH 6.75 VHP 6.950 DPA -15.81 RAP 323.94 ECC 1.2851
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 44 48 2599.84 -12.35 70.73 197.66 136.32 17 28 8 1599.8 6.01 54.92
 60.00 17 55 43 2411.23 -7.20 58.62 202.54 129.76 18 35 54 1411.2 8.89 40.67
 70.00 19 26 25 2144.56 -1.95 40.95 206.49 124.10 20 2 10 1144.6 11.89 21.25
 80.00 21 15 40 1802.64 2.61 17.83 209.33 119.75 21 45 42 802.6 14.52 356.81
 90.00 22 58 11 1471.97 4.66 354.64 210.46 117.93 23 22 43 472.0 15.72 333.07
 100.00 0 2 28 1277.12 2.61 339.20 209.33 119.75 0 23 45 277.1 14.52 318.10
 110.00 0 29 47 1191.38 -1.95 329.87 206.49 124.10 0 49 39 191.4 11.89 310.17

DIFFERENTIAL CORRECTIONS
 TDE -.3700 TRA -.8666 TC3 .2800 BAU .0766 SGT 1424.9 SGR 569.8 SG3 290.0 ST 32.2 SR 25.7 SS 23.0
 RDE -.3708 RRA .1366 RC3 .1760 FAU .05868 RRT .0290 RRF -.0314 RTF -.7793 CRT .7123 CRS .3321 CST .8958
 FDE .2461 FRA 1.5073 FC3-2.9328 BSP 2313 SGB 1534.6 R23 -.0045 R13 -.7793 LSA 42.5 MSA 20.4 SSA 1.3
 BDE .5238 BRA .8773 BC3 .3307 FSP 422 SG1 1425.0 SG2 569.5 THA .79 EL1 38.3 EL2 15.2 ALF 36.20

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 7 1971

FLIGHT TIME 132.00

ARRIVAL DATE SEP 18 1971

HELIOCENTRIC CONIC

RL 150.94 LAL .00 LOL 225.80 VL 33.282 GAL -1.33 AZL 91.90 HCA 114.44 SMA 203.92 ECC .26077 INC 1.6980 V1 29.519
 RP 206.73 LAP -1.73 LOP 340.26 VP 25.162 GAP 15.10 AZP 89.21 TAL 333.58 TAP 108.02 RCA 150.75 APO 257.10 V2 26.489
 RC 67.877 GL -15.69 GP .45 ZAL 106.93 ZAP 160.97 ETS 178.75 ZAE 170.16 ETE 23.38 ZAC 100.03 ETC 278.42 LVI -19.31

DISTANCE 342.718

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.802 VHL 4.075 DLA -24.81 RAL 341.52 RAD 6641.3 VEL 11.689 PTH 6.72 VHP 6.735 DPA -15.75 RAP 324.07 ECC 1.2732
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 46 20 2381.62 -11.45 69.93 197.18 136.50 17 29 22 1581.6 6.92 54.15
 60.00 17 57 59 2391.07 -6.32 57.64 202.05 129.89 18 37 50 1391.1 9.77 39.68
 70.00 19 29 48 2121.13 -1.05 39.73 206.02 124.14 20 5 9 1121.1 12.74 19.96
 80.00 21 20 42 1774.02 3.57 18.25 206.90 119.66 21 50 16 774.0 15.38 353.12
 90.00 23 4 27 1439.43 5.69 392.81 210.07 117.75 23 28 26 439.4 16.60 331.09
 100.00 0 7 30 1248.50 3.57 337.62 208.90 119.66 0 28 19 248.5 15.38 316.49
 110.00 0 33 10 1167.95 -1.05 328.64 206.02 124.14 0 52 38 167.9 12.74 308.88

DIFFERENTIAL CORRECTIONS

TDE -.3631 TRA -.8544 TC3 .3039 BAU .0788
 RDE -.3599 RRA .1315 RC3 .1637 FAU .06141
 FDE .2463 FRA 1.9729 FC3-3.2023 BSP 2352
 BDE .5113 BRA .8645 BC3 .3551 FSP 456

MID-COURSE EXECUTION ACCURACY

SGT 1440.2 SGR 585.8 SG3 309.9
 RRT .0317 RRF -.0343 RTF -.7836
 SGB 1547.3 R23 -.0049 R13 -.7837
 SG1 1440.3 SG2 565.4 THA .84

ORBIT DETERMINATION ACCURACY

ST 32.3 SR 25.5 SS 23.6
 CRT .7101 CRS .3161 CST .8897
 LSA 42.7 MSA 20.7 SSA 1.3
 EL1 38.3 EL2 15.2 ALF 35.65

LAUNCH DATE MAY 7 1971

FLIGHT TIME 134.00

ARRIVAL DATE SEP 18 1971

HELIOCENTRIC CONIC

RL 150.94 LAL .00 LOL 225.80 VL 33.204 GAL -1.26 AZL 91.90 HCA 115.71 SMA 202.32 ECC .25483 INC 1.9011 V1 29.519
 RP 206.77 LAP -1.71 LOP 341.53 VP 25.055 GAP 14.71 AZP 89.18 TAL 353.79 TAP 109.50 RCA 150.76 APO 253.88 V2 26.485
 RC 89.140 GL -16.01 GP .47 ZAL 106.68 ZAP 159.82 ETS 178.79 ZAE 170.28 ETE 22.89 ZAC 100.03 ETC 278.44 LVI -19.36

DISTANCE 346.390

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.938 VHL 3.992 DLA -25.19 RAL 341.43 RAD 6641.0 VEL 11.661 PTH 6.70 VHP 6.527 DPA -15.70 RAP 324.18 ECC 1.2623
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 47 52 2563.91 -10.58 69.16 196.71 136.66 17 30 36 1563.9 7.81 53.39
 60.00 18 0 16 2371.37 -5.46 56.69 201.58 129.99 18 39 47 1371.4 10.61 38.71
 70.00 19 33 13 2098.05 -.17 38.52 205.58 124.15 20 8 11 1098.1 13.56 18.69
 80.00 21 25 54 1745.38 4.54 14.67 208.51 119.54 21 55 0 745.4 16.23 353.41
 90.00 23 11 1 1406.36 6.74 350.94 209.71 117.53 23 34 28 406.4 17.48 329.06
 100.00 0 12 42 1219.85 4.54 336.04 208.51 119.54 0 33 2 219.9 16.23 314.78
 110.00 0 36 35 1144.87 -1.17 327.44 205.58 124.15 0 55 40 144.9 13.56 307.61

DIFFERENTIAL CORRECTIONS

TDE -.3554 TRA -.8419 TC3 .3284 BAU .0810
 RDE -.3494 RRA .1266 RC3 .1913 FAU .06432
 FDE .2443 FRA 1.6417 FC3-3.4941 BSP 2385
 BDE .4984 BRA .8514 BC3 .3801 FSP 492

MID-COURSE EXECUTION ACCURACY

SGT 1453.3 SGR 561.4 SG3 331.1
 RRT .0340 RRF -.0369 RTF -.7878
 SGB 1557.9 R23 -.0054 R13 -.7878
 SG1 1453.4 SG2 561.0 THA .88

ORBIT DETERMINATION ACCURACY

ST 32.4 SR 25.3 SS 24.3
 CRT .7072 CRS .2973 CST .8825
 LSA 42.8 MSA 21.0 SSA 1.4
 EL1 38.2 EL2 15.2 ALF 35.17

LAUNCH DATE MAY 7 1971

FLIGHT TIME 136.00

ARRIVAL DATE SEP 20 1971

HELIOCENTRIC CONIC

RL 150.94 LAL .00 LOL 225.80 VL 33.131 GAL -1.20 AZL 91.90 HCA 116.98 SMA 200.84 ECC .24926 INC 1.9042 V1 29.519
 RP 206.81 LAP -1.70 LOP 342.79 VP 24.952 GAP 14.33 AZP 89.14 TAL 354.00 TAP 110.98 RCA 150.78 APO 250.90 V2 26.480
 RC 70.455 GL -16.33 GP .49 ZAL 106.43 ZAP 158.65 ETS 178.82 ZAE 170.47 ETE 22.56 ZAC 100.03 ETC 278.46 LVI -19.40

DISTANCE 350.105

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.326 VHL 3.915 DLA -25.57 RAL 341.34 RAD 6640.7 VEL 11.633 PTH 6.67 VHP 6.327 DPA -15.65 RAP 324.27 ECC 1.2522
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 49 23 2546.71 -9.72 68.42 196.28 136.81 17 31 50 1546.7 8.66 52.66
 60.00 18 2 32 2352.16 -4.62 55.76 201.15 130.08 18 41 44 1352.2 11.44 37.75
 70.00 19 36 41 2075.36 .69 37.34 205.17 124.15 20 11 16 1075.4 14.37 17.43
 80.00 21 31 16 1716.70 5.50 13.09 208.15 119.39 21 59 53 716.7 17.06 351.69
 90.00 23 17 57 1372.63 7.79 349.03 209.39 117.27 23 40 50 372.6 18.35 326.97
 100.00 0 18 4 1191.17 5.50 334.46 208.15 119.39 0 37 55 191.2 17.06 313.06
 110.00 0 40 3 1122.18 .69 326.26 205.17 124.15 0 58 45 122.2 14.37 306.34

DIFFERENTIAL CORRECTIONS

TDE -.3481 TRA -.8283 TC3 .3304 BAU .0825
 RDE -.3393 RRA .1218 RC3 .1989 FAU .06740
 FDE .2434 FRA 1.7126 FC3-3.8071 BSP 2412
 BDE .4861 BRA .8372 BC3 .4029 FSP 529

MID-COURSE EXECUTION ACCURACY

SGT 1463.1 SGR 556.6 SG3 353.4
 RRT .0371 RRF -.0404 RTF -.7908
 SGB 1565.4 R23 -.0061 R13 -.7909
 SG1 1463.3 SG2 556.2 THA .94

ORBIT DETERMINATION ACCURACY

ST 32.5 SR 25.0 SS 24.9
 CRT .7052 CRS .2807 CST .8757
 LSA 43.0 MSA 21.3 SSA 1.4
 EL1 38.1 EL2 15.1 ALF 34.71

LAUNCH DATE MAY 7 1971

FLIGHT TIME 138.00

ARRIVAL DATE SEP 22 1971

HELIOCENTRIC CONIC

RL 150.94 LAL .00 LOL 225.80 VL 33.083 GAL -1.13 AZL 91.91 HCA 118.24 SMA 199.48 ECC .24402 INC 1.9074 V1 29.519
 RP 206.87 LAP -1.68 LOP 344.08 VP 24.854 GAP 13.97 AZP 89.10 TAL 354.21 TAP 112.46 RCA 150.79 APO 248.14 V2 26.474
 RC 71.818 GL -16.84 GP .51 ZAL 106.18 ZAP 157.44 ETS 178.84 ZAE 170.73 ETE 22.42 ZAC 100.04 ETC 278.48 LVI -19.44

DISTANCE 353.861

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.761 VHL 3.842 DLA -25.94 RAL 341.25 RAD 6640.4 VEL 11.611 PTH 6.65 VHP 6.133 DPA -15.61 RAP 324.32 ECC 1.2429
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 50 53 2329.98 -8.89 67.70 195.87 136.94 17 33 3 1530.0 9.50 51.94
 60.00 18 4 48 2333.39 -3.79 54.86 200.74 130.15 18 43 42 1333.4 12.24 36.81
 70.00 19 40 10 2052.99 1.55 36.17 204.78 124.12 20 14 23 1053.0 15.16 16.17
 80.00 21 36 50 1687.86 6.46 11.49 207.82 119.21 22 4 58 687.9 17.87 349.94
 90.00 23 23 21 1337.91 8.87 347.04 209.12 116.96 23 47 38 337.9 19.21 324.79
 100.00 0 23 38 1162.33 6.46 332.85 207.82 119.21 0 43 0 162.3 17.87 311.30
 110.00 0 43 33 1099.81 1.55 325.09 204.78 124.12 1 1 52 99.8 15.16 305.09

DIFFERENTIAL CORRECTIONS

TDE -.3289 TRA -.8019 TC3 .4041 BAU .0896
 RDE -.3294 RRA .1172 RC3 .2065 FAU .07081
 FDE .2381 FRA 1.7849 FC3-4.1527 BSP 2272
 BDE .4655 BRA .8104 BC3 .4538 FSP 564

MID-COURSE EXECUTION ACCURACY

SGT 1451.0 SGR 551.6 SG3 377.3
 RRT .0397 RRF -.0438 RTF -.8051
 SGB 1552.3 R23 -.0065 R13 -.8051
 SG1 1451.2 SG2 551.1 THA 1.01

ORBIT DETERMINATION ACCURACY

ST 31.6 SR 24.7 SS 25.5
 CRT .6960 CRS .2589 CST .8710
 LSA 42.3 MSA 21.6 SSA 1.3
 EL1 37.2 EL2 15.1 ALF 35.20

LAUNCH DATE MAY 7 1971

FLIGHT TIME 140.00

ARRIVAL DATE SEP 24 1971

HELIOCENTRIC CONIC DISTANCE 357.654 EARTH TO MARS
 RL 150.94 LAL .00 LOL 225.80 VL 32.908 GAL -1.08 AZL 91.91 HCA 119.51 SMA 198.20 ECC .23912 INC 1.9107 V1 29.519
 RP 206.93 LAP -1.66 LOP 345.33 VP 24.761 GAP 13.61 AZP 89.06 TAL 354.41 TAP 113.93 RCA 150.80 APO 245.59 V2 26.466
 RC 73.226 GL -16.95 GP .53 ZAL 105.94 ZAP 156.21 ETS 178.87 ZAE 171.07 ETE 22.45 ZAC 100.06 ETC 278.48 LVI -19.47

PLANETOCENTRIC CONIC
 C3 14.243 VHL 3.774 DLA -26.31 RAL 341.16 RAD 6640.2 VEL 11.589 PTH 6.63 VHP 5.946 DPA -15.58 RAP 324.35 ECC 1.2344
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 52 23 2513.89 -8.09 67.01 195.49 137.05 17 34 17 1513.9 10.29 51.25
 60.00 18 7 4 2313.25 -3.00 53.99 200.36 130.21 18 45 39 1315.2 13.01 35.90
 70.00 19 43 41 2031.17 2.38 35.03 204.43 124.08 20 17 32 1031.2 15.92 14.94
 80.00 21 42 34 1659.10 7.41 9.88 207.53 119.01 22 10 13 659.1 18.67 348.17
 90.00 23 35 12 1302.28 9.96 345.00 206.89 116.60 23 54 54 302.3 20.07 322.53
 100.00 0 29 21 1133.57 7.41 331.25 207.53 119.01 0 48 15 135.6 18.67 309.94
 110.00 0 47 3 1077.99 2.38 323.95 204.43 124.08 1 5 1 78.0 15.92 303.86

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3283 TRA -.7947 TC3 .4074 BAU .0878 SGT 1487.8 SGR 546.2 SG3 402.8 ST 32.1 SR 24.5 S8 26.2
 RDE -.3189 RRA .1126 RC3 .2138 FAU .07422 RRT .0437 RRF -.0481 RTF -.8017 CRT .6980 CRS .2449 CST .8624
 FDE .2388 FRA 1.8680 FC3-4.5115 B8P 2366 SGB 1586.2 R23 -.0075 R13 -.8017 L8A 42.8 M8A 21.9 S8A 1.4
 BDE .4584 BRA .8027 BC3 .4801 F8P 808 SGI 1468.1 SG2 545.8 THA 1.08 EL1 37.4 EL2 15.0 ALF 34.27

LAUNCH DATE MAY 7 1971

FLIGHT TIME 142.00

ARRIVAL DATE SEP 26 1971

HELIOCENTRIC CONIC DISTANCE 361.480 EARTH TO MARS
 RL 150.94 LAL .00 LOL 225.80 VL 32.938 GAL -1.02 AZL 91.91 HCA 120.78 SMA 197.02 ECC .23452 INC 1.9141 V1 29.519
 RP 207.00 LAP -1.84 LOP 346.59 VP 24.671 GAP 13.25 AZP 89.02 TAL 354.61 TAP 113.39 RCA 150.82 APO 243.23 V2 26.458
 RC 74.883 GL -17.25 GP .55 ZAL 105.70 ZAP 154.95 ETS 178.89 ZAE 171.48 ETE 22.70 ZAC 100.08 ETC 278.48 LVI -19.49

PLANETOCENTRIC CONIC
 C3 13.785 VHL 3.710 DLA -26.67 RAL 341.07 RAD 6639.9 VEL 11.568 PTH 6.61 VHP 5.786 DPA -15.55 RAP 324.35 ECC 1.2265
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 53 52 2498.35 -7.32 66.35 195.13 137.14 17 35 31 1498.3 11.06 50.57
 60.00 18 9 20 2297.65 -2.22 53.15 200.01 130.25 18 47 37 1297.7 13.75 35.01
 70.00 19 47 14 2009.80 3.20 33.91 204.11 124.02 20 20 43 1009.8 16.66 13.72
 80.00 21 48 30 1630.20 8.36 8.27 207.28 118.77 22 15 40 630.2 19.45 346.38
 90.00 23 41 42 1265.14 11.09 342.85 206.72 116.18 24 2 47 265.1 20.93 320.15
 100.00 0 35 18 1104.67 8.36 329.63 207.28 118.77 0 53 42 104.7 19.45 307.75
 110.00 0 50 36 1056.62 3.20 322.83 204.11 124.02 1 8 12 56.6 16.66 302.64

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3238 TRA -.7822 TC3 .4139 BAU .0864 SGT 1473.6 SGR 540.5 SG3 429.4 ST 32.2 SR 24.2 S8 26.9
 RDE -.3108 RRA .1082 RC3 .2210 FAU .07781 RRT .0472 RRF -.0518 RTF -.7997 CRT .6984 CRS .2259 CST .8521
 FDE .2350 FRA 1.9519 FC3-4.8937 B8P 2418 SGB 1569.6 R23 -.0082 R13 -.7998 L8A 43.0 M8A 22.2 S8A 1.4
 BDE .4488 BRA .7896 BC3 .4892 F8P 655 SGI 1473.9 SG2 539.8 THA 1.15 EL1 37.4 EL2 14.9 ALF 33.69

LAUNCH DATE MAY 7 1971

FLIGHT TIME 144.00

ARRIVAL DATE SEP 28 1971

HELIOCENTRIC CONIC DISTANCE 365.338 EARTH TO MARS
 RL 150.94 LAL .00 LOL 225.80 VL 32.881 GAL -.97 AZL 91.92 HCA 122.04 SMA 195.93 ECC .23022 INC 1.9175 V1 29.519
 RP 207.00 LAP -1.63 LOP 347.86 VP 24.585 GAP 12.91 AZP 88.98 TAL 354.81 TAP 118.85 RCA 150.83 APO 241.04 V2 26.449
 RC 76.180 GL -17.54 GP .58 ZAL 105.46 ZAP 153.65 ETS 178.91 ZAE 171.96 ETE 23.21 ZAC 100.11 ETC 278.48 LVI -19.51

PLANETOCENTRIC CONIC
 C3 13.325 VHL 3.650 DLA -27.02 RAL 340.98 RAD 6639.7 VEL 11.550 PTH 6.60 VHP 5.592 DPA -15.54 RAP 324.31 ECC 1.2193
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 55 21 2483.38 -6.57 65.71 194.81 137.23 17 36 44 1483.4 11.80 49.92
 60.00 18 11 35 2280.62 -1.47 52.34 199.69 130.28 18 49 35 1280.6 14.47 34.14
 70.00 19 50 47 1988.90 3.99 32.82 203.82 123.95 20 23 56 988.9 17.37 12.52
 80.00 21 54 40 1601.12 9.31 6.63 207.07 118.50 22 21 21 601.1 20.22 344.57
 90.00 23 51 2 1225.83 12.26 340.56 206.60 115.68 24 11 28 225.8 21.80 317.59
 100.00 0 41 26 1075.59 9.31 326.00 207.07 118.50 0 59 23 75.6 20.22 305.93
 110.00 0 54 9 1035.72 3.99 321.74 203.82 123.95 1 11 25 35.7 17.37 301.44

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3183 TRA -.7690 TC3 .4225 BAU .0855 SGT 1476.7 SGR 534.5 SG3 457.8 ST 32.3 SR 23.8 S8 27.7
 RDE -.3019 RRA .1039 RC3 .2281 FAU .08167 RRT .0508 RRF -.0562 RTF -.7888 CRT .6979 CRS .2080 CST .8427
 FDE .2316 FRA 2.0419 FC3-5.3058 B8P 2443 SGB 1570.5 R23 -.0095 R13 -.7989 L8A 43.1 M8A 22.5 S8A 1.4
 BDE .4387 BRA .7760 BC3 .4801 F8P 704 SGI 1477.0 SG2 535.7 THA 1.21 EL1 37.3 EL2 14.8 ALF 33.20

LAUNCH DATE MAY 7 1971

FLIGHT TIME 146.00

ARRIVAL DATE SEP 30 1971

HELIOCENTRIC CONIC DISTANCE 369.225 EARTH TO MARS
 RL 150.94 LAL .00 LOL 225.80 VL 32.827 GAL -.92 AZL 91.92 HCA 123.31 SMA 194.92 ECC .22619 INC 1.9211 V1 29.519
 RP 207.17 LAP -1.81 LOP 349.12 VP 24.503 GAP 12.58 AZP 88.94 TAL 354.99 TAP 118.30 RCA 150.84 APO 239.01 V2 26.439
 RC 77.718 GL -17.83 GP .60 ZAL 105.24 ZAP 152.33 ETS 178.92 ZAE 172.51 ETE 24.04 ZAC 100.14 ETC 278.47 LVI -19.51

PLANETOCENTRIC CONIC
 C3 12.920 VHL 3.595 DLA -27.36 RAL 340.90 RAD 6639.5 VEL 11.532 PTH 6.58 VHP 5.424 DPA -15.54 RAP 324.24 ECC 1.2126
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 56 49 2468.99 -5.85 65.11 194.50 137.30 17 37 58 1469.0 12.51 49.29
 60.00 18 13 49 2264.18 -.75 51.55 199.40 130.30 18 51 33 1264.2 15.16 33.30
 70.00 19 54 22 1968.51 4.77 31.75 203.56 123.86 20 27 10 968.5 18.06 11.34
 80.00 22 1 5 1571.79 10.26 4.97 206.90 118.19 22 27 17 571.8 20.97 342.71
 90.00 0 5 30 1183.26 13.50 338.05 208.56 115.09 0 25 13 183.3 22.70 314.79
 100.00 0 47 53 1046.26 10.26 326.34 206.90 118.19 1 5 19 46.3 20.97 304.08
 110.00 0 57 44 1015.33 4.77 320.67 203.56 123.86 1 14 39 15.3 18.06 300.26

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3134 TRA -.7545 TC3 .4265 BAU .0841 SGT 1475.6 SGR 528.2 SG3 487.8 ST 32.2 SR 23.5 S8 28.4
 RDE -.2932 RRA .0996 RC3 .2351 FAU .08567 RRT .0553 RRF -.0612 RTF -.7974 CRT .6988 CRS .1928 CST .8336
 FDE .2298 FRA 2.1373 FC3-5.7406 B8P 2444 SGB 1567.3 R23 -.0107 R13 -.7975 L8A 43.3 M8A 22.8 S8A 1.4
 BDE .4292 BRA .7610 BC3 .4870 F8P 754 SGI 1475.9 SG2 527.3 THA 1.30 EL1 37.1 EL2 14.6 ALF 32.74

LAUNCH DATE MAY 7 1971

FLIGHT TIME 148.00

ARRIVAL DATE OCT 2 1971

HELIOCENTRIC CONIC

DISTANCE 373.130

EARTH TO MARS

RL 130.94 LAL .00 LOL 225.80 VL 32.777 GAL -.88 AZL 91.92 HCA 124.57 SMA 193.99 ECC .22241 INC 1.9247 V1 29.519
 RP 207.26 LAP -1.58 LOP 350.39 VP 24.424 GAP 12.25 AZP 88.91 TAL 355.17 TAP 119.74 RCA 150.84 APO 237.14 V2 26.428
 RC 79.295 GL -18.10 GP .63 ZAL 105.02 ZAP 150.97 ETS 178.93 ZAE 173.13 ETE 25.30 ZAC 100.18 ETC 278.45 LVI -19.52

PLANETOCENTRIC CONIC

C3 12.548 VHL 3.542 DLA -27.70 RAL 340.83 RAD 6639.3 VEL 11.516 PTH 6.56 VHP 5.263 DPA -15.54 RAP 324.14 ECC 1.2065
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 58 16 2455.21 -5.16 64.52 194.23 137.36 17 39 11 1455.2 13.19 48.68
 60.00 18 16 2 2240.35 -.05 50.80 199.13 130.30 18 53 30 1248.3 15.81 32.48
 70.00 19 57 36 1940.66 5.52 30.70 203.34 123.76 20 30 25 948.7 18.72 10.18
 80.00 22 7 48 1542.11 11.21 3.28 206.76 117.86 22 33 30 542.1 21.71 340.82
 90.00 0 17 56 1135.13 14.87 335.18 208.60 114.33 0 36 51 135.1 23.64 311.58
 100.00 0 54 36 1016.58 11.21 324.84 206.76 117.86 1 11 32 16.6 21.71 302.18
 110.00 1 1 19 6283.52 5.52 297.53 203.34 123.76 2 46 2 5283.5 18.72 277.01

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3072 TRA -.7382 TC3 .4296 BAU .0827 SGT 1469.0 SGR 521.7 SG3 519.5 ST 32.0 SR 23.2 SS 29.2
 RDE -.2849 RRA .0955 RC3 .2419 FAU .08997 RRT .0598 RRF -.0667 RTF -.7956 CRT .6993 CRS .1758 CST .8235
 FDE .2257 FRA 2.2356 FC3-6.2075 BSP 2440 SGB 1558.9 R23 -.0123 R13 -.7957 LSA 43.4 MSA 23.1 SSA 1.4
 BDE .4190 BRA .7443 BC3 .4931 FSP 810 SG1 1469.4 SG2 520.6 THA 1.39 EL1 36.8 EL2 14.4 ALF 32.40

LAUNCH DATE MAY 7 1971

FLIGHT TIME 150.00

ARRIVAL DATE OCT 4 1971

HELIOCENTRIC CONIC

DISTANCE 377.076

EARTH TO MARS

RL 150.94 LAL .00 LOL 225.80 VL 32.731 GAL -.84 AZL 91.93 HCA 125.83 SMA 193.12 ECC .21889 INC 1.9285 V1 29.519
 RP 207.37 LAP -1.56 LOP 351.65 VP 24.348 GAP 11.93 AZP 88.87 TAL 355.34 TAP 121.17 RCA 150.85 APO 235.40 V2 26.415
 RC 80.909 GL -18.38 GP .66 ZAL 104.82 ZAP 149.57 ETS 178.94 ZAE 173.81 ETE 27.15 ZAC 100.23 ETC 278.42 LVI -19.51

PLANETOCENTRIC CONIC

C3 12.205 VHL 3.494 DLA -28.02 RAL 340.76 RAD 6639.2 VEL 11.501 PTH 6.55 VHP 5.107 DPA -15.56 RAP 324.00 ECC 1.2009
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 59 42 2442.03 -4.50 63.97 193.98 137.41 17 40 24 1442.0 13.83 48.09
 60.00 18 18 14 2233.14 .62 50.07 198.89 130.30 18 55 27 1233.1 16.44 31.69
 70.00 20 1 31 1929.38 6.25 29.69 203.14 123.65 20 33 41 929.4 19.35 9.05
 80.00 22 14 51 1511.95 12.16 1.54 206.67 117.48 22 40 3 511.9 22.43 338.87
 90.00 0 34 16 1074.98 16.53 331.54 208.81 113.28 0 52 11 75.0 24.70 307.50
 100.00 1 1 39 6274.46 12.16 300.82 206.67 117.48 2 46 13 5274.5 22.43 278.14
 110.00 1 4 54 6264.24 6.25 296.51 203.14 123.65 2 49 18 5264.2 19.35 275.87

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3021 TRA -.7217 TC3 .4288 BAU .0809 SGT 1460.4 SGR 514.8 SG3 553.4 ST 31.9 SR 22.8 SS 30.1
 RDE -.2768 RRA .0915 RC3 .2486 FAU .09454 RRT .0653 RRF -.0729 RTF -.7932 CRT .7012 CRS .1614 CST .8136
 FDE .2234 FRA 2.3428 FC3-6.7059 BSP 2425 SGB 1548.5 R23 -.0139 R13 -.7934 LSA 43.5 MSA 23.4 SSA 1.4
 BDE .4097 BRA .7275 BC3 .4956 FSP 868 SG1 1460.9 SG2 513.6 THA 1.50 EL1 36.6 EL2 14.2 ALF 32.04

LAUNCH DATE MAY 7 1971

FLIGHT TIME 152.00

ARRIVAL DATE OCT 6 1971

HELIOCENTRIC CONIC

DISTANCE 381.036

EARTH TO MARS

RL 150.94 LAL .00 LOL 225.80 VL 32.687 GAL -.80 AZL 91.83 HCA 127.09 SMA 192.32 ECC .21559 INC 1.9323 V1 29.519
 RP 207.48 LAP -1.54 LOP 352.91 VP 24.274 GAP 11.61 AZP 88.83 TAL 355.50 TAP 122.59 RCA 150.86 APO 233.79 V2 26.402
 RC 82.560 GL -18.64 GP .69 ZAL 104.63 ZAP 148.14 ETS 178.95 ZAE 174.54 ETE 29.89 ZAC 100.28 ETC 278.39 LVI -19.49

PLANETOCENTRIC CONIC

C3 11.891 VHL 3.448 DLA -28.33 RAL 340.70 RAD 6639.0 VEL 11.488 PTH 6.54 VHP 4.958 DPA -15.59 RAP 323.82 ECC 1.1957
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 1 8 2429.47 -3.87 63.44 193.76 137.46 17 41 38 1429.5 14.45 47.53
 60.00 18 20 25 2218.58 1.26 49.37 198.68 130.28 18 57 23 1218.6 17.04 30.92
 70.00 20 5 6 1910.70 6.95 28.70 202.97 123.52 20 36 57 910.7 19.96 7.94
 80.00 22 22 18 1481.09 13.13 359.76 206.63 117.06 22 46 59 481.1 23.14 336.85
 88.30 0 53 32 1006.09 19.51 327.78 209.59 110.95 1 10 18 6.1 26.43 302.88
 100.00 1 9 6 6243.60 13.13 299.03 206.63 117.06 2 53 9 5243.6 23.14 276.13
 110.00 1 8 28 6245.56 6.95 295.52 202.97 123.52 2 52 34 5245.6 19.96 274.76

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2955 TRA -.7034 TC3 .4211 BAU .0783 SGT 1445.0 SGR 507.7 SG3 588.3 ST 31.6 SR 22.3 SS 30.9
 RDE -.2689 RRA .0875 RC3 .2550 FAU .09925 RRT .0697 RRF -.0790 RTF -.7933 CRT .7025 CRS .1434 CST .8019
 FDE .2168 FRA 2.4308 FC3-7.2260 BSP 2409 SGB 1531.6 R23 -.0164 R13 -.7895 LSA 43.5 MSA 23.7 SSA 1.4
 BDE .3995 BRA .7088 BC3 .4923 FSP 930 SG1 1445.5 SG2 506.3 THA 1.60 EL1 36.2 EL2 14.0 ALF 31.83

LAUNCH DATE MAY 7 1971

FLIGHT TIME 154.00

ARRIVAL DATE OCT 8 1971

HELIOCENTRIC CONIC

DISTANCE 385.018

EARTH TO MARS

RL 150.94 LAL .00 LOL 225.80 VL 32.648 GAL -.78 AZL 91.94 HCA 128.35 SMA 191.58 ECC .21252 INC 1.9364 V1 29.519
 RP 207.80 LAP -1.52 LOP 354.17 VP 24.204 GAP 11.31 AZP 88.80 TAL 355.65 TAP 124.00 RCA 150.87 APO 232.29 V2 26.388
 RC 84.247 GL -18.89 GP .72 ZAL 104.45 ZAP 146.68 ETS 178.96 ZAE 175.32 ETE 34.02 ZAC 100.34 ETC 278.35 LVI -19.47

PLANETOCENTRIC CONIC

C3 11.602 VHL 3.406 DLA -28.82 RAL 340.66 RAD 6638.9 VEL 11.475 PTH 6.52 VHP 4.815 DPA -15.62 RAP 323.61 ECC 1.1909
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 2 33 2417.53 -3.27 62.94 193.57 137.49 17 42 51 1417.5 15.03 47.00
 60.00 18 22 34 2204.68 1.87 48.71 198.50 130.26 18 59 19 1204.7 17.61 30.19
 70.00 20 8 40 1892.65 7.63 27.74 202.83 123.39 20 40 13 892.7 20.54 6.86
 80.00 22 30 15 1449.22 14.10 357.90 206.63 116.59 22 54 25 449.2 23.85 334.75
 85.39 0 29 4 1079.52 19.83 333.29 209.27 111.07 0 47 4 79.5 26.77 308.33
 100.00 1 17 3 6211.73 14.10 297.18 206.63 116.59 3 0 35 5211.7 23.85 274.02
 110.00 1 12 2 6227.51 7.63 294.56 202.83 123.39 2 55 50 5227.5 20.54 273.68

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2899 TRA -.6838 TC3 .4089 BAU .0753 SGT 1425.7 SGR 500.4 SG3 625.2 ST 31.3 SR 22.1 SS 31.7
 RDE -.2612 RRA .0836 RC3 .2614 FAU .10427 RRT .0755 RRF -.0863 RTF -.7841 CRT .7056 CRS .1279 CST .7897
 FDE .2114 FRA 2.5644 FC3-7.7806 BSP 2382 SGB 1510.9 R23 -.0189 R13 -.7843 LSA 43.6 MSA 24.0 SSA 1.4
 BDE .3902 BRA .6889 BC3 .4853 FSP 997 SG1 1426.3 SG2 498.8 THA 1.73 EL1 35.8 EL2 13.7 ALF 31.62

LAUNCH DATE MAY 7 1971

FLIGHT TIME 156.00

ARRIVAL DATE OCT 10 1971

HELIOCENTRIC CONIC

RL 150.94 LAL .00 LOL 225.80 VL 32.608 GAL -.73 AZL 91.94 HCA 129.61 SMA 190.89 ECC .20965 INC 1.9405 V1 29.519
RP 207.73 LAP -1.50 LOP 355.43 VP 24.136 GAP 11.01 AZP 88.76 TAL 355.79 TAP 125.40 RCA 150.87 APO 230.91 V2 26.373
RC 85.989 GL -19.14 GP .75 ZAL 104.28 ZAP 145.17 ETS 178.96 ZAE 176.13 ETE 40.53 ZAC 100.41 ETC 278.30 LVI -19.44

PLANETOCENTRIC CONIC

C3 11.337 VHL 3.367 DLA -28.91 RAL 340.62 RAD 6638.7 VEL 11.484 PTH 6.51 VHP 4.677 DPA -15.67 RAP 323.35 ECC 1.1866
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 3 58 2406.19 -2.70 62.47 193.40 137.52 17 44 4 1406.2 15.58 46.48
60.00 18 24 42 2191.41 2.45 48.08 198.35 130.24 19 1 13 1191.4 18.15 29.40
70.00 20 12 13 1875.20 8.28 26.81 202.71 123.25 20 43 28 875.2 21.09 5.61
80.00 22 38 54 1415.69 15.12 355.93 206.68 116.06 23 2 30 415.7 24.56 332.51
83.75 0 15 32 1117.93 20.14 336.24 208.99 111.19 0 34 10 117.9 27.09 311.22
100.00 1 25 42 6178.21 15.12 293.20 206.68 116.06 3 8 40 5178.2 24.56 271.78
110.00 1 15 35 6210.06 8.28 293.63 202.71 123.25 2 59 5 5210.1 21.09 272.63

DIFFERENTIAL CORRECTIONS

TDE -.2768 TRA -.6559 TC3 .4195 BAU .0754
RDE -.2536 RRA .0798 RC3 .2678 FAU .10996
FDE .1978 FRA 2.8765 FC3-8.3975 BSP 2231
BDE .3754 BRA .6608 BC3 .4977 FSP 1052

MID-COURSE EXECUTION ACCURACY

SGT 1388.3 SGR 492.8 SG3 664.5
RRT .0824 RRF -.0944 RTF -.7857
SGB 1473.2 R23 -.0204 R13 -.7860
SG1 1389.0 SG2 490.9 THA 1.92

ORBIT DETERMINATION ACCURACY

ST 30.3 SR 21.7 SS 32.4
CRT .7043 CRS .1054 CST .7768
LSA 43.1 MSA 24.2 SSA 1.4
EL1 34.8 EL2 13.4 ALF 32.07

LAUNCH DATE MAY 7 1971

FLIGHT TIME 156.00

ARRIVAL DATE OCT 12 1971

HELIOCENTRIC CONIC

RL 150.94 LAL .00 LOL 225.80 VL 32.572 GAL -.70 AZL 91.94 HCA 130.86 SMA 190.25 ECC .20698 INC 1.9448 V1 29.519
RP 207.86 LAP -1.47 LOP 356.68 VP 24.070 GAP 10.72 AZP 88.73 TAL 355.92 TAP 126.78 RCA 150.88 APO 229.63 V2 26.357
RC 87.725 GL -19.38 GP .78 ZAL 104.14 ZAP 143.63 ETS 178.97 ZAE 176.90 ETE 51.30 ZAC 100.49 ETC 278.25 LVI -19.39

PLANETOCENTRIC CONIC

C3 11.095 VHL 3.331 DLA -29.17 RAL 340.80 RAD 6638.6 VEL 11.453 PTH 6.50 VHP 4.545 DPA -15.73 RAP 323.06 ECC 1.1826
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 5 22 2395.55 -2.17 62.02 193.26 137.54 17 45 17 1395.6 16.10 46.00
60.00 18 26 48 2178.92 3.00 47.48 198.22 130.21 19 3 7 1178.9 18.66 28.81
70.00 20 15 43 1858.55 8.90 25.92 202.63 123.11 20 46 41 858.6 21.61 4.79
80.00 22 48 26 1380.03 16.17 353.81 206.80 115.45 23 11 27 380.0 25.27 330.10
82.52 0 5 34 1145.30 20.43 338.37 208.74 111.30 0 24 39 145.3 27.40 313.30
100.00 1 35 14 6142.94 16.17 293.08 206.80 115.45 3 17 37 5142.5 25.27 269.37
110.00 1 19 5 6193.41 8.90 292.74 202.63 123.11 3 2 18 5193.4 21.61 271.62

DIFFERENTIAL CORRECTIONS

TDE -.2792 TRA -.6422 TC3 .3704 BAU .0683
RDE -.2464 RRA .0759 RC3 .2737 FAU .11517
FDE .2016 FRA 2.8127 FC3-8.9873 BSP 2260
BDE .3724 BRA .6467 BC3 .4605 FSP 1131

MID-COURSE EXECUTION ACCURACY

SGT 1375.6 SGR 485.0 SG3 705.5
RRT .0889 RRF -.1034 RTF -.7705
SGB 1458.6 R23 -.0254 R13 -.7709
SG1 1376.3 SG2 482.9 THA 2.05

ORBIT DETERMINATION ACCURACY

ST 30.6 SR 21.3 SS 33.5
CRT .7150 CRS .1008 CST .7641
LSA 43.8 MSA 24.5 SSA 1.4
EL1 34.9 EL2 13.1 ALF 31.32

LAUNCH DATE MAY 7 1971

FLIGHT TIME 160.00

ARRIVAL DATE OCT 14 1971

HELIOCENTRIC CONIC

RL 150.94 LAL .00 LOL 225.80 VL 32.539 GAL -.67 AZL 91.95 HCA 132.12 SMA 189.67 ECC .20449 INC 1.9492 V1 29.519
RP 208.01 LAP -1.45 LOP 357.94 VP 24.007 GAP 10.43 AZP 88.69 TAL 356.03 TAP 128.15 RCA 150.88 APO 228.45 V2 26.340
RC 89.514 GL -19.61 GP .82 ZAL 104.01 ZAP 142.05 ETS 178.97 ZAE 177.51 ETE 69.69 ZAC 100.57 ETC 278.18 LVI -19.34

PLANETOCENTRIC CONIC

C3 10.873 VHL 3.297 DLA -29.43 RAL 340.59 RAD 6638.5 VEL 11.444 PTH 6.49 VHP 4.418 DPA -15.80 RAP 322.73 ECC 1.1789
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 6 45 2385.52 -1.66 61.60 193.14 137.55 17 46 30 1385.5 16.58 45.54
60.00 18 28 51 2167.08 3.52 46.91 198.12 130.17 19 4 59 1167.1 19.14 28.18
70.00 20 19 11 1842.58 9.49 25.06 202.58 122.96 20 49 53 842.6 22.10 3.82
80.00 22 59 31 1340.01 17.33 351.40 207.00 114.70 23 21 51 340.0 26.01 327.36
81.50 23 53 34 1186.93 20.70 340.09 208.52 111.40 24 13 1 166.9 27.66 314.96
100.00 1 46 19 6102.52 17.33 290.67 207.00 114.70 3 28 2 5102.5 26.01 266.63
110.00 1 22 33 6177.44 9.49 291.89 202.58 122.96 3 5 30 5177.4 22.10 270.64

DIFFERENTIAL CORRECTIONS

TDE -.2758 TRA -.6212 TC3 .3288 BAU .0623
RDE -.2393 RRA .0721 RC3 .2794 FAU .12057
FDE .1888 FRA 2.9481 FC3-9.5999 BSP 2219
BDE .3632 BRA .6254 BC3 .4300 FSP 1210

MID-COURSE EXECUTION ACCURACY

SGT 1346.2 SGR 477.0 SG3 747.2
RRT .0945 RRF -.1124 RTF -.775
SGB 1428.2 R23 -.0308 R13 -.7580
SG1 1347.0 SG2 474.6 THA 2.19

ORBIT DETERMINATION ACCURACY

ST 30.3 SR 20.9 SS 34.5
CRT .7227 CRS .0909 CST .7501
LSA 44.0 MSA 24.7 SSA 1.4
EL1 34.6 EL2 12.7 ALF 31.10

LAUNCH DATE MAY 7 1971

FLIGHT TIME 162.00

ARRIVAL DATE OCT 16 1971

HELIOCENTRIC CONIC

RL 150.94 LAL .00 LOL 225.80 VL 32.508 GAL -.65 AZL 91.95 HCA 133.37 SMA 189.12 ECC .20219 INC 1.9538 V1 29.519
RP 208.16 LAP -1.42 LOP 359.19 VP 23.945 GAP 10.15 AZP 88.66 TAL 356.13 TAP 129.50 RCA 150.88 APO 227.36 V2 26.323
RC 91.337 GL -19.83 GP .86 ZAL 103.90 ZAP 140.43 ETS 178.97 ZAE 177.73 ETE 97.27 ZAC 100.66 ETC 278.11 LVI -19.28

PLANETOCENTRIC CONIC

C3 10.671 VHL 3.267 DLA -29.87 RAL 340.60 RAD 6638.4 VEL 11.435 PTH 6.49 VHP 4.297 DPA -15.88 RAP 322.35 ECC 1.1758
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 8 7 2376.13 -1.19 61.21 193.06 137.56 17 47 44 1376.1 17.04 45.11
60.00 18 30 53 2155.94 4.01 46.38 198.05 130.13 19 6 49 1155.9 19.58 27.57
70.00 20 22 35 1827.35 10.06 24.25 202.55 122.81 20 53 2 827.4 22.57 2.88
80.00 23 13 47 1290.46 18.71 348.37 207.34 113.70 23 35 17 290.5 26.85 323.92
80.64 23 46 54 1184.54 20.95 341.50 208.34 111.50 24 6 39 184.5 27.95 316.32
100.00 2 0 35 6052.97 18.71 287.64 207.34 113.70 3 41 28 5053.0 26.85 263.19
110.00 1 25 58 6162.21 10.06 291.07 202.55 122.81 3 8 40 5162.2 22.57 269.70

DIFFERENTIAL CORRECTIONS

TDE -.2705 TRA -.5988 TC3 .2832 BAU .0573
RDE -.2323 RRA .0683 RC3 .2852 FAU .12646
FDE .1888 FRA 3.0909 FC3-10.2603 BSP 2135
BDE .3566 BRA .6027 BC3 .4019 FSP 1284

MID-COURSE EXECUTION ACCURACY

SGT 1311.6 SGR 468.8 SG3 791.7
RRT .0995 RRF -.1219 RTF -.7437
SGB 1392.9 R23 -.0373 R13 -.7443
SG1 1312.6 SG2 466.1 THA 2.33

ORBIT DETERMINATION ACCURACY

ST 29.9 SR 20.5 SS 35.5
CRT .7292 CRS .0749 CST .7332
LSA 44.1 MSA 25.0 SSA 1.4
EL1 34.1 EL2 12.3 ALF 31.05

LAUNCH DATE MAY 7 1971

FLIGHT TIME 164.00

ARRIVAL DATE OCT 18 1971

Heliocentric Conic: RL 150.94 LAL .00 LOL 225.80 VL 32.479 GAL -.63 AZL 91.96 HCA 134.62 SMA 186.62 ECC .20004 INC 1.9586 V1 29.519
 RP 208.32 LAP -1.39 LOP .44 VP 23.886 GAP 9.88 AZP 88.62 TAL 356.22 TAP 130.84 RCA 150.89 APO 226.35 V2 26.304
 RC 93.190 GL -20.05 GP .90 ZAL 103.81 ZAP 136.77 ETS 178.97 ZAE 177.36 ETE 124.83 ZAC 100.76 ETC 278.02 LVI -19.21

PLANETOCENTRIC CONIC: C3 10.466 VHL 3.238 DLA -29.89 RAL 340.62 RAD 6638.3 VEL 11.427 PTH 6.48 VHP 4.182 DPA -15.97 RAP 321.93 ECC 1.1726
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 9 29 2367.36 -.75 60.84 193.00 137.57 17 48 57 1367.4 17.46 44.71
 60.00 18 32 53 2145.51 4.47 45.88 198.00 130.09 19 8 38 1145.5 20.00 27.01
 70.00 20 25 56 1812.89 10.59 23.46 202.55 122.66 20 56 9 812.9 23.00 1.98
 79.89 23 41 16 1199.33 21.19 342.70 208.18 111.59 24 1 15 199.3 28.20 317.47
 79.89 23 41 16 1199.33 21.19 342.70 208.18 111.59 24 1 15 199.3 28.20 317.47
 79.89 23 41 16 1199.33 21.19 342.70 208.18 111.59 24 1 15 199.3 28.20 317.47
 110.00 1 29 19 6147.75 10.59 290.29 202.55 122.66 3 11 46 5147.8 23.00 268.80

Differential Corrections: TDE -.2668 TRA -.3739 TC3 .2404 BAU .0529 SGT 1272.3 SGR 480.5 SG3 838.9 ST 29.4 SR 20.1 SS 36.5
 RDE -.2258 RRA .0645 RC3 .2911 FAU .13293 RRT .1082 RRF -.1346 RTF -.7286 CRT .7392 CR8 .0671 CST .7176
 FDE .1862 FRA 3.2735 FC-10.9744 BSP 2037 SGB 1353.0 R23 -.0443 R13 -.7294 LSA 44.3 MSA 25.2 SSA 1.4
 BDE .3492 BRA .3775 BC3 .3775 F8P 1364 SG1 1273.4 SG2 457.4 THA 2.58 EL1 33.6 EL2 11.8 ALF 31.02

LAUNCH DATE MAY 7 1971

FLIGHT TIME 166.00

ARRIVAL DATE OCT 20 1971

Heliocentric Conic: RL 150.94 LAL .00 LOL 225.80 VL 32.452 GAL -.61 AZL 91.96 HCA 135.87 SMA 188.16 ECC .19806 INC 1.9636 V1 29.519
 RP 208.49 LAP -1.37 LOP 1.69 VP 23.828 GAP 9.61 AZP 88.59 TAL 356.29 TAP 132.16 RCA 150.89 APO 225.42 V2 26.284
 RC 95.074 GL -20.25 GP .94 ZAL 103.74 ZAP 137.07 ETS 178.97 ZAE 176.50 ETE 143.22 ZAC 100.87 ETC 277.93 LVI -19.13

PLANETOCENTRIC CONIC: C3 10.319 VHL 3.212 DLA -30.10 RAL 340.66 RAD 6638.2 VEL 11.420 PTH 6.47 VHP 4.072 DPA -16.07 RAP 321.47 ECC 1.1698
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 10 51 2359.18 -.34 60.50 192.96 137.58 17 50 10 1359.2 17.85 44.33
 60.00 18 34 50 2135.74 4.90 45.41 197.98 130.05 19 10 25 1135.7 20.39 26.47
 70.00 20 29 14 1799.17 11.09 22.72 202.57 122.51 20 59 13 799.2 23.41 1.12
 79.23 23 36 27 1211.95 21.42 343.73 208.06 111.67 23 56 38 211.9 28.44 318.46
 79.23 23 36 27 1211.95 21.42 343.73 208.06 111.67 23 56 38 211.9 28.44 318.46
 79.23 23 36 27 1211.95 21.42 343.73 208.06 111.67 23 56 38 211.9 28.44 318.46
 110.00 1 32 36 6134.03 11.09 289.54 202.57 122.51 3 14 50 5134.0 23.41 267.95

Differential Corrections: TDE -.2539 TRA -.5389 TC3 .2072 BAU .0500 SGT 1207.1 SGR 452.1 SG3 885.6 ST 28.1 SR 19.6 SS 37.3
 RDE -.2188 RRA .0680 RC3 .2970 FAU .13964 RRT .1153 RRF -.1466 RTF -.7159 CRT .7449 CR8 .0450 CST .6959
 FDE .1645 FRA 3.3714 FC-11.7160 BSP 1821 SGB 1289.0 R23 -.0512 R13 -.7170 LSA 43.8 MSA 25.3 SSA 1.4
 BDE .3352 BRA .5423 BC3 .3621 F8P 1428 SG1 1208.4 SG2 448.6 THA 2.87 EL1 32.3 EL2 11.4 ALF 31.83

LAUNCH DATE MAY 7 1971

FLIGHT TIME 168.00

ARRIVAL DATE OCT 22 1971

Heliocentric Conic: RL 150.94 LAL .00 LOL 225.80 VL 32.428 GAL -.60 AZL 91.97 HCA 137.11 SMA 187.73 ECC .19623 INC 1.9688 V1 29.519
 RP 208.67 LAP -1.34 LOP 2.93 VP 23.772 GAP 9.35 AZP 88.56 TAL 356.35 TAP 133.46 RCA 150.89 APO 224.57 V2 26.264
 RC 96.988 GL -20.45 GP .99 ZAL 103.70 ZAP 135.34 ETS 178.96 ZAE 175.37 ETE 154.03 ZAC 100.98 ETC 277.83 LVI -19.04

PLANETOCENTRIC CONIC: C3 10.168 VHL 3.189 DLA -30.29 RAL 340.72 RAD 6638.1 VEL 11.413 PTH 6.46 VHP 3.967 DPA -16.18 RAP 320.97 ECC 1.1673
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 12 12 2351.73 .04 60.19 192.96 137.58 17 51 23 1351.7 18.21 43.98
 60.00 18 36 44 2126.82 5.29 44.98 197.99 130.01 19 12 11 1126.8 20.74 25.98
 70.00 20 32 24 1786.49 11.55 22.03 202.62 122.37 21 2 11 786.5 23.78 .32
 78.66 23 32 27 1222.49 21.62 344.61 207.98 111.75 23 52 49 222.5 28.66 319.29
 78.66 23 32 27 1222.49 21.62 344.61 207.98 111.75 23 52 49 222.5 28.66 319.29
 78.66 23 32 27 1222.49 21.62 344.61 207.98 111.75 23 52 49 222.5 28.66 319.29
 110.00 1 35 47 6121.34 11.55 288.85 202.62 122.37 3 17 48 5121.3 23.78 267.15

Differential Corrections: TDE -.2619 TRA -.5212 TC3 .0959 BAU .0431 SGT 1183.5 SGR 443.5 SG3 933.7 ST 28.6 SR 19.2 SS 38.6
 RDE -.2124 RRA .0568 RC3 .3021 FAU .14532 RRT .1198 RRF -.1613 RTF -.6153 CRT .7659 CR8 .0557 CST .6802
 FDE .1826 FRA 3.5449 FC-12.3728 BSP 1834 SGB 1263.9 R23 -.0679 R13 -.6767 LSA 44.9 MSA 25.5 SSA 1.4
 BDE .3369 BRA .5242 BC3 .3169 F8P 1535 SG1 1184.9 SG2 439.8 THA 2.96 EL1 32.7 EL2 10.8 ALF 30.91

LAUNCH DATE MAY 7 1971

FLIGHT TIME 170.00

ARRIVAL DATE OCT 24 1971

Heliocentric Conic: RL 150.94 LAL .00 LOL 225.80 VL 32.405 GAL -.59 AZL 91.97 HCA 138.38 SMA 187.34 ECC .19454 INC 1.9743 V1 29.519
 RP 208.85 LAP -1.31 LOP 4.18 VP 23.717 GAP 9.10 AZP 88.52 TAL 356.39 TAP 134.75 RCA 150.89 APO 223.78 V2 26.243
 RC 98.929 GL -20.64 GP 1.04 ZAL 103.67 ZAP 133.56 ETS 178.96 ZAE 174.07 ETE 160.63 ZAC 101.10 ETC 277.72 LVI -18.94

PLANETOCENTRIC CONIC: C3 10.032 VHL 3.167 DLA -30.47 RAL 340.80 RAD 6638.1 VEL 11.407 PTH 6.46 VHP 3.868 DPA -16.29 RAP 320.43 ECC 1.1651
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 13 32 2344.86 .38 59.90 192.98 137.57 17 52 37 1344.9 18.54 43.66
 60.00 18 38 35 2118.55 5.65 44.58 198.03 129.97 19 13 54 1118.5 21.06 25.52
 70.00 20 35 30 1774.57 11.99 21.38 202.70 122.22 21 5 5 774.6 24.12 359.57
 78.15 23 29 0 1231.74 21.81 345.38 207.92 111.82 23 49 32 231.7 28.85 320.02
 78.15 23 29 0 1231.74 21.81 345.38 207.92 111.82 23 49 32 231.7 28.85 320.02
 78.15 23 29 0 1231.74 21.81 345.38 207.92 111.82 23 49 32 231.7 28.85 320.02
 110.00 1 38 52 6109.42 11.99 288.20 202.70 122.22 3 20 42 5109.4 24.12 268.39

Differential Corrections: TDE -.2589 TRA -.4932 TC3 .0140 BAU .0413 SGT 1136.2 SGR 434.9 SG3 984.6 ST 28.1 SR 18.7 SS 39.7
 RDE -.2060 RRA .0528 RC3 .3076 FAU .15190 RRT .1243 RRF -.1766 RTF -.6409 CRT .7809 CR8 .0510 CST .6590
 FDE .1805 FRA 3.7150 FC-13.1090 BSP 1734 SGB 1216.6 R23 -.0842 R13 -.6428 LSA 45.3 MSA 25.7 SSA 1.4
 BDE .3308 BRA .4960 BC3 .3080 F8P 1635 SG1 1137.7 SG2 430.9 THA 3.18 EL1 32.2 EL2 10.2 ALF 30.92

LAUNCH DATE MAY 7 1971

FLIGHT TIME 172.00

ARRIVAL DATE OCT 26 1971

HELIOCENTRIC CONIC
 RL 150.94 LAL .00 LOL 225.80 VL 32.384 GAL -.58 AZL 91.98 HCA 139.80 SMA 186.98 ECC .19298 INC 1.9800 V1 29.519
 RP 209.04 LAP -1.20 LOP 5.42 VP 23.684 GAP 8.85 AZP 88.49 TAL 356.42 TAP 136.01 RCA 150.89 APO 223.06 V2 26.221
 RC 100.898 GL -20.82 GP 1.09 ZAL 103.86 ZAP 131.74 ETS 178.96 ZAE 172.66 ETE 164.92 ZAC 101.23 ETC 277.60 LVI -18.83

DISTANCE 421.571 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.910 VHL 3.148 DLA -30.63 RAL 340.89 RAD 6638.0 VEL 11.402 PTH 6.45 VHP 3.773 DPA -16.42 RAP 319.85 ECC 1.1631
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 14 52 2338.59 .70 59.84 193.02 137.57 17 53 50 1338.6 18.84 43.36
 60.00 18 40 24 2110.99 5.98 44.21 198.08 129.93 19 15 35 1111.0 21.36 25.10
 70.00 20 38 29 1763.54 12.39 20.77 202.80 122.09 21 7 53 763.5 24.44 358.87
 77.71 23 26 6 1239.69 21.98 346.05 207.90 111.89 23 46 46 239.7 29.03 320.65
 77.71 23 26 6 1239.69 21.98 346.05 207.90 111.89 23 46 46 239.7 29.03 320.65
 77.71 23 26 6 1239.69 21.98 346.05 207.90 111.89 23 46 46 239.7 29.03 320.65
 110.00 1 41 52 6098.40 12.39 287.60 202.80 122.09 3 23 30 5098.4 24.44 265.69

MID-COURSE EXECUTION ACCURACY
 SGT 1083.2 SGR 426.2 SG3 1036.3
 RRT .1275 RRF -.1937 RTF -.5970
 SGB 1164.0 R23 -1.048 R13 -.5995
 SG1 1084.8 SG2 422.1 THA 3.38

ORBIT DETERMINATION ACCURACY
 ST 27.5 SR 18.2 SS 40.7
 CRT .7978 CRS .0444 CST .6327
 LSA 45.6 MSA 25.9 SSA 1.4
 EL1 31.6 EL2 9.6 ALF 31.05

LAUNCH DATE MAY 7 1971

FLIGHT TIME 174.00

ARRIVAL DATE OCT 28 1971

HELIOCENTRIC CONIC
 RL 150.94 LAL .00 LOL 225.80 VL 32.384 GAL -.57 AZL 91.99 HCA 140.84 SMA 186.85 ECC .19155 INC 1.9860 V1 29.519
 RP 209.24 LAP -1.25 LOP 6.86 VP 23.612 GAP 8.60 AZP 88.46 TAL 356.43 TAP 137.26 RCA 150.89 APO 222.40 V2 26.198
 RC 102.893 GL -20.99 GP 1.14 ZAL 103.88 ZAP 129.89 ETS 178.95 ZAE 171.15 ETE 167.85 ZAC 101.36 ETC 277.48 LVI -18.70

DISTANCE 425.692 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.801 VHL 3.131 DLA -30.78 RAL 341.01 RAD 6637.9 VEL 11.397 PTH 6.45 VHP 3.684 DPA -16.55 RAP 319.22 ECC 1.1613
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 18 11 2332.94 .98 59.41 193.09 137.57 17 55 4 1332.9 19.11 43.10
 60.00 18 42 10 2104.14 6.28 43.88 198.17 129.89 19 17 15 1104.1 21.63 24.72
 70.00 20 41 22 1753.43 12.75 20.22 202.92 121.96 21 10 35 753.4 24.72 358.22
 77.32 23 23 44 1246.50 22.14 346.63 207.91 111.95 23 44 30 246.5 29.20 321.20
 77.32 23 23 44 1246.50 22.14 346.63 207.91 111.95 23 44 30 246.5 29.20 321.20
 77.32 23 23 44 1246.50 22.14 346.63 207.91 111.95 23 44 30 246.5 29.20 321.20
 110.00 1 44 44 6088.29 12.75 287.04 202.92 121.96 3 26 12 5088.3 24.72 265.04

MID-COURSE EXECUTION ACCURACY
 SGT 1033.0 SGR 417.6 SG3 1088.3
 RRT .1286 RRF -.2132 RTF -.5413
 SGB 1114.3 R23 -1.314 R13 -.5447
 SG1 1034.7 SG2 413.5 THA 3.54

ORBIT DETERMINATION ACCURACY
 ST 27.0 SR 17.8 SS 41.8
 CRT .8177 CRS .0480 CST .6087
 LSA 46.1 MSA 25.9 SSA 1.3
 EL1 31.1 EL2 8.9 ALF 31.06

LAUNCH DATE MAY 7 1971

FLIGHT TIME 176.00

ARRIVAL DATE OCT 30 1971

HELIOCENTRIC CONIC
 RL 150.94 LAL .00 LOL 225.80 VL 32.347 GAL -.57 AZL 91.99 HCA 142.07 SMA 186.35 ECC .19025 INC 1.9924 V1 29.519
 RP 209.44 LAP -1.22 LOP 7.90 VP 23.561 GAP 8.36 AZP 88.43 TAL 356.42 TAP 138.50 RCA 150.89 APO 221.80 V2 26.174
 RC 104.913 GL -21.16 GP 1.20 ZAL 103.72 ZAP 128.00 ETS 178.95 ZAE 169.57 ETE 169.96 ZAC 101.30 ETC 277.34 LVI -18.87

DISTANCE 429.822 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.704 VHL 3.115 DLA -30.91 RAL 341.15 RAD 6637.9 VEL 11.393 PTH 6.45 VHP 3.600 DPA -16.69 RAP 318.55 ECC 1.1597
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 17 30 2327.86 1.23 59.19 193.19 137.56 17 58 18 1327.9 19.35 42.86
 60.00 18 43 34 2097.99 6.55 43.58 198.28 129.86 19 18 32 1098.0 21.86 24.38
 70.00 20 44 7 1744.24 13.08 19.71 203.06 121.83 21 13 11 744.2 24.98 357.63
 76.97 23 21 49 1252.30 22.28 347.12 207.95 112.00 23 42 41 252.3 29.35 321.66
 76.97 23 21 49 1252.30 22.28 347.12 207.95 112.00 23 42 41 252.3 29.35 321.66
 76.97 23 21 49 1252.30 22.28 347.12 207.95 112.00 23 42 41 252.3 29.35 321.66
 110.00 1 47 29 6079.10 13.08 286.54 203.06 121.83 3 28 48 5079.1 24.98 264.43

MID-COURSE EXECUTION ACCURACY
 SGT 978.3 SGR 409.2 SG3 1142.2
 RRT .1234 RRF -.2347 RTF -.4.35
 SGB 1060.4 R23 -1.642 R13 -.4780
 SG1 979.9 SG2 405.3 THA 3.62

ORBIT DETERMINATION ACCURACY
 ST 26.3 SR 17.3 SS 42.9
 CRT .8378 CRS .0464 CST .9781
 LSA 46.4 MSA 26.0 SSA 1.3
 EL1 30.4 EL2 8.2 ALF 31.31

LAUNCH DATE MAY 7 1971

FLIGHT TIME 178.00

ARRIVAL DATE NOV 1 1971

HELIOCENTRIC CONIC
 RL 150.94 LAL .00 LOL 225.80 VL 32.330 GAL -.57 AZL 92.00 HCA 143.31 SMA 186.07 ECC .18905 INC 1.9990 V1 29.519
 RP 209.66 LAP -1.19 LOP 9.13 VP 23.511 GAP 8.13 AZP 88.40 TAL 356.40 TAP 139.71 RCA 150.89 APO 221.25 V2 26.150
 RC 106.958 GL -21.32 GP 1.26 ZAL 103.78 ZAP 126.08 ETS 178.95 ZAE 167.92 ETE 171.52 ZAC 101.65 ETC 277.19 LVI -18.43

DISTANCE 433.960 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.619 VHL 3.102 DLA -31.03 RAL 341.30 RAD 6637.8 VEL 11.389 PTH 6.44 VHP 3.521 DPA -16.84 RAP 317.65 ECC 1.1583
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 18 49 2323.35 1.46 59.01 193.31 137.56 17 57 33 1323.4 19.57 42.64
 60.00 18 45 35 2092.50 6.79 43.32 198.41 129.82 19 20 27 1092.5 22.08 24.07
 70.00 20 46 44 1735.95 13.38 19.25 203.23 121.72 21 15 40 736.0 25.21 357.10
 76.67 23 20 17 1257.37 22.40 347.56 208.03 112.05 23 41 15 257.4 29.48 322.07
 76.67 23 20 17 1257.37 22.40 347.56 208.03 112.05 23 41 15 257.4 29.48 322.07
 76.67 23 20 17 1257.37 22.40 347.56 208.03 112.05 23 41 15 257.4 29.48 322.07
 110.00 1 50 7 6070.81 13.38 286.08 203.23 121.72 3 31 17 5070.8 25.21 263.92

MID-COURSE EXECUTION ACCURACY
 SGT 910.4 SGR 400.8 SG3 1195.9
 RRT .1160 RRF -.2578 RTF -.3895
 SGB 994.7 R23 -2.033 R13 -.3952
 SG1 911.8 SG2 397.4 THA 3.61

ORBIT DETERMINATION ACCURACY
 ST 25.1 SR 16.8 SS 43.7
 CRT .8582 CRS .0325 CST .5342
 LSA 46.4 MSA 25.9 SSA 1.3
 EL1 29.3 EL2 7.4 ALF 32.08

LAUNCH DATE MAY 7 1971

FLIGHT TIME 180.00

ARRIVAL DATE NOV 3 1971

Heliocentric Conic: RL 150.94 LAL .00 LOL 225.80 VL 32.316 GAL - .58 AZL 92.01 HCA 144.54 SMA 185.82 ECC .18797 INC 2.0061 V1 29.519
 RP 209.97 LAP -1.16 LOP 10.36 VP 23.483 GAP 7.90 AZP 88.37 TAL 356.36 TAP 140.91 RCA 150.89 APO 220.75 V2 26.124
 RC 109.028 GL -21.48 GP 1.32 ZAL 103.86 ZAP 124.12 ETS 178.95 ZAE 166.21 ETE 172.70 ZAC 103.81 ETC 277.04 LVI -18.28

Distance 438.104 Earth to Mars

Planetocentric Conic: C3 9.547 VHL 3.090 DLA -31.13 RAL 341.49 RAD 8637.8 VEL 11.386 PTH 6.44 VHP 3.447 DPA -16.99 RAP 317.11 ECC 1.1571
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 20 8 2319.50 1.66 58.85 193.47 137.55 17 58 48 1319.5 19.75 42.46
 60.00 18 47 13 2087.81 6.99 43.09 198.57 129.79 19 22 0 1087.8 22.26 23.80
 70.00 20 49 12 1728.81 13.64 18.86 203.42 121.62 21 18 1 728.8 25.40 356.63
 76.42 23 19 16 1261.39 22.51 347.91 208.14 112.09 23 40 18 261.4 29.59 322.40
 76.42 23 19 16 1261.39 22.51 347.91 208.14 112.09 23 40 18 261.4 29.59 322.40
 76.42 23 19 16 1261.39 22.51 347.91 208.14 112.09 23 40 18 261.4 29.59 322.40
 110.00 1 52 34 6063.67 13.64 285.68 203.42 121.62 3 33 38 3063.7 25.40 263.46

Differential Corrections: TDE -.2515 TRA -.3219 TC3 -.5536 BAU .0827 SGT 905.9 SGR 392.5 SG3 1248.8 ST 25.6 SR 16.3 SS 45.2
 RDE -.1755 RRA .0517 RC3 .3372 FAU .18623 RRT .0920 RRF -.2832 RTF -.2724 CRT .8841 CRS .0589 CST .5110
 FDE .1957 FRA 4.6133 FC-16.8882 BSP 899 SGB 987.3 R23 -.2535 R13 -.2778 LSA 47.7 MSA 26.2 SSA 1.3
 BDE .3067 BRA .3234 BC3 .6482 FSP 2104 SG1 906.8 SG2 390.5 THA 2.80 EL1 29.6 EL2 6.6 ALF 31.14

Mid-Course Execution Accuracy: SGT 905.9 SGR 392.5 SG3 1248.8 ST 25.6 SR 16.3 SS 45.2
 RRT .0920 RRF -.2832 RTF -.2724 CRT .8841 CRS .0589 CST .5110
 SGB 987.3 R23 -.2535 R13 -.2778 LSA 47.7 MSA 26.2 SSA 1.3
 SG1 906.8 SG2 390.5 THA 2.80 EL1 29.6 EL2 6.6 ALF 31.14

Orbit Determination Accuracy: ST 25.6 SR 16.3 SS 45.2
 CRT .8841 CRS .0589 CST .5110
 LSA 47.7 MSA 26.2 SSA 1.3
 EL1 29.6 EL2 6.6 ALF 31.14

LAUNCH DATE MAY 7 1971

FLIGHT TIME 182.00

ARRIVAL DATE NOV 5 1971

Heliocentric Conic: RL 150.94 LAL .00 LOL 225.80 VL 32.302 GAL - .58 AZL 92.01 HCA 145.77 SMA 185.60 ECC .18699 INC 2.0136 V1 29.519
 RP 210.10 LAP -1.13 LOP 11.39 VP 23.415 GAP 7.68 AZP 88.33 TAL 356.31 TAP 142.08 RCA 150.89 APO 220.30 V2 26.098
 RC 111.121 GL -21.62 GP 1.39 ZAL 103.97 ZAP 122.14 ETS 178.94 ZAE 164.44 ETE 173.62 ZAC 101.97 ETC 276.88 LVI -18.12

Distance 442.255 Earth to Mars

Planetocentric Conic: C3 9.485 VHL 3.080 DLA -31.21 RAL 341.69 RAD 8637.8 VEL 11.384 PTH 6.44 VHP 3.378 DPA -17.14 RAP 316.33 ECC 1.1561
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 21 27 2316.15 1.82 58.71 193.64 137.55 18 0 4 1316.1 19.91 42.30
 60.00 18 48 48 2083.72 7.17 42.89 198.76 129.77 19 23 32 1083.7 22.42 23.57
 70.00 20 51 32 1722.52 13.86 18.51 203.63 121.53 21 20 15 722.5 25.57 356.22
 76.21 23 18 32 1264.93 22.60 348.22 208.28 112.12 23 39 37 264.9 29.68 322.68
 76.21 23 18 32 1264.93 22.60 348.22 208.28 112.12 23 39 37 264.9 29.68 322.68
 76.21 23 18 32 1264.93 22.60 348.22 208.28 112.12 23 39 37 264.9 29.68 322.68
 110.00 1 54 54 6057.38 13.86 285.33 203.63 121.53 3 35 52 5057.4 25.57 263.05

Differential Corrections: TDE -.2505 TRA -.2821 TC3 -.7008 BAU .0990 SGT 883.2 SGR 384.6 SG3 1302.4 ST 25.1 SR 15.8 SS 46.4
 RDE -.1697 RRA .0270 RC3 .3436 FAU .19297 RRT .0583 RRF -.3108 RTF -.1436 CRT .9072 CRS .0659 CST .4707
 FDE .2032 FRA 4.8082 FC-17.6140 BSP 694 SGB 963.3 R23 -.3010 R13 -.1477 LSA 48.3 MSA 26.2 SSA 1.2
 BDE .3026 BRA .2834 BC3 .7805 FSP 2199 SG1 883.6 SG2 383.8 THA 1.79 EL1 29.1 EL2 5.7 ALF 31.13

Mid-Course Execution Accuracy: SGT 883.2 SGR 384.6 SG3 1302.4 ST 25.1 SR 15.8 SS 46.4
 RRT .0583 RRF -.3108 RTF -.1436 CRT .9072 CRS .0659 CST .4707
 SGB 963.3 R23 -.3010 R13 -.1477 LSA 48.3 MSA 26.2 SSA 1.2
 SG1 883.6 SG2 383.8 THA 1.79 EL1 29.1 EL2 5.7 ALF 31.13

Orbit Determination Accuracy: ST 25.1 SR 15.8 SS 46.4
 CRT .9072 CRS .0659 CST .4707
 LSA 48.3 MSA 26.2 SSA 1.2
 EL1 29.1 EL2 5.7 ALF 31.13

LAUNCH DATE MAY 7 1971

FLIGHT TIME 184.00

ARRIVAL DATE NOV 7 1971

Heliocentric Conic: RL 150.94 LAL .00 LOL 225.80 VL 32.290 GAL - .59 AZL 92.02 HCA 147.00 SMA 185.39 ECC .18611 INC 2.0215 V1 29.519
 RP 210.33 LAP -1.10 LOP 12.82 VP 23.389 GAP 7.46 AZP 88.30 TAL 356.24 TAP 143.24 RCA 150.89 APO 219.90 V2 26.071
 RC 113.239 GL -21.77 GP 1.46 ZAL 104.10 ZAP 120.12 ETS 178.95 ZAE 162.62 ETE 174.34 ZAC 102.13 ETC 276.71 LVI -17.95

Distance 446.412 Earth to Mars

Planetocentric Conic: C3 9.433 VHL 3.071 DLA -31.29 RAL 341.91 RAD 8637.7 VEL 11.381 PTH 6.43 VHP 3.313 DPA -17.29 RAP 315.52 ECC 1.1552
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 22 47 2313.33 1.96 58.59 193.85 137.55 18 1 20 1313.3 20.04 42.16
 60.00 18 50 22 2080.28 7.32 42.72 198.96 129.74 19 25 2 1080.3 22.55 23.38
 70.00 20 53 44 1717.19 14.05 18.21 203.86 121.45 21 22 21 717.2 25.72 355.88
 76.03 23 18 10 1267.82 22.68 348.47 208.45 112.15 23 39 18 267.8 29.77 322.92
 76.03 23 18 10 1267.82 22.68 348.47 208.45 112.15 23 39 18 267.8 29.77 322.92
 76.03 23 18 10 1267.82 22.68 348.47 208.45 112.15 23 39 18 267.8 29.77 322.92
 110.00 1 57 6 6052.04 14.05 285.04 203.86 121.45 3 37 58 5052.0 25.72 262.70

Differential Corrections: TDE -.2503 TRA -.2397 TC3 -.8875 BAU .1188 SGT 877.2 SGR 377.1 SG3 1354.8 ST 24.7 SR 15.3 SS 47.5
 RDE -.1640 RRA .0221 RC3 .3503 FAU .19952 RRT .0134 RRF -.3415 RTF .5017 CRT .9305 CRS .0783 CST .4273
 FDE .2185 FRA 4.9999 FC-18.3120 BSP 503 SGB 954.8 R23 -.3415 R13 .0007 LSA 49.0 MSA 26.3 SSA 1.2
 BDE .2994 BRA .2407 BC3 .9282 FSP 2303 SG1 877.2 SG2 377.1 THA .41 EL1 28.6 EL2 4.8 ALF 31.01

Mid-Course Execution Accuracy: SGT 877.2 SGR 377.1 SG3 1354.8 ST 24.7 SR 15.3 SS 47.5
 RRT .0134 RRF -.3415 RTF .5017 CRT .9305 CRS .0783 CST .4273
 SGB 954.8 R23 -.3415 R13 .0007 LSA 49.0 MSA 26.3 SSA 1.2
 SG1 877.2 SG2 377.1 THA .41 EL1 28.6 EL2 4.8 ALF 31.01

Orbit Determination Accuracy: ST 24.7 SR 15.3 SS 47.5
 CRT .9305 CRS .0783 CST .4273
 LSA 49.0 MSA 26.3 SSA 1.2
 EL1 28.6 EL2 4.8 ALF 31.01

LAUNCH DATE MAY 7 1971

FLIGHT TIME 186.00

ARRIVAL DATE NOV 9 1971

Heliocentric Conic: RL 150.94 LAL .00 LOL 225.80 VL 32.270 GAL - .60 AZL 92.03 HCA 148.22 SMA 185.21 ECC .18532 INC 2.0300 V1 29.519
 RP 210.57 LAP -1.07 LOP 14.04 VP 23.323 GAP 7.24 AZP 88.27 TAL 356.16 TAP 144.38 RCA 150.89 APO 219.54 V2 26.044
 RC 115.380 GL -21.91 GP 1.54 ZAL 104.25 ZAP 118.09 ETS 178.95 ZAE 160.76 ETE 174.93 ZAC 102.30 ETC 276.53 LVI -17.77

Distance 450.574 Earth to Mars

Planetocentric Conic: C3 9.391 VHL 3.064 DLA -31.35 RAL 342.15 RAD 8637.7 VEL 11.380 PTH 6.43 VHP 3.253 DPA -17.45 RAP 314.68 ECC 1.1545
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 24 6 2311.03 2.08 58.49 194.07 137.54 18 2 37 1311.0 20.15 42.05
 60.00 18 51 53 2077.46 7.44 42.59 199.20 129.72 19 26 30 1077.5 22.66 23.22
 70.00 20 55 47 1712.78 14.21 17.97 204.11 121.39 21 24 20 712.8 25.84 355.59
 75.88 23 18 7 1270.15 22.74 348.67 208.65 112.18 23 39 17 270.1 29.83 323.11
 75.88 23 18 7 1270.15 22.74 348.67 208.65 112.18 23 39 17 270.1 29.83 323.11
 75.88 23 18 7 1270.15 22.74 348.67 208.65 112.18 23 39 17 270.1 29.83 323.11
 110.00 1 59 10 6047.64 14.21 284.79 204.11 121.39 3 39 57 5047.6 25.84 262.41

Differential Corrections: TDE -.2491 TRA -.1938 TC3 -1.0181 BAU .1355 SGT 886.8 SGR 370.1 SG3 1405.8 ST 24.2 SR 14.8 SS 48.4
 RDE -.1583 RRA .0171 RC3 .3576 FAU .20632 RRT -.0450 RRF -.3748 RTF .1569 CRT .9522 CRS .0879 CST .3748
 FDE .2269 FRA 5.1813 FC-19.0206 BSP 308 SGB 961.0 R23 .3666 R13 -.1603 LSA 49.6 MSA 26.3 SSA 1.2
 BDE .2952 BRA .1946 BC3 1.0791 FSP 2390 SG1 887.0 SG2 369.7 THA 178.70 EL1 28.1 EL2 3.9 ALF 30.93

Mid-Course Execution Accuracy: SGT 886.8 SGR 370.1 SG3 1405.8 ST 24.2 SR 14.8 SS 48.4
 RRT -.0450 RRF -.3748 RTF .1569 CRT .9522 CRS .0879 CST .3748
 SGB 961.0 R23 .3666 R13 -.1603 LSA 49.6 MSA 26.3 SSA 1.2
 SG1 887.0 SG2 369.7 THA 178.70 EL1 28.1 EL2 3.9 ALF 30.93

Orbit Determination Accuracy: ST 24.2 SR 14.8 SS 48.4
 CRT .9522 CRS .0879 CST .3748
 LSA 49.6 MSA 26.3 SSA 1.2
 EL1 28.1 EL2 3.9 ALF 30.93

LAUNCH DATE MAY 7 1971 FLIGHT TIME 188.00 ARRIVAL DATE NOV 11 1971

HELIOCENTRIC CONIC DISTANCE 454.742 EARTH TO MARS
 RL 150.94 LAL .00 LOL 225.80 VL 32.269 GAL -.61 AZL 92.04 HCA 149.44 SMA 185.05 ECC .18462 INC 2.0391 V1 29.519
 RP 210.82 LAP -1.04 LOP 15.26 VP 23.278 GAP 7.03 AZP 89.24 TAL 356.06 TAP 145.50 RCA 150.89 APO 219.21 V2 26.013
 RC 117.945 GL -22.04 GP 1.62 ZAL 104.42 ZAP 116.03 ETS 178.95 ZAE 158.85 ETE 175.39 ZAC 102.46 ETC 276.35 LVI -17.59

PLANETOCENTRIC CONIC
 C3 9.358 VHL 3.059 DLA -31.39 RAL 342.41 RAD 6637.7 VEL 11.378 PTH 6.43 VHP 3.198 DPA -17.60 RAP 313.81 ECC 1.1540
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 23 27 2309.20 2.17 58.41 194.32 137.54 18 3 56 1309.2 20.24 41.97
 60.00 18 53 23 2073.22 7.54 42.48 199.45 129.71 19 27 58 1075.2 22.74 23.09
 70.00 20 57 43 1709.23 14.33 17.77 204.39 121.34 21 26 13 709.2 25.93 355.36
 75.77 23 18 21 1272.03 22.79 348.84 208.88 112.20 23 39 33 272.0 29.89 323.26
 75.77 23 18 21 1272.03 22.79 348.84 208.88 112.20 23 39 33 272.0 29.89 323.26
 75.77 23 18 21 1272.03 22.79 348.84 208.88 112.20 23 39 33 272.0 29.89 323.26
 110.00 2 1 6 6044.09 14.33 284.59 204.39 121.34 3 41 50 5044.1 25.93 262.18

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2445 TRA -.1426 TC3-1.1768 BAU .1542 SGT 908.8 SGR 363.8 S63 1455.0 ST 23.4 SR 14.3 SS 49.2
 RDE -.1524 RRA .0120 RC3 .3658 FAU .21354 RRT -.1167 RRF -.4103 RTF .3168 CRT .9713 CRS .0888 CST .3048
 FDE .2159 FRA 5.3416 FC-19.7544 B8P 269 SGB 978.9 R23 .3688 R13 -.3249 LSA 49.9 MSA 26.1 SSA 1.2
 BDE .2882 BRA .1431 BC3 1.2322 F8P 2458 SG1 910.0 S62 360.8 THA 176.83 EL1 27.3 EL2 2.9 ALF 31.06

LAUNCH DATE MAY 7 1971 FLIGHT TIME 190.00 ARRIVAL DATE NOV 13 1971

HELIOCENTRIC CONIC DISTANCE 458.913 EARTH TO MARS
 RL 150.94 LAL .00 LOL 225.80 VL 32.261 GAL -.63 AZL 92.05 HCA 150.66 SMA 184.91 ECC .18401 INC 2.0488 V1 29.519
 RP 211.07 LAP -1.00 LOP 16.48 VP 23.233 GAP 6.82 AZP 88.21 TAL 355.94 TAP 146.60 RCA 150.88 APO 218.93 V2 25.986
 RC 119.734 GL -22.18 GP 1.70 ZAL 104.62 ZAP 113.95 ETS 178.96 ZAE 156.90 ETE 175.78 ZAC 102.66 ETC 276.16 LVI -17.40

PLANETOCENTRIC CONIC
 C3 9.336 VHL 3.059 DLA -31.43 RAL 342.70 RAD 6637.7 VEL 11.377 PTH 6.43 VHP 3.148 DPA -17.75 RAP 312.92 ECC 1.1536
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 26 48 2307.91 2.24 58.36 194.61 137.54 18 5 16 1307.9 20.30 41.90
 60.00 18 54 51 2073.61 7.61 42.40 199.74 129.70 19 29 25 1073.6 22.80 23.00
 70.00 20 59 31 1706.68 14.42 17.63 204.68 121.30 21 27 58 706.7 26.00 355.19
 75.68 23 18 57 1273.33 22.83 348.95 209.15 112.21 23 40 10 273.3 29.92 323.37
 75.68 23 18 57 1273.33 22.83 348.95 209.15 112.21 23 40 10 273.3 29.92 323.37
 75.68 23 18 57 1273.33 22.83 348.95 209.15 112.21 23 40 10 273.3 29.92 323.37
 110.00 2 2 53 6041.54 14.42 284.45 204.68 121.30 3 43 35 5041.5 26.00 262.01

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2493 TRA -.0980 TC3-1.3769 BAU .1781 SGT 986.4 SGR 358.2 S63 1504.4 ST 23.6 SR 13.8 SS 50.6
 RDE -.1472 RRA .0061 RC3 .3730 FAU .21861 RRT -.1858 RRF -.4492 RTF .4397 CRT .9855 CRS .1250 CST .2649
 FDE .2716 FRA 5.5626 FC-20.2722 B8P 411 SGB 1049.4 R23 .3618 R13 -.4498 LSA 51.2 MSA 26.3 SSA 1.1
 BDE .2895 BRA .0982 BC3 1.4265 F8P 2579 SG1 988.9 S62 351.1 THA 175.58 EL1 27.3 EL2 2.0 ALF 30.12

LAUNCH DATE MAY 7 1971 FLIGHT TIME 192.00 ARRIVAL DATE NOV 15 1971

HELIOCENTRIC CONIC DISTANCE 463.088 EARTH TO MARS
 RL 150.94 LAL .00 LOL 225.80 VL 32.253 GAL -.65 AZL 92.06 HCA 151.88 SMA 184.78 ECC .18347 INC 2.0593 V1 29.519
 RP 211.33 LAP -.97 LOP 17.70 VP 23.190 GAP 6.62 AZP 88.18 TAL 355.81 TAP 147.69 RCA 150.88 APO 218.69 V2 25.957
 RC 121.945 GL -22.31 GP 1.79 ZAL 104.83 ZAP 111.86 ETS 178.97 ZAE 154.92 ETE 176.09 ZAC 102.85 ETC 275.96 LVI -17.21

PLANETOCENTRIC CONIC
 C3 9.322 VHL 3.053 DLA -31.45 RAL 343.01 RAD 6637.7 VEL 11.377 PTH 6.43 VHP 3.102 DPA -17.89 RAP 312.01 ECC 1.1534
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 28 11 2307.02 2.28 58.32 194.91 137.53 18 6 38 1307.0 20.34 41.86
 60.00 18 56 19 2072.51 7.66 42.35 200.05 129.69 19 30 51 1072.5 22.85 22.93
 70.00 21 1 13 1704.88 14.49 17.53 205.00 121.27 21 29 38 704.9 26.05 355.07
 75.62 23 19 44 1274.40 22.85 349.04 209.44 112.22 23 40 59 274.4 29.95 323.45
 75.62 23 19 44 1274.40 22.85 349.04 209.44 112.22 23 40 59 274.4 29.95 323.45
 75.62 23 19 44 1274.40 22.85 349.04 209.44 112.22 23 40 59 274.4 29.95 323.45
 110.00 2 4 35 6039.74 14.49 284.35 205.00 121.27 3 45 15 5039.7 26.05 261.90

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2478 TRA -.0460 TC3-1.5647 BAU .2007 SGT 1067.4 SGR 353.4 S63 1549.8 ST 23.3 SR 13.3 SS 51.6
 RDE -.1418 RRA .0002 RC3 .3814 FAU .22424 RRT -.2625 RRF -.4887 RTF .5449 CRT .9940 CRS .1389 CST .1946
 FDE .2813 FRA 5.7458 FC-20.8248 B8P 667 SGB 1124.4 R23 .3384 R13 -.5855 LSA 51.9 MSA 26.2 SSA 1.1
 BDE .2854 BRA .0460 BC3 1.6105 F8P 2651 SG1 1071.9 S62 339.6 THA 174.48 EL1 26.8 EL2 1.3 ALF 29.59

LAUNCH DATE MAY 7 1971 FLIGHT TIME 194.00 ARRIVAL DATE NOV 17 1971

HELIOCENTRIC CONIC DISTANCE 467.266 EARTH TO MARS
 RL 150.94 LAL .00 LOL 225.80 VL 32.247 GAL -.67 AZL 92.07 HCA 153.09 SMA 184.87 ECC .18302 INC 2.0705 V1 29.519
 RP 211.80 LAP -.94 LOP 18.91 VP 23.147 GAP 6.42 AZP 88.15 TAL 355.66 TAP 148.75 RCA 150.88 APO 218.47 V2 25.926
 RC 124.177 GL -22.44 GP 1.89 ZAL 105.06 ZAP 109.77 ETS 178.98 ZAE 152.92 ETE 176.35 ZAC 103.04 ETC 275.76 LVI -17.02

PLANETOCENTRIC CONIC
 C3 9.318 VHL 3.053 DLA -31.47 RAL 343.34 RAD 6637.7 VEL 11.376 PTH 6.43 VHP 3.061 DPA -18.02 RAP 311.09 ECC 1.1533
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 29 36 2306.55 2.31 58.30 195.24 137.53 18 8 2 1306.6 20.36 41.84
 60.00 18 57 46 2071.90 7.68 42.32 200.38 129.68 19 32 18 1071.9 22.87 22.90
 70.00 21 2 49 1703.85 14.52 17.47 205.34 121.26 21 31 13 703.9 26.07 355.00
 75.59 23 20 47 1275.14 22.86 349.10 209.77 112.23 23 42 2 275.1 29.97 323.51
 75.59 23 20 47 1275.14 22.86 349.10 209.77 112.23 23 42 2 275.1 29.97 323.51
 75.59 23 20 47 1275.14 22.86 349.10 209.77 112.23 23 42 2 275.1 29.97 323.51
 110.00 2 6 11 6038.71 14.52 284.29 205.34 121.26 3 46 50 5038.7 26.07 261.83

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2477 TRA .0082 TC3-1.7595 BAU .2245 SGT 1170.6 SGR 350.0 S63 1593.4 ST 23.3 SR 12.8 SS 52.5
 RDE -.1363 RRA -.0060 RC3 .3907 FAU .22992 RRT -.3357 RRF -.5320 RTF .6471 CRT .9949 CRS .1654 CST .1288
 FDE .3118 FRA 5.9196 FC-21.3621 B8P 939 SGB 1221.8 R23 .3143 R13 -.6570 LSA 52.7 MSA 26.2 SSA 1.1
 BDE .2827 BRA .0102 BC3 1.8024 F8P 2739 SG1 1177.0 S62 327.9 THA 173.78 EL1 26.6 EL2 1.1 ALF 28.71

LAUNCH DATE MAY 7 1971 FLIGHT TIME 198.00 ARRIVAL DATE NOV 19 1971

Heliocentric Conic: RL 150.94 LAL .00 LOL 225.80 VL 32.241 GAL -.69 AZL 92.08 HCA 154.30 SMA 184.58 ECC .18263 INC 2.0827 V1 29.519
 RP 211.87 LAP -.90 LOP 20.12 VP 23.104 GAP 6.23 AZP 88.12 TAL 355.50 TAP 149.80 RCA 150.87 APO 218.29 V2 25.896
 RC 126.431 GL -22.57 GP 2.00 ZAL 103.32 ZAP 107.66 ETS 178.99 ZAE 150.89 ETE 176.56 ZAC 103.24 ETC 275.56 LVI -16.83

Distance 471.447 Earth to Mars

Planeto-centric Conic: C3 9.322 VHL 3.053 DLA -31.48 RAL 343.69 RAD 6637.7 VEL 11.377 PTH 6.43 VHP 3.023 DPA -18.15 RAP 310.15 ECC 1.1534
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 31 2 2306.47 2.31 58.30 195.60 137.53 18 9 29 1306.5 20.37 41.83
 60.00 18 59 14 2071.76 7.69 42.31 200.74 129.68 19 33 46 1071.8 22.87 22.89
 70.00 21 4 21 1703.51 14.53 17.45 205.70 121.25 21 32 44 703.5 26.08 354.98
 75.57 23 22 4 1275.60 22.87 349.14 210.13 112.24 23 43 20 275.6 29.97 323.55
 75.57 23 22 4 1275.60 22.87 349.14 210.13 112.24 23 43 20 275.6 29.97 323.55
 75.57 23 22 4 1275.60 22.87 349.14 210.13 112.24 23 43 20 275.6 29.97 323.55
 110.00 2 7 43 6038.37 14.53 284.27 205.70 121.25 3 48 22 5038.4 26.08 261.81

Differential Corrections: TDE -.2474 TRA .0641 TC3-1.9638 BAU .2497 SGT 1293.5 SGR 347.6 SG3 1632.0 ST 23.4 SR 12.3 SS 53.5
 RDE -.1310 RRA -.0127 RC3 .3998 FAU .23436 RRT -.4061 RRF -.5754 RTF .7174 CRT .9865 CRS .1941 CST .0604
 FDE .3446 FRA 6.0932 FC-21.7647 B8P 1234 SGB 1339.4 R23 .2905 R13 -.7259 LSA 53.6 MSA 26.2 S8A 1.0
 BDE .2799 BRA .0654 BC3 2.0039 F8P 2813 SG1 1301.7 SG2 315.6 THA 173.38 EL1 26.4 EL2 1.8 ALF 27.58

LAUNCH DATE MAY 7 1971 FLIGHT TIME 198.00 ARRIVAL DATE NOV 21 1971

Heliocentric Conic: RL 150.94 LAL .00 LOL 225.80 VL 32.236 GAL -.72 AZL 92.10 HCA 155.51 SMA 184.50 ECC .18232 INC 2.0961 V1 29.519
 RP 212.14 LAP -.87 LOP 21.32 VP 23.062 GAP 6.03 AZP 88.09 TAL 355.33 TAP 150.83 RCA 150.86 APO 218.14 V2 25.864
 RC 128.706 GL -22.70 GP 2.11 ZAL 105.59 ZAP 105.56 ETS 179.01 ZAE 148.85 ETE 176.73 ZAC 103.44 ETC 275.35 LVI -16.64

Distance 475.630 Earth to Mars

Planeto-centric Conic: C3 9.335 VHL 3.055 DLA -31.48 RAL 344.06 RAD 6637.7 VEL 11.377 PTH 6.43 VHP 2.990 DPA -18.26 RAP 309.20 ECC 1.1536
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 32 31 2306.74 2.30 58.31 195.99 137.53 18 10 58 1306.7 20.35 41.85
 60.00 19 0 44 2072.03 7.68 42.32 201.13 129.69 19 35 16 1072.0 22.86 22.91
 70.00 21 5 50 1703.77 14.52 17.46 206.09 121.26 21 34 14 703.8 26.08 355.00
 75.57 23 23 33 1275.89 22.86 349.16 210.52 112.25 23 44 49 275.9 29.97 323.57
 75.57 23 23 33 1275.89 22.86 349.16 210.52 112.25 23 44 49 275.9 29.97 323.57
 75.57 23 23 33 1275.89 22.86 349.16 210.52 112.25 23 44 49 275.9 29.97 323.57
 110.00 2 9 13 6038.63 14.53 284.29 206.09 121.26 3 49 51 5038.6 26.08 261.82

Differential Corrections: TDE -.2465 TRA .1225 TC3-2.1657 BAU .2751 SGT 1427.5 SGR 347.1 SG3 1672.6 ST 23.5 SR 11.8 SS 54.5
 RDE -.1258 RRA -.0199 RC3 .4108 FAU .23942 RRT -.4739 RRF -.8211 RTF .7723 CRT .9674 CRS .2250 CST -.0117
 FDE .3775 FRA 6.2720 FC-22.2033 B8P 1545 SGB 1469.1 R23 .2699 R13 -.7795 LSA 54.5 MSA 26.2 S8A 1.0
 BDE .2767 BRA .1241 BC3 2.2043 F8P 2877 SG1 1437.4 SG2 303.5 THA 173.12 EL1 26.2 EL2 2.7 ALF 26.19

LAUNCH DATE MAY 7 1971 FLIGHT TIME 200.00 ARRIVAL DATE NOV 23 1971

Heliocentric Conic: RL 150.94 LAL .00 LOL 225.80 VL 32.233 GAL -.75 AZL 92.11 HCA 156.71 SMA 184.44 ECC .18207 INC 2.1107 V1 29.519
 RP 212.43 LAP -.83 LOP 22.53 VP 23.021 GAP 5.84 AZP 88.06 TAL 355.14 TAP 151.85 RCA 150.86 APO 218.02 V2 25.832
 RC 130.999 GL -22.83 GP 2.23 ZAL 105.88 ZAP 103.46 ETS 179.04 ZAE 146.79 ETE 176.87 ZAC 103.65 ETC 275.15 LVI -16.45

Distance 479.815 Earth to Mars

Planeto-centric Conic: C3 9.357 VHL 3.059 DLA -31.47 RAL 344.46 RAD 6637.7 VEL 11.378 PTH 6.43 VHP 2.961 DPA -18.36 RAP 308.26 ECC 1.1540
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 34 4 2307.32 2.27 58.34 196.40 137.53 18 12 31 1307.3 20.33 41.87
 60.00 19 2 15 2072.65 7.65 42.35 201.94 129.69 19 36 48 1072.6 22.84 22.94
 70.00 21 7 19 1704.52 14.50 17.51 206.51 121.27 21 35 44 704.5 26.06 355.05
 75.58 23 25 12 1276.09 22.84 349.17 210.95 112.26 23 46 28 276.1 29.96 323.58
 75.58 23 25 12 1276.09 22.84 349.17 210.95 112.26 23 46 28 276.1 29.96 323.58
 75.58 23 25 12 1276.09 22.84 349.17 210.95 112.26 23 46 28 276.1 29.96 323.58
 110.00 2 10 42 6039.38 14.50 284.33 206.51 121.27 3 51 21 5039.4 26.06 261.87

Differential Corrections: TDE -.2456 TRA .1834 TC3-2.3788 BAU .3020 SGT 1577.4 SGR 347.8 SG3 1703.4 ST 23.9 SR 11.3 SS 55.3
 RDE -.1206 RRA -.0173 RC3 .4210 FAU .24274 RRT -.5373 RRF -.6651 RTF .8.39 CRT .9363 CRS .2588 CST -.0844
 FDE .4120 FRA 6.4285 FC-22.4580 B8P 1864 SGB 1615.3 R23 .2518 R13 -.8197 LSA 55.4 MSA 26.2 S8A .9
 BDE .2736 BRA .1854 BC3 2.4137 F8P 2940 SG1 1588.8 SG2 291.2 THA 173.01 EL1 26.2 EL2 3.6 ALF 24.47

LAUNCH DATE MAY 7 1971 FLIGHT TIME 202.00 ARRIVAL DATE NOV 25 1971

Heliocentric Conic: RL 150.94 LAL .00 LOL 225.80 VL 32.230 GAL -.78 AZL 92.13 HCA 157.91 SMA 184.39 ECC .18189 INC 2.1267 V1 29.519
 RP 212.72 LAP -.80 LOP 23.73 VP 22.980 GAP 5.66 AZP 88.03 TAL 354.94 TAP 152.84 RCA 150.85 APO 217.93 V2 25.799
 RC 133.312 GL -22.97 GP 2.36 ZAL 106.19 ZAP 101.37 ETS 179.07 ZAE 144.73 ETE 176.99 ZAC 103.87 ETC 274.94 LVI -16.27

Distance 484.002 Earth to Mars

Planeto-centric Conic: C3 9.388 VHL 3.064 DLA -31.46 RAL 344.87 RAD 6637.7 VEL 11.379 PTH 6.43 VHP 2.936 DPA -18.45 RAP 307.31 ECC 1.1545
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 35 41 2308.15 2.23 58.37 196.84 137.54 18 14 9 1308.2 20.29 41.92
 60.00 19 3 51 2073.56 7.61 42.40 201.99 129.70 19 38 24 1073.6 22.81 22.99
 70.00 21 8 50 1705.66 14.46 17.57 206.96 121.28 21 37 16 705.7 26.03 355.12
 75.60 23 27 0 1276.32 22.82 349.17 211.40 112.27 23 48 16 276.3 29.94 323.60
 75.60 23 27 0 1276.32 22.82 349.17 211.40 112.27 23 48 16 276.3 29.94 323.60
 75.60 23 27 0 1276.32 22.82 349.17 211.40 112.27 23 48 16 276.3 29.94 323.60
 110.00 2 12 12 6040.52 14.46 284.39 206.96 121.28 3 52 53 5040.5 26.03 261.95

Differential Corrections: TDE -.2444 TRA .2462 TC3-2.5883 BAU .3294 SGT 1736.7 SGR 350.8 SG3 1734.0 ST 24.4 SR 10.9 SS 56.2
 RDE -.1154 RRA -.0354 RC3 .4330 FAU .24639 RRT -.5977 RRF -.7094 RTF .8463 CRT .8928 CRS .2941 CST -.1589
 FDE .4426 FRA 6.5825 FC-22.7212 B8P 2189 SGB 1771.7 R23 .2371 R13 -.8511 LSA 56.4 MSA 26.2 S8A .9
 BDE .2703 BRA .2488 BC3 2.6242 F8P 3000 SG1 1749.6 SG2 279.1 THA 172.94 EL1 26.3 EL2 4.5 ALF 22.41

LAUNCH DATE MAY 7 1971

FLIGHT TIME 204.00

ARRIVAL DATE NOV 27 1971

HELIOCENTRIC CONIC
 RL 130.84 LAL .00 LOL 225.80 VL 32.227 GAL -.81 AZL 92.14 HCA 159.11 SMA 184.35 ECC .18177 INC 2.1444 V1 29.519
 RP 213.01 LAP -.76 LOP 24.92 VP 22.939 GAP 5.47 AZP 88.00 TAL 354.72 TAP 153.82 RCA 150.84 APO 217.86 V2 25.766
 RC 135.643 GL -23.12 GP 2.50 ZAL 106.51 ZAP 99.29 ETS 179.11 ZAE 142.66 ETE 177.08 ZAC 104.09 ETC 274.73 LVI -16.11

PLANETOCENTRIC CONIC
 C3 9.428 VHL 3.071 DLA -31.45 RAL 345.31 RAD 6637.7 VEL 11.381 PTH 6.43 VHP 2.015 DPA -18.51 RAP 308.37 ECC 1.1552
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 37 23 2309.20 2.17 58.41 197.32 137.54 18 15 52 1309.2 20.24 41.97
 60.00 19 5 31 2074.68 7.56 42.45 202.47 129.70 19 40 5 1074.7 22.76 23.06
 70.00 21 10 25 1707.04 14.41 17.65 207.44 121.31 21 38 52 707.0 25.99 355.21
 75.62 23 28 54 1276.68 22.79 349.19 211.90 112.28 23 50 11 276.7 29.92 323.62
 75.62 23 28 54 1276.68 22.79 349.19 211.90 112.28 23 50 11 276.7 29.92 323.62
 75.62 23 28 54 1276.68 22.79 349.19 211.90 112.28 23 50 11 276.7 29.92 323.62
 110.00 2 13 47 6041.89 14.41 284.47 207.44 121.31 3 54 29 3041.9 25.99 262.04

DIFFERENTIAL CORRECTIONS
 TDE -.2429 TRA .3114 TC3-2.8007 BAU .3574 SGT 1904.6 SGR 355.8 SG3 1757.7 ST 25.0 SR 10.4 SS 97.0
 RDE -.1105 RRA -.0441 RC3 .4432 FAU .24883 RRT -.6529 RRF -.7517 RTF .8706 CRT .8366 CRS .3381 CST -.2257
 FDE .4879 FRA 6.7217 FC-22.8482 B8P 2524 SGB 1937.6 R23 .2269 R13 -.8747 LSA 57.4 MSA 26.2 S5A .8
 BDE .2669 BRA .3145 BC3 2.8358 F8P 3051 SGI 1919.0 SG2 267.5 THA 172.91 EL1 26.5 EL2 5.4 ALF 20.09

LAUNCH DATE MAY 7 1971

FLIGHT TIME 206.00

ARRIVAL DATE NOV 29 1971

HELIOCENTRIC CONIC
 RL 150.94 LAL .00 LOL 225.80 VL 32.226 GAL -.85 AZL 92.16 HCA 160.30 SMA 184.33 ECC .18170 INC 2.1641 V1 29.519
 RP 213.31 LAP -.73 LOP 26.11 VP 22.899 GAP 5.29 AZP 87.96 TAL 354.49 TAP 154.79 RCA 150.83 APO 217.82 V2 25.732
 RC 137.991 GL -23.28 GP 2.66 ZAL 106.85 ZAP 97.22 ETS 179.15 ZAE 140.60 ETE 177.15 ZAC 104.32 ETC 274.53 LVI -15.96

PLANETOCENTRIC CONIC
 C3 9.478 VHL 3.079 DLA -31.45 RAL 345.78 RAD 6637.8 VEL 11.383 PTH 6.44 VHP 2.898 DPA -18.55 RAP 305.44 ECC 1.1580
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 39 11 2310.39 2.11 58.46 197.82 137.54 18 17 41 1310.4 20.18 42.02
 60.00 19 7 18 2075.93 7.51 42.51 202.98 129.71 19 41 53 1075.9 22.72 23.13
 70.00 21 12 8 1708.48 14.36 17.73 207.95 121.33 21 40 36 708.5 25.95 355.31
 75.64 23 30 53 1277.26 22.77 349.22 212.43 112.30 23 52 11 277.3 29.91 323.66
 75.64 23 30 53 1277.26 22.77 349.22 212.43 112.30 23 52 11 277.3 29.91 323.66
 75.64 23 30 53 1277.26 22.77 349.22 212.43 112.30 23 52 11 277.3 29.91 323.66
 110.00 2 15 30 6043.33 14.36 284.55 207.95 121.33 3 56 14 3043.3 25.95 262.13

DIFFERENTIAL CORRECTIONS
 TDE -.2410 TRA .3788 TC3-3.0100 BAU .3898 SGT 2078.2 SGR 363.7 SG3 1780.9 ST 25.8 SR 10.0 SS 97.7
 RDE -.1056 RRA -.0535 RC3 .4995 FAU .25152 RRT -.7045 RRF -.7923 RTF .8904 CRT .7671 CRS .3835 CST -.2926
 FDE .5274 FRA 6.8571 FC-22.9748 B8P 2868 SGB 2109.8 R23 .2188 R13 -.8938 LSA 58.4 MSA 26.1 S5A .8
 BDE .2631 BRA .3826 BC3 3.0449 F8P 3095 SGI 2094.2 SG2 256.1 THA 172.86 EL1 27.0 EL2 6.1 ALF 17.50

LAUNCH DATE MAY 7 1971

FLIGHT TIME 208.00

ARRIVAL DATE DEC 1 1971

HELIOCENTRIC CONIC
 RL 150.94 LAL .00 LOL 225.80 VL 32.225 GAL -.88 AZL 92.19 HCA 161.49 SMA 184.31 ECC .18170 INC 2.1863 V1 29.519
 RP 213.61 LAP -.69 LOP 27.30 VP 22.859 GAP 5.11 AZP 87.93 TAL 354.25 TAP 155.73 RCA 150.82 APO 217.80 V2 25.697
 RC 140.356 GL -23.46 GP 2.83 ZAL 107.20 ZAP 95.18 ETS 179.21 ZAE 138.54 ETE 177.20 ZAC 104.57 ETC 274.33 LVI -15.82

PLANETOCENTRIC CONIC
 C3 9.537 VHL 3.088 DLA -31.45 RAL 346.26 RAD 6637.8 VEL 11.386 PTH 6.44 VHP 2.883 DPA -18.57 RAP 304.52 ECC 1.1570
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 41 7 2311.65 2.05 58.52 198.37 137.54 18 19 39 1311.7 20.12 42.08
 60.00 19 9 13 2077.21 7.45 42.57 203.53 129.72 19 43 50 1077.2 22.67 23.20
 70.00 21 14 3 1709.80 14.31 17.80 208.51 121.35 21 42 32 709.8 25.92 355.39
 75.64 23 32 51 1278.44 22.73 349.29 213.00 112.33 23 54 9 278.4 29.89 323.75
 75.64 23 32 51 1278.44 22.73 349.29 213.00 112.33 23 54 9 278.4 29.89 323.75
 75.64 23 32 51 1278.44 22.73 349.29 213.00 112.33 23 54 9 278.4 29.89 323.75
 110.00 2 17 25 6044.66 14.31 284.62 208.51 121.35 3 58 10 3044.7 25.92 262.22

DIFFERENTIAL CORRECTIONS
 TDE -.2384 TRA .4488 TC3-3.2171 BAU .4146 SGT 2257.3 SGR 374.1 SG3 1797.2 ST 26.7 SR 9.6 SS 98.5
 RDE -.1009 RRA -.0636 RC3 .4743 FAU .25302 RRT -.7509 RRF -.8293 RTF .5556 CRT .6846 CRS .4347 CST -.3542
 FDE .5730 FRA 6.9731 FC-22.9680 B8P 3220 SGB 2288.1 R23 .2137 R13 -.9086 LSA 59.5 MSA 26.1 S5A .8
 BDE .2589 BRA .4531 BC3 3.2518 F8P 3126 SGI 2274.9 SG2 245.2 THA 172.82 EL1 27.5 EL2 6.8 ALF 14.74

LAUNCH DATE MAY 7 1971

FLIGHT TIME 210.00

ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC
 RL 150.94 LAL .00 LOL 225.80 VL 32.225 GAL -.92 AZL 92.21 HCA 162.67 SMA 184.31 ECC .18174 INC 2.2111 V1 29.519
 RP 213.92 LAP -.66 LOP 28.49 VP 22.819 GAP 4.94 AZP 87.89 TAL 353.99 TAP 156.67 RCA 150.81 APO 217.81 V2 25.662
 RC 142.739 GL -23.65 GP 3.03 ZAL 107.56 ZAP 93.16 ETS 179.27 ZAE 136.50 ETE 177.23 ZAC 104.83 ETC 274.13 LVI -15.71

PLANETOCENTRIC CONIC
 C3 9.607 VHL 3.099 DLA -31.45 RAL 346.78 RAD 6637.8 VEL 11.389 PTH 6.44 VHP 2.873 DPA -18.56 RAP 303.62 ECC 1.1581
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 43 12 2312.90 1.99 58.57 198.95 137.54 18 21 45 1312.9 20.06 42.14
 60.00 19 11 20 2078.39 7.40 42.63 204.12 129.73 19 45 59 1078.4 22.62 23.27
 70.00 21 16 14 1710.77 14.28 17.85 209.12 121.36 21 44 45 710.8 25.89 355.46
 75.62 23 34 46 1280.27 22.70 349.42 213.61 112.38 23 56 6 280.3 29.88 323.88
 75.62 23 34 46 1280.27 22.70 349.42 213.61 112.38 23 56 6 280.3 29.88 323.88
 75.62 23 34 46 1280.27 22.70 349.42 213.61 112.38 23 56 6 280.3 29.88 323.88
 110.00 2 19 36 6045.63 14.28 284.68 209.12 121.36 4 0 22 3045.6 25.89 262.28

DIFFERENTIAL CORRECTIONS
 TDE -.2364 TRA .5198 TC3-3.4238 BAU .4442 SGT 2442.2 SGR 387.8 SG3 1809.5 ST 27.8 SR 9.2 SS 99.2
 RDE -.0963 RRA -.0747 RC3 .4906 FAU .25398 RRT -.7920 RRF -.8626 RTF .9173 CRT .5918 CRS .4896 CST -.4093
 FDE .6181 FRA 7.0894 FC-22.8877 B8P 3568 SGB 2472.8 R23 .2118 R13 -.9199 LSA 60.6 MSA 26.2 S5A .7
 BDE .2553 BRA .5251 BC3 3.4588 F8P 3153 SGI 2461.6 SG2 234.9 THA 172.77 EL1 28.4 EL2 7.3 ALF 11.92

LAUNCH DATE MAY 7 1971

FLIGHT TIME 212.00

ARRIVAL DATE DEC 5 1971

HELIOCENTRIC CONIC

DISTANCE 504.944

EARTH TO MARS

RL 150.94 LAL .00 LOL 225.80 VL 32.225 GAL -.96 AZL 92.24 HCA 183.86 SMA 184.32 ECC .18184 INC 2.2395 V1 29.519
RP 214.24 LAP -.62 LOP 29.67 VP 22.780 GAP 4.77 AZP 87.85 TAL 353.72 TAP 157.58 RCA 150.80 APO 217.83 V2 25.627
RC 145.138 GL -23.86 GP 3.25 ZAL 107.93 ZAP 91.17 ETS 179.35 ZAE 134.47 ETE 177.25 ZAC 105.12 ETC 273.94 LVI -15.63

PLANETOCENTRIC CONIC

C3 9.688 VHL 3.113 DLA -31.48 RAL 347.32 RAD 6637.9 VEL 11.392 PTH 6.44 VHP 2.865 DPA -18.51 RAP 302.74 ECC 1.1594
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 45 30 2314.01 1.93 58.62 199.57 137.55 18 24 4 1314.0 20.01 42.20
60.00 19 13 42 2079.30 7.36 42.68 204.76 129.74 19 48 21 1079.3 22.59 23.32
70.00 21 18 49 1711.06 14.27 17.87 209.78 121.36 21 47 20 711.1 25.88 355.48
75.57 23 36 34 1283.05 22.67 349.62 214.27 112.44 23 57 57 283.1 29.88 324.09
75.57 23 36 34 1283.05 22.67 349.62 214.27 112.44 23 57 57 283.1 29.88 324.09
75.57 23 36 34 1283.05 22.67 349.62 214.27 112.44 23 57 57 283.1 29.88 324.09
110.00 2 22 11 6045.91 14.27 284.69 209.78 121.36 4 2 57 5045.9 25.88 262.30

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2338 TRA .5935 TC3-3.6233 BAU .4739 SGT 2629.4 SGR 405.2 SG3 1818.1 ST 29.0 SR 8.9 SS 59.7
RDE -.0917 RRA -.0869 RC3 .5093 FAU .25468 RRT -.8285 RRF -.8919 RTF .9273 CRT .4866 CR8 .5459 CST -.4631
FDE .6550 FRA 7.1868 FC-22.7592 BSP 3924 SGB 2660.4 R23 .2106 R13 -.9297 LSA 61.7 MSA 26.2 SSA .7
BDE .2911 BRA .5999 BC3 3.6589 FSP 3170 SG1 2650.9 SG2 225.0 THA 172.67 EL1 29.4 EL2 7.7 ALF 9.12

LAUNCH DATE MAY 7 1971

FLIGHT TIME 214.00

ARRIVAL DATE DEC 7 1971

HELIOCENTRIC CONIC

DISTANCE 509.133

EARTH TO MARS

RL 150.94 LAL .00 LOL 225.80 VL 32.226 GAL -1.01 AZL 92.27 HCA 165.04 SMA 184.34 ECC .18198 INC 2.2718 V1 29.519
RP 214.55 LAP -.59 LOP 30.85 VP 22.741 GAP 4.59 AZP 87.80 TAL 353.45 TAP 158.48 RCA 150.79 APO 217.88 V2 25.591
RC 147.555 GL -24.11 GP 3.50 ZAL 108.32 ZAP 89.22 ETS 179.44 ZAE 132.46 ETE 177.24 ZAC 105.43 ETC 273.76 LVI -15.59

PLANETOCENTRIC CONIC

C3 9.781 VHL 3.127 DLA -31.52 RAL 347.89 RAD 6637.9 VEL 11.396 PTH 6.45 VHP 2.861 DPA -18.43 RAP 301.88 ECC 1.1610
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 48 3 2314.86 1.89 58.65 200.25 137.55 18 26 38 1314.9 19.97 42.24
60.00 19 16 23 2079.77 7.34 42.70 205.46 129.74 19 51 3 1079.8 22.57 23.35
70.00 21 21 55 1710.29 14.29 17.83 210.51 121.35 21 50 25 710.3 25.90 355.43
75.47 23 38 6 1287.28 22.65 349.93 214.98 112.52 23 59 33 287.3 29.90 324.42
75.47 23 38 6 1287.28 22.65 349.93 214.98 112.52 23 59 33 287.3 29.90 324.42
75.47 23 38 6 1287.28 22.65 349.93 214.98 112.52 23 59 33 287.3 29.90 324.42
110.00 2 25 17 6045.15 14.29 284.65 210.51 121.35 4 6 2 5045.2 25.90 262.25

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2322 TRA .6681 TC3-3.8213 BAU .5045 SGT 2820.8 SGR 427.0 SG3 1823.0 ST 30.5 SR 8.6 SS 60.3
RDE -.0874 RRA -.1004 RC3 .5305 FAU .25498 RRT -.8594 RRF -.9172 RTF .9349 CRT .3745 CR3 .6079 CST -.5059
FDE .6995 FRA 7.2729 FC-22.5679 BSP 4266 SGB 2852.9 R23 .2132 R13 -.9370 LSA 62.8 MSA 26.4 SSA .6
BDE .2481 BRA .6756 BC3 3.8582 FSP 3176 SG1 2844.7 SG2 216.5 THA 172.55 EL1 30.7 EL2 8.0 ALF 6.50

LAUNCH DATE MAY 7 1971

FLIGHT TIME 216.00

ARRIVAL DATE DEC 9 1971

HELIOCENTRIC CONIC

DISTANCE 513.320

EARTH TO MARS

RL 150.94 LAL .00 LOL 225.80 VL 32.228 GAL -1.05 AZL 92.31 HCA 166.21 SMA 184.36 ECC .18217 INC 2.3101 V1 29.519
RP 214.88 LAP -.55 LOP 32.03 VP 22.702 GAP 4.42 AZP 87.76 TAL 353.16 TAP 159.37 RCA 150.78 APO 217.95 V2 25.534
RC 149.988 GL -24.40 GP 3.78 ZAL 108.70 ZAP 87.29 ETS 179.55 ZAE 130.48 ETE 177.22 ZAC 105.77 ETC 273.58 LVI -15.59

PLANETOCENTRIC CONIC

C3 9.889 VHL 3.145 DLA -31.59 RAL 348.49 RAD 6638.0 VEL 11.401 PTH 6.45 VHP 2.860 DPA -18.29 RAP 301.05 ECC 1.1627
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 50 55 2315.25 1.87 58.67 200.99 137.55 18 29 30 1315.3 19.95 42.26
60.00 19 19 30 2079.51 7.35 42.69 206.23 129.74 19 54 10 1079.5 22.58 23.33
70.00 21 25 44 1707.92 14.38 17.69 211.33 121.32 21 54 12 707.9 25.97 355.27
75.29 23 39 19 1293.21 22.65 350.37 215.76 112.64 24 0 52 293.2 29.94 324.87
75.29 23 39 19 1293.21 22.65 350.37 215.76 112.64 24 0 52 293.2 29.94 324.87
75.29 23 39 19 1293.21 22.65 350.37 215.76 112.64 24 0 52 293.2 29.94 324.87
110.00 2 29 7 6042.77 14.38 284.52 211.33 121.32 4 9 49 5042.8 25.97 262.10

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2284 TRA .7474 TC3-4.0014 BAU .5340 SGT 3010.3 SGR 453.3 SG3 1822.4 ST 32.0 SR 8.5 SS 60.9
RDE -.0833 RRA -.1158 RC3 .5333 FAU .25400 RRT -.8856 RRF -.9381 RTF .5-14 CRT .2470 CR8 .8726 CST -.9487
FDE .7480 FRA 7.3344 FC-22.2372 BSP 4640 SGB 3044.2 R23 .2159 R13 -.9435 LSA 64.1 MSA 26.4 SSA .6
BDE .2431 BRA .7583 BC3 4.0394 FSP 3181 SG1 3037.1 SG2 208.6 THA 172.37 EL1 32.0 EL2 8.2 ALF 4.00

LAUNCH DATE MAY 7 1971

FLIGHT TIME 218.00

ARRIVAL DATE DEC 11 1971

HELIOCENTRIC CONIC

DISTANCE 517.506

EARTH TO MARS

RL 150.94 LAL .00 LOL 225.80 VL 32.230 GAL -1.10 AZL 92.35 HCA 167.39 SMA 184.40 ECC .18241 INC 2.3552 V1 29.519
RP 215.21 LAP -.51 LOP 33.20 VP 22.684 GAP 4.26 AZP 87.70 TAL 352.85 TAP 160.24 RCA 150.76 APO 218.03 V2 25.518
RC 152.438 GL -24.74 GP 4.12 ZAL 109.09 ZAP 85.41 ETS 179.68 ZAE 128.52 ETE 177.17 ZAC 106.16 ETC 273.41 LVI -15.64

PLANETOCENTRIC CONIC

C3 10.012 VHL 3.164 DLA -31.71 RAL 349.14 RAD 6638.0 VEL 11.407 PTH 6.46 VHP 2.862 DPA -18.10 RAP 300.24 ECC 1.1648
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 54 12 2314.96 1.88 58.66 201.80 137.55 18 32 47 1315.0 19.96 42.24
60.00 19 23 11 2078.18 7.41 42.62 207.08 129.73 19 57 49 1078.2 22.63 23.26
70.00 21 30 33 1703.19 14.55 17.43 212.25 121.25 21 58 57 703.2 26.09 354.96
75.03 23 40 6 1301.36 22.66 351.00 216.61 112.79 24 1 47 301.4 30.02 325.51
75.03 23 40 6 1301.36 22.66 351.00 216.61 112.79 24 1 47 301.4 30.02 325.51
75.03 23 40 6 1301.36 22.66 351.00 216.61 112.79 24 1 47 301.4 30.02 325.51
110.00 2 33 56 6038.05 14.55 284.25 212.25 121.25 4 14 34 5038.0 26.09 261.79

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2246 TRA .8285 TC3-4.1727 BAU .5639 SGT 3201.3 SGR 486.0 SG3 1818.9 ST 33.6 SR 8.4 SS 61.5
RDE -.0798 RRA -.1332 RC3 .5803 FAU .25289 RRT -.9070 RRF -.9552 RTF .9468 CRT .1141 CR3 .7394 CST -.5826
FDE .8041 FRA 7.4223 FC-21.8659 BSP 5017 SGB 3237.9 R23 .2209 R13 -.9487 LSA 65.4 MSA 26.6 SSA .5
BDE .2384 BRA .8391 BC3 4.2129 FSP 3193 SG1 3231.6 SG2 202.7 THA 172.13 EL1 33.6 EL2 8.3 ALF 1.74

LAUNCH DATE MAY 7 1971

FLIGHT TIME 220.00

ARRIVAL DATE DEC 13 1971

HELIOCENTRIC CONIC

RL 130.94 LAL .00 LOL 225.00 VL 32.233 GAL -1.15 AZL 92.41 HCA 168.55 SMA 184.44 ECC .18269 INC 2.4084 V1 29.519
 RP 215.54 LAP -.48 LOP 34.37 VP 22.626 GAP 4.09 AZP 87.64 TAL 352.54 TAP 161.10 RCA 150.74 APO 218.14 V2 25.480
 RC 154.904 GL -25.15 GP 4.52 ZAL 109.48 ZAP 83.56 ETS 179.83 ZAE 126.58 ETE 177.09 ZAC 106.60 ETC 273.25 LVI -15.76

PLANETOCENTRIC CONIC

C3 10.156 VHL 3.187 DLA -31.88 RAL 349.84 RAD 6638.1 VEL 11.413 PTH 6.46 VHP 2.867 DPA -17.83 RAP 299.45 ECC 1.1671
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 58 2 2313.65 1.95 58.60 202.70 137.55 18 36 36 1313.7 20.03 42.18
 60.00 19 27 36 2075.30 7.54 42.48 208.04 129.71 20 2 11 1075.3 22.74 23.09
 70.00 21 36 47 1694.95 14.84 16.97 213.32 121.12 22 5 2 695.0 26.31 354.42
 74.63 23 40 11 1312.66 22.70 351.87 217.56 113.01 24 2 3 312.7 30.14 326.39
 74.63 23 40 11 1312.66 22.70 351.87 217.56 113.01 24 2 3 312.7 30.14 326.39
 74.63 23 40 11 1312.66 22.70 351.87 217.56 113.01 24 2 3 312.7 30.14 326.39
 110.00 2 40 10 6029.81 14.84 283.79 213.32 121.12 4 20 39 5029.8 26.31 261.24

DIFFERENTIAL CORRECTIONS

TDE -.2249 TRA .9095 TC3-4.3413 BAU .5953
 RDE -.0759 RRA -.1532 RC3 .6128 FAU .25165
 FDE .8278 FRA 7.4694 FC-21.4515 BSP 5356
 BDE .2374 BRA .9223 BC3 4.3843 FSP 3168

MID-COURSE EXECUTION ACCURACY

SGT 3395.2 SGR 525.7 SG3 1810.8
 RRT -.9245 RRF -.9686 RTF .9511
 SGB 3435.7 R23 .2264 R13 -.9531
 SG1 3430.0 SG2 198.4 THA 171.83

ORBIT DETERMINATION ACCURACY

ST 35.5 SR 8.4 SS 61.8
 CRT -.0168 CRS .7987 CST -.6135
 LSA 66.6 MSA 26.8 SSA .4
 EL1 35.5 EL2 8.4 ALF 179.76

LAUNCH DATE MAY 7 1971

FLIGHT TIME 222.00

ARRIVAL DATE DEC 15 1971

HELIOCENTRIC CONIC

RL 130.94 LAL .00 LOL 225.00 VL 32.236 GAL -1.20 AZL 92.47 HCA 169.72 SMA 184.49 ECC .18301 INC 2.4739 V1 29.519
 RP 215.87 LAP -.44 LOP 35.53 VP 22.588 GAP 3.93 AZP 87.57 TAL 352.22 TAP 161.94 RCA 150.73 APO 218.26 V2 25.443
 RC 157.388 GL -25.66 GP 5.01 ZAL 109.86 ZAP 81.76 ETS 180.03 ZAE 124.67 ETE 176.98 ZAC 107.13 ETC 273.10 LVI -15.98

PLANETOCENTRIC CONIC

C3 10.324 VHL 3.213 DLA -32.13 RAL 350.60 RAD 6638.2 VEL 11.420 PTH 6.47 VHP 2.875 DPA -17.47 RAP 298.70 ECC 1.1699
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 2 38 2310.87 2.09 58.48 203.72 137.54 18 41 8 1310.9 20.16 42.05
 60.00 19 33 4 2070.16 7.76 42.23 209.14 129.67 20 7 34 1070.2 22.94 22.80
 70.00 21 45 7 1681.36 15.31 16.20 214.58 120.91 22 13 8 681.4 26.66 353.92
 74.07 23 39 28 1327.69 22.78 353.05 218.62 113.30 24 1 35 327.7 30.33 327.58
 74.07 23 39 28 1327.69 22.78 353.05 218.62 113.30 24 1 35 327.7 30.33 327.58
 74.07 23 39 28 1327.69 22.78 353.05 218.62 113.30 24 1 35 327.7 30.33 327.58
 110.00 2 48 29 6016.22 15.31 283.03 214.58 120.91 4 28 45 5016.2 26.66 260.34

DIFFERENTIAL CORRECTIONS

TDE -.2240 TRA .9948 TC3-4.4884 BAU .6260
 RDE -.0729 RRA -.1769 RC3 .6510 FAU .24968
 FDE .8689 FRA 7.5110 FC-20.9363 BSP 5724
 BDE .2355 BRA 1.0104 BC3 4.3353 FSP 3156

MID-COURSE EXECUTION ACCURACY

SGT 3587.1 SGR 575.1 SG3 1799.0
 RRT -.9381 RRF -.9790 RTF .9549
 SGB 3632.9 R23 .2324 R13 -.9568
 SG1 3627.6 SG2 196.9 THA 171.42

ORBIT DETERMINATION ACCURACY

ST 37.5 SR 8.6 SS 62.2
 CRT -.1506 CRS .8560 CST -.6388
 LSA 67.9 MSA 27.1 SSA .4
 EL1 37.5 EL2 8.5 ALF 177.91

LAUNCH DATE MAY 7 1971

FLIGHT TIME 224.00

ARRIVAL DATE DEC 17 1971

HELIOCENTRIC CONIC

RL 130.94 LAL .00 LOL 225.00 VL 32.239 GAL -1.25 AZL 92.56 HCA 170.88 SMA 184.55 ECC .18338 INC 2.5558 V1 29.519
 RP 216.21 LAP -.41 LOP 36.69 VP 22.590 GAP 3.77 AZP 87.48 TAL 351.89 TAP 162.77 RCA 150.71 APO 218.39 V2 25.405
 RC 159.881 GL -26.29 GP 5.81 ZAL 110.23 ZAP 80.01 ETS 180.28 ZAE 122.79 ETE 176.83 ZAC 107.77 ETC 272.96 LVI -16.32

PLANETOCENTRIC CONIC

C3 10.525 VHL 3.244 DLA -32.49 RAL 351.45 RAD 6638.3 VEL 11.429 PTH 6.48 VHP 2.885 DPA -16.98 RAP 297.96 ECC 1.1732
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 8 16 2305.92 2.34 58.28 204.91 137.53 18 46 42 1305.9 20.39 41.81
 60.00 19 40 2 2061.70 8.13 41.82 210.43 129.61 20 14 23 1061.7 23.26 22.32
 70.00 21 56 45 1658.99 16.09 14.94 216.14 120.54 22 24 24 659.0 27.23 352.03
 73.29 23 37 39 1347.71 22.92 354.65 219.85 113.69 24 0 7 347.7 30.62 329.18
 73.29 23 37 39 1347.71 22.92 354.65 219.85 113.69 24 0 7 347.7 30.62 329.18
 73.29 23 37 39 1347.71 22.92 354.65 219.85 113.69 24 0 7 347.7 30.62 329.18
 110.00 3 0 7 5993.85 16.09 281.76 216.14 120.54 4 40 1 4993.9 27.23 258.85

DIFFERENTIAL CORRECTIONS

TDE -.2238 TRA 1.0843 TC3-4.6114 BAU .6582
 RDE -.0706 RRA -.2038 RC3 .6960 FAU .24659
 FDE .9107 FRA 7.5476 FC-20.2828 BSP 6105
 BDE .2347 BRA 1.1037 BC3 4.6636 FSP 3138

MID-COURSE EXECUTION ACCURACY

SGT 3776.8 SGR 636.6 SG3 1782.3
 RRT -.9485 RRF -.9885 RTF .578
 SGB 3830.0 R23 .2383 R13 -.9598
 SG1 3824.9 SG2 199.0 THA 170.89

ORBIT DETERMINATION ACCURACY

ST 39.6 SR 9.0 SS 62.6
 CRT -.2802 CRS .9053 CST -.8604
 LSA 69.4 MSA 27.5 SSA .3
 EL1 39.7 EL2 8.6 ALF 176.18

LAUNCH DATE MAY 7 1971

FLIGHT TIME 226.00

ARRIVAL DATE DEC 19 1971

HELIOCENTRIC CONIC

RL 130.94 LAL .00 LOL 225.00 VL 32.243 GAL -1.31 AZL 92.66 HCA 172.04 SMA 184.62 ECC .18378 INC 2.6595 V1 29.519
 RP 216.56 LAP -.37 LOP 37.85 VP 22.512 GAP 3.61 AZP 87.37 TAL 351.55 TAP 163.59 RCA 150.69 APO 218.54 V2 25.388
 RC 162.390 GL -27.12 GP 6.38 ZAL 110.56 ZAP 78.31 ETS 180.59 ZAE 120.94 ETE 176.61 ZAC 108.58 ETC 272.83 LVI -16.82

PLANETOCENTRIC CONIC

C3 10.772 VHL 3.282 DLA -33.02 RAL 352.41 RAD 6638.4 VEL 11.439 PTH 6.49 VHP 2.900 DPA -16.32 RAP 297.24 ECC 1.1773
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 15 26 2297.76 2.75 57.94 206.33 137.52 18 53 44 1297.8 20.78 41.41
 60.00 19 49 13 2048.18 8.71 41.16 212.02 129.51 20 23 21 1048.2 23.77 21.54
 70.00 22 14 21 1620.40 17.41 12.73 218.18 119.86 22 41 21 620.4 28.16 349.42
 72.21 23 34 31 1374.04 23.13 356.77 221.29 114.24 23 57 25 374.0 31.04 331.30
 72.21 23 34 31 1374.04 23.13 356.77 221.29 114.24 23 57 25 374.0 31.04 331.30
 72.21 23 34 31 1374.04 23.13 356.77 221.29 114.24 23 57 25 374.0 31.04 331.30
 110.00 3 17 43 5955.26 17.41 279.55 218.18 119.86 4 56 59 4955.3 28.16 256.24

DIFFERENTIAL CORRECTIONS

TDE -.2340 TRA 1.1700 TC3-4.7351 BAU .6906
 RDE -.0680 RRA -.2407 RC3 .7562 FAU .24448
 FDE .9146 FRA 7.5379 FC-19.6479 BSP 6395
 BDE .2437 BRA 1.1945 BC3 4.7951 FSP 3077

MID-COURSE EXECUTION ACCURACY

SGT 3970.0 SGR 715.3 SG3 1760.5
 RRT -.9561 RRF -.9919 RTF .9601
 SGB 4033.9 R23 .2439 R13 -.9623
 SG1 4028.7 SG2 206.5 THA 170.20

ORBIT DETERMINATION ACCURACY

ST 42.1 SR 9.6 SS 62.5
 CRT -.3878 CRS .9427 CST -.6723
 LSA 70.5 MSA 28.3 SSA .3
 EL1 42.3 EL2 8.8 ALF 174.72

LAUNCH DATE MAY 7 1971

FLIGHT TIME 220.00

ARRIVAL DATE DEC 21 1971

Heliocentric Conic: RL 150.94 LAL .00 LOL 225.80 VL 32.248 GAL -1.37 AZL 92.80 HCA 173.19 SMA 104.69 ECC .18422 INC 2.7989 V1 29.519
 RP 216.91 LAP -.33 LOP 39.00 VP 22.475 GAP 3.45 AZP 87.22 TAL 351.20 TAP 164.39 RCA 150.67 APO 218.71 V2 25.327
 RC 164.912 GL -28.23 GP 7.40 ZAL 110.84 ZAP 78.67 ETS 181.01 ZAE 119.12 ETE 176.30 ZAC 109.63 ETC 272.72 LVI -17.57

Distance 538.410 Earth to Mars

Planetocentric Conic: C3 11.088 VHL 3.330 DLA -33.78 RAL 353.55 RAD 6638.6 VEL 11.453 PTH 6.50 VHP 2.919 DPA -15.40 RAP 296.53 ECC 1.1825
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 24 58 2284.66 3.40 57.39 208.12 137.46 19 3 3 1284.7 21.39 40.78
 60.00 20 1 56 2026.53 9.65 40.10 214.05 129.32 20 35 42 1026.5 24.58 20.28
 70.00 22 47 13 1538.52 20.12 7.92 221.27 118.20 23 12 51 538.5 29.95 343.72
 70.71 23 29 41 1408.73 23.46 359.62 223.08 115.03 23 53 10 408.7 31.66 334.14
 70.71 23 29 41 1408.73 23.46 359.62 223.08 115.03 23 53 10 408.7 31.66 334.14
 70.71 23 29 41 1408.73 23.46 359.62 223.08 115.03 23 53 10 408.7 31.66 334.14
 110.00 3 50 35 5873.38 20.12 274.75 221.27 118.20 5 28 28 4873.4 29.95 290.54

Differential Corrections: TDE -.2453 TRA 1.2643 TC3-4.8109 BAU .7237 SGT 4158.6 SGR 819.2 SG3 1733.1 ST 44.8 SR 10.6 SS 62.5
 RDE -.0689 RRA -.2866 RC3 .8305 FAU .24085 RRT -.9617 RRF -.9955 RTF .9620 CRT -.4869 CR8 .9703 CST -.6829
 FDE .9278 FRA 7.5296 FC-18.8050 B8P 6742 SGB 4238.5 R23 .2469 R13 -.9645 LSA 72.0 MSA 29.1 S8A .2
 BDE .2542 BRA 1.2964 BC3 4.8821 F8P 3029 SG1 4232.7 SG2 220.6 THA 189.24 EL1 45.1 EL2 9.2 ALF 173.13

Mid-course Execution Accuracy: SGT 4158.6 SGR 819.2 SG3 1733.1
 RRT -.9617 RRF -.9955 RTF .9620
 SGB 4238.5 R23 .2469 R13 -.9645
 SG1 4232.7 SG2 220.6 THA 189.24

Orbit Determination Accuracy: ST 44.8 SR 10.6 SS 62.5
 CRT -.4869 CR8 .9703 CST -.6829
 LSA 72.0 MSA 29.1 S8A .2
 EL1 45.1 EL2 9.2 ALF 173.13

LAUNCH DATE MAY 7 1971

FLIGHT TIME 230.00

ARRIVAL DATE DEC 23 1971

Heliocentric Conic: RL 150.94 LAL .00 LOL 225.80 VL 32.252 GAL -1.42 AZL 93.00 HCA 174.34 SMA 104.77 ECC .18469 INC 2.9939 V1 29.519
 RP 217.26 LAP -.30 LOP 40.15 VP 22.438 GAP 3.29 AZP 87.02 TAL 350.85 TAP 165.19 RCA 150.64 APO 218.89 V2 25.288
 RC 167.446 GL -29.77 GP 8.82 ZAL 111.02 ZAP 75.10 ETS 181.60 ZAE 117.30 ETE 175.86 ZAC 111.08 ETC 272.62 LVI -18.70

Distance 542.586 Earth to Mars

Planetocentric Conic: C3 11.517 VHL 3.394 DLA -34.92 RAL 354.98 RAD 6638.8 VEL 11.472 PTH 6.52 VHP 2.944 DPA -14.08 RAP 295.80 ECC 1.1893
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 38 25 2263.44 4.47 56.50 210.51 137.42 19 16 8 1263.4 22.39 39.73
 60.00 20 20 52 1990.59 11.19 38.32 216.87 128.97 20 54 2 990.6 25.89 18.15
 68.60 23 22 48 1454.59 23.96 3.47 225.40 116.20 23 47 3 454.6 32.59 337.98
 68.60 23 22 48 1454.59 23.96 3.47 225.40 116.20 23 47 3 454.6 32.59 337.98
 68.60 23 22 48 1454.59 23.96 3.47 225.40 116.20 23 47 3 454.6 32.59 337.98
 68.60 23 22 48 1454.59 23.96 3.47 225.40 116.20 23 47 3 454.6 32.59 337.98
 68.60 23 22 48 1454.59 23.96 3.47 225.40 116.20 23 47 3 454.6 32.59 337.98

Differential Corrections: TDE -.2711 TRA 1.3576 TC3-4.8588 BAU .7621 SGT 4347.4 SGR 962.5 SG3 1696.5 ST 48.0 SR 12.0 SS 61.2
 RDE -.0635 RRA -.3454 RC3 .9424 FAU .24039 RRT -.9675 RRF -.9977 RTF .9661 CRT -.5724 CR3 .9869 CST -.6967
 FDE .8494 FRA 7.4148 FC-18.0699 B8P 7004 SGB 4452.7 R23 .2381 R13 -.9689 LSA 72.9 MSA 29.7 S8A .2
 BDE .2785 BRA 1.4009 BC3 4.9493 F8P 2879 SG1 4446.3 SG2 237.9 THA 167.87 EL1 48.5 EL2 9.7 ALF 171.33

Mid-course Execution Accuracy: SGT 4347.4 SGR 962.5 SG3 1696.5
 RRT -.9675 RRF -.9977 RTF .9661
 SGB 4452.7 R23 .2381 R13 -.9689
 SG1 4446.3 SG2 237.9 THA 167.87

Orbit Determination Accuracy: ST 48.0 SR 12.0 SS 61.2
 CRT -.5724 CR3 .9869 CST -.6967
 LSA 72.9 MSA 29.7 S8A .2
 EL1 48.5 EL2 9.7 ALF 171.33

LAUNCH DATE MAY 7 1971

FLIGHT TIME 232.00

ARRIVAL DATE DEC 25 1971

Heliocentric Conic: RL 150.94 LAL .00 LOL 225.80 VL 32.257 GAL -1.48 AZL 93.29 HCA 175.49 SMA 104.85 ECC .18520 INC 3.2864 V1 29.519
 RP 217.61 LAP -.26 LOP 41.30 VP 22.401 GAP 3.13 AZP 86.72 TAL 350.48 TAP 165.97 RCA 150.62 APO 219.09 V2 25.249
 RC 169.992 GL -32.05 GP 10.93 ZAL 111.03 ZAP 73.65 ETS 182.46 ZAE 115.49 ETE 175.18 ZAC 113.20 ETC 272.56 LVI -20.48

Distance 546.757 Earth to Mars

Planetocentric Conic: C3 12.160 VHL 3.487 DLA -36.69 RAL 356.85 RAD 6639.1 VEL 11.499 PTH 6.55 VHP 2.981 DPA -12.07 RAP 295.02 ECC 1.2001
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 59 1 2228.03 6.24 55.00 214.03 137.26 19 36 9 1228.0 24.02 37.96
 60.00 20 52 36 1925.31 13.97 35.03 221.27 128.20 21 24 42 925.3 28.19 14.15
 65.59 23 13 42 1515.82 24.72 8.78 228.68 118.02 23 38 58 515.8 34.01 343.29
 65.59 23 13 42 1515.82 24.72 8.78 228.68 118.02 23 38 58 515.8 34.01 343.29
 65.59 23 13 42 1515.82 24.72 8.78 228.68 118.02 23 38 58 515.8 34.01 343.29
 65.59 23 13 42 1515.82 24.72 8.78 228.68 118.02 23 38 58 515.8 34.01 343.29
 65.59 23 13 42 1515.82 24.72 8.78 228.68 118.02 23 38 58 515.8 34.01 343.29

Differential Corrections: TDE -.3116 TRA 1.4593 TC3-4.8308 BAU .8048 SGT 4533.5 SGR 1172.4 SG3 1646.7 ST 51.9 SR 14.4 SS 60.7
 RDE -.0647 RRA -.4343 RC3 1.0831 FAU .23546 RRT -.9894 RRF -.9990 RTF .9665 CRT -.6265 CR8 .9964 CST -.6887
 FDE .8282 FRA 7.3158 FC-16.7628 B8P 7250 SGB 4602.6 R23 .2381 R13 -.9702 LSA 74.8 MSA 31.5 S8A .1
 BDE .3183 BRA 1.5226 BC3 4.9506 F8P 2768 SG1 4674.3 SG2 279.1 THA 165.87 EL1 52.7 EL2 11.1 ALF 169.66

Mid-course Execution Accuracy: SGT 4533.5 SGR 1172.4 SG3 1646.7
 RRT -.9894 RRF -.9990 RTF .9665
 SGB 4602.6 R23 .2381 R13 -.9702
 SG1 4674.3 SG2 279.1 THA 165.87

Orbit Determination Accuracy: ST 51.9 SR 14.4 SS 60.7
 CRT -.6265 CR8 .9964 CST -.6887
 LSA 74.8 MSA 31.5 S8A .1
 EL1 52.7 EL2 11.1 ALF 169.66

LAUNCH DATE MAY 7 1971

FLIGHT TIME 234.00

ARRIVAL DATE DEC 27 1971

Heliocentric Conic: RL 150.94 LAL .00 LOL 225.80 VL 32.263 GAL -1.55 AZL 93.78 HCA 176.63 SMA 104.94 ECC .18575 INC 3.7819 V1 29.519
 RP 217.97 LAP -.22 LOP 42.44 VP 22.364 GAP 2.98 AZP 86.23 TAL 350.11 TAP 166.74 RCA 150.59 APO 219.30 V2 25.209
 RC 172.547 GL -35.71 GP 14.37 ZAL 110.67 ZAP 72.41 ETS 183.85 ZAE 113.61 ETE 174.04 ZAC 116.66 ETC 272.54 LVI -23.50

Distance 550.924 Earth to Mars

Planetocentric Conic: C3 13.281 VHL 3.644 DLA -39.61 RAL 359.75 RAD 6639.7 VEL 11.548 PTH 6.59 VHP 3.045 DPA -8.73 RAP 294.12 ECC 1.2186
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 35 28 2163.08 9.48 52.23 220.12 136.85 20 11 29 1163.1 26.96 34.57
 60.00 22 7 45 1755.34 20.90 26.03 230.39 125.27 22 37 0 755.3 33.46 2.85
 61.02 23 2 34 1600.39 25.85 16.45 233.91 121.13 23 29 14 600.4 36.28 351.04
 61.02 23 2 34 1600.39 25.85 16.45 233.91 121.13 23 29 14 600.4 36.28 351.04
 61.02 23 2 34 1600.39 25.85 16.45 233.91 121.13 23 29 14 600.4 36.28 351.04
 61.02 23 2 34 1600.39 25.85 16.45 233.91 121.13 23 29 14 600.4 36.28 351.04
 61.02 23 2 34 1600.39 25.85 16.45 233.91 121.13 23 29 14 600.4 36.28 351.04

Differential Corrections: TDE -.3302 TRA 1.6227 TC3-4.5241 BAU .8329 SGT 4702.1 SGR 1512.9 SG3 1571.0 ST 56.3 SR 19.3 SS 61.9
 RDE -.0844 RRA -.5907 RC3 1.2408 FAU .21999 RRT -.9707 RRF -.9996 RTF .9671 CRT -.6744 CR8 .9998 CST -.6892
 FDE .9710 FRA 7.2516 FC-14.3404 B8P 8116 SGB 4939.5 R23 .2317 R13 -.9725 LSA 79.0 MSA 33.5 S8A .1
 BDE .3408 BRA 1.7269 BC3 4.6911 F8P 2770 SG1 4927.3 SG2 346.8 THA 162.57 EL1 57.9 EL2 13.9 ALF 166.16

Mid-course Execution Accuracy: SGT 4702.1 SGR 1512.9 SG3 1571.0
 RRT -.9707 RRF -.9996 RTF .9671
 SGB 4939.5 R23 .2317 R13 -.9725
 SG1 4927.3 SG2 346.8 THA 162.57

Orbit Determination Accuracy: ST 56.3 SR 19.3 SS 61.9
 CRT -.6744 CR8 .9998 CST -.6892
 LSA 79.0 MSA 33.5 S8A .1
 EL1 57.9 EL2 13.9 ALF 166.16

LAUNCH DATE MAY 7 1971 FLIGHT TIME 236.00 ARRIVAL DATE DEC 29 1971

Table with columns: Heliocentric Conic (RL, RP, RC), Planetocentric Conic (C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT, ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG), Differential Corrections (TDE, RDE, FDE, BDE), Mid-Course Execution Accuracy (SCT, RRT, SGB, SGT, RRT, SGB), and Orbit Determination Accuracy (ST, CRT, LSA, EL1, EL2).

LAUNCH DATE MAY 7 1971 FLIGHT TIME 236.00 ARRIVAL DATE DEC 31 1971

Table with columns: Heliocentric Conic (RL, RP, RC), Planetocentric Conic (C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT, ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG), Differential Corrections (TDE, RDE, FDE, BDE), Mid-Course Execution Accuracy (SCT, RRT, SGB, SGT, RRT, SGB), and Orbit Determination Accuracy (ST, CRT, LSA, EL1, EL2).

LAUNCH DATE MAY 7 1971 FLIGHT TIME 242.00 ARRIVAL DATE JAN 4 1972

Table with columns: Heliocentric Conic (RL, RP, RC), Planetocentric Conic (C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT, ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG), Differential Corrections (TDE, RDE, FDE, BDE), Mid-Course Execution Accuracy (SCT, RRT, SGB, SGT, RRT, SGB), and Orbit Determination Accuracy (ST, CRT, LSA, EL1, EL2).

LAUNCH DATE MAY 7 1971 FLIGHT TIME 244.00 ARRIVAL DATE JAN 6 1972

Table with columns: Heliocentric Conic (RL, RP, RC), Planetocentric Conic (C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT, ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG), Differential Corrections (TDE, RDE, FDE, BDE), Mid-Course Execution Accuracy (SCT, RRT, SGB, SGT, RRT, SGB), and Orbit Determination Accuracy (ST, CRT, LSA, EL1, EL2).

LAUNCH DATE MAY 7 1971

FLIGHT TIME 246.00

ARRIVAL DATE JAN 8 1972

HELIOCENTRIC CONIC

RL 130.94 LAL .00 LOL 228.80 VL 32.302 GAL -1.95 AZL 89.94 HCA 183.42 BMA 185.89 ECC .10967 INC .0000 V1 29.519

DISTANCE 578.864

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 9.958 VHL 3.156 DLA -5.52 RAL 345.80 RAD 6838.0 VEL 11.404 PTH 6.46 VHP 3.103 DPA -36.48 RAP 297.31 ECC 1.1639

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 7 1971

FLIGHT TIME 248.00

ARRIVAL DATE JAN 10 1972

HELIOCENTRIC CONIC

RL 130.94 LAL .00 LOL 225.60 VL 32.308 GAL -2.02 AZL 90.41 HCA 184.53 BMA 189.71 ECC .10043 INC .4060 V1 29.519

DISTANCE 580.005

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 10.164 VHL 3.108 DLA -9.69 RAL 347.94 RAD 6838.1 VEL 11.413 PTH 6.46 VHP 3.146 DPA -33.24 RAP 296.41 ECC 1.1673

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 7 1971

FLIGHT TIME 250.00

ARRIVAL DATE JAN 12 1972

HELIOCENTRIC CONIC

RL 130.94 LAL .00 LOL 225.80 VL 32.317 GAL -2.10 AZL 90.69 HCA 185.64 BMA 189.84 ECC .10121 INC .6008 V1 29.519

DISTANCE 584.144

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 10.422 VHL 3.228 DLA -12.03 RAL 349.83 RAD 6838.3 VEL 11.424 PTH 6.46 VHP 3.151 DPA -31.25 RAP 295.87 ECC 1.1719

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 7 1971

FLIGHT TIME 252.00

ARRIVAL DATE JAN 14 1972

HELIOCENTRIC CONIC

RL 130.94 LAL .00 LOL 225.80 VL 32.324 GAL -2.17 AZL 90.88 HCA 186.75 BMA 189.97 ECC .10201 INC .8805 V1 29.519

DISTANCE 588.277

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 10.683 VHL 3.288 DLA -13.46 RAL 350.98 RAD 6838.4 VEL 11.436 PTH 6.49 VHP 3.167 DPA -29.90 RAP 295.83 ECC 1.1758

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 7 1971

FLIGHT TIME 264.00

ARRIVAL DATE JAN 16 1972

HELIOCENTRIC CONIC
 RL 150.94 LAL .00 LOL 225.80 VL 32.332 GAL -2.25 AZL 91.02 HCA 187.86 SMA 186.11 ECC .19284 INC 1.0195 V1 29.519
 RP 221.89 LAP .14 LOP 53.66 VP 22.004 GAP 1.46 AZP 88.09 TAL 348.99 TAP 173.89 RCA 150.22 APO 222.00 V2 24.801
 RC 198.621 GL -10.03 GP -9.76 ZAL 120.68 ZAP 56.77 E7B 175.65 ZAE 98.93 E7E 181.33 ZAC 96.66 E7C 271.73 LVI -4.13

DISTANCE 892.403 EARTH TO MARS

PLANETOCENTRIC CONIC
 CS 10.939 VHL 3.307 DLA -14.36 RAL 352.04 RAD 6830.5 VEL 11.447 PTH 6.50 VHP 3.187 DPA -26.92 RAP 295.30 ECC 1.1800
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 42 38 2711.39 -17.78 78.76 202.61 134.89 17 27 47 1711.4 .42 59.59
 60.00 17 38 17 2563.29 -13.73 86.16 206.34 128.27 18 21 0 1563.3 2.25 48.02
 70.00 18 48 52 2353.78 -9.91 92.11 209.13 122.85 19 28 8 1355.8 4.00 32.92
 80.00 20 14 22 2088.17 -7.01 93.56 210.89 119.10 20 49 10 1088.2 5.36 13.04
 90.00 21 43 29 1800.62 -5.89 93.03 211.50 117.71 22 13 30 800.6 5.88 382.19
 100.00 22 37 14 1582.64 -7.01 954.93 210.89 119.10 23 23 16 562.6 5.36 334.41
 110.00 23 48 18 1402.60 -9.91 341.03 209.13 122.85 24 11 41 402.6 4.00 321.44

MID-COURSE EXECUTION ACCURACY
 86T 6376.8 SGR 474.3 8G3 1412.8
 RRT .9428 RRF .9774 RTF .9718
 86B 6394.4 R23 .1823 R13 .9721
 86I 6392.4 8G2 188.1 THA 4.01

ORBIT DETERMINATION ACCURACY
 8T 77.2 8R 11.5 88 76.8
 CRT .8832 CR8 -.9511 C8T -.9844
 L8A 109.0 M8A 10.6 88A .7
 EL1 77.9 EL2 5.4 ALF 7.54

LAUNCH DATE MAY 7 1971

FLIGHT TIME 256.00

ARRIVAL DATE JAN 16 1972

HELIOCENTRIC CONIC
 RL 150.94 LAL .00 LOL 225.80 VL 32.340 GAL -2.33 AZL 91.12 HCA 188.98 SMA 186.24 ECC .19370 INC 1.1228 V1 29.519
 RP 222.07 LAP .17 LOP 54.76 VP 21.988 GAP 1.31 AZP 88.89 TAL 345.85 TAP 174.51 RCA 150.17 APO 222.32 V2 24.789
 RC 201.270 GL -10.92 GP -5.01 ZAL 121.16 ZAP 57.63 E7B 175.97 ZAE 97.64 E7E 181.09 ZAC 97.41 E7C 271.73 LVI -4.83

DISTANCE 596.528 EARTH TO MARS

PLANETOCENTRIC CONIC
 CS 11.191 VHL 3.348 DLA -14.94 RAL 352.98 RAD 6830.7 VEL 11.458 PTH 6.51 VHP 3.211 DPA -26.18 RAP 295.16 ECC 1.1842
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 48 41 2704.24 -17.44 78.43 203.77 135.00 17 33 45 1704.2 .78 59.30
 60.00 17 45 6 2554.18 -13.34 85.69 207.56 128.39 18 27 40 1554.2 2.65 47.58
 70.00 18 56 34 2344.09 -9.48 91.49 210.58 122.97 19 35 38 1344.1 4.45 31.91
 80.00 20 22 57 2073.70 -6.83 92.75 212.18 119.20 20 57 31 1073.7 5.84 12.24
 90.00 21 52 30 1784.82 -5.39 92.14 212.80 117.80 22 22 15 784.8 6.38 381.30
 100.00 23 5 49 1548.18 -6.55 384.12 212.18 119.20 23 31 37 548.2 5.84 333.61
 110.00 23 56 1 1380.90 -9.48 340.40 210.58 122.97 24 19 12 380.9 4.45 320.82

MID-COURSE EXECUTION ACCURACY
 86T 6830.2 SGR 402.3 8G3 1386.7
 RRT .9231 RRF .9593 RTF .9725
 86B 6842.6 R23 .1588 R13 .9727
 86I 6840.8 8G2 154.5 THA 3.28

ORBIT DETERMINATION ACCURACY
 8T 78.9 8R 10.8 88 75.7
 CRT .8399 CR8 -.9263 C8T -.9821
 L8A 109.3 M8A 11.5 88A .7
 EL1 79.4 EL2 5.8 ALF 6.97

LAUNCH DATE MAY 7 1971

FLIGHT TIME 258.00

ARRIVAL DATE JAN 20 1972

HELIOCENTRIC CONIC
 RL 150.94 LAL .00 LOL 225.80 VL 32.348 GAL -2.41 AZL 91.20 HCA 190.06 SMA 186.38 ECC .19458 INC 1.2029 V1 29.519
 RP 222.48 LAP .21 LOP 55.86 VP 21.934 GAP 1.17 AZP 88.81 TAL 343.11 TAP 175.18 RCA 150.12 APO 222.63 V2 24.717
 RC 203.922 GL -11.59 GP -4.42 ZAL 121.68 ZAP 56.53 E7B 176.22 ZAE 96.38 E7E 180.91 ZAC 97.99 E7C 271.74 LVI -5.38

DISTANCE 600.644 EARTH TO MARS

PLANETOCENTRIC CONIC
 CS 11.441 VHL 3.383 DLA -15.30 RAL 353.84 RAD 6830.8 VEL 11.466 PTH 6.52 VHP 3.236 DPA -27.60 RAP 295.09 ECC 1.1883
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 53 32 2701.42 -17.30 78.30 204.85 135.04 17 38 34 1701.4 .92 59.18
 60.00 17 50 26 2550.13 -13.17 85.49 208.67 128.44 18 32 56 1550.1 2.83 47.39
 70.00 19 2 27 2338.39 -9.27 91.18 211.53 123.02 19 41 26 1338.4 4.67 31.61
 80.00 20 29 24 2066.24 -6.28 92.34 213.35 119.25 21 3 50 1066.2 6.09 11.83
 90.00 21 59 13 1776.48 -5.12 91.67 213.98 117.85 22 28 50 776.5 6.65 350.82
 100.00 23 12 16 1540.71 -6.28 393.71 213.35 119.25 23 37 57 540.7 6.09 333.19
 110.00 0 5 49 1385.21 -9.27 340.10 211.53 123.02 0 28 55 385.2 4.67 320.52

MID-COURSE EXECUTION ACCURACY
 86T 6878.7 SGR 350.1 8G3 1362.0
 RRT .9909 RRF .9318 RTF .9707
 86B 6887.9 R23 .1464 R13 .9709
 86I 6886.0 8G2 158.8 THA 2.68

ORBIT DETERMINATION ACCURACY
 8T 81.8 8R 10.5 88 76.8
 CRT .8009 CR8 -.9031 C8T -.9800
 L8A 111.8 M8A 12.4 88A .7
 EL1 82.3 EL2 6.2 ALF 5.90

LAUNCH DATE MAY 7 1971

FLIGHT TIME 260.00

ARRIVAL DATE JAN 22 1972

HELIOCENTRIC CONIC
 RL 150.94 LAL .00 LOL 225.80 VL 32.387 GAL -2.48 AZL 91.27 HCA 191.18 SMA 186.83 ECC .19549 INC 1.2673 V1 29.519
 RP 222.84 LAP .25 LOP 56.98 VP 21.900 GAP 1.02 AZP 88.78 TAL 344.88 TAP 175.81 RCA 150.06 APO 222.99 V2 24.678
 RC 206.578 GL -12.08 GP -3.86 ZAL 122.21 ZAP 55.47 E7B 176.43 ZAE 95.14 E7E 180.77 ZAC 98.46 E7C 271.76 LVI -5.83

DISTANCE 604.761 EARTH TO MARS

PLANETOCENTRIC CONIC
 CS 11.690 VHL 3.419 DLA -15.81 RAL 354.82 RAD 6830.9 VEL 11.479 PTH 6.83 VHP 3.263 DPA -27.13 RAP 295.07 ECC 1.1924
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 57 30 2701.52 -17.31 79.31 205.85 135.04 17 42 32 1701.5 .91 59.18
 60.00 17 54 40 2549.90 -13.14 85.46 209.70 128.45 18 37 10 1549.5 2.85 47.36
 70.00 19 7 2 2336.78 -9.21 91.09 212.58 123.04 19 45 59 1336.8 4.73 31.52
 80.00 20 34 19 2063.56 -6.19 92.19 214.42 119.27 21 8 43 1063.6 6.18 11.68
 90.00 22 4 18 1773.29 -5.02 91.49 215.06 117.87 22 33 51 773.3 6.75 350.64
 100.00 23 17 11 1538.03 -6.19 393.56 214.42 119.27 23 42 49 538.0 6.18 333.05
 110.00 0 10 24 1383.60 -9.21 340.01 212.58 123.04 0 33 28 383.6 4.73 320.44

MID-COURSE EXECUTION ACCURACY
 86T 6829.5 SGR 310.1 8G3 1332.6
 RRT .8514 RRF .8920 RTF .9725
 86B 6836.6 R23 .1211 R13 .9726
 86I 6834.8 8G2 182.5 THA 2.22

ORBIT DETERMINATION ACCURACY
 8T 83.4 8R 10.2 88 74.7
 CRT .7555 CR8 -.8719 C8T -.9791
 L8A 111.7 M8A 12.8 88A .8
 EL1 83.7 EL2 6.7 ALF 5.32

LAUNCH DATE MAY 7 1971

FLIGHT TIME 262.00

ARRIVAL DATE JAN 24 1972

HELIOCENTRIC CONIC

RL 150.94 LAL .00 LOL 225.80 VL 32.366 GAL -2.37 AZL 91.32 HCA 192.24 SMA 186.67 ECC .19641 INC 1.3214 V1 29.519
 RP 223.23 LAP .28 LOP 56.04 VP 21.865 GAP .87 AZP 88.71 TAL 344.21 TAP 176.45 RCA 150.01 APO 223.34 V2 24.633
 RC 209.236 GL -12.46 GP -3.57 ZAL 122.75 ZAP 54.45 ETS 176.60 ZAE 93.92 ETE 180.66 ZAC 98.84 ETC 271.78 LVI -6.22

DISTANCE 608.870

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 11.940 VHL 3.455 DLA -15.61 RAL 355.35 RAD 6639.0 VEL 11.490 PTH 6.54 VHP 3.290 DPA -26.74 RAP 295.09 ECC 1.1965
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 0 50 2703.85 -17.42 75.41 206.80 135.01 17 45 54 1703.9 .79 59.28
 60.00 17 58 8 2551.48 -13.23 65.56 210.67 128.42 18 40 40 1551.5 2.77 47.45
 70.00 19 10 39 2338.28 -9.26 51.17 213.58 123.02 19 49 38 1338.3 4.67 31.60
 80.00 20 38 7 2084.55 -6.23 32.24 215.43 119.26 21 12 31 1064.5 6.14 11.73
 90.00 22 8 10 1774.02 -5.04 11.53 216.08 117.86 22 37 44 774.0 6.72 350.68
 100.00 23 20 59 1539.02 -6.23 353.61 215.43 119.26 23 46 38 939.0 6.14 333.10
 110.00 0 14 2 1385.10 -9.26 340.09 213.58 123.02 0 37 7 385.1 4.67 320.52

DIFFERENTIAL CORRECTIONS

TDE .5986 TRA 2.7166 TC3-7.3454 BAU 1.1730
 RDE .1209 RRA .0746 RC3 -.2188 FAU .16846
 FDE 2.3066 FRA 6.9265 FC-12.2148 BSP 11850
 BDE .6107 BRA 2.7176 BC3 7.3487 FSP 2358

MID-COURSE EXECUTION ACCURACY

SGT 6973.5 SGR 282.0 SG3 1304.9
 RRT .7966 RRF .8390 RTF .9725
 SGB 6979.1 R23 .1057 R13 .9726
 SG1 6977.1 SG2 170.4 THA 1.85

ORBIT DETERMINATION ACCURACY

ST 86.3 SR 10.2 SS 74.5
 CRT .7201 CRS -.8459 CST -.9787
 LSA 113.7 MSA 13.2 SSA .8
 EL1 86.6 EL2 7.1 ALF 4.90

LAUNCH DATE MAY 7 1971

FLIGHT TIME 264.00

ARRIVAL DATE JAN 26 1972

HELIOCENTRIC CONIC

RL 150.94 LAL .00 LOL 225.80 VL 32.374 GAL -2.66 AZL 91.37 HCA 193.33 SMA 186.82 ECC .19736 INC 1.3652 V1 29.519
 RP 223.62 LAP .31 LOP 59.13 VP 21.831 GAP .72 AZP 88.67 TAL 343.75 TAP 177.08 RCA 149.95 APO 223.69 V2 24.592
 RC 211.896 GL -12.75 GP -3.25 ZAL 123.31 ZAP 53.47 ETS 176.75 ZAE 92.73 ETE 180.57 ZAC 99.15 ETC 271.82 LVI -6.56

DISTANCE 612.973

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 12.192 VHL 3.492 DLA -15.63 RAL 356.04 RAD 6639.2 VEL 11.501 PTH 6.55 VHP 3.319 DPA -26.40 RAP 295.17 ECC 1.2007
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 3 41 2707.84 -17.61 75.60 207.72 134.95 17 48 48 1707.8 .59 59.45
 60.00 18 1 0 2555.39 -13.39 65.76 211.61 128.37 18 43 36 1555.4 2.60 47.64
 70.00 19 13 33 2342.10 -9.40 51.38 214.53 122.99 19 52 36 1342.1 4.52 31.80
 80.00 20 41 3 2088.26 -6.35 32.45 216.39 119.24 21 15 31 1068.3 6.02 11.94
 90.00 22 11 7 1777.67 -5.16 11.74 217.04 117.84 22 40 45 777.7 6.61 350.89
 100.00 23 23 55 1542.73 -6.35 353.82 216.39 119.24 23 49 37 942.7 6.02 333.31
 110.00 0 16 56 1388.91 -9.40 340.30 214.53 122.99 0 40 5 388.9 4.52 320.72

DIFFERENTIAL CORRECTIONS

TDE .6242 TRA 2.8267 TC3-7.3571 BAU 1.1996
 RDE .1245 RRA .0571 RC3 -.1909 FAU .16430
 FDE 2.3097 FRA 6.8873 FC-11.6665 BSP 12095
 BDE .6365 BRA 2.8273 BC3 7.3595 FSP 2311

MID-COURSE EXECUTION ACCURACY

SGT 7116.5 SGR 262.7 SG3 1277.0
 RRT .7291 RRF .7733 RTF .9722
 SGB 7121.4 R23 .0936 R13 .9723
 SG1 7119.1 SG2 179.7 THA 1.54

ORBIT DETERMINATION ACCURACY

ST 88.9 SR 10.3 SS 74.2
 CRT .6868 CRS -.8214 CST -.9783
 LSA 115.5 MSA 13.7 SSA .8
 EL1 89.2 EL2 7.5 ALF 4.59

LAUNCH DATE MAY 7 1971

FLIGHT TIME 266.00

ARRIVAL DATE JAN 28 1972

HELIOCENTRIC CONIC

RL 150.94 LAL .00 LOL 225.80 VL 32.383 GAL -2.74 AZL 91.40 HCA 194.41 SMA 186.97 ECC .19833 INC 1.4028 V1 29.519
 RP 224.01 LAP .35 LOP 60.21 VP 21.797 GAP .57 AZP 88.64 TAL 343.29 TAP 177.70 RCA 149.89 APO 224.05 V2 24.550
 RC 214.558 GL -12.97 GP -2.98 ZAL 123.88 ZAP 52.52 ETS 176.88 ZAE 91.56 ETE 180.49 ZAC 99.42 ETC 271.85 LVI -6.86

DISTANCE 617.071

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 12.448 VHL 3.528 DLA -15.59 RAL 356.70 RAD 6639.3 VEL 11.512 PTH 6.56 VHP 3.348 DPA -26.11 RAP 295.27 ECC 1.2049
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 6 8 2713.10 -17.88 75.84 208.60 134.86 17 51 22 1713.1 .33 59.67
 60.00 18 3 25 2560.79 -13.62 66.03 212.51 128.30 18 46 6 1580.8 2.36 47.90
 70.00 19 15 54 2347.69 -9.61 51.68 215.44 122.93 19 55 2 1347.7 4.31 32.10
 80.00 20 43 19 2074.06 -6.54 32.77 217.31 119.20 21 17 54 1074.1 5.83 12.26
 90.00 22 13 22 1783.58 -5.35 12.07 217.98 117.81 22 43 6 783.6 6.42 351.23
 100.00 23 26 11 1548.53 -6.54 354.14 217.31 119.20 23 52 0 948.5 5.83 333.63
 110.00 0 19 16 1394.51 -9.61 340.60 215.44 122.93 0 42 31 394.5 4.31 321.01

DIFFERENTIAL CORRECTIONS

TDE .6532 TRA 2.9378 TC3-7.3844 BAU 1.2259
 RDE .1289 RRA .0414 RC3 -.1688 FAU .16024
 FDE 2.3140 FRA 6.8415 FC-11.1441 BSP 12340
 BDE .6658 BRA 2.9381 BC3 7.3863 FSP 2261

MID-COURSE EXECUTION ACCURACY

SGT 7258.9 SGR 250.6 SG3 1249.1
 RRT .6520 RRF .6974 RTF .521
 SGB 7261.2 R23 .0833 R13 .9721
 SG1 7258.7 SG2 190.0 THA 1.29

ORBIT DETERMINATION ACCURACY

ST 91.6 SR 10.5 SS 74.0
 CRT .6581 CRS -.7992 CST -.9781
 LSA 117.4 MSA 14.1 SSA .9
 EL1 91.9 EL2 7.9 ALF 4.35

LAUNCH DATE MAY 7 1971

FLIGHT TIME 268.00

ARRIVAL DATE JAN 30 1972

HELIOCENTRIC CONIC

RL 150.94 LAL .00 LOL 225.80 VL 32.392 GAL -2.83 AZL 91.44 HCA 195.49 SMA 187.12 ECC .19933 INC 1.4331 V1 29.519
 RP 224.40 LAP .38 LOP 61.29 VP 21.783 GAP .42 AZP 88.62 TAL 342.83 TAP 178.32 RCA 149.82 APO 224.42 V2 24.508
 RC 217.222 GL -13.14 GP -2.75 ZAL 124.42 ZAP 51.60 ETS 176.99 ZAE 90.41 ETE 180.43 ZAC 99.64 ETC 271.90 LVI -7.14

DISTANCE 621.164

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 12.708 VHL 3.565 DLA -15.50 RAL 357.33 RAD 6639.4 VEL 11.523 PTH 6.57 VHP 3.377 DPA -25.86 RAP 295.42 ECC 1.2091
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 8 18 2719.37 -18.16 76.14 209.46 134.77 17 53 38 1719.4 .01 59.93
 60.00 18 5 28 2567.38 -13.90 66.36 213.38 128.22 18 48 15 1587.4 2.87 48.21
 70.00 19 17 48 2354.69 -9.87 52.06 216.32 122.86 19 57 3 1354.7 4.05 32.46
 80.00 20 45 5 2081.51 -6.79 33.19 218.19 119.14 21 19 47 1081.5 5.58 12.67
 90.00 22 15 4 1791.27 -5.59 12.50 218.85 117.77 22 44 55 791.3 6.18 351.66
 100.00 23 27 57 1555.99 -6.79 354.56 218.19 119.14 23 53 53 956.0 5.58 334.04
 110.00 0 21 11 1401.51 -9.87 340.97 216.32 122.86 0 44 32 401.5 4.05 321.38

DIFFERENTIAL CORRECTIONS

TDE .6853 TRA 3.0511 TC3-7.3672 BAU 1.2520
 RDE .1338 RRA .0273 RC3 -.1502 FAU .15616
 FDE 2.3192 FRA 6.7971 FC-10.6380 BSP 12593
 BDE .6942 BRA 3.0512 BC3 7.3687 FSP 2213

MID-COURSE EXECUTION ACCURACY

SGT 7395.9 SGR 244.5 SG3 1221.7
 RRT .5701 RRF .6159 RTF .9719
 SGB 7400.0 R23 .0748 R13 .9719
 SG1 7397.3 SG2 200.8 THA 1.08

ORBIT DETERMINATION ACCURACY

ST 94.5 SR 10.8 SS 73.7
 CRT .6342 CRS -.7797 CST -.9782
 LSA 119.4 MSA 14.4 SSA .9
 EL1 94.7 EL2 8.3 ALF 4.17

LAUNCH DATE MAY 7 1971

FLIGHT TIME 270.00

ARRIVAL DATE FEB 1 1972

HELIOCENTRIC CONIC
RL 150.94 LAL .00 LOL 225.80 VL 32.401 GAL -2.02 AZL 91.46 HCA 196.86 SMA 187.28 ECC .20034 INC 1.4632 V1 29.519
RP 224.79 LAP .42 LOP 62.36 VP 21.729 GAP .27 AZP 88.60 TAL 342.38 TAP 178.82 RCA 149.76 APO 224.80 V2 24.486
RC 219.886 GL -13.28 GP -2.35 ZAL 124.89 ZAP 80.71 ETS 177.09 ZAE 69.29 ETE 180.38 ZAC 99.83 ETC 271.95 LVI -7.40

PLANETOCENTRIC CONIC
C3 12.974 VHL 3.802 DLA -15.37 RAL 387.89 RAD 8639.5 VEL 11.534 PTH 6.58 VHP 3.407 DPA -25.83 RAP 295.59 ECC 1.2135
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 10 14 2728.46 -18.80 76.47 210.31 134.65 17 59 40 1726.5 -.34 60.22
60.00 18 7 13 2574.91 -14.22 66.75 214.24 128.12 18 50 8 1574.9 1.74 48.97
70.00 19 19 22 2362.81 -10.17 52.49 217.10 122.78 19 58 45 1362.0 3.74 32.89
80.00 20 46 26 2090.28 -7.08 33.68 219.08 119.08 21 21 16 1090.3 5.29 13.16
90.00 22 16 19 1800.34 -5.88 13.01 219.71 117.71 22 46 19 800.3 5.89 382.17
100.00 23 29 18 1564.75 -7.08 389.05 219.08 119.08 23 53 23 564.8 5.29 334.53
110.00 0 22 44 1409.63 -10.17 341.41 217.18 122.78 0 46 14 409.6 3.74 321.81

DIFFERENTIAL CORRECTIONS
TDE .7199 TRA 3.1657 TC3-7.3649 BAU 1.2777
RDE .1392 RRA .0143 RC3 -.1380 FAU .15184
PDE 2.3283 FRA 6.7527 FC-10.1380 B8P 12846
BDE .7332 BRA 3.1658 BC3 7.3662 F8P 2170
MID-COURSE EXECUTION ACCURACY
S6T 7932.3 S6R 243.1 S63 1194.6
RRT .4877 RRF .9337 RTF .9715
S6B 7936.2 R23 .0682 R13 .9715
S6I 7933.3 S62 212.2 THA .90
ORBIT DETERMINATION ACCURACY
S7 97.4 SR 11.1 S8 73.8
CRT .6145 CR8 -.7632 CB7 -.8783
L8A 121.6 M8A 14.7 S8A .9
EL1 97.6 EL2 6.7 ALF 4.03

LAUNCH DATE MAY 7 1971

FLIGHT TIME 272.00

ARRIVAL DATE FEB 3 1972

HELIOCENTRIC CONIC
RL 150.94 LAL .00 LOL 225.80 VL 32.410 GAL -3.01 AZL 91.49 HCA 197.63 SMA 187.43 ECC .20138 INC 1.4880 V1 29.519
RP 225.18 LAP .45 LOP 63.43 VP 21.896 GAP .12 AZP 88.58 TAL 341.89 TAP 179.53 RCA 149.69 APO 225.18 V2 24.424
RC 222.551 GL -13.35 GP -2.37 ZAL 125.55 ZAP 49.85 ETS 177.18 ZAE 68.19 ETE 180.33 ZAC 99.99 ETC 272.00 LVI -7.64

PLANETOCENTRIC CONIC
C3 13.245 VHL 3.639 DLA -15.21 RAL 388.54 RAD 8639.7 VEL 11.546 PTH 6.59 VHP 3.438 DPA -25.42 RAP 295.80 ECC 1.2100
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 11 58 2734.20 -18.87 76.83 211.14 134.85 17 57 32 1734.2 -.73 60.58
60.00 18 8 44 2583.20 -14.96 67.17 215.08 128.00 18 51 48 1583.2 1.37 48.97
70.00 19 20 38 2371.85 -10.80 52.98 218.03 122.69 20 0 10 1371.8 3.39 33.36
80.00 20 47 27 2100.11 -7.41 34.23 219.90 119.01 21 22 27 1100.1 4.96 13.70
90.00 22 17 12 1810.96 -6.20 13.99 220.86 117.88 22 47 23 810.6 5.87 382.78
100.00 23 30 19 1574.98 -7.41 388.99 219.90 119.01 23 56 34 574.6 4.96 335.07
110.00 0 24 0 1418.67 -10.80 341.90 218.03 122.69 0 47 39 418.7 3.39 322.28

DIFFERENTIAL CORRECTIONS
TDE .7573 TRA 3.2817 TC3-7.3886 BAU 1.3032
RDE .1491 RRA .0023 RC3 -.1224 FAU .14784
PDE 2.3387 FRA 6.7043 FC3-9.6832 B8P 13102
BDE .7711 BRA 3.2817 BC3 7.3886 F8P 2187
MID-COURSE EXECUTION ACCURACY
S6T 7866.5 S6R 245.3 S63 1187.7
RRT .4892 RRF .9381 RTF .9711
S6B 7870.4 R23 .0688 R13 .9712
S6I 7867.2 S62 223.8 THA .78
ORBIT DETERMINATION ACCURACY
S7 100.3 SR 11.4 S8 73.3
CRT .5988 CR8 -.7488 CB7 -.8788
L8A 123.9 M8A 14.9 S8A 1.0
EL1 100.6 EL2 9.1 ALF 3.93

LAUNCH DATE MAY 7 1971

FLIGHT TIME 274.00

ARRIVAL DATE FEB 8 1972

HELIOCENTRIC CONIC
RL 150.94 LAL .00 LOL 225.80 VL 32.420 GAL -3.10 AZL 91.81 HCA 198.70 SMA 187.89 ECC .20243 INC 1.5096 V1 29.519
RP 225.57 LAP .48 LOP 64.80 VP 21.882 GAP -.03 AZP 88.57 TAL 341.42 TAP 180.18 RCA 149.82 APO 225.57 V2 24.382
RC 225.217 GL -13.41 GP -2.22 ZAL 126.12 ZAP 49.02 ETS 177.26 ZAE 87.12 ETE 180.29 ZAC 100.14 ETC 272.07 LVI -7.87

PLANETOCENTRIC CONIC
C3 13.522 VHL 3.677 DLA -15.03 RAL 389.12 RAD 8639.8 VEL 11.558 PTH 6.60 VHP 3.488 DPA -25.23 RAP 296.03 ECC 1.2228
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 13 32 2742.91 -19.27 77.22 211.93 134.39 17 59 14 1742.5 -1.19 60.69
60.00 18 10 4 2592.14 -14.84 67.83 215.91 127.88 18 53 16 1592.1 .98 49.40
70.00 19 21 41 2381.63 -10.86 53.51 218.86 122.98 20 1 22 1381.6 3.02 33.87
80.00 20 48 12 2110.80 -7.76 34.82 220.73 118.92 21 23 23 1110.8 4.60 14.29
90.00 22 17 49 1821.70 -6.55 14.22 221.38 117.97 22 48 11 821.7 5.21 353.37
100.00 23 31 4 1585.27 -7.76 356.19 220.73 118.92 23 57 29 585.3 4.60 335.68
110.00 0 25 3 1428.45 -10.86 342.43 218.86 122.98 0 48 51 428.4 3.02 322.79

DIFFERENTIAL CORRECTIONS
TDE .7947 TRA 3.3977 TC3-7.3542 BAU 1.3298
RDE .1514 RRA -.0090 RC3 -.1120 FAU .14390
PDE 2.3475 FRA 6.6546 FC3-9.2131 B8P 13331
BDE .8090 BRA 3.3977 BC3 7.3551 F8P 2081
MID-COURSE EXECUTION ACCURACY
S6T 7789.6 S6R 250.2 S63 1141.5
RRT .3374 RRF .9829 RTF .5.07
S6B 7803.6 R23 .0585 R13 .9707
S6I 7800.0 S62 235.6 THA .62
ORBIT DETERMINATION ACCURACY
S7 103.2 SR 11.8 S8 73.1
CRT .5887 CR8 -.7380 CB7 -.8788
L8A 126.1 M8A 15.2 S8A 1.0
EL1 103.5 EL2 9.5 ALF 3.86

LAUNCH DATE MAY 7 1971

FLIGHT TIME 276.00

ARRIVAL DATE FEB 7 1972

HELIOCENTRIC CONIC
RL 150.94 LAL .00 LOL 225.80 VL 32.420 GAL -3.19 AZL 91.53 HCA 199.76 SMA 187.75 ECC .20351 INC 1.5292 V1 29.519
RP 225.96 LAP .52 LOP 65.56 VP 21.829 GAP -.18 AZP 88.56 TAL 340.95 TAP 180.71 RCA 149.54 APO 225.96 V2 24.340
RC 227.883 GL -13.45 GP -2.08 ZAL 126.88 ZAP 48.21 ETS 177.34 ZAE 86.08 ETE 180.28 ZAC 100.26 ETC 272.13 LVI -8.10

PLANETOCENTRIC CONIC
C3 13.806 VHL 3.716 DLA -14.82 RAL 389.89 RAD 8640.0 VEL 11.570 PTH 6.61 VHP 3.498 DPA -25.05 RAP 296.29 ECC 1.2272
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 14 57 2751.27 -19.89 77.64 212.77 134.23 18 0 49 1751.3 -1.59 61.28
60.00 18 11 14 2601.60 -15.33 68.12 216.73 127.74 18 54 36 1601.6 .56 49.65
70.00 19 22 32 2392.02 -11.24 54.08 219.68 122.46 20 2 24 1392.0 2.82 34.42
80.00 20 48 44 2122.19 -8.13 35.46 221.55 118.83 21 24 6 1122.2 4.22 14.92
90.00 22 18 12 1833.58 -6.93 14.89 222.20 117.89 22 48 45 833.6 4.84 354.04
100.00 23 31 36 1596.67 -8.13 356.83 221.55 118.83 23 58 13 596.7 4.22 336.29
110.00 0 25 54 1438.84 -11.24 342.99 219.68 122.46 0 49 53 438.8 2.82 323.33

DIFFERENTIAL CORRECTIONS
TDE .8345 TRA 3.5167 TC3-7.3421 BAU 1.3553
RDE .1578 RRA -.0195 RC3 -.1034 FAU .13992
PDE 2.3535 FRA 6.6058 FC3-8.7739 B8P 13578
BDE .8493 BRA 3.5167 BC3 7.3428 F8P 2039
MID-COURSE EXECUTION ACCURACY
S6T 7930.3 S6R 257.2 S63 1115.6
RRT .2734 RRF .3181 RTF .9703
S6B 7934.5 R23 .0546 R13 .9703
S6I 7935.6 S62 247.4 THA .51
ORBIT DETERMINATION ACCURACY
S7 106.2 SR 12.2 S8 72.8
CRT .5755 CR8 -.7281 CB7 -.8782
L8A 128.4 M8A 15.4 S8A 1.0
EL1 106.5 EL2 9.9 ALF 3.81

LAUNCH DATE MAY 7 1971

FLIGHT TIME 276.00

ARRIVAL DATE FEB 9 1972

HELIOCENTRIC CONIC

DISTANCE 641.541

EARTH TO MARS

RL 150.94 LAL .00 LOL 225.80 VL 32.438 GAL -3.28 AZL 91.59 HCA 200.82 SMA 187.92 ECC .20461 INC 1.5470 V1 29.519
 RP 226.33 LAP .55 LOP 66.62 VP 21.596 GAP -.33 AZP 88.55 TAL 340.47 TAP 181.29 RCA 149.47 APO 226.36 V2 24.299
 RC 230.548 GL -13.47 GP -1.96 ZAL 127.26 ZAP 47.43 ETS 177.41 ZAE 85.03 ETE 180.23 ZAC 100.37 ETC 272.20 LVI -8.31

PLANETOCENTRIC CONIC

C3 14.097 VHL 3.755 DLA -14.60 RAL .24 RAD 6640.1 VEL 11.583 PTH 6.63 VHP 3.530 DPA -24.89 RAP 296.57 ECC 1.2320
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 16 17 2760.42 -20.12 78.08 213.57 134.07 18 2 17 1760.4 -2.05 61.64
 60.00 18 12 16 2611.51 -15.74 68.63 217.54 127.59 18 55 48 1611.5 .13 50.32
 70.00 19 23 13 2402.93 -11.64 54.67 220.50 122.34 20 3 16 1402.9 2.21 34.99
 80.00 20 49 5 2134.17 -8.53 36.13 222.36 118.72 21 24 39 1134.2 3.81 15.58
 90.00 22 18 23 1844.08 -7.32 15.60 223.01 117.39 22 49 9 846.1 4.44 354.75
 100.00 23 31 57 1608.65 -6.53 357.50 222.36 118.72 23 58 45 608.6 3.81 336.95
 110.00 0 26 35 1449.75 -11.64 343.59 220.50 122.34 0 50 45 449.7 2.21 323.90

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .8781 TRA 3.6384 TC3-7.3213 BAU 1.3799 SGT 8058.5 SGR 265.7 SG3 1089.9 ST 109.4 SR 12.6 SS 72.6
 RDE .1648 RRA -.0295 RC3 -.0961 FAU .13579 RRT .2177 RRF .2618 RTF .9698 CRT .5686 CRS -.7209 CST -.9796
 FDE 2.3654 FRA 6.5564 FC3-8.3394 BSP 13838 SGB 8062.8 R23 .0517 R13 .9698 LSA 131.0 MSA 15.7 SSA 1.1
 BDE .8935 BRA 3.6385 BC3 7.3219 FSP 1999 SG1 8058.7 SG2 259.3 THA .41 EL1 109.6 EL2 10.3 ALF 3.76

LAUNCH DATE MAY 7 1971

FLIGHT TIME 280.00

ARRIVAL DATE FEB 11 1972

HELIOCENTRIC CONIC

DISTANCE 645.599

EARTH TO MARS

RL 150.94 LAL .00 LOL 225.80 VL 32.448 GAL -3.36 AZL 91.56 HCA 201.88 SMA 188.08 ECC .20572 INC 1.5626 V1 29.519
 RP 226.74 LAP .58 LOP 67.68 VP 21.564 GAP -.48 AZP 88.55 TAL 339.99 TAP 181.87 RCA 149.39 APO 226.77 V2 24.257
 RC 233.212 GL -13.46 GP -1.85 ZAL 127.83 ZAP 46.68 ETS 177.47 ZAE 84.01 ETE 180.20 ZAC 100.46 ETC 272.27 LVI -8.53

PLANETOCENTRIC CONIC

C3 14.395 VHL 3.794 DLA -14.36 RAL .79 RAD 6640.2 VEL 11.595 PTH 6.64 VHP 3.562 DPA -24.73 RAP 296.88 ECC 1.2369
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 17 30 2769.90 -20.57 78.53 214.37 133.90 18 3 40 1769.9 -2.52 62.04
 60.00 18 13 11 2621.79 -16.17 69.17 218.35 127.43 18 56 53 1621.8 -.33 50.81
 70.00 19 23 47 2414.27 -12.05 55.29 221.30 122.20 20 4 1 1414.3 1.78 35.58
 80.00 20 49 17 2146.64 -8.93 36.84 223.16 118.61 21 25 4 1146.6 3.39 16.27
 90.00 22 18 25 1859.09 -7.73 16.34 223.81 117.29 22 49 24 859.1 4.02 355.48
 100.00 23 32 9 1621.11 -6.93 358.20 223.16 118.61 23 59 10 621.1 3.39 337.64
 110.00 0 27 9 1461.08 -12.05 344.21 221.30 122.20 0 51 30 461.1 1.78 324.50

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .9192 TRA 3.7584 TC3-7.3079 BAU 1.4085 SGT 8185.6 SGR 275.2 SG3 1084.7 ST 112.3 SR 13.0 SS 72.3
 RDE .1719 RRA -.0391 RC3 -.0901 FAU .13201 RRT .1697 RRF .2132 RTF .9692 CRT .5621 CRS -.7144 CST -.9799
 FDE 2.3700 FRA 6.5029 FC3-7.9393 BSP 14054 SGB 8190.2 R23 .0492 R13 .9692 LSA 133.2 MSA 15.9 SSA 1.1
 BDE .9351 BRA 3.7586 BC3 7.3085 FSP 1955 SG1 8185.7 SG2 271.2 THA .33 EL1 112.5 EL2 10.7 ALF 3.76

LAUNCH DATE MAY 8 1971

FLIGHT TIME 100.00

ARRIVAL DATE AUG 18 1971

HELIOCENTRIC CONIC DISTANCE 294.171 EARTH TO MARS
 RL 190.98 LAL .00 LOL 226.77 VL 38.388 GAL -2.81 AZL 91.88 HCA 93.83 SMA 261.31 ECC .42409 INC 1.8935 V1 29.812
 RP 207.27 LAP -1.85 LOP 320.60 VP 27.798 GAP 22.84 AZP 89.80 TAL 351.58 TAP 88.41 RCA 150.49 APO 372.13 V2 26.426
 RC 56.368 GL -10.58 GP .19 ZAL 108.33 ZAP 176.44 ET8 176.84 ZAE 174.61 ETE 73.38 ZAC 100.35 ETC 277.56 LVI -17.93

PLANETOCENTRIC CONIC
 C3 38.742 VHL 6.224 DLA -19.33 RAL 341.34 RAD 6650.2 VEL 12.594 PTH 7.46 VHP 11.124 DPA -17.31 RAP 320.02 ECC 1.6378
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 80.00 16 16 33 2906.81 -28.85 88.46 207.59 130.88 17 5 2 1906.5 -9.35 67.82
 90.00 17 19 3 2740.41 -20.96 75.83 212.62 128.24 18 4 43 1740.4 -5.54 56.50
 70.00 18 38 1 2508.24 -15.40 60.51 216.43 120.87 19 19 49 1508.2 -1.81 40.48
 80.00 20 12 22 2212.98 -11.07 40.60 218.93 117.91 20 49 15 1213.0 1.15 19.92
 90.00 21 45 52 1911.33 -9.34 19.32 219.84 116.81 22 17 44 911.3 2.35 388.40
 100.00 22 55 14 1687.43 -11.07 1.98 218.93 117.91 23 23 21 687.4 1.15 341.28
 110.00 23 37 28 1585.06 -18.40 349.43 216.43 120.87 24 3 23 555.1 -1.81 329.40

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.4588 TRA -1.0065 TC3 -.0033 BAU .0387 86T 1087.8 86R 585.4 86J 106.8 8T 25.6 8R 26.8 88 14.4
 RDE -.8786 RRA .2302 RC3 .0748 FAU .03337 RRT .0041 RRF -.0044 RTF -.6468 CRT 7398 CR8 .4993 C8T .8474
 PDE .1950 FRA .8188 FC3 -.7488 B8P 1582 86B 1217.7 R23 -.0008 R13 -.6468 L8A 36.8 H8A 16.0 88A 1.1
 BDE .7368 BRA 1.0325 B3 0748 F8P 130 861 1087.8 862 585.4 THA .18 EL1 34.6 EL2 13.4 ALP 46.78

LAUNCH DATE MAY 8 1971

FLIGHT TIME 102.00

ARRIVAL DATE AUG 18 1971

HELIOCENTRIC CONIC DISTANCE 296.054 EARTH TO MARS
 RL 190.98 LAL .00 LOL 226.77 VL 35.161 GAL -2.41 AZL 91.88 HCA 95.09 SMA 254.34 ECC .40822 INC 1.8553 V1 29.512
 RP 207.18 LAP -1.85 LOP 321.87 VP 27.557 GAP 21.72 AZP 89.84 TAL 351.67 TAP 86.76 RCA 150.32 APO 358.16 V2 26.438
 RC 56.368 GL -10.89 GP .20 ZAL 108.31 ZAP 175.56 ET8 177.39 ZAE 174.32 ETE 64.74 ZAC 100.31 ETC 277.64 LVI -18.08

PLANETOCENTRIC CONIC
 C3 36.256 VHL 6.021 DLA -19.62 RAL 341.46 RAD 6649.3 VEL 12.486 PTH 7.39 VHP 10.768 DPA -17.18 RAP 320.40 ECC 1.5967
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 80.00 16 18 20 2893.70 -28.83 84.25 206.72 131.46 17 6 24 1893.7 -8.22 66.84
 90.00 17 21 13 2716.47 -20.02 74.22 211.75 125.74 18 6 29 1716.5 -4.49 55.34
 70.00 18 40 45 2482.87 -14.50 60.07 215.57 121.27 19 22 8 1482.7 -0.84 39.15
 80.00 20 15 43 2185.44 -10.19 39.03 218.09 118.22 20 52 9 1185.4 2.08 18.40
 90.00 21 49 33 1882.74 -8.46 17.69 219.01 117.08 22 20 58 882.7 3.27 358.80
 100.00 22 58 35 1659.91 -10.19 .40 218.09 118.22 23 26 19 659.9 2.08 339.77
 110.00 23 40 11 1529.49 -14.50 347.99 215.57 121.27 24 5 41 529.5 -0.84 328.07

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.4510 TRA -.9973 TC3 .0076 BAU .0390 86T 1095.1 86R 587.4 86J 114.4 8T 26.2 8R 26.9 88 15.0
 RDE -.5611 RRA .2228 RC3 .0801 FAU .03444 RRT .0050 RRF -.0054 RTF -.6589 CRT 7398 CR8 .4882 C8T .9454
 PDE .2005 FRA .8496 FC3 -.8224 B8P 1608 86B 1242.7 R23 -.0008 R13 -.6589 L8A 37.0 H8A 16.3 88A 1.1
 BDE .7199 BRA 1.0219 B3 .0805 F8P 141 861 1095.1 862 587.4 THA .22 EL1 35.0 EL2 13.6 ALP 45.87

LAUNCH DATE MAY 8 1971

FLIGHT TIME 104.00

ARRIVAL DATE AUG 20 1971

HELIOCENTRIC CONIC DISTANCE 298.179 EARTH TO MARS
 RL 190.98 LAL .00 LOL 226.77 VL 34.974 GAL -2.32 AZL 91.88 HCA 96.36 SMA 248.13 ECC .39330 INC 1.8571 V1 29.812
 RP 207.09 LAP -1.85 LOP 323.13 VP 27.329 GAP 21.21 AZP 89.79 TAL 351.77 TAP 88.13 RCA 150.54 APO 345.71 V2 26.448
 RC 56.856 GL -11.20 GP .20 ZAL 108.26 ZAP 174.67 ET8 177.77 ZAE 173.94 ETE 57.28 ZAC 100.26 ETC 277.72 LVI -18.16

PLANETOCENTRIC CONIC
 C3 33.981 VHL 5.829 DLA -19.92 RAL 341.58 RAD 6648.5 VEL 12.405 PTH 7.32 VHP 10.419 DPA -17.06 RAP 320.78 ECC 1.5892
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 80.00 16 20 3 2881.00 -24.80 83.07 205.88 132.00 17 7 44 1881.0 -7.09 65.87
 90.00 17 23 23 2692.87 -19.06 72.92 210.90 126.21 18 8 16 1692.6 -3.44 54.20
 70.00 18 43 31 2457.03 -13.59 67.65 214.73 121.64 19 24 28 1457.0 .14 37.81
 80.00 20 19 9 2157.69 -9.29 37.48 217.27 118.50 20 55 7 1157.7 3.02 18.88
 90.00 21 53 21 1853.85 -7.56 18.04 218.19 117.33 22 24 15 853.8 4.19 358.18
 100.00 23 2 1 1632.17 -9.29 359.83 217.27 118.50 23 29 13 632.2 3.02 338.25
 110.00 23 42 37 1503.83 -13.59 346.86 214.73 121.64 24 8 1 503.8 .14 328.73

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.4451 TRA -.9971 TC3 .0203 BAU .0401 86T 1121.1 86R 588.9 86J 122.6 8T 26.8 8R 27.0 88 15.5
 RDE -.3441 RRA .2156 RC3 .0859 FAU .03581 RRT .0058 RRF -.0060 RTF -.6703 CRT 7375 CR8 .4788 C8T .9427
 PDE .2041 FRA .8835 FC3 -.9073 B8P 1667 86B 1266.4 R23 -.0008 R13 -.6703 L8A 37.5 H8A 16.6 88A 1.1
 BDE .7028 BRA 1.0104 B3 .0883 F8P 184 861 1121.1 862 588.9 THA .23 EL1 35.4 EL2 13.8 ALP 45.22

LAUNCH DATE MAY 8 1971

FLIGHT TIME 106.00

ARRIVAL DATE AUG 22 1971

HELIOCENTRIC CONIC DISTANCE 300.515 EARTH TO MARS
 RL 190.98 LAL .00 LOL 226.77 VL 34.788 GAL -2.23 AZL 91.88 HCA 97.62 SMA 242.87 ECC .37931 INC 1.8590 V1 29.812
 RP 207.01 LAP -1.84 LOP 324.40 VP 27.113 GAP 20.71 AZP 89.75 TAL 351.88 TAP 89.52 RCA 150.56 APO 334.58 V2 26.487
 RC 57.225 GL -11.52 GP .21 ZAL 108.19 ZAP 173.78 ET8 178.04 ZAE 173.80 ETE 50.99 ZAC 100.22 ETC 277.79 LVI -18.26

PLANETOCENTRIC CONIC
 C3 31.896 VHL 5.648 DLA -20.23 RAL 341.68 RAD 6647.7 VEL 12.321 PTH 7.25 VHP 10.085 DPA -16.95 RAP 321.14 ECC 1.5249
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 80.00 16 21 45 2838.44 -23.78 81.92 205.06 132.81 17 9 4 1838.4 -5.96 64.82
 90.00 17 25 34 2668.73 -18.10 71.64 210.07 126.65 18 10 3 1668.7 -2.39 53.08
 70.00 18 46 19 2431.35 -12.67 66.23 213.91 121.98 19 26 50 1431.4 1.12 36.47
 80.00 20 22 41 2129.76 -8.38 35.89 216.46 118.76 20 58 11 1129.8 3.96 19.34
 90.00 21 57 16 1824.66 -6.65 14.39 217.40 117.55 22 27 41 824.7 5.12 383.84
 100.00 23 5 33 1604.23 -8.38 387.25 216.46 118.76 23 32 17 604.2 3.96 338.71
 110.00 23 45 48 1478.17 -12.67 348.14 213.91 121.98 24 10 24 478.2 1.12 328.39

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.4382 TRA -.9781 TC3 .0330 BAU .0416 86T 1147.8 86R 590.0 86J 131.3 8T 27.3 8R 27.0 88 16.0
 RDE -.3278 RRA .2085 RC3 .0919 FAU .03684 RRT .0050 RRF -.0060 RTF -.6808 CRT 7347 CR8 .4694 C8T .9408
 PDE .2081 FRA .8194 FC3 -.9999 B8P 1733 86B 1290.6 R23 -.0022 R13 -.6808 L8A 37.8 H8A 16.0 88A 1.1
 BDE .6889 BRA 1.0001 B3 .0076 F8P 187 861 1147.8 862 590.0 THA .20 EL1 35.8 EL2 14.0 ALP 44.52

LAUNCH DATE MAY 8 1971 FLIGHT TIME 108.00 ARRIVAL DATE AUG 24 1971

Heliocentric Conic: RL 150.98 LAL .00 LOL 226.77 VL 34.633 GAL -2.13 AZL 91.86 HCA 98.89 SMA 237.58 ECC .36617 INC 1.8609 V1 29.512
 RP 206.94 LAP -1.84 LOP 325.66 VP 26.908 GAP 20.22 AZP 89.71 TAL 352.03 TAP 90.92 RCA 150.59 APO 324.58 V2 26.466
 RC 57.675 GL -11.84 GP .22 ZAL 108.10 ZAP 172.66 ETS 178.24 ZAE 173.03 ETE 45.75 ZAC 100.10 ETC 277.87 LVI -18.37

Planetocentric Conic: C3 29.986 VHL 3.476 DLA -20.56 RAL 341.71 RAD 6647.0 VEL 12.244 PTH 7.19 VHP 9.763 DPA -16.83 RAP 321.49 ECC 1.4935
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 23 26 2016.05 -22.73 80.79 204.26 133.00 17 10 22 1816.1 -4.84 63.97
 60.00 17 27 45 2645.01 -17.13 70.38 209.26 127.06 18 11 50 1645.0 -1.35 51.92
 70.00 18 49 10 2405.67 -11.74 54.82 213.10 122.30 19 29 15 1405.7 2.10 35.13
 80.00 20 26 18 2101.66 -7.46 34.31 215.68 119.00 21 1 20 1101.7 4.91 13.79
 90.00 22 1 18 1795.20 -5.72 12.72 216.62 117.74 22 31 13 795.2 6.05 351.88
 100.00 23 9 10 1576.13 -7.46 355.68 215.68 119.00 23 35 26 576.1 4.91 335.16
 110.00 23 48 36 1452.49 -11.74 343.74 213.10 122.30 24 12 49 452.5 2.10 324.05

Differential Corrections: TDE -.4340 TRA -.9675 TC3 .0492 BAU .0440 SGT 1173.9 SGR 590.7 SG3 140.5 ST 27.9 SR 27.0 SS 16.5
 RDE -.5116 RRA .2016 RC3 .0981 FAU .03815 RRT .0076 RRF -.0077 RTF -.6916 CRT .7345 CRS .4594 CST .9370
 FDE .2115 FRA .9558 FC3-1.1015 BSP 1777 SGB 1314.2 R23 -.0007 R13 -.6916 LSA 38.5 MSA 17.3 S8A 1.2
 BDE .6709 BRA .9883 BC3 .1098 FSP 181 SG1 1173.9 SG2 590.7 THA .29 EL1 36.1 EL2 14.1 ALF 43.69

LAUNCH DATE MAY 8 1971 FLIGHT TIME 110.00 ARRIVAL DATE AUG 26 1971

Heliocentric Conic: RL 150.98 LAL .00 LOL 226.77 VL 34.477 GAL -2.04 AZL 91.86 HCA 100.15 SMA 233.08 ECC .35384 INC 1.8627 V1 29.512
 RP 206.87 LAP -1.83 LOP 326.93 VP 26.714 GAP 19.73 AZP 89.67 TAL 352.17 TAP 92.33 RCA 150.61 APO 315.56 V2 26.473
 RC 58.203 GL -12.17 GP .22 ZAL 107.98 ZAP 171.94 ETS 178.41 ZAE 172.56 ETE 41.39 ZAC 100.14 ETC 277.94 LVI -18.47

Planetocentric Conic: C3 28.234 VHL 5.314 DLA -20.69 RAL 341.75 RAD 6646.3 VEL 12.173 PTH 7.14 VHP 9.452 DPA -16.72 RAP 321.82 ECC 1.4847
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 25 5 2793.87 -21.69 79.70 203.49 133.44 17 11 39 1793.9 -3.73 63.04
 60.00 17 29 56 2621.43 -16.16 69.15 208.47 127.44 18 13 37 1621.4 -.31 50.79
 70.00 18 52 3 2380.03 -10.80 53.43 212.33 122.60 19 31 43 1380.0 3.08 33.79
 80.00 20 30 1 2073.43 -6.52 32.74 214.92 119.20 21 4 34 1073.4 5.85 12.22
 90.00 22 5 28 1765.51 -4.77 11.05 215.87 117.91 22 34 54 765.5 6.99 350.20
 100.00 23 12 53 1547.90 -6.52 354.11 214.92 119.20 23 38 40 547.9 5.85 333.59
 110.00 23 51 29 1426.85 -10.80 342.34 212.33 122.60 24 15 16 426.8 3.08 322.71

Differential Corrections: TDE -.4273 TRA -.9580 TC3 .0677 BAU .0470 SGT 1200.0 SGR 590.9 SG3 150.4 ST 28.4 SR 27.0 SS 17.0
 RDE -.4962 RRA .1949 RC3 .1045 FAU .03957 RRT .0081 RRF -.0088 RTF -.7026 CRT .7320 CRS .4487 CST .9341
 FDE .2148 FRA .9940 FC3-1.2132 BSP 1830 SGB 1337.6 R23 -.0013 R13 -.7026 LSA 38.9 MSA 17.6 S8A 1.2
 BDE .6548 BRA .9776 BC3 .1248 FSP 197 SG1 1200.0 SG2 590.9 THA .30 EL1 36.4 EL2 14.3 ALF 42.99

LAUNCH DATE MAY 8 1971 FLIGHT TIME 112.00 ARRIVAL DATE AUG 28 1971

Heliocentric Conic: RL 150.98 LAL .00 LOL 226.77 VL 34.330 GAL -1.95 AZL 91.86 HCA 101.42 SMA 229.01 ECC .34224 INC 1.8647 V1 29.512
 RP 206.82 LAP -1.83 LOP 328.20 VP 26.531 GAP 19.26 AZP 89.63 TAL 352.33 TAP 93.75 RCA 150.63 APO 307.38 V2 26.479
 RC 58.807 GL -12.50 GP .23 ZAL 107.84 ZAP 171.00 ETS 178.54 ZAE 172.09 ETE 37.77 ZAC 100.10 ETC 278.00 LVI -18.56

Planetocentric Conic: C3 26.625 VHL 5.180 DLA -21.24 RAL 341.77 RAD 6645.7 VEL 12.107 PTH 7.08 VHP 9.151 DPA -16.61 RAP 322.14 ECC 1.4382
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 26 43 2771.89 -20.66 78.63 202.73 133.86 17 12 55 1771.9 -2.62 62.12
 60.00 17 32 7 2597.98 -15.18 67.93 207.71 127.79 18 15 25 1598.0 .72 49.67
 70.00 18 54 58 2354.59 -9.86 52.04 211.57 122.87 19 34 13 1354.4 4.06 32.45
 80.00 20 33 50 2045.01 -5.58 31.16 214.18 119.38 21 7 55 1045.0 6.79 10.64
 90.00 22 9 47 1735.49 -3.81 9.37 215.14 118.04 22 38 43 735.5 7.93 348.50
 100.00 23 16 42 1519.48 -5.58 352.53 214.18 119.38 23 42 1 519.5 6.79 332.01
 110.00 23 54 25 1401.21 -9.86 340.96 211.57 122.87 24 17 46 401.2 4.06 321.38

Differential Corrections: TDE -.4101 TRA -.9362 TC3 .1030 BAU .0541 SGT 1209.5 SGR 590.8 SG3 161.0 ST 28.3 SR 26.9 SS 17.8
 RDE -.4812 RRA .1884 RC3 .1112 FAU .04095 RRT .0074 RRF -.0103 RTF -.57 CRT .7255 CRS .4413 CST .9347
 FDE .2204 FRA 1.0363 FC3-1.3314 BSP 1744 SGB 1346.0 R23 -.0032 R13 -.7258 LSA 38.9 MSA 17.9 S8A 1.2
 BDE .6322 BRA .9550 BC3 .1521 FSP 218 SG1 1209.5 SG2 590.8 THA .27 EL1 36.3 EL2 14.4 ALF 43.10

LAUNCH DATE MAY 8 1971 FLIGHT TIME 114.00 ARRIVAL DATE AUG 30 1971

Heliocentric Conic: RL 150.98 LAL .00 LOL 226.77 VL 34.192 GAL -1.86 AZL 91.87 HCA 102.69 SMA 225.32 ECC .33135 INC 1.8665 V1 29.512
 RP 206.77 LAP -1.82 LOP 329.47 VP 26.358 GAP 18.79 AZP 89.59 TAL 352.50 TAP 95.19 RCA 150.66 APO 299.97 V2 26.485
 RC 52.485 GL -12.82 GP .24 ZAL 107.69 ZAP 170.04 ETS 178.64 ZAE 171.66 ETE 34.74 ZAC 100.06 ETC 278.07 LVI -18.66

Planetocentric Conic: C3 25.150 VHL 5.015 DLA -21.59 RAL 341.77 RAD 6645.1 VEL 12.047 PTH 7.03 VHP 8.862 DPA -16.50 RAP 322.45 ECC 1.4139
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 28 20 2750.24 -19.64 77.59 202.01 134.25 17 14 11 1750.2 -1.54 61.22
 60.00 17 34 18 2574.81 -14.21 66.74 206.97 128.12 18 17 13 1574.8 1.74 48.57
 70.00 18 57 56 2328.94 -8.92 50.67 210.84 123.11 19 36 45 1328.9 5.02 31.11
 80.00 20 37 44 2016.60 -4.62 29.59 213.47 119.53 21 11 21 1016.6 7.73 9.06
 90.00 22 14 14 1705.35 -2.85 7.68 214.45 118.15 22 42 40 705.3 8.86 346.78
 100.00 23 20 36 1491.07 -4.62 350.96 213.47 119.53 23 45 27 491.1 7.73 330.43
 110.00 0 1 19 1375.76 -8.92 339.59 210.84 123.11 0 24 14 375.8 5.02 320.03

Differential Corrections: TDE -.4081 TRA -.9306 TC3 .1171 BAU .0559 SGT 1240.4 SGR 590.2 SG3 172.3 ST 28.9 SR 26.9 SS 18.1
 RDE -.4667 RRA .1820 RC3 .1180 FAU .04259 RRT .0093 RRF -.0112 RTF -.7292 CRT .7252 CRS .4274 CST .9294
 FDE .2218 FRA 1.0767 FC3-1.4660 BSP 1860 SGB 1373.7 R23 -.0025 R13 -.7292 LSA 39.4 MSA 18.2 S8A 1.2
 BDE .6200 BRA .9482 BC3 .1662 FSP 233 SG1 1240.4 SG2 590.2 THA .33 EL1 36.7 EL2 14.6 ALF 42.08

LAUNCH DATE MAY 8 1971

FLIGHT TIME 116.00

ARRIVAL DATE SEP 1 1971

HELIOCENTRIC CONIC
 RL 190.98 LAL .00 LOL 226.77 VL 34.061 GAL -1.78 AZL 91.87 HCA 103.98 SMA 221.98 ECC .32113 INC 1.8885 V1 29.512
 RP 206.74 LAP -1.81 LOP 330.73 VP 26.191 GAP 18.33 AZP 89.55 TAL 352.88 TAP 98.64 RCA 150.68 APO 293.23 V2 26.489
 RC 60.233 GL -13.18 GP .28 ZAL 107.31 ZAP 188.07 ETS 178.73 ZAE 171.26 ETE 32.19 ZAC 100.03 ETC 278.15 LVI -18.74

PLANETOCENTRIC CONIC
 C3 23.794 VHL 4.878 DLA -21.98 RAL 341.78 RAD 6844.5 VEL 11.891 PTH 6.99 VHP 8.881 DPA -16.40 RAP 322.74 ECC 1.3016
 LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZNTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 29 56 2728.89 -18.62 75.58 201.31 134.61 17 18 25 1728.9 -.48 60.33
 60.00 17 36 30 2551.88 -13.24 85.58 206.26 128.42 18 19 2 1551.9 2.75 47.47
 70.00 19 0 57 2303.61 -7.97 49.32 210.13 123.32 19 39 21 1303.6 5.98 29.78
 80.00 20 41 46 1988.11 -3.67 28.02 212.78 119.65 21 14 54 988.1 8.67 7.46
 90.00 22 18 50 1674.97 -1.87 5.88 213.78 118.22 22 46 45 675.0 9.80 345.03
 100.00 23 24 37 1462.58 -3.87 349.38 212.78 119.65 23 49 0 462.6 8.67 328.83
 110.00 0 4 19 1350.42 -7.97 338.24 210.13 123.32 0 26 50 350.4 5.98 318.69

DIFFERENTIAL CORRECTIONS
 TDE -.4046 TRA -.9227 TC3 .1345 BAW .0884
 RDE -.4527 RRA .1758 RC3 .1249 FAW .04432
 FDE .2232 FRA 1.1193 FC3-1.6125 B8P 1944
 BDE .6068 BRA .9393 BC3 .1836 F8P 251

MID-COURSE EXECUTION ACCURACY
 8GT 1288.1 8GR 989.2 8G3 184.4
 RRT .0108 RRF -.0123 RTF -.7345
 8GB 1398.3 R23 -.0021 R13 -.7348
 8G1 1288.1 8G2 989.2 THA .37

ORBIT DETERMINATION ACCURACY
 8T 29.5 8R 26.8 8S 10.6
 CRT .7240 CR8 .4133 CBT .9243
 L8A 39.9 M8A 16.5 88A 1.2
 EL1 37.0 EL2 14.7 ALP 41.22

LAUNCH DATE MAY 8 1971

FLIGHT TIME 118.00

ARRIVAL DATE SEP 3 1971

HELIOCENTRIC CONIC
 RL 190.98 LAL .00 LOL 226.77 VL 33.938 GAL -1.89 AZL 91.87 HCA 105.22 SMA 218.88 ECC .31152 INC 1.8704 V1 29.512
 RP 206.71 LAP -1.80 LOP 332.00 VP 26.034 GAP 17.88 AZP 89.51 TAL 352.87 TAP 98.09 RCA 150.70 APO 287.07 V2 26.492
 RC 61.050 GL -13.48 GP .26 ZAL 107.32 ZAP 188.09 ETS 178.81 ZAE 170.90 ETE 30.04 ZAC 100.00 ETC 278.19 LVI -18.83

PLANETOCENTRIC CONIC
 C3 22.549 VHL 4.749 DLA -22.33 RAL 341.74 RAD 6844.0 VEL 11.939 PTH 6.94 VHP 8.311 DPA -16.30 RAP 323.02 ECC 1.3711
 LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZNTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 31 31 2707.87 -17.61 75.60 200.64 134.95 17 18 39 1707.9 .59 59.45
 60.00 17 38 42 2529.21 -12.28 84.44 205.57 128.69 18 20 51 1529.2 3.75 46.39
 70.00 19 4 0 2278.43 -7.03 47.98 209.46 123.51 19 41 59 1278.4 6.93 28.44
 80.00 20 45 53 1959.56 -2.70 26.45 212.13 119.75 21 18 33 959.6 9.60 5.85
 90.00 22 23 37 1644.37 -.88 4.27 213.14 118.27 22 51 1 644.4 10.73 343.27
 100.00 23 28 45 1434.03 -2.70 347.81 212.13 119.75 23 52 39 434.0 9.60 327.22
 110.00 0 7 22 1325.24 -7.03 336.90 209.46 123.51 0 29 28 325.2 6.93 317.36

DIFFERENTIAL CORRECTIONS
 TDE -.3992 TRA -.9143 TC3 .1340 BAW .0611
 RDE -.4392 RRA .1698 RC3 .1320 FAW .04612
 FDE .2251 FRA 1.1615 FC3-1.7707 B8P 2018
 BDE .5935 BRA .9299 BC3 .2028 F8P 272

MID-COURSE EXECUTION ACCURACY
 8GT 1294.4 8GR 987.9 8G3 197.2
 RRT .0125 RRF -.0135 RTF -.7408
 8GB 1421.6 R23 -.0019 R13 -.7408
 8G1 1294.4 8G2 987.8 THA .41

ORBIT DETERMINATION ACCURACY
 8T 30.0 8R 26.7 8S 19.1
 CRT .7224 CR8 .3998 CBT .9196
 L8A 40.3 M8A 18.8 88A 1.2
 EL1 37.3 EL2 14.8 ALP 40.42

LAUNCH DATE MAY 8 1971

FLIGHT TIME 120.00

ARRIVAL DATE SEP 5 1971

HELIOCENTRIC CONIC
 RL 190.98 LAL .00 LOL 226.77 VL 33.822 GAL -1.81 AZL 91.87 HCA 106.49 SMA 216.88 ECC .30249 INC 1.8724 V1 29.512
 RP 206.69 LAP -1.80 LOP 333.27 VP 25.885 GAP 17.44 AZP 89.47 TAL 353.06 TAP 99.55 RCA 150.72 APO 281.44 V2 26.495
 RC 61.933 GL -13.81 GP .26 ZAL 107.12 ZAP 187.08 ETS 178.88 ZAE 170.59 ETE 28.22 ZAC 99.97 ETC 278.24 LVI -18.90

PLANETOCENTRIC CONIC
 C3 21.403 VHL 4.628 DLA -22.70 RAL 341.69 RAD 6843.9 VEL 11.891 PTH 6.90 VHP 8.049 DPA -16.21 RAP 323.28 ECC 1.3522
 LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZNTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 33 5 2687.20 -18.61 74.65 199.99 135.25 17 17 52 1687.2 1.63 58.58
 60.00 17 40 54 2508.85 -11.33 83.32 204.91 128.94 18 22 41 1506.8 4.73 45.31
 70.00 19 7 6 2253.43 -6.09 46.68 208.80 123.67 19 44 39 1253.4 7.87 27.12
 80.00 20 50 8 1930.97 -1.74 24.87 211.50 119.81 21 22 19 931.0 10.52 4.23
 90.00 22 28 33 1613.93 .11 2.55 212.53 118.28 22 55 27 613.5 11.65 341.47
 100.00 23 33 0 1405.44 -1.74 346.24 211.50 119.81 23 56 25 405.4 10.52 325.60
 110.00 0 10 28 1300.23 -6.09 338.58 208.80 123.67 0 32 8 300.3 7.87 316.03

DIFFERENTIAL CORRECTIONS
 TDE -.3930 TRA -.9038 TC3 .1768 BAW .0643
 RDE -.4261 RRA .1638 RC3 .1392 FAW .04880
 FDE .2262 FRA 1.2128 FC3-1.9447 B8P 2074
 BDE .5797 BRA .9185 BC3 .2248 F8P 294

MID-COURSE EXECUTION ACCURACY
 8GT 1317.5 8GR 986.1 8G3 211.0
 RRT .0141 RRF -.0149 RTF -.75
 8GB 1441.9 R23 -.0018 R13 -.7475
 8G1 1317.5 8G2 986.0 THA .45

ORBIT DETERMINATION ACCURACY
 8T 30.4 8R 26.6 8S 19.7
 CRT .7203 CR8 .3859 CBT .9146
 L8A 40.6 M8A 19.1 88A 1.3
 EL1 37.5 EL2 14.9 ALP 39.74

LAUNCH DATE MAY 8 1971

FLIGHT TIME 122.00

ARRIVAL DATE SEP 7 1971

HELIOCENTRIC CONIC
 RL 190.98 LAL .00 LOL 226.77 VL 33.712 GAL -1.53 AZL 91.87 HCA 107.78 SMA 213.51 ECC .29400 INC 1.8744 V1 29.512
 RP 206.68 LAP -1.79 LOP 334.54 VP 25.743 GAP 17.00 AZP 89.43 TAL 353.26 TAP 101.02 RCA 150.74 APO 276.29 V2 26.496
 RC 62.879 GL -14.14 GP .27 ZAL 106.90 ZAP 186.06 ETS 178.93 ZAE 170.34 ETE 26.67 ZAC 99.94 ETC 278.29 LVI -18.98

PLANETOCENTRIC CONIC
 C3 20.349 VHL 4.511 DLA -23.08 RAL 341.64 RAD 6843.0 VEL 11.847 PTH 6.86 VHP 7.797 DPA -16.12 RAP 323.51 ECC 1.3349
 LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZNTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 34 38 2666.92 -18.63 73.72 199.37 135.83 17 19 5 1666.9 2.63 57.74
 60.00 17 43 6 2484.81 -10.38 82.22 204.28 129.16 18 24 31 1484.8 5.69 44.25
 70.00 19 10 14 2228.65 -5.15 45.35 208.18 123.81 19 47 23 1228.7 8.79 25.79
 80.00 20 54 30 1902.55 -.77 23.30 210.90 119.85 21 26 12 902.4 11.43 2.60
 90.00 22 33 41 1582.46 1.11 .82 211.95 118.28 23 0 3 582.5 12.57 339.65
 100.00 23 37 22 1376.63 -.77 344.67 210.90 119.85 24 0 18 376.8 11.43 325.98
 110.00 0 13 36 1275.47 -5.15 334.27 208.18 123.81 0 34 52 275.5 8.79 314.71

DIFFERENTIAL CORRECTIONS
 TDE -.3863 TRA -.8933 TC3 .1997 BAW .0674
 RDE -.4135 RRA .1582 RC3 .1484 FAW .05012
 FDE .2268 FRA 1.2623 FC3-2.1322 B8P 2127
 BDE .5658 BRA .9072 BC3 .2476 F8P 317

MID-COURSE EXECUTION ACCURACY
 8GT 1339.5 8GR 984.0 8G3 225.6
 RRT .0154 RRF -.0162 RTF -.7539
 8GB 1461.2 R23 -.0019 R13 -.7539
 8G1 1339.5 8G2 983.9 THA .48

ORBIT DETERMINATION ACCURACY
 8T 30.7 8R 26.5 8S 20.2
 CRT .7177 CR8 .3695 CBT .9093
 L8A 40.9 M8A 19.4 88A 1.3
 EL1 37.7 EL2 15.0 ALP 39.10

LAUNCH DATE MAY 8 1971 FLIGHT TIME 124.00 ARRIVAL DATE SEP 9 1971

Heliocentric Conic: RL 150.98 LAL .00 LOL 226.77 VL 33.809 GAL -1.45 AZL 91.88 HCA 109.03 SMA 211.15 ECC .28602 INC 1.8764 V1 29.512 RP 206.67 LAP -1.77 LOP 339.81 VP 25.608 GAP 16.58 AZP 89.39 TAL 353.47 TAP 102.50 RCA 150.76 APO 271.55 V2 26.496 RC 63.888 GL -14.47 GP .28 ZAL 106.67 ZAP 165.01 ETS 178.98 ZAE 170.15 ETE 25.36 ZAC 99.92 ETC 278.34 LVI -19.05

Distance 327.710 Earth to Mars

Planeto-centric Conic: C3 19.380 VHL 4.402 DLA -23.48 RAL 341.57 RAD 6642.6 VEL 11.807 PTH 6.83 VHP 7.552 DPA -16.04 RAP 323.73 ECC 1.3189

Differential Corrections: TDE -.3793 TRA -.8815 TC3 .2244 BAU .0705 RDE -.4013 RRA .1527 RC3 .1537 FAU .05231 FDE .2270 FRA 1.3139 FC3 -2.3369 BSP 2173 BDE .5522 BRA .8947 BC3 .2721 FSP 342

Mid-course Execution Accuracy: SGT 1359.1 SGR 581.4 SG3 241.2 RRT .0172 RRF -.0178 RTF -.7600 SGB 1478.2 R23 -.0018 R13 -.7600 SG1 1359.1 SG2 581.3 THA .52

Orbit Determination Accuracy: ST 31.0 SR 26.3 SS 20.7 CRT .7153 CRS .3534 CST .9035 LSA 41.2 MSA 19.7 SSA 1.3 EL1 37.8 EL2 15.1 ALF 38.52

LAUNCH DATE MAY 8 1971 FLIGHT TIME 126.00 ARRIVAL DATE SEP 11 1971

Heliocentric Conic: RL 150.98 LAL .00 LOL 226.77 VL 33.512 GAL -1.38 AZL 91.88 HCA 110.30 SMA 208.99 ECC .27853 INC 1.8785 V1 29.512 RP 206.68 LAP -1.76 LOP 337.08 VP 25.480 GAP 16.16 AZP 89.35 TAL 353.68 TAP 103.98 RCA 150.78 APO 267.20 V2 26.496 RC 64.956 GL -14.80 GP .30 ZAL 106.43 ZAP 163.95 ETS 179.03 ZAE 170.03 ETE 24.26 ZAC 99.90 ETC 278.38 LVI -19.11

Distance 331.186 Earth to Mars

Planeto-centric Conic: C3 18.488 VHL 4.300 DLA -23.85 RAL 341.50 RAD 6642.2 VEL 11.769 PTH 6.80 VHP 7.316 DPA -15.96 RAP 323.93 ECC 1.3043

Differential Corrections: TDE -.3719 TRA -.8707 TC3 .2492 BAU .0733 RDE -.3895 RRA .1474 RC3 .1611 FAU .05462 FDE .2271 FRA 1.3693 FC3 -2.5575 BSP 2216 BDE .5385 BRA .8831 BC3 .2968 FSP 370

Mid-course Execution Accuracy: SGT 1378.7 SGR 578.5 SG3 257.9 RRT .0182 RRF -.0194 RTF -.7660 SGB 1495.1 R23 -.0024 R13 -.7660 SG1 1378.7 SG2 578.4 THA .53

Orbit Determination Accuracy: ST 31.2 SR 26.2 SS 21.3 CRT .7121 CRS .3370 CST .8980 LSA 41.4 MSA 20.0 SSA 1.3 EL1 37.8 EL2 15.2 ALF 37.95

LAUNCH DATE MAY 8 1971 FLIGHT TIME 128.00 ARRIVAL DATE SEP 13 1971

Heliocentric Conic: RL 150.98 LAL .00 LOL 226.77 VL 33.420 GAL -1.30 AZL 91.88 HCA 111.57 SMA 206.99 ECC .27150 INC 1.8806 V1 29.512 RP 206.70 LAP -1.75 LOP 338.35 VP 25.357 GAP 15.75 AZP 89.31 TAL 353.89 TAP 105.46 RCA 150.79 APO 263.19 V2 26.494 RC 66.082 GL -15.12 GP .31 ZAL 106.18 ZAP 162.66 ETS 179.07 ZAE 169.97 ETE 23.33 ZAC 99.89 ETC 278.41 LVI -19.17

Distance 334.723 Earth to Mars

Planeto-centric Conic: C3 17.666 VHL 4.203 DLA -24.23 RAL 341.41 RAD 6641.8 VEL 11.734 PTH 6.76 VHP 7.088 DPA -15.89 RAP 324.11 ECC 1.2907

Differential Corrections: TDE -.3651 TRA -.8592 TC3 .2742 BAU .0780 RDE -.3781 RRA .1422 RC3 .1684 FAU .05709 FDE .2274 FRA 1.4277 FC3 -2.7970 BSP 2258 BDE .5256 BRA .8709 BC3 .3218 FSP 399

Mid-course Execution Accuracy: SGT 1396.6 SGR 575.2 SG3 275.7 RRT .0202 RRF -.0214 RTF -.7714 SGB 1510.4 R23 -.0026 R13 -.7714 SG1 1396.6 SG2 575.1 THA .57

Orbit Determination Accuracy: ST 31.5 SR 26.0 SS 21.9 CRT .7096 CRS .3212 CST .8922 LSA 41.6 MSA 20.3 SSA 1.3 EL1 37.9 EL2 15.2 ALF 37.38

LAUNCH DATE MAY 8 1971 FLIGHT TIME 130.00 ARRIVAL DATE SEP 15 1971

Heliocentric Conic: RL 150.98 LAL .00 LOL 226.77 VL 33.334 GAL -1.23 AZL 91.88 HCA 112.84 SMA 205.15 ECC .26489 INC 1.8827 V1 29.512 RP 206.72 LAP -1.74 LOP 339.82 VP 25.241 GAP 15.35 AZP 89.27 TAL 354.11 TAP 106.95 RCA 150.81 APO 259.49 V2 26.491 RC 67.265 GL -15.44 GP .32 ZAL 105.93 ZAP 161.75 ETS 179.10 ZAE 169.98 ETE 22.57 ZAC 99.87 ETC 278.44 LVI -19.22

Distance 338.315 Earth to Mars

Planeto-centric Conic: C3 16.910 VHL 4.112 DLA -24.61 RAL 341.32 RAD 6641.4 VEL 11.702 PTH 6.74 VHP 6.868 DPA -15.83 RAP 324.26 ECC 1.2783

Differential Corrections: TDE -.3578 TRA -.8466 TC3 .2987 BAU .0784 RDE -.3671 RRA .1372 RC3 .1758 FAU .05971 FDE .2267 FRA 1.4879 FC3 -3.0572 BSP 2294 BDE .5126 BRA .8576 BC3 .3466 FSP 431

Mid-course Execution Accuracy: SGT 1411.5 SGR 571.6 SG3 294.5 RRT .0220 RRF -.0235 RTF -.7760 SGB 1522.8 R23 -.0031 R13 -.7760 SG1 1411.6 SG2 571.4 THA .61

Orbit Determination Accuracy: ST 31.6 SR 25.8 SS 22.5 CRT .7070 CRS .3043 CST .8859 LSA 41.7 MSA 20.6 SSA 1.3 EL1 37.8 EL2 15.2 ALF 36.87

LAUNCH DATE MAY 8 1971

FLIGHT TIME 132.00

ARRIVAL DATE SEP 17 1971

HELIOCENTRIC CONIC
 RL 180.98 LAL .00 LOL 226.77 VL 33.293 GAL -1.17 AZL 91.88 HCA 114.11 BMA 203.46 ECC .28866 INC 1.8849 V1 29.512
 RP 208.78 LAP -1.72 LOP 340.89 VP 28.130 GAP 14.86 AZP 89.23 TAL 334.32 TAP 108.43 RCA 150.83 APO 250.09 V2 26.487
 RC 68.302 GL -15.76 GP .33 ZAL 108.07 ZAP 180.61 ETB 179.13 ZAE 170.08 ETE 21.97 ZAC 99.87 ETC 278.47 LVI -19.27

PLANETOCENTRIC CONIC
 C3 18.214 VHL 4.027 DLA -25.00 RAL 341.22 RAD 8841.1 VEL 11.673 PTH 6.71 VHP 6.658 DPA -15.78 RAP 324.38 ECC 1.2888
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 16 42 8 2572.10 -10.98 89.52 196.65 136.99 17 25 0 1572.1 7.40 53.74
 60.00 17 34 8 2300.57 -5.86 87.13 201.52 129.94 18 33 49 1380.6 10.22 39.16
 70.00 19 26 31 2109.00 -1.59 39.09 205.50 124.15 20 1 40 1109.0 13.17 19.29
 80.00 21 18 16 1759.21 4.07 15.44 208.40 119.60 21 47 35 759.2 15.82 354.24
 90.00 23 2 40 1422.52 6.23 391.85 209.58 117.64 23 26 22 422.5 17.05 330.05
 100.00 0 5 4 1233.89 4.07 338.81 208.40 119.60 0 25 38 233.7 15.82 315.81
 110.00 0 29 53 1155.82 -1.59 328.01 203.50 124.15 0 49 9 155.8 13.17 308.21

DIFFERENTIAL CORRECTIONS
 TDE -.3507 TRA -.8338 TC3 .3231 BAU .0808 86T 1424.4 8GR 867.6 8G3 314.6 8T 31.7 8R 25.6 8B 23.0
 RDE -.3565 RRA .1323 RC3 .1830 FAU .06281 RRT .0243 RRF -.0259 RTF -.7801 CRT .7047 CRB .2857 CBT .8783
 PDE .2248 FRA 1.9513 FC3-3.3379 B8P 2323 86B 1535.3 R23 -.0029 R13 -.7801 L8A 41.9 M8A 20.9 88A 1.4
 BDE .5000 BRA .8439 BC3 .3713 F8P 463 86I 1424.5 8G2 567.4 THA .68 EL1 37.8 EL2 15.2 ALF 36.38

LAUNCH DATE MAY 8 1971

FLIGHT TIME 134.00

ARRIVAL DATE SEP 19 1971

HELIOCENTRIC CONIC
 RL 180.98 LAL .00 LOL 226.77 VL 33.177 GAL -1.10 AZL 91.89 HCA 115.38 BMA 201.89 ECC .28288 INC 1.8871 V1 29.512
 RP 206.79 LAP -1.71 LOP 342.16 VP 28.024 GAP 14.58 AZP 89.19 TAL 334.84 TAP 108.92 RCA 150.84 APO 252.94 V2 26.483
 RC 68.791 GL -16.07 GP .34 ZAL 108.42 ZAP 189.45 ETB 179.16 ZAE 170.22 ETE 21.81 ZAC 99.87 ETC 278.49 LVI -19.31

PLANETOCENTRIC CONIC
 C3 15.572 VHL 3.946 DLA -25.37 RAL 341.12 RAD 8840.8 VEL 11.846 PTH 6.69 VHP 6.480 DPA -15.73 RAP 324.48 ECC 1.2893
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 16 43 35 2354.61 -10.11 88.78 196.19 136.74 17 26 10 1894.6 8.27 53.00
 60.00 17 36 20 2361.09 -5.01 86.19 201.05 130.04 18 35 42 1381.1 11.05 38.20
 70.00 19 29 52 2086.11 .28 37.90 208.08 124.15 20 4 38 1086.1 13.99 18.03
 80.00 21 23 28 1730.59 5.03 13.86 208.00 119.47 21 82 18 730.8 16.86 382.53
 90.00 23 9 19 1389.21 7.28 349.97 209.22 117.40 23 32 28 389.2 17.92 328.00
 100.00 0 10 19 1205.06 5.03 338.22 208.00 119.47 0 30 20 205.1 16.66 313.89
 110.00 0 33 14 1132.93 .28 328.82 209.05 124.15 0 52 7 132.9 13.99 306.94

DIFFERENTIAL CORRECTIONS
 TDE -.3431 TRA -.8211 TC3 .3472 BAU .0824 86T 1436.7 8GR 563.3 8G3 336.0 8T 31.8 8R 25.3 8B 23.7
 RDE -.3468 RRA .1276 RC3 .1902 FAU .06845 RRT .0260 RRF -.0277 RTF -.7842 CRT .7016 CRB .2678 CBT .8715
 PDE .2231 FRA 1.8192 FC3-3.6387 B8P 2330 86B 1543.1 R23 -.0038 R13 -.7843 L8A 42.0 M8A 21.3 88A 1.4
 BDE .4874 BRA .8309 BC3 .3959 F8P 900 86I 1436.8 8G2 563.0 THA .69 EL1 37.7 EL2 15.2 ALF 35.92

LAUNCH DATE MAY 8 1971

FLIGHT TIME 136.00

ARRIVAL DATE SEP 21 1971

HELIOCENTRIC CONIC
 RL 180.98 LAL .00 LOL 226.77 VL 33.105 GAL -1.04 AZL 91.89 HCA 116.84 BMA 200.44 ECC .24740 INC 1.8894 V1 29.512
 RP 206.84 LAP -1.69 LOP 343.43 VP 24.923 GAP 14.21 AZP 89.15 TAL 354.78 TAP 111.40 RCA 150.85 APO 250.03 V2 26.477
 RC 71.130 GL -16.38 GP .36 ZAL 109.16 ZAP 198.28 ETB 179.18 ZAE 170.44 ETE 21.21 ZAC 99.87 ETC 278.51 LVI -19.34

PLANETOCENTRIC CONIC
 C3 14.982 VHL 3.871 DLA -25.75 RAL 341.01 RAD 8840.5 VEL 11.820 PTH 6.66 VHP 6.252 DPA -15.69 RAP 324.56 ECC 1.2488
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 16 45 1 2537.63 -9.27 88.03 195.74 136.88 17 27 19 1937.6 9.11 52.27
 60.00 17 38 32 2342.13 -4.18 85.20 200.61 130.12 18 37 34 1342.1 11.86 37.25
 70.00 19 33 15 2083.63 1.14 36.73 204.64 124.14 20 7 39 1063.6 14.78 18.77
 80.00 21 28 49 1701.96 5.99 12.27 207.64 119.31 21 57 11 702.0 17.48 350.79
 90.00 23 18 20 1355.21 8.34 348.03 208.90 117.12 23 38 55 355.2 18.78 325.80
 100.00 0 15 38 1176.44 5.99 333.64 207.64 119.31 0 35 13 176.4 17.48 312.16
 110.00 0 38 38 1110.45 1.14 325.64 204.64 124.14 0 55 8 110.5 14.78 305.69

DIFFERENTIAL CORRECTIONS
 TDE -.3355 TRA -.8075 TC3 .3694 BAU .0839 86T 1445.6 8GR 558.6 8G3 358.7 8T 31.8 8R 25.1 8B 24.3
 RDE -.3363 RRA .1230 RC3 .1973 FAU .06881 RRT .0280 RRF -.0300 RTF -.7871 CRT .6989 CRB .2482 CBT .8632
 PDE .2198 FRA 1.6893 FC3-3.9649 B8P 2373 86B 1549.7 R23 -.0040 R13 -.7872 L8A 42.0 M8A 21.6 88A 1.4
 BDE .4750 BRA .8168 BC3 .4188 F8P 937 86I 1445.7 8G2 558.3 THA .73 EL1 37.6 EL2 15.2 ALF 35.49

LAUNCH DATE MAY 8 1971

FLIGHT TIME 138.00

ARRIVAL DATE SEP 23 1971

HELIOCENTRIC CONIC
 RL 180.98 LAL .00 LOL 226.77 VL 33.038 GAL -.98 AZL 91.89 HCA 117.91 BMA 199.10 ECC .24226 INC 1.8917 V1 29.512
 RP 206.90 LAP -1.67 LOP 344.89 VP 24.828 GAP 13.84 AZP 89.11 TAL 384.97 TAP 112.88 RCA 150.86 APO 247.33 V2 26.470
 RC 72.517 GL -16.68 GP .37 ZAL 104.90 ZAP 157.05 ETB 179.20 ZAE 170.74 ETE 21.08 ZAC 99.87 ETC 278.52 LVI -19.37

PLANETOCENTRIC CONIC
 C3 14.437 VHL 3.800 DLA -26.12 RAL 340.90 RAD 8840.3 VEL 11.597 PTH 6.64 VHP 6.060 DPA -15.66 RAP 324.60 ECC 1.2376
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 16 48 27 2521.19 -8.45 87.32 195.33 137.00 17 28 28 1921.2 9.93 51.98
 60.00 18 0 43 2323.64 -3.37 84.39 200.19 130.18 18 39 27 1323.6 12.65 36.32
 70.00 19 36 40 2041.52 1.99 35.57 204.25 124.10 20 10 42 1041.5 15.96 19.52
 80.00 21 34 21 1673.20 6.98 10.67 207.30 119.11 22 2 14 673.2 18.28 349.04
 90.00 23 23 49 1320.17 9.42 346.03 208.63 118.79 23 48 49 320.2 19.68 323.67
 100.00 0 21 9 1147.67 6.98 332.04 207.30 119.11 0 40 16 147.7 18.28 310.41
 110.00 0 40 3 1088.34 1.99 324.49 204.25 124.10 0 58 11 88.3 15.96 304.44

DIFFERENTIAL CORRECTIONS
 TDE -.3178 TRA -.7925 TC3 .4217 BAU .0904 86T 1438.0 8GR 553.5 8G3 383.0 8T 31.0 8R 24.8 8B 24.8
 RDE -.3266 RRA .1186 RC3 .2044 FAU .07213 RRT .0302 RRF -.0328 RTF -.8007 CRT .6901 CRB .2280 CBT .8979
 PDE .2141 FRA 1.7804 FC3-4.3255 B8P 2258 86B 1538.0 R23 -.0044 R13 -.8007 L8A 41.4 M8A 21.9 88A 1.4
 BDE .4557 BRA .7914 BC3 .4888 F8P 979 86I 1438.1 8G2 553.3 THA .79 EL1 36.7 EL2 15.2 ALF 35.99

LAUNCH DATE MAY 8 1971

FLIGHT TIME 140.00

ARRIVAL DATE SEP 25 1971

HELIOCENTRIC CONIC
 RL 150.98 LAL .00 LOL 226.77 VL 32.975 GAL -.93 AZL 91.89 HCA 119.18 SMA 197.86 ECC .23746 INC 1.8941 V1 29.512
 RP 206.96 LAP -1.65 LOP 345.96 VP 24.733 GAP 13.49 AZP 89.08 TAL 355.17 TAP 114.35 RCA 150.87 APO 244.84 V2 26.462
 RC 75.950 GL -16.97 GP .39 ZAL 104.65 ZAP 155.60 ETS 179.21 ZAE 171.12 ETE 21.11 ZAC 99.89 ETC 278.52 LVI -19.39

DISTANCE 356.956 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 13.936 VHL 3.733 DLA -26.48 RAL 340.80 RAD 6640.0 VEL 11.576 PTH 6.62 VHP 5.875 DPA -15.64 RAP 324.62 ECC 1.2294
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 47 32 2905.38 -7.67 66.65 194.94 137.10 17 29 37 1505.4 10.71 50.88
 60.00 18 2 54 2305.80 -2.58 53.54 199.81 130.23 18 41 20 1305.8 13.41 35.42
 70.00 19 40 6 2019.99 2.81 34.45 203.89 124.05 20 13 46 1020.0 16.31 14.30
 80.00 21 40 3 1644.54 7.89 9.07 207.01 118.89 22 7 28 644.5 19.07 347.27
 90.00 23 31 49 1264.13 10.52 343.95 208.41 116.40 23 53 13 284.1 20.50 321.37
 100.00 0 26 51 1119.01 7.89 330.44 207.01 118.89 0 45 30 119.0 19.07 308.64
 110.00 0 43 28 1066.81 2.81 323.36 203.89 124.05 1 1 15 66.8 16.31 303.22

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3156 TRA -.7743 TC3 .4238 BAU .0882 SGT 1448.3 SGR 548.2 SG3 408.6 ST 31.4 SR 24.5 SS 25.5
 RDE -.3174 RRA .1143 RC3 .2111 FAU .07558 RRT .0322 RRF -.0351 RTF -.7969 CRT .6907 CRS .2068 CST .8472
 FDE .2104 FRA 1.8415 FC3-4.6993 BSP 2333 SGB 1548.5 R23 -.0051 R13 -.7969 LSA 41.7 MSA 22.3 SSA 1.4
 BDE .4476 BRA .7827 BC3 .4734 FSP 619 SG1 1448.4 SG2 547.8 THA .82 EL1 36.8 EL2 15.1 ALF 35.13

LAUNCH DATE MAY 8 1971

FLIGHT TIME 142.00

ARRIVAL DATE SEP 27 1971

HELIOCENTRIC CONIC
 RL 150.98 LAL .00 LOL 226.77 VL 32.915 GAL -.87 AZL 91.90 HCA 120.44 SMA 196.71 ECC .23297 INC 1.8965 V1 29.512
 RP 207.04 LAP -1.64 LOP 347.23 VP 24.645 GAP 13.14 AZP 89.04 TAL 355.37 TAP 115.82 RCA 150.88 APO 242.54 V2 26.454
 RC 75.426 GL -17.26 GP .40 ZAL 104.41 ZAP 154.53 ETS 179.23 ZAE 171.56 ETE 21.36 ZAC 99.90 ETC 278.52 LVI -19.40

DISTANCE 360.796 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 13.475 VHL 3.671 DLA -26.83 RAL 340.70 RAD 6639.8 VEL 11.556 PTH 6.60 VHP 5.697 DPA -15.63 RAP 324.60 ECC 1.2218
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 49 16 2490.14 -6.91 66.00 194.58 137.19 17 30 46 1490.1 11.47 50.21
 60.00 18 5 4 2288.52 -1.82 52.71 199.45 130.27 18 43 12 1288.5 14.14 34.54
 70.00 19 43 33 1998.95 3.61 33.34 203.56 123.99 20 16 52 998.9 17.03 13.10
 80.00 21 45 58 1615.77 8.83 7.45 206.76 118.64 22 12 53 615.8 19.84 345.48
 90.00 23 40 30 1246.41 11.65 341.76 208.23 115.95 24 1 16 246.4 21.35 318.93
 100.00 0 32 45 1090.24 8.83 328.82 206.76 118.64 0 50 56 90.2 19.84 306.85
 110.00 0 46 55 1045.76 3.61 322.26 203.56 123.99 1 4 21 45.8 17.03 302.02

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3124 TRA -.7622 TC3 .4307 BAU .0869 SGT 1454.3 SGR 542.5 SG3 435.6 ST 31.5 SR 24.2 SS 26.3
 RDE -.3084 RRA .1101 RC3 .2177 FAU .07929 RRT .0360 RRF -.0387 RTF -.7948 CRT .6920 CRS .1911 CST .8376
 FDE .2085 FRA 1.9241 FC3-5.0942 BSP 2380 SGB 1552.2 R23 -.0055 R13 -.7949 LSA 42.0 MSA 22.5 SSA 1.4
 BDE .4389 BRA .7701 BC3 .4826 FSP 666 SG1 1454.5 SG2 542.1 THA .89 EL1 36.8 EL2 15.0 ALF 34.49

LAUNCH DATE MAY 8 1971

FLIGHT TIME 144.00

ARRIVAL DATE SEP 29 1971

HELIOCENTRIC CONIC
 RL 150.98 LAL .00 LOL 226.77 VL 32.880 GAL -.82 AZL 91.90 HCA 121.71 SMA 195.65 ECC .22875 INC 1.8990 V1 29.512
 RP 207.12 LAP -1.62 LOP 348.49 VP 24.560 GAP 12.80 AZP 89.00 TAL 355.57 TAP 117.27 RCA 150.89 APO 240.40 V2 26.444
 RC 76.944 GL -17.54 GP .42 ZAL 104.17 ZAP 153.22 ETS 179.24 ZAE 172.08 ETE 21.85 ZAC 99.93 ETC 278.51 LVI -19.41

DISTANCE 364.665 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 13.051 VHL 3.613 DLA -27.17 RAL 340.80 RAD 6639.6 VEL 11.538 PTH 6.58 VHP 5.526 DPA -15.62 RAP 324.55 ECC 1.2148
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 50 39 2475.49 -6.17 65.38 194.25 137.27 17 31 54 1475.5 12.19 49.57
 60.00 18 7 13 2271.84 -1.09 51.92 199.13 130.29 18 45 5 1271.8 14.83 33.69
 70.00 19 47 0 1978.42 4.39 32.27 203.27 123.90 20 19 58 978.4 17.72 11.91
 80.00 21 52 5 1586.85 9.77 5.82 206.54 118.35 22 18 32 586.9 20.59 343.67
 90.00 23 50 6 1206.27 12.83 339.41 208.12 115.42 24 10 13 206.3 22.22 316.31
 100.00 0 38 53 1061.32 9.77 327.19 206.54 118.35 0 56 34 61.3 20.59 305.03
 110.00 0 50 22 1025.23 4.39 321.19 203.27 123.90 1 7 28 25.2 17.72 300.83

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3080 TRA -.7487 TC3 .4355 BAU .0854 SGT 1455.7 SGR 536.5 SG3 464.1 ST 31.6 SR 23.9 SS 27.0
 RDE -.2997 RRA .1061 RC3 .2240 FAU .08314 RRT .0393 RRF -.0422 RTF -.7931 CRT .6928 CRS .1792 CST .8281
 FDE .2061 FRA 2.0125 FC3-5.5154 BSP 2398 SGB 1531.5 R23 -.0062 R13 -.7932 LSA 42.1 MSA 22.8 SSA 1.4
 BDE .4298 BRA .7562 BC3 .4897 FSP 715 SG1 1455.9 SG2 536.1 THA .96 EL1 36.7 EL2 14.8 ALF 33.97

LAUNCH DATE MAY 8 1971

FLIGHT TIME 146.00

ARRIVAL DATE OCT 1 1971

HELIOCENTRIC CONIC
 RL 150.98 LAL .00 LOL 226.77 VL 32.807 GAL -.78 AZL 91.90 HCA 122.97 SMA 194.86 ECC .22481 INC 1.9015 V1 29.512
 RP 207.21 LAP -1.60 LOP 349.76 VP 24.478 GAP 12.46 AZP 88.97 TAL 355.76 TAP 118.73 RCA 150.90 APO 238.42 V2 26.433
 RC 76.502 GL -17.81 GP .44 ZAL 103.94 ZAP 151.88 ETS 179.25 ZAE 172.67 ETE 22.65 ZAC 99.96 ETC 278.50 LVI -19.41

DISTANCE 368.563 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 12.860 VHL 3.558 DLA -27.50 RAL 340.50 RAD 6639.4 VEL 11.521 PTH 6.57 VHP 5.360 DPA -15.63 RAP 324.47 ECC 1.2084
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 52 1 2461.45 -5.47 64.79 193.94 137.34 17 33 3 1461.5 12.88 48.95
 60.00 18 9 21 2255.78 -3.36 51.15 198.83 130.30 18 46 56 1255.8 15.51 32.86
 70.00 19 50 27 1958.44 5.15 31.22 203.00 123.81 20 23 6 958.4 18.39 10.75
 80.00 21 58 28 1557.72 10.71 4.17 206.36 118.04 22 24 25 557.7 21.32 341.82
 90.00 0 5 1 1162.30 14.10 336.80 208.09 114.77 0 24 23 162.3 23.11 313.40
 100.00 0 45 15 1032.19 10.71 325.54 206.36 118.04 1 2 28 32.2 21.32 303.18
 110.00 0 53 50 1005.26 5.15 320.14 203.00 123.81 1 10 35 5.3 18.39 299.67

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3017 TRA -.7340 TC3 .4438 BAU .0848 SGT 1453.2 SGR 530.3 SG3 495.1 ST 31.5 SR 23.6 SS 27.8
 RDE -.2912 RRA .1021 RC3 .2302 FAU .08744 RRT .0421 RRF -.0456 RTF -.7922 CRT .6920 CRS .1546 CST .8170
 FDE .1998 FRA 2.1069 FC3-5.9797 BSP 2406 SGB 1546.9 R23 -.0071 R13 -.7922 LSA 42.2 MSA 23.2 SSA 1.4
 BDE .4193 BRA .7411 BC3 .4998 FSP 768 SG1 1453.3 SG2 529.7 THA 1.02 EL1 36.5 EL2 14.7 ALF 33.60

LAUNCH DATE MAY 8 1971

FLIGHT TIME 164.00

ARRIVAL DATE OCT 19 1971

HELIOCENTRIC CONIC										DISTANCE 404.597										EARTH TO MARS																																													
RL	180.98	LAL	.00	LOL	226.77	VL	32.486	GAL	-.80	AZL	91.93	HCA	134.20	SMA	188.81	ECC	.19930	INC	1.9289	V1	29.818	RP	208.41	LAP	-1.38	LOP	1.06	VP	23.867	GAP	0.79	AZP	89.65	TAL	386.97	TAP	131.24	RCA	180.94	APO	226.08	VR	26.294	RC	84.128	GL	-19.68	GP	.66	ZAL	102.83	ZAP	138.19	ETL	178.26	ZAE	177.34	ETE	135.36	ZAC	100.51	ETC	276.03	LVI	-16.90
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	10.310	VHL	3.211	DLA	-29.91	RAL	340.14	RAD	6636.2	VEL	11.410	PTH	6.47	VHP	4.136	DPA	-16.19	RAP	322.03	ECC	1.1697	ST	20.8	SR	20.2	SS	35.6	CRT	.7320	CR8	.0186	C8T	.6891	L8A	42.8	M8A	25.7	88A	1.4	EL1	32.9	EL2	11.9	ALF	32.05																				
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT	ABC	INJ AZMTH	INJ TIME	PO	CBT	TIM	INJ 2	LAT	INJ 2	LONG																																																		
50.00	17 3 43	2363.64	-.86	60.00	192.36	137.87	17 43 7	1363.6	17.64	44.53																																																							
60.00	18 27 9	2141.69	4.64	48.69	197.35	130.00	19 2 50	1141.7	20.15	26.60																																																							
70.00	20 20 17	1908.84	10.74	23.24	201.80	122.62	20 50 26	806.8	23.12	1.73																																																							
79.85	23 38 6	1196.93	21.29	348.86	207.48	111.51	23 55 3	196.9	26.26	317.30																																																							
79.85	23 38 6	1196.93	21.29	348.86	207.48	111.51	23 55 3	196.9	26.26	317.30																																																							
79.85	23 38 6	1196.93	21.29	348.86	207.48	111.51	23 55 3	196.9	26.26	317.30																																																							
110.00	1 23 40	6143.70	10.74	280.07	201.80	122.62	3 6 3	8143.7	23.12	266.85																																																							

LAUNCH DATE MAY 8 1971

FLIGHT TIME 166.00

ARRIVAL DATE OCT 21 1971

HELIOCENTRIC CONIC										DISTANCE 408.681										EARTH TO MARS																																													
RL	190.98	LAL	.00	LOL	226.77	VL	32.440	GAL	-.49	AZL	91.93	HCA	135.82	SMA	188.06	ECC	.19736	INC	1.9321	V1	29.812	RP	208.58	LAP	-1.35	LOP	2.31	VP	23.808	GAP	0.52	AZP	88.62	TAL	357.04	TAP	132.36	RCA	180.94	APO	225.18	VR	26.274	RC	86.027	GL	-20.08	GP	.69	ZAL	102.47	ZAP	138.47	ETL	179.26	ZAE	176.32	ETE	180.00	ZAC	100.61	ETC	277.93	LVI	-10.89
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	10.148	VHL	3.188	DLA	-30.10	RAL	340.17	RAD	6638.1	VEL	11.412	PTH	6.46	VHP	4.028	DPA	-16.30	RAP	321.98	ECC	1.1670	ST	27.3	SR	19.7	SS	36.4	CRT	.7364	CR8	-.0089	C8T	.6894	L8A	42.3	M8A	25.0	88A	1.4	EL1	31.6	EL2	11.5	ALF	32.08																				
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT	ABC	INJ AZMTH	INJ TIME	PO	CBT	TIM	INJ 2	LAT	INJ 2	LONG																																																		
50.00	17 4 57	2358.96	-.18	60.37	192.32	137.80	17 44 13	1386.0	18.01	44.18																																																							
60.00	18 28 55	2132.86	8.04	48.29	197.32	130.04	19 4 27	1132.0	20.51	26.30																																																							
70.00	20 23 17	1796.09	11.20	22.95	201.80	122.48	20 53 13	796.1	23.50	.93																																																							
79.25	23 30 42	1208.22	21.80	343.49	207.35	111.59	23 50 50	208.2	26.48	318.19																																																							
79.25	23 30 42	1208.22	21.80	343.49	207.35	111.59	23 50 50	208.2	26.48	318.19																																																							
79.25	23 30 42	1208.22	21.80	343.49	207.35	111.59	23 50 50	208.2	26.48	318.19																																																							
110.00	1 26 39	6130.95	11.20	289.38	201.80	122.48	3 8 50	8131.0	23.50	267.75																																																							

LAUNCH DATE MAY 8 1971

FLIGHT TIME 168.00

ARRIVAL DATE OCT 23 1971

HELIOCENTRIC CONIC										DISTANCE 412.775										EARTH TO MARS																																													
RL	190.98	LAL	.00	LOL	226.77	VL	32.416	GAL	-.48	AZL	91.94	HCA	136.77	SMA	187.65	ECC	.19559	INC	1.9359	V1	29.812	RP	208.76	LAP	-1.33	LOP	3.55	VP	23.788	GAP	0.27	AZP	89.59	TAL	357.09	TAP	133.88	RCA	180.95	APO	224.39	VR	26.284	RC	87.955	GL	-20.26	GP	.72	ZAL	102.43	ZAP	134.72	ETL	179.25	ZAE	178.09	ETE	189.69	ZAC	100.71	ETC	277.63	LVI	-18.78
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	10.002	VHL	3.163	DLA	-30.27	RAL	340.23	RAD	6638.0	VEL	11.406	PTH	6.46	VHP	3.925	DPA	-16.43	RAP	321.07	ECC	1.1646	ST	27.9	SR	19.3	SS	37.0	CRT	.7562	CR8	.0042	C8T	.6904	L8A	43.5	M8A	26.1	88A	1.4	EL1	32.1	EL2	10.9	ALF	31.84																				
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT	ABC	INJ AZMTH	INJ TIME	PO	CBT	TIM	INJ 2	LAT	INJ 2	LONG																																																		
50.00	17 8 10	2349.03	.17	60.00	192.31	137.80	17 48 19	1349.0	18.34	43.85																																																							
60.00	18 30 38	2124.30	5.40	44.85	197.32	130.00	19 6 2	1124.3	20.84	29.84																																																							
70.00	20 26 6	1784.47	11.63	21.92	201.92	122.34	20 55 53	784.5	23.84	.20																																																							
79.73	23 27 6	1217.51	21.69	344.26	207.26	111.65	23 47 23	217.5	26.67	318.92																																																							
79.73	23 27 6	1217.51	21.69	344.26	207.26	111.65	23 47 23	217.5	26.67	318.92																																																							
79.73	23 27 6	1217.51	21.69	344.26	207.26	111.65	23 47 23	217.5	26.67	318.92																																																							
110.00	1 29 31	6119.32	11.63	289.74	201.92	122.34	3 11 30	8119.3	23.84	267.02																																																							

LAUNCH DATE MAY 8 1971

FLIGHT TIME 170.00

ARRIVAL DATE OCT 25 1971

HELIOCENTRIC CONIC										DISTANCE 416.881										EARTH TO MARS																																													
RL	190.98	LAL	.00	LOL	226.77	VL	32.394	GAL	-.47	AZL	91.94	HCA	138.01	SMA	187.27	ECC	.19394	INC	1.9398	V1	29.812	RP	208.94	LAP	-1.30	LOP	4.80	VP	23.699	GAP	0.01	AZP	88.86	TAL	357.12	TAP	135.14	RCA	180.95	APO	223.58	VR	26.292	RC	89.910	GL	-20.43	GP	.76	ZAL	102.41	ZAP	132.93	ETL	179.24	ZAE	173.72	ETE	184.94	ZAC	100.82	ETC	277.71	LVI	-18.66
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	9.870	VHL	3.142	DLA	-30.43	RAL	340.30	RAD	6638.0	VEL	11.400	PTH	6.45	VHP	3.828	DPA	-16.57	RAP	320.51	ECC	1.1624	ST	27.4	SR	18.8	SS	38.8	CRT	.7756	CR8	.0028	C8T	.6922	L8A	43.8	M8A	26.2	88A	1.4	EL1	31.6	EL2	10.3	ALF	31.83																				
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT	ABC	INJ AZMTH	INJ TIME	PO	CBT	TIM	INJ 2	LAT	INJ 2	LONG																																																		
50.00	17 7 22	2342.68	.49	59.81	192.32	137.87	17 48 25	1342.7	18.64	43.85																																																							
60.00	18 32 18	2116.72	5.73	44.49	197.34	129.96	19 7 38	1116.7	21.13	25.42																																																							
70.00	20 28 54	1773.67	12.02	21.33	201.97	122.21	20 58 27	773.7	24.15	359.51																																																							
79.28	23 24 1	1225.89	21.86	344.94	207.20	111.71	23 44 27	225.6	26.85	319.56																																																							
79.28	23 24 1	1225.89	21.86	344.94	207.20	111.71	23 44 27	225.6	26.85	319.56																																																							
79.28	23 24 1	1225.89	21.86	344.94	207.20	111.71	23 44 27	225.6	26.85	319.56																																																							
110.00	1 32 16	6108.83	12.02	288.18	201.97	122.21	3 14 4	8108.8	24.15	268.34																																																							

LAUNCH DATE MAY 8 1971

FLIGHT TIME 172.00

ARRIVAL DATE OCT 27 1971

HELIOCENTRIC CONIC

DISTANCE 420.997

EARTH TO MARS

RL 150.88 LAL .00 LOL 226.77 VL 32.374 GAL -.46 AZL 91.94 HCA 139.23 SMA 186.92 ECC .19244 INC 1.9438 V1 29.512
 RP 209.14 LAP -1.27 LOP 6.04 VP 23.646 GAP 8.77 AZP 88.53 TAL 357.15 TAP 136.40 RCA 150.95 APO 222.89 V2 26.209
 RC 101.892 GL -20.59 GP .79 ZAL 102.42 ZAP 131.10 ETS 179.24 ZAE 172.25 ETE 168.36 ZAC 100.94 ETC 277.59 LVI -18.53

PLANETOCENTRIC CONIC

C3 9.752 VHL 3.123 DLA -30.57 RAL 340.40 RAD 6637.9 VEL 11.395 PTH 6.45 VHP 3.735 DPA -16.71 RAP 319.91 ECC 1.1605
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 8 34 2336.96 .78 59.57 192.35 137.57 17 47 31 1337.0 18.92 43.29
 60.00 18 33 55 2109.88 6.03 44.16 197.38 129.92 19 9 4 1109.9 21.40 25.04
 70.00 20 31 31 1763.85 12.38 20.79 202.05 122.09 21 0 55 763.9 24.43 358.89
 77.89 23 21 30 1232.37 22.02 345.51 207.17 111.76 23 42 2 232.4 29.01 320.10
 77.89 23 21 30 1232.37 22.02 345.51 207.17 111.76 23 42 2 232.4 29.01 320.10
 77.89 23 21 30 1232.37 22.02 345.51 207.17 111.76 23 42 2 232.4 29.01 320.10
 110.00 1 34 53 6098.71 12.38 287.61 202.05 122.09 3 16 32 5098.7 24.43 265.71

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2488 TRA -.4457 TC3 -.1070 BAU .0403 SGT 1055.9 SGR 425.6 SG3 1046.7 ST 26.9 SR 18.4 SS 39.9
 RDE -.1994 RRA .0566 RC3 .2899 FAU .16153 RRT .0899 RRF -.1401 RTF -.5668 CRT .7920 CRS -.0038 CST .6020
 FDE .1246 FRA 3.8270 FC-14.3402 BSP 1493 SGB 1138.4 R23 -.0796 R13 -.5683 LSA 44.2 MSA 26.3 SSA 1.4
 BDE .3189 BRA .4493 BC3 .3090 FSP 1741 SG1 1058.7 SG2 423.6 THA 2.47 EL1 31.1 EL2 9.7 ALF 31.89

LAUNCH DATE MAY 8 1971

FLIGHT TIME 174.00

ARRIVAL DATE OCT 29 1971

HELIOCENTRIC CONIC

DISTANCE 425.121

EARTH TO MARS

RL 150.98 LAL .00 LOL 226.77 VL 32.355 GAL -.46 AZL 91.95 HCA 140.49 SMA 186.80 ECC .19105 INC 1.9481 V1 29.512
 RP 209.34 LAP -1.24 LOP 7.28 VP 23.595 GAP 8.52 AZP 88.50 TAL 357.15 TAP 137.64 RCA 150.95 APO 222.25 V2 26.186
 RC 103.900 GL -20.74 GP .83 ZAL 102.44 ZAP 129.24 ETS 179.23 ZAE 170.71 ETE 170.70 ZAC 101.06 ETC 277.46 LVI -18.39

PLANETOCENTRIC CONIC

C3 9.646 VHL 3.106 DLA -30.69 RAL 340.51 RAD 6637.9 VEL 11.391 PTH 6.44 VHP 3.648 DPA -16.86 RAP 319.28 ECC 1.1587
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 9 45 2331.86 1.03 59.36 192.42 137.57 17 48 37 1331.9 19.16 43.04
 60.00 18 35 28 2103.77 6.30 43.86 197.45 129.89 19 10 32 1103.8 21.64 24.70
 70.00 20 34 0 1755.02 12.70 20.31 202.15 121.98 21 3 15 755.0 24.68 358.32
 77.55 23 19 30 1237.95 22.16 345.99 207.17 111.80 23 40 8 237.9 29.15 320.55
 77.55 23 19 30 1237.95 22.16 345.99 207.17 111.80 23 40 8 237.9 29.15 320.55
 77.55 23 19 30 1237.95 22.16 345.99 207.17 111.80 23 40 8 237.9 29.15 320.55
 110.00 1 37 22 6089.88 12.70 287.13 202.15 121.98 3 18 52 5089.9 24.68 265.15

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2473 TRA -.4131 TC3 -.2089 BAU .0465 SGT 1005.1 SGR 416.4 SG3 1099.9 ST 26.4 SR 17.9 SS 40.9
 RDE -.1933 RRA .0531 RC3 .2937 FAU .16876 RRT .0909 RRF -.1549 RTF -.5064 CRT .8118 CRS -.0053 CST .5737
 FDE .1238 FRA 3.9956 FC-15.1471 BSP 1341 SGB 1088.0 R23 -.0998 R13 -.5083 LSA 44.6 MSA 26.4 SSA 1.4
 BDE .3139 BRA .4165 BC3 .3604 FSP 1839 SG1 1006.0 SG2 414.4 THA 2.60 EL1 30.6 EL2 9.0 ALF 31.95

LAUNCH DATE MAY 8 1971

FLIGHT TIME 176.00

ARRIVAL DATE OCT 31 1971

HELIOCENTRIC CONIC

DISTANCE 429.255

EARTH TO MARS

RL 150.98 LAL .00 LOL 226.77 VL 32.338 GAL -.46 AZL 91.95 HCA 141.73 SMA 186.30 ECC .18978 INC 1.9527 V1 29.512
 RP 209.55 LAP -1.21 LOP 8.51 VP 23.544 GAP 8.29 AZP 88.47 TAL 357.14 TAP 138.87 RCA 150.95 APO 221.66 V2 26.162
 RC 105.933 GL -20.89 GP .87 ZAL 102.49 ZAP 127.33 ETS 179.22 ZAE 169.09 ETE 172.39 ZAC 101.18 ETC 277.32 LVI -18.24

PLANETOCENTRIC CONIC

C3 9.552 VHL 3.091 DLA -30.80 RAL 340.84 RAD 6637.8 VEL 11.387 PTH 6.44 VHP 3.566 DPA -17.02 RAP 318.60 ECC 1.1572
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 10 55 2327.35 1.26 59.17 192.50 137.56 17 49 42 1327.4 19.38 42.83
 60.00 18 38 58 2098.38 6.53 43.60 197.55 129.86 19 11 57 1098.4 21.85 24.40
 70.00 20 36 19 1747.18 12.98 19.87 202.27 121.87 21 5 27 747.2 24.90 357.82
 77.26 23 17 55 1242.73 22.28 346.40 207.20 111.84 23 38 38 242.7 29.28 320.93
 77.26 23 17 55 1242.73 22.28 346.40 207.20 111.84 23 38 38 242.7 29.28 320.93
 77.26 23 17 55 1242.73 22.28 346.40 207.20 111.84 23 38 38 242.7 29.28 320.93
 110.00 1 39 42 6082.04 12.98 286.70 202.27 121.87 3 21 4 5082.0 24.90 264.64

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2442 TRA -.3771 TC3 -.3199 BAU .0558 SGT 952.1 SGR 407.1 SG3 1153.0 ST 25.7 SR 17.4 SS 41.9
 RDE -.1872 RRA .0496 RC3 .2975 FAU .17609 RRT .0868 RRF -.1711 RTF -.4.98 CRT .8323 CRS -.0083 CST .5408
 FDE .1196 FRA 4.1623 FC-18.9603 BSP 1133 SGB 1035.5 R23 -.1260 R13 -.4323 LSA 45.0 MSA 26.4 SSA 1.3
 BDE .3077 BRA .3803 BC3 .4369 FSP 1923 SG1 952.9 SG2 405.3 THA 2.60 EL1 29.9 EL2 8.3 ALF 32.20

LAUNCH DATE MAY 8 1971

FLIGHT TIME 178.00

ARRIVAL DATE NOV 2 1971

HELIOCENTRIC CONIC

DISTANCE 433.396

EARTH TO MARS

RL 150.98 LAL .00 LOL 226.77 VL 32.322 GAL -.46 AZL 91.96 HCA 142.96 SMA 186.04 ECC .18863 INC 1.9575 V1 29.512
 RP 209.76 LAP -1.18 LOP 9.75 VP 23.495 GAP 8.06 AZP 88.44 TAL 357.12 TAP 140.08 RCA 150.95 APO 221.13 V2 26.137
 RC 107.990 GL -21.02 GP .92 ZAL 102.56 ZAP 125.40 ETS 179.21 ZAE 167.40 ETE 173.64 ZAC 101.32 ETC 277.17 LVI -18.08

PLANETOCENTRIC CONIC

C3 9.469 VHL 3.077 DLA -30.89 RAL 340.80 RAD 6637.8 VEL 11.383 PTH 6.44 VHP 3.488 DPA -17.19 RAP 317.88 ECC 1.1558
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 12 5 2323.42 1.46 59.01 192.61 137.56 17 50 48 1323.4 19.56 42.64
 60.00 18 38 25 2093.68 6.74 43.37 197.66 129.83 19 13 19 1093.7 22.03 24.13
 70.00 20 38 30 1740.31 13.22 19.49 202.41 121.78 21 7 31 740.3 25.09 357.38
 77.01 23 16 46 1246.58 22.39 346.74 207.27 111.86 23 37 33 246.6 29.39 321.24
 77.01 23 16 46 1246.58 22.39 346.74 207.27 111.86 23 37 33 246.6 29.39 321.24
 77.01 23 16 46 1246.58 22.39 346.74 207.27 111.86 23 37 33 246.6 29.39 321.24
 110.00 1 41 53 6075.17 13.22 286.32 202.41 121.78 3 23 8 5075.2 25.09 264.20

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2365 TRA -.3352 TC3 -.4294 BAU .0664 SGT 890.3 SGR 397.7 SG3 1205.0 ST 24.6 SR 16.9 SS 42.7
 RDE -.1812 RRA .0461 RC3 .3014 FAU .18347 RRT .0758 RRF -.1869 RTF -.3356 CRT .8527 CRS -.0245 CST .4940
 FDE .0940 FRA 4.3209 FC-16.7746 BSP 877 SGB 975.1 R23 -.1556 R13 -.3386 LSA 45.0 MSA 26.3 SSA 1.3
 BDE .2979 BRA .3363 BC3 .5246 FSP 1996 SG1 890.9 SG2 396.3 THA 2.42 EL1 28.9 EL2 7.5 ALF 32.97

LAUNCH DATE MAY 8 1971

FLIGHT TIME 180.00

ARRIVAL DATE NOV 4 1971

HELIOCENTRIC CONIC DISTANCE 437.843 EARTH TO MARS
 RL 180.88 LAL .00 LOL 226.77 VL 32.308 GAL -.48 AZL 91.98 HCA 144.18 SMA 188.80 ECC .18759 INC 1.9825 V1 29.812
 RP 209.89 LAP -1.18 LOP 10.98 VP 23.447 GAP 7.83 AZP 88.41 TAL 357.07 TAP 141.28 RCA 150.85 APO 220.65 V2 26.111
 RC 110.071 GL -21.16 GP .96 ZAL 102.86 ZAP 123.43 ETS 179.21 ZAE 165.87 ETE 174.80 ZAC 101.48 ETC 277.01 LVI -17.91

PLANETOCENTRIC CONIC
 C3 9.398 VML 3.066 DLA -30.97 RAL 340.88 RAD 8637.7 VEL 11.380 PTH 6.43 VHP 3.416 DPA -17.36 RAP 317.14 ECC 1.1547
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 80.00 17 13 14 2320.17 1.62 58.87 192.75 137.58 17 51 54 1320.2 19.72 42.49
 60.00 18 36 49 2089.81 6.90 43.19 197.81 129.60 19 14 39 1089.8 22.18 23.92
 70.00 20 40 30 1734.67 13.43 18.18 202.57 121.70 21 9 24 734.7 25.24 357.01
 76.82 23 16 7 1249.41 22.48 348.99 207.37 111.88 23 36 57 249.4 29.48 321.47
 76.82 23 16 7 1249.41 22.48 348.99 207.37 111.88 23 36 57 249.4 29.48 321.47
 76.82 23 16 7 1249.41 22.48 348.99 207.37 111.88 23 36 57 249.4 29.48 321.47
 110.00 1 43 52 8069.53 13.43 286.01 202.57 121.70 3 25 1 5069.5 25.24 263.84

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2487 TRA -.3068 TC3 -.5995 BAU .0845 8G7 891.5 8GR 388.6 8G3 1260.8 8T 25.1 8R 16.5 88 44.2
 RDE -.1759 RRA .0421 RC3 .3048 FAU .18985 RRT .0610 RRF -.2090 RTF -.2149 CRT .8786 CR8 .0087 C8T .4752
 FDE .1444 FRA 4.5364 FC-17.4886 B8P 771 8G8 872.5 8R3 -.1932 R13 -.2177 L8A 46.4 M8A 26.6 88A 1.3
 BDE .3027 BRA .3096 BC3 .6728 F8P 2110 8G1 891.9 8G2 387.7 T8A 1.88 EL1 29.3 EL2 6.7 ALP 31.81

LAUNCH DATE MAY 8 1971

FLIGHT TIME 182.00

ARRIVAL DATE NOV 6 1971

HELIOCENTRIC CONIC DISTANCE 441.698 EARTH TO MARS
 RL 150.98 LAL .00 LOL 226.77 VL 32.295 GAL -.47 AZL 91.97 HCA 145.42 SMA 185.58 ECC .18864 INC 1.9672 V1 29.812
 RP 210.22 LAP -1.12 LOP 12.21 VP 23.399 GAP 7.61 AZP 88.38 TAL 357.01 TAP 142.43 RCA 150.94 APO 220.62 V2 26.088
 RC 112.177 GL -21.28 GP 1.01 ZAL 102.78 ZAP 123.44 ETS 179.20 ZAE 163.87 ETE 175.34 ZAC 101.60 ETC 276.85 LVI -17.72

PLANETOCENTRIC CONIC
 C3 9.336 VML 3.098 DLA -31.03 RAL 341.17 RAD 8637.7 VEL 11.377 PTH 6.43 VHP 3.349 DPA -17.53 RAP 316.35 ECC 1.1537
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 14 23 2317.44 1.76 58.76 192.92 137.55 17 53 1 1317.4 19.85 42.36
 60.00 18 41 9 2086.57 7.05 43.03 197.97 129.78 19 15 36 1086.6 22.31 23.75
 70.00 20 42 20 1729.95 13.60 18.92 202.75 121.64 21 11 10 729.9 25.37 356.71
 76.67 23 15 48 1251.64 22.55 347.19 207.50 111.90 23 36 40 251.6 29.55 321.65
 76.67 23 15 48 1251.64 22.55 347.19 207.50 111.90 23 36 40 251.6 29.55 321.65
 76.67 23 15 48 1251.64 22.55 347.19 207.50 111.90 23 36 40 251.6 29.55 321.65
 110.00 1 45 42 8064.81 13.60 285.74 202.75 121.64 3 26 47 5064.8 25.37 263.53

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2486 TRA -.2870 TC3 -.7546 BAU .1018 8G7 875.3 8GR 379.2 8G3 1311.5 8T 24.6 8R 18.0 88 45.2
 RDE -.1697 RRA .0383 RC3 .3086 FAU .19639 RRT .0520 RRF -.2294 RTF -.0770 CRT .9027 CR8 .0109 C8T .4307
 FDE .1455 FRA 4.7155 FC-18.2112 B8P 578 8G8 853.9 8R3 -.2265 R13 -.0787 L8A 46.9 M8A 26.6 88A 1.3
 BDE .2985 BRA .2697 BC3 .8153 F8P 2216 8G1 875.4 8G2 379.0 T8A .98 EL1 28.8 EL2 5.9 ALP 31.80

LAUNCH DATE MAY 8 1971

FLIGHT TIME 184.00

ARRIVAL DATE NOV 8 1971

HELIOCENTRIC CONIC DISTANCE 445.856 EARTH TO MARS
 RL 150.98 LAL .00 LOL 226.77 VL 32.283 GAL -.48 AZL 91.97 HCA 146.84 SMA 185.38 ECC .18979 INC 1.9735 V1 29.812
 RP 210.45 LAP -1.09 LOP 13.43 VP 23.353 GAP 7.39 AZP 88.35 TAL 356.94 TAP 143.58 RCA 150.94 APO 219.83 V2 26.058
 RC 114.307 GL -21.40 GP 1.06 ZAL 102.92 ZAP 119.42 ETS 179.19 ZAE 162.03 ETE 175.92 ZAC 101.74 ETC 276.68 LVI -17.83

PLANETOCENTRIC CONIC
 C3 9.285 VML 3.047 DLA -31.08 RAL 341.39 RAD 8637.7 VEL 11.375 PTH 6.43 VHP 3.286 DPA -17.71 RAP 315.54 ECC 1.1528
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 18 32 2319.26 1.87 58.87 193.10 137.55 17 54 7 1319.3 19.85 42.86
 60.00 18 42 27 2084.00 7.16 42.90 198.16 129.77 19 17 11 1084.0 22.41 23.99
 70.00 20 44 1 1726.25 13.73 18.72 202.95 121.58 21 12 47 726.2 25.47 356.47
 76.55 23 15 51 1253.18 22.61 347.33 207.66 111.91 23 36 44 253.2 29.60 321.76
 76.55 23 15 51 1253.18 22.61 347.33 207.66 111.91 23 36 44 253.2 29.60 321.76
 76.55 23 15 51 1253.18 22.61 347.33 207.66 111.91 23 36 44 253.2 29.60 321.76
 110.00 1 47 23 8061.10 13.73 285.54 202.95 121.58 3 28 24 5061.1 25.47 263.29

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2485 TRA -.2249 TC3 -.9167 BAU .1202 8G7 877.0 8GR 370.2 8G3 1363.3 8T 24.3 8R 15.5 88 46.3
 RDE -.1640 RRA .0343 RC3 .3126 FAU .20309 RRT -.0037 RRF -.2837 RTF .1120 CRT .9260 CR8 .0219 C8T .3966
 FDE .1402 FRA 4.6988 FC-18.9362 B8P 365 8G8 851.9 8R3 .2534 R13 -.0722 L8A 47.5 M8A 26.6 88A 1.2
 BDE .2933 BRA .2275 BC3 .9686 F8P 2310 8G1 877.0 8G2 370.2 T8A 179.89 EL1 28.3 EL2 5.0 ALP 31.85

LAUNCH DATE MAY 8 1971

FLIGHT TIME 186.00

ARRIVAL DATE NOV 10 1971

HELIOCENTRIC CONIC DISTANCE 450.021 EARTH TO MARS
 RL 150.98 LAL .00 LOL 226.77 VL 32.273 GAL -.49 AZL 91.98 HCA 147.87 SMA 185.21 ECC .18904 INC 1.9794 V1 29.812
 RP 210.70 LAP -1.05 LOP 14.65 VP 23.307 GAP 7.18 AZP 88.32 TAL 356.88 TAP 144.72 RCA 150.94 APO 219.48 V2 26.030
 RC 116.460 GL -21.51 GP 1.11 ZAL 103.00 ZAP 117.37 ETS 179.18 ZAE 160.18 ETE 176.30 ZAC 101.89 ETC 276.50 LVI -17.33

PLANETOCENTRIC CONIC
 C3 9.243 VML 3.040 DLA -31.11 RAL 341.63 RAD 8637.6 VEL 11.373 PTH 6.43 VHP 3.228 DPA -17.88 RAP 314.69 ECC 1.1521
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 80.00 17 18 41 2315.82 1.95 58.60 193.32 137.55 17 55 15 1315.6 20.03 42.18
 60.00 18 43 42 2082.09 7.24 42.81 198.37 129.75 19 18 24 1082.1 22.48 23.48
 70.00 20 45 32 1723.54 13.82 18.57 203.17 121.55 21 14 15 723.5 25.55 356.29
 76.47 23 16 14 1254.09 22.86 347.42 207.85 111.91 23 37 8 254.1 29.64 321.86
 76.47 23 16 14 1254.09 22.86 347.42 207.85 111.91 23 37 8 254.1 29.64 321.86
 76.47 23 16 14 1254.09 22.86 347.42 207.85 111.91 23 37 8 254.1 29.64 321.86
 110.00 1 48 54 8058.40 13.82 285.39 203.17 121.55 3 29 52 5058.4 25.55 263.12

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2447 TRA -.1811 TC3 -1.0878 BAU .1400 8G7 899.5 8GR 361.2 8G3 1414.0 8T 23.8 8R 15.0 88 47.3
 RDE -.1883 RRA .0301 RC3 .3186 FAU .20848 RRT -.0500 RRF -.2790 RTF .2231 CRT .9474 CR8 .0280 C8T .3328
 FDE .1656 FRA 5.0877 FC-19.8213 B8P 192 8G8 869.3 8R3 .2660 R13 -.2257 L8A 48.2 M8A 26.6 88A 1.2
 BDE .2914 BRA .1835 BC3 1.1331 F8P 2408 8G1 899.7 8G2 360.7 T8A 178.63 EL1 27.8 EL2 4.1 ALP 31.47

LAUNCH DATE MAY 8 1971

FLIGHT TIME 100.00

ARRIVAL DATE NOV 12 1971

Heliocentric Conic: RL 150.98 LAL .00 LOL 226.77 VL 32.263 GAL -.51 AZL 91.99 HCA 149.09 SMA 188.06 ECC .18437 INC 1.9859 V1 29.912
 RP 210.95 LAP -1.02 LOP 15.87 VP 23.262 GAP 6.97 AZP 88.30 TAL 356.74 TAP 145.83 RCA 150.94 APO 219.18 V2 26.001
 RC 118.837 GL -21.62 GP 1.17 ZAL 103.27 ZAP 115.31 ETS 179.18 ZAE 156.22 ETE 176.76 ZAC 102.05 ETC 276.31 LVI -17.13

Distance 454.190 Earth to Mars

Planetary Conic: C3 9.210 VHL 3.035 DLA -31.13 RAL 341.89 RAD 6637.6 VEL 11.372 PTH 6.42 VHP 3.175 DPA -18.06 RAP 313.82 ECC 1.1516
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 17 50 2312.47 2.01 58.55 193.55 137.54 17 56 22 1312.5 20.08 42.12
 60.00 18 44 54 2080.78 7.30 42.75 198.61 129.75 19 19 35 1080.8 22.53 23.40
 70.00 20 48 54 1721.76 13.89 18.47 203.41 121.52 21 15 35 721.8 25.60 356.18
 76.42 23 16 55 1254.48 22.69 347.47 208.06 111.90 23 37 50 254.5 29.67 321.89
 76.42 23 16 55 1254.48 22.69 347.47 208.06 111.90 23 37 50 254.5 29.67 321.89
 76.42 23 16 55 1254.48 22.69 347.47 208.06 111.90 23 37 50 254.5 29.67 321.89
 110.00 1 30 18 6056.62 13.89 285.29 203.41 121.52 3 31 13 5056.6 25.60 263.00

Differential Corrections: TDE -.2417 TRA -.1321 TC3-1.2520 BAU .1592 SGT 933.0 SGR 352.7 S63 1465.2 ST 23.3 SR 14.4 S5 48.2
 RDE -.1528 RRA .0258 RC3 .3218 FAU .21677 RRT -.1021 RRF -.3086 RTF .3714 CRT .9669 CR8 .0322 CST .2681
 FDE .1653 FRA 5.2587 FC-20.3770 B8P 274 SGB 997.5 R23 .2658 R13 -.3759 LSA 48.7 MSA 26.4 S5A 1.2
 BDE .2858 BRA .1346 BC3 1.2927 F8P 2481 S61 933.8 S62 350.5 THA 177.43 EL1 27.2 EL2 3.1 ALF 31.43

LAUNCH DATE MAY 8 1971

FLIGHT TIME 190.00

ARRIVAL DATE NOV 14 1971

Heliocentric Conic: RL 150.98 LAL .00 LOL 226.77 VL 32.255 GAL -.52 AZL 91.99 HCA 150.30 SMA 184.92 ECC .18378 INC 1.9929 V1 29.512
 RP 211.20 LAP -.99 LOP 17.09 VP 23.218 GAP 6.78 AZP 88.27 TAL 356.62 TAP 146.92 RCA 150.94 APO 218.91 V2 25.972
 RC 120.836 GL -21.72 GP 1.23 ZAL 103.48 ZAP 113.23 ETS 179.18 ZAE 156.26 ETE 177.07 ZAC 102.21 ETC 276.12 LVI -16.91

Distance 458.363 Earth to Mars

Planetary Conic: C3 9.186 VHL 3.031 DLA -31.13 RAL 342.18 RAD 6637.6 VEL 11.371 PTH 6.42 VHP 3.126 DPA -18.23 RAP 312.93 ECC 1.1512
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 18 59 2311.88 2.04 58.53 193.61 137.54 17 57 31 1311.9 20.11 42.09
 60.00 18 46 4 2080.15 7.33 42.72 198.87 129.74 19 20 45 1080.2 22.55 23.37
 70.00 20 48 6 1721.04 13.91 18.43 203.67 121.51 21 16 47 721.0 25.61 356.13
 76.41 23 18 0 1254.16 22.70 347.45 208.31 111.89 23 38 54 254.2 29.68 321.87
 76.41 23 18 0 1254.16 22.70 347.45 208.31 111.89 23 38 54 254.2 29.68 321.87
 76.41 23 18 0 1254.16 22.70 347.45 208.31 111.89 23 38 54 254.2 29.68 321.87
 110.00 1 51 28 6055.89 13.91 285.23 203.67 121.51 3 32 24 5055.9 25.61 262.95

Differential Corrections: TDE -.2450 TRA -.0870 TC3-1.4610 BAU .1838 SGT 1017.8 SGR 344.3 S63 1509.1 ST 23.4 SR 13.9 S5 49.4
 RDE -.1471 RRA .0212 RC3 .3257 FAU .22117 RRT -.1570 RRF -.3390 RTF .4891 CRT .9818 CR8 .0578 CST .2206
 FDE .2040 FRA 5.4576 FC-20.8446 B8P 478 SGB 1074.4 R23 .2558 R13 -.4943 LSA 49.7 MSA 26.5 S5A 1.2
 BDE .2858 BRA .0896 BC3 1.4969 F8P 2583 S61 1019.4 S62 339.5 THA 176.58 EL1 27.1 EL2 2.3 ALF 30.56

LAUNCH DATE MAY 8 1971

FLIGHT TIME 192.00

ARRIVAL DATE NOV 16 1971

Heliocentric Conic: RL 150.98 LAL .00 LOL 226.77 VL 32.248 GAL -.54 AZL 92.00 HCA 151.52 SMA 184.80 ECC .18328 INC 2.0002 V1 29.512
 RP 211.46 LAP -.95 LOP 18.30 VP 23.175 GAP 6.56 AZP 88.24 TAL 356.48 TAP 148.00 RCA 150.93 APO 218.67 V2 25.942
 RC 123.058 GL -21.82 GP 1.30 ZAL 103.71 ZAP 111.14 ETS 179.18 ZAE 154.27 ETE 177.32 ZAC 102.37 ETC 275.92 LVI -16.70

Distance 462.539 Earth to Mars

Planetary Conic: C3 9.170 VHL 3.028 DLA -31.12 RAL 342.48 RAD 6637.6 VEL 11.370 PTH 6.42 VHP 3.082 DPA -18.40 RAP 312.02 ECC 1.1509
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 20 9 2311.73 2.05 58.52 194.10 137.54 17 58 41 1311.7 20.12 42.09
 60.00 18 47 13 2080.06 7.33 42.71 199.15 129.74 19 21 53 1080.1 22.56 23.36
 70.00 20 49 10 1721.14 13.91 18.43 203.94 121.51 21 17 52 721.1 25.61 356.13
 76.43 23 19 20 1253.41 22.71 347.39 208.59 111.88 23 40 14 253.4 29.68 321.81
 76.43 23 19 20 1253.41 22.71 347.39 208.59 111.88 23 40 14 253.4 29.68 321.81
 76.43 23 19 20 1253.41 22.71 347.39 208.59 111.88 23 40 14 253.4 29.68 321.81
 110.00 1 52 33 6056.00 13.91 285.26 203.94 121.51 3 33 29 5056.0 25.61 262.96

Differential Corrections: TDE -.2448 TRA -.0362 TC3-1.6539 BAU .2068 SGT 1106.4 SGR 336.6 S63 1535.6 ST 23.2 SR 13.4 S5 50.3
 RDE -.1416 RRA .0164 RC3 .3311 FAU .22734 RRT -.2140 RRF -.3744 RTF .538 CRT .9920 CR8 .0742 CST .1561
 FDE .2239 FRA 5.6331 FC-21.4822 B8P 744 SGB 1156.5 R23 .2406 R13 -.5990 LSA 50.5 MSA 26.4 S5A 1.1
 BDE .2828 BRA .0397 BC3 1.6867 F8P 2671 S61 1109.0 S62 328.1 THA 175.92 EL1 26.6 EL2 1.5 ALF 29.89

LAUNCH DATE MAY 8 1971

FLIGHT TIME 194.00

ARRIVAL DATE NOV 18 1971

Heliocentric Conic: RL 150.98 LAL .00 LOL 226.77 VL 32.248 GAL -.57 AZL 92.01 HCA 152.73 SMA 184.70 ECC .18285 INC 2.0081 V1 29.512
 RP 211.73 LAP -.92 LOP 19.51 VP 23.132 GAP 6.38 AZP 88.21 TAL 356.33 TAP 149.06 RCA 150.93 APO 218.47 V2 25.911
 RC 125.302 GL -21.92 GP 1.36 ZAL 103.96 ZAP 109.04 ETS 179.18 ZAE 152.26 ETE 177.52 ZAC 102.53 ETC 275.72 LVI -16.48

Distance 466.719 Earth to Mars

Planetary Conic: C3 9.183 VHL 3.027 DLA -31.10 RAL 342.80 RAD 6637.6 VEL 11.370 PTH 6.42 VHP 3.042 DPA -18.57 RAP 311.10 ECC 1.1508
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 21 20 2312.03 2.03 58.53 194.41 137.54 17 59 52 1312.0 20.10 42.10
 60.00 18 48 20 2080.53 7.31 42.74 199.45 129.74 19 23 0 1080.5 22.54 23.39
 70.00 20 50 8 1722.07 13.88 18.48 204.24 121.53 21 18 50 722.1 25.59 356.20
 76.48 23 20 58 1252.20 22.70 347.30 208.90 111.86 23 41 50 252.2 29.66 321.72
 76.48 23 20 58 1252.20 22.70 347.30 208.90 111.86 23 41 50 252.2 29.66 321.72
 76.48 23 20 58 1252.20 22.70 347.30 208.90 111.86 23 41 50 252.2 29.66 321.72
 110.00 1 53 30 6056.93 13.88 285.31 204.24 121.53 3 34 27 5056.9 25.59 263.02

Differential Corrections: TDE -.2445 TRA .0165 TC3-1.8571 BAU .2312 SGT 1216.4 SGR 329.5 S63 1597.3 ST 23.2 SR 12.9 S5 51.3
 RDE -.1381 RRA .0114 RC3 .3365 FAU .23241 RRT -.2717 RRF -.4116 RTF .6758 CRT .9953 CR8 .0940 CST .0894
 FDE .2484 FRA 5.8077 FC-21.9582 B8P 1027 SGB 1260.2 R23 .2231 R13 -.6805 LSA 51.3 MSA 26.4 S5A 1.1
 BDE .2799 BRA .0201 BC3 1.8873 F8P 2757 S61 1219.9 S62 316.1 THA 175.49 EL1 26.5 EL2 1.1 ALF 28.99

LAUNCH DATE MAY 8 1971

FLIGHT TIME 196.00

ARRIVAL DATE NOV 20 1971

HELIOCENTRIC CONIC

DISTANCE 470.901

EARTH TO MARS

RL 150.98 LAL .00 LOL 226.77 VL 32.237 GAL -.59 AZL 92.02 HCA 153.94 SMA 184.61 ECC .18249 INC 2.0168 V1 29.512
RP 212.01 LAP -.89 LOP 20.78 VP 23.089 GAP 6.17 AZP 88.19 TAL 356.16 TAP 150.10 RCA 150.92 APO 218.30 V2 25.880
RC 127.568 GL -22.01 GP 1.44 ZAL 104.23 ZAP 106.94 ETS 179.19 ZAE 150.22 ETE 177.69 ZAC 102.70 ETC 275.52 LVI -16.26

PLANETOCENTRIC CONIC

C3 9.184 VHL 3.027 DLA -31.07 RAL 343.15 RAD 6637.6 VEL 11.370 PTH 6.42 VHP 3.008 DPA -19.72 RAP 310.17 ECC 1.1808
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 22 32 2312.75 1.99 58.56 194.74 137.54 18 1 4 1312.8 20.07 42.14
60.00 18 49 26 2081.50 7.27 42.78 199.78 129.75 19 24 8 1081.5 22.50 23.49
70.00 20 50 59 1723.78 13.82 18.58 204.55 121.55 21 19 43 723.8 25.54 356.31
76.55 23 22 52 1250.57 22.67 347.17 209.24 111.84 23 43 43 250.6 29.63 321.59
76.55 23 22 52 1250.57 22.67 347.17 209.24 111.84 23 43 43 250.6 29.63 321.59
76.55 23 22 52 1250.57 22.67 347.17 209.24 111.84 23 43 43 250.6 29.63 321.59
110.00 1 54 22 6058.64 13.82 285.40 204.55 121.55 3 35 20 5058.6 25.54 263.13

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2444 TRA .0714 TC3-2.0633 BAU .2582 8GT 1341.4 8GR 323.2 8G3 1638.4 8T 23.3 8R 12.4 88 52.2
RDE -.1307 RRA .0060 RC3 .3427 FAU .23783 RRT -.3290 RRF -.4524 RTF .7399 CRT .9908 CR8 .1164 C8T .0208
FDE .2756 FRA 5.9795 FC-22.4484 B8P 1335 8GB 1379.8 R23 .2073 R13 -.7440 L8A 52.2 M8A 26.3 88A 1.0
BDE .2771 BRA .0716 BC3 2.0915 F8P 2809 8G1 1345.8 8G2 304.2 THA 175.22 EL1 26.4 EL2 1.5 ALF 27.83

LAUNCH DATE MAY 8 1971

FLIGHT TIME 196.00

ARRIVAL DATE NOV 21 1971

HELIOCENTRIC CONIC

DISTANCE 475.085

EARTH TO MARS

RL 150.98 LAL .00 LOL 226.77 VL 32.232 GAL -.62 AZL 92.03 HCA 155.14 SMA 184.94 ECC .18220 INC 2.0263 V1 29.512
RP 212.29 LAP -.85 LOP 21.93 VP 23.048 GAP 5.98 AZP 88.16 TAL 355.98 TAP 151.12 RCA 150.92 APO 218.17 V2 25.848
RC 129.850 GL -22.10 GP 1.52 ZAL 104.52 ZAP 104.84 ETS 179.20 ZAE 148.17 ETE 177.83 ZAC 102.87 ETC 275.31 LVI -16.04

PLANETOCENTRIC CONIC

C3 9.173 VHL 3.029 DLA -31.04 RAL 343.51 RAD 6637.6 VEL 11.370 PTH 6.42 VHP 2.974 DPA -18.87 RAP 309.23 ECC 1.1810
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 23 45 2313.88 1.94 58.61 195.10 137.55 18 2 19 1313.9 20.02 42.19
60.00 18 50 32 2082.95 7.20 42.85 200.14 129.76 19 25 15 1083.0 22.45 23.53
70.00 20 51 46 1726.19 13.73 18.71 204.89 121.58 21 20 32 726.2 25.48 356.46
76.65 23 25 1 1248.55 22.64 347.00 209.60 111.81 23 45 50 248.6 29.59 321.43
76.65 23 25 1 1248.55 22.64 347.00 209.60 111.81 23 45 50 248.6 29.59 321.43
76.65 23 25 1 1248.55 22.64 347.00 209.60 111.81 23 45 50 248.6 29.59 321.43
110.00 1 55 8 6061.05 13.73 285.34 204.89 121.58 3 38 9 5061.0 25.48 263.29

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2439 TRA .1287 TC3-2.2778 BAU .2826 8GT 1482.3 8GR 317.7 8G3 1672.0 8T 23.5 8R 11.9 88 53.1
RDE -.1255 RRA .0004 RC3 .3487 FAU .24147 RRT -.3858 RRF -.4954 RTF .7882 CRT .9771 CR8 .1478 C8T -.0436
FDE .3199 FRA 6.1435 FC-22.7889 B8P 1642 8GB 1516.0 R23 .1940 R13 -.7916 L8A 53.2 M8A 26.3 88A 1.0
BDE .2742 BRA .1287 BC3 2.3043 F8P 2891 8G1 1487.6 8G2 292.1 THA 178.08 EL1 26.3 EL2 2.3 ALF 28.44

LAUNCH DATE MAY 8 1971

FLIGHT TIME 200.00

ARRIVAL DATE NOV 24 1971

HELIOCENTRIC CONIC

DISTANCE 479.271

EARTH TO MARS

RL 150.98 LAL .00 LOL 226.77 VL 32.229 GAL -.68 AZL 92.04 HCA 156.34 SMA 184.48 ECC .18197 INC 2.0368 V1 29.512
RP 212.57 LAP -.82 LOP 23.13 VP 23.006 GAP 5.78 AZP 88.13 TAL 358.79 TAP 152.13 RCA 150.91 APO 218.06 V2 25.818
RC 132.193 GL -22.20 GP 1.60 ZAL 104.83 ZAP 102.74 ETS 179.21 ZAE 146.11 ETE 177.84 ZAC 103.04 ETC 275.10 LVI -16.82

PLANETOCENTRIC CONIC

C3 9.191 VHL 3.032 DLA -30.99 RAL 343.90 RAD 6637.6 VEL 11.371 PTH 6.42 VHP 2.946 DPA -19.00 RAP 308.29 ECC 1.1813
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 25 1 2313.36 1.86 58.67 195.48 137.55 18 3 38 1315.4 19.93 42.26
60.00 18 51 39 2084.83 7.12 42.95 200.51 129.77 19 26 24 1084.0 22.37 23.63
70.00 20 52 30 1729.21 13.82 18.88 205.26 121.63 21 21 19 729.2 25.39 356.86
76.77 23 27 24 1246.27 22.60 346.81 210.00 111.79 23 48 10 246.3 29.54 321.25
76.77 23 27 24 1246.27 22.60 346.81 210.00 111.79 23 48 10 246.3 29.54 321.25
76.77 23 27 24 1246.27 22.60 346.81 210.00 111.79 23 48 10 246.3 29.54 321.25
110.00 1 55 52 6064.06 13.82 285.70 205.26 121.63 3 38 56 5064.1 25.39 263.48

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2429 TRA .1882 TC3-2.4931 BAU .3094 8GT 1633.4 8GR 313.5 8G3 1704.0 8T 23.9 8R 11.4 88 53.9
RDE -.1202 RRA -.0054 RC3 .3559 FAU .24547 RRT -.4428 RRF -.9408 RTF .1.67 CRT .9534 CR8 .1777 C8T -.1122
FDE .3370 FRA 6.2847 FC-23.1230 B8P 1983 8GB 1663.2 R23 .1824 R13 -.8296 L8A 54.0 M8A 26.2 88A 1.0
BDE .2710 BRA .1883 BC3 2.5183 F8P 2949 8G1 1639.4 8G2 280.0 THA 175.00 EL1 26.3 EL2 3.1 ALF 24.77

LAUNCH DATE MAY 8 1971

FLIGHT TIME 202.00

ARRIVAL DATE NOV 26 1971

HELIOCENTRIC CONIC

DISTANCE 483.458

EARTH TO MARS

RL 150.98 LAL .00 LOL 226.77 VL 32.228 GAL -.68 AZL 92.05 HCA 157.54 SMA 184.44 ECC .18181 INC 2.0470 V1 29.512
RP 212.86 LAP -.78 LOP 24.32 VP 22.965 GAP 5.60 AZP 88.11 TAL 355.58 TAP 153.12 RCA 150.91 APO 217.97 V2 25.782
RC 134.475 GL -22.29 GP 1.68 ZAL 105.18 ZAP 100.88 ETS 179.22 ZAE 144.05 ETE 178.03 ZAC 103.21 ETC 274.90 LVI -15.61

PLANETOCENTRIC CONIC

C3 9.216 VHL 3.036 DLA -30.94 RAL 344.30 RAD 6637.6 VEL 11.372 PTH 6.42 VHP 2.922 DPA -19.12 RAP 307.36 ECC 1.1517
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 26 19 2317.17 1.77 58.75 195.89 137.55 18 4 56 1317.2 19.86 42.35
60.00 18 52 47 2087.09 7.02 43.05 200.92 129.79 19 27 34 1087.1 22.29 23.76
70.00 20 53 12 1732.75 13.50 19.08 205.64 121.68 21 22 4 732.7 25.30 356.89
76.91 23 30 0 1243.70 22.55 346.59 210.43 111.76 23 50 44 243.7 29.49 321.05
76.91 23 30 0 1243.70 22.55 346.59 210.43 111.76 23 50 44 243.7 29.49 321.05
76.91 23 30 0 1243.70 22.55 346.59 210.43 111.76 23 50 44 243.7 29.49 321.05
110.00 1 56 34 6067.80 13.50 285.80 205.64 121.68 3 37 41 5067.6 25.30 263.71

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2416 TRA .2497 TC3-2.7102 BAU .3369 8GT 1793.7 8GR 310.6 8G3 1734.8 8T 24.4 8R 10.9 88 54.8
RDE -.1150 RRA -.0119 RC3 .3633 FAU .24887 RRT -.4999 RRF -.5877 RTF .8554 CRT .9192 CR8 .2105 C8T -.1802
FDE .3963 FRA 6.4451 FC-23.3788 B8P 2293 8GB 1820.4 R23 .1737 R13 -.8577 L8A 55.0 M8A 26.1 88A .9
BDE .2675 BRA .2499 BC3 2.7345 F8P 2985 8G1 1800.6 8G2 288.0 THA 174.94 EL1 26.4 EL2 3.9 ALF 22.83

LAUNCH DATE MAY 8 1971

FLIGHT TIME 212.00

ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC
 RL 190.98 LAL .00 LOL 226.77 VL 32.225 GAL -.87 AZL 92.13 HCA 163.48 SMA 104.39 ECC .18183 INC 2.1264 V1 29.512
 RP 214.39 LAP -.60 LOP 30.26 VP 22.786 GAP 4.72 AZP 87.86 TAL 384.34 TAP 187.82 RCA 190.86 APO 217.92 V2 29.609
 RC 146.344 GL -22.86 GP 2.31 ZAL 107.02 ZAP 80.91 ETS 179.39 ZAE 133.82 ETE 178.24 ZAC 104.19 ETC 273.91 LVI -14.73

DISTANCE 504.403 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.469 VML 3.077 DLA -30.64 RAL 348.64 RAD 6637.0 VEL 11.393 PTH 6.44 VHP 2.856 DPA -19.44 RAP 302.87 ECC 1.1558
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 33 53 2329.37 1.16 59.28 198.36 137.57 18 12 49 1329.4 19.28 42.93
 60.00 18 58 30 2101.60 6.30 43.76 203.37 129.86 19 34 32 1101.7 21.72 24.58
 70.00 20 57 40 1753.99 12.73 20.25 208.02 121.96 21 26 54 754.0 24.71 398.26
 77.68 23 44 54 1231.38 22.21 348.53 213.04 111.67 24 8 25 231.4 29.15 320.05
 77.68 23 44 54 1231.38 22.21 348.53 213.04 111.67 24 8 25 231.4 29.15 320.05
 77.68 23 44 54 1231.38 22.21 348.53 213.04 111.67 24 8 25 231.4 29.15 320.05
 110.00 2 1 2 6088.85 12.73 287.07 208.02 121.96 3 42 31 5088.9 24.71 265.08

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2288 TRA .5875 TC3-3.7884 BAU .4820 86T 2887.9 8GR 324.3 8G3 1813.3 8T 28.8 8R 8.6 88 58.3
 RDE -.0900 RRA -.0514 RC3 .4132 FAU .25633 RRT -.7602 RRF -.8160 RTP .9296 CRT .5893 CR8 .4322 C8T -.4689 CRT .5893 CR8 .4322 C8T -.4689
 FDE .6208 FRA 7.0244 FC-23.4364 B8P 4018 86B 2707.4 R23 .1617 R13 -.9307 L8A 60.2 M8A 25.9 88A .7
 BDE .2456 BRA .5897 BC3 3.8079 F8P 3160 86I 2899.2 8G2 209.8 T8A 174.73 EL1 29.2 EL2 6.8 ALF 10.51

LAUNCH DATE MAY 8 1971

FLIGHT TIME 214.00

ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC
 RL 190.98 LAL .00 LOL 226.77 VL 32.225 GAL -.91 AZL 92.15 HCA 164.66 SMA 104.41 ECC .18199 INC 2.1489 V1 29.512
 RP 214.72 LAP -.57 LOP 31.44 VP 22.727 GAP 4.55 AZP 87.93 TAL 354.05 TAP 158.71 RCA 150.85 APO 217.97 V2 25.573
 RC 148.770 GL -23.02 GP 2.48 ZAL 107.43 ZAP 88.57 ETS 179.45 ZAE 131.82 ETE 178.24 ZAC 104.42 ETC 273.72 LVI -14.62

DISTANCE 508.591 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.547 VML 3.090 DLA -30.60 RAL 347.18 RAD 6637.8 VEL 11.386 PTH 6.44 VHP 2.852 DPA -19.43 RAP 302.03 ECC 1.1571
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 35 49 2331.96 1.03 59.37 198.96 137.57 18 14 41 1332.0 19.16 43.08
 60.00 18 1 16 2104.60 6.26 43.90 203.87 129.89 19 36 21 1104.6 21.61 24.75
 70.00 20 59 8 1757.82 12.59 20.46 208.62 122.01 21 28 23 757.8 24.60 388.50
 77.79 23 47 52 1230.36 22.15 345.42 213.67 111.68 24 8 22 230.4 29.09 319.97
 77.79 23 47 52 1230.36 22.15 345.42 213.67 111.68 24 8 22 230.4 29.09 319.97
 77.79 23 47 52 1230.36 22.15 345.42 213.67 111.68 24 8 22 230.4 29.09 319.97
 110.00 2 2 30 6092.68 12.59 287.28 208.62 122.01 3 44 3 5092.7 24.60 265.33

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2249 TRA .6807 TC3-3.9881 BAU .5119 86T 2876.4 8GR 335.0 8G3 1816.3 8T 30.1 8R 8.2 88 58.8
 RDE -.0853 RRA -.0816 RC3 .4268 FAU .25594 RRT -.8022 RRF -.8538 RTP .9366 CRT .4926 CR8 .4903 C8T -.5137
 FDE .6883 FRA 7.1106 FC-23.2091 B8P 4368 86B 2895.9 R23 .1656 R13 -.9377 L8A 61.4 M8A 25.9 88A .8
 BDE .2405 BRA .6836 BC3 4.0109 F8P 3175 86I 2889.0 8G2 199.2 T8A 174.84 EL1 30.4 EL2 7.0 ALF 8.08

LAUNCH DATE MAY 8 1971

FLIGHT TIME 216.00

ARRIVAL DATE DEC 10 1971

HELIOCENTRIC CONIC
 RL 190.98 LAL .00 LOL 226.77 VL 32.228 GAL -.96 AZL 92.18 HCA 165.83 SMA 104.44 ECC .18219 INC 2.1749 V1 29.512
 RP 215.04 LAP -.53 LOP 32.61 VP 22.689 GAP 4.38 AZP 87.89 TAL 353.76 TAP 159.59 RCA 150.84 APO 218.05 V2 25.538
 RC 151.211 GL -23.20 GP 2.68 ZAL 107.85 ZAP 86.66 ETS 179.52 ZAE 129.85 ETE 178.23 ZAC 104.67 ETC 273.55 LVI -14.54

DISTANCE 512.778 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.636 VML 3.104 DLA -30.58 RAL 347.74 RAD 6637.9 VEL 11.390 PTH 6.44 VHP 2.851 DPA -19.38 RAP 301.23 ECC 1.1586
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 37 55 2334.36 .91 59.47 199.59 137.57 18 16 50 1334.4 19.04 43.16
 60.00 19 3 18 2107.19 6.19 44.03 204.61 129.91 19 38 29 1107.2 21.51 24.89
 70.00 21 0 59 1760.93 12.48 20.63 209.27 122.05 21 30 20 760.9 24.51 388.70
 77.86 23 50 35 1230.68 22.08 345.42 214.35 111.70 24 11 6 230.7 29.05 319.98
 77.86 23 50 35 1230.68 22.08 345.42 214.35 111.70 24 11 6 230.7 29.05 319.98
 77.86 23 50 35 1230.68 22.08 345.42 214.35 111.70 24 11 6 230.7 29.05 319.98
 110.00 2 4 21 6095.70 12.48 287.48 209.27 122.05 3 45 57 5095.8 24.51 265.82

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2212 TRA .7355 TC3-4.1883 BAU .5423 86T 3067.2 8GR 349.8 8G3 1817.0 8T 31.5 8R 7.8 88 59.4
 RDE -.0808 RRA -.0728 RC3 .4434 FAU .25587 RRT -.8395 RRF -.8874 RTP .9289 CRT .3863 CR8 .5929 C8T -.5827
 FDE .7160 FRA 7.1765 FC-22.9873 B8P 4718 86B 3087.1 R23 .1708 R13 -.9439 L8A 62.5 M8A 25.9 88A .6
 BDE .2355 BRA .7391 BC3 4.2097 F8P 3174 86I 3081.3 8G2 189.2 T8A 174.81 EL1 31.6 EL2 7.2 ALF 5.78

LAUNCH DATE MAY 8 1971

FLIGHT TIME 218.00

ARRIVAL DATE DEC 12 1971

HELIOCENTRIC CONIC
 RL 190.98 LAL .00 LOL 226.77 VL 32.228 GAL -1.01 AZL 92.21 HCA 167.00 SMA 104.48 ECC .18244 INC 2.2055 V1 29.512
 RP 215.37 LAP -.50 LOP 33.78 VP 22.680 GAP 4.22 AZP 87.85 TAL 353.45 TAP 160.46 RCA 150.83 APO 218.14 V2 25.499
 RC 153.688 GL -23.42 GP 2.91 ZAL 108.28 ZAP 84.79 ETS 179.61 ZAE 127.90 ETE 178.20 ZAC 104.95 ETC 273.38 LVI -14.50

DISTANCE 516.984 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.738 VML 3.121 DLA -30.58 RAL 348.33 RAD 6637.9 VEL 11.395 PTH 6.45 VHP 2.853 DPA -19.29 RAP 300.45 ECC 1.1603
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 40 18 2336.41 .81 59.53 200.28 137.57 18 18 14 1336.4 18.94 43.28
 60.00 19 5 41 2109.23 6.06 44.13 205.31 129.92 19 40 50 1109.2 21.43 29.00
 70.00 21 3 22 1762.95 12.41 20.74 209.88 122.00 21 32 45 763.0 24.45 388.83
 77.85 23 52 56 1232.84 22.03 345.56 215.09 111.76 24 13 28 232.8 29.03 320.14
 77.85 23 52 56 1232.84 22.03 345.56 215.09 111.76 24 13 28 232.8 29.03 320.14
 77.85 23 52 56 1232.84 22.03 345.56 215.09 111.76 24 13 28 232.8 29.03 320.14
 110.00 2 6 44 6097.81 12.41 287.57 209.88 122.00 3 48 22 5097.8 24.45 266.85

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2173 TRA .8126 TC3-4.3732 BAU .5725 86T 3257.8 8GR 368.6 8G3 1811.8 8T 33.0 8R 7.5 88 59.8
 RDE -.0764 RRA -.0658 RC3 .4618 FAU .25438 RRT -.8713 RRF -.9187 RTP .9476 CRT .2891 CR8 .6189 C8T -.5875
 FDE .7820 FRA 7.2434 FC-22.6122 B8P 5063 86B 3278.4 R23 .1785 R13 -.9488 L8A 63.7 M8A 26.0 88A .8
 BDE .2304 BRA .8171 BC3 4.3974 F8P 3168 86I 3273.4 8G2 180.1 T8A 174.38 EL1 33.1 EL2 7.2 ALF 3.68

LAUNCH DATE MAY 8 1971

FLIGHT TIME 220.00

ARRIVAL DATE DEC 14 1971

HELIOCENTRIC CONIC DISTANCE 521.149 EARTH TO MARS
 RL 150.98 LAL .00 LOL 226.77 VL 32.232 GAL -1.06 AZL 92.24 HCA 168.17 SMA 184.53 ECC .18273 INC 2.2420 V1 29.512
 RP 215.71 LAP -.46 LOP 34.95 VP 22.612 GAP 4.05 AZP 87.81 TAP 353.14 TAP 161.31 RCA 150.81 APO 218.25 V2 25.461
 RC 156.143 GL -23.68 GP 3.18 ZAL 108.71 ZAP 82.96 ETS 179.72 ZAE 125.98 ETE 178.15 ZAC 105.27 ETC 273.22 LVI -14.51

PLANETOCENTRIC CONIC
 C3 9.854 VHL 3.139 DLA -30.62 RAL 348.96 RAD 6638.0 VEL 11.400 PTH 6.45 VHP 2.858 DPA -19.15 RAP 299.70 ECC 1.1622
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 43 1 2337.87 .73 59.61 201.03 137.57 18 21 59 1337.9 18.87 43.33
 60.00 19 8 31 2110.40 6.01 44.18 206.09 129.93 19 43 41 1110.4 21.38 25.07
 70.00 21 6 29 1763.31 12.40 20.76 210.79 122.08 21 35 52 763.3 24.44 358.85
 77.75 23 54 43 1237.49 22.00 345.89 215.89 111.85 24 15 20 237.5 29.03 320.49
 77.75 23 54 43 1237.49 22.00 345.89 215.89 111.85 24 15 20 237.5 29.03 320.49
 77.75 23 54 43 1237.49 22.00 345.89 215.89 111.85 24 15 20 237.5 29.03 320.49
 110.00 2 9 51 6098.17 12.40 287.59 210.79 122.08 3 51 29 5098.2 24.44 265.68

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2138 TRA .8913 TC3-4.5522 BAU .6031 SGT 3448.7 SGR 393.1 SG3 1804.2 ST 34.7 SR 7.3 SS 60.2
 RDE -.0721 RRA -.0999 RC3 .4839 FAU .25316 RRT -.8980 RRF -.9392 RTF .9520 CRT .1434 CR8 .6871 CST -.6186
 FDE .8017 FRA 7.2880 FC-22.2416 BSP 9413 SGB 3471.0 R23 .1869 R13 -.9529 LSA 64.9 HSA 26.1 SSA .5
 BDE .2257 BRA .8969 BC3 4.5779 FSP 3154 SG1 3466.7 SG2 172.1 THA 174.14 EL1 34.7 EL2 7.2 ALF 1.81

LAUNCH DATE MAY 8 1971

FLIGHT TIME 222.00

ARRIVAL DATE DEC 16 1971

HELIOCENTRIC CONIC DISTANCE 525.331 EARTH TO MARS
 RL 150.98 LAL .00 LOL 226.77 VL 32.235 GAL -1.11 AZL 92.29 HCA 169.33 SMA 184.58 ECC .18307 INC 2.2862 V1 29.512
 RP 216.04 LAP -.42 LOP 36.11 VP 22.574 GAP 3.89 AZP 87.75 TAP 352.81 TAP 162.14 RCA 150.79 APO 218.38 V2 25.424
 RC 156.631 GL -24.01 GP 3.51 ZAL 109.14 ZAP 81.17 ETS 179.85 ZAE 124.09 ETE 178.09 ZAC 105.64 ETC 273.07 LVI -14.59

PLANETOCENTRIC CONIC
 C3 9.987 VHL 3.160 DLA -30.70 RAL 349.64 RAD 6638.0 VEL 11.405 PTH 6.46 VHP 2.865 DPA -18.94 RAP 298.98 ECC 1.1644
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 46 13 2338.46 .70 59.64 201.86 137.57 18 25 12 1338.5 18.85 43.36
 60.00 19 11 59 2110.28 6.01 44.18 206.95 129.93 19 47 9 1110.3 21.39 25.06
 70.00 21 10 36 1761.26 12.47 20.65 211.70 122.06 21 39 57 761.3 24.50 358.72
 77.52 23 55 40 1245.61 21.99 346.50 216.77 111.98 24 16 26 245.6 29.08 321.11
 77.52 23 55 40 1245.61 21.99 346.50 216.77 111.98 24 16 26 245.6 29.08 321.11
 77.52 23 55 40 1245.61 21.99 346.50 216.77 111.98 24 16 26 245.6 29.08 321.11
 110.00 2 13 58 6096.12 12.47 287.47 211.70 122.06 3 55 34 5096.1 24.50 265.55

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2100 TRA .9729 TC3-4.7177 BAU .6336 SGT 3639.3 SGR 424.3 SG3 1793.8 ST 36.5 SR 7.2 SS 60.7
 RDE -.0684 RRA -.1168 RC3 .5104 FAU .25123 RRT -.9194 RRF -.9580 RTF .9553 CRT .0083 CR8 .7584 CST -.6438
 FDE .8523 FRA 7.3343 FC-21.7787 BSP 5763 SGB 3664.0 R23 .1979 R13 -.9563 LSA 66.2 HSA 26.3 SSA .4
 BDE .2209 BRA .9799 BC3 4.7453 FSP 3136 SG1 3660.2 SG2 165.9 THA 173.87 EL1 36.5 EL2 7.2 ALF .10

LAUNCH DATE MAY 8 1971

FLIGHT TIME 224.00

ARRIVAL DATE DEC 18 1971

HELIOCENTRIC CONIC DISTANCE 529.512 EARTH TO MARS
 RL 150.98 LAL .00 LOL 226.77 VL 32.239 GAL -1.16 AZL 92.34 HCA 170.49 SMA 184.65 ECC .18344 INC 2.3410 V1 29.512
 RP 216.39 LAP -.39 LOP 37.27 VP 22.537 GAP 3.73 AZP 87.69 TAP 352.47 TAP 162.97 RCA 150.78 APO 218.52 V2 25.385
 RC 161.134 GL -24.43 GP 3.92 ZAL 109.57 ZAP 79.42 ETS 180.02 ZAE 122.24 ETE 177.99 ZAC 106.08 ETC 272.93 LVI -14.75

PLANETOCENTRIC CONIC
 C3 10.141 VHL 3.185 DLA -30.86 RAL 350.37 RAD 6638.1 VEL 11.412 PTH 6.46 VHP 2.875 DPA -18.65 RAP 298.29 ECC 1.1669
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 50 5 2337.72 .74 59.61 202.80 137.57 18 29 2 1337.7 18.86 43.32
 60.00 19 16 20 2108.23 6.10 44.08 207.93 129.91 19 51 28 1108.2 21.47 24.95
 70.00 21 16 10 1755.56 12.68 20.34 212.76 121.98 21 45 26 755.6 24.66 358.36
 77.09 23 55 31 1258.37 22.02 347.47 217.76 112.19 24 16 29 258.4 29.19 322.09
 77.09 23 55 31 1258.37 22.02 347.47 217.76 112.19 24 16 29 258.4 29.19 322.09
 77.09 23 55 31 1258.37 22.02 347.47 217.76 112.19 24 16 29 258.4 29.19 322.09
 110.00 2 19 33 6090.42 12.68 287.16 212.76 121.98 4 1 3 5090.4 24.66 265.18

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2072 TRA 1.0578 TC3-4.8657 BAU .6630 SGT 3828.3 SGR 464.0 SG3 1779.4 ST 38.4 SR 7.3 SS 61.2
 RDE -.0849 RRA -.1369 RC3 .5424 FAU .24857 RRT -.9361 RRF -.9723 RTF .9581 CRT -.1310 CR8 .8256 CST -.8680
 FDE .8984 FRA 7.3744 FC-21.2198 BSP 6119 SGB 3898.3 R23 .2098 R13 -.9591 LSA 67.6 HSA 26.5 SSA .4
 BDE .2172 BRA 1.0664 BC3 4.8958 FSP 3117 SG1 3892.9 SG2 162.1 THA 173.52 EL1 38.4 EL2 7.2 ALF 178.53

LAUNCH DATE MAY 8 1971

FLIGHT TIME 226.00

ARRIVAL DATE DEC 20 1971

HELIOCENTRIC CONIC DISTANCE 533.690 EARTH TO MARS
 RL 150.98 LAL .00 LOL 226.77 VL 32.243 GAL -1.22 AZL 92.41 HCA 171.65 SMA 184.72 ECC .18385 INC 2.4105 V1 29.512
 RP 216.73 LAP -.35 LOP 38.43 VP 22.499 GAP 3.57 AZP 87.61 TAP 352.13 TAP 163.78 RCA 150.76 APO 218.68 V2 25.347
 RC 163.649 GL -24.96 GP 4.43 ZAL 109.88 ZAP 77.72 ETS 180.24 ZAE 120.41 ETE 177.86 ZAC 106.63 ETC 272.80 LVI -15.02

PLANETOCENTRIC CONIC
 C3 10.324 VHL 3.213 DLA -31.13 RAL 351.17 RAD 6638.2 VEL 11.420 PTH 6.47 VHP 2.887 DPA -18.24 RAP 297.62 ECC 1.1699
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 54 52 2334.98 .88 59.49 203.87 137.57 18 33 47 1335.0 19.01 43.19
 60.00 19 21 57 2103.27 6.32 43.84 209.08 129.89 19 57 0 1103.3 21.66 24.67
 70.00 21 23 58 1744.19 13.09 19.71 214.04 121.83 21 53 2 744.2 24.98 357.63
 76.41 23 53 55 1277.16 22.11 348.92 218.88 112.49 24 15 12 277.2 29.40 323.55
 76.41 23 53 55 1277.16 22.11 348.92 218.88 112.49 24 15 12 277.2 29.40 323.55
 76.41 23 53 55 1277.16 22.11 348.92 218.88 112.49 24 15 12 277.2 29.40 323.55
 110.00 2 27 20 6079.05 13.09 286.53 214.04 121.83 4 8 39 5079.0 24.98 264.45

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2074 TRA 1.1440 TC3-4.9969 BAU .6944 SGT 4015.9 SGR 515.0 SG3 1760.5 ST 40.5 SR 7.5 SS 61.4
 RDE -.0617 RRA -.1612 RC3 .5827 FAU .24561 RRT -.9489 RRF -.9828 RTF .9606 CRT -.2671 CR8 .8842 CST -.6852
 FDE 7.9228 FRA 7.3950 FC-20.5958 BSP 6467 SGB 4048.7 R23 .2212 R13 -.9617 LSA 68.9 HSA 26.8 SSA .3
 BDE .2164 BRA 1.1553 BC3 5.0308 FSP 3087 SG1 4045.5 SG2 161.4 THA 173.05 EL1 40.6 EL2 7.2 ALF 177.08

LAUNCH DATE MAY 8 1971

FLIGHT TIME 220.00

ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC
 RL 150.98 LAL .00 LOL 226.77 VL 32.847 GAL -1.28 AZL 92.50 HCA 172.80 SMA 184.79 ECC .18429 INC 2.9010 V1 29.512
 RP 217.08 LAP -.31 LOP 39.58 VP 22.462 GAP 3.41 AZP 87.52 TAL 351.76 TAP 184.98 RCA 190.74 APO 218.89 V2 25.308
 RC 166.178 GL -25.68 GP 5.10 ZAL 110.36 ZAP 76.08 ETS 180.52 ZAE 116.62 ETE 177.67 ZAC 107.33 ETC 272.68 LVI -15.48

PLANETOCENTRIC CONIC
 C3 10.347 VHL 3.248 DLA -31.55 RAL 392.09 RAD 6636.3 VEL 11.430 PTH 6.48 VHP 2.902 DPA -17.67 RAP 296.97 ECC 1.1756
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 10 1 3 2329.17 1.17 59.25 205.16 137.57 18 39 53 1329.2 19.29 42.92
 60.00 19 29 31 2093.78 6.73 43.38 210.40 129.83 20 4 25 1093.8 22.03 24.14
 70.00 21 35 21 1723.37 13.83 18.56 215.65 121.54 22 4 9 723.4 25.55 396.28
 75.39 23 50 22 1304.07 22.28 351.03 220.22 112.94 24 12 7 304.1 29.74 329.65
 75.39 23 50 22 1304.07 22.28 351.03 220.22 112.94 24 12 7 304.1 29.74 329.65
 75.39 23 50 22 1304.07 22.28 351.03 220.22 112.94 24 12 7 304.1 29.74 329.65
 110.00 2 38 43 6058.23 13.83 285.38 215.65 121.54 4 19 42 5058.2 25.55 263.10

MID-COURSE EXECUTION ACCURACY
 SGT 4205.7 SGR 582.5 SCS 1737.8
 RRT -.9581 RRF -.9900 RTF .9828
 SCS 4245.9 R23 .2307 R13 -.9841
 SCS 4242.7 SCS 165.3 THA 172.43

ORBIT DETERMINATION ACCURACY
 ST 42.9 SR 7.9 SS 81.1
 CRT -.3878 CR8 .9309 C8T -.6868
 L8A 69.9 M8A 27.4 S8A .3
 EL1 43.0 EL2 7.3 ALF 178.80

LAUNCH DATE MAY 8 1971

FLIGHT TIME 230.00

ARRIVAL DATE DEC 24 1971

HELIOCENTRIC CONIC
 RL 150.98 LAL .00 LOL 226.77 VL 32.252 GAL -1.34 AZL 92.63 HCA 173.95 SMA 184.87 ECC .18477 INC 2.6274 V1 29.512
 RP 217.43 LAP -.28 LOP 40.73 VP 22.423 GAP 3.25 AZP 87.39 TAL 351.42 TAP 185.37 RCA 190.71 APO 219.03 V2 25.289
 RC 168.717 GL -26.69 GP 6.02 ZAL 110.70 ZAP 74.49 ETS 180.92 ZAE 116.85 ETE 177.40 ZAC 108.28 ETC 272.58 LVI -16.13

PLANETOCENTRIC CONIC
 C3 10.833 VHL 3.291 DLA -32.22 RAL 353.16 RAD 6636.8 VEL 11.442 PTH 6.49 VHP 2.922 DPA -16.84 RAP 296.32 ECC 1.1763
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 10 9 29 2318.38 1.71 59.80 206.77 137.55 18 48 7 1318.4 19.80 42.40
 60.00 19 40 15 2076.81 7.47 42.56 212.27 129.72 20 14 52 1076.8 22.60 25.18
 70.00 21 53 24 1684.70 15.20 18.39 217.85 120.96 22 21 29 684.7 26.56 353.74
 73.87 23 44 25 1341.56 22.58 354.02 221.87 113.62 24 6 47 341.6 30.29 328.63
 73.87 23 44 25 1341.56 22.58 354.02 221.87 113.62 24 6 47 341.6 30.29 328.63
 73.87 23 44 25 1341.56 22.58 354.02 221.87 113.62 24 6 47 341.6 30.29 328.63
 110.00 2 56 47 6019.55 15.20 283.22 217.85 120.96 4 37 6 5019.6 26.56 260.87

MID-COURSE EXECUTION ACCURACY
 SGT 4388.0 SGR 875.3 SCS 1711.0
 RRT -.9661 RRF -.9948 RTF .9867
 SCS 4439.6 R23 .2302 R13 -.9880
 SCS 4436.3 SCS 172.6 THA 171.53

ORBIT DETERMINATION ACCURACY
 ST 45.5 SR 8.7 SS 80.7
 CRT -.5099 CR8 .9650 C8T -.7168
 L8A 71.2 M8A 27.5 S8A .2
 EL1 45.8 EL2 7.4 ALF 174.31

LAUNCH DATE MAY 8 1971

FLIGHT TIME 232.00

ARRIVAL DATE DEC 26 1971

HELIOCENTRIC CONIC
 RL 150.98 LAL .00 LOL 226.77 VL 32.258 GAL -1.40 AZL 92.81 HCA 175.10 SMA 184.98 ECC .18529 INC 2.8094 V1 29.512
 RP 217.79 LAP -.24 LOP 41.87 VP 22.388 GAP 3.10 AZP 87.20 TAL 351.04 TAP 186.14 RCA 190.69 APO 219.23 V2 25.289
 RC 171.288 GL -28.18 GP 7.35 ZAL 110.94 ZAP 72.97 ETS 181.49 ZAE 115.11 ETE 176.99 ZAC 109.83 ETC 272.50 LVI -17.20

PLANETOCENTRIC CONIC
 C3 11.227 VHL 3.351 DLA -33.30 RAL 354.53 RAD 6636.7 VEL 11.459 PTH 6.51 VHP 2.946 DPA -15.59 RAP 295.67 ECC 1.1848
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 10 21 47 2299.24 2.67 59.00 208.97 137.52 19 0 6 1299.2 20.71 41.48
 60.00 19 56 42 2046.59 9.78 41.08 214.79 129.49 20 30 48 1046.6 23.83 21.45
 70.00 22 27 42 1601.32 18.06 11.62 221.33 119.50 22 54 23 601.3 28.60 348.11
 71.64 23 35 25 1393.61 23.08 358.26 224.07 114.70 23 58 39 393.6 31.18 332.84
 71.64 23 35 25 1393.61 23.08 358.26 224.07 114.70 23 58 39 393.6 31.18 332.84
 71.64 23 35 25 1393.61 23.08 358.26 224.07 114.70 23 58 39 393.6 31.18 332.84
 110.00 3 31 4 5936.18 18.06 278.45 221.33 119.50 5 10 0 4936.2 28.60 254.93

MID-COURSE EXECUTION ACCURACY
 SGT 4572.8 SGR 808.7 SCS 1676.4
 RRT -.9693 RRF -.9976 RTF .5.70
 SCS 4643.8 R23 .2381 R13 -.9887
 SCS 4639.7 SCS 196.0 THA 170.28

ORBIT DETERMINATION ACCURACY
 ST 48.7 SR 10.1 SS 80.6
 CRT -.5919 CR8 .9871 C8T -.7126
 L8A 72.8 M8A 29.0 S8A .2
 EL1 49.1 EL2 8.1 ALF 172.82

LAUNCH DATE MAY 8 1971

FLIGHT TIME 234.00

ARRIVAL DATE DEC 28 1971

HELIOCENTRIC CONIC
 RL 150.98 LAL .00 LOL 226.77 VL 32.263 GAL -1.46 AZL 93.10 HCA 176.24 SMA 185.08 ECC .18584 INC 3.1046 V1 29.512
 RP 218.15 LAP -.20 LOP 43.01 VP 22.351 GAP 2.94 AZP 86.90 TAL 350.87 TAP 186.90 RCA 190.66 APO 219.45 V2 25.189
 RC 173.829 GL -30.50 GP 8.47 ZAL 110.99 ZAP 71.57 ETS 182.40 ZAE 113.38 ETE 176.33 ZAC 111.76 ETC 272.44 LVI -19.01

PLANETOCENTRIC CONIC
 C3 11.842 VHL 3.441 DLA -35.12 RAL 356.43 RAD 6639.0 VEL 11.486 PTH 6.53 VHP 2.982 DPA -13.56 RAP 294.94 ECC 1.1949
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 10 41 46 2264.00 4.44 56.52 212.36 137.42 19 10 30 1264.0 22.36 39.76
 60.00 20 25 19 1988.23 11.29 38.20 218.84 128.95 20 58 27 988.2 25.98 18.01
 68.24 23 22 41 1466.57 23.92 4.39 227.32 116.52 23 47 8 466.6 32.68 338.95
 68.24 23 22 41 1466.57 23.92 4.39 227.32 116.52 23 47 8 466.6 32.68 338.95
 68.24 23 22 41 1466.57 23.92 4.39 227.32 116.52 23 47 8 466.6 32.68 338.95
 68.24 23 22 41 1466.57 23.92 4.39 227.32 116.52 23 47 8 466.6 32.68 338.95
 68.24 23 22 41 1466.57 23.92 4.39 227.32 116.52 23 47 8 466.6 32.68 338.95

MID-COURSE EXECUTION ACCURACY
 SGT 4744.6 SGR 1019.2 SCS 1631.0
 RRT -.9713 RRF -.9990 RTF .9876
 SCS 4852.8 R23 .2391 R13 -.9701
 SCS 4847.0 SCS 237.1 THA 168.18

ORBIT DETERMINATION ACCURACY
 ST 52.5 SR 12.8 SS 81.3
 CRT -.6629 CR8 .9975 C8T -.7138
 L8A 75.8 M8A 30.5 S8A .1
 EL1 53.2 EL2 9.4 ALF 170.58

LAUNCH DATE MAY 8 1971

FLIGHT TIME 236.00

ARRIVAL DATE DEC 30 1971

HELIOCENTRIC CONIC

DISTANCE 554.541

EARTH TO MARS

RL 150.98 LAL .00 LOL 226.77 VL 32.269 GAL -1.52 AZL 93.65 HCA 177.37 SMA 185.15 ECC .18642 INC 3.6472 V1 29.512
 RP 218.31 LAP -.17 LOP 44.15 VP 22.314 GAP 2.79 AZP 86.35 TAL 350.28 TAP 167.65 RCA 150.64 APO 219.67 V2 25.149
 RC 176.400 GL -34.67 GP 13.31 ZAL 110.58 ZAP 70.42 ETS 184.02 ZAE 111.58 ETE 175.10 ZAC 115.62 ETC 272.45 LVI -22.43

PLANETOCENTRIC CONIC

C3 13.028 VHL 3.609 DLA -38.51 RAL 359.57 RAD 6639.6 VEL 11.537 PTH 6.58 VHP 3.047 DPA -9.81 RAP 294.03 ECC 1.2144
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 20 50 2191.75 8.05 53.46 218.79 137.05 19 57 21 1191.7 25.67 36.08
 60.00 21 32 34 1840.01 17.51 30.60 227.49 126.90 22 3 14 840.0 30.97 8.64
 62.69 23 5 55 1573.40 25.34 13.86 233.04 120.03 23 32 9 573.4 35.38 348.45
 62.69 23 5 55 1573.40 25.34 13.86 233.04 120.03 23 32 9 573.4 35.38 348.45
 62.69 23 5 55 1573.40 25.34 13.86 233.04 120.03 23 32 9 573.4 35.38 348.45
 62.69 23 5 55 1573.40 25.34 13.86 233.04 120.03 23 32 9 573.4 35.38 348.45
 62.69 23 5 55 1573.40 25.34 13.86 233.04 120.03 23 32 9 573.4 35.38 348.45

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3544 TRA 1.8636 TC3-4.9111 BAU .8002 SGT 4926.9 SGR 1394.4 SG3 1549.5 ST 58.2 SR 17.3 SS 99.8
 RDE -.0680 RRA -.5385 RC3 1.1918 FAU .22261 RRT -.9720 RRF -.9998 RTF .9676 CRT -.6867 CRS 1.0000 CST -.6884
 FDE .8591 FRA 7.0708 FC-14.7928 B8P 8084 SGB 5120.4 R23 .2350 R13 -.9718 LSA 78.1 MSA 33.5 SSA .1
 BDE .3605 BRA 1.7486 BC3 5.0536 F8P 2645 SG1 5110.7 SG2 316.0 THA 164.56 EL1 59.4 EL2 12.3 ALF 167.97

LAUNCH DATE MAY 8 1971

FLIGHT TIME 238.00

ARRIVAL DATE JAN 1 1972

HELIOCENTRIC CONIC

DISTANCE 558.703

EARTH TO MARS

RL 150.98 LAL .00 LOL 226.77 VL 32.275 GAL -1.59 AZL 95.02 HCA 178.51 SMA 185.26 ECC .18703 INC 5.0224 V1 29.512
 RP 218.88 LAP -.13 LOP 45.28 VP 22.278 GAP 2.64 AZP 84.98 TAL 349.89 TAP 168.40 RCA 150.61 APO 219.91 V2 25.109
 RC 178.901 GL -43.87 GP 22.27 ZAL 108.70 ZAP 70.24 ETS 187.61 ZAE 109.55 ETE 172.23 ZAC 124.57 ETC 272.68 LVI -30.55

PLANETOCENTRIC CONIC

C3 16.589 VHL 4.073 DLA -45.98 RAL 6.92 RAD 6641.3 VEL 11.689 PTH 6.72 VHP 3.249 DPA -.97 RAP 292.54 ECC 1.2730
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 27 0 1981.46 19.31 43.18 239.17 134.37 21 59 41 961.5 35.35 22.69
 52.13 22 50 45 1749.25 27.37 30.79 246.90 128.48 23 19 54 749.3 40.56 6.23
 52.13 22 50 45 1749.25 27.37 30.79 246.90 128.48 23 19 54 749.3 40.56 6.23
 52.13 22 50 45 1749.25 27.37 30.79 246.90 128.48 23 19 54 749.3 40.56 6.23
 52.13 22 50 45 1749.25 27.37 30.79 246.90 128.48 23 19 54 749.3 40.56 6.23
 52.13 22 50 45 1749.25 27.37 30.79 246.90 128.48 23 19 54 749.3 40.56 6.23
 52.13 22 50 45 1749.25 27.37 30.79 246.90 128.48 23 19 54 749.3 40.56 6.23

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3859 TRA 1.9452 TC3-3.9060 BAU .9258 SGT 5090.2 SGR 2251.3 SG3 1343.4 ST 65.2 SR 30.4 SS 80.4
 RDE -.1517 RRA -.9355 RC3 1.4730 FAU .19009 RRT -.9732 RRF -.9998 RTF .9686 CRT -.7049 CRS .9991 CST -.6738
 FDE 1.1955 FRA 6.5117 FC3-9.9203 B8P 9653 SGB 5565.8 R23 .2122 R13 -.9772 LSA 86.1 MSA 37.5 SSA .0
 BDE .4146 BRA 2.1584 BC3 4.1745 F8P 2444 SG1 5545.5 SG2 475.3 THA 156.53 EL1 68.9 EL2 20.4 ALF 159.98

LAUNCH DATE MAY 8 1971

FLIGHT TIME 242.00

ARRIVAL DATE JAN 5 1972

HELIOCENTRIC CONIC

DISTANCE 567.015

EARTH TO MARS

RL 150.98 LAL .00 LOL 226.77 VL 32.289 GAL -1.73 AZL 85.68 HCA 180.77 SMA 185.48 ECC .18835 INC 4.3151 V1 29.512
 RP 219.62 LAP -.06 LOP 47.54 VP 22.206 GAP 2.34 AZP 94.32 TAL 349.07 TAP 169.84 RCA 150.54 APO 220.41 V2 25.028
 RC 184.172 GL 38.92 GP -37.25 ZAL 110.96 ZAP 71.54 ETS 164.28 ZAE 103.58 ETE 191.16 ZAC 65.12 ETC 272.24 LVI 24.39

PLANETOCENTRIC CONIC

C3 14.973 VHL 3.869 DLA 29.46 RAL 329.27 RAD 6640.5 VEL 11.620 PTH 6.66 VHP 3.938 DPA -59.35 RAP 307.44 ECC 1.2464
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 12 9 55 3680.66 -47.57 145.30 208.82 89.54 13 11 15 2680.7 -42.17 111.79
 60.00 12 6 53 3688.73 -39.81 145.34 208.14 83.15 13 8 22 2688.7 -38.24 114.30
 70.00 12 0 53 3706.45 -31.88 145.06 206.43 77.05 13 2 39 2706.4 -33.99 116.53
 80.00 11 36 6 3784.56 -22.53 147.83 203.31 69.87 12 39 11 2784.6 -28.79 122.16
 81.40 11 5 48 3881.59 -18.97 153.51 201.81 67.03 12 10 30 2881.6 -26.78 128.93
 100.00 14 18 58 3259.03 -22.53 109.20 203.31 69.87 13 13 17 2259.0 -26.79 83.53
 110.00 17 0 19 2753.27 -31.88 73.98 206.43 77.05 17 46 13 1753.3 -33.99 48.45

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 2.4286 TRA 1.0097 TC3-4.7582 BAU 1.0678 SGT 5425.8 SGR 3384.7 SG3 865.5 ST 181.7 SR 111.0 SS 110.4
 RDE 1.4521 RRA 1.0763 RC3-2.4115 FAU .12192 RRT .9864 RRF -.9998 RTF .510 CRT .9942 CRS -.9999 CST -.9929
 FDE 4.2317 FRA 3.2910 FC3-7.0495 B8P 10452 SGB 6395.0 R23 .2060 R13 .9783 LSA 239.5 MSA 13.5 SSA .1
 BDE 2.8296 BRA 1.4758 BC3 5.3344 F8P 1542 SG1 6391.6 SG2 743.6 THA 31.57 EL1 212.7 EL2 10.2 ALF 31.39

LAUNCH DATE MAY 8 1971

FLIGHT TIME 244.00

ARRIVAL DATE JAN 7 1972

HELIOCENTRIC CONIC

DISTANCE 571.183

EARTH TO MARS

RL 150.98 LAL .00 LOL 226.77 VL 32.296 GAL -1.80 AZL 89.34 HCA 181.89 SMA 185.60 ECC .18905 INC .5796 V1 29.512
 RP 219.99 LAP -.02 LOP 48.66 VP 22.170 GAP 2.18 AZP 90.66 TAL 348.66 TAP 170.55 RCA 150.51 APO 220.88 V2 24.987
 RC 186.781 GL 6.80 GP -17.58 ZAL 117.00 ZAP 65.71 ETS 170.91 ZAE 104.68 ETE 185.22 ZAC 84.81 ETC 271.88 LVI 6.55

PLANETOCENTRIC CONIC

C3 9.833 VHL 3.136 DLA -.03 RAL 342.63 RAD 6638.0 VEL 11.399 PTH 6.45 VHP 3.209 DPA -40.43 RAP 298.76 ECC 1.1618
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 7 15 2977.67 -29.95 89.39 194.44 128.87 15 56 53 1977.7 -12.87 70.92
 60.00 15 46 52 2872.30 -25.94 83.13 197.67 121.99 16 34 44 1872.3 -11.25 62.95
 70.00 16 39 8 2718.59 -22.31 72.90 199.89 116.55 17 24 27 1718.6 -9.75 51.60
 80.00 17 47 27 2504.67 -19.67 57.97 201.20 112.92 18 29 12 1504.7 -8.63 36.04
 90.00 19 8 34 2241.86 -18.68 39.08 201.63 111.62 19 46 16 1241.9 -8.21 16.94
 100.00 20 30 19 1979.14 -19.67 19.34 201.20 112.92 21 3 18 979.1 -8.63 357.41
 110.00 21 38 34 1765.40 -22.31 1.82 199.89 116.55 22 8 0 765.4 -9.75 340.51

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .8029 TRA 1.4483 TC3-7.6570 BAU 1.0341 SGT 5675.8 SGR 1636.5 SG3 1390.8 ST 83.7 SR 31.4 SS 83.1
 RDE .2970 RRA .5748 RC3-1.8045 FAU .20100 RRT .9700 RRF .9998 RTF .9689 CRT .9990 CRS -.9996 CST -.9979
 FDE 2.7852 FRA 5.7414 FC-17.6972 B8P 8147 SGB 5907.0 R23 .2291 R13 .9732 LSA 122.0 MSA 3.9 SSA .4
 BDE .8561 BRA 1.5581 BC3 7.8667 F8P 2137 SG1 5894.5 SG2 383.2 THA 15.69 EL1 89.4 EL2 1.3 ALF 20.56

LAUNCH DATE MAY 8 1971

FLIGHT TIME 246.00

ARRIVAL DATE JAN 9 1972

HELIOCENTRIC CONIC
 RL 150.98 LAL .00 LOL 226.77 VL 32.303 GAL -1.07 AZL 90.27 HCA 183.01 SMA 188.72 ECC .18978 INC .2672 V1 29.812
 RP 220.38 LAP .01 LOP 49.78 VP 22.134 GAP 2.03 AZP 89.73 TAL 348.25 TAP 171.23 RCA 150.47 APO 220.98 V2 24.048
 RC 189.399 GL -2.82 GP -11.20 ZAL 117.76 ZAP 63.61 ETS 173.92 ZAE 103.73 ETE 183.21 ZAC 91.20 ETC 271.84 LVI .71

PLANETOCENTRIC CONIC
 C3 9.876 VHL 3.143 DLA -8.68 RAL 348.89 RAD 6638.0 VEL 11.401 PTH 6.48 VHP 3.132 DPA -34.20 RAP 297.00 ECC 1.1628
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 56 8 2809.88 -22.26 80.29 196.87 133.20 16 42 54 1805.9 -4.33 63.89
 60.00 16 45 8 2675.69 -18.38 72.01 200.32 126.52 17 29 41 1675.7 -2.70 53.39
 70.00 17 47 50 2491.22 -14.80 59.55 202.82 121.14 18 29 21 1491.2 -1.16 39.59
 80.00 19 5 46 2247.26 -12.16 42.56 204.35 117.48 19 43 13 1247.3 -.01 21.80
 90.00 20 31 26 1970.86 -11.13 22.76 204.87 116.16 21 4 17 970.9 .43 1.72
 100.00 21 48 38 1721.73 -12.16 3.93 204.35 117.48 22 17 10 721.7 -.01 343.17
 110.00 22 47 16 1538.04 -14.80 348.47 202.82 121.14 23 12 54 538.0 -1.16 328.81

DIFFERENTIAL CORRECTIONS
 TDE .6261 TRA 1.7770 TC3-7.3280 BAU .9789 MGT 8766.9 8GR 1013.4 8G3 1484.8 ST 75.6 SR 19.3 88 81.1
 RDE .1760 RRA .3882 RC3-1.0204 FAU .19467 RRT .9897 RRF .9992 RTF .8710 CRT .9918 CR8 -.9975 CST -.9980
 FDE 2.3916 FRA 0.8428 FC-17.0647 B8P 9808 8G8 8955.3 8Z3 .2288 R13 .9727 L8A 112.5 M8A 3.9 88A .7
 BDE .4903 BRA 1.8189 BC3 7.3987 F8P 2618 8G1 8950.2 8G2 244.2 T8A 9.89 EL1 78.0 EL2 2.4 ALP 14.84

LAUNCH DATE MAY 8 1971

FLIGHT TIME 248.00

ARRIVAL DATE JAN 11 1972

HELIOCENTRIC CONIC
 RL 150.98 LAL .00 LOL 226.77 VL 32.310 GAL -1.94 AZL 90.70 HCA 184.12 SMA 188.84 ECC .19053 INC .7019 V1 29.812
 RP 220.74 LAP .05 LOP 50.89 VP 22.098 GAP 1.88 AZP 89.30 TAL 347.82 TAP 171.94 RCA 150.43 APO 221.25 V2 24.004
 RC 192.025 GL -7.12 GP -8.15 ZAL 118.19 ZAP 62.09 ETS 174.81 ZAE 102.48 ETE 182.25 ZAC 94.25 ETC 271.81 LVI -2.06

PLANETOCENTRIC CONIC
 C3 10.153 VHL 3.186 DLA -12.39 RAL 349.19 RAD 6638.1 VEL 11.413 PTH 6.46 VHP 3.128 DPA -31.22 RAP 296.22 ECC 1.1671
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 19 31 2736.39 -18.98 76.93 199.09 134.49 17 5 8 1736.4 -.84 60.84
 60.00 17 12 48 2594.73 -15.05 67.77 202.68 127.84 17 58 2 1594.7 .86 49.82
 70.00 18 20 31 2395.64 -11.38 54.27 205.33 122.42 19 0 26 1395.6 2.49 34.61
 80.00 19 43 11 2138.85 -8.61 36.28 206.99 119.70 20 18 48 1136.9 3.72 18.73
 90.00 21 11 0 1853.54 -7.89 16.02 207.56 117.33 21 41 54 853.5 4.20 358.16
 100.00 22 26 3 1611.32 -8.61 387.85 206.99 118.70 22 32 54 611.3 3.72 337.10
 110.00 23 19 57 1442.46 -11.38 343.19 205.33 122.42 23 44 0 442.5 2.49 323.82

DIFFERENTIAL CORRECTIONS
 TDE .5212 TRA 1.9248 TC3-7.3098 BAU .9987 MGT 5927.5 8GR 711.4 8G3 1489.0 ST 71.2 SR 13.8 88 77.3
 RDE .1282 RRA .2753 RC3 -.6948 FAU .19455 RRT .9863 RRF .9970 RTF .8718 CRT .9841 CR8 -.9903 CST -.9913
 FDE 2.3841 FRA 0.8477 FC-16.9888 B8P 10085 8G8 8970.0 8Z3 .2217 R13 .9728 L8A 105.7 M8A 7.4 88A .5
 BDE .5368 BRA 1.9444 BC3 7.3426 F8P 2638 8G1 8967.2 8G2 181.8 T8A 6.82 EL1 72.4 EL2 3.6 ALP 10.63

LAUNCH DATE MAY 8 1971

FLIGHT TIME 250.00

ARRIVAL DATE JAN 13 1972

HELIOCENTRIC CONIC
 RL 150.98 LAL .00 LOL 226.77 VL 32.316 GAL -2.01 AZL 90.98 HCA 185.23 SMA 188.97 ECC .19131 INC .8468 V1 29.812
 RP 221.12 LAP .09 LOP 52.00 VP 22.063 GAP 1.74 AZP 89.06 TAL 347.40 TAP 172.63 RCA 150.39 APO 221.88 V2 24.003
 RC 194.659 GL -9.50 GP -8.38 ZAL 118.63 ZAP 60.77 ETS 175.87 ZAE 101.17 ETE 181.70 ZAC 96.02 ETC 271.80 LVI -3.67

PLANETOCENTRIC CONIC
 C3 10.434 VHL 3.230 DLA -14.32 RAL 350.74 RAD 6638.3 VEL 11.425 PTH 6.48 VHP 3.137 DPA -29.49 RAP 295.77 ECC 1.1717
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 33 22 2702.48 -17.38 78.35 200.83 135.03 17 18 24 1702.9 .86 59.22
 60.00 17 28 1 2554.47 -13.38 68.71 204.52 128.39 18 11 38 1554.5 2.84 47.60
 70.00 18 39 33 2347.11 -9.89 51.65 207.28 122.94 19 18 40 1347.1 4.33 32.06
 80.00 20 4 59 2079.65 -8.73 33.09 209.02 119.18 20 39 30 1079.7 5.84 12.87
 90.00 21 34 8 1792.22 -8.82 12.95 209.62 117.76 22 3 58 792.2 6.18 381.71
 100.00 22 47 31 1554.12 -8.73 394.48 209.02 119.18 23 13 45 554.1 5.84 333.94
 110.00 23 38 59 1393.93 -9.89 340.57 207.28 122.94 24 2 13 393.9 4.33 320.88

DIFFERENTIAL CORRECTIONS
 TDE .4718 TRA 2.0423 TC3-7.3284 BAU 1.0245 MGT 6089.4 8GR 339.3 8G3 1483.8 ST 70.3 SR 11.1 88 74.6
 RDE .1072 RRA .2043 RC3 -.5139 FAU .19393 RRT .9803 RRF .9918 RTF .5.31 CRT .9214 CR8 -.9748 CST -.9949
 FDE 2.2498 FRA 0.8879 FC-16.0917 B8P 10279 8G8 8112.9 8Z3 .2033 R13 .9736 L8A 102.7 M8A 9.6 88A .5
 BDE .4838 BRA 2.0323 BC3 7.3444 F8P 2575 8G1 6111.1 8G2 148.7 T8A 4.83 EL1 71.1 EL2 4.2 ALP 8.27

LAUNCH DATE MAY 8 1971

FLIGHT TIME 252.00

ARRIVAL DATE JAN 15 1972

HELIOCENTRIC CONIC
 RL 150.98 LAL .00 LOL 226.77 VL 32.326 GAL -2.09 AZL 91.10 HCA 186.34 SMA 186.10 ECC .19212 INC 1.1026 V1 29.812
 RP 221.50 LAP .12 LOP 53.11 VP 22.028 GAP 1.59 AZP 88.90 TAL 346.96 TAP 173.30 RCA 150.35 APO 221.86 V2 24.021
 RC 197.299 GL -10.97 GP -5.23 ZAL 119.10 ZAP 59.34 ETS 176.07 ZAE 99.85 ETE 181.34 ZAC 97.18 ETC 271.79 LVI -4.72

PLANETOCENTRIC CONIC
 C3 10.699 VHL 3.271 DLA -15.43 RAL 351.94 RAD 6638.4 VEL 11.436 PTH 6.49 VHP 3.156 DPA -28.36 RAP 295.49 ECC 1.1761
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 42 35 2684.95 -18.51 74.54 202.26 135.28 17 27 20 1685.0 1.74 58.49
 60.00 17 39 38 2533.22 -12.45 64.64 206.02 126.64 18 21 51 1533.2 3.97 46.88
 70.00 18 51 52 2320.88 -8.82 50.24 208.85 123.18 19 30 33 1320.9 5.33 30.69
 80.00 20 19 1 2048.08 -5.68 31.33 210.65 119.38 20 53 9 1048.1 6.69 10.82
 90.00 21 48 56 1758.00 -4.53 10.63 211.28 117.94 22 18 14 758.0 7.23 349.78
 100.00 23 1 53 1522.55 -5.68 352.70 210.65 119.38 23 27 16 522.5 6.69 332.18
 110.00 23 51 18 1367.69 -8.62 339.16 208.85 123.18 24 14 6 367.7 5.33 318.60

DIFFERENTIAL CORRECTIONS
 TDE .4514 TRA 2.1518 TC3-7.3498 BAU 1.0528 MGT 6247.6 8GR 421.7 8G3 1431.1 ST 71.1 SR 9.7 88 73.7
 RDE .0988 RRA .1571 RC3 -.3930 FAU .19021 RRT .9458 RRF .9809 RTF .9724 CRT .8676 CR8 -.9511 CST -.9783
 FDE 2.2046 FRA 0.9183 FC-15.3915 B8P 10495 8G8 6261.9 8Z3 .1871 R13 .9726 L8A 102.3 M8A 11.3 88A .5
 BDE .4621 BRA 2.1576 BC3 7.3604 F8P 2549 8G1 6260.4 8G2 136.6 T8A 3.65 EL1 71.6 EL2 4.8 ALP 6.76

LAUNCH DATE MAY 8 1971

FLIGHT TIME 234.00

ARRIVAL DATE JAN 17 1972

HELIOCENTRIC CONIC

DISTANCE 591.844

EARTH TO MARS

RL 150.98 LAL .00 LOL 226.77 VL 32.334 GAL -2.17 AZL 91.22 HCA 187.44 SMA 186.24 ECC .19295 INC 1.2139 V1 29.512
 RP 221.88 LAP .16 LOP 54.21 VP 21.992 GAP 1.44 AZP 88.79 TAL 346.52 TAP 173.96 RCA 150.30 APO 222.18 V2 24.780
 RC 199.945 GL -11.95 GP -4.42 ZAL 119.80 ZAP 58.38 ETS 176.43 ZAE 98.55 ETE 181.09 ZAC 97.99 ETC 271.79 LVI -5.46

PLANETOCENTRIC CONIC

C3 10.952 VHL 3.309 DLA -16.07 RAL 352.94 RAD 6638.5 VEL 11.447 PTH 6.50 VHP 3.179 DPA -27.56 RAP 295.31 ECC 1.1802
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 49 13 2676.36 -16.09 74.15 203.50 135.40 17 33 49 1676.4 2.18 58.13
 60.00 17 47 7 2522.36 -11.99 64.09 207.31 128.77 18 29 9 1522.4 4.05 46.06
 70.00 19 0 23 2306.98 -8.10 49.50 210.19 123.29 19 38 50 1307.0 5.85 29.95
 80.00 20 28 36 2030.87 -5.10 30.38 212.02 119.46 21 2 27 1030.9 7.26 9.86
 90.00 21 59 2 1739.5 -3.93 9.57 212.67 118.03 22 28 1 739.2 7.82 348.71
 100.00 23 11 28 1505.34 -5.10 351.75 212.02 119.46 23 36 33 505.3 7.26 331.22
 110.00 0 3 45 1353.80 -6.10 338.42 210.19 123.29 0 26 19 353.8 5.85 318.87

DIFFERENTIAL CORRECTIONS

TDE .4564 TRA 2.2665 TC3-7.3486 BAU 1.0769
 RDE .0964 RRA .1225 RC3 -.3101 FAU .18489
 FDE 2.2133 FRA 6.9460 FC-14.6151 BSP 10824
 BDE .4664 BRA 2.2698 BC3 7.3551 FSP 2543

MID-COURSE EXECUTION ACCURACY

SGT 6399.8 SGR 344.5 SG3 1406.2
 RRT .9213 RRF .9607 RTF .9714
 SGB 6409.1 R23 .1681 R13 .9716
 SG1 6407.7 SG2 133.8 THA 2.84

ORBIT DETERMINATION ACCURACY

ST 73.3 SR 9.0 SS 73.8
 CRT .8125 CRS -.9220 CST -.9744
 LSA 103.6 MSA 12.5 SSA .6
 EL1 73.6 EL2 5.2 ALF 5.72

LAUNCH DATE MAY 8 1971

FLIGHT TIME 256.00

ARRIVAL DATE JAN 19 1972

HELIOCENTRIC CONIC

DISTANCE 595.967

EARTH TO MARS

RL 150.98 LAL .00 LOL 226.77 VL 32.342 GAL -2.25 AZL 91.30 HCA 188.54 SMA 186.38 ECC .19381 INC 1.2966 V1 29.512
 RP 222.27 LAP .19 LOP 55.31 VP 21.958 GAP 1.29 AZP 88.72 TAL 346.08 TAP 174.62 RCA 150.26 APO 222.50 V2 24.738
 RC 202.593 GL -12.83 GP -3.82 ZAL 120.13 ZAP 57.26 ETS 176.70 ZAE 97.26 ETE 180.91 ZAC 98.59 ETC 271.80 LVI -6.02

PLANETOCENTRIC CONIC

C3 11.197 VHL 3.346 DLA -16.45 RAL 353.82 RAD 6638.7 VEL 11.458 PTH 6.51 VHP 3.204 DPA -26.97 RAP 295.21 ECC 1.1843
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 54 14 2673.13 -15.93 74.00 204.60 135.45 17 38 47 1673.1 2.34 58.00
 60.00 17 52 39 2517.80 -11.80 63.86 208.45 128.82 18 34 37 1517.8 4.25 45.84
 70.00 19 6 32 2300.61 -7.86 49.16 211.36 123.34 19 44 52 1300.6 6.10 29.62
 80.00 20 35 23 2022.51 -4.82 29.92 213.23 119.50 21 9 5 1022.5 7.54 9.39
 90.00 22 6 7 1729.80 -3.63 9.05 213.88 118.06 22 34 57 729.8 8.11 348.17
 100.00 23 18 15 1496.98 -4.82 351.28 213.23 119.50 23 43 12 497.0 7.54 330.76
 110.00 0 9 54 1347.43 -7.86 338.08 211.36 123.34 0 32 21 347.4 6.10 318.54

DIFFERENTIAL CORRECTIONS

TDE .4623 TRA 2.3711 TC3-7.3795 BAU 1.1053
 RDE .0956 RRA .0944 RC3 -.2541 FAU .18201
 FDE 2.1758 FRA 6.9070 FC-14.0732 BSP 11039
 BDE .4721 BRA 2.3730 BC3 7.3838 FSP 2468

MID-COURSE EXECUTION ACCURACY

SGT 6552.7 SGR 290.1 SG3 1378.7
 RRT .8855 RRF .9269 RTF .9723
 SGB 6559.1 R23 .1412 R13 .9724
 SG1 6557.7 SG2 134.7 THA 2.25

ORBIT DETERMINATION ACCURACY

ST 75.2 SR 8.6 SS 72.8
 CRT .7548 CRS -.8859 CST -.9725
 LSA 104.2 MSA 13.2 SSA .6
 EL1 75.5 EL2 5.6 ALF 4.95

LAUNCH DATE MAY 8 1971

FLIGHT TIME 258.00

ARRIVAL DATE JAN 21 1972

HELIOCENTRIC CONIC

DISTANCE 600.082

EARTH TO MARS

RL 150.98 LAL .00 LOL 226.77 VL 32.351 GAL -2.33 AZL 91.36 HCA 189.64 SMA 186.52 ECC .19469 INC 1.3606 V1 29.512
 RP 222.65 LAP .23 LOP 56.40 VP 21.923 GAP 1.14 AZP 88.66 TAL 345.63 TAP 175.27 RCA 150.21 APO 222.83 V2 24.696
 RC 205.250 GL -13.12 GP -3.35 ZAL 120.67 ZAP 56.19 ETS 176.91 ZAE 96.01 ETE 180.78 ZAC 99.05 ETC 271.81 LVI -6.47

PLANETOCENTRIC CONIC

C3 11.439 VHL 3.382 DLA -16.85 RAL 354.81 RAD 6638.8 VEL 11.468 PTH 6.52 VHP 3.230 DPA -26.50 RAP 295.18 ECC 1.1882
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 58 13 2673.48 -15.95 74.02 205.61 135.44 17 42 46 1673.5 2.32 58.01
 60.00 17 56 53 2517.44 -11.78 63.85 209.49 128.82 18 38 51 1517.4 4.26 45.82
 70.00 19 11 6 2299.30 -7.81 49.09 212.43 123.35 19 49 25 1299.3 6.14 29.55
 80.00 20 40 17 2020.13 -4.74 29.78 214.32 119.51 21 13 58 1020.1 7.62 9.26
 90.00 22 11 11 1726.89 -3.54 8.89 214.98 118.08 22 39 58 726.9 8.20 348.01
 100.00 23 23 9 1494.80 -4.74 351.15 214.32 119.51 23 48 4 494.6 7.62 330.62
 110.00 0 14 28 1346.12 -7.81 338.01 212.43 123.35 0 36 54 346.1 6.14 318.47

DIFFERENTIAL CORRECTIONS

TDE .4916 TRA 2.4910 TC3-7.3576 BAU 1.1258
 RDE .0984 RRA .0729 RC3 -.2072 FAU .17493
 FDE 2.2375 FRA 6.9398 FC-13.2397 BSP 11454
 BDE .5013 BRA 2.4921 BC3 7.3603 FSP 2487

MID-COURSE EXECUTION ACCURACY

SGT 6698.0 SGR 253.1 SG3 1352.8
 RRT .8282 RRF .8753 RTF .5.05
 SGB 6702.8 R23 .1270 R13 .9706
 SG1 6701.3 SG2 141.8 THA 1.79

ORBIT DETERMINATION ACCURACY

ST 78.5 SR 8.6 SS 73.8
 CRT .7094 CRS -.8561 CST -.9711
 LSA 107.2 MSA 14.0 SSA .6
 EL1 78.7 EL2 6.0 ALF 4.45

LAUNCH DATE MAY 8 1971

FLIGHT TIME 260.00

ARRIVAL DATE JAN 23 1972

HELIOCENTRIC CONIC

DISTANCE 604.197

EARTH TO MARS

RL 150.98 LAL .00 LOL 226.77 VL 32.359 GAL -2.41 AZL 91.41 HCA 190.73 SMA 186.67 ECC .19559 INC 1.4121 V1 29.512
 RP 223.04 LAP .26 LOP 57.30 VP 21.888 GAP .99 AZP 88.61 TAL 345.18 TAP 175.91 RCA 150.16 APO 223.18 V2 24.654
 RC 207.907 GL -13.48 GP -2.98 ZAL 121.22 ZAP 55.15 ETS 177.08 ZAE 94.77 ETE 180.67 ZAC 99.42 ETC 271.83 LVI -6.83

PLANETOCENTRIC CONIC

C3 11.878 VHL 3.417 DLA -16.73 RAL 355.34 RAD 6638.9 VEL 11.479 PTH 6.53 VHP 3.258 DPA -26.13 RAP 295.19 ECC 1.1922
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 1 27 2676.20 -16.08 74.14 206.56 135.41 17 46 3 1676.2 2.18 58.12
 60.00 18 0 14 2519.88 -11.89 63.97 210.46 128.80 18 42 14 1519.9 4.16 45.94
 70.00 19 14 34 2301.36 -7.89 49.20 213.42 123.34 19 52 55 1301.4 6.07 29.66
 80.00 20 43 54 2021.77 -4.80 29.87 215.32 119.50 21 17 35 1021.8 7.56 9.35
 90.00 22 14 52 1728.32 -3.58 8.97 215.99 118.07 22 43 40 728.3 8.15 348.09
 100.00 23 26 45 1496.25 -4.80 351.24 215.32 119.50 23 51 42 496.2 7.56 330.72
 110.00 0 17 56 1348.18 -7.89 338.12 213.42 123.34 0 40 24 348.2 6.07 318.57

DIFFERENTIAL CORRECTIONS

TDE .5075 TRA 2.5927 TC3-7.3964 BAU 1.1551
 RDE .1006 RRA .0532 RC3 -.1775 FAU .17306
 FDE 2.1964 FRA 6.8636 FC-12.8294 BSP 11650
 BDE .5174 BRA 2.5932 BC3 7.3986 FSP 2393

MID-COURSE EXECUTION ACCURACY

SGT 6847.0 SGR 227.7 SG3 1324.0
 RRT .7565 RRF .8036 RTF .9721
 SGB 6850.8 R23 .1037 R13 .9722
 SG1 6849.2 SG2 148.9 THA 1.44

ORBIT DETERMINATION ACCURACY

ST 80.6 SR 8.6 SS 72.6
 CRT .6603 CRS -.8191 CST -.9711
 LSA 107.9 MSA 14.2 SSA .7
 EL1 80.8 EL2 6.4 ALF 4.03

LAUNCH DATE MAY 8 1971

FLIGHT TIME 270.00

ARRIVAL DATE FEB 2 1972

HELIOCENTRIC CONIC

DISTANCE 624.680

EARTH TO MARS

RL 190.98 LAL .00 LOL 226.77 VL 32.404 GAL -2.84 AZL 91.58 HCA 196.13 SMA 187.43 ECC .20043 INC 1.5621 V1 29.512
RP 224.98 LAP .43 LOP 62.90 VP 21.718 GAP .25 AZP 88.50 TAL 342.87 TAP 179.00 RCA 149.86 APO 224.99 V2 24.445
RC 221.219 GL -14.21 GP -1.90 ZAL 124.09 ZAP 50.47 ETS 177.62 ZAE 88.96 ETE 180.38 ZAC 100.46 ETC 272.03 LVI -8.12

PLANETOCENTRIC CONIC

C3 12.919 VHL 3.594 DLA -16.16 RAL 359.53 RAD 6639.5 VEL 11.532 PTH 6.58 VHP 3.403 DPA -24.94 RAP 295.82 ECC 1.2186
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 11 49 2709.37 -17.68 75.67 210.82 134.92 17 56 59 1709.4 .52 59.51
60.00 18 9 50 2555.08 -13.38 65.74 214.79 128.38 18 52 25 1555.1 2.61 47.62
70.00 19 23 14 2339.30 -9.30 51.23 217.78 123.01 20 2 13 1339.3 4.63 31.85
80.00 20 51 35 2062.76 -6.17 32.15 219.69 119.27 21 25 58 1062.8 6.20 11.63
90.00 22 22 5 1770.73 -4.94 11.35 220.36 117.88 22 51 36 770.8 6.82 350.50
100.00 23 34 27 1537.23 -6.17 353.51 219.69 119.27 24 0 5 537.2 6.20 333.00
110.00 0 26 36 1386.12 -9.30 340.15 217.78 123.01 0 49 43 386.1 4.63 320.57

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .6598 TRA 3.1403 TC3-7.4492 BAU 1.2867 SGT 7546.2 SGR 212.7 SG3 1185.9 ST 94.6 SR 10.0 SS 71.7
RDE .1260 RRA -.0136 RC3 -.0924 FAU .15231 RRT .2800 RRF .3278 RTF .9709 CRT .5288 CRS -.7104 CST -.9725
FDE 2.2440 FRA 6.6489 FC-10.2070 B8P 12680 SGB 7549.2 R23 .0581 R13 .9709 LSA 118.1 MSA 15.6 S8A .9
BDE .6717 BRA 3.1404 BC3 7.4498 F8P 2154 SG1 7546.4 S62 204.2 THA .45 EL1 94.7 EL2 8.5 ALF 3.24

LAUNCH DATE MAY 8 1971

FLIGHT TIME 272.00

ARRIVAL DATE FEB 4 1972

HELIOCENTRIC CONIC

DISTANCE 628.760

EARTH TO MARS

RL 190.98 LAL .00 LOL 226.77 VL 32.413 GAL -2.93 AZL 91.58 HCA 197.20 SMA 187.58 ECC .20146 INC 1.5807 V1 29.512
RP 225.37 LAP .47 LOP 63.96 VP 21.685 GAP .10 AZP 88.49 TAL 342.40 TAP 179.60 RCA 149.79 APO 225.37 V2 24.403
RC 223.884 GL -14.24 GP -1.77 ZAL 124.67 ZAP 49.62 ETS 177.69 ZAE 87.86 ETE 180.34 ZAC 100.59 ETC 272.08 LVI -8.32

PLANETOCENTRIC CONIC

C3 13.182 VHL 3.631 DLA -15.94 RAL 359.11 RAD 6639.6 VEL 11.543 PTH 6.59 VHP 3.433 DPA -24.77 RAP 296.04 ECC 1.2189
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 13 14 2718.20 -18.11 76.08 211.62 134.78 17 58 33 1718.2 .07 59.80
60.00 18 10 58 2564.67 -13.78 66.23 215.60 128.25 18 53 43 1564.7 2.19 48.08
70.00 19 24 1 2349.93 -9.70 51.80 218.59 122.91 20 3 11 1349.9 4.23 32.21
80.00 20 52 1 2074.52 -6.56 32.80 220.50 119.19 21 26 35 1074.5 5.81 12.29
90.00 22 22 20 1783.15 -5.33 12.04 221.16 117.81 22 52 3 783.2 6.44 351.20
100.00 23 34 53 1548.99 -6.56 354.17 220.50 119.19 24 0 42 549.0 5.81 333.65
110.00 0 27 23 1396.75 -9.70 340.72 218.59 122.91 0 50 40 396.7 4.23 321.13

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .6968 TRA 3.2536 TC3-7.4497 BAU 1.3129 SGT 7680.1 SGR 221.0 SG3 1159.3 ST 97.5 SR 10.5 SS 71.6
RDE .1323 RRA -.0238 RC3 -.0839 FAU .14829 RRT .2065 RRF .2532 RTF .9705 CRT .5176 CRS -.6993 CST -.9731
FDE 2.2561 FRA 6.6008 FC3-9.7390 B8P 13119 SGB 7683.3 R23 .0538 R13 .9705 LSA 120.3 MSA 15.8 S8A .9
BDE .7091 BRA 3.2536 BC3 7.4502 F8P 2109 SG1 7680.2 S62 216.2 THA .34 EL1 97.6 EL2 8.9 ALF 3.20

LAUNCH DATE MAY 8 1971

FLIGHT TIME 274.00

ARRIVAL DATE FEB 6 1972

HELIOCENTRIC CONIC

DISTANCE 632.832

EARTH TO MARS

RL 190.98 LAL .00 LOL 226.77 VL 32.422 GAL -3.02 AZL 91.60 HCA 198.27 SMA 187.74 ECC .20251 INC 1.5975 V1 29.512
RP 225.76 LAP .50 LOP 65.03 VP 21.652 GAP -.05 AZP 88.48 TAL 341.93 TAP 180.19 RCA 149.72 APO 225.76 V2 24.361
RC 226.590 GL -14.25 GP -1.65 ZAL 125.25 ZAP 48.80 ETS 177.76 ZAE 86.79 ETE 180.31 ZAC 100.69 ETC 272.15 LVI -8.52

PLANETOCENTRIC CONIC

C3 13.451 VHL 3.668 DLA -15.70 RAL 359.67 RAD 6639.8 VEL 11.555 PTH 6.60 VHP 3.464 DPA -24.62 RAP 296.28 ECC 1.2214
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 14 32 2727.46 -18.55 76.51 212.42 134.64 17 59 59 1727.5 -.39 60.27
60.00 18 11 57 2574.78 -14.21 66.74 216.40 128.12 18 54 52 1574.8 1.74 48.57
70.00 19 24 37 2361.13 -10.11 52.40 219.39 122.80 20 3 58 1361.1 3.80 32.80
80.00 20 52 14 2086.93 -6.97 33.49 221.29 119.11 21 27 0 1086.9 5.40 12.97
90.00 22 22 21 1796.17 -5.75 12.78 221.96 117.74 22 52 18 796.2 6.02 351.94
100.00 23 35 5 1561.41 -6.97 394.86 221.29 119.11 24 1 7 561.4 5.40 334.34
110.00 0 27 59 1407.95 -10.11 341.32 219.39 122.80 0 51 27 408.0 3.80 321.72

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .7369 TRA 3.3702 TC3-7.4398 BAU 1.3380 SGT 7811.4 SGR 230.8 SG3 1133.2 ST 100.6 SR 10.9 SS 71.4
RDE .1390 RRA -.0335 RC3 -.0771 FAU .14413 RRT .1451 RRF .1906 RTF .5.01 CRT .5104 CRS -.6909 CST -.9739
FDE 2.2697 FRA 6.5347 FC3-9.2766 B8P 13373 SGB 7814.8 R23 .0503 R13 .9701 LSA 122.8 MSA 16.0 S8A 1.0
BDE .7499 BRA 3.3704 BC3 7.4403 F8P 2066 SG1 7811.5 S62 226.4 THA .25 EL1 100.7 EL2 9.3 ALF 3.19

LAUNCH DATE MAY 8 1971

FLIGHT TIME 276.00

ARRIVAL DATE FEB 8 1972

HELIOCENTRIC CONIC

DISTANCE 636.902

EARTH TO MARS

RL 190.98 LAL .00 LOL 226.77 VL 32.431 GAL -3.11 AZL 91.61 HCA 199.33 SMA 187.91 ECC .20358 INC 1.6122 V1 29.512
RP 226.15 LAP .53 LOP 66.09 VP 21.619 GAP -.20 AZP 88.48 TAL 341.45 TAP 180.78 RCA 149.65 APO 226.15 V2 24.319
RC 229.216 GL -14.24 GP -1.55 ZAL 125.84 ZAP 48.00 ETS 177.82 ZAE 85.74 ETE 180.29 ZAC 100.78 ETC 272.21 LVI -8.72

PLANETOCENTRIC CONIC

C3 13.727 VHL 3.705 DLA -15.45 RAL 359.23 RAD 6639.9 VEL 11.567 PTH 6.61 VHP 3.494 DPA -24.47 RAP 296.56 ECC 1.2259
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 15 43 2737.09 -19.01 76.97 213.21 134.48 18 1 20 1737.1 -.88 60.67
60.00 18 12 49 2583.27 -14.65 67.28 217.20 127.97 18 55 54 1583.3 1.28 49.07
70.00 19 25 5 2372.81 -10.54 53.03 220.19 122.68 20 4 37 1372.8 3.36 33.41
80.00 20 52 16 2099.89 -7.40 34.21 222.08 119.01 21 27 16 1099.9 4.96 13.69
90.00 22 22 13 1809.76 -6.18 13.54 222.75 117.65 22 52 22 809.8 5.59 352.70
100.00 23 35 8 1574.36 -7.40 355.58 222.08 119.01 24 1 23 574.4 4.96 335.06
110.00 0 28 27 1419.63 -10.54 341.95 220.19 122.68 0 52 7 419.6 3.36 322.33

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .7773 TRA 3.4869 TC3-7.4312 BAU 1.3638 SGT 7941.3 SGR 241.6 SG3 1107.6 ST 103.5 SR 11.3 SS 71.3
RDE .1459 RRA -.0426 RC3 -.0716 FAU .14017 RRT .0943 RRF .1388 RTF .9697 CRT .5052 CRS -.6843 CST -.9746
FDE 2.2809 FRA 6.5064 FC3-8.8404 B8P 13610 SGB 7945.0 R23 .0475 R13 .9697 LSA 125.2 MSA 16.2 S8A 1.0
BDE .7908 BRA 3.4871 BC3 7.4316 F8P 2024 SG1 7941.4 S62 240.5 THA .16 EL1 103.7 EL2 9.8 ALF 3.19

LAUNCH DATE MAY 8 1971

FLIGHT TIME 276.00

ARRIVAL DATE FEB 10 1972

HELIOCENTRIC CONIC

DISTANCE 640.064

EARTH TO MARS

RL 150.98 LAL .00 LOL 226.77 VL 32.441 GAL -3.20 AZL 91.63 MCA 200.39 SMA 106.97 ECC .20467 INC 1.6255 V1 29.812
 RP 226.98 LAP .37 LOP 67.18 VP 21.898 GAP -.35 AZP 66.48 YAL 340.97 TAP 181.36 RCA 149.58 APO 226.56 V2 24.278
 RC 231.800 BL -14.21 GP -1.48 ZAL 126.42 ZAP 47.23 E78 177.97 ZAE 84.71 E7E 100.27 ZAC 100.86 E7C 272.29 LVI -0.01

PLANETOCENTRIC CONIC

C3 14.018 VHL 3.743 DLA -18.18 RAL .77 RAD 6640.0 VEL 11.979 PTM 6.62 VHP 3.828 DPA -24.33 RAP 296.88 ECC 1.2306
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 80.00 17 16 49 2747.02 -10.48 77.44 214.00 134.31 10 2 36 1747.0 -1.37 61.06
 60.00 18 13 34 2596.12 -18.10 67.84 217.99 127.82 10 56 50 1596.1 .00 49.59
 70.00 19 25 28 2394.88 -10.98 83.69 220.97 122.84 20 8 10 1394.9 2.90 34.04
 80.00 20 22 11 2113.28 -7.64 34.96 222.87 118.90 21 27 25 1113.3 4.82 14.43
 90.00 22 21 58 1823.00 -6.62 14.34 223.53 117.98 22 52 19 823.8 5.15 393.49
 100.00 23 38 3 1587.75 -7.64 386.33 222.87 118.90 24 1 31 587.8 4.82 336.60
 110.00 0 28 47 1431.70 -10.98 342.61 220.97 122.84 0 52 39 431.7 2.90 322.66

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .8201 TRA 3.8089 TC3-7.4177 BAU 1.3884 86T 8069.9 86R 223.0 86S 1082.5 8T 106.8 8R 11.8 8S 71.1
 RDE .1830 RRA -.0813 RC3 -.0871 FAU .13618 RRT .0928 RRP .0968 RYP .9688 CRT .9028 CR8 -.6788 CBT -.9788
 PDE 2.2948 PRA 6.4894 PC3-8.4131 B8P 13882 86B 8073.9 823 .0423 R13 .9688 L8A 127.7 M8A 16.3 88A 1.0
 BDE .8343 BRA 3.6063 BC3 7.4181 P8P 1983 86I 8089.9 86E 222.7 T8A .10 EL1 106.8 EL2 10.2 ALP 3.21

LAUNCH DATE MAY 8 1971

FLIGHT TIME 280.00

ARRIVAL DATE FEB 12 1972

HELIOCENTRIC CONIC

DISTANCE 648.021

EARTH TO MARS

RL 150.98 LAL .00 LOL 226.77 VL 32.480 GAL -3.29 AZL 91.64 MCA 201.44 SMA 106.23 ECC .20578 INC 1.6373 V1 29.812
 RP 226.94 LAP .60 LOP 68.20 VP 21.884 GAP -.60 AZP 66.48 YAL 340.49 TAP 181.93 RCA 149.50 APO 226.97 V2 24.236
 RC 234.843 BL -14.17 GP -1.37 ZAL 127.00 ZAP 46.48 E78 177.93 ZAE 83.70 E7E 100.28 ZAC 100.92 E7C 272.38 LVI -9.10

PLANETOCENTRIC CONIC

C3 14.301 VHL 3.782 DLA -14.91 RAL 1.31 RAD 6640.2 VEL 11.991 PTM 6.63 VHP 3.856 DPA -24.20 RAP 297.17 ECC 1.2384
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 80.00 17 17 50 2787.21 -19.97 77.92 214.78 134.13 10 3 47 1787.2 -1.89 61.91
 60.00 18 14 14 2607.28 -18.87 68.41 218.78 127.68 10 57 41 1607.3 .31 50.12
 70.00 19 25 39 2397.27 -11.43 84.36 221.76 122.40 20 8 37 1397.3 2.42 34.69
 80.00 20 22 0 2127.02 -8.29 35.73 223.68 118.79 21 27 27 1127.0 4.05 15.19
 90.00 22 21 31 1836.20 -7.07 15.15 224.30 117.48 22 52 10 836.2 4.69 394.30
 100.00 23 34 52 1601.90 -8.29 387.10 223.68 118.79 24 1 33 601.5 4.05 336.86
 110.00 0 29 2 1444.09 -11.43 343.28 221.76 122.40 0 53 6 444.1 2.42 323.61

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .8617 TRA 3.7248 TC3-7.4038 BAU 1.4188 86T 8199.5 86R 224.8 86S 1087.3 8T 109.8 8R 12.2 8S 70.8
 RDE .1604 RRA -.0597 RC3 -.0637 FAU .13231 RRT .0167 RRP .0618 RYP .9688 CRT .8008 CR8 -.6782 CBT -.9788
 PDE 2.3008 PRA 6.4082 PC3-8.0100 B8P 14072 86B 8199.8 823 .0424 R13 .9688 L8A 130.0 M8A 16.8 88A 1.0
 BDE .6768 BRA 3.7253 BC3 7.4038 P8P 1938 86I 8199.8 86E 224.6 T8A .03 EL1 109.7 EL2 10.6 ALP 3.23

LAUNCH DATE MAY 9 1971

FLIGHT TIME 100.00

ARRIVAL DATE AUG 17 1971

HELIOCENTRIC CONIC

RL 151.01 LAL .00 LOL 227.74 VL 35.297 GAL -2.30 AZL 91.85 HCA 93.49 SMA 259.31 ECC .41923 INC 1.8522 V1 29.505
 RP 207.22 LAP -1.85 LOP 321.23 VP 27.733 GAP 22.06 AZP 89.89 TAL 352.21 TAP 85.70 RCA 150.60 APO 368.02 V2 26.432
 RC 56.455 GL -10.70 GP .12 ZAL 107.28 ZAP 176.22 ETS 178.11 ZAE 174.47 ETE 66.57 ZAC 100.23 ETC 277.64 LVI -17.98

PLANETOCENTRIC CONIC

C3 37.664 VHL 6.137 DLA -19.48 RAL 341.30 RAD 6649.8 VEL 12.552 PTH 7.42 VHP 11.000 DPA -17.25 RAP 320.45 ECC 1.6199
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 13 10 2896.16 -26.39 84.91 207.12 131.14 17 1 26 1896.2 -8.84 47.37
 60.00 17 15 51 2729.47 -20.53 74.93 212.16 125.47 18 1 20 1729.5 -5.06 55.97
 70.00 18 35 7 2496.43 -14.99 59.84 215.97 121.05 19 16 44 1496.4 -1.36 39.67
 80.00 20 9 48 2200.12 -10.66 39.86 218.49 118.06 20 46 28 1200.1 1.59 19.21
 90.00 21 43 29 1897.73 -8.93 18.56 219.40 116.94 22 15 7 897.9 2.78 397.65
 100.00 22 52 40 1674.59 -10.66 1.23 218.49 118.06 23 20 34 674.6 1.59 340.58
 110.00 23 34 34 1543.25 -14.99 348.76 215.97 121.05 24 0 17 543.3 -1.36 328.78

DIFFERENTIAL CORRECTIONS

TDE -.4453 TRA -.9871 TC3 .0041 BAW .0382
 RDE -.9710 RRA .2281 RC3 .0758 FAU .03369
 FDE .1883 FRA .8067 FC3 -.7744 BSP 1537
 BDE .7241 BRA 1.0131 BC3 .0759 FSP 132

MID-COURSE EXECUTION ACCURACY

SGT 1062.2 SGR 586.4 SG3 108.3
 RRT .0020 RRF -.0023 RTF -.6447
 SGB 1213.4 R23 -.0004 R13 -.6447
 SG1 1062.2 SG2 586.4 THA .09

ORBIT DETERMINATION ACCURACY

ST 25.4 SR 26.9 SS 14.2
 CRT .7379 CRS .4833 CST .9438
 LSA 36.2 MSA 16.0 SSA 1.1
 EL1 34.5 EL2 13.4 ALF 47.13

LAUNCH DATE MAY 9 1971

FLIGHT TIME 102.00

ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC

RL 151.01 LAL .00 LOL 227.74 VL 35.102 GAL -2.21 AZL 91.85 HCA 94.76 SMA 252.55 ECC .40359 INC 1.8533 V1 29.505
 RP 207.13 LAP -1.85 LOP 322.50 VP 27.495 GAP 21.55 AZP 89.85 TAL 352.31 TAP 87.07 RCA 150.62 APO 354.47 V2 26.443
 RC 56.701 GL -11.02 GP .12 ZAL 107.24 ZAP 175.34 ETS 178.43 ZAE 174.10 ETE 58.69 ZAC 100.18 ETC 277.72 LVI -18.09

PLANETOCENTRIC CONIC

C3 35.252 VHL 5.937 DLA -19.78 RAL 341.41 RAD 6649.0 VEL 12.456 PTH 7.35 VHP 10.645 DPA -17.13 RAP 320.83 ECC 1.5802
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 14 52 2873.25 -25.35 83.70 206.25 131.71 17 2 46 1873.2 -7.70 66.39
 60.00 17 18 0 2705.38 -19.57 73.61 211.28 125.96 18 3 5 1705.4 -4.00 54.81
 70.00 18 37 50 2470.66 -14.08 58.40 215.11 121.44 19 19 1 1470.7 -.38 38.52
 80.00 20 13 10 2172.32 -9.77 38.28 217.64 118.36 20 49 22 1172.3 2.53 17.68
 90.00 21 47 11 1869.02 -8.04 16.90 218.56 117.21 22 18 20 869.0 3.70 356.03
 100.00 22 56 2 1646.79 -9.77 359.65 217.64 118.36 23 23 29 646.8 2.53 339.05
 110.00 23 37 17 1517.48 -14.08 347.32 215.11 121.44 24 2 34 517.5 -.38 327.44

DIFFERENTIAL CORRECTIONS

TDE -.4401 TRA -.9772 TC3 .0165 BAW .0391
 RDE -.5538 RRA .2209 RC3 .0814 FAU .03479
 FDE .1922 FRA .8389 FC3 -.8545 BSP 1595
 BDE .7073 BRA 1.0019 BC3 .0830 FSP 144

MID-COURSE EXECUTION ACCURACY

SGT 1088.6 SGR 588.4 SG3 116.0
 RRT .0028 RRF -.0029 RTF -.6570
 SGB 1237.5 R23 -.0003 R13 -.6570
 SG1 1088.6 SG2 588.4 THA .12

ORBIT DETERMINATION ACCURACY

ST 26.0 SR 26.9 SS 14.7
 CRT .7368 CRS .4747 CST .9413
 LSA 36.7 MSA 16.3 SSA 1.1
 EL1 34.9 EL2 13.6 ALF 46.35

LAUNCH DATE MAY 9 1971

FLIGHT TIME 104.00

ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC

RL 151.01 LAL .00 LOL 227.74 VL 34.919 GAL -2.12 AZL 91.85 HCA 96.02 SMA 246.52 ECC .38892 INC 1.8545 V1 29.505
 RP 207.05 LAP -1.84 LOP 323.76 VP 27.270 GAP 21.04 AZP 89.81 TAL 352.42 TAP 88.45 RCA 150.64 APO 342.40 V2 26.453
 RC 57.030 GL -11.33 GP .13 ZAL 107.18 ZAP 174.44 ETS 178.65 ZAE 173.66 ETE 52.04 ZAC 100.13 ETC 277.80 LVI -18.19

PLANETOCENTRIC CONIC

C3 33.044 VHL 5.748 DLA -20.09 RAL 341.49 RAD 6648.2 VEL 12.368 PTH 7.29 VHP 10.302 DPA -17.01 RAP 321.19 ECC 1.5438
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 16 33 2850.45 -24.31 82.53 205.40 132.24 17 4 4 1850.5 -6.56 65.43
 60.00 17 20 9 2681.34 -18.61 72.31 210.42 126.42 18 4 50 1681.3 -2.95 55.66
 70.00 18 40 36 2444.83 -13.16 56.97 214.26 121.81 19 21 21 1444.8 .61 37.17
 80.00 20 16 37 2144.31 -8.86 36.71 216.81 118.63 20 52 21 1144.3 3.47 16.14
 90.00 21 51 1 1839.81 -7.12 15.24 217.74 117.44 22 21 41 839.8 4.64 354.39
 100.00 22 59 29 1618.78 -8.86 358.07 216.81 118.63 23 26 28 618.8 3.47 337.51
 110.00 23 40 2 1491.65 -13.16 345.89 214.26 121.81 24 4 54 491.7 .61 326.09

DIFFERENTIAL CORRECTIONS

TDE -.4347 TRA -.9680 TC3 .0306 BAW .0408
 RDE -.5371 RRA .2138 RC3 .0872 FAU .03600
 FDE .1953 FRA .8723 FC3 -.9432 BSP 1651
 BDE .6910 BRA .9913 BC3 .0924 FSP 157

MID-COURSE EXECUTION ACCURACY

SGT 1115.5 SGR 590.0 SG3 124.3
 RRT .0036 RRF -.0034 RTF -.6688
 SGB 1261.9 R23 -.0000 R13 -.6688
 SG1 1115.5 SG2 590.0 THA .15

ORBIT DETERMINATION ACCURACY

ST 26.6 SR 27.0 SS 15.2
 CRT .7353 CRS .4646 CST .9383
 LSA 37.2 MSA 16.7 SSA 1.1
 EL1 35.3 EL2 13.8 ALF 45.58

LAUNCH DATE MAY 9 1971

FLIGHT TIME 106.00

ARRIVAL DATE AUG 23 1971

HELIOCENTRIC CONIC

RL 151.01 LAL .00 LOL 227.74 VL 34.746 GAL -2.03 AZL 91.86 HCA 97.29 SMA 241.12 ECC .37515 INC 1.8557 V1 29.505
 RP 206.97 LAP -1.84 LOP 325.03 VP 27.056 GAP 20.54 AZP 89.76 TAL 352.55 TAP 89.84 RCA 150.66 APO 331.58 V2 26.462
 RC 57.440 GL -11.65 GP .13 ZAL 107.09 ZAP 173.53 ETS 178.81 ZAE 173.19 ETE 46.48 ZAC 100.09 ETC 277.87 LVI -18.30

PLANETOCENTRIC CONIC

C3 31.024 VHL 5.570 DLA -20.40 RAL 341.55 RAD 6647.4 VEL 12.286 PTH 7.22 VHP 9.971 DPA -16.90 RAP 321.55 ECC 1.5106
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 18 13 2827.82 -23.27 81.38 204.57 132.75 17 5 20 1827.8 -5.43 64.47
 60.00 17 22 17 2657.41 -17.63 71.04 209.58 126.84 18 6 35 1657.4 -1.89 52.51
 70.00 18 43 23 2419.00 -12.22 55.55 213.45 122.14 19 23 42 1419.0 1.60 35.83
 80.00 20 20 10 2116.13 -7.93 35.12 215.99 118.88 20 55 26 1116.1 4.42 14.59
 90.00 21 54 58 1810.33 -6.19 13.58 216.94 117.65 22 25 8 810.3 5.58 352.73
 100.00 23 3 1 1590.60 -7.93 356.49 215.99 118.88 23 29 32 590.6 4.42 335.96
 110.00 23 42 50 1465.81 -12.22 344.47 213.45 122.14 24 7 16 465.8 1.60 324.74

DIFFERENTIAL CORRECTIONS

TDE -.4274 TRA -.9577 TC3 .0476 BAW .0434
 RDE -.5209 RRA .2069 RC3 .0932 FAU .03728
 FDE .1983 FRA .9072 FC3 -1.0402 BSP 1742
 BDE .6738 BRA .9798 BC3 .1046 FSP 170

MID-COURSE EXECUTION ACCURACY

SGT 1140.6 SGR 591.2 SG3 133.2
 RRT .0035 RRF -.0038 RTF -.6812
 SGB 1284.7 R23 -.0005 R13 -.6812
 SG1 1140.6 SG2 591.2 THA .14

ORBIT DETERMINATION ACCURACY

ST 27.1 SR 27.0 SS 15.7
 CRT .7326 CRS .4537 CST .9355
 LSA 37.6 MSA 17.0 SSA 1.2
 EL1 35.6 EL2 14.0 ALF 44.94

LAUNCH DATE MAY 9 1971

FLIGHT TIME 108.00

ARRIVAL DATE AUG 25 1971

HELIOCENTRIC CONIC
 RL 151.01 LAL .00 LOL 227.74 VL 34.583 GAL -1.94 AZL 91.86 HCA 98.55 SMA 236.27 ECC .36223 INC 1.8568 V1 29.505
 RP 206.90 LAP -1.84 LOP 326.30 VP 26.854 GAP 20.05 AZP 89.72 TAL 352.70 TAP 91.25 RCA 150.69 APO 321.86 V2 26.469
 RC 57.93D GL -11.97 GP .14 ZAL 106.98 ZAP 172.61 ETS 178.93 ZAE 172.70 ETE 41.87 ZAC 100.04 ETC 277.94 LVI -18.39

PLANETOCENTRIC CONIC
 C3 29.172 VHL 5.401 DLA -20.74 RAL 341.60 RAD 6646.7 VEL 12.211 PTH 7.17 VHP 9.652 DPA -16.79 RAP 321.89 ECC 1.4801
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 19 50 2805.38 -22.23 80.26 203.77 133.21 17 6 36 1805.4 -4.30 63.53
 60.00 17 24 26 2633.60 -18.68 69.78 208.77 127.24 18 8 20 1633.6 -7.85 51.38
 70.00 18 46 13 2393.18 -11.29 54.14 212.62 122.45 19 26 6 1393.2 2.58 34.48
 80.00 20 23 48 2087.81 -7.00 33.54 215.20 119.10 20 50 35 1087.8 5.37 13.02
 90.00 21 59 2 1780.59 -5.25 11.90 216.16 117.83 22 20 43 780.6 6.52 351.06
 100.00 23 6 39 1582.28 -7.00 394.91 215.20 119.10 23 32 42 562.3 5.37 334.39
 110.00 23 45 40 1440.00 -11.29 343.06 212.62 122.45 24 9 40 440.0 2.58 323.40

DIFFERENTIAL CORRECTIONS
 TDE -.4223 TRA -.9474 TC3 .0827 BAU .0458
 RDE -.5052 RRA .2002 RC3 .0894 FAU .03861
 FDE .2019 FRA .9433 FC3-1.1459 B8P 1771
 BDE .6565 BRA .9663 BC3 .1175 F8P 185

MID-COURSE EXECUTION ACCURACY
 SGT 1166.2 SGR 591.9 S63 142.6
 RRT .0049 RRF -.0049 RTF -.6909
 SGB 1307.8 R23 -.0003 R13 -.6909
 S61 1166.2 S62 591.9 THA .19

ORBIT DETERMINATION ACCURACY
 ST 27.6 SR 27.0 SS 16.2
 CRT .7316 CR8 .4443 CST .9324
 LSA 38.1 MSA 17.3 S8A 1.2
 EL1 35.9 EL2 14.1 ALF 44.17

LAUNCH DATE MAY 9 1971

FLIGHT TIME 110.00

ARRIVAL DATE AUG 27 1971

HELIOCENTRIC CONIC
 RL 151.01 LAL .00 LOL 227.74 VL 34.429 GAL -1.85 AZL 91.86 HCA 99.82 SMA 231.89 ECC .35010 INC 1.8580 V1 29.505
 RP 206.85 LAP -1.83 LOP 327.56 VP 26.863 GAP 19.57 AZP 89.68 TAL 352.85 TAP 92.87 RCA 150.71 APO 313.08 V2 26.476
 RC 58.496 GL -12.29 GP .14 ZAL 106.85 ZAP 171.68 ETS 179.03 ZAE 172.22 ETE 38.04 ZAC 100.00 ETC 278.01 LVI -18.49

PLANETOCENTRIC CONIC
 C3 27.474 VHL 5.242 DLA -21.08 RAL 341.62 RAD 6646.0 VEL 12.142 PTH 7.11 VHP 9.344 DPA -16.68 RAP 322.22 ECC 1.4522
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 21 27 2783.18 -21.19 79.18 202.99 133.65 17 7 50 1783.2 -3.19 62.59
 60.00 17 26 35 2609.97 -15.68 68.55 207.98 127.61 18 10 5 1810.0 .19 50.25
 70.00 18 49 5 2387.42 -10.34 52.74 211.83 122.73 19 28 33 1367.4 3.56 33.13
 80.00 20 27 31 2059.37 -6.05 31.96 214.44 119.29 21 1 51 1059.4 6.32 11.44
 90.00 22 3 14 1750.61 -4.30 10.21 215.40 117.98 22 32 25 750.6 7.46 349.36
 100.00 23 10 23 1533.84 -6.05 353.33 214.44 119.29 23 35 57 533.8 6.32 332.81
 110.00 23 48 32 1414.24 -10.34 341.66 211.83 122.73 24 12 6 414.2 3.56 322.05

DIFFERENTIAL CORRECTIONS
 TDE -.4159 TRA -.9385 TC3 .0808 BAU .0489
 RDE -.4901 RRA .1938 RC3 .1058 FAU .04008
 FDE .2041 FRA .9812 FC3-1.2622 B8P 1815
 BDE .6428 BRA .9582 BC3 .1331 F8P 200

MID-COURSE EXECUTION ACCURACY
 SGT 1192.7 SGR 592.2 S63 152.7
 RRT .0051 RRF -.0051 RTF -.7010
 SGB 1331.8 R23 -.0006 R13 -.7010
 S61 1192.7 S62 592.2 THA .19

ORBIT DETERMINATION ACCURACY
 ST 28.1 SR 27.0 SS 16.7
 CRT .7290 CR8 .4317 CST .9288
 LSA 38.5 MSA 17.6 S8A 1.2
 EL1 36.2 EL2 14.3 ALF 43.48

LAUNCH DATE MAY 9 1971

FLIGHT TIME 112.00

ARRIVAL DATE AUG 29 1971

HELIOCENTRIC CONIC
 RL 151.01 LAL .00 LOL 227.74 VL 34.284 GAL -1.78 AZL 91.86 HCA 101.09 SMA 227.92 ECC .33869 INC 1.8591 V1 29.505
 RP 206.80 LAP -1.82 LOP 328.83 VP 26.481 GAP 19.10 AZP 89.64 TAL 353.02 TAP 94.11 RCA 150.73 APO 305.12 V2 26.482
 RC 59.137 GL -12.61 GP .15 ZAL 106.89 ZAP 170.73 ETS 179.12 ZAE 171.75 ETE 34.85 ZAC 99.96 ETC 278.08 LVI -18.58

PLANETOCENTRIC CONIC
 C3 25.915 VHL 5.091 DLA -21.43 RAL 341.62 RAD 6645.4 VEL 12.078 PTH 7.08 VHP 9.048 DPA -16.57 RAP 322.53 ECC 1.4265
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 23 2 2781.20 -20.16 78.11 202.24 134.06 17 9 3 1761.2 -2.09 61.67
 60.00 17 28 44 2586.48 -14.70 67.34 207.20 127.96 18 11 50 1586.5 1.23 49.13
 70.00 18 52 0 2341.70 -9.39 51.36 211.07 122.99 19 31 2 1341.7 4.54 31.78
 80.00 20 31 21 2030.77 -5.10 30.37 213.69 119.46 21 5 12 1030.8 7.27 9.85
 90.00 22 7 35 1720.34 -3.33 8.52 214.67 118.10 22 36 16 720.3 8.40 347.63
 100.00 23 14 13 1505.24 -5.10 351.74 213.69 119.46 23 39 18 505.2 7.27 331.22
 110.00 23 51 26 1388.92 -9.39 340.27 211.07 122.99 24 14 35 388.5 4.54 320.70

DIFFERENTIAL CORRECTIONS
 TDE -.3991 TRA -.9177 TC3 .1133 BAU .0558
 RDE -.4754 RRA .1872 RC3 .1124 FAU .04148
 FDE .2083 FRA 1.0220 FC3-1.3858 B8P 1743
 BDE .6207 BRA .9366 BC3 .1610 F8P 219

MID-COURSE EXECUTION ACCURACY
 SGT 1202.8 SGR 592.1 S63 163.3
 RRT .0036 RRF -.0036 RTF -.1223
 SGB 1340.6 R23 -.0030 R13 -.7223
 S61 1202.8 S62 592.1 THA .13

ORBIT DETERMINATION ACCURACY
 ST 28.0 SR 27.0 SS 17.2
 CRT .7220 CR8 .4223 CST .9290
 LSA 38.5 MSA 18.0 S8A 1.2
 EL1 36.0 EL2 14.5 ALF 43.58

LAUNCH DATE MAY 9 1971

FLIGHT TIME 114.00

ARRIVAL DATE AUG 31 1971

HELIOCENTRIC CONIC
 RL 151.01 LAL .00 LOL 227.74 VL 34.148 GAL -1.68 AZL 91.86 HCA 102.36 SMA 224.33 ECC .32799 INC 1.8603 V1 29.505
 RP 206.75 LAP -1.82 LOP 330.10 VP 26.309 GAP 18.63 AZP 89.60 TAL 353.20 TAP 95.55 RCA 150.75 APO 297.90 V2 26.487
 RC 59.850 GL -12.94 GP .15 ZAL 106.92 ZAP 169.77 ETS 179.18 ZAE 171.33 ETE 32.16 ZAC 99.92 ETC 278.14 LVI -18.67

PLANETOCENTRIC CONIC
 C3 24.487 VHL 4.948 DLA -21.79 RAL 341.60 RAD 6644.8 VEL 12.019 PTH 7.01 VHP 8.759 DPA -16.47 RAP 322.83 ECC 1.4030
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 24 36 2739.57 -19.13 77.08 201.51 134.44 17 10 16 1739.6 -1.00 60.77
 60.00 17 30 53 2563.30 -13.73 66.16 206.46 128.27 18 13 36 1563.3 2.25 48.02
 70.00 18 54 57 2316.17 -8.44 49.99 210.34 123.22 19 33 33 1316.2 5.51 30.44
 80.00 20 35 16 2002.18 -4.14 28.79 212.98 119.60 21 8 39 1002.2 8.21 6.25
 90.00 22 12 5 1689.94 -2.35 6.82 213.97 118.19 22 40 14 689.9 9.34 345.89
 100.00 23 18 8 1476.85 -4.14 350.16 212.98 119.60 23 42 45 476.7 8.21 329.62
 110.00 23 54 23 1362.99 -8.44 338.91 210.34 123.22 24 17 6 363.0 5.51 319.36

DIFFERENTIAL CORRECTIONS
 TDE -.3966 TRA -.9115 TC3 .1304 BAU .0578
 RDE -.4612 RRA .1810 RC3 .1191 FAU .04317
 FDE .2088 FRA 1.0821 FC3-1.5262 B8P 1849
 BDE .6083 BRA .9293 BC3 .1788 F8P 236

MID-COURSE EXECUTION ACCURACY
 SGT 1232.6 SGR 591.6 S63 174.8
 RRT .0054 RRF -.0054 RTF -.7262
 SGB 1367.2 R23 -.0018 R13 -.7262
 S61 1232.6 S62 591.6 THA .19

ORBIT DETERMINATION ACCURACY
 ST 28.6 SR 26.9 SS 17.7
 CRT .7216 CR8 .4070 CST .9229
 LSA 39.0 MSA 18.3 S8A 1.2
 EL1 36.4 EL2 14.6 ALF 42.59

LAUNCH DATE MAY 9 1971 FLIGHT TIME 116.00 ARRIVAL DATE SEP 2 1971

Heliocentric Conic: RL 151.01 LAL .00 LOL 227.74 VL 34.019 GAL -1.60 AZL 91.86 HCA 103.62 SMA 221.05 ECC .31794 INC 1.8615 V1 29.505
 RP 206.72 LAP -1.81 LOP 331.37 VP 26.146 GAP 18.17 AZP 89.56 TAL 353.38 TAP 97.01 RCA 150.77 APO 291.33 V2 26.491
 RC 60.633 GL -13.27 GP .16 ZAL 106.33 ZAP 166.79 ETS 179.24 ZAE 170.94 ETE 29.69 ZAC 99.89 ETC 278.20 LVI -18.75

Planeto-centric Conic: C3 23.174 VHL 4.814 DLA -22.15 RAL 341.57 RAD 6644.2 VEL 11.965 PTH 6.96 VHP 8.482 DPA -16.37 RAP 323.12 ECC 1.3814
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 26 9 2718.27 -18.11 76.08 200.81 134.78 17 11 27 1710.3 .07 59.86
 60.00 17 33 2 2540.38 -12.76 65.00 205.75 128.56 18 15 22 1540.4 3.26 46.92
 70.00 18 57 56 2290.79 -7.49 48.64 209.63 123.42 19 36 7 1290.8 6.47 29.10
 80.00 20 39 18 1973.54 -3.18 27.21 212.29 119.70 21 12 12 973.5 9.14 6.64
 90.00 22 16 43 1659.33 -1.37 5.11 213.29 118.25 22 44 22 659.3 10.27 344.13
 100.00 23 22 10 1448.01 -3.18 348.58 212.29 119.70 23 46 18 448.0 9.14 328.01
 110.00 0 1 18 1337.61 -7.49 337.56 209.63 123.42 0 23 36 337.6 6.47 318.02

Differential Corrections: TOE -.3925 TRA -.9031 TC3 .1481 BAV .0602 SGT 1259.2 SGR 590.7 SG3 187.0 CRT 29.1 SR 26.8 SS 18.2
 RDE -.4478 RRA .1750 RC3 .1259 FAV .04493 RRT .0089 RRF -.0079 RTF -.7314 RRT .7204 CRS .3930 CST .9177
 FDE .2101 FRA 1.1040 FC3-1.6784 BSP 1929 SGB 1390.8 R23 -.0015 R13 -.7314 LSA 39.4 MSA 18.6 SBA 1.2
 BDE .5952 BRA .9199 BC3 .1944 FSP 255 SG1 1259.2 SG2 590.7 THA .24 EL1 36.8 EL2 14.8 ALF 41.75

LAUNCH DATE MAY 9 1971 FLIGHT TIME 118.00 ARRIVAL DATE SEP 4 1971

Heliocentric Conic: RL 151.01 LAL .00 LOL 227.74 VL 33.898 GAL -1.51 AZL 91.86 HCA 104.89 SMA 218.08 ECC .30849 INC 1.8627 V1 29.505
 RP 206.70 LAP -1.80 LOP 332.64 VP 25.991 GAP 17.73 AZP 89.52 TAL 353.58 TAP 98.47 RCA 150.79 APO 285.33 V2 26.494
 RC 81.483 GL -13.59 GP .16 ZAL 106.12 ZAP 167.79 ETS 179.29 ZAE 170.60 ETE 27.97 ZAC 99.85 ETC 278.25 LVI -18.82

Planeto-centric Conic: C3 21.969 VHL 4.687 DLA -22.52 RAL 341.53 RAD 6643.7 VEL 11.915 PTH 6.92 VHP 8.214 DPA -16.28 RAP 323.39 ECC 1.3818
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 27 40 2697.31 -17.10 75.11 200.13 135.10 17 12 38 1697.3 1.12 59.01
 60.00 17 35 11 2517.76 -11.79 63.86 205.05 128.82 18 17 9 1517.8 4.25 45.84
 70.00 19 0 58 2265.59 -6.54 47.30 208.95 123.60 19 38 43 1265.6 7.41 27.76
 80.00 20 43 27 1944.85 -2.21 25.64 211.63 119.78 21 15 52 944.9 10.07 5.02
 90.00 22 21 32 1628.49 -.37 3.39 212.65 118.28 22 48 40 628.5 11.20 342.34
 100.00 23 26 19 1419.32 -2.21 347.00 211.63 119.78 23 49 58 419.3 10.07 326.39
 110.00 0 4 20 1312.41 -6.54 336.22 208.95 123.60 0 26 12 312.4 7.41 316.68

Differential Corrections: TOE -.3870 TRA -.8940 TC3 .1699 BAV .0633 SGT 1284.1 SGR 589.4 SG3 200.2 CRT 29.6 SR 26.8 SS 18.7
 RDE -.4342 RRA .1691 RC3 .1329 FAV .04680 RRT .0082 RRF -.0086 RTF -.7383 CRT .7183 CRS .3773 CST .9121
 FDE .2107 FRA 1.1493 FC3-1.8441 BSP 1994 SGB 1412.9 R23 -.0009 R13 -.7383 LSA 39.7 MSA 18.9 SBA 1.3
 BDE .5817 BRA .9099 BC3 .2157 FSP 276 SG1 1284.1 SG2 589.3 THA .27 EL1 37.0 EL2 14.9 ALF 41.02

LAUNCH DATE MAY 9 1971 FLIGHT TIME 120.00 ARRIVAL DATE SEP 6 1971

Heliocentric Conic: RL 151.01 LAL .00 LOL 227.74 VL 33.783 GAL -1.43 AZL 91.86 HCA 106.16 SMA 215.32 ECC .29962 INC 1.8640 V1 29.505
 RP 206.68 LAP -1.79 LOP 333.91 VP 25.844 GAP 17.29 AZP 89.48 TAL 353.78 TAP 99.94 RCA 150.81 APO 279.84 V2 26.496
 RC 62.398 GL -13.92 GP .17 ZAL 105.90 ZAP 166.78 ETS 179.33 ZAE 170.32 ETE 26.33 ZAC 99.82 ETC 278.30 LVI -18.90

Planeto-centric Conic: C3 20.860 VHL 4.567 DLA -22.90 RAL 341.47 RAD 6643.2 VEL 11.869 PTH 6.88 VHP 7.955 DPA -16.20 RAP 323.63 ECC 1.3433
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 29 11 2678.73 -16.11 74.17 199.48 135.40 17 13 47 1676.7 2.16 58.15
 60.00 17 37 20 2495.45 -10.84 62.75 204.39 129.06 18 18 56 1495.5 5.23 44.76
 70.00 19 4 2 2240.60 -5.60 45.98 208.29 123.75 19 41 22 1240.6 8.35 26.43
 80.00 20 47 42 1918.14 -1.23 24.06 211.00 119.83 21 19 38 916.1 10.99 3.38
 90.00 22 26 31 1597.44 .63 1.66 212.04 118.27 22 53 8 597.4 12.13 340.53
 100.00 23 30 34 1390.62 -1.23 345.43 211.00 119.83 23 53 44 390.6 10.99 324.75
 110.00 0 7 24 1287.42 -5.60 334.90 208.29 123.75 0 28 51 287.4 8.35 315.35

Differential Corrections: TOE -.3807 TRA -.8837 TC3 .1816 BAV .0682 SGT 1306.5 SGR 587.7 SG3 214.1 CRT 29.9 SR 26.6 SS 19.2
 RDE -.4214 RRA .1634 RC3 .1399 FAV .04876 RRT .0091 RRF -.0092 RTF -.7444 CRT .7158 CRS .3607 CST .9083
 FDE .2107 FRA 1.1959 FC3-2.0237 BSP 2054 SGB 1432.6 R23 -.0008 R13 -.7444 LSA 40.0 MSA 19.2 SBA 1.3
 BDE .5679 BRA .8987 BC3 .2373 FSP 290 SG1 1306.5 SG2 587.6 THA .29 EL1 37.2 EL2 15.0 ALF 40.37

LAUNCH DATE MAY 9 1971 FLIGHT TIME 122.00 ARRIVAL DATE SEP 8 1971

Heliocentric Conic: RL 151.01 LAL .00 LOL 227.74 VL 33.678 GAL -1.36 AZL 91.87 HCA 107.43 SMA 212.81 ECC .29128 INC 1.8655 V1 29.505
 RP 206.67 LAP -1.78 LOP 335.18 VP 25.704 GAP 16.86 AZP 89.44 TAL 353.99 TAP 101.42 RCA 150.82 APO 274.80 V2 26.496
 RC 63.376 GL -14.24 GP .17 ZAL 105.67 ZAP 165.74 ETS 179.37 ZAE 170.10 ETE 24.93 ZAC 99.80 ETC 278.35 LVI -18.96

Planeto-centric Conic: C3 19.841 VHL 4.454 DLA -23.28 RAL 341.39 RAD 6642.8 VEL 11.826 PTH 6.85 VHP 7.705 DPA -16.11 RAP 323.86 ECC 1.3269
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 30 40 2656.55 -15.13 73.25 198.85 135.67 17 14 56 1656.6 3.17 57.30
 60.00 17 39 29 2473.50 -9.90 61.66 203.75 129.27 18 20 43 1473.5 6.19 43.70
 70.00 19 7 8 2215.85 -4.66 44.68 207.66 123.87 19 44 4 1215.9 9.27 25.11
 80.00 20 52 4 1887.43 -.26 22.48 210.40 119.86 21 23 32 887.4 11.90 1.74
 90.00 22 31 41 1566.15 1.64 359.91 211.45 118.24 22 57 47 566.1 13.05 338.69
 100.00 23 34 56 1361.90 -.26 343.85 210.40 119.86 23 57 38 361.9 11.90 323.11
 110.00 0 10 30 1262.67 -4.66 333.60 207.66 123.87 0 31 33 262.7 9.27 314.03

Differential Corrections: TOE -.3741 TRA -.8733 TC3 .2167 BAV .0695 SGT 1328.2 SGR 585.6 SG3 229.0 CRT 30.3 SR 26.5 SS 19.7
 RDE -.4090 RRA .1579 RC3 .1470 FAV .05089 RRT .0103 RRF -.0104 RTF -.7511 CRT .7132 CRS .3445 CST .9006
 FDE .2108 FRA 1.2449 FC3-2.2203 BSP 2108 SGB 1451.6 R23 -.0007 R13 -.7511 LSA 40.3 MSA 19.6 SBA 1.3
 BDE .5543 BRA .8874 BC3 .2619 FSP 323 SG1 1328.2 SG2 585.5 THA .32 EL1 37.3 EL2 15.1 ALF 39.74

LAUNCH DATE MAY 9 1971

FLIGHT TIME 124.00

ARRIVAL DATE SEP 10 1971

HELIOCENTRIC CONIC DISTANCE 326.869 EARTH TO MARS

RL 151.01 LAL .00 LOL 227.74 VL 33.874 GAL -1.28 AZL 91.87 HCA 108.70 SMA 210.91 ECC .28349 INC 1.8668 V1 29.508
 RP 206.68 LAP -1.77 LOP 336.48 VP 25.870 GAP 16.43 AZP 89.40 TAL 354.20 TAP 102.90 RCA 150.84 APO 270.18 V2 26.486
 RC 64.414 GL -14.98 GP .18 ZAL 108.43 ZAP 164.89 ETS 179.40 ZAE 169.94 ETE 23.74 ZAC 99.77 ETC 278.39 LVI -19.03

PLANETOCENTRIC CONIC

C3 18.004 VHL 4.348 DLA -23.66 RAL 341.31 RAD 8642.3 VEL 11.787 PTH 6.81 VHP 7.463 DPA -16.04 RAP 324.07 ECC 1.3111
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 16 32 8 2638.81 -14.18 72.37 198.25 139.91 17 18 4 1636.8 4.16 56.47
 60.00 17 41 38 2451.94 -8.07 60.80 203.14 129.46 18 22 30 1451.9 7.13 42.66
 70.00 19 10 16 2191.37 -3.73 43.40 207.06 123.97 19 46 48 1191.4 10.17 23.79
 80.00 20 56 34 1898.72 .71 20.91 209.83 119.85 21 27 32 858.7 12.80 .08
 90.00 22 37 3 1534.60 2.65 398.15 210.91 118.17 23 2 38 534.6 13.96 336.83
 100.00 23 39 25 1333.19 .71 342.28 209.83 119.85 24 1 39 333.2 12.90 321.45
 110.00 0 13 38 1238.19 -3.73 332.31 207.06 123.97 0 34 17 238.2 10.17 312.71

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.3668 TRA -.8616 TC3 .2420 BAU .0728 SGT 1347.1 SGR 583.1 SG3 244.8 ST 30.3 SR 26.4 SS 20.2
 RDE -.3971 RRA .1526 RC3 .1541 FAU .05313 RRT .0114 RRF -.0116 RTF -.7572 CRT .7103 CR8 .3279 C8T .8848
 PDE .2103 FRA 1.2860 FC3-2.4333 B8P 2190 SGB 1487.9 R23 -.0010 R13 -.7572 L8A 40.5 M8A 19.9 B8A 1.3
 BDE .9408 BRA .8750 BC3 .2869 B8P 348 SG1 1347.1 SG2 583.0 THA .35 EL1 37.4 EL2 15.2 ALP .39.20

LAUNCH DATE MAY 9 1971

FLIGHT TIME 126.00

ARRIVAL DATE SEP 12 1971

HELIOCENTRIC CONIC DISTANCE 330.369 EARTH TO MARS

RL 151.01 LAL .00 LOL 227.74 VL 33.479 GAL -1.21 AZL 91.87 HCA 109.97 SMA 208.40 ECC .27810 INC 1.8678 V1 29.505
 RP 206.68 LAP -1.76 LOP 337.72 VP 25.444 GAP 16.02 AZP 89.36 TAL 354.42 TAP 104.39 RCA 150.86 APO 265.93 V2 26.495
 RC 65.512 GL -14.88 GP .19 ZAL 105.18 ZAP 163.81 ETS 179.43 ZAE 169.85 ETE 22.73 ZAC 99.75 ETC 278.43 LVI -19.08

PLANETOCENTRIC CONIC

C3 18.041 VHL 4.248 DLA -24.05 RAL 341.21 RAD 8642.0 VEL 11.790 PTH 6.78 VHP 7.230 DPA -15.97 RAP 324.26 ECC 1.2989
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 16 33 35 2617.52 -13.22 71.51 197.88 136.13 17 17 12 1617.5 5.13 59.88
 60.00 17 43 47 2430.79 -8.08 60.57 202.58 129.62 18 24 18 1430.8 8.05 41.83
 70.00 19 13 27 2167.20 -2.81 42.13 206.49 124.09 19 49 34 1167.2 11.06 22.48
 80.00 21 1 11 1830.03 1.68 19.33 208.29 119.81 21 31 41 830.0 13.89 398.41
 90.00 22 42 39 1502.78 3.67 388.37 210.40 118.08 23 7 41 502.8 14.86 334.92
 100.00 23 44 3 1304.80 1.68 340.70 209.29 119.81 24 5 47 304.5 13.89 319.78
 110.00 0 16 49 1214.02 -2.81 331.05 206.49 124.05 0 37 3 214.0 11.06 311.40

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.3800 TRA -.8903 TC3 .2672 BAU .0753 SGT 1365.6 SGR 580.2 SG3 261.8 ST 30.7 SR 26.2 SS 20.8
 RDE -.3896 RRA .1475 RC3 .1611 FAU .05593 RRT .0127 RRF -.0130 RTF -.7629 CRT .7075 CR8 .3113 C8T .8887
 PDE .2102 FRA 1.3505 FC3-2.6649 B8P 2196 SGB 1483.7 R23 -.0012 R13 -.7629 L8A 40.7 M8A 20.2 B8A 1.3
 BDE .5275 BRA .8630 BC3 .3120 B8P 378 SG1 1365.6 SG2 580.2 THA .38 EL1 37.4 EL2 15.2 ALP 38.63

LAUNCH DATE MAY 9 1971

FLIGHT TIME 128.00

ARRIVAL DATE SEP 14 1971

HELIOCENTRIC CONIC DISTANCE 333.928 EARTH TO MARS

RL 151.01 LAL .00 LOL 227.74 VL 33.388 GAL -1.14 AZL 91.87 HCA 111.24 SMA 206.48 ECC .26919 INC 1.8690 V1 29.509
 RP 206.71 LAP -1.74 LOP 338.99 VP 25.323 GAP 15.62 AZP 89.32 TAL 354.64 TAP 105.87 RCA 150.87 APO 262.02 V2 26.493
 RC 66.887 GL -19.20 GP .19 ZAL 104.92 ZAP 162.32 ETS 179.46 ZAE 169.82 ETE 21.88 ZAC 99.73 ETC 278.47 LVI -19.13

PLANETOCENTRIC CONIC

C3 17.248 VHL 4.153 DLA -24.43 RAL 341.11 RAD 8641.6 VEL 11.717 PTH 6.75 VHP 7.008 DPA -15.91 RAP 324.43 ECC 1.2639
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 16 39 0 2398.71 -12.29 70.68 197.13 136.33 17 18 19 1599.7 6.07 54.87
 60.00 17 49 58 2410.07 -7.15 58.58 202.00 129.77 18 26 6 1410.1 8.94 40.62
 70.00 19 18 39 2143.35 -1.90 40.89 205.95 124.11 19 52 23 1143.4 11.93 21.18
 80.00 21 5 56 1801.38 2.65 17.78 208.79 119.75 21 35 57 801.4 14.56 356.73
 90.00 22 48 28 1470.63 4.70 354.56 209.92 117.92 23 12 59 470.6 15.75 332.99
 100.00 23 48 48 1275.83 2.65 339.13 208.79 119.75 24 10 3 275.8 14.56 318.10
 110.00 0 20 2 1190.17 -1.90 329.80 205.95 124.11 0 39 52 190.2 11.93 310.10

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.3925 TRA -.8382 TC3 .2943 BAU .0782 SGT 1381.7 SGR 577.0 SG3 279.8 ST 30.9 SR 26.0 SS 21.3
 RDE -.3744 RRA .1425 RC3 .1682 FAU .05809 RRT .0140 RRF -.0140 RTF -.7682 CRT .7043 CR8 .2915 C8T .8811
 PDE .2075 FRA 1.4064 FC3-2.9158 B8P 2231 SGB 1497.4 R23 -.0010 R13 -.7683 L8A 40.8 M8A 20.5 B8A 1.3
 BDE .5142 BRA .8502 BC3 .3390 B8P 406 SG1 1381.8 SG2 577.0 THA .40 EL1 37.4 EL2 15.3 ALP 38.14

LAUNCH DATE MAY 9 1971

FLIGHT TIME 130.00

ARRIVAL DATE SEP 16 1971

HELIOCENTRIC CONIC DISTANCE 337.540 EARTH TO MARS

RL 151.01 LAL .00 LOL 227.74 VL 33.304 GAL -1.07 AZL 91.87 HCA 112.51 SMA 204.88 ECC .26271 INC 1.8704 V1 29.505
 RP 206.73 LAP -1.73 LOP 340.26 VP 25.208 GAP 15.22 AZP 89.28 TAL 354.86 TAP 107.38 RCA 150.89 APO 258.41 V2 26.489
 RC 67.877 GL -18.51 GP .20 ZAL 104.65 ZAP 161.39 ETS 179.48 ZAE 169.86 ETE 21.17 ZAC 99.72 ETC 278.50 LVI -19.18

PLANETOCENTRIC CONIC

C3 16.517 VHL 4.064 DLA -24.81 RAL 341.00 RAD 8641.2 VEL 11.686 PTH 6.72 VHP 6.787 DPA -15.85 RAP 324.57 ECC 1.2718
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 16 38 25 2380.39 -11.39 68.28 196.60 136.51 17 19 28 1580.4 6.98 54.09
 60.00 17 48 4 2388.82 -6.26 67.58 201.47 129.89 18 27 34 1389.8 9.82 39.82
 70.00 19 19 54 2119.86 -1.01 39.66 205.44 124.14 19 55 14 1119.9 12.78 19.89
 80.00 21 10 49 1772.72 3.62 16.18 208.32 119.68 21 40 22 772.7 15.42 385.04
 90.00 22 54 34 1438.10 5.73 352.73 209.48 117.74 23 18 32 438.1 16.64 331.01
 100.00 23 53 41 1247.19 3.62 337.55 208.32 119.68 24 14 28 247.2 15.42 316.41
 110.00 0 23 18 1186.88 -1.01 328.58 205.44 124.14 0 42 43 166.7 12.78 308.81

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.3493 TRA -.8282 TC3 .3182 BAU .0802 SGT 1398.7 SGR 573.4 SG3 298.9 ST 31.0 SR 25.8 SS 21.9
 RDE -.3637 RRA .1377 RC3 .1781 FAU .06075 RRT .0150 RRF -.0151 RTF -.7726 CRT .7013 CR8 .2724 C8T .8737
 PDE .2055 FRA 1.4866 FC3-3.1842 B8P 2265 SGB 1509.8 R23 -.0012 R13 -.7726 L8A 40.9 M8A 20.9 B8A 1.4
 BDE .5015 BRA .8376 BC3 .3632 B8P 438 SG1 1398.7 SG2 573.4 THA .43 EL1 37.4 EL2 15.3 ALP 37.63

LAUNCH DATE	MAY 9 1971	FLIGHT TIME	132.00	ARRIVAL DATE	SEP 18 1971
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Heliocentric Conic
 RL 151.01 LAL .00 LOL 227.74 VL 33.223 GAL -1.00 AZL 91.87 HCA 113.78 SMA 202.99 ECC .25863 INC 1.8717 V1 29.509
 RP 206.77 LAP -1.71 LOP 341.53 VP 25.098 GAP 14.83 AZP 89.25 TAL 355.08 TAP 108.85 RCA 150.90 APO 255.09 V2 26.485
 RC 89.140 GL -15.82 GP .21 ZAL 104.39 ZAP 160.25 ETS 179.50 ZAE 169.98 ETE 20.61 ZAC 99.71 ETC 278.52 LVI -19.22

Planeto-centric Conic
 C3 15.844 VHL 3.981 DLA -25.19 RAL 340.89 RAD 6640.9 VEL 11.637 PTH 6.68 VHP 6.576 DPA -15.81 RAP 324.69 ECC 1.2608
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 37 49 2362.60 -10.31 69.10 196.10 136.68 17 20 32 1562.6 7.67 53.34
 60.00 17 50 12 2370.07 -5.40 56.63 200.97 130.00 18 29 43 1370.1 10.67 58.84
 70.00 19 23 10 2098.76 -1.12 38.45 204.96 124.15 19 58 7 1096.0 13.61 18.62
 80.00 21 15 51 1744.11 4.58 14.60 207.88 119.54 21 44 55 744.1 16.26 353.34
 90.00 23 0 37 1409.10 6.78 350.87 209.08 117.52 23 24 22 405.1 17.51 328.98
 100.00 0 2 38 4.58 335.97 207.88 119.54 0 22 57 218.6 16.26 314.70
 110.00 0 26 32 1143.58 -1.12 327.37 204.96 124.15 0 45 36 143.6 13.61 307.54

Differential Corrections
 TDE -.3375 TRA -.8133 TC3 .3435 BAW .0823 SGT 1408.7 SGR 569.5 SG3 319.3 ST 31.1 SR 25.6 SS 22.4
 RDE -.3533 RRA .1330 RC3 .1820 FAU .06361 RRT .0161 RRF -.0163 RTF -.7768 CRT .6980 CRS .2518 CBT .8656
 FDE .2020 FRA 1.5286 FC3-3.4759 BSP 2300 SGB 1519.5 R23 -.0014 R13 -.7768 LSA 40.9 MSA 21.2 SSA 1.4
 BDE .4886 BRA .8241 BC3 .3888 FSP 473 SG1 1408.8 SG2 569.4 THA .45 EL1 37.3 EL2 15.3 ALF 37.21

LAUNCH DATE	MAY 9 1971	FLIGHT TIME	134.00	ARRIVAL DATE	SEP 20 1971
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Heliocentric Conic
 RL 151.01 LAL .00 LOL 227.74 VL 33.150 GAL -.94 AZL 91.87 HCA 115.04 SMA 201.46 ECC .25092 INC 1.8731 V1 29.505
 RP 206.81 LAP -1.70 LOP 342.79 VP 24.993 GAP 14.45 AZP 89.21 TAL 355.30 TAP 110.34 RCA 150.91 APO 252.01 V2 26.480
 RC 70.455 GL -16.12 GP .22 ZAL 104.12 ZAP 159.07 ETS 179.52 ZAE 170.17 ETE 20.19 ZAC 99.70 ETC 278.54 LVI -19.25

Planeto-centric Conic
 C3 15.225 VHL 3.902 DLA -25.56 RAL 340.77 RAD 6640.6 VEL 11.631 PTH 6.67 VHP 6.373 DPA -15.77 RAP 324.78 ECC 1.2506
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 39 12 2545.35 -9.66 68.36 195.63 136.82 17 21 37 1545.3 8.73 52.60
 60.00 17 52 20 2350.82 -4.56 55.70 200.49 130.09 18 31 31 1350.8 11.49 37.69
 70.00 19 26 27 2074.08 .74 37.27 204.51 124.15 20 1 2 1074.1 14.42 17.35
 80.00 21 21 1 1715.52 5.54 13.02 207.48 119.39 21 49 37 715.5 17.09 351.62
 90.00 23 7 41 1371.52 7.83 348.96 208.72 117.26 23 30 33 371.5 18.37 326.90
 100.00 0 7 49 1189.99 5.54 334.39 207.48 119.39 0 27 39 190.0 17.09 312.98
 110.00 0 29 50 1120.90 .74 326.19 204.51 124.15 0 48 31 120.9 14.42 306.27

Differential Corrections
 TDE -.3306 TRA -.8006 TC3 .3676 BAW .0841 SGT 1420.0 SGR 565.2 SG3 341.1 ST 31.2 SR 25.4 SS 23.0
 RDE -.3432 RRA .1330 RC3 .1887 FAU .06668 RRT .0179 RRF -.0180 RTF -.7805 CRT .6954 CRS .2330 CST .8576
 FDE .1993 FRA 1.5951 FC3-3.7915 BSP 2317 SGB 1528.3 R23 -.0014 R13 -.7805 LSA 41.0 MSA 21.5 SSA 1.4
 BDE .4766 BRA .8109 BC3 .4132 FSP 508 SG1 1420.0 SG2 565.1 THA .48 EL1 37.2 EL2 15.3 ALF 36.74

LAUNCH DATE	MAY 9 1971	FLIGHT TIME	136.00	ARRIVAL DATE	SEP 22 1971
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Heliocentric Conic
 RL 151.01 LAL .00 LOL 227.74 VL 33.079 GAL -.88 AZL 91.87 HCA 116.31 SMA 200.03 ECC .24557 INC 1.8745 V1 29.505
 RP 206.87 LAP -1.68 LOP 344.08 VP 24.893 GAP 14.08 AZP 89.17 TAL 355.51 TAP 111.82 RCA 150.92 APO 249.17 V2 26.474
 RC 71.810 GL -16.42 GP .22 ZAL 103.86 ZAP 157.87 ETS 179.53 ZAE 170.44 ETE 19.90 ZAC 99.70 ETC 278.55 LVI -19.27

Planeto-centric Conic
 C3 14.655 VHL 3.828 DLA -25.93 RAL 340.65 RAD 6640.4 VEL 11.606 PTH 6.65 VHP 6.177 DPA -15.74 RAP 324.84 ECC 1.2412
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 40 33 2528.65 -8.83 67.64 195.19 136.95 17 22 42 1528.6 9.56 51.88
 60.00 17 54 27 2332.12 -3.74 54.80 200.05 130.16 18 33 19 1332.1 12.29 36.75
 70.00 19 29 46 2051.84 1.59 36.11 204.08 124.12 20 3 58 1051.8 15.20 16.11
 80.00 21 26 21 1686.94 6.49 11.44 207.11 119.21 21 54 28 686.9 17.90 349.88
 90.00 23 14 48 1337.20 8.89 347.00 208.40 116.96 23 37 5 337.2 19.23 324.74
 100.00 0 13 9 1161.41 6.49 332.80 207.11 119.21 0 32 31 161.4 17.90 311.25
 110.00 0 33 9 1096.66 1.59 325.03 204.08 124.12 0 51 27 98.7 15.20 305.03

Differential Corrections
 TDE -.3235 TRA -.7875 TC3 .3880 BAW .0851 SGT 1428.4 SGR 560.5 SG3 364.1 ST 31.2 SR 25.2 SS 23.6
 RDE -.3535 RRA .1242 RC3 .1933 FAU .06990 RRT .0192 RRF -.0195 RTF -.7828 CRT .6928 CRS .2126 CBT .8487
 FDE .1953 FRA 1.6649 FC3-4.1295 BSP 2344 SGB 1934.4 R23 -.0018 R13 -.7828 LSA 41.0 MSA 21.9 SSA 1.4
 BDE .4647 BRA .7972 BC3 .4344 FSP 547 SG1 1428.4 SG2 560.4 THA .51 EL1 37.0 EL2 15.3 ALF 36.31

LAUNCH DATE	MAY 9 1971	FLIGHT TIME	138.00	ARRIVAL DATE	SEP 24 1971
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Heliocentric Conic
 RL 151.01 LAL .00 LOL 227.74 VL 33.013 GAL -.83 AZL 91.88 HCA 117.58 SMA 198.73 ECC .24054 INC 1.8759 V1 29.505
 RP 206.93 LAP -1.66 LOP 345.33 VP 24.797 GAP 13.72 AZP 89.13 TAL 355.73 TAP 113.31 RCA 150.93 APO 246.54 V2 26.466
 RC 73.228 GL -16.71 GP .23 ZAL 103.59 ZAP 156.64 ETS 179.54 ZAE 170.77 ETE 19.77 ZAC 99.70 ETC 278.56 LVI -19.29

Planeto-centric Conic
 C3 14.129 VHL 3.759 DLA -26.29 RAL 340.52 RAD 6640.1 VEL 11.584 PTH 6.63 VHP 5.988 DPA -15.72 RAP 324.87 ECC 1.2325
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 41 34 2512.47 -8.02 66.95 194.76 137.06 17 23 46 1512.5 10.36 51.18
 60.00 17 56 33 2313.92 -2.94 53.93 199.63 130.21 18 35 7 1313.9 13.06 35.83
 70.00 19 33 6 2030.01 2.43 34.97 203.69 124.08 20 6 56 1030.0 15.96 14.87
 80.00 21 31 53 1658.26 7.44 9.84 206.77 119.00 21 59 31 658.3 18.69 348.12
 90.00 23 22 25 1301.77 9.98 344.97 208.13 116.60 23 44 7 301.8 20.09 322.50
 100.00 0 18 40 1132.73 7.44 331.20 206.77 119.00 0 37 33 132.7 18.69 309.49
 110.00 0 36 29 1076.83 2.43 323.89 203.69 124.08 0 54 26 76.8 15.96 303.79

Differential Corrections
 TDE -.3058 TRA -.7632 TC3 .4390 BAW .0913 SGT 1417.8 SGR 555.6 SG3 388.8 ST 30.4 SR 24.9 SS 24.2
 RDE -.3241 RRA .1200 RC3 .2017 FAU .07350 RRT .0198 RRF -.0211 RTF -.7960 CRT .6830 CRS .1874 CBT .8422
 FDE .1872 FRA 1.7349 FC3-4.5037 BSP 2227 SGB 1522.8 R23 -.0024 R13 -.7960 LSA 40.4 MSA 22.3 SSA 1.4
 BDE .4456 BRA .7726 BC3 .4831 FSP 584 SG1 1417.9 SG2 555.4 THA .53 EL1 36.2 EL2 15.3 ALF 36.82

LAUNCH DATE MAY 9 1971

FLIGHT TIME 140.00

ARRIVAL DATE SEP 26 1971

HELIOCENTRIC CONIC DISTANCE 396.260 EARTH TO MARS
 RL 181.01 LAL .00 LOL 227.74 VL 32.981 GAL -7.77 AZL 91.88 MCA 118.84 BNA 197.92 ECC .23504 INC 1.8774 V1 29.588
 RP 207.00 LAP -1.64 LOP 346.89 VP 24.708 GAP 13.37 AZP 89.09 TAL 388.94 TAP 114.78 RCA 150.94 APO 244.11 VE 26.459
 RC 74.683 GL -16.89 GP .24 ZAL 103.34 ZAP 188.39 E78 179.89 ZAE 171.18 E7E 19.80 ZAC 99.71 E7C 278.56 LVI -19.30

PLANETOCENTRIC CONIC
 C3 13.646 VHL 3.694 DLA -26.65 RAL 340.40 RAD 8639.9 VEL 11.863 PTH 6.61 VHP 5.608 DPA -19.71 RAP 324.67 ECC 1.2246
 LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZNTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 80.00 18 43 14 2496.98 -7.25 66.29 194.37 137.15 17 24 51 1497.0 11.13 80.81
 90.00 17 58 38 2296.40 -2.17 53.09 189.24 130.25 18 38 54 1296.4 13.80 34.95
 70.00 19 36 27 2006.79 3.24 33.86 203.33 124.02 20 9 56 1006.8 16.69 13.86
 80.00 21 37 33 1829.70 6.38 8.24 206.46 118.76 22 4 43 629.7 19.47 346.39
 90.00 23 30 34 1265.22 11.09 342.86 207.91 116.18 23 51 40 265.2 20.93 320.19
 100.00 0 24 21 1104.17 6.38 329.61 206.46 118.76 0 42 45 104.2 19.47 307.72
 110.00 0 39 49 1059.61 3.24 322.78 203.33 124.02 0 57 25 55.6 16.69 302.98

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3033 TRA -.7842 TC3 .4403 BAW .0888 867 1428.2 86R 880.2 863 414.4 87 30.6 8R 24.6 88 24.9
 RDE -.3180 RRA 1.180 RC3 .2078 FAU .07899 RRT .0810 RRF -.0225 RTF -.7919 CRT .6834 CR8 .1667 CBT .8304
 PDE .1818 FRA 1.6132 FC3-4.8848 B8P 2302 868 1936.8 R23 -.0028 R13 -.7919 L8A 40.6 M8A 22.6 88A 1.4
 BDE .4373 BRA .7630 BC3 .4888 F8P 829 861 1489.3 86Z 880.1 THA .84 EL1 36.2 EL2 18.2 ALF 38.06

LAUNCH DATE MAY 9 1971

FLIGHT TIME 142.00

ARRIVAL DATE SEP 28 1971

HELIOCENTRIC CONIC DISTANCE 360.112 EARTH TO MARS
 RL 181.01 LAL .00 LOL 227.74 VL 32.893 GAL -7.72 AZL 91.88 MCA 120.11 BNA 196.40 ECC .23144 INC 1.8789 V1 29.588
 RP 207.00 LAP -1.63 LOP 347.86 VP 24.818 GAP 13.02 AZP 89.06 TAL 386.14 TAP 116.28 RCA 150.95 APO 241.86 VE 26.449
 RC 76.180 GL -17.27 GP .25 ZAL 103.09 ZAP 184.09 E78 179.86 ZAE 171.67 E7E 20.02 ZAC 99.73 E7C 278.56 LVI -19.31

PLANETOCENTRIC CONIC
 C3 13.201 VHL 3.633 DLA -26.99 RAL 340.29 RAD 8639.7 VEL 11.844 PTH 6.59 VHP 5.630 DPA -19.70 RAP 324.68 ECC 1.2172
 LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZNTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 80.00 18 44 32 2482.04 -6.50 68.68 194.01 137.24 17 28 54 1482.0 11.87 49.86
 90.00 18 0 42 2279.46 -1.42 52.28 196.88 130.28 18 38 41 1279.8 14.52 34.08
 70.00 19 39 47 1986.09 4.02 32.78 202.99 123.94 20 12 58 986.1 17.40 12.47
 80.00 21 43 26 1601.07 9.31 6.63 206.22 118.80 22 10 7 601.1 20.22 344.56
 90.00 23 38 29 1226.79 12.23 340.61 207.74 115.70 23 59 56 226.8 21.78 317.86
 100.00 0 30 13 1075.54 6.31 327.99 206.22 118.80 0 48 9 75.9 20.22 308.93
 110.00 0 43 10 1034.91 4.02 321.69 202.99 123.94 1 0 29 34.9 17.40 301.39

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2988 TRA -.7419 TC3 .4483 BAW .0873 867 1432.6 86R 544.6 863 441.8 87 30.6 8R 24.3 88 25.8
 RDE -.3062 RRA 1.1120 RC3 .2136 FAU .08081 RRT .0258 RRF -.0248 RTF -.7893 CRT .6843 CR8 .1491 CBT .8197
 PDE .1778 FRA 1.8940 FC3-5.3000 B8P 2340 868 1932.8 R23 -.0030 R13 -.7894 L8A 40.6 M8A 22.9 88A 1.4
 BDE .4288 BRA .7303 BC3 .4948 F8P 877 861 1432.7 86Z 544.4 THA .60 EL1 36.2 EL2 15.1 ALF 38.48

LAUNCH DATE MAY 9 1971

FLIGHT TIME 144.00

ARRIVAL DATE SEP 30 1971

HELIOCENTRIC CONIC DISTANCE 363.993 EARTH TO MARS
 RL 151.01 LAL .00 LOL 227.74 VL 32.638 GAL -6.68 AZL 91.88 MCA 121.37 BNA 196.38 ECC .22731 INC 1.8804 V1 29.588
 RP 207.17 LAP -1.61 LOP 349.12 VP 24.534 GAP 12.68 AZP 89.02 TAL 386.34 TAP 117.71 RCA 150.96 APO 239.77 VE 26.439
 RC 77.718 GL -17.53 GP .26 ZAL 102.85 ZAP 182.77 E78 179.57 ZAE 172.23 E7E 20.48 ZAC 99.75 E7C 278.53 LVI -19.30

PLANETOCENTRIC CONIC
 C3 12.781 VHL 3.576 DLA -27.32 RAL 340.18 RAD 8639.5 VEL 11.527 PTH 6.57 VHP 5.480 DPA -19.71 RAP 324.79 ECC 1.2108
 LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZNTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 80.00 18 49 50 2467.72 -5.78 65.05 193.66 137.31 17 26 58 1467.7 12.57 49.23
 90.00 18 2 45 2263.15 -7.70 51.50 198.54 130.30 18 40 28 1263.1 15.20 33.24
 70.00 19 43 8 1967.95 4.79 31.72 202.69 123.86 20 15 56 967.9 18.08 11.31
 80.00 21 49 31 1572.32 10.24 5.00 206.00 118.20 22 13 43 572.3 20.96 342.74
 90.00 23 48 27 1185.54 13.44 338.18 207.63 115.12 24 9 13 185.5 22.63 314.94
 100.00 0 36 19 1046.79 10.24 326.37 204.00 118.20 0 33 45 46.8 20.96 304.11
 110.00 0 46 30 1014.76 4.79 320.64 202.69 123.86 1 3 23 14.8 18.08 300.23

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2944 TRA -.7290 TC3 .4547 BAW .0863 867 1434.0 86R 536.6 863 471.4 87 30.7 8R 24.0 88 26.3
 RDE -.2977 RRA 1.082 RC3 .2192 FAU .08492 RRT .0253 RRF -.0264 RTF -.7884 CRT .6834 CR8 .1276 CBT .8079
 PDE .1710 FRA 1.9836 FC3-5.7474 B8P 2347 868 1831.9 R23 -.0032 R13 -.7884 L8A 40.6 M8A 23.3 88A 1.4
 BDE .4187 BRA .7370 BC3 .5047 F8P 726 861 1434.1 86Z 536.4 THA .63 EL1 36.0 EL2 15.0 ALF 34.89

LAUNCH DATE MAY 9 1971

FLIGHT TIME 146.00

ARRIVAL DATE OCT 2 1971

HELIOCENTRIC CONIC DISTANCE 367.901 EARTH TO MARS
 RL 181.01 LAL .00 LOL 227.74 VL 32.787 GAL -6.63 AZL 91.88 MCA 122.63 BNA 194.40 ECC .22346 INC 1.8820 V1 29.588
 RP 207.26 LAP -1.58 LOP 350.39 VP 24.483 GAP 12.38 AZP 89.08 TAL 386.53 TAP 119.16 RCA 150.98 APO 237.84 VE 26.428
 RC 78.298 GL -17.79 GP .28 ZAL 102.61 ZAP 181.42 E78 179.57 ZAE 172.88 E7E 21.29 ZAC 99.77 E7C 278.53 LVI -19.29

PLANETOCENTRIC CONIC
 C3 12.414 VHL 3.523 DLA -27.65 RAL 340.07 RAD 8639.3 VEL 11.510 PTH 6.56 VHP 5.297 DPA -19.73 RAP 324.69 ECC 1.2043
 LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZNTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 80.00 18 47 7 2454.03 -5.10 64.47 193.35 137.37 17 28 1 1454.0 13.25 48.63
 90.00 18 4 46 2247.48 -0.1 50.75 198.23 130.30 18 42 13 1247.5 15.85 32.42
 70.00 19 46 28 1948.40 5.83 30.69 202.42 123.78 20 18 56 948.4 18.73 10.17
 80.00 21 55 50 1543.36 11.17 3.35 205.61 117.87 22 21 34 543.4 21.68 340.90
 90.00 0 4 58 1139.66 14.74 335.45 207.61 114.41 0 23 57 139.7 23.55 311.86
 100.00 0 42 38 1017.86 11.17 324.72 205.61 117.87 0 59 36 17.9 21.68 302.27
 110.00 0 49 80 8283.26 5.53 297.51 202.42 123.78 2 34 34 5283.3 18.73 276.99

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2898 TRA -.7130 TC3 .4584 BAW .0843 867 1427.8 86R 532.4 863 501.8 87 30.7 8R 23.7 88 27.0
 RDE -.2898 RRA 1.045 RC3 .2245 FAU .08905 RRT .0282 RRF -.0292 RTF -.7896 CRT .6849 CR8 .1118 CBT .7971
 PDE .1667 FRA 2.0718 FC3-6.2108 B8P 2362 868 1823.8 R23 -.0034 R13 -.7857 L8A 40.8 M8A 23.6 88A 1.5
 BDE .4086 BRA .7207 BC3 .5078 F8P 782 861 1427.9 86Z 532.1 THA .70 EL1 35.8 EL2 14.8 ALF 34.60

LAUNCH DATE MAY 9 1971 FLIGHT TIME 146.00 ARRIVAL DATE OCT 4 1971

HELIOCENTRIC CONIC DISTANCE 371.838 EARTH TO MARS
RL 181.01 LAL .00 LOL 227.74 VL 32.730 GAL -.89 AZL 91.89 HCA 123.80 SMA 193.81 ECC .21988 INC 1.6836 V1 29.809

PLANETOCENTRIC CONIC
C3 12.087 VML 3.474 DLA -27.96 RAL 339.87 RAD 8639.1 VEL 11.498 PTH 6.84 VHP 5.140 DPA -19.76 RAP 324.87 ECC 1.1986

DIFFERENTIAL CORRECTIONS
TDE -.2846 TRA -.6886 TC3 .4888 BAV .0827
RDE -.2016 RRA .1000 RC3 .2295 FAV .09375

LAUNCH DATE MAY 9 1971 FLIGHT TIME 150.00 ARRIVAL DATE OCT 6 1971

HELIOCENTRIC CONIC DISTANCE 375.791 EARTH TO MARS
RL 181.01 LAL .00 LOL 227.74 VL 32.694 GAL -.56 AZL 91.89 HCA 125.16 SMA 192.69 ECC .21649 INC 1.6853 V1 29.509

PLANETOCENTRIC CONIC
C3 11.748 VML 3.420 DLA -26.26 RAL 339.88 RAD 8638.9 VEL 11.492 PTH 6.83 VHP 4.989 DPA -19.80 RAP 324.40 ECC 1.1933

DIFFERENTIAL CORRECTIONS
TDE -.2782 TRA -.6824 TC3 .4961 BAV .0809
RDE -.2737 RRA .0975 RC3 .2342 FAV .09852

LAUNCH DATE MAY 9 1971 FLIGHT TIME 152.00 ARRIVAL DATE OCT 6 1971

HELIOCENTRIC CONIC DISTANCE 379.789 EARTH TO MARS
RL 181.01 LAL .00 LOL 227.74 VL 32.682 GAL -.52 AZL 91.89 HCA 126.41 SMA 191.98 ECC .21334 INC 1.6870 V1 29.509

PLANETOCENTRIC CONIC
C3 11.488 VML 3.368 DLA -26.84 RAL 339.80 RAD 8638.8 VEL 11.469 PTH 6.82 VHP 4.844 DPA -19.86 RAP 324.20 ECC 1.1889

DIFFERENTIAL CORRECTIONS
TDE -.2731 TRA -.6852 TC3 .4427 BAV .0770
RDE -.2661 RRA .0941 RC3 .2385 FAV .10341

LAUNCH DATE MAY 9 1971 FLIGHT TIME 154.00 ARRIVAL DATE OCT 10 1971

HELIOCENTRIC CONIC DISTANCE 383.767 EARTH TO MARS
RL 181.01 LAL .00 LOL 227.74 VL 32.613 GAL -.49 AZL 91.89 HCA 127.87 SMA 191.21 ECC .21041 INC 1.6887 V1 29.509

PLANETOCENTRIC CONIC
C3 11.188 VML 3.346 DLA -26.81 RAL 339.74 RAD 8638.6 VEL 11.487 PTH 6.81 VHP 4.704 DPA -19.92 RAP 323.96 ECC 1.1841

DIFFERENTIAL CORRECTIONS
TDE -.2683 TRA -.6460 TC3 .4268 BAV .0734
RDE -.2588 RRA .0900 RC3 .2429 FAV .10878

LAUNCH DATE MAY 9 1971

FLIGHT TIME 186.00

ARRIVAL DATE OCT 12 1971

HELIOCENTRIC CONIC

RL 181.01 LAL .00 LOL 227.74 VL 32.878 GAL -.46 AZL 91.89 MCA 128.93 SMA 190.98 ECC .20768 INC 1.8908 V1 29.808
RP 207.86 LAP -1.47 LOP 356.88 VP 24.093 GAP 10.81 AZP 88.81 TAL 387.32 TAP 126.28 RCA 150.98 APO 230.14 V2 26.387
RC 87.725 GL -10.96 GP .34 ZAL 101.87 ZAP 144.12 ETS 179.87 ZAE 176.87 ETE 39.34 ZAC 99.88 ETC 278.33 LVI -19.09

PLANETOCENTRIC CONIC

C3 10.939 VHL 3.307 DLA -29.08 RAL 339.68 RAD 6638.3 VEL 11.447 PTM 6.80 VHP 4.570 DPA -16.00 RAP 323.68 ECC 1.1000
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
80.00 16 53 14 2398.23 -2.18 82.01 192.17 137.54 17 33 10 1395.2 16.11 48.99
90.00 18 14 23 2179.37 2.08 47.50 197.10 130.21 18 30 42 1179.4 18.64 28.84
100.00 20 2 42 1860.75 8.82 26.04 201.47 123.13 20 33 43 860.8 21.54 4.83
110.00 1 6 5 6195.61 8.82 292.86 201.47 123.13 2 49 20 5195.6 21.54 271.75

DIFFERENTIAL CORRECTIONS

TDE -.2589 TRA -.6197 TC3 .4208 BAW .0713
RDE -.2518 RRA .0877 RC3 .2463 FAW .11440
FDE .1228 FRA 2.8989 FC3-9.0841 B8P 2148
BDE .3610 BRA .6299 BC3 .4876 F8P 1091

MID-COURSE EXECUTION ACCURACY

86T 1336.9 8GR 496.7 8G3 682.8
RRY .0418 RRF -.0441 RTF -.7857
86B 1426.1 8R3 -.0076 R13 -.7857
86I 1357.0 8G2 496.2 THA 1.01

ORBIT DETERMINATION ACCURACY

8T 29.0 BR 21.9 88 31.0
CRT .6919 CR8 .0189 C8T .7310
LSA 40.6 M8A 25.2 88A 1.8
EL1 33.7 EL2 13.6 ALP 33.88

LAUNCH DATE MAY 9 1971

FLIGHT TIME 186.00

ARRIVAL DATE OCT 14 1971

HELIOCENTRIC CONIC

RL 181.01 LAL .00 LOL 227.74 VL 32.842 GAL -.44 AZL 91.89 MCA 130.18 SMA 189.86 ECC .20515 INC 1.8925 V1 29.808
RP 208.01 LAP -1.48 LOP 357.94 VP 24.029 GAP 10.82 AZP 88.78 TAL 387.44 TAP 127.62 RCA 150.99 APO 228.92 V2 26.340
RC 89.514 GL -19.17 GP .36 ZAL 101.83 ZAP 142.84 ETS 179.87 ZAE 177.89 ETE 54.20 ZAC 100.04 ETC 278.27 LVI -19.03

PLANETOCENTRIC CONIC

C3 10.713 VHL 3.273 DLA -29.30 RAL 339.68 RAD 6638.4 VEL 11.437 PTM 6.48 VHP 4.443 DPA -16.00 RAP 323.36 ECC 1.1763
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
80.00 18 54 25 2388.47 -1.86 81.00 192.02 137.55 17 34 10 1389.3 16.89 48.84
90.00 18 16 11 2187.94 3.48 48.98 196.96 130.18 18 32 19 1167.9 19.10 28.22
100.00 20 8 47 1848.88 9.38 28.22 201.38 122.99 20 36 33 849.6 22.01 4.00
110.00 1 9 9 6180.41 9.38 292.08 201.38 122.99 2 52 10 5180.4 22.01 270.82

DIFFERENTIAL CORRECTIONS

TDE -.2888 TRA -.6053 TC3 .3703 BAW .0840
RDE -.2446 RRA .0846 RC3 .2486 FAW .11982
FDE .1134 FRA 2.7300 FC3-9.6824 B8P 2181
BDE .3588 BRA .6112 BC3 .4485 F8P 1189

MID-COURSE EXECUTION ACCURACY

86T 1319.0 8GR 488.7 8G3 724.1
RRY .0418 RRF -.0464 RTF -.7484
86B 1406.6 8R3 -.0101 R13 -.7484
86I 1319.2 8G2 488.2 THA 1.03

ORBIT DETERMINATION ACCURACY

8T 29.1 BR 21.8 88 32.0
CRT .6982 CR8 .0030 C8T .7129
LSA 40.9 M8A 25.6 88A 1.8
EL1 33.6 EL2 13.3 ALP 33.29

LAUNCH DATE MAY 9 1971

FLIGHT TIME 180.00

ARRIVAL DATE OCT 18 1971

HELIOCENTRIC CONIC

RL 181.01 LAL .00 LOL 227.74 VL 32.811 GAL -.41 AZL 91.89 MCA 131.43 SMA 189.40 ECC .20279 INC 1.8944 V1 29.808
RP 208.16 LAP -1.42 LOP 359.19 VP 23.968 GAP 10.24 AZP 88.78 TAL 387.58 TAP 128.98 RCA 150.99 APO 227.80 V2 26.323
RC 91.337 GL -19.36 GP .38 ZAL 101.41 ZAP 140.93 ETS 179.86 ZAE 178.22 ETE 83.30 ZAC 100.11 ETC 278.19 LVI -18.98

PLANETOCENTRIC CONIC

C3 10.807 VHL 3.241 DLA -29.52 RAL 339.63 RAD 6638.3 VEL 11.428 PTM 6.48 VHP 4.320 DPA -16.18 RAP 323.00 ECC 1.1729
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
80.00 18 59 34 2376.36 -1.20 81.22 191.89 137.56 17 35 11 1376.4 17.03 48.12
90.00 18 17 36 2157.24 3.98 48.44 196.84 130.14 18 33 53 1157.2 19.53 27.84
100.00 20 8 47 1831.16 9.92 24.45 201.28 122.85 20 39 19 831.2 22.45 3.11
110.00 1 12 10 6166.01 9.92 291.27 201.28 122.85 2 54 58 5166.0 22.45 269.94

DIFFERENTIAL CORRECTIONS

TDE -.2588 TRA -.5887 TC3 .3200 BAW .0873
RDE -.2377 RRA .0815 RC3 .2525 FAW .12844
FDE .1128 FRA 2.8689 FC-10.3388 B8P 2077
BDE .3499 BRA .5914 BC3 .4077 F8P 1242

MID-COURSE EXECUTION ACCURACY

86T 1290.2 8GR 480.4 8G3 767.2
RRY .0449 RRF -.0806 RTF -.7340
86B 1376.9 8R3 -.0127 R13 -.7341
86I 1290.4 8G2 479.9 THA 1.10

ORBIT DETERMINATION ACCURACY

8T 28.9 BR 21.2 88 33.0
CRT .7080 CR8 -.0030 C8T .6998
LSA 41.3 M8A 25.8 88A 1.8
EL1 33.4 EL2 12.9 ALP 32.98

LAUNCH DATE MAY 9 1971

FLIGHT TIME 182.00

ARRIVAL DATE OCT 18 1971

HELIOCENTRIC CONIC

RL 181.01 LAL .00 LOL 227.74 VL 32.481 GAL -.39 AZL 91.90 MCA 132.88 SMA 188.88 ECC .20060 INC 1.8965 V1 29.809
RP 208.32 LAP -1.39 LOP .44 VP 23.908 GAP 9.97 AZP 88.71 TAL 387.84 TAP 130.32 RCA 150.99 APO 226.77 V2 26.304
RC 93.190 GL -18.53 GP .39 ZAL 101.31 ZAP 138.28 ETS 179.86 ZAE 178.06 ETE 121.20 ZAC 100.19 ETC 278.11 LVI -18.88

PLANETOCENTRIC CONIC

C3 10.318 VHL 3.212 DLA -29.73 RAL 339.62 RAD 6638.2 VEL 11.420 PTM 6.47 VHP 4.203 DPA -16.29 RAP 322.60 ECC 1.1688
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
80.00 18 56 43 2367.92 -.78 80.87 191.79 137.57 17 36 10 1367.9 17.43 44.73
90.00 18 18 38 2147.29 4.39 48.96 196.75 130.10 18 33 86 1147.3 19.93 27.10
100.00 20 11 42 1817.83 10.41 23.72 201.22 122.71 20 42 8 817.6 22.86 2.27
110.00 1 15 4 6152.49 10.41 290.54 201.22 122.71 2 57 37 5152.5 22.86 269.10

DIFFERENTIAL CORRECTIONS

TDE -.2528 TRA -.5616 TC3 .2730 BAW .0816
RDE -.2310 RRA .0786 RC3 .2553 FAW .13174
FDE .1006 FRA 2.9950 FC-11.0839 B8P 2017
BDE .3425 BRA .5671 BC3 .3736 F8P 1328

MID-COURSE EXECUTION ACCURACY

86T 1250.9 8GR 472.0 8G3 811.9
RRY .0482 RRF -.0884 RTF -.7188
86B 1337.0 8R3 -.0152 R13 -.7187
86I 1251.2 8G2 471.4 THA 1.21

ORBIT DETERMINATION ACCURACY

8T 28.4 BR 20.7 88 33.9
CRT .7188 CR8 -.0186 C8T .6792
LSA 41.3 M8A 26.1 88A 1.8
EL1 32.9 EL2 12.8 ALP 32.97

LAUNCH DATE MAY 9 1971 FLIGHT TIME 164.00 ARRIVAL DATE OCT 20 1971

HELIOCENTRIC CONIC DISTANCE 404.003 EARTH TO MARS

RL 151.01 LAL .00 LOL 227.74 VL 32.454 GAL -.38 AZL 91.90 HCA 133.93 SMA 188.40 ECC .19857 INC 1.8986 V1 29.909
 RP 208.49 LAP -1.37 LOP 1.89 VP 23.847 GAP 9.70 AZP 88.68 TAL 357.72 TAP 131.65 RCA 150.99 APO 225.82 V2 26.284
 RC 95.074 GL -19.73 GP .41 ZAL 101.23 ZAP 137.59 ETS 179.55 ZAE 177.23 ETE 145.70 ZAC 100.27 ETC 278.02 LVI -18.76

PLANETOCENTRIC CONIC

C3 10.148 VML 3.185 DLA -29.92 RAL 339.83 RAD 6638.1 VEL 11.412 PTH 6.46 VHP 4.092 DPA -16.41 RAP 322.16 ECC 1.1670
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 57 50 2360.12 -.39 60.54 191.71 137.57 17 37 10 1360.1 17.81 44.37
 60.00 18 21 17 2138.08 4.79 45.52 196.68 130.06 18 56 55 1138.1 20.29 26.60
 70.00 20 14 30 1805.01 10.88 23.04 201.19 122.58 20 44 35 805.0 23.23 1.49
 79.81 23 28 50 1194.68 21.38 342.43 206.75 111.44 23 48 45 194.7 28.31 317.14
 79.81 23 28 50 1194.68 21.38 342.43 206.75 111.44 23 48 45 194.7 28.31 317.14
 79.81 23 28 50 1194.68 21.38 342.43 206.75 111.44 23 48 45 194.7 28.31 317.14
 110.00 1 17 53 6139.86 10.88 289.86 201.19 122.58 3 0 13 5139.9 23.23 266.31

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2488 TRA -.5381 TC3 .2132 BAU .0454 SGT 1210.6 SGR 463.3 SG3 858.4 ST 27.9 SR 20.3 SS 34.9
 RDE -.2245 RRA .0756 RC3 .2577 FAU .13783 RRT .0494 RRF -.0595 RTF -.6965 CRT .7256 CRS -.0294 CST .6619
 FDE .0928 FRA 3.1430 FC-11.7607 BSP 1902 SGB 1296.2 R23 -.0193 R13 -.6966 LSA 41.5 MSA 26.2 SSA 1.5
 BDE .3350 BRA .8434 BC3 .3345 FSP 1408 SG1 1210.8 SG2 462.6 THA 1.27 EL1 32.4 EL2 12.1 ALF 32.99

LAUNCH DATE MAY 9 1971 FLIGHT TIME 166.00 ARRIVAL DATE OCT 22 1971

HELIOCENTRIC CONIC DISTANCE 408.093 EARTH TO MARS

RL 151.01 LAL .00 LOL 227.74 VL 32.429 GAL -.36 AZL 91.90 HCA 135.18 SMA 187.96 ECC .19669 INC 1.9008 V1 29.505
 RP 208.67 LAP -1.34 LOP 2.93 VP 23.790 GAP 9.44 AZP 88.65 TAL 357.79 TAP 132.96 RCA 150.99 APO 227.94 V2 26.264
 RC 96.988 GL -19.90 GP .43 ZAL 101.17 ZAP 135.86 ETS 179.54 ZAE 176.07 ETE 158.07 ZAC 100.35 ETC 277.92 LVI -18.64

PLANETOCENTRIC CONIC

C3 9.989 VML 3.160 DLA -30.09 RAL 339.66 RAD 6638.0 VEL 11.406 PTH 6.46 VHP 3.985 DPA -16.55 RAP 321.67 ECC 1.1644
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 58 56 2352.94 -.03 60.24 191.66 137.58 17 38 9 1352.9 18.15 44.04
 60.00 18 22 53 2129.59 5.17 45.11 196.64 130.02 18 58 23 1129.6 20.63 26.13
 70.00 20 17 15 1793.21 11.31 22.40 201.18 122.44 20 47 6 793.2 23.58 .75
 79.27 23 24 51 1204.64 21.57 343.25 206.62 111.50 23 44 56 204.6 28.51 317.93
 79.27 23 24 51 1204.64 21.57 343.25 206.62 111.50 23 44 56 204.6 28.51 317.93
 79.27 23 24 51 1204.64 21.57 343.25 206.62 111.50 23 44 56 204.6 28.51 317.93
 110.00 1 20 35 6128.10 11.31 289.22 201.18 122.44 3 2 43 5128.1 23.58 267.57

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2341 TRA -.4998 TC3 .1815 BAU .0424 SGT 1135.7 SGR 454.3 SG3 904.7 ST 26.4 SR 19.9 SS 35.5
 RDE -.2180 RRA .0728 RC3 .2601 FAU .14507 RRT .0520 RRF -.0644 RTF -.6805 CRT .7300 CRS -.0646 CST .6299
 FDE .0550 FRA 3.2536 FC-12.5738 BSP 1643 SGB 1223.2 R23 -.0223 R13 -.6808 LSA 40.7 MSA 26.4 SSA 1.4
 BDE .3199 BRA .3050 BC3 .3172 FSP 1463 SG1 1136.0 SG2 453.6 THA 1.42 EL1 31.0 EL2 11.6 ALF 34.27

LAUNCH DATE MAY 9 1971 FLIGHT TIME 168.00 ARRIVAL DATE OCT 24 1971

HELIOCENTRIC CONIC DISTANCE 412.191 EARTH TO MARS

RL 151.01 LAL .00 LOL 227.74 VL 32.405 GAL -.35 AZL 91.90 HCA 136.42 SMA 187.56 ECC .19497 INC 1.9031 V1 29.505
 RP 208.85 LAP -1.31 LOP 4.18 VP 23.735 GAP 9.18 AZP 88.62 TAL 357.83 TAP 134.26 RCA 150.99 APO 224.13 V2 26.243
 RC 98.929 GL -20.08 GP .45 ZAL 101.14 ZAP 134.10 ETS 179.53 ZAE 174.75 ETE 164.77 ZAC 100.44 ETC 277.82 LVI -18.52

PLANETOCENTRIC CONIC

C3 9.848 VML 3.138 DLA -30.24 RAL 339.71 RAD 6638.0 VEL 11.399 PTH 6.45 VHP 3.885 DPA -16.69 RAP 321.15 ECC 1.1621
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 0 2 2346.53 .30 59.97 191.64 137.58 17 39 8 1346.5 18.46 43.74
 60.00 18 24 25 2122.00 5.90 44.74 196.63 129.99 18 59 47 1122.0 20.93 25.71
 70.00 20 19 45 1782.68 11.69 21.82 201.20 122.32 20 49 28 782.7 23.89 .08
 78.81 23 21 39 1212.88 21.75 343.93 206.52 111.55 23 41 52 212.7 28.68 318.56
 78.81 23 21 39 1212.88 21.75 343.93 206.52 111.55 23 41 52 212.7 28.68 318.56
 78.81 23 21 39 1212.88 21.75 343.93 206.52 111.55 23 41 52 212.7 28.68 318.56
 110.00 1 23 8 6117.53 11.69 288.65 201.20 122.32 3 5 5 5117.5 23.89 266.91

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2454 TRA -.4879 TC3 .0570 BAU .0353 SGT 1124.9 SGR 445.2 SG3 955.8 ST 27.2 SR 19.5 SS 37.0
 RDE -.2117 RRA .0888 RC3 .2810 FAU .15096 RRT .0540 RRF -.0718 RTF -.6125 CRT .7530 CRS -.0430 CST .6198
 FDE .0829 FRA 3.4442 FC-13.2714 BSP 1689 SGB 1209.8 R23 -.0313 R13 -.6329 LSA 42.2 MSA 26.6 SSA 1.4
 BDE .3242 BRA .4929 BC3 .2679 FSP 1584 SG1 1125.2 SG2 444.4 THA 1.45 EL1 31.6 EL2 11.0 ALF 32.78

LAUNCH DATE MAY 9 1971 FLIGHT TIME 170.00 ARRIVAL DATE OCT 26 1971

HELIOCENTRIC CONIC DISTANCE 416.301 EARTH TO MARS

RL 151.01 LAL .00 LOL 227.74 VL 32.384 GAL -.35 AZL 91.91 HCA 137.66 SMA 187.19 ECC .19337 INC 1.9055 V1 29.505
 RP 209.04 LAP -1.28 LOP 5.42 VP 23.681 GAP 8.93 AZP 88.59 TAL 357.86 TAP 135.53 RCA 151.00 APO 223.39 V2 26.221
 RC 100.898 GL -20.21 GP .47 ZAL 101.13 ZAP 132.29 ETS 179.52 ZAE 173.32 ETE 168.82 ZAC 100.54 ETC 277.70 LVI -18.58

PLANETOCENTRIC CONIC

C3 9.719 VML 3.118 DLA -30.38 RAL 339.78 RAD 6637.9 VEL 11.394 PTH 6.45 VHP 3.789 DPA -16.84 RAP 320.58 ECC 1.1600
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 1 6 2340.71 .59 59.73 191.64 137.57 17 40 7 1340.7 18.74 43.46
 60.00 18 25 54 2115.11 5.80 44.41 196.63 129.95 19 1 9 1115.1 21.20 25.33
 70.00 20 22 10 1773.01 12.05 21.29 201.23 122.20 20 51 43 773.0 24.17 359.47
 78.41 23 18 58 1219.52 21.91 344.51 206.45 111.59 23 39 17 219.5 28.84 319.10
 78.41 23 18 58 1219.52 21.91 344.51 206.45 111.59 23 39 17 219.5 28.84 319.10
 78.41 23 18 58 1219.52 21.91 344.51 206.45 111.59 23 39 17 219.5 28.84 319.10
 110.00 1 25 32 6107.86 12.05 288.12 201.23 122.20 3 7 20 5107.9 24.17 266.29

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2442 TRA -.4591 TC3 -.0285 BAU .0345 SGT 1076.1 SGR 435.9 SG3 1007.6 ST 26.8 SR 19.0 SS 37.9
 RDE -.2055 RRA .0669 RC3 .2637 FAU .15828 RRT .0580 RRF -.0800 RTF -.5897 CRT .7700 CRS -.0492 CST .5938
 FDE .0772 FRA 3.5966 FC-14.0981 BSP 1559 SGB 1161.1 R23 -.0392 R13 -.5902 LSA 42.5 MSA 26.7 SSA 1.4
 BDE .3192 BRA .4639 BC3 .2652 FSP 1672 SG1 1076.5 SG2 435.0 THA 1.61 EL1 31.2 EL2 10.4 ALF 32.76

LAUNCH DATE MAY 9 1971

FLIGHT TIME 172.00

ARRIVAL DATE OCT 28 1971

HELIOCENTRIC CONIC

RL 181.01 LAL .00 LOL 227.74 VL 32.304 GAL -0.34 AZL 91.91 MCA 139.90 SMA 106.85 ECC .19191 INC 1.9080 V1 29.808
RP 209.24 LAP -1.25 LOP 6.06 VP 23.628 GAP 6.00 AZP 88.56 TAL 357.88 TAP 136.79 RCA 181.00 APO 222.71 V2 26.198
RC 102.893 GL -20.38 GP .49 ZAL 101.18 ZAP 130.48 ETS 179.51 ZAE 171.81 ETE 171.47 ZAC 100.65 ETC 277.58 LVI -18.24

PLANETOCENTRIC CONIC

C3 9.604 VML 3.089 DLA -30.50 RAL 339.87 RAD 6637.6 VEL 11.389 PTH 6.44 VHP 3.088 DPA -17.00 RAP 319.97 ECC 1.1881
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
80.00 17 2 9 2339.83 .88 89.51 191.07 137.87 17 41 5 1335.5 19.99 43.22
80.00 18 27 18 2106.98 6.07 44.11 196.87 129.82 19 2 27 1109.0 21.44 24.99
70.00 20 24 26 1764.37 12.36 20.82 201.29 122.10 20 53 50 764.4 24.41 388.92
79.07 23 16 50 1229.06 22.05 344.98 206.42 111.63 23 37 15 225.1 26.98 319.55
79.07 23 16 50 1229.06 22.05 344.98 206.42 111.63 23 37 15 225.1 26.98 319.55
79.07 23 16 50 1229.06 22.05 344.98 206.42 111.63 23 37 15 225.1 26.98 319.55
110.00 1 27 48 6099.22 12.36 287.84 201.29 122.10 3 9 27 5099.2 24.41 268.74

DIFFERENTIAL CORRECTIONS

TDE -.2406 TRA -.4294 TC3 -.1349 BAW .0382
RDE -.1984 RRA .0640 RC3 .2851 FAU .16484
PDE .0648 PRA 3.7630 PC-14.8591 B6P 1403
BDE .3127 BRA .4342 BC3 .2975 P6P 1762

MID-COURSE EXECUTION ACCURACY

86T 1026.8 86R 426.3 86J 1056.3
RRT .0546 RRF -.0589 RTF -.8348
86B 1111.8 86Z -.0500 R13 -.5352
86I 1027.1 86E 426.6 THA 1.87

ORBIT DETERMINATION ACCURACY

8T 26.2 8R 10.5 8S 39.0
CRT .7856 CR8 -.0602 CBT .8644
L8A 42.8 M8A 26.9 88A 1.4
EL1 30.6 EL2 9.8 ALP 32.92

LAUNCH DATE MAY 9 1971

FLIGHT TIME 174.00

ARRIVAL DATE OCT 30 1971

HELIOCENTRIC CONIC

RL 181.01 LAL .00 LOL 227.74 VL 32.348 GAL -0.34 AZL 91.91 MCA 140.14 SMA 106.85 ECC .19087 INC 1.9106 V1 29.808
RP 209.44 LAP -1.22 LOP 7.90 VP 23.877 GAP 6.48 AZP 88.53 TAL 357.88 TAP 136.02 RCA 181.00 APO 222.09 V2 26.174
RC 104.913 GL -20.48 GP .82 ZAL 101.18 ZAP 129.57 ETS 179.49 ZAE 170.22 ETE 173.30 ZAC 100.78 ETC 277.44 LVI -18.08

PLANETOCENTRIC CONIC

C3 9.801 VML 3.082 DLA -30.60 RAL 339.88 RAD 6637.6 VEL 11.384 PTH 6.44 VHP 3.013 DPA -17.16 RAP 319.32 ECC 1.1884
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
80.00 17 3 12 2330.97 1.08 89.32 191.72 137.87 17 42 3 1331.0 19.20 43.00
80.00 18 28 39 2103.80 6.30 43.88 196.72 129.89 19 3 43 1103.6 21.85 24.69
70.00 20 26 32 1786.70 12.63 20.40 201.37 122.00 20 55 40 756.0 24.63 388.44
77.79 23 15 12 1229.53 22.17 348.37 206.42 111.63 23 38 41 229.5 29.11 319.91
77.79 23 15 12 1229.53 22.17 348.37 206.42 111.63 23 38 41 229.5 29.11 319.91
77.79 23 15 12 1229.53 22.17 348.37 206.42 111.63 23 38 41 229.5 29.11 319.91
110.00 1 29 54 6091.64 12.63 287.23 201.37 122.00 3 11 29 5091.6 24.63 268.26

DIFFERENTIAL CORRECTIONS

TDE -.2398 TRA -.3944 TC3 -.2488 BAW .0461
RDE -.1934 RRA .0612 RC3 .2868 FAU .17188
PDE .0637 PRA 3.9072 PC-18.6610 B6P 1240
BDE .3081 BRA .3891 BC3 .3628 P6P 1862

MID-COURSE EXECUTION ACCURACY

86T 973.1 86R 416.7 86J 1107.9
RRT .0864 RRF -.0983 RTF -.4629
86B 1039.6 86Z -.0648 R13 -.4637
86I 973.8 86E 418.9 THA 1.69

ORBIT DETERMINATION ACCURACY

8T 28.7 8R 18.1 8S 39.8
CRT .8077 CR8 -.0610 CBT .8388
L8A 43.0 M8A 26.9 88A 1.4
EL1 30.1 EL2 9.1 ALP 33.03

LAUNCH DATE MAY 9 1971

FLIGHT TIME 176.00

ARRIVAL DATE NOV 1 1971

HELIOCENTRIC CONIC

RL 181.01 LAL .00 LOL 227.74 VL 32.329 GAL -0.34 AZL 91.91 MCA 141.38 SMA 106.26 ECC .18934 INC 1.9134 V1 29.808
RP 209.66 LAP -1.19 LOP 9.13 VP 23.927 GAP 6.21 AZP 88.50 TAL 357.87 TAP 139.24 RCA 181.00 APO 221.53 V2 26.150
RC 106.958 GL -20.60 GP .84 ZAL 101.24 ZAP 126.85 ETS 179.48 ZAE 169.57 ETE 174.62 ZAC 100.87 ETC 277.30 LVI -17.91

PLANETOCENTRIC CONIC

C3 9.410 VML 3.068 DLA -30.69 RAL 340.12 RAD 6637.7 VEL 11.380 PTH 6.43 VHP 3.833 DPA -17.38 RAP 318.64 ECC 1.1849
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
80.00 17 4 14 2327.04 1.28 89.16 191.80 137.86 17 43 1 1327.0 19.39 42.92
80.00 18 29 57 2098.97 6.91 43.63 196.80 129.86 19 4 86 1099.0 21.83 24.43
70.00 20 28 27 1780.29 12.87 20.04 201.47 121.91 20 57 38 750.3 24.81 388.02
77.55 23 14 1 1233.02 22.28 348.68 206.44 111.67 23 34 34 233.0 29.21 320.19
77.55 23 14 1 1233.02 22.28 348.68 206.44 111.67 23 34 34 233.0 29.21 320.19
77.55 23 14 1 1233.02 22.28 348.68 206.44 111.67 23 34 34 233.0 29.21 320.19
110.00 1 31 50 6085.11 12.87 286.87 201.47 121.91 3 13 18 5085.1 24.81 264.84

DIFFERENTIAL CORRECTIONS

TDE -.2384 TRA -.3605 TC3 -.3670 BAW .0872
RDE -.1874 RRA .0582 RC3 .2878 FAU .17898
PDE .0628 PRA 4.0828 PC-18.4800 B6P 1033
BDE .3033 BRA .3652 BC3 .4543 P6P 1942

MID-COURSE EXECUTION ACCURACY

86T 928.5 86R 406.9 86J 1161.2
RRT .0828 RRF -.1060 RTF -.1.84
86B 1013.7 86Z -.0814 R13 -.3795
86I 928.8 86E 406.2 THA 1.64

ORBIT DETERMINATION ACCURACY

8T 25.2 8R 17.6 8S 40.9
CRT .8288 CR8 -.0617 CBT .8908
L8A 43.5 M8A 26.9 88A 1.4
EL1 29.6 EL2 8.4 ALP 33.11

LAUNCH DATE MAY 9 1971

FLIGHT TIME 178.00

ARRIVAL DATE NOV 3 1971

HELIOCENTRIC CONIC

RL 181.01 LAL .00 LOL 227.74 VL 32.314 GAL -0.34 AZL 91.92 MCA 142.61 SMA 106.01 ECC .18823 INC 1.9163 V1 29.808
RP 209.87 LAP -1.16 LOP 10.36 VP 23.478 GAP 7.98 AZP 88.48 TAL 357.84 TAP 140.48 RCA 181.00 APO 223.02 V2 26.124
RC 109.888 GL -20.72 GP .87 ZAL 101.32 ZAP 124.71 ETS 179.47 ZAE 168.86 ETE 178.60 ZAC 100.99 ETC 277.14 LVI -17.73

PLANETOCENTRIC CONIC

C3 9.329 VML 3.054 DLA -30.76 RAL 340.27 RAD 6637.7 VEL 11.377 PTH 6.43 VHP 3.457 DPA -17.84 RAP 317.91 ECC 1.1838
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
80.00 17 5 14 2323.68 1.48 89.02 191.90 137.86 17 43 88 1323.7 19.55 42.66
80.00 18 31 10 2095.04 6.68 43.44 196.90 129.84 19 6 5 1095.0 21.98 24.21
70.00 20 30 13 1744.75 13.08 19.74 201.58 121.84 20 59 18 744.8 24.96 387.66
77.36 23 13 16 1238.64 22.37 345.91 206.50 111.68 23 33 51 235.6 29.30 320.40
77.36 23 13 16 1238.64 22.37 345.91 206.50 111.68 23 33 51 235.6 29.30 320.40
77.36 23 13 16 1238.64 22.37 345.91 206.50 111.68 23 33 51 235.6 29.30 320.40
110.00 1 33 35 6079.61 13.08 286.56 201.58 121.84 3 14 35 5079.6 24.96 264.48

DIFFERENTIAL CORRECTIONS

TDE -.2321 TRA -.3199 TC3 -.4711 BAW .0677
RDE -.1815 RRA .0552 RC3 .2884 FAU .18721
PDE .0479 PRA 4.2379 PC-17.3738 B6P 782
BDE .2846 BRA .3246 BC3 .6427 P6P 2009

MID-COURSE EXECUTION ACCURACY

86T 871.8 86R 387.0 86J 1216.5
RRT .0481 RRF -.1183 RTF -.2807
86B 957.9 86Z -.1014 R13 -.2820
86I 872.1 86E 386.4 THA 1.58

ORBIT DETERMINATION ACCURACY

8T 24.2 8R 17.1 8S 41.7
CRT .8497 CR8 -.0717 CBT .4371
L8A 43.7 M8A 26.7 88A 1.3
EL1 28.6 EL2 7.6 ALP 33.77

LAUNCH DATE MAY 9 1971 FLIGHT TIME 180.00 ARRIVAL DATE NOV 5 1971

HELIOCENTRIC CONIC
 RL 151.01 LAL .00 LOL 227.74 VL 32.300 GAL -.35 AZL 91.92 HCA 143.84 SMA 185.78 ECC .18722 INC 1.9194 V1 29.505
 RP 210.10 LAP -1.13 LOP 11.59 VP 23.430 GAP 7.76 AZP 88.45 TAL 357.79 TAP 141.62 RCA 150.99 APO 220.56 V2 26.088
 RC 111.121 GL -20.83 GP .60 ZAL 101.44 ZAP 122.73 ETS 179.45 ZAE 165.09 ETE 176.35 ZAC 101.11 ETC 276.99 LVI -17.53

PLANETOCENTRIC CONIC
 C3 9.259 VHL 3.043 DLA -30.81 RAL 340.44 RAD 6637.7 VEL 11.374 PTH 6.43 VHP 3.387 DPA -17.73 RAP 317.16 ECC 1.1524
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 6 15 2321.03 1.58 58.91 192.03 137.56 17 44 56 1321.0 19.68 42.53
 60.00 18 32 20 2091.97 6.81 43.29 197.03 129.82 19 7 12 1092.0 22.10 24.04
 70.00 20 31 46 1740.54 13.22 19.51 201.72 121.78 21 0 46 740.5 25.08 357.39
 77.23 23 13 2 1237.16 22.44 346.06 206.59 111.68 23 33 39 237.2 29.36 320.53
 77.23 23 13 2 1237.16 22.44 346.06 206.59 111.68 23 33 39 237.2 29.36 320.53
 77.23 23 13 2 1237.16 22.44 346.06 206.59 111.68 23 33 39 237.2 29.36 320.53
 110.00 1 35 8 6075.39 13.22 286.33 201.72 121.78 3 16 23 5075.4 25.08 264.22

DIFFERENTIAL CORRECTIONS
 TDE -.2408 TRA -.2937 TC3 -.6600 BAU .0883 SGT 884.1 SGR 386.8 S63 1288.6 ST 24.6 SR 16.6 S5 43.3
 RDE -.1758 RRA .0521 RC3 .2701 FAU .19241 RRT .0308 RRF -.1289 RTF -.1517 CRT .8740 CR8 -.0511 C8T .4320
 FDE .0780 FRA 4.4620 FC-17.9911 B8P 688 SGB 965.0 R23 -.1232 R13 -.1526 LSA 45.0 MSA 27.0 SSA 1.3
 BDE .2981 BRA .2983 BC3 .7132 F8P 2148 SG1 884.2 S62 386.5 THA .95 EL1 28.9 EL2 6.9 ALF 32.62

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 9 1971 FLIGHT TIME 182.00 ARRIVAL DATE NOV 7 1971

HELIOCENTRIC CONIC
 RL 151.01 LAL .00 LOL 227.74 VL 32.288 GAL -.36 AZL 91.92 HCA 145.06 SMA 185.57 ECC .18631 INC 1.9227 V1 29.505
 RP 210.33 LAP -1.10 LOP 12.82 VP 23.383 GAP 7.54 AZP 88.42 TAL 357.72 TAP 142.79 RCA 150.99 APO 220.14 V2 26.071
 RC 113.239 GL -20.93 GP .63 ZAL 101.57 ZAP 120.73 ETS 179.44 ZAE 163.28 ETE 176.93 ZAC 101.23 ETC 276.82 LVI -17.33

PLANETOCENTRIC CONIC
 C3 9.198 VHL 3.033 DLA -30.85 RAL 340.64 RAD 6637.6 VEL 11.371 PTH 6.42 VHP 3.321 DPA -17.93 RAP 316.36 ECC 1.1514
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 7 14 2318.90 1.69 58.82 192.18 137.55 17 45 53 1318.9 19.78 42.43
 60.00 18 33 26 2089.55 6.92 43.17 197.18 129.80 19 8 16 1089.6 22.19 23.90
 70.00 20 33 9 1737.28 13.33 19.33 201.87 121.74 21 2 6 737.3 25.17 357.18
 77.14 23 13 7 1238.08 22.50 346.15 206.71 111.68 23 33 45 238.1 29.41 320.61
 77.14 23 13 7 1238.08 22.50 346.15 206.71 111.68 23 33 45 238.1 29.41 320.61
 77.14 23 13 7 1238.08 22.50 346.15 206.71 111.68 23 33 45 238.1 29.41 320.61
 110.00 1 36 31 6072.14 13.33 286.15 201.87 121.74 3 17 43 5072.1 25.17 264.01

DIFFERENTIAL CORRECTIONS
 TDE -.2415 TRA -.2529 TC3 -.8220 BAU .1064 SGT 875.4 SGR 376.6 S63 1317.6 ST 24.3 SR 16.1 S5 44.1
 RDE -.1700 RRA .0490 RC3 .2712 FAU .19895 RRT .0138 RRF -.1439 RTF -.0058 CRT .8990 CR8 -.0422 CST .3898
 FDE .0908 FRA 4.6242 FC-18.7253 B8P 472 SGB 953.0 R23 -.1439 R13 -.0062 LSA 45.5 MSA 27.0 SSA 1.3
 BDE .2953 BRA .2576 BC3 .8655 F8P 2242 SG1 875.4 S62 376.6 THA .42 EL1 28.5 EL2 6.0 ALF 32.47

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 9 1971 FLIGHT TIME 184.00 ARRIVAL DATE NOV 9 1971

HELIOCENTRIC CONIC
 RL 151.01 LAL .00 LOL 227.74 VL 32.276 GAL -.37 AZL 91.93 HCA 146.29 SMA 185.38 ECC .18550 INC 1.9261 V1 29.505
 RP 210.57 LAP -1.07 LOP 14.04 VP 23.337 GAP 7.32 AZP 88.40 TAL 357.64 TAP 143.93 RCA 150.99 APO 219.77 V2 26.044
 RC 115.380 GL -21.02 GP .66 ZAL 101.72 ZAP 118.70 ETS 179.43 ZAE 161.41 ETE 177.38 ZAC 101.36 ETC 276.64 LVI -17.12

PLANETOCENTRIC CONIC
 C3 9.147 VHL 3.024 DLA -30.87 RAL 340.86 RAD 6637.6 VEL 11.369 PTH 6.42 VHP 3.260 DPA -18.12 RAP 315.54 ECC 1.1505
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 8 13 2317.34 1.76 58.76 192.35 137.55 17 46 51 1317.3 19.85 42.36
 60.00 18 34 29 2087.83 6.99 43.09 197.35 129.79 19 9 17 1087.8 22.26 23.80
 70.00 20 34 21 1735.10 13.41 19.21 202.04 121.71 21 3 16 735.1 25.23 357.04
 77.09 23 13 35 1238.22 22.54 346.18 206.86 111.67 23 34 14 238.2 29.44 320.62
 77.09 23 13 35 1238.22 22.54 346.18 206.86 111.67 23 34 14 238.2 29.44 320.62
 77.09 23 13 35 1238.22 22.54 346.18 206.86 111.67 23 34 14 238.2 29.44 320.62
 110.00 1 37 43 6069.96 13.41 286.03 202.04 121.71 3 18 53 5070.0 25.23 263.86

DIFFERENTIAL CORRECTIONS
 TDE -.2417 TRA -.2125 TC3 -.9844 BAU .1249 SGT 885.5 SGR 366.5 S63 1371.1 ST 24.0 SR 15.6 S5 45.2
 RDE -.1643 RRA .0458 RC3 .2726 FAU .20609 RRT -.0091 RRF -.1608 RTF .194 CRT .9218 CR8 -.0331 C8T .3458
 FDE .1042 FRA 4.8075 FC-19.5061 B8P 244 SGB 958.4 R23 .1593 R13 -.1397 LSA 46.2 MSA 26.9 SSA 1.3
 BDE .2923 BRA .2173 BC3 1.0214 F8P 2329 SG1 885.5 S62 366.5 THA 179.74 EL1 28.2 EL2 5.2 ALF 32.24

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 9 1971 FLIGHT TIME 186.00 ARRIVAL DATE NOV 11 1971

HELIOCENTRIC CONIC
 RL 151.01 LAL .00 LOL 227.74 VL 32.266 GAL -.38 AZL 91.93 HCA 147.51 SMA 185.21 ECC .18477 INC 1.9298 V1 29.505
 RP 210.82 LAP -1.04 LOP 15.26 VP 23.291 GAP 7.11 AZP 88.37 TAL 357.54 TAP 145.03 RCA 150.99 APO 219.44 V2 26.015
 RC 117.545 GL -21.11 GP .69 ZAL 101.90 ZAP 116.65 ETS 179.41 ZAE 159.51 ETE 177.75 ZAC 101.49 ETC 276.46 LVI -16.90

PLANETOCENTRIC CONIC
 C3 9.105 VHL 3.017 DLA -30.87 RAL 341.09 RAD 6637.6 VEL 11.367 PTH 6.42 VHP 3.204 DPA -18.32 RAP 314.70 ECC 1.1498
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 9 12 2316.34 1.81 58.71 192.55 137.55 17 47 48 1316.3 19.90 42.31
 60.00 18 35 28 2086.79 7.04 43.04 197.54 129.79 19 10 15 1086.8 22.30 23.74
 70.00 20 35 22 1733.95 13.45 19.14 202.23 121.69 21 4 16 734.0 25.26 356.97
 77.07 23 14 28 1237.55 22.57 346.14 207.04 111.65 23 35 6 237.6 29.45 320.58
 77.07 23 14 28 1237.55 22.57 346.14 207.04 111.65 23 35 6 237.6 29.45 320.58
 77.07 23 14 28 1237.55 22.57 346.14 207.04 111.65 23 35 6 237.6 29.45 320.58
 110.00 1 38 44 6068.81 13.45 285.97 202.23 121.69 3 19 53 5068.8 25.26 263.79

DIFFERENTIAL CORRECTIONS
 TDE -.2422 TRA -.1694 TC3 -1.1607 BAU .1452 SGT 917.8 SGR 356.3 S63 1422.3 ST 23.7 SR 15.1 S5 46.3
 RDE -.1587 RRA .0424 RC3 .2739 FAU .21257 RRT -.0378 RRF -.1787 RTF .2844 CRT .9433 CR8 -.0224 CST .2967
 FDE .1204 FRA 4.9963 FC-20.2123 B8P 109 SGB 984.6 R23 .1662 R13 -.2855 LSA 47.0 MSA 26.9 SSA 1.3
 BDE .2895 BRA .1746 BC3 1.1925 F8P 2418 SG1 918.0 S62 356.0 THA 179.01 EL1 27.8 EL2 4.3 ALF 31.92

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 9 1971

FLIGHT TIME 108.00

ARRIVAL DATE NOV 13 1971

HELIOCENTRIC CONIC			DISTANCE 493.637												EARTH TO MARS																											
RL	181.01	LAL .00 LOL 227.74 VL 38.260 GAL -.40 AZL 91.93 MCA 149.73 BNA 169.07 ECC .10413 INC 1.9337 V1 29.886	RP	211.07	LAP -.100 LOP 18.40 VP 23.247 GAP 6.00 AZP 88.35 TAL 387.43 TAP 146.18 RCA 150.99 APO 219.14 V2 29.986	RC	119.734	GL -21.10 GP .78 ZAL 102.10 ZAP 114.88 ETS 179.40 ZAE 197.87 ETE 178.04 ZAC 101.62 ETC 276.27 LVI -16.87	PO	1319.9	19.92	42.20	1086.4	22.31	25.72	733.8	29.45	320.48	236.2	29.45	320.48	236.2	29.45	320.48	3068.6	25.27	263.78															
PLANETOCENTRIC CONIC			MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																											
C3	9.071	VHL 3.012 DLA -30.88 RAL 341.38 RAD 8637.6 VEL 11.366 PTH 6.42 VHP 3.182 DPA -10.82 RAP 313.82 ECC 1.1489	LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT	ABC	INJ AZMTH	INJ TIME	PO	CST	TIM	INJ 2	LAT	INJ 2	LONG	ST	23.0	BR	14.6	88	48.0	CR7	.9830	CR8	-.0308	C87	.2221	L8A	47.3	M8A	26.6	88A	1.2	EL1	27.1	EL2	3.4	ALF	31.98
TDE	-.2301	TRA -.1204 TC3-1.3318 BAW .1648	RDE	-.1830	RRA .0391 RC3 .2788 FAW .21980	PDE	.1080	FRA 5.1417 PC-20.9791 B8P 348	BDE	.2030	BRA .1266 BC3 1.3598 F8P 2488	867	988.0	86R	348.1	863	1470.2	868	1019.8	823	.1824	R13	-.4312	861	959.4	862	348.0	THA	178.28													

LAUNCH DATE MAY 9 1971

FLIGHT TIME 100.00

ARRIVAL DATE NOV 15 1971

HELIOCENTRIC CONIC			DISTANCE 457.811												EARTH TO MARS																											
RL	181.01	LAL .00 LOL 227.74 VL 38.260 GAL -.42 AZL 91.94 MCA 149.84 BNA 184.84 ECC .18388 INC 1.9379 V1 29.808	RP	211.33	LAP -.07 LOP 17.70 VP 23.203 GAP 6.70 AZP 88.32 TAL 387.30 TAP 147.28 RCA 150.99 APO 218.89 V2 29.997	RC	121.948	GL -21.28 GP .76 ZAL 102.32 ZAP 112.50 ETS 179.38 ZAE 188.89 ETE 178.27 ZAC 101.76 ETC 276.08 LVI -16.43	PO	1318.0	19.92	42.20	1086.7	22.30	23.74	734.7	25.24	387.01	234.2	29.43	320.32	234.2	29.43	320.32	3069.6	25.24	263.84															
PLANETOCENTRIC CONIC			MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																											
C3	9.048	VHL 3.008 DLA -30.83 RAL 341.83 RAD 8637.6 VEL 11.364 PTH 6.42 VHP 3.108 DPA -10.72 RAP 312.93 ECC 1.1489	LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT	ABC	INJ AZMTH	INJ TIME	PO	CST	TIM	INJ 2	LAT	INJ 2	LONG	ST	23.3	BR	14.1	88	48.2	CR7	.9782	CR8	-.0010	C87	.1824	L8A	48.8	M8A	26.7	88A	1.2	EL1	27.1	EL2	2.8	ALF	30.98
TDE	-.2424	TRA -.0772 TC3-1.5481 BAW .1902	RDE	-.1479	RRA .0354 RC3 .2767 FAW .22404	PDE	.1512	FRA 5.3519 PC-21.4421 B8P 583	BDE	.2937	BRA .0849 BC3 1.8726 F8P 2598	867	1033.4	86R	338.9	863	1814.0	868	1105.6	823	.1961	R13	-.5349	861	1054.1	862	333.7	THA	177.78													

LAUNCH DATE MAY 9 1971

FLIGHT TIME 102.00

ARRIVAL DATE NOV 17 1971

HELIOCENTRIC CONIC			DISTANCE 481.989												EARTH TO MARS																											
RL	181.01	LAL .00 LOL 227.74 VL 38.243 GAL -.44 AZL 91.94 MCA 151.16 BNA 184.82 ECC .10310 INC 1.9424 V1 29.808	RP	211.60	LAP -.94 LOP 18.91 VP 23.189 GAP 6.50 AZP 88.30 TAL 387.16 TAP 149.32 RCA 150.99 APO 218.66 V2 29.920	RC	124.177	GL -21.33 GP .80 ZAL 102.97 ZAP 110.41 ETS 179.38 ZAE 183.89 ETE 178.46 ZAC 101.89 ETC 275.88 LVI -16.19	PO	1316.5	19.89	42.32	1087.6	22.27	23.79	736.5	25.19	387.13	231.4	29.40	320.11	231.4	29.40	320.11	3071.3	25.19	263.95															
PLANETOCENTRIC CONIC			MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																											
C3	9.028	VHL 3.005 DLA -30.80 RAL 341.93 RAD 8637.5 VEL 11.364 PTH 6.42 VHP 3.082 DPA -10.91 RAP 312.03 ECC 1.1488	LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT	ABC	INJ AZMTH	INJ TIME	PO	CST	TIM	INJ 2	LAT	INJ 2	LONG	ST	23.2	BR	13.6	88	49.0	CR7	.9899	CR8	.0148	C87	.1211	L8A	49.2	M8A	26.6	88A	1.2	EL1	26.8	EL2	1.7	ALF	30.23
TDE	-.2425	TRA -.0271 TC3-1.7407 BAW .2137	RDE	-.1420	RRA .0317 RC3 .2785 FAW .222974	PDE	.1750	FRA 5.5129 PC-22.0302 B8P 846	BDE	.2810	BRA .0417 BC3 1.7707 F8P 2677	867	1149.7	86R	326.0	863	1897.9	868	1195.0	823	.1475	R13	-.6300	861	1150.7	862	322.2	THA	177.42													

LAUNCH DATE MAY 9 1971

FLIGHT TIME 104.00

ARRIVAL DATE NOV 19 1971

HELIOCENTRIC CONIC			DISTANCE 466.170												EARTH TO MARS																											
RL	181.01	LAL .00 LOL 227.74 VL 38.237 GAL -.46 AZL 91.95 MCA 162.37 BNA 184.73 ECC .10269 INC 1.9472 V1 29.808	RP	211.87	LAP -.90 LOP 20.12 VP 23.117 GAP 6.30 AZP 88.27 TAL 387.00 TAP 149.37 RCA 150.99 APO 218.48 V2 29.986	RC	126.431	GL -21.39 GP .84 ZAL 102.83 ZAP 108.31 ETS 179.37 ZAE 181.87 ETE 178.62 ZAC 101.93 ETC 275.68 LVI -16.94	PO	1317.0	19.81	41	1089.1	22.21	23.87	739.2	25.12	387.30	228.0	29.35	319.84	228.0	29.35	319.84	3074.0	25.12	264.13															
PLANETOCENTRIC CONIC			MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																											
C3	9.019	VHL 3.003 DLA -30.74 RAL 342.88 RAD 8637.5 VEL 11.363 PTH 6.42 VHP 3.023 DPA -10.10 RAP 311.11 ECC 1.1484	LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT	ABC	INJ AZMTH	INJ TIME	PO	CST	TIM	INJ 2	LAT	INJ 2	LONG	ST	23.2	BR	13.1	88	49.0	CR7	.9848	CR8	.0304	C87	.0859	L8A	49.9	M8A	26.6	88A	1.1	EL1	26.6	EL2	1.2	ALF	29.27
TDE	-.2426	TRA .0246 TC3-1.9547 BAW .2381	RDE	-.1368	RRA .0279 RC3 .2807 FAW .23542	PDE	.1979	FRA 5.6777 PC-22.5906 B8P 1136	BDE	.2784	BRA .0371 BC3 1.9747 F8P 2748	867	1263.2	86R	318.3	863	1900.7	868	1302.2	823	.1383	R13	-.7046	861	1284.6	862	310.5	THA	177.17													

LAUNCH DATE MAY 9 1971

FLIGHT TIME 196.00

ARRIVAL DATE NOV 21 1971

HELIOCENTRIC CONIC

RL 151.01 LAL .00 LOL 227.74 VL 32.232 GAL -.49 AZL 91.95 HCA 153.57 SMA 184.65 ECC .18235 INC 1.9525 V1 29.505
RP 212.14 LAP -.87 LOP 21.32 VP 23.074 GAP 6.11 AZP 88.25 TAL 356.83 TAP 150.40 RCA 150.98 APO 218.32 V2 25.864
RC 128.706 GL -21.45 GP .89 ZAL 103.12 ZAP 106.21 ETS 179.36 ZAE 149.53 ETE 178.74 ZAC 102.16 ETC 275.47 LVI -15.69

PLANETOCENTRIC CONIC

C3 9.017 VHL 3.003 DLA -30.68 RAL 342.99 RAD 6637.5 VEL 11.363 PTH 6.42 VHP 2.989 DPA -19.29 RAP 310.18 ECC 1.1484
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 14 2 2319.06 1.68 58.83 193.89 137.55 17 52 41 1319.1 19.77 42.44
60.00 18 39 42 2091.09 6.85 43.25 198.83 129.81 19 14 34 1091.1 22.13 23.99
70.00 20 38 8 1742.65 13.14 19.62 203.44 121.81 21 7 10 742.7 25.02 357.53
77.59 23 24 9 1223.95 22.48 345.08 208.35 111.45 23 44 33 223.9 29.29 319.52
77.59 23 24 9 1223.95 22.48 345.08 208.35 111.45 23 44 33 223.9 29.29 319.52
77.59 23 24 9 1223.95 22.48 345.08 208.35 111.45 23 44 33 223.9 29.29 319.52
110.00 1 41 30 6077.51 13.14 286.45 203.44 121.81 3 22 47 5077.5 25.02 264.35

DIFFERENTIAL CORRECTIONS

TDE -.2423 TRA .0780 TC3-2.1718 BAU .2640
RDE -.1311 RRA .0237 RC3 .2827 FAU .23952
FDE .2329 FRA 5.8485 FC-22.9967 BSP 1440
BDE .2755 BRA .0816 BC3 2.1901 FSP 2821

MID-COURSE EXECUTION ACCURACY

SGT 1394.6 SGR 306.8 SG3 1637.7
RRT -.2260 RRF -.3050 RTF .7586
SGB 1427.9 R23 .1286 R13 -.7801
SG1 1396.4 SG2 298.4 THA 177.02

ORBIT DETERMINATION ACCURACY

ST 23.3 SR 12.5 SS 50.9
CRT .9934 CR8 .0525 CST -.0070
LSA 50.9 MSA 26.5 S8A 1.1
EL1 26.5 EL2 1.3 ALF 28.14

LAUNCH DATE MAY 9 1971

FLIGHT TIME 198.00

ARRIVAL DATE NOV 23 1971

HELIOCENTRIC CONIC

RL 151.01 LAL .00 LOL 227.74 VL 32.228 GAL -.52 AZL 91.96 HCA 154.78 SMA 184.58 ECC .18208 INC 1.9581 V1 29.505
RP 212.43 LAP -.83 LOP 22.53 VP 23.033 GAP 5.92 AZP 88.23 TAL 356.64 TAP 151.42 RCA 150.97 APO 218.19 V2 25.832
RC 130.999 GL -21.51 GP .94 ZAL 103.42 ZAP 104.11 ETS 179.36 ZAE 147.47 ETE 178.85 ZAC 102.30 ETC 275.27 LVI -15.43

PLANETOCENTRIC CONIC

C3 9.023 VHL 3.004 DLA -30.60 RAL 342.95 RAD 6637.5 VEL 11.363 PTH 6.42 VHP 2.959 DPA -19.46 RAP 309.23 ECC 1.1485
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 15 0 2321.00 1.58 58.91 194.22 137.56 17 53 41 1321.0 19.68 42.53
60.00 18 40 27 2093.65 6.74 43.37 199.16 129.83 19 15 21 1093.7 22.03 24.13
70.00 20 38 18 1746.90 12.99 19.86 203.74 121.87 21 7 25 746.9 24.90 357.80
77.79 23 27 5 1219.30 22.42 344.71 208.69 111.39 23 47 24 219.3 29.22 319.16
77.79 23 27 5 1219.30 22.42 344.71 208.69 111.39 23 47 24 219.3 29.22 319.16
77.79 23 27 5 1219.30 22.42 344.71 208.69 111.39 23 47 24 219.3 29.22 319.16
110.00 1 41 40 6081.78 12.99 286.68 203.74 121.87 3 23 2 5081.8 24.90 264.63

DIFFERENTIAL CORRECTIONS

TDE -.2420 TRA .1339 TC3-2.3902 BAU .2904
RDE -.1257 RRA .0194 RC3 .2853 FAU .24386
FDE .2760 FRA 6.0068 FC-23.3988 BSP 1753
BDE .2727 BRA .1353 BC3 2.4071 FSP 2882

MID-COURSE EXECUTION ACCURACY

SGT 1537.2 SGR 297.8 SG3 1673.3
RRT -.2680 RRF -.3404 RTF .8025
SGB 1565.8 R23 .1220 R13 -.8038
SG1 1539.3 SG2 286.5 THA 176.92

ORBIT DETERMINATION ACCURACY

ST 23.6 SR 12.0 SS 51.8
CRT .9843 CR8 .0791 CST -.0684
LSA 51.8 MSA 26.4 S8A 1.0
EL1 26.4 EL2 1.9 ALF 26.74

LAUNCH DATE MAY 9 1971

FLIGHT TIME 200.00

ARRIVAL DATE NOV 25 1971

HELIOCENTRIC CONIC

RL 151.01 LAL .00 LOL 227.74 VL 32.225 GAL -.55 AZL 91.96 HCA 155.98 SMA 184.53 ECC .18188 INC 1.9643 V1 29.505
RP 212.72 LAP -.80 LOP 23.73 VP 22.991 GAP 5.73 AZP 88.21 TAL 356.44 TAP 152.42 RCA 150.97 APO 218.09 V2 25.799
RC 133.312 GL -21.56 GP .99 ZAL 103.75 ZAP 102.02 ETS 179.36 ZAE 145.41 ETE 178.93 ZAC 102.44 ETC 275.06 LVI -15.20

PLANETOCENTRIC CONIC

C3 9.036 VHL 3.008 DLA -30.51 RAL 343.33 RAD 6637.5 VEL 11.364 PTH 6.42 VHP 2.932 DPA -19.63 RAP 308.32 ECC 1.1487
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 16 0 2323.36 1.46 59.01 194.58 137.56 17 54 43 1323.4 19.57 42.64
60.00 18 41 11 2096.71 6.80 43.52 199.50 129.85 19 16 8 1096.7 21.91 24.30
70.00 20 38 24 1751.85 12.81 20.13 204.05 121.93 21 7 35 751.8 24.77 358.12
78.04 23 30 22 1213.91 22.35 344.28 209.06 111.33 23 50 36 213.9 29.13 318.74
78.04 23 30 22 1213.91 22.35 344.28 209.06 111.33 23 50 36 213.9 29.13 318.74
78.04 23 30 22 1213.91 22.35 344.28 209.06 111.33 23 50 36 213.9 29.13 318.74
110.00 1 41 46 6086.70 12.81 286.96 204.05 121.93 3 23 13 5086.7 24.77 264.94

DIFFERENTIAL CORRECTIONS

TDE -.2409 TRA .1916 TC3-2.6135 BAU .3176
RDE -.1203 RRA .0148 RC3 .2880 FAU .24733
FDE .3096 FRA 6.1646 FC-23.6975 BSP 2072
BDE .2693 BRA .1922 BC3 2.6294 FSP 2950

MID-COURSE EXECUTION ACCURACY

SGT 1691.0 SGR 289.2 SG3 1704.8
RRT -.3127 RRF -.3777 RTF .8161
SGB 1715.5 R23 .1149 R13 -.8371
SG1 1693.5 SG2 274.3 THA 176.86

ORBIT DETERMINATION ACCURACY

ST 23.9 SR 11.5 SS 52.6
CRT .9671 CR8 .1019 CST -.1334
LSA 52.8 MSA 26.3 S8A 1.0
EL1 26.4 EL2 2.6 ALF 25.14

LAUNCH DATE MAY 9 1971

FLIGHT TIME 202.00

ARRIVAL DATE NOV 27 1971

HELIOCENTRIC CONIC

RL 151.01 LAL .00 LOL 227.74 VL 32.223 GAL -.58 AZL 91.97 HCA 157.17 SMA 184.49 ECC .18173 INC 1.9712 V1 29.505
RP 213.01 LAP -.76 LOP 24.92 VP 22.951 GAP 5.55 AZP 88.18 TAL 356.23 TAP 153.40 RCA 150.96 APO 218.02 V2 25.766
RC 135.643 GL -21.81 GP 1.04 ZAL 104.10 ZAP 99.94 ETS 179.35 ZAE 143.35 ETE 179.00 ZAC 102.58 ETC 274.85 LVI -14.95

PLANETOCENTRIC CONIC

C3 9.056 VHL 3.009 DLA -30.42 RAL 343.72 RAD 6637.6 VEL 11.365 PTH 6.42 VHP 2.909 DPA -19.78 RAP 307.39 ECC 1.1490
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 17 1 2326.09 1.32 59.12 194.96 137.56 17 55 47 1326.1 19.44 42.77
60.00 18 41 54 2100.22 6.45 43.89 199.87 129.87 19 16 55 1100.2 21.78 24.50
70.00 20 38 25 1757.40 12.61 20.44 204.39 122.01 21 7 43 757.4 24.61 358.48
78.31 23 33 57 1208.00 22.27 343.80 209.46 111.27 23 54 5 208.0 29.04 318.28
78.31 23 33 57 1208.00 22.27 343.80 209.46 111.27 23 54 5 208.0 29.04 318.28
78.31 23 33 57 1208.00 22.27 343.80 209.46 111.27 23 54 5 208.0 29.04 318.28
110.00 1 41 48 6092.26 12.61 287.26 204.39 122.01 3 23 20 5092.3 24.61 265.30

DIFFERENTIAL CORRECTIONS

TDE -.2393 TRA .2518 TC3-2.8363 BAU .3452
RDE -.1149 RRA .0101 RC3 .2914 FAU .25084
FDE .3439 FRA 6.2913 FC-23.9606 BSP 2402
BDE .2654 BRA .2520 BC3 2.8513 FSP 3005

MID-COURSE EXECUTION ACCURACY

SGT 1852.2 SGR 281.3 SG3 1730.9
RRT -.3595 RRF -.4192 RTF .8635
SGB 1873.5 R23 .1097 R13 -.8644
SG1 1855.0 SG2 262.1 THA 176.81

ORBIT DETERMINATION ACCURACY

ST 24.4 SR 10.9 SS 53.3
CRT .9411 CR8 .1267 CST -.2024
LSA 53.6 MSA 26.1 S8A 1.0
EL1 26.5 EL2 3.4 ALF 23.30

LAUNCH DATE MAY 9 1971

FLIGHT TIME 204.00

ARRIVAL DATE NOV 29 1971

HELIOCENTRIC CONIC
 RL 181.01 LAL .00 LOL 227.74 VL 38.221 GAL -.62 AZL 91.98 MCA 188.37 BMA 184.46 ECC .18165 INC 1.9786 V1 29.808
 RP 213.31 LAP -.73 LOP 26.12 VP 22.810 GAP 5.37 AZP 88.18 TAL 386.00 TAP 154.36 RCA 150.96 APO 217.97 V2 25.732
 RC 137.991 GL -21.86 GP 1.10 ZAL 104.46 ZAP 87.89 ETS 179.36 ZAE 141.26 ETE 179.05 ZAC 102.71 ETC 274.65 LVI -14.71

DISTANCE 487.102
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.084 VML 3.014 DLA -30.31 RAL 344.14 RAD 6637.6 VEL 11.386 PTH 6.42 VMP 2.890 DPA -19.92 RAP 306.48 ECC 1.1499
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 80.00 17 18 3 2329.18 1.17 59.29 198.36 137.87 17 56 52 1329.2 19.29 42.92
 90.00 18 42 38 2104.14 6.28 43.88 200.25 129.89 19 17 42 1104.1 21.63 24.72
 70.00 20 38 25 1763.49 12.39 20.77 204.75 122.08 21 7 48 763.5 24.44 358.86
 78.62 23 37 52 1201.38 22.19 343.27 209.88 111.20 23 57 54 201.4 28.93 317.77
 78.62 23 37 52 1201.38 22.19 343.27 209.88 111.20 23 57 54 201.4 28.93 317.77
 78.62 23 37 52 1201.38 22.19 343.27 209.88 111.20 23 57 54 201.4 28.93 317.77
 110.00 1 41 47 8099.35 12.39 287.60 204.75 122.08 3 23 25 8099.3 24.44 266.89

MID-COURSE EXECUTION ACCURACY
 86T 2021.8 86R 274.2 86J 1794.8
 86Y 2049.0 86Z -4643 RTF .8849
 86B 2040.9 86C -1083 R13 -.8851
 86I 2024.9 86E 249.8 THA 178.78

ORBIT DETERMINATION ACCURACY
 ST 29.0 SR 10.4 SB 94.0
 CRT .9087 CR8 .1558 CBT -.2640
 L8A 54.8 M8A 26.0 S8A .9
 EL1 26.7 EL2 4.1 ALF 21.28

DIFFERENTIAL CORRECTIONS
 TDE -.2373 TRA .3134 TC3-3.0824 BAU .3736
 RDE -.1096 RRA .0081 RC3 .2982 FAU .29347
 PDE .3848 FRA 6.4191 FC-24.1573 B8P 2738
 BDE .2814 BRA .3135 BC3 3.0766 B8P 3044

LAUNCH DATE MAY 9 1971

FLIGHT TIME 206.00

ARRIVAL DATE DEC 1 1971

HELIOCENTRIC CONIC
 RL 181.01 LAL .00 LOL 227.74 VL 32.220 GAL -.69 AZL 91.99 MCA 189.88 BMA 184.48 ECC .18162 INC 1.9868 V1 29.808
 RP 213.61 LAP -.69 LOP 27.30 VP 22.870 GAP 5.19 AZP 88.14 TAL 388.78 TAP 188.31 RCA 150.98 APO 217.98 V2 25.697
 RC 140.386 GL -21.71 GP 1.17 ZAL 104.84 ZAP 98.83 ETS 179.36 ZAE 139.23 ETE 179.09 ZAC 102.86 ETC 274.48 LVI -14.48

DISTANCE 491.292
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.119 VML 3.020 DLA -30.20 RAL 344.87 RAD 6637.6 VEL 11.386 PTH 6.42 VMP 2.878 DPA -20.08 RAP 308.88 ECC 1.1801
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 80.00 17 19 7 2332.89 1.00 59.39 199.78 137.87 17 58 0 1332.8 19.13 43.08
 90.00 18 43 22 2108.43 6.09 44.00 200.86 129.92 19 18 31 1108.4 21.46 24.96
 70.00 20 38 25 1770.04 12.18 21.13 205.13 122.07 21 7 53 770.0 24.25 359.28
 78.98 23 42 3 1194.32 22.08 342.70 210.33 111.13 24 1 87 194.3 28.81 317.82
 78.98 23 42 3 1194.32 22.08 342.70 210.33 111.13 24 1 87 194.3 28.81 317.82
 78.98 23 42 3 1194.32 22.08 342.70 210.33 111.13 24 1 87 194.3 28.81 317.82
 110.00 1 41 48 6104.90 12.18 287.98 205.13 122.17 3 23 31 6104.9 24.25 288.11

MID-COURSE EXECUTION ACCURACY
 86T 2197.4 86R 268.1 86J 1773.8
 86Y -4602 RRF -.8127 RTF .8998
 86B 2213.7 86C .1086 R13 -.9004
 86I 2200.9 86E 237.7 THA 178.78

ORBIT DETERMINATION ACCURACY
 ST 29.7 SR 9.9 SB 94.0
 CRT .8638 CR8 .1949 CBT -.3178
 L8A 55.6 M8A 26.0 S8A .9
 EL1 27.1 EL2 4.7 ALF 19.01

DIFFERENTIAL CORRECTIONS
 TDE -.2381 TRA .3772 TC3-3.2883 BAU .4028
 RDE -.1044 RRA -.0003 RC3 .2992 FAU .28823
 PDE .4460 FRA 6.8481 FC-24.2381 B8P 3074
 BDE .2972 BRA .3772 BC3 3.3019 B8P 3078

LAUNCH DATE MAY 9 1971

FLIGHT TIME 208.00

ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC
 RL 181.01 LAL .00 LOL 227.74 VL 32.220 GAL -.69 AZL 92.00 MCA 189.74 BMA 184.44 ECC .18164 INC 1.9968 V1 29.808
 RP 213.82 LAP -.66 LOP 28.49 VP 22.831 GAP 5.02 AZP 88.12 TAL 395.80 TAP 186.24 RCA 150.94 APO 217.99 V2 25.662
 RC 142.738 GL -21.76 GP 1.24 ZAL 105.23 ZAP 93.81 ETS 179.36 ZAE 137.18 ETE 179.12 ZAC 103.00 ETC 274.28 LVI -14.28

DISTANCE 498.481
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.181 VML 3.027 DLA -30.08 RAL 345.02 RAD 6637.6 VEL 11.389 PTH 6.42 VMP 2.862 DPA -20.17 RAP 304.68 ECC 1.1808
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 80.00 17 20 14 2336.27 .81 59.59 198.23 137.87 17 59 10 1336.3 18.93 43.23
 90.00 18 44 9 2113.02 5.89 44.31 201.10 129.94 19 19 22 1113.0 21.28 25.21
 70.00 20 38 23 1776.94 11.90 21.51 205.93 122.25 21 8 0 776.9 24.05 359.72
 79.31 23 46 33 1186.61 21.98 342.08 210.81 111.08 24 8 20 186.6 28.69 316.62
 79.31 23 46 33 1186.61 21.98 342.08 210.81 111.08 24 8 20 186.6 28.69 316.62
 79.31 23 46 33 1186.61 21.98 342.08 210.81 111.08 24 8 20 186.6 28.69 316.62
 110.00 1 41 49 6111.79 11.90 288.33 205.93 122.25 3 23 37 6111.8 24.05 288.54

MID-COURSE EXECUTION ACCURACY
 86T 2376.3 86R 263.1 86J 1787.9
 86Y -.8140 RRF -.8631 RTF .5.28
 86B 2390.8 86C .1046 R13 -.9134
 86I 2380.2 86E 225.4 THA 178.71

ORBIT DETERMINATION ACCURACY
 ST 26.5 SR 9.4 SB 93.5
 CRT .8114 CR8 .2309 CBT -.2748
 L8A 56.6 M8A 25.8 S8A .8
 EL1 27.6 EL2 5.3 ALF 18.68

DIFFERENTIAL CORRECTIONS
 TDE -.2315 TRA .4432 TC3-3.5101 BAU .4318
 RDE -.0982 RRA -.0081 RC3 .3036 FAU .28846
 PDE .4923 FRA 6.6576 FC-24.2387 B8P 3421
 BDE .2516 BRA .4432 BC3 3.5233 B8P 3109

LAUNCH DATE MAY 9 1971

FLIGHT TIME 210.00

ARRIVAL DATE DEC 5 1971

HELIOCENTRIC CONIC
 RL 181.01 LAL .00 LOL 227.74 VL 32.220 GAL -.73 AZL 92.01 MCA 181.92 BMA 184.48 ECC .18172 INC 2.0066 V1 29.808
 RP 214.24 LAP -.62 LOP 29.67 VP 22.791 GAP 4.84 AZP 88.09 TAL 389.23 TAP 187.18 RCA 150.93 APO 217.97 V2 25.627
 RC 145.138 GL -21.82 GP 1.32 ZAL 105.64 ZAP 91.82 ETS 179.36 ZAE 135.18 ETE 179.14 ZAC 103.15 ETC 274.08 LVI -14.08

DISTANCE 499.870
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.211 VML 3.035 DLA -29.98 RAL 348.48 RAD 6637.6 VEL 11.372 PTH 6.42 VMP 2.853 DPA -20.26 RAP 303.83 ECC 1.1816
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 80.00 17 21 24 2340.18 .62 59.71 196.70 137.87 18 0 24 1340.2 18.76 43.44
 90.00 18 44 8 2117.86 5.68 44.54 201.86 129.97 19 20 18 1117.9 21.09 25.48
 70.00 20 38 25 1784.09 11.64 21.90 205.96 122.34 21 8 9 784.1 23.85 .17
 79.69 23 51 18 1178.48 21.87 341.43 211.31 110.99 24 10 56 178.5 28.56 318.99
 79.69 23 51 18 1178.48 21.87 341.43 211.31 110.99 24 10 56 178.5 28.56 318.99
 79.69 23 51 18 1178.48 21.87 341.43 211.31 110.99 24 10 56 178.5 28.56 318.99
 110.00 1 41 47 6118.98 11.64 288.72 208.96 122.34 3 23 48 6118.9 23.85 287.00

MID-COURSE EXECUTION ACCURACY
 86T 2559.7 86R 259.8 86J 1800.0
 86Y -.9898 RRF -.8154 RTF .8238
 86B 2572.9 86C .1044 R13 -.9237
 86I 2564.0 86E 213.0 THA 178.67

ORBIT DETERMINATION ACCURACY
 ST 27.4 SR 8.9 SB 96.2
 CRT .7508 CR8 .2673 CBT -.4297
 L8A 57.7 M8A 25.7 S8A .8
 EL1 28.3 EL2 5.7 ALF 14.28

DIFFERENTIAL CORRECTIONS
 TDE -.2277 TRA .5110 TC3-3.7308 BAU .4810
 RDE -.0940 RRA -.0123 RC3 .3093 FAU .25738
 PDE .5337 FRA 6.7677 FC-24.1892 B8P 3770
 BDE .2463 BRA .5112 BC3 3.7434 B8P 3138

LAUNCH DATE MAY 9 1971 FLIGHT TIME 212.00 ARRIVAL DATE DEC 7 1971

Heliocentric Conic DISTANCE 503.859 EARTH TO MARS

RL 151.01 LAL .00 LOL 227.74 VL 32.221 GAL -.78 AZL 92.02 HCA 163.10 SMA 184.47 ECC .18184 INC 2.0181 V1 29.505
 RP 214.55 LAP -.59 LOP 30.85 VP 22.752 GAP 4.67 AZP 88.07 TAL 354.96 TAP 158.06 RCA 150.92 APO 218.01 V2 25.591
 RC 147.555 GL -21.88 GP 1.41 ZAL 106.07 ZAP 89.85 ETS 179.41 ZAE 133.15 ETE 179.15 ZAC 103.30 ETC 273.87 LVI -13.86

PLANETOCENTRIC CONIC

C3 9.268 VHL 3.044 DLA -29.83 RAL 348.97 RAD 6637.7 VEL 11.374 PTH 6.43 VHP 2.847 DPA -20.34 RAP 302.99 ECC 1.1525
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 22 38 2344.28 .41 59.88 197.20 137.57 18 1 42 1344.3 18.57 43.63
 60.00 18 45 51 2122.89 5.46 44.79 202.04 129.99 19 21 14 1122.9 20.89 25.76
 70.00 20 38 32 1791.39 11.38 22.30 206.42 122.42 21 8 24 791.4 23.63 .63
 80.00 23 45 6 1205.68 20.94 343.06 211.51 111.78 24 5 12 205.7 28.06 317.91
 80.09 0 0 12 1170.02 21.76 340.75 211.85 110.93 0 19 42 170.0 28.43 315.34
 100.00 2 31 54 596H.1 20.94 282.34 211.51 111.78 4 11 22 4968.2 28.06 257.19
 110.00 1 41 55 6125.25 11.38 289.12 206.42 122.42 3 24 1 5126.2 23.63 267.46

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2237 TRA .5796 TC3-3.9496 BAU .4909 SGT 2746.2 SGR 258.0 SG3 1806.3 ST 28.5 SR 8.4 SS 56.8
 RDE -.0889 RRA -.0188 RC3 .3155 FAU .25770 RRT -.6253 RRF -.6692 RTF .9314 CRT .6837 CRS .3135 CST -.4738
 FDE .5899 FRA 6.8925 FC-24.0712 BSP 4110 SGB 2758.3 R23 .1072 R13 -.9319 LSA 58.7 MSA 25.6 SSA .7
 BDE .2407 BRA .5799 BC3 3.9622 FSP 3150 SG1 2751.0 SG2 201.0 THA 176.62 EL1 29.1 EL2 6.0 ALF 11.89

LAUNCH DATE MAY 9 1971 FLIGHT TIME 214.00 ARRIVAL DATE DEC 9 1971

Heliocentric Conic DISTANCE 508.047 EARTH TO MARS

RL 151.01 LAL .00 LOL 227.74 VL 32.223 GAL -.82 AZL 92.03 HCA 164.28 SMA 184.49 ECC .18201 INC 2.0315 V1 29.505
 RP 214.88 LAP -.95 LOP 32.03 VP 22.713 GAP 4.50 AZP 88.04 TAL 354.67 TAP 158.95 RCA 150.91 APO 218.07 V2 25.554
 RC 149.988 GL -21.96 GP 1.51 ZAL 106.51 ZAP 87.92 ETS 179.44 ZAE 131.16 ETE 179.16 ZAC 103.46 ETC 273.69 LVI -13.69

PLANETOCENTRIC CONIC

C3 9.334 VHL 3.055 DLA -29.71 RAL 346.48 RAD 6637.7 VEL 11.377 PTH 6.43 VHP 2.844 DPA -20.39 RAP 302.18 ECC 1.1536
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 23 58 2348.50 .20 60.06 197.73 137.58 18 3 6 1348.5 18.37 43.83
 60.00 18 46 50 2128.01 5.24 45.03 202.56 130.02 19 22 18 1128.0 20.69 26.04
 70.00 20 38 47 1798.68 11.11 22.69 206.91 122.51 21 8 46 798.7 23.42 1.09
 80.00 23 32 41 1253.21 19.71 346.06 211.59 112.89 23 53 34 253.2 27.42 321.30
 80.49 0 5 20 1161.43 21.64 340.07 212.41 110.87 0 24 41 161.4 28.30 314.67
 100.00 2 19 29 6015.72 19.71 285.33 211.59 112.89 3 59 45 5015.7 27.42 260.57
 110.00 1 42 10 6133.54 11.11 289.52 206.91 122.51 3 24 23 5133.5 23.42 267.91

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2183 TRA .6511 TC3-4.1600 BAU .5207 SGT 2933.5 SGR 258.4 SG3 1809.3 ST 29.6 SR 7.9 SS 57.5
 RDE -.0839 RRA -.0261 RC3 .3227 FAU .25732 RRT -.6805 RRF -.7224 RTF .9381 CRT .6056 CRS .3644 CST -.5163
 FDE .6485 FRA 6.9375 FC-23.8668 BSP 4461 SGB 2944.9 R23 .1110 R13 -.9386 LSA 59.9 MSA 25.5 SSA .7
 BDE .2338 BRA .6517 BC3 4.1725 FSP 3157 SG1 2938.8 SG2 189.0 THA 176.56 EL1 30.0 EL2 6.2 ALF 9.60

LAUNCH DATE MAY 9 1971 FLIGHT TIME 216.00 ARRIVAL DATE DEC 11 1971

Heliocentric Conic DISTANCE 512.234 EARTH TO MARS

RL 151.01 LAL .00 LOL 227.74 VL 32.225 GAL -.87 AZL 92.05 HCA 165.45 SMA 184.53 ECC .18223 INC 2.0470 V1 29.505
 RP 215.21 LAP -.51 LOP 33.20 VP 22.675 GAP 4.34 AZP 88.02 TAL 354.37 TAP 159.82 RCA 150.95 APO 218.15 V2 25.518
 RC 152.438 GL -22.04 GP 1.63 ZAL 106.96 ZAP 86.03 ETS 179.48 ZAE 129.20 ETE 179.15 ZAC 103.63 ETC 273.52 LVI -13.54

PLANETOCENTRIC CONIC

C3 9.408 VHL 3.067 DLA -29.59 RAL 347.00 RAD 6637.7 VEL 11.380 PTH 6.43 VHP 2.844 DPA -20.42 RAP 301.40 ECC 1.1548
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 25 24 2352.75 -.02 60.23 198.28 137.58 18 4 37 1352.7 18.16 44.03
 60.00 18 47 57 2133.11 5.01 45.28 203.11 130.04 19 23 30 1133.1 20.49 26.33
 70.00 20 39 13 1805.81 10.85 23.08 207.43 122.59 21 9 19 805.8 23.21 1.54
 80.00 23 26 24 1261.64 18.95 347.82 211.89 113.51 23 47 45 281.6 26.99 323.30
 80.90 0 10 33 1152.95 21.52 339.39 213.01 110.82 0 29 46 153.0 28.18 314.02
 100.00 2 13 12 6044.15 18.95 287.10 211.89 113.51 3 53 56 5044.2 26.99 262.57
 110.00 1 42 36 6140.67 10.85 289.90 207.43 122.59 3 24 56 5140.7 23.21 268.36

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2128 TRA .7237 TC3-4.3632 BAU .5508 SGT 3121.0 SGR 261.2 SG3 1807.4 ST 30.9 SR 7.5 SS 57.9
 RDE -.0789 RRA -.0338 RC3 .3311 FAU .25656 RRT -.7337 RRF -.7733 RTF .9440 CRT .5200 CRS .4158 CST -.5572
 FDE .6941 FRA 7.0008 FC-23.6094 BSP 4812 SGB 3132.7 R23 .1135 R13 -.9444 LSA 61.0 MSA 25.4 SSA .6
 BDE .2270 BRA .7243 BC3 4.3778 FSP 3161 SG1 3127.7 SG2 177.2 THA 176.48 EL1 31.2 EL2 6.3 ALF 7.46

LAUNCH DATE MAY 9 1971 FLIGHT TIME 218.00 ARRIVAL DATE DEC 13 1971

Heliocentric Conic DISTANCE 516.420 EARTH TO MARS

RL 151.01 LAL .00 LOL 227.74 VL 32.228 GAL -.92 AZL 92.07 HCA 166.62 SMA 184.57 ECC .18249 INC 2.0652 V1 29.505
 RP 215.54 LAP -.48 LOP 34.37 VP 22.637 GAP 4.17 AZP 87.99 TAL 354.05 TAP 160.68 RCA 150.89 APO 218.25 V2 25.480
 RC 154.904 GL -22.14 GP 1.76 ZAL 107.42 ZAP 84.17 ETS 179.52 ZAE 127.26 ETE 179.14 ZAC 103.81 ETC 273.35 LVI -13.42

PLANETOCENTRIC CONIC

C3 9.491 VHL 3.081 DLA -29.49 RAL 347.55 RAD 6637.8 VEL 11.384 PTH 6.44 VHP 2.846 DPA -20.42 RAP 300.65 ECC 1.1562
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 26 59 2356.94 -.23 60.41 198.87 137.58 18 6 16 1356.9 17.96 44.22
 60.00 18 49 15 2138.07 4.80 45.52 203.69 130.06 19 24 53 1138.1 20.29 26.60
 70.00 20 39 54 1812.58 10.60 23.45 208.00 122.66 21 10 7 812.6 23.01 1.96
 80.00 23 22 27 1303.06 18.36 349.14 212.31 113.96 23 44 10 303.1 26.64 324.80
 81.28 0 15 43 1145.13 21.41 338.77 213.65 110.78 0 34 48 145.1 28.06 313.42
 100.00 2 9 15 6065.57 18.36 288.42 212.31 113.96 3 50 20 5065.6 26.64 264.07
 110.00 1 43 17 6147.44 10.60 290.27 208.00 122.66 3 25 44 5147.4 23.01 268.78

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2061 TRA .7990 TC3-4.5623 BAU .5805 SGT 3311.1 SGR 267.4 SG3 1805.2 ST 32.3 SR 7.0 SS 58.6
 RDE -.0741 RRA -.0426 RC3 .3412 FAU .25551 RRT -.7835 RRF -.8215 RTF .9486 CRT .4221 CRS .4780 CST -.5915
 FDE .7564 FRA 7.0725 FC-23.3061 BSP 5168 SGB 3321.9 R23 .1229 R13 -.9490 LSA 62.3 MSA 25.4 SSA .6
 BDE .2190 BRA .8001 BC3 4.5751 FSP 3164 SG1 3317.7 SG2 165.8 THA 176.37 EL1 32.4 EL2 6.3 ALF 5.47

LAUNCH DATE MAY 9 1971

FLIGHT TIME 290.00

ARRIVAL DATE DEC 18 1971

HELIOCENTRIC CONIC DISTANCE 520.604 EARTH TO MARS
 RL 151.01 LAL .00 LOL 227.74 VL 32.231 GAL -.97 AZL 92.00 HCA 167.79 SMA 184.62 ECC .18279 INC 2.0885 V1 29.808
 RP 215.87 LAP -.44 LOP 35.83 VP 22.899 GAP 4.01 AZP 87.96 TAL 353.73 TAP 161.82 RCA 190.87 APO 218.36 V2 25.443
 RC 197.365 GL -22.27 GP 1.92 ZAL 107.88 ZAP 82.35 ETS 179.56 ZAE 125.35 ETE 179.11 ZAC 104.01 ETC 273.19 LVI -13.33

PLANETOCENTRIC CONIC
 C3 9.883 VML 3.096 DLA -29.40 RAL 348.12 RAD 6837.6 VEL 11.308 PTH 6.44 VHP 2.881 DPA -20.39 RAP 299.93 ECC 1.1877
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 90.00 17 28 46 2360.93 -.43 60.88 199.50 137.87 18 8 8 1360.9 17.77 44.41
 60.00 18 50 47 2142.71 4.89 48.74 204.32 130.00 19 26 30 1142.7 20.11 26.85
 70.00 20 40 86 1818.71 10.37 23.78 208.82 122.72 21 11 18 818.7 22.83 2.34
 80.00 23 20 14 1319.45 17.91 350.15 212.83 114.30 23 42 13 319.4 26.37 329.94
 81.61 0 20 38 1136.72 21.30 338.28 214.32 110.76 0 39 34 136.7 27.98 312.92
 100.00 2 7 2 8081.96 17.91 299.42 212.83 114.30 3 48 24 8082.0 26.37 265.21
 110.00 1 44 18 6153.87 10.37 290.60 208.82 122.72 3 28 22 6153.6 22.83 269.16

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1999 TRA .8780 TC3-4.7813 BAU .8108 867 3499.8 86R 276.7 863 1795.8 ST 33.7 8R 6.6 88 89.0
 RDE -.0893 RRA -.0822 RC3 .3831 FAU .28387 RRT -.8282 RRF -.8640 RTF .9528 CRT .3161 CR8 .8411 CBT -.6241
 FDE .8010 FRA 7.1147 FC-22.9123 B8P 8813 868 3810.4 R23 .1312 R13 -.9830 L8A 63.4 M8A 25.3 88A .8
 BDE .2118 BRA .8768 BC3 4.7644 P8P 3147 861 3807.0 862 154.8 T8A 176.28 EL1 33.8 EL2 6.3 ALP 3.68

LAUNCH DATE MAY 9 1971

FLIGHT TIME 222.00

ARRIVAL DATE DEC 17 1971

HELIOCENTRIC CONIC DISTANCE 524.786 EARTH TO MARS
 RL 151.01 LAL .00 LOL 227.74 VL 32.234 GAL -1.02 AZL 92.11 HCA 168.88 SMA 184.66 ECC .18313 INC 2.1118 V1 29.808
 RP 216.21 LAP -.41 LOP 36.69 VP 22.861 GAP 3.88 AZP 87.93 TAL 353.40 TAP 162.38 RCA 190.66 APO 218.50 V2 25.408
 RC 199.801 GL -22.43 GP 2.11 ZAL 108.36 ZAP 80.98 ETS 179.66 ZAE 123.48 ETE 179.06 ZAC 104.25 ETC 273.04 LVI -13.29

PLANETOCENTRIC CONIC
 C3 9.890 VML 3.113 DLA -29.33 RAL 348.72 RAD 6837.9 VEL 11.303 PTH 6.44 VHP 2.888 DPA -20.32 RAP 299.25 ECC 1.1898
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 90.00 17 30 47 2364.86 -.81 60.73 200.18 137.87 18 10 18 1364.6 17.80 44.88
 60.00 18 52 39 2146.79 4.41 48.84 205.00 130.10 19 28 26 1146.8 19.98 27.00
 70.00 20 42 87 1823.84 10.19 24.06 209.29 122.78 21 12 20 823.8 22.87 2.86
 80.00 23 19 40 1331.11 17.88 350.88 213.48 114.83 23 41 31 331.1 26.17 326.74
 81.88 0 24 56 1134.83 21.20 337.91 215.05 110.76 0 43 30 134.6 27.87 312.81
 100.00 2 6 28 8093.62 17.88 290.13 213.48 114.83 3 48 2 8093.6 26.17 266.02
 110.00 1 45 49 6158.70 10.19 290.88 209.29 122.78 3 28 27 6158.7 22.87 269.48

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1949 TRA .9517 TC3-4.9367 BAU .8413 867 3689.8 86R 290.7 863 1784.8 ST 35.4 8R 6.3 88 89.4
 RDE -.0647 RRA -.0632 RC3 .3681 FAU .28176 RRT -.8689 RRF -.9010 RTF .9887 CRT .2017 CR8 .8109 CBT -.6499
 FDE .8461 FRA 7.1332 FC-22.4934 B8P 8837 868 3700.9 R23 .1430 R13 -.9861 L8A 64.6 M8A 25.4 88A .8
 BDE .2053 BRA .9838 BC3 4.9504 P8P 3122 861 3686.1 862 144.6 T8A 176.09 EL1 35.4 EL2 6.2 ALP 2.12

LAUNCH DATE MAY 9 1971

FLIGHT TIME 224.00

ARRIVAL DATE DEC 19 1971

HELIOCENTRIC CONIC DISTANCE 526.986 EARTH TO MARS
 RL 151.01 LAL .00 LOL 227.74 VL 32.238 GAL -1.07 AZL 92.14 HCA 170.11 SMA 184.74 ECC .18351 INC 2.1438 V1 29.808
 RP 216.98 LAP -.37 LOP 37.85 VP 22.523 GAP 3.89 AZP 87.89 TAL 353.06 TAP 163.17 RCA 190.84 APO 218.64 V2 25.366
 RC 182.390 GL -22.64 GP 2.35 ZAL 108.83 ZAP 78.94 ETS 179.75 ZAE 121.64 ETE 179.03 ZAC 104.52 ETC 272.91 LVI -13.29

PLANETOCENTRIC CONIC
 C3 9.899 VML 3.132 DLA -29.31 RAL 349.35 RAD 6837.9 VEL 11.308 PTH 6.45 VHP 2.887 DPA -20.19 RAP 298.60 ECC 1.1814
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 90.00 17 33 10 2367.96 -.78 60.85 200.91 137.87 18 12 38 1367.6 17.45 44.71
 60.00 18 54 58 2149.97 4.27 46.09 205.79 130.11 19 30 48 1150.0 19.82 27.25
 70.00 20 44 37 1827.44 10.08 24.25 210.05 122.81 21 13 4 827.4 22.96 2.86
 80.00 23 21 4 1337.17 17.41 351.22 214.19 114.85 23 43 21 337.2 26.06 327.16
 81.96 0 28 16 1134.43 21.13 337.86 215.84 110.80 0 47 10 134.4 27.82 312.86
 100.00 2 7 52 8099.68 17.41 290.50 214.19 114.85 3 49 31 8099.7 26.06 266.44
 110.00 1 47 59 6162.30 10.08 291.07 210.05 122.81 3 30 41 6162.3 22.96 269.71

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1878 TRA 1.0329 TC3-5.1031 BAU .6711 867 3877.0 86R 310.3 863 1771.9 ST 37.1 8R 6.0 88 89.9
 RDE -.0804 RRA -.0760 RC3 .3685 FAU .24948 RRT -.8892 RRF -.9315 RTF .9886 CRT .0686 CR8 .6876 CBT -.6793
 FDE .8861 FRA 7.1929 FC-22.0172 B8P 8188 868 3889.4 R23 .1566 R13 -.9890 L8A 66.0 M8A 25.4 88A .4
 BDE .1872 BRA 1.0357 BC3 5.1177 P8P 3101 861 3887.0 862 135.4 T8A 175.68 EL1 37.1 EL2 6.0 ALP .66

LAUNCH DATE MAY 9 1971

FLIGHT TIME 226.00

ARRIVAL DATE DEC 21 1971

HELIOCENTRIC CONIC DISTANCE 533.144 EARTH TO MARS
 RL 151.01 LAL .00 LOL 227.74 VL 32.242 GAL -1.13 AZL 92.18 HCA 171.26 SMA 184.81 ECC .18392 INC 2.1839 V1 29.808
 RP 216.91 LAP -.33 LOP 39.00 VP 22.486 GAP 3.93 AZP 87.84 TAL 352.71 TAP 163.97 RCA 190.82 APO 218.81 V2 25.327
 RC 164.912 GL -22.82 GP 2.64 ZAL 109.31 ZAP 77.15 ETS 179.87 ZAE 119.83 ETE 178.96 ZAC 104.84 ETC 272.78 LVI -13.37

PLANETOCENTRIC CONIC
 C3 9.944 VML 3.153 DLA -29.34 RAL 350.03 RAD 6838.0 VEL 11.404 PTH 6.46 VHP 2.879 DPA -20.00 RAP 297.98 ECC 1.1637
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 90.00 17 36 3 2369.58 -.86 60.94 201.73 137.87 18 18 33 1369.6 17.36 44.81
 60.00 18 57 55 2151.74 4.20 46.17 206.58 130.12 19 33 47 1151.7 19.75 27.36
 70.00 20 47 45 1828.70 10.01 24.32 210.90 122.83 21 18 14 828.7 22.93 2.86
 80.00 23 25 9 1338.41 17.46 351.12 215.10 114.81 23 47 25 335.4 26.08 327.04
 81.84 0 29 59 1140.32 21.08 338.28 216.71 110.89 0 48 39 140.3 27.81 313.02
 100.00 2 11 57 8097.92 17.46 290.39 215.10 114.81 3 33 38 8097.9 26.08 266.32
 110.00 1 51 7 6163.86 10.01 291.14 210.90 122.83 3 33 31 6163.6 22.93 269.78

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1792 TRA 1.1174 TC3-5.2489 BAU .6996 867 4059.7 86R 336.6 863 1754.0 ST 39.9 8R 5.9 88 89.4
 RDE -.0866 RRA -.0913 RC3 .4089 FAU .24597 RRT -.8848 RRF -.9853 RTF .9809 CRT -.0789 CR8 .7682 CBT -.6972
 FDE .9553 FRA 7.2242 FC-21.4144 B8P 8866 868 4075.6 R23 .1731 R13 -.9814 L8A 67.4 M8A 25.4 88A .4
 BDE .1879 BRA 1.1212 BC3 5.2628 P8P 3091 861 4071.6 862 128.0 T8A 175.61 EL1 39.9 EL2 5.9 ALP 179.30

LAUNCH DATE MAY 9 1971 FLIGHT TIME 228.00 ARRIVAL DATE DEC 23 1971

HELIOCENTRIC CONIC DISTANCE 537.320 EARTH TO MARS

RL 151.01 LAL .00 LOL 227.74 VL 32.247 GAL -1.19 AZL 92.24 HCA 172.41 SMA 184.89 ECC .18438 INC 2.2342 V1 29.505
 RP 217.26 LAP -.30 LOP 40.15 VP 22.449 GAP 3.37 AZP 87.78 TAL 352.35 TAP 164.76 RCA 150.80 APO 218.98 V2 25.288
 RC 167.446 GL -23.30 GP 3.02 ZAL 109.78 ZAP 75.51 ETS 180.04 ZAE 118.06 ETE 178.86 ZAC 105.25 ETC 272.66 LVI -13.54

PLANETOCENTRIC CONIC

C3 10.102 VHL 3.178 DLA -29.46 RAL 350.77 RAD 6638.1 VEL 11.410 PTH 6.46 VHP 2.892 DPA -19.71 RAP 297.39 ECC 1.1662
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 39 39 2369.97 -.88 60.95 202.65 137.57 18 19 9 1370.0 17.34 44.83
 60.00 19 1 50 2151.31 4.21 46.15 207.54 130.12 19 37 42 1151.3 19.77 27.32
 70.00 20 52 19 1826.33 10.09 24.19 211.91 122.80 21 22 46 826.3 22.60 2.81
 80.00 23 33 43 1320.41 17.88 350.20 216.27 114.32 23 55 44 320.4 26.35 326.00
 81.39 0 29 25 1154.70 21.09 339.34 217.70 111.06 0 48 40 154.7 27.89 314.09
 100.00 2 20 31 6082.0 17.88 289.48 216.27 114.32 4 1 54 5082.9 26.35 265.28
 110.00 1 55 41 6161.19 10.09 291.01 211.91 122.80 3 38 23 5161.2 22.60 269.64

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.1804 TRA 1.1966 TC3-5.4049 BAU .7324 SGT 4248.2 SGR 372.8 SG3 1734.3 ST 40.9 SR 5.8 SS 60.3
 RDE -.0525 RRA -.1095 RC3 .4412 FAU .24404 RRT -.9435 RRF -.9728 RTF .9630 CRT -.2161 CRS .8394 CST -.7107
 FDE .9676 FRA 7.2145 FC-20.9152 BSP 6826 SGB 4264.6 R23 .1914 R13 -.9634 LSA 68.4 MSA 25.7 SSA .3
 BDE .1879 BRA 1.2016 BC3 5.4229 FSP 3022 SG1 4262.8 SG2 123.1 THA 175.26 EL1 40.9 EL2 5.7 ALF 178.20

LAUNCH DATE MAY 9 1971 FLIGHT TIME 230.00 ARRIVAL DATE DEC 25 1971

HELIOCENTRIC CONIC DISTANCE 541.494 EARTH TO MARS

RL 151.01 LAL .00 LOL 227.74 VL 32.252 GAL -1.25 AZL 92.30 HCA 173.56 SMA 184.98 ECC .18486 INC 2.3022 V1 29.505
 RP 217.61 LAP -.22 LOP 41.30 VP 22.412 GAP 3.22 AZP 87.71 TAL 351.99 TAP 165.55 RCA 150.78 APO 219.17 V2 25.249
 RC 169.992 GL -23.84 GP 3.53 ZAL 110.22 ZAP 73.92 ETS 180.26 ZAE 116.32 ETE 178.72 ZAC 105.78 ETC 272.55 LVI -13.84

PLANETOCENTRIC CONIC

C3 10.290 VHL 3.208 DLA -29.71 RAL 351.59 RAD 6638.2 VEL 11.419 PTH 6.47 VHP 2.908 DPA -19.29 RAP 296.82 ECC 1.1694
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 44 22 2367.77 -.77 60.86 203.73 137.57 18 23 50 1367.8 17.44 44.72
 60.00 19 7 15 2147.26 4.39 45.96 208.68 130.10 19 43 2 1147.3 19.93 27.10
 70.00 20 59 13 1817.90 10.40 23.73 213.15 122.72 21 29 31 817.9 22.85 2.29
 80.00 23 53 15 1271.96 19.21 347.22 217.99 113.30 24 14 27 272.0 27.14 322.62
 80.49 0 25 39 1180.96 21.17 341.32 218.84 111.35 0 45 20 181.0 28.08 316.08
 100.00 2 40 3 6034.47 19.21 286.50 217.99 113.30 4 20 38 5034.5 27.14 261.89
 110.00 2 2 35 6152.76 10.40 290.56 213.15 122.72 3 45 8 5152.8 22.85 269.11

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.1915 TRA 1.2721 TC3-5.5648 BAU .7685 SGT 4439.3 SGR 423.3 SG3 1712.3 ST 43.1 SR 5.9 SS 59.0
 RDE -.0474 RRA -.1314 RC3 .4905 FAU .24542 RRT -.9586 RRF -.9849 RTF .9671 CRT -.3515 CRS .8968 CST -.7284
 FDE .8906 FRA 7.1264 FC-20.6470 BSP 7011 SGB 4459.4 R23 .2007 R13 -.9676 LSA 68.6 MSA 25.7 SSA .3
 BDE .1973 BRA 1.2789 BC3 5.5864 FSP 2878 SG1 4457.8 SG2 120.1 THA 174.77 EL1 43.2 EL2 5.5 ALF 177.21

LAUNCH DATE MAY 9 1971 FLIGHT TIME 232.00 ARRIVAL DATE DEC 27 1971

HELIOCENTRIC CONIC DISTANCE 545.663 EARTH TO MARS

RL 151.01 LAL .00 LOL 227.74 VL 32.258 GAL -1.31 AZL 92.40 HCA 174.70 SMA 185.07 ECC .18539 INC 2.4022 V1 29.505
 RP 217.97 LAP -.22 LOP 42.44 VP 22.375 GAP 3.06 AZP 87.61 TAL 351.61 TAP 166.31 RCA 150.76 APO 219.38 V2 25.209
 RC 172.547 GL -24.63 GP 4.25 ZAL 110.63 ZAP 72.38 ETS 180.58 ZAE 114.62 ETE 178.51 ZAC 106.53 ETC 272.46 LVI -14.36

PLANETOCENTRIC CONIC

C3 10.529 VHL 3.245 DLA -30.19 RAL 352.56 RAD 6638.3 VEL 11.429 PTH 6.48 VHP 2.927 DPA -18.64 RAP 296.26 ECC 1.1733
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 50 57 2361.27 -.44 60.59 205.08 137.57 18 30 18 1361.3 17.75 44.42
 60.00 19 15 11 2137.17 4.83 45.47 210.14 130.06 19 50 48 1137.2 20.33 26.55
 70.00 21 10 8 1798.95 11.10 22.71 214.78 122.51 21 40 7 798.9 23.41 1.11
 78.97 0 18 4 1222.15 21.37 344.47 220.26 111.84 0 38 26 222.2 28.47 319.22
 78.97 0 18 4 1222.15 21.37 344.47 220.26 111.84 0 38 26 222.2 28.47 319.22
 78.97 0 18 4 1222.15 21.37 344.47 220.26 111.84 0 38 26 222.2 28.47 319.22
 110.00 2 13 31 6133.81 11.10 289.53 214.78 122.51 3 55 44 5133.8 23.41 267.93

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.1897 TRA 1.3710 TC3-5.6291 BAU .7981 SGT 4615.3 SGR 495.5 SG3 1686.9 ST 45.6 SR 6.5 SS 59.7
 RDE -.0458 RRA -.1646 RC3 .5468 FAU .23965 RRT -.9668 RRF -.9926 RTF .9677 CRT -.4974 CRS .9327 CST -.7387
 FDE .9548 FRA 7.1753 FC-19.7041 BSP 7425 SGB 4641.9 R23 .2203 R13 -.9683 LSA 70.7 MSA 26.4 SSA .2
 BDE .1952 BRA 1.3809 BC3 5.6556 FSP 2887 SG1 4640.2 SG2 126.0 THA 174.07 EL1 45.7 EL2 5.6 ALF 175.89

LAUNCH DATE MAY 9 1971 FLIGHT TIME 234.00 ARRIVAL DATE DEC 29 1971

HELIOCENTRIC CONIC DISTANCE 549.829 EARTH TO MARS

RL 151.01 LAL .00 LOL 227.74 VL 32.264 GAL -1.37 AZL 92.56 HCA 175.84 SMA 185.17 ECC .18594 INC 2.5553 V1 29.505
 RP 218.33 LAP -.19 LOP 43.58 VP 22.338 GAP 2.91 AZP 87.45 TAL 351.23 TAP 167.07 RCA 150.74 APO 219.60 V2 25.169
 RC 175.114 GL -25.88 GP 5.37 ZAL 110.96 ZAP 70.90 ETS 181.08 ZAE 112.95 ETE 178.18 ZAC 107.67 ETC 272.39 LVI -15.25

PLANETOCENTRIC CONIC

C3 10.859 VHL 3.295 DLA -31.07 RAL 353.79 RAD 6638.5 VEL 11.443 PTH 6.49 VHP 2.950 DPA -17.60 RAP 295.69 ECC 1.1787
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 0 59 2346.75 .29 59.98 206.93 137.58 18 40 6 1346.8 18.45 43.75
 60.00 19 27 52 2115.58 5.78 44.43 212.19 129.95 20 3 7 1115.6 21.18 25.36
 70.00 21 29 20 1758.00 12.59 20.47 217.19 122.02 21 58 38 758.1 24.59 358.52
 76.57 0 5 27 1283.88 21.80 349.29 222.17 112.70 0 26 51 283.9 29.21 324.01
 76.57 0 5 27 1283.88 21.80 349.29 222.17 112.70 0 26 51 283.9 29.21 324.01
 76.57 0 5 27 1283.88 21.80 349.29 222.17 112.70 0 26 51 283.9 29.21 324.01
 110.00 2 32 43 6092.93 12.59 287.30 217.19 122.02 4 14 16 5092.9 24.59 265.34

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2002 TRA 1.4739 TC3-5.6523 BAU .8257 SGT 4790.5 SGR 606.4 SG3 1656.1 ST 48.5 SR 7.6 SS 60.2
 RDE -.0457 RRA -.2132 RC3 .6334 FAU .23389 RRT -.9713 RRF -.9969 RTF .9680 CRT -.6095 CRS .9848 CST -.7373
 FDE .9909 FRA 7.1967 FC-18.6470 BSP 7804 SGB 4828.7 R23 .2345 R13 -.9689 LSA 72.6 MSA 27.5 SSA .2
 BDE .2054 BRA 1.4892 BC3 5.6877 FSP 2870 SG1 4826.6 SG2 143.2 THA 172.98 EL1 48.7 EL2 6.0 ALF 174.43

LAUNCH DATE MAY 9 1971

FLIGHT TIME 236.00

ARRIVAL DATE DEC 31 1971

HELIOCENTRIC CONIC

RL 181.01 LAL .00 LOL 227.74 VL 32.270 GAL -1.44 AZL 92.02 MCA 176.98 SMA 185.27 ECC .16883 INC 2.8206 VI 29.805
RP 219.00 LAP -.15 LOP 44.72 VP 22.302 GAP 2.76 AZP 97.18 TAL 380.84 TAP 167.02 RCA 190.71 APO 219.82 V2 25.189
RC 177.000 GL -20.00 GP 7.30 ZAL 111.11 ZAP 69.83 ETS 161.95 ZAE 111.31 ETE 177.00 ZAC 109.61 ETC 272.34 LVI -16.92

DISTANCE 553.982

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 11.300 VHL 3.375 DLA -32.77 RAL 358.98 RAD 6638.8 VEL 11.466 PTH 6.82 VHP 2.981 DPA -15.74 RAP 295.03 ECC 1.1675
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 18 10 32 2318.30 1.67 88.67 209.88 137.55 18 57 7 1315.3 19.95 42.26
60.00 19 51 21 2060.20 7.84 42.14 219.59 129.66 20 29 49 1066.3 23.01 22.69
70.00 22 12 13 1693.19 16.29 14.61 221.64 120.44 22 39 47 653.2 27.37 351.64
72.71 23 42 23 1378.60 22.65 386.66 225.13 114.34 24 5 19 375.6 30.65 331.32
72.71 23 42 23 1378.60 22.65 386.66 225.13 114.34 24 5 19 375.6 30.65 331.32
72.71 23 42 23 1378.60 22.65 386.66 225.13 114.34 24 5 19 375.6 30.65 331.32
110.00 3 15 36 5986.05 16.29 281.43 221.64 120.44 4 55 24 4988.1 27.37 290.46

DIFFERENTIAL CORRECTIONS

TDE -.2414 TRA 1.8798 TC3-5.6110 BAU .0627
RDE -.0470 RRA -.2932 RC3 .7926 FAU .22912
PDE .9513 PRA 7.1499 FC-17.4147 B8P 6074
BDE .2460 BRA 1.6065 BC3 5.6653 F8P 2787

MID-COURSE EXECUTION ACCURACY

8GT 4988.2 8GR 797.4 8G3 1614.5
RRY -.9733 RRF -.9999 RTF .9683
8GB 5031.8 8R3 .2404 R13 -.9687
8G1 5028.5 8G2 180.8 THA 171.11

ORBIT DETERMINATION ACCURACY

8T 52.4 8R 9.8 8S 59.7
CRT -.6798 CR8 .9979 CBT -.7255
L8A 74.8 M8A 29.3 88A .1
EL1 52.4 EL2 7.1 ALF 172.64

LAUNCH DATE MAY 9 1971

FLIGHT TIME 236.00

ARRIVAL DATE JAN 2 1972

HELIOCENTRIC CONIC

RL 181.01 LAL .00 LOL 227.74 VL 32.276 GAL -1.50 AZL 93.41 MCA 178.11 SMA 185.37 ECC .16714 INC 3.4007 VI 29.805
RP 219.06 LAP -.11 LOP 48.88 VP 22.288 GAP 2.60 AZP 86.60 TAL 380.44 TAP 168.58 RCA 190.68 APO 220.06 V2 25.089
RC 180.278 GL -32.73 GP 11.46 ZAL 110.70 ZAP 69.42 ETS 163.79 ZAE 109.61 ETE 176.33 ZAC 113.78 ETC 272.35 LVI -20.63

DISTANCE 558.192

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 12.868 VHL 3.545 DLA -36.60 RAL 359.86 RAD 6639.3 VEL 11.517 PTH 6.86 VHP 3.042 DPA -11.67 RAP 294.12 ECC 1.2068
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 18 50 29 2237.38 5.77 88.40 216.30 137.31 19 35 46 1237.4 23.59 36.43
60.00 20 51 24 1936.44 13.50 35.60 223.55 129.34 21 23 40 936.4 27.81 14.84
65.73 23 14 36 1520.49 24.44 9.00 231.11 118.13 23 39 57 520.5 33.81 343.60
65.73 23 14 36 1520.49 24.44 9.00 231.11 118.13 23 39 57 520.5 33.81 343.60
65.73 23 14 36 1520.49 24.44 9.00 231.11 118.13 23 39 57 520.5 33.81 343.60
65.73 23 14 36 1520.49 24.44 9.00 231.11 118.13 23 39 57 520.5 33.81 343.60
65.73 23 14 36 1520.49 24.44 9.00 231.11 118.13 23 39 57 520.5 33.81 343.60

DIFFERENTIAL CORRECTIONS

TDE -.3928 TRA 1.6967 TC3-5.3693 BAU .9201
RDE -.0465 RRA -.4572 RC3 1.0818 FAU .22507
PDE -.7768 PRA 6.9137 FC-15.8078 B8P 6129
BDE -.3561 BRA 1.7872 BC3 5.4772 F8P 2580

MID-COURSE EXECUTION ACCURACY

8GT 5148.3 8GR 1200.6 8G3 1836.7
RRY -.9741 RRF -.9996 RTF .9690
8GB 5264.5 8R3 .2352 R13 -.9716
8G1 5277.9 8G2 264.7 THA 167.16

ORBIT DETERMINATION ACCURACY

8T 56.8 8R 14.4 8S 57.8
CRT -.7098 CR8 .9999 CBT -.6904
L8A 77.0 M8A 32.4 88A .1
EL1 59.8 EL2 10.0 ALF 169.87

LAUNCH DATE MAY 9 1971

FLIGHT TIME 240.00

ARRIVAL DATE JAN 4 1972

HELIOCENTRIC CONIC

RL 181.01 LAL .00 LOL 227.74 VL 32.285 GAL -1.57 AZL 95.70 MCA 179.23 SMA 185.48 ECC .16779 INC 5.6554 VI 29.805
RP 219.43 LAP -.08 LOP 46.98 VP 22.229 GAP 2.45 AZP 84.30 TAL 380.08 TAP 169.26 RCA 190.45 APO 220.32 V2 25.048
RC 182.871 GL -47.73 GP 26.13 ZAL 107.34 ZAP 69.35 ETS 169.78 ZAE 107.12 ETE 171.84 ZAC 128.42 ETC 272.83 LVI -34.02

DISTANCE 562.312

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 18.752 VHL 4.330 DLA -48.81 RAL 10.91 RAD 6642.3 VEL 11.780 PTH 6.80 VHP 3.306 DPA 2.84 RAP 291.96 ECC 1.3066
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
48.41 22 49 34 1810.15 27.48 36.76 253.81 132.07 23 19 44 810.1 42.02 13.04
48.41 22 49 34 1810.15 27.48 36.76 253.81 132.07 23 19 44 810.1 42.02 13.04
48.41 22 49 34 1810.15 27.48 36.76 253.81 132.07 23 19 44 810.1 42.02 13.04
48.41 22 49 34 1810.15 27.48 36.76 253.81 132.07 23 19 44 810.1 42.02 13.04
48.41 22 49 34 1810.15 27.48 36.76 253.81 132.07 23 19 44 810.1 42.02 13.04
48.41 22 49 34 1810.15 27.48 36.76 253.81 132.07 23 19 44 810.1 42.02 13.04
48.41 22 49 34 1810.15 27.48 36.76 253.81 132.07 23 19 44 810.1 42.02 13.04

DIFFERENTIAL CORRECTIONS

TDE-1.0638 TRA 1.3963 TC3-9.0346 BAU 1.3003
RDE .1179 RRA -.7836 RC3 2.2293 FAU .22916
PDE -.4482 PRA 4.3099 FC-11.9682 B8P 926
BDE 1.0802 BRA 1.6012 BC3 5.5061 F8P 355

MID-COURSE EXECUTION ACCURACY

8GT 9379.3 8GR 2496.0 8G3 1167.8
RRY -.9725 RRF -.9998 RTF .571
8GB 9930.2 8R3 .2146 R13 -.9767
8G1 9906.5 8G2 529.1 THA 188.50

ORBIT DETERMINATION ACCURACY

8T 83.4 8R 25.0 8S 39.2
CRT -.7529 CR8 .9996 CBT -.6678
L8A 90.6 M8A 30.3 88A .0
EL1 85.6 EL2 16.1 ALF 166.79

LAUNCH DATE MAY 9 1971

FLIGHT TIME 242.00

ARRIVAL DATE JAN 6 1972

HELIOCENTRIC CONIC

RL 181.01 LAL .00 LOL 227.74 VL 32.290 GAL -1.64 AZL 93.71 MCA 180.36 SMA 185.60 ECC .16847 INC 6.1385 VI 29.805
RP 219.60 LAP -.04 LOP 46.10 VP 22.193 GAP 2.31 AZP 96.29 TAL 349.61 TAP 169.98 RCA 190.62 APO 220.58 V2 25.007
RC 185.475 GL 50.52 GP -44.31 ZAL 106.91 ZAP 73.84 ETS 162.24 ZAE 102.11 ETE 182.76 ZAC 58.04 ETC 272.59 LVI 30.56

DISTANCE 566.485

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 20.968 VHL 4.579 DLA 39.97 RAL 323.25 RAD 6643.3 VEL 11.973 PTH 6.89 VHP 4.493 DPA -65.79 RAP 313.86 ECC 1.3481
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 10 26 28 4033.90 -42.21 177.20 217.25 65.62 11 33 40 3033.9 -47.57 143.88
60.00 9 1 9 4264.34 -26.00 187.20 206.83 59.05 10 12 13 3264.3 -36.75 161.87
60.48 8 28 45 4355.63 -22.21 192.24 204.13 59.87 9 41 21 3355.6 -34.20 168.47
60.48 8 28 45 4355.63 -22.21 192.24 204.13 59.87 9 41 21 3355.6 -34.20 168.47
60.48 8 28 45 4355.63 -22.21 192.24 204.13 59.87 9 41 21 3355.6 -34.20 168.47
60.48 8 28 45 4355.63 -22.21 192.24 204.13 59.87 9 41 21 3355.6 -34.20 168.47
60.48 8 28 45 4355.63 -22.21 192.24 204.13 59.87 9 41 21 3355.6 -34.20 168.47

DIFFERENTIAL CORRECTIONS

TDE .9686 TRA-1.6213 TC3-7.7488 BAU 2.6279
RDE .7972 RRA -.4797 RC3-5.2763 FAU .23433
PDE 1.4876 PRA -.7494 FC3-9.6752 B8P 24027
BDE 1.2530 BRA 1.6906 BC3 9.3746 F8P -1993

MID-COURSE EXECUTION ACCURACY

8GT 7670.2 8GR 4988.8 8G3 789.0
RRY .8605 RRF .9997 RTF .9787
8GB 9185.7 8R3 .1615 R13 .8088
8G1 9116.3 8G2 826.1 THA 38.87

ORBIT DETERMINATION ACCURACY

8T 73.1 8R 51.7 8S 36.7
CRT .9407 CR8 -.9994 CBT -.9288
L8A 95.3 M8A 17.1 88A .1
EL1 68.4 EL2 14.5 ALF 34.72

LAUNCH DATE MAY 9 1971

FLIGHT TIME 246.00

ARRIVAL DATE JAN 10 1972

HELIOCENTRIC CONIC
 RL 151.01 LAL .00 LOL 227.74 VL 32.304 GAL -1.78 AZL 90.72 HCA 182.60 SMA 185.84 ECC .18990 INC .7021 V1 29.505
 RP 220.55 LAP .03 LOP 50.34 VP 22.122 GAP 2.01 AZP 89.29 TAL 348.79 TAP 171.39 RCA 150.55 APO 221.13 V2 24.925
 RC 190.711 GL -7.36 GP -8.12 ZAL 116.64 ZAP 62.95 ETS 174.99 ZAE 103.43 ETE 182.40 ZAC 90.27 ETC 271.89 LVI -2.20

DISTANCE 574.750 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.905 VHL 3.147 DLA -12.84 RAL 348.74 RAD 6638.0 VEL 11.402 PTH 6.45 VHP 3.099 DPA -31.14 RAP 296.56 ECC 1.1630
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 15 33 2722.42 -18.31 76.28 198.36 134.72 17 0 55 1722.4 -1.14 60.05
 60.00 17 9 21 2579.33 -14.40 66.97 201.95 128.06 17 52 21 1579.3 1.54 48.78
 70.00 18 17 42 2378.39 -10.74 53.34 204.61 122.62 18 57 21 1378.4 3.14 33.70
 80.00 19 41 0 2117.67 -7.98 35.21 206.27 118.87 20 16 18 1117.7 4.37 14.67
 90.00 21 9 6 1833.14 -6.92 14.88 206.84 117.49 21 39 39 833.5 4.84 354.04
 100.00 22 23 52 1501.14 -7.98 356.58 206.27 118.87 22 50 24 592.1 4.37 336.04
 110.00 23 17 9 1425.20 -10.74 342.25 204.61 122.62 23 40 54 425.2 3.14 322.62

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .4389 TRA 1.7812 TC3-7.4602 BAU .9925 SGT 5809.4 SGR 707.4 SG3 1483.2 ST 64.3 SR 12.6 SS 74.2
 RDE .1112 RRA .2686 RC3 -.7245 FAU .20153 RRT .9663 RRF .9987 RTF .9701 CRT .9660 CRS -.9947 CST -.9871
 FDE 2.2376 FRA 6.6715 FC-17.6151 BSP 9524 SGB 5852.4 R23 .2344 R13 .9710 LSA 98.6 MSA 8.1 SSA .3
 BDE .4528 BRA 1.8013 BC3 7.4953 FSP 2598 SG1 5849.6 SG2 181.0 THA 6.72 EL1 65.5 EL2 3.2 ALF 10.77

LAUNCH DATE MAY 9 1971

FLIGHT TIME 248.00

ARRIVAL DATE JAN 12 1972

HELIOCENTRIC CONIC
 RL 151.01 LAL .00 LOL 227.74 VL 32.312 GAL -1.86 AZL 91.06 HCA 183.71 SMA 185.97 ECC .19065 INC 1.0511 V1 29.505
 RP 220.93 LAP .07 LOP 51.45 VP 22.086 GAP 1.86 AZP 88.95 TAL 348.36 TAP 172.07 RCA 150.52 APO 221.43 V2 24.884
 RC 193.341 GL -10.72 GP -5.66 ZAL 117.01 ZAP 61.56 ETS 176.09 ZAE 102.13 ETE 181.66 ZAC 96.73 ETC 271.87 LVI -4.45

DISTANCE 578.890 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 10.234 VHL 3.199 DLA -15.67 RAL 350.73 RAD 6638.2 VEL 11.416 PTH 6.47 VHP 3.106 DPA -28.73 RAP 295.95 ECC 1.1684
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 34 46 2670.98 -15.83 73.91 200.60 135.48 17 19 17 1671.0 2.45 57.91
 60.00 17 32 9 2518.40 -11.82 63.89 204.33 128.81 18 14 7 1518.4 4.22 45.87
 70.00 18 44 45 2304.94 -8.02 49.39 207.14 123.31 19 23 10 1304.9 5.93 29.85
 80.00 20 12 18 2030.91 -5.10 30.38 208.93 119.46 20 46 9 1030.9 7.26 9.86
 90.00 21 42 25 1740.24 -3.97 9.63 209.55 118.02 22 11 25 740.2 7.78 348.77
 100.00 22 55 10 1505.38 -5.10 351.75 208.93 119.46 23 20 16 505.4 7.26 331.23
 110.00 23 44 12 1351.75 -8.02 338.31 207.14 123.31 24 6 44 351.8 5.93 318.76

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .3695 TRA 1.9218 TC3-7.3908 BAU 1.0131 SGT 5964.7 SGR 464.4 SG3 1473.0 ST 63.4 SR 9.0 SS 71.7
 RDE .0836 RRA .1760 RC3 -.4587 FAU .19942 RRT .9592 RRF .9941 RTF .9711 CRT .9047 CRS -.9779 CST -.9733
 FDE 2.0945 FRA 6.8017 FC-16.8699 BSP 9881 SGB 5982.8 R23 .2198 R13 .9715 LSA 95.5 MSA 11.3 SSA .3
 BDE .3789 BRA 1.9298 BC3 7.4050 FSP 2599 SG1 5981.3 SG2 131.0 THA 4.27 EL1 63.9 EL2 3.8 ALF 7.31

LAUNCH DATE MAY 9 1971

FLIGHT TIME 250.00

ARRIVAL DATE JAN 14 1972

HELIOCENTRIC CONIC
 RL 151.01 LAL .00 LOL 227.74 VL 32.319 GAL -1.93 AZL 91.24 HCA 184.82 SMA 186.10 ECC .19143 INC 1.2367 V1 29.505
 RP 221.31 LAP .10 LOP 52.56 VP 22.051 GAP 1.71 AZP 88.77 TAL 347.93 TAP 172.75 RCA 150.48 APO 221.73 V2 24.842
 RC 195.978 GL -12.44 GP -4.32 ZAL 117.46 ZAP 60.30 ETS 176.70 ZAE 100.79 ETE 181.26 ZAC 98.07 ETC 271.86 LVI -5.65

DISTANCE 583.028 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 10.516 VHL 3.243 DLA -16.99 RAL 352.05 RAD 6638.3 VEL 11.428 PTH 6.48 VHP 3.125 DPA -27.42 RAP 295.61 ECC 1.1731
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 45 27 2649.22 -14.77 72.92 202.20 135.76 17 29 36 1649.2 3.54 56.99
 60.00 17 44 35 2491.96 -10.69 62.58 206.02 129.09 18 26 7 1492.0 5.38 44.59
 70.00 18 59 22 2272.15 -6.79 47.65 208.92 123.55 19 37 14 1272.2 7.17 28.11
 80.00 20 29 9 1991.13 -3.77 28.18 210.79 119.64 21 2 20 991.1 8.57 7.63
 90.00 22 0 20 1696.95 -2.58 7.21 211.44 118.17 22 28 37 696.9 9.12 346.30
 100.00 23 12 1 1465.60 -3.77 349.55 210.79 119.64 23 36 26 465.6 8.57 329.00
 110.00 0 2 44 1318.97 -6.79 336.57 208.92 123.55 0 24 43 319.0 7.17 317.03

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .3412 TRA 2.0329 TC3-7.3976 BAU 1.0410 SGT 6122.7 SGR 333.6 SG3 1450.2 ST 64.3 SR 7.3 SS 69.6
 RDE .0730 RRA .1215 RC3 -.3244 FAU .19827 RRT .9450 RRF .9815 RTF .9732 CRT .8252 CRS -.9431 CST -.9859
 FDE 1.9868 FRA 6.7896 FC-16.3222 BSP 10107 SGB 6131.8 R23 .1880 R13 .9734 LSA 94.2 MSA 12.8 SSA .4
 BDE .3489 BRA 2.0365 BC3 7.4047 FSP 2514 SG1 6130.8 SG2 108.9 THA 2.95 EL1 64.6 EL2 4.1 ALF 5.36

LAUNCH DATE MAY 9 1971

FLIGHT TIME 252.00

ARRIVAL DATE JAN 16 1972

HELIOCENTRIC CONIC
 RL 151.01 LAL .00 LOL 227.74 VL 32.327 GAL -2.01 AZL 91.35 HCA 185.92 SMA 186.24 ECC .19224 INC 1.3492 V1 29.505
 RP 221.69 LAP .14 LOP 53.66 VP 22.016 GAP 1.58 AZP 88.65 TAL 347.50 TAP 173.42 RCA 150.43 APO 222.04 V2 24.801
 RC 198.621 GL -13.45 GP -3.49 ZAL 117.96 ZAP 59.13 ETS 177.08 ZAE 99.47 ETE 181.02 ZAC 98.91 ETC 271.86 LVI -6.41

DISTANCE 587.156 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 10.771 VHL 3.282 DLA -17.65 RAL 353.07 RAD 6638.4 VEL 11.439 PTH 6.49 VHP 3.148 DPA -26.61 RAP 295.42 ECC 1.1773
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 52 20 2640.24 -14.33 72.52 203.49 135.87 17 36 21 1640.2 3.99 56.62
 60.00 17 52 24 2480.55 -10.20 62.01 207.36 129.20 18 33 44 1480.5 5.88 44.04
 70.00 19 8 19 2257.37 -6.23 46.87 210.32 123.65 19 45 56 1257.4 7.72 27.33
 80.00 20 39 18 1972.56 -3.14 27.16 212.23 119.71 21 12 11 972.6 9.17 6.59
 90.00 22 11 6 1676.44 -1.92 6.06 212.91 118.22 22 39 3 676.4 9.75 345.12
 100.00 23 22 10 1447.00 -3.14 348.53 212.23 119.71 23 46 17 447.0 9.17 327.95
 110.00 0 11 41 1304.19 -6.23 335.79 210.32 123.65 0 33 25 304.2 7.72 316.24

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .3393 TRA 2.1417 TC3-7.4101 BAU 1.0676 SGT 6277.3 SGR 255.2 SG3 1424.8 ST 66.3 SR 6.7 SS 70.0
 RDE .0715 RRA .0869 RC3 -.2370 FAU .19233 RRT .9085 RRF .9526 RTF .9713 CRT .7380 CRS -.8985 CST -.9588
 FDE 2.0075 FRA 6.8327 FC-15.4588 BSP 10380 SGB 6282.5 R23 .1674 R13 .9714 LSA 95.6 MSA 14.3 SSA .4
 BDE .3467 BRA 2.1435 BC3 7.4139 FSP 2519 SG1 6281.5 SG2 106.5 THA 2.12 EL1 66.5 EL2 4.5 ALF 4.27

LAUNCH DATE MAY 9 1971 FLIGHT TIME 284.00 ARRIVAL DATE JAN 18 1972

Table with columns for Heliocentric Conic, Distance, Earth to Mars, Planetary Centric Conic, and Differential Corrections. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, and TDE.

LAUNCH DATE MAY 9 1971 FLIGHT TIME 286.00 ARRIVAL DATE JAN 20 1972

Table with columns for Heliocentric Conic, Distance, Earth to Mars, Planetary Centric Conic, and Differential Corrections. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, and TDE.

LAUNCH DATE MAY 9 1971 FLIGHT TIME 290.00 ARRIVAL DATE JAN 22 1972

Table with columns for Heliocentric Conic, Distance, Earth to Mars, Planetary Centric Conic, and Differential Corrections. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, and TDE.

LAUNCH DATE MAY 9 1971 FLIGHT TIME 260.00 ARRIVAL DATE JAN 24 1972

Table with columns for Heliocentric Conic, Distance, Earth to Mars, Planetary Centric Conic, and Differential Corrections. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, and TDE.

LAUNCH DATE MAY 9 1971

FLIGHT TIME 262.00

ARRIVAL DATE JAN 26 1972

MELIOCENTRIC CONIC DISTANCE 607.736 EARTH TO MARS
 RL 151.01 LAL .00 LOL 227.74 VL 32.370 GAL -2.41 AZL 91.59 MCA 191.39 SMA 186.95 ECC .19662 INC 1.5931 V1 29.505
 RP 223.62 LAP .31 LOP 59.13 VP 21.842 GAP .82 AZP 88.44 TAL 345.25 TAP 176.64 RCA 150.19 APO 223.71 V2 24.592
 RC 211.896 GL -15.10 GP -1.73 ZAL 120.78 ZAP 53.86 ETS 177.91 ZAE 93.20 ETE 180.52 ZAC 100.65 ETC 271.94 LVI -0.13

PLANETOCENTRIC CONIC
 C3 11.921 VHL 3.453 DLA -17.90 RAL 356.75 RAD 6639.0 VEL 11.489 PTH 6.54 VHP 3.282 DPA -24.84 RAP 295.38 ECC 1.1962
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 8 3 2656.11 -15.11 73.23 208.20 135.67 17 52 19 1656.1 3.19 57.28
 60.00 18 8 26 2495.50 -10.84 62.75 212.19 129.06 18 50 2 1495.5 5.22 44.76
 70.00 19 24 47 2271.05 -6.75 47.59 215.23 123.56 20 2 38 1271.1 7.21 28.05
 80.00 20 56 15 1984.79 -3.55 27.83 217.20 119.66 21 29 20 984.8 8.78 7.27
 90.00 22 28 17 1687.92 -2.29 6.71 217.91 118.19 22 56 25 687.9 9.40 345.78
 100.00 23 39 7 1459.07 -3.55 349.20 217.20 119.66 24 3 26 459.3 8.78 328.64
 110.00 0 28 10 1317.07 -6.75 336.51 215.23 123.56 0 50 7 317.9 7.21 316.97

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .4568 TRA 2.6796 TC3-7.4860 BAU 1.1931 SGT 7009.4 SGR 157.0 S63 1285.6 ST 80.1 SR 7.4 S8 70.0
 RDE .0886 RRA -.0026 RC3 -.0794 FAU .16953 RRT .3399 RRF .3949 RTF .9712 CRT .4664 CRS -.6947 CST -.9597
 FDE 2.0849 FRA 6.7158 FC-12.3119 BSP 11879 SGB 7011.2 R23 .0688 R13 .9712 LSA 105.4 MSA 16.1 S8A .7
 BDE .4653 BRA 2.6796 BC3 7.4864 FSP 2317 SG1 7009.6 S62 147.7 THA .44 EL1 80.1 EL2 6.5 ALF 2.47

LAUNCH DATE MAY 9 1971

FLIGHT TIME 264.00

ARRIVAL DATE JAN 28 1972

MELIOCENTRIC CONIC DISTANCE 611.837 EARTH TO MARS
 RL 151.01 LAL .00 LOL 227.74 VL 32.379 GAL -2.49 AZL 91.62 MCA 192.47 SMA 187.10 ECC .19757 INC 1.6162 V1 29.505
 RP 224.01 LAP .35 LOP 60.21 VP 21.808 GAP .67 AZP 88.42 TAL 344.79 TAP 177.26 RCA 150.14 APO 224.07 V2 24.550
 RC 214.558 GL -15.18 GP -1.57 ZAL 121.38 ZAP 52.91 ETS 177.99 ZAE 92.02 ETE 180.48 ZAC 100.81 ETC 271.97 LVI -0.53

PLANETOCENTRIC CONIC
 C3 12.153 VHL 3.486 DLA -17.72 RAL 357.37 RAD 6639.1 VEL 11.499 PTH 6.55 VHP 3.311 DPA -24.65 RAP 295.50 ECC 1.2000
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 9 44 2664.02 -15.49 73.59 209.01 135.57 17 54 8 1664.0 2.80 57.62
 60.00 18 9 52 2504.09 -11.21 63.18 213.01 128.97 18 51 36 1504.1 4.85 45.18
 70.00 19 25 54 2280.60 -7.11 48.10 216.05 123.49 20 3 54 1280.6 6.85 28.56
 80.00 20 57 1 1995.43 -3.91 28.42 218.03 119.62 21 30 16 995.4 8.43 7.87
 90.00 22 28 52 1699.12 -2.65 7.33 218.72 118.17 22 57 11 699.1 9.06 346.42
 100.00 23 39 52 1469.90 -3.91 349.79 218.03 119.62 24 4 22 469.9 8.43 329.24
 110.00 0 29 16 1327.42 -7.11 337.02 216.05 123.49 0 51 23 327.4 6.85 317.48

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .4891 TRA 2.7872 TC3-7.5014 BAU 1.2188 SGT 7150.2 SGR 163.6 S63 1250.1 ST 82.9 SR 7.8 S8 70.0
 RDE .0942 RRA -.0137 RC3 -.0677 FAU .16523 RRT .2202 RRF .2730 RTF .9711 CRT .4451 CRS -.6738 CST -.9610
 FDE 2.1041 FRA 6.6771 FC-11.7706 BSP 12141 SGB 7152.1 R23 .0806 R13 .9711 LSA 107.6 MSA 16.3 S8A .7
 BDE .4980 BRA 2.7872 BC3 7.5017 FSP 2270 SG1 7150.3 S62 159.6 THA .29 EL1 83.0 EL2 6.9 ALF 2.40

LAUNCH DATE MAY 9 1971

FLIGHT TIME 266.00

ARRIVAL DATE JAN 30 1972

MELIOCENTRIC CONIC DISTANCE 615.932 EARTH TO MARS
 RL 151.01 LAL .00 LOL 227.74 VL 32.387 GAL -2.58 AZL 91.64 MCA 193.55 SMA 187.28 ECC .19853 INC 1.6347 V1 29.505
 RP 224.40 LAP .38 LOP 61.29 VP 21.775 GAP .53 AZP 88.41 TAL 344.32 TAP 177.88 RCA 150.08 APO 224.44 V2 24.508
 RC 217.222 GL -15.21 GP -1.43 ZAL 121.97 ZAP 51.98 ETS 178.07 ZAE 90.86 ETE 180.44 ZAC 100.93 ETC 272.01 LVI -0.52

PLANETOCENTRIC CONIC
 C3 12.389 VHL 3.520 DLA -17.50 RAL 357.97 RAD 6639.3 VEL 11.509 PTH 6.56 VHP 3.340 DPA -24.49 RAP 295.65 ECC 1.2039
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 11 12 2672.64 -15.91 73.98 209.81 135.45 17 55 45 1672.6 2.36 57.98
 60.00 18 11 2 2513.52 -11.61 63.65 213.81 128.87 18 52 56 1513.5 4.43 45.63
 70.00 19 26 41 2291.15 -7.51 48.66 216.86 123.42 20 4 52 1291.1 6.45 29.12
 80.00 20 57 24 2007.24 -4.31 29.07 218.82 119.57 21 30 51 1007.2 8.04 8.53
 90.00 22 29 3 1711.58 -3.05 8.03 219.52 118.13 22 57 34 711.6 8.67 347.13
 100.00 23 40 16 1481.71 -4.31 350.44 218.82 119.57 24 4 57 481.7 8.04 329.90
 110.00 0 30 3 1337.96 -7.51 337.58 216.86 123.42 0 52 21 338.0 6.45 318.03

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .5197 TRA 2.8916 TC3-7.5240 BAU 1.2462 SGT 7288.9 SGR 173.1 S63 1230.2 ST 85.6 SR 8.2 S8 69.9
 RDE .1002 RRA -.0239 RC3 -.0587 FAU .16120 RRT .1234 RRF .1739 RTF .5.08 CRT .4287 CRS -.6576 CST -.9620
 FDE 2.1169 FRA 6.6283 FC-11.2642 BSP 12362 SGB 7290.9 R23 .0545 R13 .9708 LSA 109.6 MSA 16.4 S8A .8
 BDE .5293 BRA 2.8917 BC3 7.5242 FSP 2221 SG1 7288.9 S62 171.8 THA .17 EL1 85.7 EL2 7.4 ALF 2.36

LAUNCH DATE MAY 9 1971

FLIGHT TIME 268.00

ARRIVAL DATE FEB 1 1972

MELIOCENTRIC CONIC DISTANCE 620.022 EARTH TO MARS
 RL 151.01 LAL .00 LOL 227.74 VL 32.397 GAL -2.67 AZL 91.65 MCA 194.63 SMA 187.41 ECC .19952 INC 1.6515 V1 29.505
 RP 224.79 LAP .42 LOP 62.36 VP 21.741 GAP .38 AZP 88.40 TAL 343.86 TAP 178.48 RCA 150.02 APO 224.81 V2 24.466
 RC 219.886 GL -15.22 GP -1.31 ZAL 122.57 ZAP 51.09 ETS 178.13 ZAE 89.73 ETE 180.41 ZAC 101.04 ETC 272.06 LVI -0.70

PLANETOCENTRIC CONIC
 C3 12.630 VHL 3.554 DLA -17.25 RAL 358.55 RAD 6639.4 VEL 11.520 PTH 6.57 VHP 3.369 DPA -24.35 RAP 295.83 ECC 1.2079
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 12 31 2681.82 -16.35 74.40 210.60 135.33 17 57 13 1681.8 1.90 58.36
 60.00 18 12 1 2523.60 -12.04 64.15 214.60 128.76 18 54 4 1523.6 3.99 46.12
 70.00 19 27 14 2302.45 -7.93 49.26 217.64 123.33 20 5 37 1302.5 6.03 29.71
 80.00 20 57 30 2019.94 -4.74 29.77 219.60 119.51 21 31 10 1019.9 7.62 9.25
 90.00 22 28 56 1724.99 -3.48 8.78 220.30 118.08 22 57 41 725.0 8.26 347.90
 100.00 23 40 22 1494.41 -4.74 351.14 219.60 119.51 24 5 17 494.4 7.62 330.61
 110.00 0 30 37 1349.27 -7.93 338.18 217.64 123.33 0 53 6 349.3 6.03 318.63

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .5575 TRA 3.0034 TC3-7.5273 BAU 1.2711 SGT 7425.6 SGR 184.3 S63 1203.4 ST 88.7 SR 8.6 S8 69.9
 RDE .1065 RRA -.0333 RC3 -.0518 FAU .15686 RRT .0485 RRF .0966 RTF .9706 CRT .4210 CRS -.6465 CST -.9636
 FDE 2.1373 FRA 6.5887 FC-10.7519 BSP 12638 SGB 7427.9 R23 .0495 R13 .9706 LSA 112.0 MSA 16.5 S8A .8
 BDE .5675 BRA 3.0036 BC3 7.5275 FSP 2178 SG1 7425.6 S62 184.1 THA .07 EL1 88.8 EL2 7.8 ALF 2.36

LAUNCH DATE MAY 9 1971

FLIGHT TIME 270.00

ARRIVAL DATE FEB 3 1972

HELIOCENTRIC CONIC

DISTANCE 624.106

EARTH TO MARS

RL 181.01 LAL .00 LOL 227.74 VL 32.408 GAL -2.75 AZL 91.67 MCA 199.78 SNA 187.87 ECC .20882 INC 1.6660 V1 29.505
RP 229.18 LAP .48 LOP 63.43 VP 21.708 GAP .23 AZP 88.40 TAL 343.39 TAP 179.08 RCA 149.98 APO 225.18 V2 24.424
RC 222.891 GL -18.20 GP -1.21 ZAL 123.17 ZAP 90.23 ETS 179.19 ZAE 86.62 ETE 180.39 ZAC 101.13 ETC 272.11 LVI -0.87

PLANETOCENTRIC CONIC

C3 12.078 VML 3.589 DLA -16.99 RAL 399.12 RAD 0639.8 VEL 11.530 PTM 6.58 VMP 3.399 DPA -24.21 RAP 296.03 ECC 1.2119
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
30.00 17 13 42 2691.45 -16.82 74.84 211.37 138.19 17 58 33 1691.9 1.42 58.76
60.00 18 12 50 2534.19 -12.49 64.69 219.39 128.63 18 55 4 1534.2 3.83 46.62
70.00 19 27 37 2314.36 -8.37 49.89 216.42 123.23 20 6 11 1314.4 5.38 30.34
80.00 20 57 24 2033.32 -5.18 30.51 220.39 119.45 21 31 17 1033.3 7.16 9.89
90.00 22 28 36 1739.13 -3.93 9.57 221.07 118.03 22 57 35 739.1 7.82 348.70
100.00 23 40 16 1507.79 -5.18 381.68 220.36 119.45 24 5 24 507.8 7.18 331.36
110.00 0 30 59 1361.18 -8.37 338.81 218.42 123.23 0 53 40 361.2 5.98 319.26

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .5953 TRA 3.1149 TC3-7.5298 BAU 1.2963 867 7959.8 86R 196.5 863 1176.7 87 91.7 8R 9.1 88 89.9
RDE .1130 RRA -.0421 RC3 -.0465 FAU .19262 RRT -.0091 RRF .0371 RTF .0702 CRT .4188 CR8 -.6388 CBT -.9650
PDE 2.1360 PRA 6.5455 PC-10.2603 B8P 12898 868 7962.4 R23 -.0499 R13 -.0702 L8A 114.4 M8A 16.6 88A .8
BDE .6059 BRA 3.1152 BC3 7.5298 F8P 2138 861 7959.8 86E 196.5 THA 179.99 EL1 91.8 EL2 8.3 ALP 2.38

LAUNCH DATE MAY 9 1971

FLIGHT TIME 272.00

ARRIVAL DATE FEB 8 1972

HELIOCENTRIC CONIC

DISTANCE 628.185

EARTH TO MARS

RL 191.01 LAL .00 LOL 227.74 VL 32.418 GAL -2.84 AZL 91.68 MCA 196.77 SNA 187.73 ECC .20185 INC 1.6782 V1 29.505
RP 225.57 LAP .48 LOP 64.50 VP 21.674 GAP .08 AZP 88.39 TAL 342.91 TAP 179.08 RCA 149.89 APO 225.57 V2 24.382
RC 225.217 GL -18.17 GP -1.13 ZAL 123.77 ZAP 49.39 ETS 178.24 ZAE 87.54 ETE 180.37 ZAC 101.21 ETC 272.17 LVI -0.04

PLANETOCENTRIC CONIC

C3 13.131 VML 3.624 DLA -16.71 RAL 399.68 RAD 0639.8 VEL 11.541 PTM 6.59 VMP 3.429 DPA -24.09 RAP 296.27 ECC 1.2161
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
30.00 17 14 46 2701.48 -17.30 78.30 212.15 138.04 17 59 47 1701.4 .92 89.18
60.00 18 13 32 2548.19 -12.96 65.24 216.38 126.90 18 55 57 1548.2 3.04 47.13
70.00 19 27 8 2326.74 -8.63 50.56 218.19 123.13 20 6 37 1326.7 5.11 30.99
80.00 20 57 8 2047.24 -5.65 31.28 221.14 119.37 21 31 18 1047.2 6.72 10.77
90.00 22 28 5 1753.83 -4.40 10.40 221.82 117.96 22 57 19 753.8 7.38 348.84
100.00 23 40 0 1521.71 -5.65 389.68 221.14 119.37 24 5 28 521.7 6.72 332.14
110.00 0 31 12 1375.86 -8.63 339.47 219.19 123.13 0 54 6 375.8 9.11 319.81

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .6380 TRA 3.2277 TC3-7.5298 BAU 1.3217 867 7982.4 86R 209.3 863 1180.4 87 94.7 8R 9.8 88 89.8
RDE .1199 RRA -.0804 RC3 -.0486 FAU .14847 RRT -.0528 RRF -.0083 RTF .0899 CRT .4188 CR8 -.6338 CBT -.9684
PDE 2.1739 PRA 6.9002 PC3-9.7888 B8P 13148 868 7983.3 R23 -.0430 R13 -.0899 L8A 116.8 M8A 16.7 88A .8
BDE .6462 BRA 3.2281 BC3 7.5298 F8P 2090 861 7982.4 86E 209.0 THA 179.82 EL1 94.8 EL2 8.7 ALP 2.42

LAUNCH DATE MAY 9 1971

FLIGHT TIME 274.00

ARRIVAL DATE FEB 7 1972

HELIOCENTRIC CONIC

DISTANCE 632.287

EARTH TO MARS

RL 191.01 LAL .00 LOL 227.74 VL 32.424 GAL -2.93 AZL 91.69 MCA 187.83 SNA 187.88 ECC .20280 INC 1.6887 V1 29.505
RP 225.96 LAP .82 LOP 68.88 VP 21.641 GAP -.07 AZP 88.39 TAL 342.44 TAP 180.87 RCA 149.83 APO 225.96 V2 24.340
RC 227.883 GL -18.12 GP -1.08 ZAL 124.37 ZAP 48.89 ETS 178.28 ZAE 86.47 ETE 180.38 ZAC 101.27 ETC 272.23 LVI -9.20

PLANETOCENTRIC CONIC

C3 13.391 VML 3.699 DLA -16.42 RAL 399.23 RAD 0639.7 VEL 11.582 PTM 6.60 VMP 3.480 DPA -23.97 RAP 296.83 ECC 1.2204
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
30.00 17 19 45 2711.75 -17.00 78.78 212.91 134.89 18 0 57 1711.7 .40 89.61
60.00 18 14 7 2596.84 -13.44 69.81 216.93 128.38 18 56 44 1596.8 2.33 47.69
70.00 19 27 57 2339.81 -9.31 51.24 219.96 123.01 20 8 9 1339.8 4.62 31.67
80.00 20 56 44 2061.89 -6.13 32.08 221.89 119.28 21 31 6 1061.8 6.24 11.87
90.00 22 27 27 1768.97 -4.88 11.23 222.98 117.89 22 56 56 768.9 6.88 350.40
100.00 23 39 38 1536.08 -6.13 353.48 221.89 119.28 24 9 12 536.1 6.24 332.94
110.00 0 31 19 1388.33 -9.31 340.16 219.96 123.01 0 54 25 388.3 4.62 320.98

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .6732 TRA 3.3396 TC3-7.5327 BAU 1.3488 867 7824.3 86R 222.3 863 1124.8 87 97.6 8R 10.8 88 88.7
RDE .1269 RRA -.0884 RC3 -.0386 FAU .14456 RRT -.0922 RRF -.0428 RTF .5.04 CRT .4194 CR8 -.6388 CBT -.9674
PDE 2.1889 PRA 6.4529 PC3-9.3498 B8P 13367 868 7827.4 R23 -.0409 R13 -.0894 L8A 119.2 M8A 16.8 88A .8
BDE .6831 BRA 3.3401 BC3 7.5328 F8P 2047 861 7824.3 86E 221.4 THA 179.86 EL1 97.7 EL2 9.1 ALP 2.47

LAUNCH DATE MAY 9 1971

FLIGHT TIME 276.00

ARRIVAL DATE FEB 8 1972

HELIOCENTRIC CONIC

DISTANCE 636.324

EARTH TO MARS

RL 181.01 LAL .00 LOL 227.74 VL 32.434 GAL -3.02 AZL 91.70 MCA 188.89 SNA 188.88 ECC .20386 INC 1.6986 V1 29.505
RP 226.38 LAP .55 LOP 66.82 VP 21.609 GAP -.22 AZP 88.39 TAL 341.98 TAP 180.83 RCA 149.76 APO 226.38 V2 24.299
RC 230.548 GL -18.06 GP -.98 ZAL 124.87 ZAP 47.80 ETS 178.33 ZAE 85.43 ETE 180.33 ZAC 101.32 ETC 272.30 LVI -9.36

PLANETOCENTRIC CONIC

C3 13.689 VML 3.696 DLA -16.12 RAL 399.77 RAD 0639.9 VEL 11.584 PTM 6.61 VMP 3.490 DPA -23.96 RAP 296.81 ECC 1.2248
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
30.00 17 16 40 2722.30 -18.30 78.27 213.68 134.72 19 2 2 1722.3 -1.13 60.05
60.00 18 14 38 2588.16 -13.93 66.40 217.70 128.21 18 57 26 1588.2 2.03 48.25
70.00 19 27 58 2382.59 -9.79 51.94 220.72 122.88 20 7 10 1382.6 4.13 32.35
80.00 20 56 15 2078.28 -6.82 32.90 222.65 119.18 21 30 51 1078.3 5.75 12.39
90.00 22 26 42 1784.44 -5.37 12.12 223.33 117.81 22 56 27 784.4 6.39 381.27
100.00 23 39 7 1580.73 -6.82 354.26 222.65 119.18 24 4 57 580.7 5.75 333.75
110.00 0 31 20 1399.41 -9.79 340.86 220.72 122.88 0 54 39 399.4 4.13 321.27

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .7188 TRA 3.4587 TC3-7.5198 BAU 1.3731 867 7952.9 86R 238.3 863 1099.3 87 100.8 8R 10.5 88 89.7
RDE .1341 RRA -.0860 RC3 -.0376 FAU .14039 RRT -.1114 RRF -.0691 RTF .9689 CRT .4192 CR8 -.6288 CBT -.9667
PDE 2.2068 PRA 6.4074 PC3-8.8985 B8P 13635 868 7956.0 R23 -.0392 R13 -.0889 L8A 121.8 M8A 17.0 88A .8
BDE .7293 BRA 3.4573 BC3 7.5198 F8P 2009 861 7952.8 86E 233.8 THA 179.81 EL1 101.9 EL2 9.5 ALP 2.83

LAUNCH DATE MAY 9 1971

FLIGHT TIME 278.00

ARRIVAL DATE FEB 11 1972

HELIOCENTRIC CONIC										DISTANCE 640.385										EARTH TO MARS																																																																																																																																																																	
RL	151.01	LAL	.00	LOL	227.74	VL	32.443	GAL	-3.12	AZL	91.71	HCA	199.95	SMA	188.22	ECC	.20475	INC	1.7073	V1	28.805	RP	226.74	LAP	.58	LOP	67.68	VP	21.578	GAP	-.37	AZP	88.39	TAL	341.48	TAP	181.43	RCA	149.68	APO	226.76	V2	24.257	RC	233.212	GL	-14.99	GP	-.92	ZAL	125.56	ZAP	47.03	ETS	178.37	ZAE	84.40	ETE	180.31	ZAC	101.37	ETC	272.38	LVI	-9.93																																																																																																																				
PLANETOCENTRIC CONIC																																																																																																																																																																																					
C3	13.933	VHL	3.733	DLA	-15.80	RAL	1.30	RAD	6640.0	VEL	11.576	PTH	6.62	VHP	3.521	DPA	-23.75	RAP	297.12	ECC	1.2203	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																																																																																																						
	50.00		17	17	31		2733.07		-18.82		76.78		214.44		134.54		18	3	4		1733.1		-.67		60.50		60.00		18	15	5		2580.02		-14.43		67.01		218.46		128.05		18	58	5		1580.0		1.51		48.82		70.00		19	27	54		2368.91		-10.28		52.66		221.48		122.75		20	7	20		1365.9		3.62		33.05		80.00		20	55	41		2091.20		-7.11		33.73		223.40		119.07		21	30	32		1091.2		5.26		13.21		90.00		22	25	53		1800.7		-5.87		13.00		224.07		117.71		22	55	53		800.2		5.90		352.18		100.00		23	38	32		1563.87		-7.11		355.10		223.40		119.07		24	4	38		565.7		5.26		334.58		110.00		0	31	17		1412.73		-10.28		341.58		221.48		122.75		0	54	49		412.7		3.62		321.97
DIFFERENTIAL CORRECTIONS										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																																																																																	
TDE	.7804	TRA	3.5746	TC3	-7.5062	BAU	1.3982	SGT	8079.7	SGR	248.3	SG3	1074.4	ST	103.9	SR	11.0	SS	69.6																																																																																																																																																																		
RDE	.1416	RRA	-.0734	RC3	-.0363	FAU	.13633	RRT	-.1306	RRF	-.0890	RTF	.9684	CRT	.4236	CRS	-.6300	CST	-.9698																																																																																																																																																																		
FDE	2.2230	FRA	6.3620	FC3	-8.4712	BSP	13872	SGB	8083.5	R23	-.0379	R13	-.9684	LSA	124.4	MSA	17.1	SSA	1.0																																																																																																																																																																		
BDE	.7735	BRA	3.5754	BC3	7.5062	FSP	1966	SG1	8079.8	SG2	246.2	THA	179.77	EL1	104.0	EL2	10.0	ALF	2.59																																																																																																																																																																		

LAUNCH DATE MAY 9 1971

FLIGHT TIME 280.00

ARRIVAL DATE FEB 13 1972

HELIOCENTRIC CONIC										DISTANCE 644.440										EARTH TO MARS																																																																																																																																																																	
RL	151.01	LAL	.00	LOL	227.74	VL	32.453	GAL	-3.21	AZL	91.72	HCA	201.00	SMA	188.39	ECC	.20585	INC	1.7151	V1	29.505	RP	227.13	LAP	.61	LOP	68.73	VP	21.544	GAP	-.52	AZP	88.40	TAL	341.00	TAP	182.00	RCA	149.61	APO	227.17	V2	24.215	RC	235.874	GL	-14.91	GP	-.87	ZAL	126.16	ZAP	46.29	ETS	178.40	ZAE	83.40	ETE	180.30	ZAC	101.40	ETC	272.45	LVI	-9.69																																																																																																																				
PLANETOCENTRIC CONIC																																																																																																																																																																																					
C3	14.215	VHL	3.770	DLA	-15.49	RAL	1.83	RAD	6640.1	VEL	11.588	PTH	6.63	VHP	3.552	DPA	-23.65	RAP	297.45	ECC	1.2339	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																																																																																																						
	50.00		17	18	20		2744.02		-19.34		77.29		215.21		134.36		18	4	4		1744.0		-1.22		60.96		60.00		18	15	28		2592.07		-14.93		67.63		219.23		127.88		18	58	40		1592.1		.98		49.39		70.00		19	27	47		2379.45		-10.78		53.39		222.24		122.60		20	7	27		1379.4		3.10		33.76		80.00		20	55	3		2106.34		-7.61		34.57		224.15		118.96		21	30	9		1106.3		4.75		14.05		90.00		22	25	1		1816.12		-6.38		13.90		224.82		117.61		22	55	17		816.1		5.39		353.06		100.00		23	37	55		1580.81		-7.61		355.94		224.15		118.96		24	4	15		580.8		4.75		335.42		110.00		0	31	10		1426.26		-10.78		342.31		222.24		122.60		0	54	56		426.3		3.10		322.68
DIFFERENTIAL CORRECTIONS										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																																																																																	
TDE	.8048	TRA	3.6936	TC3	-7.4913	BAU	1.4237	SGT	8205.5	SGR	261.3	SG3	1050.0	ST	107.0	SR	11.5	SS	69.5																																																																																																																																																																		
RDE	.1492	RRA	-.0805	RC3	-.0355	FAU	.13247	RRT	-.1449	RRF	-.1040	RTF	.9678	CRT	.4288	CRS	-.6310	CST	-.9709																																																																																																																																																																		
FDE	2.2362	FRA	6.3139	FC3	-8.0674	BSP	14118	SGB	8209.7	R23	-.0368	R13	-.9678	LSA	126.9	MSA	17.2	SSA	1.0																																																																																																																																																																		
BDE	.8185	BRA	3.6945	BC3	7.4914	FSP	1928	SG1	8205.6	SG2	258.5	THA	179.74	EL1	107.1	EL2	10.4	ALF	2.66																																																																																																																																																																		

LAUNCH DATE MAY 10 1971

FLIGHT TIME 98.00

ARRIVAL DATE AUG 16 1971

HELIOCENTRIC CONIC DISTANCE 289.886 EARTH TO MARS
 RL 191.05 LAL .00 LOL 226.70 VL 38.440 GAL -2.10 AZL 91.85 MCA 91.90 BMA 264.74 ECC .43083 INC 1.8903 V1 29.498
 RP 207.27 LAP -1.85 LOP 320.60 VP 27.916 GAP 22.41 AZP 89.94 TAL 352.75 TAP 84.68 RCA 150.68 APO 376.80 V2 26.426
 RC 96.368 GL -10.83 GP .08 ZAL 106.24 ZAP 176.88 ETS 179.08 ZAE 174.61 ETE 68.86 ZAC 100.15 ETC 277.65 LVI -17.92

PLANETOCENTRIC CONIC
 C3 36.188 VML 6.260 DLA -19.36 RAL 341.12 RAD 6880.4 VEL 12.612 PTH 7.47 VHP 11.242 DPA -17.31 RAP 320.50 ECC 1.6449
 LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZNTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 80.00 16 7 59 2906.79 -26.95 69.59 207.54 130.82 16 56 28 1908.8 -9.47 67.92
 90.00 17 10 29 2742.89 -21.08 75.65 212.50 125.20 17 56 12 1742.6 -8.63 66.60
 70.00 18 29 31 2510.26 -15.47 60.62 216.39 120.83 19 11 21 1510.3 -1.89 40.59
 80.00 20 3 58 2214.79 -11.13 40.70 218.90 117.89 20 40 50 1214.6 1.09 20.02
 90.00 21 37 28 1913.08 -9.40 19.42 219.81 116.80 22 9 21 913.1 2.29 358.50
 100.00 22 46 47 1689.26 -11.13 2.07 219.90 117.89 23 14 57 689.3 1.09 341.98
 110.00 23 28 57 1557.08 -15.47 348.84 216.39 120.83 23 54 55 557.1 -1.89 329.91

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.4401 TRA -.9770 TC3 .0011 BAU .0375 8GT 1029.9 8GR 884.9 863 102.8 8T 24.7 8R 26.8 8S 13.4
 RDE -.5811 RRA .2333 RC3 .0717 FAU .03294 RRT -.0002 RRF .0006 RTF -.6304 CRT .7374 CR8 .4788 C8T .0419
 PDE .1766 PRA .7666 FC3 -.7277 B8P 1470 8GB 1184.4 R23 -.0003 R13 .6304 L8A 35.8 M8A 18.7 88A 1.1
 BDE .7289 BRA 1.0045 BC3 .0717 F8P 123 8G1 1029.9 8G2 884.9 THA 179.99 EL1 34.0 EL2 13.1 ALP 48.25

LAUNCH DATE MAY 10 1971

FLIGHT TIME 100.00

ARRIVAL DATE AUG 18 1971

HELIOCENTRIC CONIC DISTANCE 291.349 EARTH TO MARS
 RL 191.05 LAL .00 LOL 226.70 VL 38.238 GAL -2.09 AZL 91.85 MCA 93.16 BMA 257.35 ECC .41441 INC 1.8908 V1 29.498
 RP 207.18 LAP -1.85 LOP 321.87 VP 27.667 GAP 21.89 AZP 89.90 TAL 352.85 TAP 86.01 RCA 150.70 APO 364.00 V2 26.438
 RC 96.568 GL -10.83 GP .08 ZAL 106.21 ZAP 175.99 ETS 179.26 ZAE 174.26 ETE 68.26 ZAC 100.10 ETC 277.73 LVI -18.02

PLANETOCENTRIC CONIC
 C3 36.624 VML 6.052 DLA -19.68 RAL 341.23 RAD 6849.8 VEL 12.811 PTH 7.39 VHP 10.877 DPA -17.20 RAP 320.88 ECC 1.6027
 LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZNTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 80.00 16 9 41 2885.66 -25.91 84.35 206.64 131.41 16 57 47 1885.7 -9.32 68.92
 90.00 17 12 37 2718.32 -20.09 74.32 211.67 125.70 17 57 55 1718.3 -4.87 66.43
 70.00 18 32 12 2464.36 -14.86 59.17 215.90 121.24 19 13 36 1464.4 -0.90 39.24
 80.00 20 7 14 2186.93 -10.24 39.11 218.03 118.20 20 43 41 1186.9 2.03 18.49
 90.00 21 41 6 1884.13 -8.81 17.77 218.95 117.07 22 12 30 884.1 3.22 358.68
 100.00 22 50 6 1661.40 -10.24 .48 218.93 118.20 23 17 47 661.4 2.03 339.88
 110.00 23 31 38 1531.18 -14.86 348.09 215.90 121.24 23 57 9 531.2 -0.90 328.15

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.4347 TRA -.9677 TC3 .0127 BAU .0382 8GT 1056.4 8GR 887.4 863 109.9 8T 28.2 8R 26.9 8S 13.9
 RDE -.5638 RRA .2260 RC3 .0770 FAU .03401 RRT .0000 RRF .0001 RTF -.6432 CRT .7359 CR8 .4696 C8T .0396
 PDE .1803 PRA .7963 FC3 -.8040 B8P 1527 8GB 1208.7 R23 .0001 R13 -.6432 L8A 36.0 M8A 16.0 88A 1.1
 BDE .7118 BRA .9937 BC3 .0781 F8P 134 8G1 1056.4 8G2 887.4 THA .00 EL1 34.4 EL2 13.4 ALP 47.49

LAUNCH DATE MAY 10 1971

FLIGHT TIME 102.00

ARRIVAL DATE AUG 20 1971

HELIOCENTRIC CONIC DISTANCE 293.399 EARTH TO MARS
 RL 191.05 LAL .00 LOL 226.70 VL 38.044 GAL -2.01 AZL 91.85 MCA 94.42 BMA 250.79 ECC .39892 INC 1.9512 V1 29.498
 RP 207.09 LAP -1.85 LOP 323.13 VP 27.433 GAP 21.38 AZP 89.86 TAL 352.96 TAP 87.38 RCA 150.72 APO 350.86 V2 26.448
 RC 96.856 GL -11.14 GP .08 ZAL 106.18 ZAP 175.10 ETS 179.39 ZAE 173.83 ETE 63.22 ZAC 100.08 ETC 277.80 LVI -18.13

PLANETOCENTRIC CONIC
 C3 34.283 VML 5.855 DLA -19.98 RAL 341.32 RAD 6848.6 VEL 12.417 PTH 7.32 VHP 10.928 DPA -17.08 RAP 321.25 ECC 1.5642
 LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZNTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 80.00 16 11 21 2862.64 -24.97 83.16 205.76 131.96 16 59 3 1862.6 -7.17 65.94
 90.00 17 14 44 2694.09 -19.12 73.00 210.79 126.18 17 59 38 1694.1 -3.31 64.27
 70.00 18 34 34 2450.39 -13.64 57.72 214.62 121.62 19 15 53 1450.4 .09 37.88
 80.00 20 10 36 2156.85 -9.33 37.53 217.17 118.49 20 46 35 1156.8 2.98 16.94
 90.00 21 44 51 1854.89 -7.60 16.10 218.10 117.32 22 15 45 854.9 4.16 358.24
 100.00 22 53 29 1633.32 -9.33 358.89 217.17 118.49 23 20 42 633.3 2.98 338.31
 110.00 23 34 21 1505.20 -13.64 346.64 214.62 121.62 23 59 26 505.2 .09 326.80

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.4288 TRA -.9579 TC3 .0284 BAU .0396 8GT 1082.2 8GR 889.5 863 117.7 8T 25.8 8R 27.0 8S 14.4
 RDE -.5467 RRA .2189 RC3 .0628 FAU .03510 RRT -.0001 RRF -.0001 RTF -.6446 CRT .7359 CR8 .4591 C8T .0366
 PDE .1631 PRA .8278 FC3 -.8885 B8P 1586 8GB 1232.3 R23 .0002 R13 .6446 L8A 36.4 M8A 16.4 88A 1.1
 BDE .6946 BRA .9826 BC3 .0865 F8P 146 8G1 1082.2 8G2 889.5 THA 180.00 EL1 34.7 EL2 13.6 ALP 46.79

LAUNCH DATE MAY 10 1971

FLIGHT TIME 104.00

ARRIVAL DATE AUG 22 1971

HELIOCENTRIC CONIC DISTANCE 295.670 EARTH TO MARS
 RL 191.05 LAL .00 LOL 226.70 VL 34.863 GAL -1.92 AZL 91.85 MCA 95.69 BMA 244.94 ECC .38450 INC 1.9516 V1 29.498
 RP 207.01 LAP -1.84 LOP 324.40 VP 27.210 GAP 20.87 AZP 89.82 TAL 353.08 TAP 88.77 RCA 150.74 APO 339.14 V2 26.457
 RC 97.228 GL -11.48 GP .08 ZAL 106.07 ZAP 174.20 ETS 179.47 ZAE 173.38 ETE 66.74 ZAC 100.09 ETC 277.88 LVI -18.23

PLANETOCENTRIC CONIC
 C3 32.143 VML 5.669 DLA -20.26 RAL 341.39 RAD 6847.8 VEL 12.331 PTH 7.26 VHP 10.188 DPA -16.97 RAP 321.61 ECC 1.5280
 LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZNTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 80.00 16 12 59 2839.77 -23.82 81.98 204.90 132.49 17 0 19 1839.8 -6.03 64.97
 90.00 17 16 51 2669.94 -18.15 71.70 209.92 126.62 18 1 21 1669.9 -2.45 53.11
 70.00 18 37 39 2432.39 -12.71 56.28 213.77 121.97 19 18 11 1432.4 1.08 36.82
 80.00 20 14 5 2130.88 -8.41 35.93 216.33 118.75 20 49 36 1130.6 3.93 15.39
 90.00 21 48 42 1825.37 -6.67 14.43 217.27 117.55 22 19 8 825.4 5.10 353.58
 100.00 22 56 57 1605.06 -8.41 357.30 216.33 118.75 23 23 42 605.1 3.93 336.75
 110.00 23 37 5 1479.21 -12.71 349.20 213.77 121.97 24 1 45 479.2 1.08 325.44

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.4229 TRA -.9487 TC3 .0410 BAU .0419 8GT 1108.7 8GR 891.1 863 126.1 8T 26.3 8R 27.0 8S 14.9
 RDE -.5303 RRA .2120 RC3 .0884 FAU .0441 RRT .0005 RRF -.0006 RTF -.6670 CRT .7321 CR8 .4496 C8T .0339
 PDE .1864 PRA .8607 FC3 -.9806 B8P 1629 8GB 1256.5 R23 -.0004 R13 -.6670 L8A 36.9 M8A 16.7 88A 1.1
 BDE .6783 BRA .9721 BC3 .0975 F8P 159 8G1 1108.7 8G2 891.1 THA .02 EL1 35.1 EL2 13.6 ALP 46.05

LAUNCH DATE MAY 10 1971

FLIGHT TIME 106.00

ARRIVAL DATE AUG 24 1971

Heliocentric Conic: RL 151.05 LAL .00 LOL 228.70 VL 34.693 GAL -1.83 AZL 91.85 HCA 96.95 SMA 239.70 ECC .37104 INC 1.8521 V1 29.498
 RP 206.94 LAP -1.84 LOP 325.66 VP 27.000 GAP 20.38 AZP 89.78 TAL 353.22 TAP 90.18 RCA 150.76 APO 328.64 V2 26.466
 RC 57.675 GL -11.77 GP .05 ZAL 105.96 ZAP 173.28 ETS 179.54 ZAE 172.85 ETE 42.48 ZAC 99.96 ETC 277.95 LVI -10.32

Distance 298.135 Earth to Mars

Planeto-centric Conic: C3 30.183 VHL 5.494 DLA -20.59 RAL 341.43 RAD 6647.1 VEL 12.252 PTH 7.20 VHP 9.858 DPA -16.85 RAP 321.95 ECC 1.4967
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 14 36 2817.07 -22.78 80.84 204.07 132.97 17 1 33 1817.1 -4.89 64.02
 60.00 17 18 57 2645.91 -17.16 70.43 209.08 127.04 18 3 3 1645.9 -1.39 51.96
 70.00 18 40 26 2406.40 -11.77 54.86 212.93 122.30 19 20 32 1406.4 2.08 35.17
 80.00 20 17 38 2102.16 -7.47 34.34 215.51 118.99 20 52 41 1102.2 4.89 13.82
 90.00 21 52 41 1795.58 -5.73 12.74 216.46 117.74 22 22 37 795.6 6.04 351.90
 100.00 23 0 30 1576.1 -7.47 355.71 215.51 118.99 23 26 47 576.6 4.89 335.18
 110.00 23 39 52 1453.22 -11.77 343.78 212.93 122.30 24 4 5 453.2 2.08 324.09

Differential Corrections: TDE -.4233 TRA -.9392 TC3 .0588 BAU .0449 SGT 1137.4 SGR 592.3 SG3 135.1 ST 27.1 SR 27.0 SS 15.3
 RDE -.5144 RRA .2053 RC3 .0944 FAU .03772 RRT .0064 RRF -.0016 RTF -.6786 CRT .7349 CR8 .4396 CST .9286
 FDE .1896 FRA .8950 FC3 -1.0819 BSP 1870 SGB 1282.4 R23 .0044 R13 -.6786 LSA 37.6 MSA 17.0 SSA 1.2
 BDE .6662 BRA .9613 BC3 .1113 FSP 173 SGI 1137.4 SG2 592.3 THA .26 EL1 35.6 EL2 13.9 ALF 44.94

LAUNCH DATE MAY 10 1971

FLIGHT TIME 106.00

ARRIVAL DATE AUG 26 1971

Heliocentric Conic: RL 151.05 LAL .00 LOL 228.70 VL 34.532 GAL -1.75 AZL 91.85 HCA 98.22 SMA 234.98 ECC .35833 INC 1.8526 V1 29.498
 RP 206.87 LAP -1.83 LOP 326.93 VP 26.800 GAP 19.89 AZP 89.74 TAL 353.38 TAP 91.60 RCA 150.78 APO 319.18 V2 26.473
 RC 58.203 GL -12.09 GP .05 ZAL 105.84 ZAP 172.36 ETS 179.59 ZAE 172.35 ETE 38.41 ZAC 99.91 ETC 278.02 LVI -18.42

Distance 300.769 Earth to Mars

Planeto-centric Conic: C3 28.389 VHL 5.328 DLA -20.92 RAL 341.45 RAD 6646.4 VEL 12.179 PTH 7.14 VHP 9.542 DPA -16.75 RAP 322.29 ECC 1.4672
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 16 11 2794.60 -21.73 79.73 203.26 133.43 17 2 45 1794.6 -3.76 63.07
 60.00 17 21 4 2622.04 -16.18 69.18 208.26 127.43 18 4 46 1622.0 -1.34 50.82
 70.00 18 43 15 2380.45 -10.82 53.45 212.12 122.59 19 22 55 1380.5 3.07 33.81
 80.00 20 21 17 2073.62 -6.53 32.75 214.71 119.20 20 55 51 1073.6 5.84 12.24
 90.00 21 56 47 1765.56 -4.77 11.05 215.67 117.91 22 26 13 765.6 6.99 350.21
 100.00 23 4 9 1548.09 -6.53 354.12 214.71 119.20 23 29 57 548.1 5.84 333.60
 110.00 23 42 41 1427.27 -10.82 342.37 212.12 122.59 24 6 28 427.3 3.07 322.73

Differential Corrections: TDE -.4109 TRA -.9277 TC3 .0743 BAU .0475 SGT 1158.6 SGR 593.1 SG3 144.6 ST 27.3 SR 27.1 SS 15.8
 RDE -.4990 RRA .1987 RC3 .1006 FAU .03908 RRT .0020 RRF -.0012 RTF -.6884 CRT .7286 CR8 .4249 CST .9260
 FDE .1908 FRA .9303 FC3 -1.1919 BSP 1745 SGB 1301.6 R23 .0006 R13 -.6884 LSA 37.7 MSA 17.4 SSA 1.2
 BDE .6465 BRA .9488 BC3 .1251 FSP 188 SGI 1158.6 SG2 593.1 THA .08 EL1 35.7 EL2 14.2 ALF 44.65

LAUNCH DATE MAY 10 1971

FLIGHT TIME 110.00

ARRIVAL DATE AUG 28 1971

Heliocentric Conic: RL 151.05 LAL .00 LOL 228.70 VL 34.381 GAL -1.66 AZL 91.85 HCA 99.49 SMA 230.72 ECC .34639 INC 1.8530 V1 29.498
 RP 206.82 LAP -1.83 LOP 328.20 VP 26.611 GAP 19.41 AZP 89.69 TAL 353.54 TAP 93.03 RCA 150.80 APO 310.64 V2 26.479
 RC 58.807 GL -12.41 GP .06 ZAL 105.88 ZAP 171.41 ETS 179.64 ZAE 171.86 ETE 35.04 ZAC 99.87 ETC 278.08 LVI -18.51

Distance 303.551 Earth to Mars

Planeto-centric Conic: C3 26.744 VHL 5.171 DLA -21.27 RAL 341.46 RAD 6645.7 VEL 12.112 PTH 7.09 VHP 9.237 DPA -16.64 RAP 322.61 ECC 1.4401
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 17 44 2772.39 -20.69 78.65 202.48 133.85 17 3 37 1772.4 -2.65 62.14
 60.00 17 23 11 2598.35 -15.20 67.95 207.46 127.79 18 6 29 1598.4 .71 49.69
 70.00 18 46 6 2354.59 -9.87 52.05 211.33 122.86 19 25 21 1354.6 4.05 32.46
 80.00 20 25 2 2044.97 -5.57 31.16 213.94 119.38 20 59 7 1045.0 6.80 10.64
 90.00 22 1 2 1735.31 -3.81 9.36 214.91 118.04 22 29 57 735.3 7.94 348.49
 100.00 23 7 54 1519.44 -5.57 352.53 213.94 119.38 23 33 13 519.4 6.80 332.01
 110.00 23 45 32 1401.41 -9.87 340.97 211.33 122.86 24 8 54 401.4 4.05 321.37

Differential Corrections: TDE -.4042 TRA -.9178 TC3 .0937 BAU .0809 SGT 1183.5 SGR 593.5 SG3 154.9 ST 27.7 SR 27.0 SS 16.3
 RDE -.4842 RRA .1923 RC3 .1070 FAU .04056 RRT .0022 RRF -.0020 RTF -.6.87 CRT .7260 CR8 .4153 CB1 .9226
 FDE .1930 FRA .9672 FC3 -1.3131 BSP 1797 SGB 1323.9 R23 .0001 R13 -.6987 LSA 38.1 MSA 17.7 SSA 1.2
 BDE .6307 BRA .9377 BC3 .1422 FSP 204 SGI 1183.5 SG2 593.5 THA .08 EL1 36.0 EL2 14.3 ALF 43.99

LAUNCH DATE MAY 10 1971

FLIGHT TIME 112.00

ARRIVAL DATE AUG 30 1971

Heliocentric Conic: RL 151.05 LAL .00 LOL 228.70 VL 34.238 GAL -1.58 AZL 91.85 HCA 100.76 SMA 226.86 ECC .33518 INC 1.8535 V1 29.498
 RP 206.77 LAP -1.82 LOP 329.47 VP 26.432 GAP 18.94 AZP 89.85 TAL 353.72 TAP 94.47 RCA 150.82 APO 302.89 V2 26.485
 RC 59.485 GL -12.73 GP .06 ZAL 105.31 ZAP 170.46 ETS 179.67 ZAE 171.41 ETE 32.21 ZAC 99.82 ETC 278.15 LVI -18.59

Distance 306.466 Earth to Mars

Planeto-centric Conic: C3 25.234 VHL 5.023 DLA -21.82 RAL 341.44 RAD 6645.1 VEL 12.050 PTH 7.04 VHP 8.942 DPA -16.54 RAP 322.92 ECC 1.4193
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 19 16 2750.42 -19.65 77.60 201.72 134.25 17 5 7 1750.4 -1.55 61.22
 60.00 17 23 17 2574.85 -14.21 66.75 206.68 128.12 18 8 12 1574.9 1.74 48.57
 70.00 18 48 59 2328.79 -8.91 50.66 210.56 123.11 19 27 48 1328.8 5.03 31.10
 80.00 20 28 52 2016.19 -4.61 29.57 213.19 119.53 21 2 29 1016.2 7.75 9.04
 90.00 22 5 25 1704.78 -2.83 7.65 214.17 118.15 22 33 50 704.8 8.88 346.74
 100.00 23 11 44 1490.66 -4.61 350.93 213.19 119.53 23 36 35 490.7 7.75 330.40
 110.00 23 48 26 1375.60 -8.91 339.58 210.56 123.11 24 11 21 375.6 5.03 320.02

Differential Corrections: TDE -.3884 TRA -.8984 TC3 .1287 BAU .0579 SGT 1195.0 SGR 593.4 SG3 165.7 ST 27.6 SR 27.0 SS 16.8
 RDE -.4697 RRA .1860 RC3 .1135 FAU .04204 RRT .0007 RRF -.0022 RTF -.7195 CRT .7191 CR8 .4011 CB1 .9216
 FDE .1955 FRA 1.0077 FC3 -1.4424 BSP 1733 SGB 1334.2 R23 -.0015 R13 -.7195 LSA 38.1 MSA 18.0 SSA 1.2
 BDE .6095 BRA .9175 BC3 .1716 FSP 223 SGI 1195.0 SG2 593.4 THA .03 EL1 35.8 EL2 14.5 ALF 44.08

LAUNCH DATE MAY 10 1971

FLIGHT TIME 114.00

ARRIVAL DATE SEP 1 1971

MELIOCENTRIC CONIC DISTANCE 309.488 EARTH TO MARS
RL 151.09 LAL .00 LOL 229.70 VL 34.104 GAL -1.49 AZL 91.89 MCA 102.02 BMA 223.38 ECC .32488 INC 1.8940 V1 29.488
RP 206.74 LAP -1.01 LOP 330.73 VP 26.262 GAP 16.46 AZP 89.61 TAL 353.90 TAP 95.92 RCA 150.84 APO 295.66 V2 26.489
RC 80.233 GL -13.05 GP .06 ZAL 109.32 ZAP 189.49 ETS 179.71 ZAE 171.00 ETE 29.82 ZAC 99.78 ETC 278.21 LVI -18.67

PLANETOCENTRIC CONIC
C3 23.851 VNL 4.884 DLA -21.99 RAL 341.40 RAD 8644.5 VEL 11.993 PTH 6.99 VHP 8.899 DPA -16.45 RAP 323.21 ECC 1.3929
LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZNTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
90.00 16 20 47 2729.82 -18.82 76.58 209.99 134.61 17 8 16 1728.8 -.46 60.32
90.00 17 27 24 2881.87 -13.24 85.57 203.94 126.42 18 9 35 1551.7 2.76 47.44
90.00 18 51 55 2303.20 -7.96 49.30 209.82 123.32 19 30 18 1303.2 6.00 29.75
90.00 20 32 49 1987.44 -3.64 27.98 212.47 119.85 21 5 56 987.4 8.89 7.42
90.00 22 9 57 1674.13 -1.84 5.94 213.47 118.22 22 37 51 674.1 9.82 344.98
100.00 23 15 40 1461.91 -3.64 349.35 212.47 119.65 23 40 2 461.9 8.89 328.79
110.00 23 51 21 1350.02 -7.96 338.22 209.82 123.32 24 13 51 350.0 8.00 318.67

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3855 TRA -.8922 TC3 .1448 BAW .0800 SGT 1224.3 86R 993.0 863 177.4 ST 28.3 SR 27.0 SR 17.3
RDE -.4558 RRA .1800 RC3 .1201 FAW .04378 RRT .0019 RRF -.0027 RTP -.7238 CRT .7181 CRB .3858 CBT .0196
PDE .1959 FRA 1.0471 FC3-1.5890 BAP 1840 SGB 1360.4 R23 -.0009 R13 .7235 LBA 38.5 MBA 14.4 SBA 1.3
BDE .5970 BRA .9102 BC3 .1881 FBP 240 SGI 1224.3 86Z 993.0 THA .07 EL1 36.2 EL2 14.6 ALP 43.13

LAUNCH DATE MAY 10 1971

FLIGHT TIME 116.00

ARRIVAL DATE SEP 3 1971

MELIOCENTRIC CONIC DISTANCE 312.638 EARTH TO MARS
RL 151.09 LAL .00 LOL 229.70 VL 33.977 GAL -1.41 AZL 91.85 MCA 103.29 BMA 220.16 ECC .31478 INC 1.8944 V1 29.488
RP 206.71 LAP -1.80 LOP 332.00 VP 26.101 GAP 16.02 AZP 89.57 TAL 354.10 TAP 97.38 RCA 150.86 APO 289.46 V2 26.492
RC 81.050 GL -13.37 GP .06 ZAL 109.12 ZAP 188.90 ETS 179.73 ZAE 170.83 ETE 27.79 ZAC 99.75 ETC 278.26 LVI -18.78

PLANETOCENTRIC CONIC
C3 22.581 VNL 4.752 DLA -22.36 RAL 341.35 RAD 8644.0 VEL 11.940 PTH 6.94 VHP 8.583 DPA -16.35 RAP 323.49 ECC 1.3718
LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZNTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
90.00 16 22 18 2707.57 -17.80 75.59 209.28 134.99 17 7 24 1707.6 .81 59.44
90.00 17 29 30 2826.78 -12.86 84.41 205.21 128.70 18 11 30 1928.8 3.77 46.96
90.00 18 54 53 2277.79 -7.00 47.95 209.10 123.61 19 32 50 1277.8 6.86 28.41
90.00 20 36 51 1988.64 -2.87 26.39 211.78 119.78 21 9 30 959.6 8.83 8.80
90.00 22 14 38 1643.27 -.88 4.21 212.79 118.27 22 42 1 643.3 10.76 343.20
100.00 23 19 43 1433.11 -2.67 347.78 211.78 119.79 23 43 36 433.1 9.63 327.17
110.00 23 54 19 1324.61 -7.00 336.87 209.10 123.61 24 16 24 324.6 8.86 317.33

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3886 TRA -.8938 TC3 .1648 BAW .0628 SGT 1250.1 86R 992.1 863 189.8 ST 26.7 SR 26.9 SR 17.7
RDE -.4424 RRA .1741 RC3 .1268 FAW .04560 RRT .0029 RRF -.0031 RTP -.7288 CRT .7163 CRB .3882 CBT .0096
PDE .1959 FRA 1.0885 FC3-1.7482 BAP 1918 SGB 1383.3 R23 -.0005 R13 -.7289 LBA 38.9 MBA 14.7 SBA 1.2
BDE .5937 BRA .9008 BC3 .2073 FBP 290 SGI 1250.1 86Z 992.1 THA .10 EL1 36.8 EL2 18.8 ALP 42.35

LAUNCH DATE MAY 10 1971

FLIGHT TIME 118.00

ARRIVAL DATE SEP 5 1971

MELIOCENTRIC CONIC DISTANCE 315.866 EARTH TO MARS
RL 151.09 LAL .00 LOL 229.70 VL 33.888 GAL -1.33 AZL 91.85 MCA 104.98 BMA 217.84 ECC .30550 INC 1.8948 V1 29.488
RP 206.69 LAP -1.80 LOP 333.27 VP 25.948 GAP 17.58 AZP 89.53 TAL 354.30 TAP 98.88 RCA 150.87 APO 283.61 V2 26.495
RC 81.933 GL -13.70 GP .06 ZAL 104.90 ZAP 187.49 ETS 179.76 ZAE 170.32 ETE 26.88 ZAC 99.71 ETC 278.32 LVI -18.88

PLANETOCENTRIC CONIC
C3 21.414 VNL 4.626 DLA -22.73 RAL 341.29 RAD 8643.6 VEL 11.892 PTH 6.90 VHP 8.118 DPA -16.27 RAP 323.79 ECC 1.3524
LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZNTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
90.00 16 23 44 2686.89 -18.99 74.62 199.60 138.26 17 8 31 1686.7 1.86 60.96
90.00 17 31 36 2806.20 -11.30 83.28 204.52 128.99 18 13 22 1908.2 4.76 48.28
90.00 18 57 53 2252.58 -6.08 46.61 208.42 123.66 19 35 25 1252.8 7.80 27.07
90.00 20 41 0 1929.82 -1.70 24.81 211.12 119.81 21 13 10 929.8 10.59 4.16
90.00 22 19 29 1612.20 .15 2.48 212.14 118.28 22 46 21 612.2 11.89 341.40
100.00 23 23 52 1404.30 -1.70 348.18 211.12 119.81 23 47 16 404.3 10.58 328.93
110.00 0 1 15 1299.39 -6.03 335.53 208.42 123.66 24 22 54 299.4 7.90 315.98

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3752 TRA -.8743 TC3 .1887 BAW .0898 SGT 1273.9 86R 990.9 863 203.1 ST 29.1 SR 28.8 SR 18.2
RDE -.4294 RRA .1884 RC3 .1338 FAW .04749 RRT .0038 RRF -.0037 RTP -.7384 CRT .7141 CRB .3934 CBT .0036
PDE .1962 FRA 1.1326 FC3-1.9198 BAP 1978 SGB 1404.3 R23 -.0001 R13 -.7384 LBA 39.2 MBA 19.0 SBA 1.3
BDE .5782 BRA .8904 BC3 .2286 FBP 280 SGI 1273.9 86Z 990.9 THA .13 EL1 36.7 EL2 14.9 ALP 41.66

LAUNCH DATE MAY 10 1971

FLIGHT TIME 120.00

ARRIVAL DATE SEP 7 1971

MELIOCENTRIC CONIC DISTANCE 319.181 EARTH TO MARS
RL 151.09 LAL .00 LOL 229.70 VL 33.748 GAL -1.26 AZL 91.86 MCA 106.88 BMA 214.87 ECC .29679 INC 1.8984 V1 29.488
RP 206.68 LAP -1.79 LOP 334.54 VP 25.802 GAP 17.14 AZP 89.49 TAL 354.81 TAP 100.34 RCA 150.89 APO 278.25 V2 26.498
RC 82.879 GL -14.02 GP .07 ZAL 104.66 ZAP 186.47 ETS 179.78 ZAE 170.06 ETE 24.88 ZAC 99.68 ETC 278.37 LVI -18.88

PLANETOCENTRIC CONIC
C3 20.342 VNL 4.510 DLA -23.11 RAL 341.21 RAD 8643.0 VEL 11.847 PTH 6.86 VHP 7.882 DPA -16.19 RAP 323.99 ECC 1.3340
LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZNTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
90.00 16 25 11 2666.21 -18.60 73.89 198.94 135.94 17 9 37 1666.2 2.69 57.71
90.00 17 33 42 2483.97 -10.35 82.18 203.85 129.17 18 15 6 1484.0 5.73 44.81
90.00 19 0 55 2227.60 -5.11 45.30 207.76 123.82 19 38 2 1227.6 8.83 28.74
90.00 20 45 18 1901.00 -.72 23.23 210.48 119.85 21 16 57 901.0 11.47 2.82
90.00 22 24 30 1580.82 1.16 .73 211.53 118.28 22 50 51 580.9 12.62 330.96
100.00 23 28 9 1375.48 -.72 344.80 210.48 119.85 23 51 3 375.9 11.47 323.89
110.00 0 4 17 1274.42 -5.11 334.22 207.76 123.82 24 3 3 274.4 8.83 314.66

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3888 TRA -.8840 TC3 .2092 BAW .0888 SGT 1295.8 86R 989.2 863 217.3 ST 29.5 SR 29.7 SR 18.7
RDE -.4168 RRA .1829 RC3 .1405 FAW .04994 RRT .0046 RRF -.0041 RTP -.7418 CRT .7113 CRB .3986 CBT .8974
PDE .1983 FRA 1.1783 FC3-2.1098 BAP 2031 SGB 1423.5 R23 .0001 R13 -.7418 LBA 39.4 MBA 19.4 SBA 1.3
BDE .5566 BRA .8792 BC3 .2519 FBP 304 SGI 1295.8 86Z 989.2 THA .18 EL1 36.8 EL2 18.0 ALP 41.88

LAUNCH DATE MAY 10 1971 FLIGHT TIME 122.00 ARRIVAL DATE SEP 9 1971

HELIOCENTRIC CONIC DISTANCE 322.573 EARTH TO MARS
 RL 151.05 LAL .00 LOL 226.70 VL 33.640 GAL -1.18 AZL 91.86 HCA 107.10 SMA 212.12 ECC .26860 INC 1.8559 V1 29.498
 RP 206.67 LAP -1.77 LOP 335.81 VP 25.664 GAP 16.71 AZP 89.45 TAL 354.72 TAP 101.82 RCA 150.90 APO 273.34 V2 26.496
 RC 63.888 GL -14.33 GP .07 ZAL 104.41 ZAP 185.42 ETS 179.80 ZAE 169.87 ETE 23.31 ZAC 99.65 ETC 278.41 LVI -18.94

PLANETOCENTRIC CONIC
 C3 19.356 VHL 4.400 DLA -23.49 RAL 341.12 RAD 6642.5 VEL 11.806 PTH 6.83 VHP 7.614 DPA -16.11 RAP 324.21 ECC 1.3186
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 26 36 2646.16 -14.62 72.79 198.31 135.80 17 10 42 1646.2 3.69 56.87
 60.00 17 35 48 2462.12 -9.41 61.10 203.20 129.37 18 16 50 1462.1 6.68 43.15
 70.00 19 3 59 2202.90 -4.17 44.00 207.12 123.93 19 40 42 1202.9 9.75 24.41
 80.00 20 49 39 1872.20 .25 21.65 209.88 119.86 21 20 51 872.2 12.38 .86
 90.00 22 29 43 1549.40 2.18 358.98 210.95 118.20 22 55 33 549.4 13.53 337.70
 100.00 23 32 30 1340.00 .25 343.02 209.88 119.86 23 54 57 346.7 12.38 322.23
 110.00 0 7 21 1249.71 -4.17 332.92 207.12 123.93 0 28 11 249.7 9.75 313.33

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3618 TRA -.8532 TC3 .2346 BAU .0717 SGT 1316.2 SGR 587.2 SG3 232.5 ST 29.8 SR 26.6 S8 19.2
 RDE -.4048 RRA .1576 RC3 .1473 FAU .05170 RRT .0051 RRF -.0045 RTF -.7482 CRT .7083 CRS .3174 CST .8909
 FDE .1942 FRA 1.2268 FC3-2.3125 BSP 2076 SGB 1441.3 R23 .0003 R13 -.7482 LSA 39.6 MSA 19.7 SSA 1.3
 BDE .5429 BRA .8677 BC3 .2770 FSP 328 SG1 1316.2 SG2 587.2 THA .16 EL1 36.9 EL2 15.1 ALF 40.45

LAUNCH DATE MAY 10 1971 FLIGHT TIME 124.00 ARRIVAL DATE SEP 11 1971

HELIOCENTRIC CONIC DISTANCE 326.033 EARTH TO MARS
 RL 151.05 LAL .00 LOL 226.70 VL 33.540 GAL -1.11 AZL 91.86 HCA 108.37 SMA 209.88 ECC .28092 INC 1.8564 V1 29.498
 RP 206.68 LAP -1.76 LOP 337.08 VP 25.532 GAP 16.29 AZP 89.41 TAL 354.94 TAP 103.31 RCA 150.92 APO 268.83 V2 26.496
 RC 64.956 GL -14.65 GP .07 ZAL 104.16 ZAP 164.36 ETS 179.81 ZAE 169.74 ETE 22.21 ZAC 99.62 ETC 278.45 LVI -19.00

PLANETOCENTRIC CONIC
 C3 18.450 VHL 4.295 DLA -23.87 RAL 341.01 RAD 6642.1 VEL 11.767 PTH 6.79 VHP 7.375 DPA -16.04 RAP 324.41 ECC 1.3036
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 28 0 2626.56 -13.66 71.91 197.70 136.03 17 11 47 1626.6 4.67 56.04
 60.00 17 37 54 2440.68 -8.48 60.05 202.59 129.55 18 18 34 1440.7 7.62 42.11
 70.00 19 7 5 2178.49 -3.24 42.72 206.52 124.02 19 43 23 1178.5 10.65 23.09
 80.00 20 54 8 1843.42 1.23 20.07 209.31 119.83 21 24 52 843.4 13.28 359.19
 90.00 22 35 9 1517.63 3.20 357.20 210.40 118.11 23 0 27 517.6 14.44 335.81
 100.00 23 37 0 1317.89 1.23 341.44 209.31 119.83 23 58 58 317.9 13.28 320.56
 110.00 0 10 27 1225.31 -3.24 331.64 206.52 124.02 0 30 52 225.3 10.65 312.01

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3548 TRA -.8415 TC3 .2617 BAU .0749 SGT 1334.6 SGR 584.8 SG3 248.7 ST 30.0 SR 26.4 S8 19.7
 RDE -.3931 RRA .1523 RC3 .1541 FAU .05406 RRT .0063 RRF -.0053 RTF -.7543 CRT .7054 CRS .2985 CST .8837
 FDE .1924 FRA 1.2767 FC3-2.5366 BSP 2125 SGB 1457.1 R23 .0006 R13 -.7543 LSA 39.8 MSA 20.0 SSA 1.3
 BDE .5295 BRA .8552 BC3 .3037 FSP 354 SG1 1334.7 SG2 584.8 THA .19 EL1 37.0 EL2 15.2 ALF 39.92

LAUNCH DATE MAY 10 1971 FLIGHT TIME 126.00 ARRIVAL DATE SEP 13 1971

HELIOCENTRIC CONIC DISTANCE 329.556 EARTH TO MARS
 RL 151.05 LAL .00 LOL 226.70 VL 33.446 GAL -1.04 AZL 91.86 HCA 109.64 SMA 207.81 ECC .27370 INC 1.8569 V1 29.498
 RP 206.70 LAP -1.73 LOP 336.35 VP 25.407 GAP 15.88 AZP 89.38 TAL 355.16 TAP 104.80 RCA 150.93 APO 264.69 V2 26.494
 RC 66.082 GL -14.96 GP .07 ZAL 103.89 ZAP 163.27 ETS 179.83 ZAE 169.68 ETE 21.28 ZAC 99.60 ETC 278.49 LVI -19.05

PLANETOCENTRIC CONIC
 C3 17.616 VHL 4.197 DLA -24.25 RAL 340.90 RAD 6641.8 VEL 11.732 PTH 6.76 VHP 7.144 DPA -15.98 RAP 324.59 ECC 1.2899
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 29 23 2607.44 -12.72 71.06 197.12 136.24 17 12 50 1607.4 5.63 55.24
 60.00 17 39 59 2419.68 -7.57 59.03 202.00 129.70 18 20 18 1419.7 8.53 41.09
 70.00 19 10 12 2154.41 -2.33 41.46 205.94 124.08 19 46 7 1154.4 11.53 21.79
 80.00 20 58 46 1814.67 2.20 18.49 208.77 119.78 21 29 0 814.7 14.16 357.52
 90.00 22 40 48 1485.58 4.22 355.40 209.88 117.99 23 5 33 485.6 15.34 333.89
 100.00 23 41 38 1289.14 2.20 339.86 208.77 119.78 24 3 7 289.1 14.16 318.88
 110.00 0 13 35 1201.23 -2.33 330.38 205.94 124.08 0 33 36 201.2 11.53 310.70

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3477 TRA -.8305 TC3 .2871 BAU .0775 SGT 1352.6 SGR 582.0 SG3 265.9 ST 30.2 SR 26.3 S8 20.2
 RDE -.3818 RRA .1473 RC3 .1609 FAU .05680 RRT .0067 RRF -.0062 RTF -.7598 CRT .7020 CRS .2811 CST .8774
 FDE .1914 FRA 1.3301 FC3-2.7769 BSP 2166 SGB 1472.3 R23 .0000 R13 -.7598 LSA 39.8 MSA 20.4 SSA 1.3
 BDE .5164 BRA .8435 BC3 .3291 FSP 382 SG1 1352.6 SG2 582.0 THA .20 EL1 37.0 EL2 15.3 ALF 39.39

LAUNCH DATE MAY 10 1971 FLIGHT TIME 128.00 ARRIVAL DATE SEP 15 1971

HELIOCENTRIC CONIC DISTANCE 333.136 EARTH TO MARS
 RL 151.05 LAL .00 LOL 226.70 VL 33.398 GAL -.97 AZL 91.86 HCA 110.91 SMA 205.91 ECC .26693 INC 1.8574 V1 29.498
 RP 206.72 LAP -1.74 LOP 339.82 VP 25.288 GAP 15.48 AZP 89.34 TAL 355.39 TAP 106.30 RCA 150.94 APO 260.87 V2 26.491
 RC 67.265 GL -15.27 GP .08 ZAL 103.62 ZAP 162.16 ETS 179.84 ZAE 169.69 ETE 20.49 ZAC 99.58 ETC 278.52 LVI -19.09

PLANETOCENTRIC CONIC
 C3 16.849 VHL 4.105 DLA -24.84 RAL 340.78 RAD 6641.4 VEL 11.700 PTH 6.73 VHP 6.921 DPA -15.93 RAP 324.74 ECC 1.2773
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 30 44 2588.82 -11.81 70.25 196.57 136.43 17 13 53 1588.8 6.56 54.45
 60.00 17 42 3 2399.15 -6.67 58.03 201.44 129.84 18 22 3 1399.1 9.42 40.08
 70.00 19 13 22 2130.69 -1.42 40.22 205.40 124.13 19 48 53 1130.7 12.39 20.49
 80.00 21 3 31 1785.98 3.17 16.91 208.26 119.70 21 33 17 786.0 15.03 355.83
 90.00 22 46 41 1453.20 5.26 353.58 209.40 117.83 23 10 54 453.2 16.23 331.93
 100.00 23 46 23 1260.44 3.17 338.28 208.26 119.70 24 7 23 260.4 15.03 317.20
 110.00 0 16 44 1177.51 -1.42 329.14 205.40 124.13 0 36 22 177.5 12.39 309.41

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3401 TRA -.8186 TC3 .3116 BAU .0797 SGT 1367.9 SGR 578.8 SG3 283.9 ST 30.3 SR 26.1 S8 20.8
 RDE -.3709 RRA .1427 RC3 .1676 FAU .05903 RRT .0070 RRF -.0060 RTF -.7646 CRT .6985 CRS .2587 CST .8686
 FDE .1874 FRA 1.3863 FC3-3.0329 BSP 2199 SGB 1485.3 R23 .0005 R13 -.7646 LSA 40.0 MSA 20.7 SSA 1.4
 BDE .5033 BRA .8310 BC3 .3538 FSP 412 SG1 1367.9 SG2 578.8 THA .21 EL1 37.0 EL2 15.3 ALF 38.92

LAUNCH DATE MAY 10 1971

FLIGHT TIME 130.00

ARRIVAL DATE SEP 17 1971

HELIOCENTRIC CONIC

DISTANCE 336.768

EARTH TO MARS

RL 131.03 LAL .00 LOL 229.70 VL 33.274 GAL -.91 AZL 91.86 MCA 112.18 SMA 204.18 ECC .26057 INC 1.8979 V1 29.490
RP 206.73 LAP -1.72 LOP 340.89 VP 25.174 GAP 15.09 AZP 89.30 TAL 385.82 TAP 107.79 RCA 150.96 APO 257.35 V2 26.487
RC 69.302 GL -15.37 GP .08 ZAL 103.38 ZAP 161.03 ETS 179.85 ZAE 169.77 ETE 19.84 ZAC 99.56 ETC 278.59 LVI -19.13

PLANETOCENTRIC CONIC

C3 16.143 VHL 4.018 DLA -25.01 RAL 340.85 RAD 8641.1 VEL 11.670 PTH 6.71 VHP 6.706 DPA -15.88 RAP 324.87 ECC 1.2697
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 16 32 5 2370.72 -10.91 69.46 198.04 136.80 17 14 56 1570.7 7.47 83.88
60.00 17 44 8 2379.10 -5.60 57.08 200.90 129.95 18 23 47 1379.1 10.28 39.09
70.00 19 16 33 2107.36 -.53 39.01 204.88 124.15 19 51 40 1107.4 13.25 19.20
80.00 21 8 24 1757.32 4.14 15.33 207.78 119.60 21 37 41 757.3 15.88 334.13
90.00 22 52 51 1420.42 6.29 381.74 208.98 117.63 23 16 32 420.4 17.11 329.93
100.00 23 51 16 1231.79 4.14 336.70 207.78 119.60 24 11 47 231.8 18.88 315.49
110.00 0 19 35 1184.18 -.83 327.92 204.88 124.15 0 39 10 154.2 13.23 308.12

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3331 TRA -.8065 TC3 .3389 BAU .0818 SGT 1381.9 SGR 573.3 SCS 303.4 ST 30.4 SR 25.9 SS 21.3
RDE -.3904 RRA .1381 RC3 .1741 FAU .08179 RRT .0078 RRF -.0067 RTF -.7682 CRY .6984 CR8 .2392 CBT .8607
PDE .1848 FRA 1.4458 FCS-3.3137 B8P 2231 SGB 1498.9 R23 .0008 R13 -.7682 LBA 40.1 M8A 21.1 S8A 1.4
BDE .4908 BRA .8183 BC3 .3792 F8P 448 SGI 1381.9 S62 576.3 THA .22 EL1 36.8 EL2 18.4 ALP 36.44

LAUNCH DATE MAY 10 1971

FLIGHT TIME 132.00

ARRIVAL DATE SEP 19 1971

HELIOCENTRIC CONIC

DISTANCE 340.448

EARTH TO MARS

RL 131.03 LAL .00 LOL 229.70 VL 33.198 GAL -.84 AZL 91.86 MCA 113.44 SMA 202.53 ECC .25480 INC 1.8584 V1 29.498
RP 206.79 LAP -1.71 LOP 342.16 VP 25.088 GAP 14.70 AZP 89.28 TAL 355.84 TAP 109.28 RCA 130.97 APO 234.10 V2 26.483
RC 69.791 GL -15.87 GP .08 ZAL 103.07 ZAP 159.87 ETS 179.86 ZAE 169.92 ETE 19.31 ZAC 99.55 ETC 278.57 LVI -19.16

PLANETOCENTRIC CONIC

C3 15.494 VHL 3.936 DLA -25.39 RAL 340.52 RAD 8640.6 VEL 11.642 PTH 6.68 VHP 6.498 DPA -15.84 RAP 324.98 ECC 1.2590
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 16 33 24 2353.15 -10.04 68.70 195.53 136.78 17 15 57 1553.2 6.34 52.93
60.00 17 46 11 2359.57 -4.94 56.12 200.40 130.05 18 25 31 1359.6 11.12 38.12
70.00 19 19 45 2084.45 .35 37.81 204.40 124.15 19 54 30 1084.5 14.05 17.93
80.00 21 13 25 1726.72 5.10 13.75 207.34 119.48 21 42 14 728.7 16.71 382.41
90.00 22 59 20 1387.19 7.34 349.85 208.56 117.39 23 22 27 387.2 17.87 327.87
100.00 0 0 13 1203.19 5.10 338.12 207.34 119.48 0 20 16 203.2 18.71 313.78
110.00 0 23 8 1131.27 .38 328.73 204.40 124.15 0 41 59 131.3 14.05 308.68

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3282 TRA -.7940 TC3 .3627 BAU .0839 SGT 1394.2 SGR 571.4 SCS 324.2 ST 30.5 SR 25.7 SS 21.9
RDE -.3503 RRA .1336 RC3 .1808 FAU .08478 RRT .0091 RRF -.0078 RTF -.7730 CRY .6928 CR8 .2194 CBT .8622
PDE .1812 FRA 1.8062 FCS-3.6196 B8P 2260 SGB 1508.7 R23 .0008 R13 -.7730 LBA 40.1 M8A 21.4 S8A 1.4
BDE .4767 BRA .8052 BC3 .4051 F8P 479 SGI 1394.2 S62 571.4 THA .26 EL1 36.8 EL2 18.4 ALP 37.88

LAUNCH DATE MAY 10 1971

FLIGHT TIME 134.00

ARRIVAL DATE SEP 21 1971

HELIOCENTRIC CONIC

DISTANCE 344.171

EARTH TO MARS

RL 131.03 LAL .00 LOL 229.70 VL 33.123 GAL -.78 AZL 91.86 MCA 114.71 SMA 201.04 ECC .24901 INC 1.8589 V1 29.498
RP 206.84 LAP -1.69 LOP 343.43 VP 24.982 GAP 14.33 AZP 89.22 TAL 356.06 TAP 110.78 RCA 130.98 APO 231.10 V2 26.477
RC 71.130 GL -16.16 GP .09 ZAL 102.80 ZAP 158.88 ETS 179.87 ZAE 170.14 ETE 18.90 ZAC 99.54 ETC 278.58 LVI -19.18

PLANETOCENTRIC CONIC

C3 14.896 VHL 3.859 DLA -25.76 RAL 340.38 RAD 8640.3 VEL 11.617 PTH 6.66 VHP 6.297 DPA -15.81 RAP 325.08 ECC 1.2481
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 16 34 42 2336.15 -9.20 67.98 195.06 136.89 17 16 58 1536.2 9.19 52.21
60.00 17 48 14 2342.58 -4.11 55.21 199.92 130.13 18 27 14 1340.6 11.93 37.18
70.00 19 22 59 2082.00 1.21 36.84 203.94 124.14 19 57 21 1082.0 14.84 16.88
80.00 21 18 39 1700.16 6.05 12.17 206.94 119.29 21 46 59 700.2 17.53 380.69
90.00 23 6 9 1353.26 6.40 347.92 208.20 117.10 23 28 42 353.3 18.83 325.78
100.00 0 5 23 1174.63 6.05 .333.54 206.94 119.29 0 24 58 174.6 17.93 312.85
110.00 0 26 21 1108.61 1.21 325.56 203.94 124.14 0 44 30 108.8 14.84 303.60

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3179 TRA -.7816 TC3 .3872 BAU .0856 SGT 1404.3 SGR 567.2 SCS 346.4 ST 30.5 SR 25.5 SS 22.4
RDE -.3404 RRA .1293 RC3 .1867 FAU .06792 RRT .0067 RRF -.0076 RTF -.7767 CRY .6880 CR8 .1940 CBT .86419
PDE .1744 FRA 1.5727 FCS-3.9478 B8P 2293 SGB 1514.5 R23 .0005 R13 -.7767 LBA 40.1 M8A 21.8 S8A 1.4
BDE .4658 BRA .7923 BC3 .4299 F8P 517 SGI 1404.3 S62 567.1 THA .24 EL1 36.6 EL2 15.4 ALP 37.82

LAUNCH DATE MAY 10 1971

FLIGHT TIME 136.00

ARRIVAL DATE SEP 23 1971

HELIOCENTRIC CONIC

DISTANCE 347.953

EARTH TO MARS

RL 131.03 LAL .00 LOL 229.70 VL 33.054 GAL -.73 AZL 91.86 MCA 115.98 SMA 199.63 ECC .24377 INC 1.8599 V1 29.498
RP 206.90 LAP -1.67 LOP 344.89 VP 24.883 GAP 13.96 AZP 89.19 TAL 356.29 TAP 112.26 RCA 130.98 APO 248.32 V2 26.470
RC 72.517 GL -16.45 GP .09 ZAL 102.53 ZAP 157.47 ETS 179.87 ZAE 170.44 ETE 18.82 ZAC 99.53 ETC 278.60 LVI -19.20

PLANETOCENTRIC CONIC

C3 14.345 VHL 3.787 DLA -26.12 RAL 340.25 RAD 8640.2 VEL 11.593 PTH 6.64 VHP 6.103 DPA -15.79 RAP 325.11 ECC 1.2361
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 16 35 59 2319.72 -8.38 67.26 194.61 137.01 17 17 58 1519.7 10.00 51.90
60.00 17 50 15 2322.16 -3.30 54.32 199.46 130.19 18 28 58 1322.2 12.71 36.25
70.00 19 26 13 2040.01 2.04 35.49 203.51 124.10 20 0 13 1040.0 15.61 15.44
80.00 21 23 54 1671.84 7.00 10.58 206.56 119.10 21 51 46 671.6 18.33 348.94
90.00 23 13 23 1318.57 9.47 345.94 207.89 116.77 23 35 22 318.6 19.68 323.57
100.00 0 10 42 1146.12 7.00 331.95 206.56 119.10 0 29 48 146.1 18.33 310.31
110.00 0 29 35 1086.83 2.04 324.41 203.51 124.10 0 47 42 88.8 15.61 304.36

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3104 TRA -.7382 TC3 .4077 BAU .0885 SGT 1411.0 SGR 562.6 SCS 349.7 ST 30.5 SR 25.2 SS 23.0
RDE -.3310 RRA .1232 RC3 .1927 FAU .07123 RRT .0090 RRF -.0080 RTF -.7790 CRY .6847 CR8 .1708 CBT .8315
PDE .1681 FRA 1.6412 FCS-4.2986 B8P 2301 SGB 1519.0 R23 .0003 R13 -.7790 LBA 40.0 M8A 22.2 S8A 1.4
BDE .4537 BRA .7763 BC3 .4510 F8P 555 SGI 1411.0 S62 562.5 THA .24 EL1 36.5 EL2 15.4 ALP 37.26

LAUNCH DATE MAY 10 1971 FLIGHT TIME 136.00 ARRIVAL DATE SEP 25 1971

Table for Flight Time 136.00. Sections include: HELIOCENTRIC CONIC (RL, RP, RC), PLANETOCENTRIC CONIC (C3, LNCH AZMTH), DIFFERENTIAL CORRECTIONS (TDE, RDE, FDE, BDE), MID-COURSE EXECUTION ACCURACY (SGT, RRT, SGB, SG1), and ORBIT DETERMINATION ACCURACY (ST, CRT, LSA, EL1, EL2).

LAUNCH DATE MAY 10 1971 FLIGHT TIME 140.00 ARRIVAL DATE SEP 27 1971

Table for Flight Time 140.00. Sections include: HELIOCENTRIC CONIC, PLANETOCENTRIC CONIC, DIFFERENTIAL CORRECTIONS, MID-COURSE EXECUTION ACCURACY, and ORBIT DETERMINATION ACCURACY.

LAUNCH DATE MAY 10 1971 FLIGHT TIME 142.00 ARRIVAL DATE SEP 29 1971

Table for Flight Time 142.00. Sections include: HELIOCENTRIC CONIC, PLANETOCENTRIC CONIC, DIFFERENTIAL CORRECTIONS, MID-COURSE EXECUTION ACCURACY, and ORBIT DETERMINATION ACCURACY.

LAUNCH DATE MAY 10 1971 FLIGHT TIME 144.00 ARRIVAL DATE OCT 1 1971

Table for Flight Time 144.00. Sections include: HELIOCENTRIC CONIC, PLANETOCENTRIC CONIC, DIFFERENTIAL CORRECTIONS, MID-COURSE EXECUTION ACCURACY, and ORBIT DETERMINATION ACCURACY.

LAUNCH DATE MAY 10 1971

FLIGHT TIME 146.00

ARRIVAL DATE OCT 3 1971

HELIOCENTRIC CONIC

DISTANCE 367.241

EARTH TO MARS

RL 181.08 LAL .00 LOL 229.70 VL 32.787 GAL -.49 AZL 91.86 MCA 122.30 BMA 194.14 ECC .22214 INC 1.8624 V1 29.498
RP 207.31 LAP -1.57 LOP 381.02 VP 24.428 GAP 12.24 AZP 89.00 TAL 357.31 TAP 119.60 RCA 151.02 APO 237.27 V2 26.422
RC 80.098 GL -17.76 GP .11 ZAL 101.26 ZAP 180.95 ETS 179.89 ZAE 173.05 ETE 19.82 ZAC 99.98 ETC 278.56 LVI -19.17

PLANETOCENTRIC CONIC

C3 12.182 VML 3.490 DLA -27.79 RAL 339.60 RAD 6639.1 VEL 11.800 PTH 6.55 VMP 9.234 DPA -19.84 RAP 324.91 ECC 1.2009
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 16 42 5 2446.76 -4.74 64.17 192.74 137.40 17 22 52 1446.8 13.60 48.30
60.00 18 0 4 2239.31 .35 50.36 197.62 130.30 18 37 24 1239.3 16.19 32.01
70.00 19 42 23 1938.44 5.90 30.16 201.81 123.70 20 14 41 938.4 19.06 9.56
80.00 21 53 13 1528.81 11.63 2.51 205.25 117.69 22 18 42 528.8 22.03 339.98
90.00 0 5 32 1114.78 15.44 333.96 207.14 113.99 0 24 7 114.8 24.01 310.21
100.00 0 40 1 1003.29 11.63 323.88 205.25 117.69 0 56 44 3.3 22.03 301.33
110.00 0 45 45 6275.29 5.90 296.99 201.81 123.70 2 30 19 5273.3 19.06 276.40

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2782 TRA -.0939 TC3 .4728 BAW .0848 SGT 1405.5 SCR 534.6 S63 509.2 ST 29.9 SR 23.8 SB 26.3
RDE -.2800 RRA .1068 RC3 .2180 FAW .09100 RRT .0146 RRF -.0125 RTF -.7797 CRT .6770 CRB .0631 CBT .7734
FDE .1312 FRA 2.0384 FC3-6.4670 B8P 2325 SGB 1503.8 R23 .0008 R13 -.7797 LBA 39.7 M8A 24.0 S8A 1.8
BDE .4004 BRA .7021 BC3 .5206 F8P 796 S61 1405.5 S62 534.6 TMA .37 EL1 35.2 EL2 14.9 ALF 35.84

LAUNCH DATE MAY 10 1971

FLIGHT TIME 148.00

ARRIVAL DATE OCT 5 1971

HELIOCENTRIC CONIC

DISTANCE 371.184

EARTH TO MARS

RL 151.05 LAL .00 LOL 229.70 VL 32.720 GAL -.45 AZL 91.86 MCA 123.58 BMA 193.27 ECC .21862 INC 1.8631 V1 29.498
RP 207.42 LAP -1.55 LOP 352.20 VP 24.352 GAP 11.92 AZP 88.97 TAL 357.48 TAP 121.04 RCA 151.02 APO 235.53 V2 26.409
RC 81.730 GL -18.00 GP .11 ZAL 101.04 ZAP 149.54 ETS 179.89 ZAE 173.79 ETE 20.95 ZAC 99.61 ETC 278.53 LVI -19.14

PLANETOCENTRIC CONIC

C3 11.848 VML 3.442 DLA -28.09 RAL 339.49 RAD 6639.0 VEL 11.486 PTH 6.53 VMP 9.079 DPA -15.88 RAP 324.78 ECC 1.1980
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 18 43 15 2434.09 -4.10 63.64 192.44 137.44 17 23 49 1434.1 14.22 47.74
60.00 18 1 57 2224.73 .99 49.87 197.33 130.20 18 39 1 1224.7 16.79 31.24
70.00 19 45 34 1920.02 6.60 29.19 201.58 123.59 20 17 34 920.0 19.66 6.49
80.00 21 59 45 1499.87 12.84 .85 205.10 117.32 22 24 45 499.9 22.71 338.08
90.00 0 22 31 1032.10 17.14 330.14 207.32 112.88 0 40 3 92.1 25.08 305.92
100.00 0 46 33 6262.38 12.84 300.12 205.10 117.32 2 30 55 5262.4 22.71 277.36
110.00 0 48 56 6254.88 6.60 296.02 201.58 123.59 2 33 11 5254.9 19.66 275.32

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2739 TRA -.0811 TC3 .4638 BAW .0814 SGT 1400.5 SCR 528.1 S63 542.1 ST 29.9 SR 23.8 SB 27.2
RDE -.2801 RRA .1038 RC3 .2220 FAW .09338 RRT .0142 RRF -.0128 RTF -.7759 CRT .6772 CRB .0478 CBT .7832
FDE .1282 FRA 2.1407 FC3-6.9677 B8P 2291 SGB 1496.7 R23 .0001 R13 -.7759 LBA 39.8 M8A 24.4 S8A 1.8
BDE .3918 BRA .6889 BC3 .5140 F8P 848 S61 1400.5 S62 528.0 TMA .36 EL1 35.0 EL2 14.7 ALF 36.18

LAUNCH DATE MAY 10 1971

FLIGHT TIME 150.00

ARRIVAL DATE OCT 7 1971

HELIOCENTRIC CONIC

DISTANCE 375.149

EARTH TO MARS

RL 181.08 LAL .00 LOL 229.70 VL 32.878 GAL -.42 AZL 91.86 MCA 124.82 BMA 192.47 ECC .21533 INC 1.8637 V1 29.498
RP 207.84 LAP -1.53 LOP 353.84 VP 24.278 GAP 11.81 AZP 88.94 TAL 357.85 TAP 122.47 RCA 151.02 APO 233.91 V2 26.389
RC 83.399 GL -18.23 GP .12 ZAL 100.84 ZAP 148.11 ETS 179.89 ZAE 174.58 ETE 22.71 ZAC 99.84 ETC 278.48 LVI -19.10

PLANETOCENTRIC CONIC

C3 11.540 VML 3.397 DLA -28.38 RAL 339.39 RAD 6638.8 VEL 11.473 PTH 6.52 VMP 4.930 DPA -15.93 RAP 324.88 ECC 1.1899
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 18 44 23 2422.08 -3.50 63.13 192.18 137.48 17 24 45 1422.1 14.81 47.20
60.00 18 3 47 2210.87 1.60 49.01 197.07 130.27 18 40 38 1210.9 17.36 30.81
70.00 19 48 42 1902.31 7.27 28.25 201.33 123.46 20 20 24 902.3 20.23 7.44
80.00 22 6 35 1470.56 13.45 359.15 204.99 116.91 22 31 5 470.6 23.38 336.16
87.57 0 30 20 1019.85 19.69 328.86 207.87 110.85 0 47 20 19.8 26.53 303.91
100.00 0 33 22 6233.07 13.45 298.42 204.99 116.91 2 37 16 5233.1 23.38 275.44
110.00 0 52 4 6237.17 7.27 295.08 201.33 123.46 2 38 1 5237.2 20.23 274.26

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2676 TRA -.6627 TC3 .4583 BAW .0788 SGT 1383.7 SCR 521.3 S63 576.5 ST 29.5 SR 23.2 SB 27.9
RDE -.2725 RRA .1003 RC3 .2256 FAW .10029 RRT .0152 RRF -.0135 RTF -.7716 CRT .6778 CRB .0244 CBT .7479
FDE .1138 FRA 2.2383 FC3-7.5206 B8P 2289 SGB 1478.6 R23 .0001 R13 -.7716 LBA 39.6 M8A 24.8 S8A 1.8
BDE .3819 BRA .6703 BC3 .5108 F8P 914 S61 1383.7 S62 521.2 TMA .38 EL1 34.6 EL2 14.5 ALF 35.04

LAUNCH DATE MAY 10 1971

FLIGHT TIME 152.00

ARRIVAL DATE OCT 9 1971

HELIOCENTRIC CONIC

DISTANCE 379.136

EARTH TO MARS

RL 151.05 LAL .00 LOL 229.70 VL 32.838 GAL -.38 AZL 91.86 MCA 126.08 BMA 191.72 ECC .21226 INC 1.8644 V1 29.498
RP 207.66 LAP -1.31 LOP 354.80 VP 24.207 GAP 11.30 AZP 88.90 TAL 357.81 TAP 123.89 RCA 151.03 APO 232.42 V2 26.381
RC 85.104 GL -18.45 GP .12 ZAL 100.65 ZAP 146.63 ETS 179.89 ZAE 175.44 ETE 25.50 ZAC 99.66 ETC 278.45 LVI -19.08

PLANETOCENTRIC CONIC

C3 11.257 VML 3.358 DLA -28.65 RAL 339.31 RAD 6638.7 VEL 11.460 PTH 6.51 VMP 4.787 DPA -16.00 RAP 324.37 ECC 1.1853
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 18 48 30 2410.73 -2.83 62.66 191.94 137.51 17 25 41 1410.7 15.36 46.89
60.00 18 5 35 2197.73 2.18 48.38 196.84 130.25 18 42 12 1197.7 17.90 29.82
70.00 19 51 47 1885.36 7.90 27.35 201.13 123.34 20 23 13 885.4 20.77 6.42
80.00 22 13 46 1440.72 14.38 357.40 204.92 116.46 22 37 47 440.7 24.03 334.18
85.23 0 10 37 1077.36 20.00 333.20 207.51 110.95 0 28 35 77.4 26.87 308.19
100.00 1 0 34 6203.23 14.38 296.68 204.92 116.46 2 43 57 5203.2 24.03 273.46
110.00 0 85 10 6220.22 7.90 294.18 201.13 123.34 2 38 50 5220.2 20.77 273.24

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2643 TRA -.6457 TC3 .4545 BAW .0768 SGT 1389.4 SCR 514.2 S63 614.5 ST 29.4 SR 22.8 SB 28.7
RDE -.2691 RRA .0972 RC3 .2288 FAW .10577 RRT .0192 RRF -.0186 RTF -.7673 CRT .6819 CRB .0121 CBT .7359
FDE .1093 FRA 2.3412 FC3-8.1342 B8P 2253 SGB 1462.7 R23 .0005 R13 -.7673 LBA 39.7 M8A 25.1 S8A 1.8
BDE .3744 BRA .6529 BC3 .5088 F8P 977 S61 1389.4 S62 514.1 TMA .48 EL1 34.4 EL2 14.3 ALF 34.70

LAUNCH DATE MAY 10 1971

FLIGHT TIME 154.00

ARRIVAL DATE OCT 11 1971

HELIOCENTRIC CONIC

DISTANCE 383.141

EARTH TO MARS

RL 151.05 LAL .00 LOL 228.70 VL 32.597 GAL -.35 AZL 91.07 HCA 127.33 SMA 191.03 ECC .20940 INC 1.8651 V1 29.498
 RP 207.80 LAP -1.48 LOP 356.05 VP 24.138 GAP 11.00 AZP 88.87 TAL 357.96 TAP 125.29 RCA 151.03 APO 231.04 V2 26.365
 RC 86.843 GL -18.86 GP .13 ZAL 100.47 ZAP 145.12 ETS 179.87 ZAE 176.35 ETE 30.18 ZAC 99.72 ETC 278.40 LVI -18.99

PLANETOCENTRIC CONIC

C3 10.998 VHL 3.316 DLA -28.90 RAL 339.23 RAD 8638.6 VEL 11.449 PTH 6.50 VHP 4.650 DPA -16.08 RAP 324.12 ECC 1.1810
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 46 37 2400.06 -2.39 62.21 191.72 137.53 17 26 37 1400.1 15.80 46.21
 60.00 18 7 20 2185.32 2.72 47.78 196.63 130.22 18 43 45 1185.3 18.40 29.16
 70.00 19 54 49 1869.19 8.50 26.49 200.96 123.20 20 25 58 869.2 21.28 5.44
 80.00 22 21 24 1410.03 15.29 355.59 204.89 115.96 22 44 54 410.0 24.67 332.13
 83.78 23 54 31 1110.89 20.29 335.78 207.18 111.04 24 13 2 110.9 27.16 310.72
 100.00 1 8 12 617.00 15.29 294.87 204.89 115.96 2 51 4 5172.5 24.67 271.40
 110.00 0 58 11 6204.05 8.50 293.31 200.96 123.20 2 41 35 5204.0 21.28 272.26

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2595 TRA -.6272 TC3 .4268 BAU .0714 SGT 1346.6 SGR 506.7 SG3 651.6 ST 29.1 SR 22.5 SS 29.6
 RDE -.2579 RRA .0943 RC3 .2315 FAU .11075 RRT .0191 RRF -.0167 RTF -.7584 CRT .6850 CR3 -.0061 CST .7201
 FDE .0989 FRA 2.4515 FC3-8.7185 BSP 2195 SGB 1438.8 R23 .0001 R13 -.7584 LSA 39.7 MSA 25.4 SSA 1.5
 BDE .3659 BRA .6342 BC3 .4856 FSP 1041 SG1 1346.6 SG2 506.6 THA .48 EL1 34.0 EL2 14.0 ALF 34.52

LAUNCH DATE MAY 10 1971

FLIGHT TIME 156.00

ARRIVAL DATE OCT 13 1971

HELIOCENTRIC CONIC

DISTANCE 387.165

EARTH TO MARS

RL 151.05 LAL .00 LOL 228.70 VL 32.561 GAL -.33 AZL 91.87 HCA 128.59 SMA 190.39 ECC .20674 INC 1.8658 V1 29.498
 RP 207.94 LAP -1.46 LOP 357.31 VP 24.072 GAP 10.71 AZP 88.84 TAL 358.09 TAP 126.68 RCA 151.03 APO 229.78 V2 26.349
 RC 86.616 GL -18.86 GP .14 ZAL 100.32 ZAP 143.57 ETS 179.86 ZAE 177.27 ETE 38.86 ZAC 99.77 ETC 278.34 LVI -18.91

PLANETOCENTRIC CONIC

C3 10.759 VHL 3.280 DLA -29.14 RAL 339.17 RAD 8638.4 VEL 11.439 PTH 6.49 VHP 4.510 DPA -16.17 RAP 323.82 ECC 1.1771
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 47 41 2390.04 -1.89 61.79 191.53 137.55 17 27 31 1390.0 16.37 45.75
 60.00 18 9 2 2173.63 3.23 47.22 196.45 130.19 18 45 16 1173.6 18.87 28.53
 70.00 19 57 46 1853.80 9.08 25.67 200.82 123.07 20 28 40 853.8 21.76 4.50
 80.00 22 29 40 1377.93 16.23 353.68 204.92 115.41 22 52 38 377.9 25.31 329.96
 82.66 23 45 17 1135.34 20.56 337.69 206.88 111.12 24 4 13 135.3 27.44 312.57
 100.00 1 16 27 6140.44 16.23 292.95 204.92 115.41 2 58 48 5140.4 25.31 269.23
 110.00 1 1 9 6188.66 9.08 292.49 200.82 123.07 2 44 17 5188.7 21.76 271.33

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2491 TRA -.6043 TC3 .4128 BAU .0682 SGT 1312.8 SGR 499.0 SG3 691.5 ST 28.3 SR 22.1 SS 30.4
 RDE -.2509 RRA .0914 RC3 .2339 FAU .11631 RRT .0172 RRF -.0161 RTF -.7543 CRT .6829 CR3 -.0335 CST .7029
 FDE .0791 FRA 2.5658 FC3-9.3593 BSP 2086 SGB 1404.5 R23 -.0009 R13 -.7543 LSA 39.3 MSA 25.8 SSA 1.5
 BDE .3536 BRA .6112 BC3 .4745 FSP 1105 SG1 1312.8 SG2 499.0 THA .44 EL1 33.2 EL2 13.8 ALF 34.90

LAUNCH DATE MAY 10 1971

FLIGHT TIME 158.00

ARRIVAL DATE OCT 15 1971

HELIOCENTRIC CONIC

DISTANCE 391.204

EARTH TO MARS

RL 151.05 LAL .00 LOL 228.70 VL 32.528 GAL -.30 AZL 91.87 HCA 129.84 SMA 189.81 ECC .20427 INC 1.8665 V1 29.498
 RP 208.08 LAP -1.43 LOP 358.56 VP 24.008 GAP 10.43 AZP 88.80 TAL 358.21 TAP 128.05 RCA 151.03 APO 228.58 V2 26.332
 RC 90.421 GL -19.05 GP .14 ZAL 100.18 ZAP 141.98 ETS 179.86 ZAE 178.11 ETE 57.29 ZAC 99.82 ETC 278.27 LVI -18.83

PLANETOCENTRIC CONIC

C3 10.541 VHL 3.247 DLA -29.36 RAL 339.13 RAD 8638.3 VEL 11.429 PTH 6.48 VHP 4.393 DPA -16.27 RAP 323.49 ECC 1.1735
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 48 45 2380.74 -1.42 61.40 191.37 137.56 17 28 26 1380.7 16.82 45.32
 60.00 18 10 41 2162.76 3.71 46.70 196.30 130.16 18 46 44 1162.8 19.31 27.94
 70.00 20 0 38 1839.35 9.61 24.89 200.70 122.93 20 31 18 839.4 22.20 3.62
 80.00 22 38 46 1343.80 17.22 351.63 205.00 114.78 23 1 10 343.8 25.94 327.62
 81.75 23 37 55 1154.29 20.81 339.20 206.61 111.20 23 57 9 154.3 27.70 314.03
 100.00 1 25 33 6106.31 17.22 290.90 205.00 114.78 3 7 20 5106.3 25.94 268.89
 110.00 1 4 1 6174.21 9.61 291.71 200.70 122.93 2 46 55 5174.2 22.20 270.44

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2518 TRA -.5901 TC3 .3841 BAU .0611 SGT 1296.5 SGR 491.1 SG3 734.2 ST 28.5 SR 21.7 SS 31.4
 RDE -.2441 RRA .0886 RC3 .2358 FAU .12209 RRT .0206 RRF -.0188 RTF -.7574 CRT .6944 CR3 -.0359 CST .6897
 FDE .0808 FRA 2.6956 FC-10.0276 BSP 2101 SGB 1386.4 R23 -.0011 R13 -.7374 LSA 39.9 MSA 26.0 SSA 1.5
 BDE .3506 BRA .5967 BC3 .4338 FSP 1190 SG1 1296.6 SG2 491.0 THA .52 EL1 33.3 EL2 13.4 ALF 34.11

LAUNCH DATE MAY 10 1971

FLIGHT TIME 160.00

ARRIVAL DATE OCT 17 1971

HELIOCENTRIC CONIC

DISTANCE 395.258

EARTH TO MARS

RL 151.05 LAL .00 LOL 228.70 VL 32.497 GAL -.28 AZL 91.87 HCA 131.09 SMA 189.26 ECC .20197 INC 1.8673 V1 29.498
 RP 208.24 LAP -1.41 LOP 359.81 VP 23.946 GAP 10.15 AZP 88.77 TAL 358.31 TAP 129.41 RCA 151.04 APO 227.49 V2 26.313
 RC 92.259 GL -19.23 GP .15 ZAL 100.07 ZAP 140.35 ETS 179.85 ZAE 178.52 ETE 95.80 ZAC 99.88 ETC 278.20 LVI -18.74

PLANETOCENTRIC CONIC

C3 10.341 VHL 3.216 DLA -29.57 RAL 339.10 RAD 8638.2 VEL 11.421 PTH 6.47 VHP 4.272 DPA -16.38 RAP 323.12 ECC 1.1702
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 49 48 2372.10 -.99 61.04 191.23 137.57 17 29 20 1372.1 17.23 44.92
 60.00 18 12 17 2152.64 4.16 46.22 196.17 130.12 18 48 10 1152.6 19.71 27.39
 70.00 20 3 24 1825.77 10.11 24.16 200.60 122.80 20 33 50 825.8 22.61 2.78
 80.00 22 49 23 1305.37 18.30 349.28 205.16 114.01 23 11 9 305.4 26.61 324.96
 80.99 23 31 50 1169.59 21.04 340.43 206.38 111.26 23 51 19 169.6 27.94 315.21
 100.00 1 36 11 6067.88 18.30 288.56 205.16 114.01 3 17 19 5067.9 26.61 264.23
 110.00 1 6 47 6160.63 10.11 290.98 200.60 122.80 2 49 27 5160.6 22.61 269.60

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2461 TRA -.5669 TC3 .3140 BAU .0544 SGT 1257.6 SGR 482.8 SG3 776.6 ST 28.0 SR 21.3 SS 32.2
 RDE -.2374 RRA .0860 RC3 .2372 FAU .12805 RRT .0193 RRF -.0188 RTF -.7197 CRT .6998 CR3 -.0612 CST .6655
 FDE .0596 FRA 2.8148 FC-10.7197 BSP 2037 SGB 1347.1 R23 -.0025 R13 -.7197 LSA 39.7 MSA 26.4 SSA 1.5
 BDE .3419 BRA .5734 BC3 .3936 FSP 1269 SG1 1257.6 SG2 482.7 THA .50 EL1 32.7 EL2 13.0 ALF 34.22

LAUNCH DATE MAY 10 1971

FLIGHT TIME 162.00

ARRIVAL DATE OCT 19 1971

HELIOCENTRIC CONIC

RL 151.05 LAL .00 LOL 229.70 VL 32.400 GAL -.27 AZL 91.07 HCA 132.34 SMA 100.70 ECC .19984 INC 1.0681 V1 20.498
RP 208.41 LAP -1.38 LOP 1.06 VP 23.000 GAP 9.98 AZP 88.74 TAL 350.40 TAP 130.75 RCA 151.04 APO 226.48 V2 26.294
RC 94.128 GL -19.40 GP .16 ZAL 99.00 ZAP 130.60 ETS 179.64 ZAE 170.08 ETE 135.64 ZAC 99.95 ETC 270.11 LVI -10.64

PLANETOCENTRIC CONIC

C3 10.159 VHL 3.187 DLA -29.78 RAL 339.09 RAD 0630.1 VEL 11.413 PTH 6.46 VHP 4.137 DPA -16.51 RAP 322.71 ECC 1.1672
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 16 50 49 2384.13 -.98 60.71 191.12 137.57 17 30 13 1364.1 17.62 44.56
60.00 18 13 50 2143.29 4.97 45.77 196.07 130.09 18 49 33 1143.3 20.09 26.88
70.00 20 6 4 1813.12 10.50 23.48 200.53 122.66 20 36 17 813.1 22.99 1.99
80.00 23 3 30 1255.08 19.64 346.23 205.48 112.95 23 24 34 256.0 27.36 321.49
80.33 23 26 45 1102.12 21.26 341.45 206.18 111.32 23 46 27 182.1 28.15 316.18
100.00 1 50 26 6018.49 19.64 285.50 205.48 112.95 3 30 45 5018.5 27.36 280.77
110.00 1 9 26 6147.00 10.50 290.30 200.53 122.66 2 51 54 5148.0 22.99 288.82

DIFFERENTIAL CORRECTIONS

TDE -.2454 TRA -.9439 TC3 .2803 BAU .0479
RDE -.2308 RRA .0834 RC3 .2383 FAU .13422
PDE .0631 FRA 2.9413 FC-11.4388 B8P 1980
BDE .3369 BRA .9502 BC3 .3530 F8P 1349

MID-COURSE EXECUTION ACCURACY

8G1 1220.9 8GR 474.4 8G3 820.9
RRT .0240 RRF -.0230 RTF -.0099
8GB 1309.8 8R3 -.0032 R13 -.7000
8G1 1220.9 8G2 474.2 THA .63

ORBIT DETERMINATION ACCURACY

8T 27.8 8R 20.9 88 33.1
CRT .7126 CR8 -.0604 CBT .6924
L8A 40.0 M8A 26.5 88A 1.8
EL1 32.4 EL2 12.6 ALP 33.99

LAUNCH DATE MAY 10 1971

FLIGHT TIME 164.00

ARRIVAL DATE OCT 21 1971

HELIOCENTRIC CONIC

RL 151.05 LAL .00 LOL 229.70 VL 32.441 GAL -.25 AZL 91.07 HCA 133.59 SMA 100.30 ECC .19797 INC 1.0689 V1 20.498
RP 208.50 LAP -1.38 LOP 2.31 VP 23.028 GAP 9.61 AZP 88.71 TAL 350.48 TAP 132.07 RCA 151.04 APO 225.85 V2 26.274
RC 96.027 GL -19.58 GP .16 ZAL 99.01 ZAP 130.99 ETS 179.82 ZAE 177.01 ETE 188.13 ZAC 100.02 ETC 270.02 LVI -10.82

PLANETOCENTRIC CONIC

C3 9.992 VHL 3.161 DLA -29.93 RAL 339.10 RAD 0630.0 VEL 11.406 PTH 6.46 VHP 4.048 DPA -16.65 RAP 322.25 ECC 1.1044
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 16 51 49 2386.83 -.22 60.40 191.04 137.58 17 31 8 1356.0 17.97 44.22
60.00 18 15 19 2134.71 4.94 48.36 195.99 130.08 18 50 53 1134.7 20.43 26.41
70.00 20 8 36 1801.43 11.01 22.84 200.40 122.54 20 38 30 801.4 23.34 1.26
79.77 23 22 31 1192.47 21.46 342.30 206.01 111.38 23 42 23 192.8 28.38 316.99
79.77 23 22 31 1192.47 21.46 342.30 206.01 111.38 23 42 23 192.8 28.38 316.99
79.77 23 22 31 1192.47 21.46 342.30 206.01 111.38 23 42 23 192.8 28.38 316.99
110.00 1 11 58 6136.29 11.01 289.67 200.49 122.54 2 54 13 5136.3 23.34 286.00

DIFFERENTIAL CORRECTIONS

TDE -.2416 TRA -.5193 TC3 .1943 BAU .0412
RDE -.2244 RRA .0808 RC3 .2390 FAU .14038
PDE .0494 FRA 3.0822 FC-12.1631 B8P 1820
BDE .3297 BRA .9255 BC3 .3080 F8P 1425

MID-COURSE EXECUTION ACCURACY

8G1 1177.5 8GR 465.6 8G3 867.0
RRT .0239 RRF -.0233 RTF -.6758
8GB 1266.2 8R3 -.0042 R13 -.6758
8G1 1177.5 8G2 465.5 THA .64

ORBIT DETERMINATION ACCURACY

8T 27.3 8R 20.5 88 34.1
CRT .7223 CR8 -.0799 CBT .6297
L8A 40.1 M8A 26.6 88A 1.5
EL1 31.9 EL2 12.1 ALP 34.05

LAUNCH DATE MAY 10 1971

FLIGHT TIME 166.00

ARRIVAL DATE OCT 23 1971

HELIOCENTRIC CONIC

RL 151.05 LAL .00 LOL 229.70 VL 32.417 GAL -.24 AZL 91.07 HCA 134.84 SMA 107.87 ECC .19804 INC 1.0697 V1 20.498
RP 208.76 LAP -1.33 LOP 3.88 VP 23.771 GAP 9.38 AZP 88.68 TAL 350.54 TAP 133.38 RCA 151.04 APO 224.70 V2 26.254
RC 97.988 GL -19.71 GP .17 ZAL 99.08 ZAP 133.24 ETS 179.61 ZAE 175.74 ETE 164.28 ZAC 100.10 ETC 277.92 LVI -10.39

PLANETOCENTRIC CONIC

C3 9.840 VHL 3.137 DLA -30.08 RAL 339.12 RAD 0630.0 VEL 11.399 PTH 6.45 VHP 3.943 DPA -16.80 RAP 321.75 ECC 1.1619
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 16 52 48 2390.15 .12 60.13 190.98 137.58 17 31 9 1350.1 18.29 43.90
60.00 18 16 44 2126.85 5.29 44.98 195.94 130.01 18 52 11 1126.9 20.74 25.98
70.00 20 11 0 1790.67 11.40 22.26 200.46 122.41 20 40 31 790.7 23.66 .59
79.29 23 18 57 1201.06 21.64 343.02 205.87 111.42 23 38 58 201.1 28.54 317.67
79.29 23 18 57 1201.06 21.64 343.02 205.87 111.42 23 38 58 201.1 28.54 317.67
79.29 23 18 57 1201.06 21.64 343.02 205.87 111.42 23 38 58 201.1 28.54 317.67
110.00 1 14 23 6125.32 11.40 289.08 200.46 122.41 2 56 28 5125.3 23.66 267.41

DIFFERENTIAL CORRECTIONS

TDE -.2290 TRA -.4842 TC3 .1671 BAU .0384
RDE -.2181 RRA .0783 RC3 .2395 FAU .14812
PDE .0240 FRA 3.2070 FC-13.0312 B8P 1593
BDE .3162 BRA .4905 BC3 .2921 F8P 1477

MID-COURSE EXECUTION ACCURACY

8G1 1109.3 8GR 456.7 8G3 917.1
RRT .0263 RRF -.0262 RTF -.1.20
8GB 1199.6 8R3 -.0052 R13 -.6620
8G1 1109.4 8G2 456.5 THA .75

ORBIT DETERMINATION ACCURACY

8T 25.9 8R 20.1 88 34.9
CRT .7272 CR8 -.1000 CBT .6049
L8A 39.7 M8A 26.7 88A 1.5
EL1 30.6 EL2 11.7 ALP 35.20

LAUNCH DATE MAY 10 1971

FLIGHT TIME 168.00

ARRIVAL DATE OCT 25 1971

HELIOCENTRIC CONIC

RL 151.05 LAL .00 LOL 229.70 VL 32.394 GAL -.23 AZL 91.07 HCA 136.08 SMA 107.48 ECC .19437 INC 1.0706 V1 20.498
RP 208.94 LAP -1.30 LOP 4.80 VP 23.716 GAP 9.10 AZP 88.65 TAL 350.58 TAP 134.66 RCA 151.04 APO 223.92 V2 26.232
RC 99.910 GL -19.84 GP .18 ZAL 99.03 ZAP 133.46 ETS 179.62 ZAE 174.36 ETE 169.24 ZAC 100.18 ETC 277.01 LVI -18.25

PLANETOCENTRIC CONIC

C3 9.703 VHL 3.115 DLA -30.22 RAL 339.17 RAD 0637.9 VEL 11.393 PTH 6.45 VHP 3.845 DPA -16.95 RAP 321.21 ECC 1.1997
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 16 53 46 2344.26 .41 59.88 190.95 137.57 17 32 51 1344.3 18.57 43.63
60.00 18 18 5 2119.94 5.39 44.64 195.91 129.98 18 53 25 1119.9 21.01 25.60
70.00 20 13 14 1781.16 11.75 21.74 200.46 122.30 20 42 55 781.2 23.93 359.98
78.89 23 16 9 1207.84 21.80 343.59 205.77 111.46 23 36 17 207.8 28.69 318.20
78.89 23 16 9 1207.84 21.80 343.59 205.77 111.46 23 36 17 207.8 28.69 318.20
78.89 23 16 9 1207.84 21.80 343.59 205.77 111.46 23 36 17 207.8 28.69 318.20
110.00 1 16 36 6116.02 11.75 288.58 200.46 122.30 2 58 32 5116.0 23.93 286.81

DIFFERENTIAL CORRECTIONS

TDE -.2369 TRA -.4718 TC3 .0326 BAU .0313
RDE -.2119 RRA .0758 RC3 .2394 FAU .15383
PDE .0245 FRA 3.3845 FC-13.7244 B8P 1626
BDE .3178 BRA .4779 BC3 .2416 F8P 1611

MID-COURSE EXECUTION ACCURACY

8G1 1094.9 8GR 447.4 8G3 866.0
RRT .0218 RRF -.0259 RTF -.6068
8GB 1182.8 8R3 -.0100 R13 -.6068
8G1 1094.9 8G2 447.3 THA .61

ORBIT DETERMINATION ACCURACY

8T 26.5 8R 19.6 88 36.2
CRT .7461 CR8 -.1006 CBT .5818
L8A 40.7 M8A 27.2 88A 1.5
EL1 31.0 EL2 11.2 ALP 33.92

LAUNCH DATE MAY 10 1971

FLIGHT TIME 170.00

ARRIVAL DATE NOV 4 1971

HELIOCENTRIC CONIC

DISTANCE 438.268

EARTH TO MARS

RL 181.00 LAL .00 LOL 220.70 VL 38.306 GAL -.23 AZL 91.80 HCA 142.26 SMA 188.97 ECC .10784 INC 1.9750 V1 29.490
RP 209.00 LAP -1.18 LOP 10.90 VP 23.461 GAP 7.91 AZP 88.92 TAL 388.50 TAP 140.82 RCA 181.04 APO 220.91 V2 26.111
RC 110.871 GL -20.41 GP .22 ZAL 100.00 ZAP 124.00 E78 179.71 ZAE 166.28 ETE 177.40 ZAC 100.65 ETC 277.12 LVI -17.37

PLANETOCENTRIC CONIC

C3 9.198 VHL 3.033 DLA -30.63 RAL 339.71 RAD 0637.6 VEL 11.371 PTH 6.42 VMP 3.428 DPA -17.90 RAP 317.93 ECC 1.1814
LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZNTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
80.00 18 00 19 2324.15 1.42 89.04 191.17 137.86 17 37 3 1324.1 19.83 42.88
60.00 18 23 50 2096.60 6.01 43.52 196.13 129.65 18 58 47 1096.6 21.92 24.30
70.00 20 21 52 1749.31 12.90 19.99 200.74 121.90 20 51 1 749.3 24.84 387.66
77.73 23 9 48 1224.87 22.34 348.07 205.72 111.51 23 30 10 224.6 29.20 319.85
77.73 23 9 48 1224.87 22.34 348.07 205.72 111.51 23 30 10 224.6 29.20 319.85
77.73 23 9 48 1224.87 22.34 348.07 205.72 111.51 23 30 10 224.6 29.20 319.85
110.00 1 25 14 6084.17 12.90 286.82 200.74 121.90 3 6 38 5084.2 24.84 264.78

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2278 TRA -.3067 TC3 -.8186 BAV .0700 86T 888.7 86R 390.1 86S 1227.6 8T 23.8 8R 17.3 8S 40.8
RDE -.1881 RRA .0639 RC3 .2365 FAV .19068 RRT .0253 RRF -.0474 RTF -.2220 CRT .8465 CR8 -.1230 CST .4181
PDE -.0070 FRA 4.1899 FC-17.9433 B8P 674 86B 888.8 86Z -.0402 R13 -.2231 L8A 42.4 M8A 27.1 88A 1.4
BDE .2817 BRA .3133 BC3 .8896 B8P 2034 86I 888.8 86Z 399.0 THA .88 EL1 28.4 EL2 7.7 ALF 34.61

LAUNCH DATE MAY 10 1971

FLIGHT TIME 180.00

ARRIVAL DATE NOV 6 1971

HELIOCENTRIC CONIC

DISTANCE 436.416

EARTH TO MARS

RL 181.00 LAL .00 LOL 220.70 VL 32.292 GAL -.24 AZL 91.80 HCA 143.49 SMA 188.78 ECC .10800 INC 1.9760 V1 29.490
RP 210.22 LAP -1.12 LOP 12.21 VP 23.413 GAP 7.69 AZP 88.49 TAL 358.50 TAP 141.99 RCA 181.04 APO 220.46 V2 26.085
RC 112.177 GL -20.49 GP .24 ZAL 100.19 ZAP 122.02 E78 179.69 ZAE 164.49 ETE 177.96 ZAC 100.78 ETC 276.95 LVI -17.16

PLANETOCENTRIC CONIC

C3 9.130 VHL 3.022 DLA -30.65 RAL 339.89 RAD 0637.6 VEL 11.368 PTH 6.42 VMP 3.388 DPA -18.11 RAP 317.16 ECC 1.1803
LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZNTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
80.00 18 09 10 2322.07 1.83 86.89 191.20 137.86 17 37 82 1322.1 19.83 42.88
60.00 18 24 46 2094.31 6.71 43.41 196.28 129.63 18 59 41 1094.3 22.01 24.17
70.00 20 23 0 1746.44 13.00 19.83 200.86 121.86 20 52 6 746.4 24.92 387.77
77.66 23 9 56 1224.78 22.40 348.11 205.80 111.49 23 30 21 224.8 29.24 319.88
77.66 23 9 56 1224.78 22.40 348.11 205.80 111.49 23 30 21 224.8 29.24 319.88
77.66 23 9 56 1224.78 22.40 348.11 205.80 111.49 23 30 21 224.8 29.24 319.88
110.00 1 26 22 6081.30 13.00 286.86 200.86 121.86 3 7 43 5081.3 24.92 264.60

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2378 TRA -.2791 TC3 -.7186 BAV .0922 86T 877.5 86R 387.6 86S 1276.1 8T 24.3 8R 16.8 8S 42.1
RDE -.1784 RRA .0618 RC3 .2339 FAV .19863 RRT .0173 RRF -.0528 RTF -.0631 CRT .8721 CR8 -.0963 CST .3939
PDE .0341 FRA 4.3689 FC-16.8804 B8P 878 86B 889.3 86Z -.0810 R13 -.0833 L8A 43.6 M8A 27.4 88A 1.4
BDE .2859 BRA .3188 BC3 .7867 B8P 2187 86I 877.5 86Z 387.8 THA .84 EL1 28.8 EL2 7.0 ALF 33.33

LAUNCH DATE MAY 10 1971

FLIGHT TIME 182.00

ARRIVAL DATE NOV 8 1971

HELIOCENTRIC CONIC

DISTANCE 440.878

EARTH TO MARS

RL 181.00 LAL .00 LOL 220.70 VL 32.280 GAL -.25 AZL 91.80 HCA 144.71 SMA 188.58 ECC .10800 INC 1.9780 V1 29.490
RP 210.48 LAP -1.09 LOP 13.43 VP 23.386 GAP 7.47 AZP 88.47 TAL 388.43 TAP 143.18 RCA 181.04 APO 220.06 V2 26.058
RC 114.307 GL -20.57 GP .25 ZAL 100.33 ZAP 120.01 E78 179.67 ZAE 162.68 ETE 178.40 ZAC 100.87 ETC 276.78 LVI -16.93

PLANETOCENTRIC CONIC

C3 9.070 VHL 3.012 DLA -30.66 RAL 340.08 RAD 0637.6 VEL 11.368 PTH 6.42 VMP 3.294 DPA -19.32 RAP 316.37 ECC 1.1493
LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZNTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
80.00 17 0 1 2320.84 1.60 86.89 191.43 137.86 17 38 41 1320.5 19.70 42.81
60.00 18 25 30 2092.60 6.78 43.33 196.38 129.62 19 0 31 1092.7 22.07 24.08
70.00 20 23 57 1744.88 13.07 19.73 200.99 121.84 20 53 2 744.8 24.97 387.65
77.63 23 10 31 1224.18 22.44 348.00 205.82 111.46 23 30 58 224.2 29.27 319.83
77.63 23 10 31 1224.18 22.44 348.00 205.82 111.46 23 30 58 224.2 29.27 319.83
77.63 23 10 31 1224.18 22.44 348.00 205.82 111.46 23 30 58 224.2 29.27 319.83
110.00 1 27 19 6079.44 13.07 286.55 200.99 121.84 3 8 39 5079.4 24.97 264.48

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2387 TRA -.2420 TC3 -.8081 BAV .1110 86T 881.4 86R 377.0 86S 1327.5 8T 24.1 8R 16.4 8S 43.2
RDE -.1707 RRA .0591 RC3 .2323 FAV .20209 RRT .0089 RRF -.0391 RTF .1.67 CRT .8931 CR8 -.0863 CST .3966
PDE .0302 FRA 4.8468 FC-19.2888 B8P 378 86B 896.6 86Z -.0598 R13 .0866 L8A 44.4 M8A 27.3 88A 1.3
BDE .2934 BRA .2481 BC3 .9151 B8P 2277 86I 881.4 86Z 377.0 THA .27 EL1 28.5 EL2 6.2 ALF 33.04

LAUNCH DATE MAY 10 1971

FLIGHT TIME 184.00

ARRIVAL DATE NOV 10 1971

HELIOCENTRIC CONIC

DISTANCE 444.740

EARTH TO MARS

RL 181.00 LAL .00 LOL 220.70 VL 32.270 GAL -.26 AZL 91.80 HCA 145.93 SMA 188.37 ECC .10522 INC 1.9795 V1 29.490
RP 210.70 LAP -1.05 LOP 14.65 VP 23.320 GAP 7.25 AZP 88.44 TAL 358.38 TAP 144.28 RCA 181.04 APO 219.71 V2 26.030
RC 116.460 GL -20.64 GP .26 ZAL 100.80 ZAP 117.97 E78 179.65 ZAE 160.77 ETE 178.74 ZAC 100.98 ETC 276.61 LVI -16.70

PLANETOCENTRIC CONIC

C3 9.019 VHL 3.003 DLA -30.66 RAL 340.30 RAD 0637.5 VEL 11.363 PTH 6.42 VMP 3.238 DPA -19.54 RAP 315.84 ECC 1.1484
LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZNTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
80.00 17 0 50 2319.89 1.65 86.85 191.59 137.55 17 39 30 1319.6 19.74 42.46
60.00 18 26 27 2091.79 6.82 43.29 196.53 129.62 19 1 19 1091.8 22.10 24.03
70.00 20 24 43 1743.81 13.10 19.69 201.13 121.83 20 53 47 743.8 24.99 387.60
77.64 23 11 28 1222.75 22.46 344.90 206.05 111.43 23 31 51 222.7 29.27 319.43
77.64 23 11 28 1222.75 22.46 344.90 206.05 111.43 23 31 51 222.7 29.27 319.43
77.64 23 11 28 1222.75 22.46 344.90 206.05 111.43 23 31 51 222.7 29.27 319.43
110.00 1 28 5 6078.67 13.10 286.51 201.13 121.83 3 9 24 5078.7 24.99 264.43

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2381 TRA -.2020 TC3-1.0585 BAV .1308 86T 900.8 86R 386.2 86S 1379.0 8T 23.7 8R 15.9 8S 44.3
RDE -.1890 RRA .0566 RC3 .2307 FAV .20870 RRT -.0039 RRF -.0647 RTF .2026 CRT .9171 CR8 -.0894 CST .3030
PDE .0482 FRA 4.7284 FC-20.0328 B8P 140 86B 972.2 86Z .0638 R13 -.2027 L8A 45.0 M8A 27.2 88A 1.3
BDE .2897 BRA .2098 BC3 1.0834 B8P 2364 86I 900.8 86Z 366.2 THA 179.89 EL1 28.0 EL2 5.3 ALF 32.88

LAUNCH DATE MAY 10 1971

FLIGHT TIME 186.00

ARRIVAL DATE NOV 12 1971

Heliocentric Conic: RL 151.05 LAL .00 LOL 228.70 VL 32.280 GAL -2.27 AZL 91.88 HCA 147.15 SMA 185.21 ECC .18453 INC 1.8809 V1 28.498
 RP 210.95 LAP -1.02 LOP 15.87 VP 23.275 GAP 7.04 AZP 88.42 TAL 358.24 TAP 145.40 RCA 151.04 APO 219.39 V2 26.001
 RC 118.837 GL -20.70 GP .27 ZAL 100.69 ZAP 115.91 ETS 179.62 ZAE 156.85 ETE 179.01 ZAC 101.09 ETC 276.42 LVI -16.46

Planeto-centric Conic: C3 8.977 VHL 2.996 DLA -30.63 RAL 340.94 RAD 6637.5 VEL 11.361 PTH 6.41 VHP 3.180 DPA -18.76 RAP 314.69 ECC 1.1477
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 1 39 2319.22 1.67 58.83 191.78 137.55 17 40 18 1319.2 19.76 42.44
 60.00 18 27 12 2091.60 6.83 43.27 196.71 129.82 19 2 3 1091.6 22.11 24.02
 70.00 20 25 18 1744.11 13.09 19.70 201.29 121.83 20 54 22 744.1 24.98 357.62
 77.70 23 12 51 1220.43 22.47 344.81 206.22 111.39 23 33 12 220.4 29.26 319.25
 77.70 23 12 51 1220.43 22.47 344.81 206.22 111.39 23 33 12 220.4 29.26 319.25
 77.70 23 12 51 1220.43 22.47 344.81 206.22 111.39 23 33 12 220.4 29.26 319.25
 110.00 1 28 40 6078.97 13.09 286.53 201.29 121.83 3 9 59 5079.0 24.98 264.45

Differential Corrections: TDE -.2386 TRA -.1590 TC3-1.2399 BAU .1513 SGT 940.7 SGR 355.2 SG3 1427.7 ST 23.4 SR 15.3 SS 45.2
 RDE -.1594 RRA .0541 RC3 .2290 FAU .21520 RRT -.0160 RRF -.0735 RTF .3441 CRT .9390 CRS -.0839 CST .2496
 FDE .0540 FRA 4.8948 FC-20.7551 BSP 139 SGB 1005.6 R23 .0670 R13 -.3443 LSA 45.7 MSA 27.2 S8A 1.3
 BDE .2869 BRA .1679 BC3 1.2609 FSP 2443 SG1 940.7 SG2 355.2 THA 179.60 EL1 27.7 EL2 4.5 ALF 32.54

LAUNCH DATE MAY 10 1971

FLIGHT TIME 188.00

ARRIVAL DATE NOV 14 1971

Heliocentric Conic: RL 151.05 LAL .00 LOL 228.70 VL 32.252 GAL -.29 AZL 91.88 HCA 148.37 SMA 185.07 ECC .18391 INC 1.8825 V1 29.498
 RP 211.20 LAP -.99 LOP 17.09 VP 23.231 GAP 6.84 AZP 88.40 TAL 358.13 TAP 146.90 RCA 151.03 APO 219.11 V2 25.972
 RC 120.836 GL -20.75 GP .28 ZAL 100.90 ZAP 113.84 ETS 179.60 ZAE 156.89 ETE 179.22 ZAC 101.20 ETC 276.23 LVI -16.21

Planeto-centric Conic: C3 8.942 VHL 2.990 DLA -30.60 RAL 340.79 RAD 6637.5 VEL 11.360 PTH 6.41 VHP 3.130 DPA -18.98 RAP 313.81 ECC 1.1472
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 2 27 2319.38 1.66 58.84 191.98 137.55 17 41 6 1319.4 19.75 42.45
 60.00 18 27 53 2092.07 6.81 43.30 196.91 129.82 19 2 45 1092.1 22.09 24.04
 70.00 20 25 42 1745.41 13.04 19.78 201.47 121.85 20 54 47 745.4 24.95 357.71
 77.81 23 14 39 1217.25 22.46 344.57 206.42 111.34 23 34 56 217.3 29.23 319.01
 77.81 23 14 39 1217.25 22.46 344.57 206.42 111.34 23 34 56 217.3 29.23 319.01
 77.81 23 14 39 1217.25 22.46 344.57 206.42 111.34 23 34 56 217.3 29.23 319.01
 110.00 1 29 4 6080.26 13.04 286.60 201.47 121.85 3 10 24 5080.3 24.95 264.53

Differential Corrections: TDE -.2362 TRA -.1114 TC3-1.4195 BAU .1719 SGT 993.5 SGR 344.2 SG3 1475.8 ST 23.0 SR 14.8 SS 45.9
 RDE -.1538 RRA .0515 RC3 .2275 FAU .22211 RRT -.0307 RRF -.0847 RTF .4759 CRT .9590 CRS -.0775 CST .1901
 FDE .0641 FRA 5.0493 FC-21.9037 BSP 435 SGB 1031.5 R23 .0661 R13 -.4762 LSA 46.2 MSA 26.9 S8A 1.3
 BDE .2819 BRA .1227 BC3 1.4376 FSP 2511 SG1 993.6 SG2 344.0 THA 179.31 EL1 27.1 EL2 3.6 ALF 32.40

LAUNCH DATE MAY 10 1971

FLIGHT TIME 190.00

ARRIVAL DATE NOV 16 1971

Heliocentric Conic: RL 151.05 LAL .00 LOL 228.70 VL 32.244 GAL -.31 AZL 91.88 HCA 149.58 SMA 184.95 ECC .18339 INC 1.8841 V1 29.498
 RP 211.46 LAP -.95 LOP 18.30 VP 23.187 GAP 6.64 AZP 88.38 TAL 357.99 TAP 147.58 RCA 151.03 APO 218.87 V2 25.942
 RC 123.058 GL -20.80 GP .30 ZAL 101.14 ZAP 111.78 ETS 179.58 ZAE 154.91 ETE 179.39 ZAC 101.31 ETC 276.04 LVI -15.95

Planeto-centric Conic: C3 8.918 VHL 2.988 DLA -30.54 RAL 341.07 RAD 6637.5 VEL 11.359 PTH 6.41 VHP 3.084 DPA -19.20 RAP 312.92 ECC 1.1467
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 3 14 2320.14 1.62 58.87 192.21 137.55 17 41 54 1320.1 19.72 42.49
 60.00 18 28 30 2093.27 6.75 43.35 197.12 129.83 19 3 23 1093.3 22.05 24.11
 70.00 20 25 54 1747.81 12.95 19.91 201.67 121.88 20 55 2 747.8 24.88 357.86
 77.96 23 16 32 1213.17 22.44 344.26 206.64 111.28 23 37 5 213.2 29.19 318.70
 77.96 23 16 32 1213.17 22.44 344.26 206.64 111.28 23 37 5 213.2 29.19 318.70
 77.96 23 16 32 1213.17 22.44 344.26 206.64 111.28 23 37 5 213.2 29.19 318.70
 110.00 1 29 17 6082.67 12.96 286.73 201.67 121.88 3 10 39 5082.7 24.88 264.68

Differential Corrections: TDE -.2402 TRA -.0874 TC3-1.8359 BAU .1988 SGT 1090.6 SGR 333.1 SG3 1518.4 ST 23.2 SR 14.3 SS 46.8
 RDE -.1482 RRA .0488 RC3 .2258 FAU .22723 RRT -.0466 RRF -.0984 RTF .1.62 CRT .9748 CRS -.0597 CST .1410
 FDE .0954 FRA 5.2183 FC-22.0663 BSP 657 SGB 1140.3 R23 .0669 R13 -.5765 LSA 47.0 MSA 27.0 S8A 1.2
 BDE .2823 BRA .0832 BC3 1.6514 FSP 2620 SG1 1090.7 SG2 332.7 THA 179.10 EL1 27.1 EL2 2.7 ALF 31.38

LAUNCH DATE MAY 10 1971

FLIGHT TIME 192.00

ARRIVAL DATE NOV 18 1971

Heliocentric Conic: RL 151.05 LAL .00 LOL 228.70 VL 32.238 GAL -.33 AZL 91.89 HCA 150.80 SMA 184.84 ECC .18293 INC 1.8859 V1 29.498
 RP 211.73 LAP -.92 LOP 19.51 VP 23.144 GAP 6.44 AZP 88.35 TAL 357.84 TAP 148.84 RCA 151.03 APO 218.66 V2 25.911
 RC 129.302 GL -20.83 GP .31 ZAL 101.40 ZAP 109.66 ETS 179.58 ZAE 152.89 ETE 179.53 ZAC 101.42 ETC 275.84 LVI -15.88

Planeto-centric Conic: C3 8.897 VHL 2.983 DLA -30.47 RAL 341.37 RAD 6637.5 VEL 11.358 PTH 6.41 VHP 3.043 DPA -19.42 RAP 312.02 ECC 1.1464
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 4 0 2321.39 1.56 58.92 192.47 137.56 17 42 42 1321.4 19.66 42.55
 60.00 18 29 4 2095.08 6.67 43.44 197.36 129.84 19 3 59 1095.1 21.98 24.21
 70.00 20 25 58 1751.11 12.84 20.09 201.88 121.92 20 55 9 751.1 24.79 358.07
 78.16 23 19 29 1208.25 22.39 343.87 206.89 111.22 23 39 37 208.3 29.13 318.32
 78.16 23 19 29 1208.25 22.39 343.87 206.89 111.22 23 39 37 208.3 29.13 318.32
 78.16 23 19 29 1208.25 22.39 343.87 206.89 111.22 23 39 37 208.3 29.13 318.32
 110.00 1 29 20 6085.97 12.84 286.91 201.88 121.92 3 10 46 5086.0 24.79 264.90

Differential Corrections: TDE -.2401 TRA -.0199 TC3-1.8423 BAU .2207 SGT 1192.7 SGR 321.8 SG3 1564.5 ST 23.1 SR 13.8 SS 47.9
 RDE -.1427 RRA .0460 RC3 .2242 FAU .23273 RRT -.0655 RRF -.1082 RTF .6582 CRT .9865 CRS -.0502 CST .0797
 FDE .1124 FRA 5.4082 FC-22.6485 BSP 953 SGB 1235.4 R23 .0618 R13 -.6586 LSA 48.0 MSA 26.8 S8A 1.2
 BDE .2793 BRA .0501 BC3 1.8559 FSP 2690 SG1 1192.9 SG2 321.0 THA 178.91 EL1 26.9 EL2 1.9 ALF 30.65

LAUNCH DATE MAY 18 1971

FLIGHT TIME 194.00

ARRIVAL DATE NOV 20 1971

Heliocentric Conic: RL 181.08 LAL .00 LOL 229.70 VL 32.233 GAL -0.36 AZL 91.89 MCA 152.00 SMA 184.78 ECC .10289 INC 1.8876 V1 29.499
 RP 212.01 LAP -.89 LOP 20.78 VP 23.101 GAP 6.24 AZP 88.33 TAL 387.88 TAP 149.88 RCA 181.03 APO 219.40 V2 25.880
 RC 127.888 GL -20.87 GP .33 ZAL 101.66 ZAP 107.87 ETB 179.84 ZAE 180.86 ETE 179.64 ZAC 101.83 ETC 275.63 LVI -18.41

Planetocentric Conic: C3 8.888 VHL 2.981 DLA -30.38 RAL 341.88 RAD 8837.8 VEL 11.387 PTH 6.41 VHP 3.008 DPA -19.63 RAP 311.10 ECC 1.1468
 LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZNTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 80.00 17 4 46 2323.15 1.47 89.00 182.74 137.86 17 43 29 1323.2 19.58 42.63
 90.00 18 29 35 2097.82 6.87 43.58 197.62 129.85 19 4 32 1097.5 21.88 24.38
 70.00 20 25 53 1755.33 12.68 20.32 202.11 121.98 20 55 8 759.3 24.67 358.34
 78.40 23 22 32 1202.31 22.34 343.40 207.16 111.15 23 42 34 202.3 29.09 317.86
 78.40 23 22 32 1202.31 22.34 343.40 207.16 111.15 23 42 34 202.3 29.09 317.86
 78.40 23 22 32 1202.31 22.34 343.40 207.16 111.15 23 42 34 202.3 29.09 317.86
 110.00 1 29 18 6090.18 12.68 287.18 202.11 121.98 3 10 45 9090.2 24.67 288.17

Differential Corrections: TDE -.2406 TRA .0311 TC3-2.0874 BAU .2488 867 1312.7 86R 310.5 863 1802.7 87 23.2 8R 13.3 88 48.7
 RDE -.1378 RRA .0438 RC3 .2227 FAU .23786 868 1348.8 86S -1.282 R7F .7288 CRT .9938 CR8 -.0286 C8T .0244
 PDE .1816 PRA 5.8831 PC-23.1788 B8P 1847 869 1348.8 86S .0808 R13 -.7288 L8A 48.7 M8A 26.4 88A 1.2
 BDE .2770 BRA .0532 BC3 2.0694 F8P 2788 861 1312.9 862 309.4 THA 178.78 EL1 26.7 EL2 1.3 ALF 29.88

MID-COURSE EXECUTION ACCURACY: 867 1312.7 86R 310.5 863 1802.7
 868 1348.8 86S -1.282 R7F .7288
 869 1348.8 86S .0808 R13 -.7288
 861 1312.9 862 309.4 THA 178.78

ORBIT DETERMINATION ACCURACY: 87 23.2 8R 13.3 88 48.7
 CRT .9938 CR8 -.0286 C8T .0244
 L8A 48.7 M8A 26.4 88A 1.2
 EL1 26.7 EL2 1.3 ALF 29.88

LAUNCH DATE MAY 10 1971

FLIGHT TIME 196.00

ARRIVAL DATE NOV 22 1971

Heliocentric Conic: RL 181.08 LAL .00 LOL 229.70 VL 32.228 GAL -0.39 AZL 91.89 MCA 153.21 SMA 184.68 ECC .10223 INC 1.8896 V1 29.498
 RP 212.29 LAP -.88 LOP 21.93 VP 23.089 GAP 6.08 AZP 88.31 TAL 387.80 TAP 180.71 RCA 181.02 APO 218.33 V2 25.848
 RC 129.888 GL -20.89 GP .38 ZAL 101.66 ZAP 108.47 ETB 179.82 ZAE 148.81 ETE 179.73 ZAC 101.84 ETC 275.43 LVI -18.14

Planetocentric Conic: C3 8.881 VHL 2.980 DLA -30.28 RAL 342.02 RAD 8837.8 VEL 11.387 PTH 6.41 VHP 2.873 DPA -19.84 RAP 310.18 ECC 1.1468
 LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZNTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 80.00 17 5 32 2328.41 1.38 89.00 193.03 137.86 17 44 17 1328.4 19.47 42.74
 90.00 18 30 2 2100.86 6.44 43.71 197.60 129.87 19 5 3 1100.8 21.77 24.52
 70.00 20 25 40 1760.40 12.80 20.60 202.38 122.08 20 55 0 760.4 24.83 388.67
 78.88 23 28 1 1198.37 22.88 342.88 207.48 111.07 23 48 87 195.4 28.88 317.32
 78.88 23 28 1 1198.37 22.88 342.88 207.48 111.07 23 48 87 195.4 28.88 317.32
 78.88 23 28 1 1198.37 22.88 342.88 207.48 111.07 23 48 87 195.4 28.88 317.32
 110.00 1 29 2 6098.26 12.80 287.43 202.38 122.08 3 10 37 9098.3 24.83 288.49

Differential Corrections: TDE -.2408 TRA .0829 TC3-2.2794 BAU .2719 867 1447.1 86R 299.2 863 1842.2 87 23.4 8R 12.7 88 48.7
 RDE -.1317 RRA .0402 RC3 .2213 FAU .24240 868 1477.7 86S -1.1422 R7F .7781 CRT .9946 CR8 -.0092 C8T -.0337
 PDE .1808 PRA 5.7302 PC-23.6301 B8P 1887 869 1477.7 86S .0878 R13 -.7784 L8A 49.7 M8A 26.6 88A 1.1
 BDE .2748 BRA .0821 BC3 2.2901 F8P 2817 861 1447.5 862 297.4 THA 178.70 EL1 26.6 EL2 1.2 ALF 28.48

MID-COURSE EXECUTION ACCURACY: 867 1447.1 86R 299.2 863 1842.2
 868 1477.7 86S -1.1422 R7F .7781
 869 1477.7 86S .0878 R13 -.7784
 861 1447.5 862 297.4 THA 178.70

ORBIT DETERMINATION ACCURACY: 87 23.4 8R 12.7 88 48.7
 CRT .9946 CR8 -.0092 C8T -.0337
 L8A 49.7 M8A 26.6 88A 1.1
 EL1 26.6 EL2 1.2 ALF 28.48

LAUNCH DATE MAY 10 1971

FLIGHT TIME 198.00

ARRIVAL DATE NOV 24 1971

Heliocentric Conic: RL 181.08 LAL .00 LOL 229.70 VL 32.224 GAL -0.42 AZL 91.89 MCA 154.41 SMA 184.62 ECC .10189 INC 1.8917 V1 29.498
 RP 212.37 LAP -.82 LOP 23.13 VP 23.018 GAP 5.86 AZP 88.29 TAL 387.30 TAP 181.71 RCA 181.02 APO 218.22 V2 25.818
 RC 132.183 GL -20.91 GP .36 ZAL 102.38 ZAP 103.38 ETB 179.80 ZAE 148.78 ETE 179.80 ZAC 101.78 ETC 275.22 LVI -14.86

Planetocentric Conic: C3 8.883 VHL 2.980 DLA -30.17 RAL 342.37 RAD 8837.8 VEL 11.387 PTH 6.41 VHP 2.844 DPA -20.05 RAP 309.28 ECC 1.1468
 LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZNTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 80.00 17 6 17 2329.14 1.22 89.21 193.38 137.86 17 48 5 1329.1 19.34 42.87
 90.00 18 30 29 2104.17 6.28 43.88 198.19 129.89 19 5 32 1104.2 21.82 24.72
 70.00 20 28 19 1768.27 12.29 20.92 202.61 122.12 20 54 48 768.3 24.38 399.04
 79.02 23 29 57 1187.43 22.19 342.23 207.78 110.98 23 49 44 187.4 28.88 316.71
 79.02 23 29 57 1187.43 22.19 342.23 207.78 110.98 23 49 44 187.4 28.88 316.71
 79.02 23 29 57 1187.43 22.19 342.23 207.78 110.98 23 49 44 187.4 28.88 316.71
 110.00 1 28 41 6101.13 12.29 287.78 202.61 122.12 3 10 22 9101.1 24.38 289.87

Differential Corrections: TDE -.2401 TRA .1375 TC3-2.5068 BAU .2988 867 1593.1 86R 287.8 863 1872.7 87 23.6 8R 12.2 88 30.3
 RDE -.1262 RRA .0371 RC3 .2200 FAU .24611 868 1618.9 86S -.0837 R7F .8187 CRT .9986 CR8 .0048 C8T -.1008
 PDE .2134 PRA 5.8678 PC-23.9847 B8P 1888 869 1618.9 86S .0837 R13 -.8188 L8A 50.4 M8A 26.4 88A 1.1
 BDE .2712 BRA .1424 BC3 2.5186 F8P 2888 861 1593.3 862 288.4 THA 178.63 EL1 26.5 EL2 1.6 ALF 27.14

MID-COURSE EXECUTION ACCURACY: 867 1593.1 86R 287.8 863 1872.7
 868 1618.9 86S -.0837 R7F .8187
 869 1618.9 86S .0837 R13 -.8188
 861 1593.3 862 288.4 THA 178.63

ORBIT DETERMINATION ACCURACY: 87 23.6 8R 12.2 88 30.3
 CRT .9986 CR8 .0048 C8T -.1008
 L8A 50.4 M8A 26.4 88A 1.1
 EL1 26.5 EL2 1.6 ALF 27.14

LAUNCH DATE MAY 10 1971

FLIGHT TIME 200.00

ARRIVAL DATE NOV 26 1971

Heliocentric Conic: RL 181.08 LAL .00 LOL 229.70 VL 32.222 GAL -0.45 AZL 91.89 MCA 155.61 SMA 184.57 ECC .10180 INC 1.8943 V1 29.498
 RP 212.86 LAP -.78 LOP 24.92 VP 22.977 GAP 5.68 AZP 88.27 TAL 387.10 TAP 182.70 RCA 181.02 APO 218.13 V2 25.782
 RC 134.478 GL -20.93 GP .38 ZAL 102.64 ZAP 101.29 ETB 179.48 ZAE 144.69 ETE 179.88 ZAC 101.85 ETC 275.02 LVI -14.59

Planetocentric Conic: C3 8.882 VHL 2.982 DLA -30.04 RAL 342.74 RAD 8837.8 VEL 11.388 PTH 6.41 VHP 2.919 DPA -20.24 RAP 308.33 ECC 1.1468
 LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZNTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 80.00 17 7 2 2331.32 1.06 89.34 193.60 137.87 17 45 53 1331.3 19.19 43.02
 90.00 18 30 31 2106.33 6.10 44.08 198.81 129.92 19 5 59 1106.3 21.46 24.85
 70.00 20 24 52 1772.88 12.08 21.29 202.89 122.20 20 54 25 772.9 24.17 399.46
 79.41 23 34 20 1178.36 22.10 341.82 208.13 110.89 23 53 58 178.4 28.72 316.01
 79.41 23 34 20 1178.36 22.10 341.82 208.13 110.89 23 53 58 178.4 28.72 316.01
 79.41 23 34 20 1178.36 22.10 341.82 208.13 110.89 23 53 58 178.4 28.72 316.01
 110.00 1 28 14 6107.74 12.08 288.11 202.89 122.20 3 10 2 8107.7 24.17 286.28

Differential Corrections: TDE -.2388 TRA .1945 TC3-2.7341 BAU .3261 867 1748.1 86R 276.6 863 1702.3 87 24.0 8R 11.7 88 31.2
 RDE -.1207 RRA .0336 RC3 .2188 FAU .24953 868 1769.9 86S -.0823 R7F .8465 CRT .9772 CR8 .0293 C8T -.1591
 PDE .2608 PRA 6.0111 PC-24.2936 B8P 2191 869 1769.9 86S .0823 R13 -.8467 L8A 51.3 M8A 26.3 88A 1.0
 BDE .2677 BRA .1974 BC3 2.7428 F8P 2943 861 1748.7 862 273.2 THA 178.58 EL1 26.6 EL2 2.2 ALF 28.60

MID-COURSE EXECUTION ACCURACY: 867 1748.1 86R 276.6 863 1702.3
 868 1769.9 86S -.0823 R7F .8465
 869 1769.9 86S .0823 R13 -.8467
 861 1748.7 862 273.2 THA 178.58

ORBIT DETERMINATION ACCURACY: 87 24.0 8R 11.7 88 31.2
 CRT .9772 CR8 .0293 C8T -.1591
 L8A 51.3 M8A 26.3 88A 1.0
 EL1 26.6 EL2 2.2 ALF 28.60

LAUNCH DATE MAY 10 1971

FLIGHT TIME 202.00

ARRIVAL DATE NOV 28 1971

Heliocentric Conic: RL 151.05 LAL .00 LOL 228.70 VL 32.220 GAL -1.48 AZL 91.90 HCA 156.80 SMA 184.54 ECC .18168 INC 1.8967 V1 29.498
 RP 213.16 LAP -.75 LOP 25.52 VP 22.936 GAP 5.30 AZP 88.26 TAL 356.87 TAP 153.68 RCA 151.01 APO 218.07 V2 25.749
 RC 136.814 GL -20.94 GP .41 ZAL 103.01 ZAP 99.22 ETS 179.47 ZAE 142.63 ETE 179.90 ZAC 101.95 ETC 274.81 LVI -14.31

Distance 482.366 Earth to Mars

Planeto-centric Conic: C3 8.908 VHL 2.985 DLA -29.90 RAL 343.13 RAD 6637.5 VEL 11.358 PTH 6.41 VHP 2.897 DPA -20.43 RAP 307.42 ECC 1.1468
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 7 47 2334.95 .88 59.49 194.04 137.37 17 48 42 1334.9 19.01 43.19
 60.00 18 31 12 2113.01 5.89 44.31 198.84 129.94 19 6 25 1113.0 21.28 25.21
 70.00 20 24 20 1780.19 11.78 21.69 203.19 122.29 20 54 0 780.2 23.96 359.93
 79.85 23 39 13 1168.03 21.99 340.70 208.50 110.79 23 58 42 168.0 28.59 315.22
 79.85 23 39 13 1168.03 21.99 340.70 208.50 110.79 23 58 42 168.0 28.59 315.22
 79.85 23 39 13 1168.03 21.99 340.70 208.50 110.79 23 58 42 168.0 28.59 315.22
 110.00 1 27 42 6115.05 11.78 288.51 203.19 122.29 3 9 37 5115.0 23.96 266.75

Differential Corrections: TDE -.2376 TRA .2525 TC3-2.9664 BAU .3542 SGT 1912.1 SGR 265.4 SG3 1720.2 ST 24.4 SR 11.1 SS 51.9
 RDE -.1153 RRA .0305 RC3 .2180 FAU .25252 RRT -.1807 RRF -.2111 RTF .8699 CRT .9583 CRS .0571 CST -.2133
 FDE .3147 FRA 6.1446 FC-24.5404 BSP 2515 SGB 1930.5 R23 .0517 R13 -.8701 LSA 52.3 MSA 26.2 SSA 1.0
 BDE .2640 BRA .2544 BC3 2.9744 FSP 2989 SG1 1912.7 SG2 261.0 THA 178.54 EL1 26.7 EL2 2.9 ALF 23.84

LAUNCH DATE MAY 10 1971

FLIGHT TIME 204.00

ARRIVAL DATE NOV 30 1971

Heliocentric Conic: RL 151.05 LAL .00 LOL 228.70 VL 32.218 GAL -.52 AZL 91.90 HCA 157.99 SMA 184.52 ECC .18161 INC 1.8966 V1 29.498
 RP 213.46 LAP -.71 LOP 26.71 VP 22.896 GAP 5.32 AZP 88.24 TAL 356.64 TAP 154.63 RCA 151.01 APO 218.03 V2 25.714
 RC 139.171 GL -20.94 GP .43 ZAL 103.39 ZAP 97.16 ETS 179.45 ZAE 140.57 ETE 179.93 ZAC 102.05 ETC 274.61 LVI -14.04

Distance 486.555 Earth to Mars

Planeto-centric Conic: C3 8.931 VHL 2.988 DLA -29.75 RAL 343.54 RAD 6637.5 VEL 11.359 PTH 6.41 VHP 2.879 DPA -20.61 RAP 306.52 ECC 1.1470
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 8 32 2338.98 .68 59.66 194.41 137.57 17 47 31 1339.0 18.82 43.38
 60.00 18 31 31 2118.18 5.67 44.56 199.19 129.97 19 6 49 1118.2 21.08 25.50
 70.00 20 23 43 1788.12 11.50 22.12 203.30 122.38 20 53 32 788.1 23.73 .43
 80.00 23 20 50 1232.43 20.26 344.75 208.21 112.42 23 41 23 232.4 27.71 319.82
 80.35 23 44 38 1156.41 21.87 339.79 208.90 110.69 24 3 54 156.4 28.44 314.33
 100.00 2 7 38 5994.94 20.26 284.03 208.21 112.42 3 47 33 4994.9 27.71 259.09
 110.00 1 27 6 6122.97 11.50 288.94 203.50 122.38 3 9 9 5123.0 23.73 267.25

Differential Corrections: TDE -.2351 TRA .3127 TC3-3.1972 BAU .3826 SGT 2081.3 SGR 254.4 SG3 1746.0 ST 25.0 SR 10.6 SS 52.6
 RDE -.1098 RRA .0270 RC3 .2172 FAU .25456 RRT -.2114 RRF -.2393 RTF .8890 CRT .9322 CRS .0776 CST -.2754
 FDE .3513 FRA 6.2636 FC-24.6768 BSP 2850 SGB 2096.8 R23 .0497 R13 -.8891 LSA 53.1 MSA 26.0 SSA 1.0
 BDE .2595 BRA .3139 BC3 3.2046 FSP 3045 SG1 2082.0 SG2 248.6 THA 178.50 EL1 26.9 EL2 3.6 ALF 21.93

LAUNCH DATE MAY 10 1971

FLIGHT TIME 206.00

ARRIVAL DATE DEC 2 1971

Heliocentric Conic: RL 151.05 LAL .00 LOL 228.70 VL 32.218 GAL -.55 AZL 91.90 HCA 159.18 SMA 184.51 ECC .18159 INC 1.9026 V1 29.498
 RP 213.77 LAP -.68 LOP 27.90 VP 22.856 GAP 5.14 AZP 88.22 TAL 356.39 TAP 155.58 RCA 151.00 APO 218.01 V2 25.680
 RC 141.545 GL -20.94 GP .43 ZAL 103.79 ZAP 95.13 ETS 179.44 ZAE 138.52 ETE 179.95 ZAC 102.15 ETC 274.41 LVI -13.78

Distance 490.745 Earth to Mars

Planeto-centric Conic: C3 8.960 VHL 2.993 DLA -29.59 RAL 343.96 RAD 6637.5 VEL 11.361 PTH 6.41 VHP 2.865 DPA -20.77 RAP 305.63 ECC 1.1475
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 9 17 2343.41 .45 59.84 194.80 137.57 17 48 20 1343.4 18.61 43.59
 60.00 18 31 49 2123.81 5.42 44.83 199.56 130.00 19 7 13 1123.8 20.86 25.81
 70.00 20 23 4 1796.60 11.19 22.58 203.83 122.48 20 53 0 796.6 23.48 .96
 80.00 23 9 58 1273.25 19.18 347.30 208.21 113.33 23 31 12 273.3 27.12 322.71
 80.92 23 50 40 1143.07 21.74 338.75 209.31 110.58 24 9 43 143.1 28.28 313.31
 100.00 1 56 46 6035.76 19.18 286.58 208.21 113.33 3 37 22 5035.8 27.12 261.98
 110.00 1 26 26 6131.46 11.19 289.40 203.83 122.48 3 8 37 5131.5 23.48 267.78

Differential Corrections: TDE -.2325 TRA .3748 TC3-3.4299 BAU .4117 SGT 2257.0 SGR 243.7 SG3 1769.1 ST 25.6 SR 10.0 SS 53.3
 RDE -.1044 RRA .0233 RC3 .2168 FAU .25703 RRT -.2480 RRF -.2731 RTF .5140 CRT .8997 CRS .1046 CST -.3298
 FDE .4013 FRA 6.3864 FC-24.8359 BSP 3185 SGB 2270.1 R23 .0498 R13 -.9042 LSA 54.2 MSA 25.8 SSA .9
 BDE .2548 BRA .3753 BC3 3.4368 FSP 3076 SG1 2257.8 SG2 236.1 THA 178.46 EL1 27.2 EL2 4.1 ALF 19.84

LAUNCH DATE MAY 10 1971

FLIGHT TIME 208.00

ARRIVAL DATE DEC 4 1971

Heliocentric Conic: RL 151.05 LAL .00 LOL 228.70 VL 32.218 GAL -.59 AZL 91.91 HCA 160.37 SMA 184.51 ECC .18163 INC 1.9062 V1 29.498
 RP 214.08 LAP -.64 LOP 29.08 VP 22.818 GAP 4.97 AZP 88.20 TAL 356.13 TAP 156.50 RCA 150.99 APO 218.02 V2 25.645
 RC 143.938 GL -20.94 GP .48 ZAL 104.20 ZAP 93.12 ETS 179.43 ZAE 136.48 ETE 179.97 ZAC 102.25 ETC 274.21 LVI -13.52

Distance 494.833 Earth to Mars

Planeto-centric Conic: C3 8.995 VHL 2.999 DLA -29.41 RAL 344.39 RAD 6637.5 VEL 11.362 PTH 6.42 VHP 2.854 DPA -20.93 RAP 304.77 ECC 1.1480
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 10 3 2348.20 .21 60.04 195.21 137.58 17 49 11 1348.2 18.38 43.81
 60.00 18 32 7 2129.86 5.15 45.12 199.95 130.03 19 7 37 1129.9 20.62 26.15
 70.00 20 22 21 1805.59 10.86 23.07 204.18 122.58 20 52 27 805.6 23.22 1.52
 80.00 23 2 12 1304.39 18.32 349.24 208.32 114.00 23 23 57 304.6 26.62 324.90
 81.55 0 1 18 1127.93 21.60 337.57 209.75 110.46 0 20 6 127.9 28.10 312.16
 100.00 1 49 0 6067.10 18.32 288.51 208.32 114.00 3 30 7 5067.1 26.62 264.18
 110.00 1 25 43 6140.45 10.86 289.89 204.18 122.58 3 8 4 5140.5 23.22 268.35

Differential Corrections: TDE -.2283 TRA .4386 TC3-3.6592 BAU .4408 SGT 2435.8 SGR 233.2 SG3 1780.9 ST 26.4 SR 9.5 SS 54.0
 RDE -.0990 RRA .0194 RC3 .2164 FAU .25772 RRT -.2843 RRF -.3101 RTF .9156 CRT .8597 CRS .1355 CST -.3612
 FDE .4577 FRA 6.4920 FC-24.8052 BSP 3527 SGB 2446.9 R23 .0497 R13 -.9158 LSA 55.2 MSA 25.7 SSA .9
 BDE .2489 BRA .4390 BC3 3.6656 FSP 3093 SG1 2436.7 SG2 223.5 THA 178.43 EL1 27.6 EL2 4.6 ALF 17.69

LAUNCH DATE MAY 10 1971

FLIGHT TIME 210.00

ARRIVAL DATE DEC 6 1971

HELIOCENTRIC CONIC
 RL 151.05 LAL .00 LOL 228.70 VL 32.218 GAL -.64 AZL 91.91 HCA 161.55 SMA 184.52 ECC .18172 INC 1.9099 V1 29.498
 RP 214.39 LAP -.60 LOP 30.26 VP 22.777 GAP 4.79 AZP 88.19 TAL 355.86 TAP 157.41 RCA 150.99 APO 218.05 V2 25.609
 RC 148.344 GL -20.93 GP .51 ZAL 104.63 ZAP 91.14 ETS 179.42 ZAE 134.46 ETE 179.99 ZAC 102.35 ETC 274.02 LVI -13.27

PLANETOCENTRIC CONIC
 C3 9.037 VHL 3.006 DLA -29.23 RAL 344.84 RAD 6637.5 VEL 11.364 PTH 6.42 VHP 2.846 DPA -21.07 RAP 303.92 ECC 1.1487
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 10 49 2353.34 -.05 60.26 195.64 137.58 17 50 2 1353.3 18.13 44.05
 60.00 18 32 24 2136.30 4.87 45.43 200.36 130.06 19 8 0 1136.3 20.36 26.50
 70.00 20 21 38 1815.03 10.51 23.58 204.55 122.68 20 51 53 815.0 22.94 2.11
 80.00 22 55 52 1331.75 17.56 350.89 208.51 114.54 23 18 3 331.8 26.16 326.79
 82.28 0 8 48 1110.49 21.45 336.22 210.21 110.34 0 27 19 110.5 27.92 310.83
 100.00 1 42 39 6094.26 17.56 290.17 208.51 114.54 3 24 14 5094.3 26.16 266.06
 110.00 1 25 0 6149.89 10.51 290.40 204.55 122.68 3 7 30 5149.9 22.94 268.94

DIFFERENTIAL CORRECTIONS
 TDE -.2241 TRA .5036 TC3-3.8886 BAU .4705 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 2618.8 SGR 223.3 SG3 1790.3 ST 27.2 SR 8.9 SS 54.6
 RDE -.0936 RRA .0153 RC3 .2164 FAU .25861 RRT -.3271 RRF -.3525 RTF .9254 CRT .8146 CRS .1665 CST -.4292
 FDE .5110 FRA 6.3797 FC-24.7753 BSP 3872 SGB 2628.3 R23 .0507 R13 -.9255 LSA 56.1 MSA 25.5 SSA .8
 BDE .2429 BRA .3038 BC3 3.8947 FSP 3133 SG1 2619.8 SG2 210.9 THA 178.39 EL1 28.2 EL2 5.0 ALF 15.47

LAUNCH DATE MAY 10 1971

FLIGHT TIME 212.00

ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC
 RL 151.05 LAL .00 LOL 228.70 VL 32.219 GAL -.68 AZL 91.91 HCA 162.73 SMA 184.54 ECC .18186 INC 1.9142 V1 29.498
 RP 214.72 LAP -.37 LOP 31.44 VP 22.738 GAP 4.63 AZP 88.17 TAL 355.58 TAP 158.30 RCA 150.98 APO 218.10 V2 25.373
 RC 148.770 GL -20.92 GP .54 ZAL 105.08 ZAP 89.19 ETS 179.41 ZAE 132.45 ETE 179.99 ZAC 102.44 ETC 273.84 LVI -13.03

PLANETOCENTRIC CONIC
 C3 9.085 VHL 3.014 DLA -29.04 RAL 345.31 RAD 6637.6 VEL 11.366 PTH 6.42 VHP 2.840 DPA -21.20 RAP 303.11 ECC 1.1495
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 11 37 2358.79 -.32 60.49 196.09 137.58 17 50 55 1358.8 17.87 44.31
 60.00 18 32 41 2143.09 4.58 45.76 200.79 130.08 19 8 23 1143.1 20.09 26.87
 70.00 20 20 54 1824.83 10.15 24.11 204.93 122.79 20 51 19 824.8 22.64 2.72
 80.00 22 50 25 1356.44 16.86 352.39 208.74 115.01 23 13 1 356.4 25.71 328.49
 83.11 0 17 18 1090.16 21.30 334.66 210.70 110.22 0 35 28 90.2 27.73 309.30
 100.00 1 37 13 6118.95 16.86 291.66 208.74 115.01 3 19 11 5118.9 25.71 267.76
 110.00 1 24 16 6159.69 10.15 290.93 204.93 122.79 3 6 56 5159.7 22.64 269.54

DIFFERENTIAL CORRECTIONS
 TDE -.2189 TRA .5706 TC3-4.1141 BAU .5004 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 2804.2 SGR 213.8 SG3 1796.4 ST 28.2 SR 8.4 SS 55.3
 RDE -.0882 RRA .0110 RC3 .2167 FAU .25859 RRT -.3746 RRF -.3991 RTF .9329 CRT .7631 CRS .1995 CST -.4751
 FDE .5658 FRA 6.6729 FC-24.6415 BSP 4209 SGB 2812.3 R23 .0516 R13 -.9330 LSA 57.2 MSA 25.3 SSA .8
 BDE .2360 BRA .5708 BC3 4.1198 FSP 3127 SG1 2805.3 SG2 198.2 THA 178.36 EL1 28.9 EL2 5.3 ALF 13.26

LAUNCH DATE MAY 10 1971

FLIGHT TIME 214.00

ARRIVAL DATE DEC 10 1971

HELIOCENTRIC CONIC
 RL 151.05 LAL .00 LOL 228.70 VL 32.221 GAL -.73 AZL 91.92 HCA 163.90 SMA 184.57 ECC .18204 INC 1.9193 V1 29.498
 RP 215.04 LAP -.53 LOP 32.61 VP 22.699 GAP 4.46 AZP 88.16 TAL 355.28 TAP 159.18 RCA 150.97 APO 218.17 V2 25.536
 RC 151.211 GL -20.92 GP .58 ZAL 105.54 ZAP 87.27 ETS 179.41 ZAE 130.48 ETE 180.00 ZAC 102.53 ETC 273.66 LVI -12.80

PLANETOCENTRIC CONIC
 C3 9.140 VHL 3.023 DLA -28.84 RAL 345.79 RAD 6637.6 VEL 11.369 PTH 6.42 VHP 2.838 DPA -21.32 RAP 302.32 ECC 1.1504
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 12 28 2364.51 -.61 60.73 196.56 137.57 17 51 50 1364.5 17.60 44.57
 60.00 18 33 0 2150.18 4.26 46.10 201.24 130.11 19 8 50 1150.2 19.81 27.28
 70.00 20 20 11 1834.93 9.78 24.65 205.34 122.89 20 50 46 834.9 22.34 3.35
 80.00 22 49 38 1379.37 16.19 353.77 209.01 115.43 23 8 37 379.4 25.28 330.05
 84.08 0 27 3 1066.07 21.13 332.82 211.20 110.10 0 44 49 66.1 27.53 307.49
 100.00 1 32 25 6141.88 16.19 293.04 209.01 115.43 3 14 47 5141.9 25.28 269.33
 110.00 1 23 35 6189.79 9.78 291.48 205.34 122.89 3 6 23 5189.8 22.34 270.17

DIFFERENTIAL CORRECTIONS
 TDE -.2124 TRA .6393 TC3-4.3338 BAU .5302 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 2990.3 SGR 203.2 SG3 1799.1 ST 29.2 SR 7.8 SS 55.8
 RDE -.0828 RRA .0084 RC3 .2175 FAU .25857 RRT -.4274 RRF -.4917 RTF .9397 CRT .7050 CRS .2359 CST -.5178
 FDE .6229 FRA 6.7437 FC-24.4918 BSP 4554 SGB 2997.3 R23 .0537 R13 -.9398 LSA 58.3 MSA 25.1 SSA .7
 BDE .2260 BRA .6393 BC3 4.3393 FSP 3128 SG1 2991.6 SG2 185.4 THA 178.31 EL1 29.7 EL2 5.5 ALF 11.12

LAUNCH DATE MAY 10 1971

FLIGHT TIME 216.00

ARRIVAL DATE DEC 12 1971

HELIOCENTRIC CONIC
 RL 151.05 LAL .00 LOL 228.70 VL 32.224 GAL -.77 AZL 91.93 HCA 165.07 SMA 184.61 ECC .18227 INC 1.9253 V1 29.498
 RP 215.37 LAP -.50 LOP 33.78 VP 22.661 GAP 4.29 AZP 88.14 TAL 354.98 TAP 160.08 RCA 150.96 APO 218.25 V2 25.499
 RC 153.669 GL -20.91 GP .63 ZAL 106.02 ZAP 85.39 ETS 179.41 ZAE 128.52 ETE 180.00 ZAC 102.63 ETC 273.49 LVI -12.59

PLANETOCENTRIC CONIC
 C3 9.201 VHL 3.033 DLA -28.64 RAL 346.28 RAD 6637.6 VEL 11.371 PTH 6.42 VHP 2.838 DPA -21.41 RAP 301.56 ECC 1.1514
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 13 17 2370.48 -.91 60.97 197.05 137.57 17 52 47 1370.5 17.31 44.85
 60.00 18 33 20 2157.53 3.94 46.45 201.70 130.14 19 9 18 1157.5 19.52 27.66
 70.00 20 19 31 1845.26 9.39 25.21 205.77 122.99 20 50 16 845.3 22.02 3.98
 80.00 22 41 22 1400.97 15.55 355.05 209.32 115.81 23 4 43 401.0 24.85 331.52
 85.28 0 38 48 1035.80 20.96 330.53 211.72 109.98 0 56 3 35.8 27.32 305.23
 100.00 1 28 10 6163.48 15.55 294.33 209.32 115.81 3 10 54 5163.5 24.85 270.79
 110.00 1 22 33 6180.11 9.39 292.03 205.77 122.99 3 5 53 5180.1 22.02 270.80

DIFFERENTIAL CORRECTIONS
 TDE -.2045 TRA .7106 TC3-4.5452 BAU .5598 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 3176.7 SGR 197.5 SG3 1797.3 ST 30.3 SR 7.3 SS 56.5
 RDE -.0775 RRA .0015 RC3 .2185 FAU .25728 RRT -.4848 RRF -.5085 RTF .9448 CRT .6390 CRS .2774 CST -.5572
 FDE .6867 FRA 6.8193 FC-24.2070 BSP 4908 SGB 3182.8 R23 .0562 R13 -.9449 LSA 59.5 MSA 24.9 SSA .7
 BDE .2186 BRA .7106 BC3 4.5504 FSP 3138 SG1 3178.1 SG2 172.6 THA 178.27 EL1 30.6 EL2 5.6 ALF 9.09

LAUNCH DATE MAY 10 1971

FLIGHT TIME 218.00

ARRIVAL DATE DEC 14 1971

HELIOCENTRIC CONIC

RL 151.05 LAL .00 LOL 228.70 VL 32.226 GAL -1.82 AZL 91.93 HCA 186.74 SMA 184.65 ECC .18254 INC 1.9319 V1 29.498
RP 215.71 LAP -.46 LOP 34.95 VP 22.823 GAP 4.13 AZP 88.12 TAL 354.68 TAP 160.90 RCA 150.95 APO 218.36 V2 25.461
RC 156.143 GL -20.91 GP .68 ZAL 106.50 ZAP 83.55 ETS 179.42 ZAE 126.60 ETE 179.99 ZAC 102.73 ETC 273.32 LVI -12.40

PLANETOCENTRIC CONIC

C3 9.270 VHL 3.045 DLA -20.43 RAL 346.79 RAD 6637.7 VEL 11.374 PTH 6.43 VHP 2.841 DPA -21.50 RAP 300.84 ECC 1.1528
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 14 11 2376.65 -1.22 61.23 197.56 137.56 17 53 48 1376.7 17.01 45.13
60.00 18 33 43 2165.07 3.61 46.81 202.19 130.17 19 9 48 1165.1 19.22 28.07
70.00 20 18 34 1855.72 9.01 25.77 206.22 123.08 20 49 50 855.7 21.70 4.62
80.00 22 37 36 1421.41 14.95 356.27 209.67 116.15 23 1 17 421.4 24.44 332.89
86.92 0 54 28 6201.10 20.78 305.24 212.27 109.85 2 39 9 5281.1 27.11 279.97
100.00 1 24 24 6183.92 14.95 295.54 209.67 116.15 3 7 28 5183.9 24.44 272.17
110.00 1 22 17 6190.58 9.01 292.59 206.22 123.08 3 5 27 5190.6 21.70 271.44

DIFFERENTIAL CORRECTIONS

TDE -.1965 TRA .7826 TC3-4.7556 BAU .5900
RDE -.0721 RRA -.0037 RC3 .2204 FAU .25620
FDE .7480 FRA 6.8846 FC-23.9272 BSP 5250
BDE .2093 BRA .7826 BC3 4.7607 FSP 3133

MID-COURSE EXECUTION ACCURACY

SGT 3365.6 SGR 191.1 SG3 1794.4
RRT -.5471 RRF -.3708 RTF .9492
SGB 3371.0 R23 .0599 R13 -.9493
SG1 3367.3 SG2 159.9 THA 178.22

ORBIT DETERMINATION ACCURACY

ST 31.5 SR 6.8 SS 57.2
CRT .5686 CRS .3215 CST -.5923
LSA 60.8 MSA 24.8 SSA .6
EL1 31.7 EL2 5.5 ALF 7.21

LAUNCH DATE MAY 10 1971

FLIGHT TIME 220.00

ARRIVAL DATE DEC 16 1971

HELIOCENTRIC CONIC

RL 151.05 LAL .00 LOL 228.70 VL 32.230 GAL -1.88 AZL 91.94 HCA 167.40 SMA 184.71 ECC .18285 INC 1.9391 V1 29.498
RP 216.04 LAP -.42 LOP 36.11 VP 22.585 GAP 3.97 AZP 88.11 TAL 354.33 TAP 161.73 RCA 150.93 APO 218.48 V2 25.424
RC 156.631 GL -20.91 GP .73 ZAL 107.00 ZAP 81.75 ETS 179.43 ZAE 124.71 ETE 179.98 ZAC 102.83 ETC 273.17 LVI -12.22

PLANETOCENTRIC CONIC

C3 9.346 VHL 3.057 DLA -28.23 RAL 347.31 RAD 6637.7 VEL 11.378 PTH 6.43 VHP 2.846 DPA -21.56 RAP 300.15 ECC 1.1538
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 15 9 2382.96 -1.53 61.50 198.09 137.56 17 54 51 1383.0 16.71 45.42
60.00 18 34 10 2172.73 3.27 47.18 202.71 130.19 19 10 23 1172.7 18.91 28.48
70.00 20 18 24 1866.20 8.62 26.33 206.70 123.18 20 49 30 866.2 21.37 5.26
80.00 22 34 17 1440.74 14.36 357.40 210.06 116.46 22 58 18 440.7 24.03 334.19
90.00 1 7 10 6248.31 19.47 302.32 212.40 110.93 2 51 18 5248.3 26.38 277.43
100.00 1 21 5 6203.25 14.36 296.68 210.06 116.46 3 4 28 5203.3 24.03 273.46
110.00 1 21 46 6201.06 8.62 293.15 206.70 123.18 3 5 7 5201.1 21.37 272.08

DIFFERENTIAL CORRECTIONS

TDE -.1904 TRA .8528 TC3-4.9665 BAU .6212
RDE -.0668 RRA -.0092 RC3 .2233 FAU .25518
FDE .7820 FRA 6.9049 FC-23.6384 BSP 5568
BDE .2017 BRA .8528 BC3 4.9715 FSP 3113

MID-COURSE EXECUTION ACCURACY

SGT 3555.1 SGR 186.2 SG3 1784.9
RRT -.6126 RRF -.6355 RTF .9532
SGB 3560.0 R23 .0640 R13 -.9533
SG1 3556.9 SG2 147.1 THA 178.16

ORBIT DETERMINATION ACCURACY

ST 32.9 SR 6.3 SS 57.3
CRT .4986 CRS .3612 CST -.6248
LSA 61.6 MSA 24.6 SSA .6
EL1 33.0 EL2 5.4 ALF 5.58

LAUNCH DATE MAY 10 1971

FLIGHT TIME 222.00

ARRIVAL DATE DEC 18 1971

HELIOCENTRIC CONIC

RL 151.05 LAL .00 LOL 228.70 VL 32.233 GAL -.93 AZL 91.95 HCA 168.56 SMA 184.77 ECC .18320 INC 1.9493 V1 29.498
RP 216.39 LAP -.39 LOP 37.27 VP 22.547 GAP 3.81 AZP 88.09 TAL 354.00 TAP 162.56 RCA 150.92 APO 218.62 V2 25.385
RC 161.134 GL -20.92 GP .80 ZAL 107.51 ZAP 79.99 ETS 179.45 ZAE 122.85 ETE 179.97 ZAC 102.94 ETC 273.02 LVI -12.07

PLANETOCENTRIC CONIC

C3 9.429 VHL 3.071 DLA -28.02 RAL 347.84 RAD 6637.7 VEL 11.381 PTH 6.43 VHP 2.853 DPA -21.60 RAP 299.51 ECC 1.1552
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 16 11 2389.33 -1.85 61.76 198.64 137.55 17 56 1 1389.3 16.40 45.72
60.00 18 34 44 2180.40 2.94 47.55 203.25 130.21 19 11 4 1180.4 18.60 28.89
70.00 20 18 3 1876.97 8.23 26.88 207.21 123.27 20 49 19 876.6 21.05 5.89
80.00 22 31 28 1438.93 13.81 356.47 210.49 116.74 22 55 45 458.9 23.64 335.39
90.00 0 51 5 1021.24 17.94 328.23 212.45 112.23 1 8 6 21.2 25.55 303.79
100.00 1 18 14 6221.45 13.81 297.74 210.49 116.74 3 1 55 5221.4 23.64 274.67
110.00 1 21 25 6211.43 8.23 293.71 207.21 123.27 3 4 56 5211.4 21.05 272.71

DIFFERENTIAL CORRECTIONS

TDE -.1778 TRA .9301 TC3-5.1480 BAU .6498
RDE -.0818 RRA -.0155 RC3 .2264 FAU .25212
FDE .8608 FRA 6.9561 FC-23.1491 BSP 5937
BDE .1882 BRA .9303 BC3 5.1530 FSP 3107

MID-COURSE EXECUTION ACCURACY

SGT 3737.8 SGR 183.4 SG3 1772.5
RRT -.8794 RRF -.7022 RTF .562
SGB 3742.3 R23 .0706 R13 -.9563
SG1 3739.8 SG2 134.5 THA 178.09

ORBIT DETERMINATION ACCURACY

ST 34.2 SR 5.8 SS 58.1
CRT .4052 CRS .4220 CST -.6548
LSA 63.1 MSA 24.4 SSA .5
EL1 34.2 EL2 5.3 ALF 4.01

LAUNCH DATE MAY 10 1971

FLIGHT TIME 224.00

ARRIVAL DATE DEC 20 1971

HELIOCENTRIC CONIC

RL 151.05 LAL .00 LOL 228.70 VL 32.238 GAL -.98 AZL 91.96 HCA 169.72 SMA 184.84 ECC .18359 INC 1.9609 V1 29.498
RP 216.73 LAP -.35 LOP 38.43 VP 22.510 GAP 3.65 AZP 88.07 TAL 353.65 TAP 163.37 RCA 150.90 APO 218.77 V2 25.347
RC 143.649 GL -20.95 GP .89 ZAL 109.03 ZAP 78.27 ETS 179.47 ZAE 121.02 ETE 179.96 ZAC 103.06 ETC 272.89 LVI -11.94

PLANETOCENTRIC CONIC

C3 9.520 VHL 3.083 DLA -27.83 RAL 348.40 RAD 6637.8 VEL 11.385 PTH 6.44 VHP 2.863 DPA -21.62 RAP 298.89 ECC 1.1567
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 17 21 2395.66 -2.17 62.03 199.22 137.54 17 57 17 1395.7 16.09 46.01
60.00 18 35 28 2187.98 2.60 47.91 203.81 130.23 19 11 54 1188.0 18.29 29.30
70.00 20 17 53 1886.66 7.85 27.42 207.75 123.35 20 49 20 886.7 20.73 6.50
80.00 22 29 6 1475.85 13.29 359.46 210.96 116.99 22 53 42 475.9 23.26 336.51
90.00 0 42 21 1058.86 16.96 330.55 212.73 112.98 0 59 59 56.9 24.97 306.39
100.00 1 15 54 6238.37 13.29 298.73 210.96 116.99 2 59 52 5238.4 23.26 275.78
110.00 1 21 16 6221.52 7.85 294.25 207.75 123.35 3 4 57 5221.5 20.73 273.32

DIFFERENTIAL CORRECTIONS

TDE -.1677 TRA 1.0072 TC3-5.3339 BAU .6795
RDE -.0565 RRA -.0223 RC3 .2314 FAU .24993
FDE .9102 FRA 6.9946 FC-22.7279 BSP 6274
BDE .1770 BRA 1.0075 BC3 5.3389 FSP 3083

MID-COURSE EXECUTION ACCURACY

SGT 3924.8 SGR 183.2 SG3 1760.7
RRT -.7459 RRF -.7680 RTF .9590
SGB 3929.1 R23 .0781 R13 -.9591
SG1 3927.2 SG2 122.0 THA 178.00

ORBIT DETERMINATION ACCURACY

ST 35.7 SR 5.3 SS 58.6
CRT .3086 CRS .4803 CST -.6834
LSA 64.4 MSA 24.2 SSA .5
EL1 35.7 EL2 5.0 ALF 2.67

LAUNCH DATE MAY 10 1971

FLIGHT TIME 226.00

ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC
 RL 151.05 LAL .00 LOL 226.70 VL 32.242 GAL -1.04 AZL 91.99 HCA 170.87 SMA 184.91 ECC .18401 INC 1.9740 V1 29.498
 RP 217.08 LAP -.31 LOP 39.59 VP 22.472 GAP 3.49 AZP 88.03 TAL 353.30 YAP 164.17 RCA 150.89 APO 218.94 V2 25.308
 RC 186.178 GL -20.99 GP .99 ZAL 108.58 ZAP 76.80 ETS 179.51 ZAE 119.22 ETE 179.83 ZAC 103.20 ETC 272.76 LVI -11.85

DISTANCE 532.595 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.621 VHL 3.102 DLA -27.65 RAL 348.97 RAD 8637.8 VEL 11.390 PTH 6.44 VHP 2.874 DPA -21.61 RAP 298.32 ECC 1.1583
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 18 40 2401.84 -2.48 62.28 199.84 137.53 17 58 42 1401.8 15.79 46.29
 60.00 18 36 20 2195.29 2.28 48.26 204.42 130.25 19 12 55 1195.3 17.99 29.69
 70.00 20 18 2 1898.22 7.49 27.93 208.33 123.42 20 49 36 896.2 20.42 7.07
 80.00 22 27 23 1491.23 12.81 .35 211.49 117.20 22 52 15 491.2 22.91 337.52
 90.00 0 36 30 1087.55 16.19 332.31 213.14 113.51 0 54 38 87.6 24.49 308.36
 100.00 1 14 11 6293.74 12.81 299.82 211.49 117.20 2 58 29 5253.7 22.91 276.79
 110.00 1 21 24 6231.08 7.49 294.75 208.33 123.42 3 5 15 5231.1 20.42 273.90

DIFFERENTIAL CORRECTIONS
 TDE -.1613 TRA 1.0808 TC3-5.9258 BAW .7114 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.0513 RRA -.0298 RC3 .2386 FAU .24771 RRT -.8078 RRF -.8294 RTF .9609 ST 37.3 SR 4.8 SS 58.8
 FDE .8491 FRA 7.0005 FC-22.2804 B8P 8590 SGB 4117.1 R23 .0893 R13 -.9610 CRT .2102 CR8 .5454 C8T -.7024 LSA 65.4 MSA 24.3 SSA .4
 BDE .1692 BRA 1.0808 BC3 5.9308 F8P 3036 S61 4115.6 S62 109.8 THA 177.90 EL1 37.3 EL2 4.7 ALF 1.59

LAUNCH DATE MAY 10 1971

FLIGHT TIME 228.00

ARRIVAL DATE DEC 24 1971

HELIOCENTRIC CONIC
 RL 151.05 LAL .00 LOL 228.70 VL 32.247 GAL -1.10 AZL 91.99 HCA 172.02 SMA 184.99 ECC .18447 INC 1.9927 V1 29.498
 RP 217.43 LAP -.28 LOP 40.73 VP 22.438 GAP 3.34 AZP 88.03 TAL 352.93 YAP 164.95 RCA 150.87 APO 219.12 V2 25.289
 RC 186.717 GL -21.08 GP 1.13 ZAL 109.09 ZAP 74.97 ETS 179.56 ZAE 117.47 ETE 179.89 ZAC 103.36 ETC 272.64 LVI -11.80

DISTANCE 536.770 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.732 VHL 3.120 DLA -27.49 RAL 349.97 RAD 8637.9 VEL 11.394 PTH 6.45 VHP 2.887 DPA -21.56 RAP 297.79 ECC 1.1602
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 20 14 2407.62 -2.77 62.53 200.50 137.51 18 0 22 1407.6 15.91 46.55
 60.00 18 37 32 2202.03 1.99 48.58 205.07 130.26 19 14 14 1202.0 17.72 30.05
 70.00 20 18 35 1904.85 7.17 28.39 208.97 123.40 20 50 20 904.8 20.15 7.99
 80.00 22 26 28 1504.51 12.40 1.12 212.08 117.38 22 51 33 504.5 22.61 338.38
 90.00 0 32 48 1109.80 15.58 333.65 213.66 113.90 0 51 18 109.8 24.10 309.87
 100.00 1 13 16 6287.83 12.40 300.39 212.08 117.38 2 57 43 5267.0 22.61 277.66
 110.00 1 21 58 6239.70 7.17 295.21 208.97 123.48 3 5 57 5239.7 20.15 274.41

DIFFERENTIAL CORRECTIONS
 TDE -.1495 TRA 1.1612 TC3-5.6847 BAW .7403 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.0464 RRA -.0387 RC3 .2479 FAU .24433 RRT -.8622 RRF -.8833 RTF .9629 ST 39.0 SR 4.4 SS 59.3
 FDE 1.0036 FRA 7.0209 FC-21.7343 B8P 8892 SGB 4298.1 R23 .1039 R13 -.9630 CRT .0803 CR8 .6263 C8T -.7247 LSA 66.8 MSA 24.1 SSA .4
 BDE .1565 BRA 1.1619 BC3 5.6901 F8P 3012 S61 4297.0 S62 98.1 THA 177.77 EL1 39.0 EL2 4.4 ALF .53

LAUNCH DATE MAY 10 1971

FLIGHT TIME 230.00

ARRIVAL DATE DEC 26 1971

HELIOCENTRIC CONIC
 RL 151.05 LAL .00 LOL 228.70 VL 32.252 GAL -1.16 AZL 92.02 HCA 173.18 SMA 185.08 ECC .18496 INC 2.0158 V1 29.498
 RP 217.79 LAP -.24 LOP 41.87 VP 22.388 GAP 3.18 AZP 88.00 TAL 352.56 YAP 165.73 RCA 150.85 APO 219.32 V2 25.229
 RC 171.268 GL -21.21 GP 1.31 ZAL 109.62 ZAP 73.38 ETS 179.64 ZAE 115.74 ETE 179.84 ZAC 103.57 ETC 272.54 LVI -11.80

DISTANCE 540.944 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.856 VHL 3.139 DLA -27.38 RAL 350.19 RAD 8638.0 VEL 11.400 PTH 6.45 VHP 2.902 DPA -21.48 RAP 297.28 ECC 1.1622
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 22 9 2412.63 -3.02 62.74 201.21 137.50 18 2 22 1412.6 15.27 46.78
 60.00 18 39 11 2207.71 1.74 48.86 205.78 130.27 19 15 59 1207.7 17.49 30.39
 70.00 20 19 48 1911.85 6.91 28.78 209.67 123.53 20 51 40 911.9 19.92 8.01
 80.00 22 26 48 1514.68 12.08 1.70 212.76 117.51 22 51 55 514.7 22.37 339.05
 90.00 0 31 19 1125.40 15.14 334.60 214.29 114.17 0 50 5 125.4 23.82 310.92
 100.00 1 13 26 6277.19 12.08 300.98 212.76 117.51 2 58 5 5277.2 22.37 278.32
 110.00 1 23 10 6246.71 6.91 295.58 209.67 123.53 3 7 17 5246.7 19.92 274.83

DIFFERENTIAL CORRECTIONS
 TDE -.1496 TRA 1.2311 TC3-5.6782 BAW .7753 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.0410 RRA -.0485 RC3 .2647 FAU .24591 RRT -.9076 RRF -.9274 RTF .5.73 ST 40.7 SR 4.0 SS 58.0
 FDE .9506 FRA 6.9292 FC-21.6002 B8P 7081 SGB 4488.0 R23 .1169 R13 -.9674 CRT -.0431 CR8 .6948 C8T -.7466 LSA 66.9 MSA 23.7 SSA .3
 BDE .1551 BRA 1.2320 BC3 5.6842 F8P 2870 S61 4487.1 S62 87.1 THA 177.59 EL1 40.7 EL2 4.0 ALF 179.75

LAUNCH DATE MAY 10 1971

FLIGHT TIME 232.00

ARRIVAL DATE DEC 28 1971

HELIOCENTRIC CONIC
 RL 151.05 LAL .00 LOL 228.70 VL 32.258 GAL -1.22 AZL 92.05 HCA 174.31 SMA 185.18 ECC .18549 INC 2.0488 V1 29.498
 RP 218.15 LAP -.20 LOP 43.01 VP 22.362 GAP 3.03 AZP 87.96 TAL 352.18 YAP 166.49 RCA 150.83 APO 219.32 V2 25.189
 RC 173.829 GL -21.43 GP 1.56 ZAL 110.14 ZAP 71.84 ETS 179.74 ZAE 114.06 ETE 179.78 ZAC 103.84 ETC 272.42 LVI -11.80

DISTANCE 545.112 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.999 VHL 3.162 DLA -27.34 RAL 350.87 RAD 8638.0 VEL 11.406 PTH 6.46 VHP 2.919 DPA -21.28 RAP 296.81 ECC 1.1646
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 24 39 2416.39 -3.21 62.89 202.01 137.49 18 4 55 1416.4 15.09 46.94
 60.00 18 41 36 2211.72 1.56 49.05 206.59 130.28 19 18 27 1211.7 17.32 30.56
 70.00 20 22 3 1916.33 6.74 29.00 210.49 123.56 20 53 59 916.3 19.78 8.27
 80.00 22 28 34 1520.27 11.90 2.02 213.58 117.59 22 53 54 520.3 22.23 339.41
 90.00 0 32 39 1132.81 14.94 335.04 215.10 114.29 0 51 32 132.8 23.68 311.42
 100.00 1 15 22 6282.78 11.90 301.30 213.58 117.59 3 0 4 5282.8 22.23 276.68
 110.00 1 25 25 6251.19 6.74 295.82 210.49 123.56 3 9 36 5251.2 19.78 275.10

DIFFERENTIAL CORRECTIONS
 TDE -.1444 TRA 1.3109 TC3-6.0297 BAW .8069 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.0365 RRA -.0617 RC3 .2850 FAU .24194 RRT -.9400 RRF -.9595 RTF .9676 ST 42.6 SR 3.8 SS 58.5
 FDE 1.0013 FRA 6.9432 FC-20.9480 B8P 7341 SGB 4670.4 R23 .1458 R13 -.9677 CRT -.2095 CR8 .7983 C8T -.7545 LSA 68.3 MSA 24.1 SSA .3
 BDE .1469 BRA 1.3124 BC3 6.0364 F8P 2833 S61 4669.8 S62 78.3 THA 177.35 EL1 42.6 EL2 3.7 ALF 178.92

LAUNCH DATE MAY 10 1971

FLIGHT TIME 234.00

ARRIVAL DATE DEC 30 1971

Heliocentric Conic

DISTANCE 549.277

EARTH TO MARS

RL 151.08 LAL .00 LOL 228.70 VL 32.284 GAL -1.28 AZL 92.10 HCA 175.44 SMA 185.28 ECC .18605 INC 2.1039 V1 29.498

Planetocentric Conic

C3 10.168 VHL 3.189 DLA -27.43 RAL 351.83 RAD 8638.1 VEL 11.413 PTH 6.46 VHP 2.937 DPA -20.97 RAP 296.37 ECC 1.1673

Differential Corrections

TDE -.1181 TRA 1.4185 TC3-6.0678 BAU .8259 8GT 4823.5 8GR 284.7 8G3 1656.8 ST 44.7 SR 3.9 88 80.0

LAUNCH DATE MAY 10 1971

FLIGHT TIME 236.00

ARRIVAL DATE JAN 1 1972

Heliocentric Conic

DISTANCE 553.439

EARTH TO MARS

RL 151.05 LAL .00 LOL 228.70 VL 32.270 GAL -1.35 AZL 92.19 HCA 176.58 SMA 185.38 ECC .18664 INC 2.1859 V1 29.498

Planetocentric Conic

C3 10.387 VHL 3.223 DLA -27.79 RAL 352.55 RAD 8638.2 VEL 11.423 PTH 6.47 VHP 2.957 DPA -20.42 RAP 295.92 ECC 1.1709

Differential Corrections

TDE -.1312 TRA 1.4978 TC3-6.1974 BAU .8621 8GT 5007.2 8GR 325.6 8G3 1630.8 ST 47.0 SR 4.2 88 59.5

LAUNCH DATE MAY 10 1971

FLIGHT TIME 236.00

ARRIVAL DATE JAN 3 1972

Heliocentric Conic

DISTANCE 557.597

EARTH TO MARS

RL 151.05 LAL .00 LOL 228.70 VL 32.277 GAL -1.42 AZL 92.35 HCA 177.71 SMA 185.49 ECC .18726 INC 2.3431 V1 29.498

Planetocentric Conic

C3 10.728 VHL 3.275 DLA -28.81 RAL 353.84 RAD 8638.4 VEL 11.438 PTH 6.49 VHP 2.981 DPA -19.26 RAP 295.42 ECC 1.1768

Differential Corrections

TDE -.2088 TRA 1.8420 TC3-6.4118 BAU .9223 8GT 5220.1 8GR 446.7 8G3 1601.3 ST 50.0 SR 5.2 88 86.7

LAUNCH DATE MAY 10 1971

FLIGHT TIME 240.00

ARRIVAL DATE JAN 5 1972

Heliocentric Conic

DISTANCE 561.754

EARTH TO MARS

RL 151.05 LAL .00 LOL 228.70 VL 32.283 GAL -1.48 AZL 92.84 HCA 178.83 SMA 185.60 ECC .18791 INC 2.8218 V1 29.498

Planetocentric Conic

C3 11.589 VHL 3.404 DLA -32.26 RAL 356.83 RAD 8638.9 VEL 11.475 PTH 6.52 VHP 3.023 DPA -15.80 RAP 294.61 ECC 1.1907

Differential Corrections

TDE -.3770 TRA 1.5936 TC3-6.4229 BAU 1.0034 8GT 5439.3 8GR 793.3 8G3 1550.5 ST 57.6 SR 8.5 88 52.2

LAUNCH DATE MAY 10 1971

FLIGHT TIME 252.00

ARRIVAL DATE JAN 17 1972

HELIOCENTRIC CONIC
 RL 151.05 LAL .00 LOL 228.70 VL 32.329 GAL -1.92 AZL 91.64 HCA 185.51 SMA 186.37 ECC .19236 INC 1.6320 V1 29.498
 RP 221.88 LAP .18 LOP 54.21 VP 22.003 GAP 1.53 AZP 88.37 TAL 348.03 TAP 173.84 RCA 150.52 APO 222.22 V2 24.780
 RC 199.945 GL -16.25 GP -1.48 ZAL 116.73 ZAP 58.74 ETS 178.28 ZAE 99.09 ETE 180.88 ZAC 100.91 ETC 271.93 LVI -8.36

PLANETOCENTRIC CONIC
 C3 10.917 VHL 3.304 DLA -20.18 RAL 354.37 RAD 6630.5 VEL 11.446 PTH 6.50 VHP 3.142 DPA -24.59 RAP 295.30 ECC 1.1797
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 4 25 2590.05 -11.87 70.30 205.07 136.42 17 47 35 1590.1 6.50 54.50
 60.00 18 8 9 2420.55 -7.60 59.07 209.11 129.70 18 48 30 1420.6 8.49 41.13
 70.00 19 28 48 2183.48 -3.43 42.98 212.25 124.00 20 5 11 1183.5 10.46 23.36
 80.00 21 5 2 1882.27 -.09 22.20 214.33 119.86 21 36 25 882.3 12.07 1.44
 90.00 22 39 33 1577.38 1.28 .54 215.09 118.25 23 5 51 577.4 12.72 339.36
 100.00 23 47 54 1356.74 -.09 343.57 214.33 119.86 24 10 31 356.7 12.07 322.81
 110.00 0 32 10 1230.30 -3.43 331.90 212.25 124.00 0 52 40 230.3 10.46 312.26

DIFFERENTIAL CORRECTIONS
 TDE .2018 TRA 2.1227 TC3-7.4715 BAU 1.0905 SGT 6315.0 SGR 88.7 SCS 1415.1
 RDE .0497 RRA .0084 RC3 -.0597 FAU .19656 RRT .4822 RRF .5575 RTF .9709 CRT .3398 CRS -.6755 CST -.9222
 FDE 1.7448 FRA 6.8851 FC-15.5877 B8P 10109 SGB 6315.8 R23 .1019 R13 .9709 LSA 88.1 MSA 18.0 SBA .3
 BDE .2089 BRA 2.1227 BC3 7.4717 F8P 2431 SG1 6315.1 SCS 77.7 THA .39 EL1 81.8 EL2 3.7 ALF 1.23

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 10 1971

FLIGHT TIME 254.00

ARRIVAL DATE JAN 19 1972

HELIOCENTRIC CONIC
 RL 151.05 LAL .00 LOL 228.70 VL 32.337 GAL -2.00 AZL 91.68 HCA 186.61 SMA 186.51 ECC .19319 INC 1.6721 V1 29.498
 RP 222.27 LAP .19 LOP 55.31 VP 21.969 GAP 1.39 AZP 88.34 TAL 347.39 TAP 174.20 RCA 150.48 APO 222.54 V2 24.738
 RC 202.595 GL -16.46 GP -1.22 ZAL 117.32 ZAP 57.64 ETS 178.40 ZAE 97.79 ETE 180.61 ZAC 101.16 ETC 271.94 LVI -8.60

PLANETOCENTRIC CONIC
 C3 11.122 VHL 3.335 DLA -20.11 RAL 355.06 RAD 6638.6 VEL 11.455 PTH 6.50 VHP 3.168 DPA -24.33 RAP 295.26 ECC 1.1830
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 6 52 2595.39 -12.13 70.53 205.94 136.37 17 50 7 1595.4 6.24 54.73
 60.00 18 10 30 2426.18 -7.85 59.34 209.99 129.66 18 50 56 1426.2 8.25 41.40
 70.00 19 31 0 2189.53 -3.66 43.30 213.14 123.98 20 7 29 1189.5 10.24 23.69
 80.00 21 7 4 1888.84 -.31 22.56 215.23 119.86 21 38 33 888.8 11.86 1.82
 90.00 22 41 30 1584.24 1.05 .92 215.99 118.26 23 7 54 584.2 12.52 339.76
 100.00 23 49 58 1363.31 -.31 343.93 215.23 119.86 24 12 39 363.3 11.86 323.19
 110.00 0 34 22 1236.35 -3.66 332.22 213.14 123.98 0 54 58 236.4 10.24 312.61

DIFFERENTIAL CORRECTIONS
 TDE .2462 TRA 2.2442 TC3-7.4361 BAU 1.1057 SGT 6452.6 SGR 89.8 SCS 1386.4
 RDE .0502 RRA -.0057 RC3 -.0337 FAU .18984 RRT .1809 RRF .2509 RTF .9715 CRT .2890 CRS -.6172 CST -.9308
 FDE 1.8147 FRA 6.7081 FC-14.7770 B8P 10660 SGB 6453.3 R23 .0764 R13 .9715 LSA 91.5 MSA 17.7 SBA .4
 BDE .2512 BRA 2.2442 BC3 7.4362 F8P 2432 SG1 6452.7 SCS 88.3 THA .14 EL1 65.6 EL2 4.1 ALF 1.10

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 10 1971

FLIGHT TIME 256.00

ARRIVAL DATE JAN 21 1972

HELIOCENTRIC CONIC
 RL 151.05 LAL .00 LOL 228.70 VL 32.346 GAL -2.08 AZL 91.70 HCA 187.70 SMA 186.63 ECC .19405 INC 1.6988 V1 29.498
 RP 222.68 LAP .23 LOP 56.40 VP 21.934 GAP 1.24 AZP 88.32 TAL 347.14 TAP 174.84 RCA 150.43 APO 222.87 V2 24.696
 RC 205.250 GL -16.36 GP -1.04 ZAL 117.92 ZAP 56.57 ETS 178.49 ZAE 96.51 ETE 180.56 ZAC 101.34 ETC 271.95 LVI -8.78

PLANETOCENTRIC CONIC
 C3 11.325 VHL 3.365 DLA -19.94 RAL 355.71 RAD 6638.7 VEL 11.463 PTH 6.51 VHP 3.195 DPA -24.15 RAP 295.27 ECC 1.1864
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 8 44 2602.61 -12.49 70.85 206.75 136.29 17 52 7 1602.6 5.87 55.03
 60.00 18 12 6 2434.07 -8.19 59.73 210.81 129.60 18 52 41 1434.1 7.90 41.79
 70.00 19 32 17 2198.39 -4.00 43.76 213.96 123.95 20 8 55 1198.4 9.92 24.17
 80.00 21 7 59 1898.88 -.65 23.11 216.05 119.85 21 39 38 898.9 11.54 2.40
 90.00 22 42 12 1594.94 .71 1.52 216.81 118.27 23 8 47 594.9 12.20 340.39
 100.00 23 50 51 1373.35 -.65 344.48 216.05 119.85 24 13 44 373.4 11.54 323.76
 110.00 0 35 39 1245.21 -4.00 332.68 213.96 123.95 0 56 24 245.2 9.92 313.09

DIFFERENTIAL CORRECTIONS
 TDE .2679 TRA 2.3600 TC3-7.4250 BAU 1.1242 SGT 6594.3 SGR 100.4 SCS 1359.0
 RDE .0596 RRA -.0171 RC3 -.0192 FAU .18247 RRT -.0323 RRF .0318 RTF .5.03 CRT .2630 CRS -.5888 CST -.9393
 FDE 1.9024 FRA 6.7344 FC-13.9483 B8P 11129 SGB 6595.1 R23 -.0632 R13 -.9703 LSA 95.1 MSA 17.9 SBA .4
 BDE .2833 BRA 2.3601 BC3 7.4250 F8P 2452 SG1 6594.3 SCS 100.4 THA 179.97 EL1 69.1 EL2 4.6 ALF 1.04

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 10 1971

FLIGHT TIME 258.00

ARRIVAL DATE JAN 23 1972

HELIOCENTRIC CONIC
 RL 151.05 LAL .00 LOL 228.70 VL 32.354 GAL -2.16 AZL 91.72 HCA 188.80 SMA 186.80 ECC .19492 INC 1.7174 V1 29.498
 RP 223.04 LAP .26 LOP 57.50 VP 21.889 GAP 1.09 AZP 88.30 TAL 346.69 TAP 175.48 RCA 150.38 APO 223.21 V2 24.654
 RC 207.907 GL -16.60 GP -.90 ZAL 118.53 ZAP 55.54 ETS 178.56 ZAE 95.26 ETE 180.52 ZAC 101.48 ETC 271.96 LVI -8.93

PLANETOCENTRIC CONIC
 C3 11.530 VHL 3.398 DLA -19.72 RAL 356.33 RAD 6638.8 VEL 11.472 PTH 6.52 VHP 3.223 DPA -24.00 RAP 295.31 ECC 1.1897
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 10 14 2611.00 -12.90 71.22 207.53 136.21 17 53 45 1611.0 5.45 55.39
 60.00 18 13 18 2443.36 -8.59 60.18 211.60 129.53 18 53 59 1443.4 7.50 42.24
 70.00 19 33 0 2208.96 -4.40 44.32 214.74 123.90 20 9 49 1209.0 9.52 24.74
 80.00 21 8 12 1911.01 -1.06 23.78 216.82 119.84 21 40 3 911.0 11.16 3.09
 90.00 22 42 10 1607.93 .29 2.24 217.57 118.28 23 8 58 607.9 11.82 341.15
 100.00 23 51 4 1385.49 -1.06 345.15 216.82 119.84 24 14 9 385.5 11.16 324.46
 110.00 0 36 22 1255.78 -4.40 333.24 214.74 123.90 0 57 18 255.8 9.52 313.66

DIFFERENTIAL CORRECTIONS
 TDE .3190 TRA 2.4639 TC3-7.4568 BAU 1.1494 SGT 6740.9 SGR 114.3 SCS 1331.7
 RDE .0613 RRA -.0269 RC3 -.0100 FAU .17727 RRT -.1594 RRF -.1021 RTF .9698 CRT .2433 CRS -.5624 CST -.9381
 FDE 1.9442 FRA 6.7199 FC-13.3107 B8P 11428 SGB 6741.8 R23 -.0532 R13 -.9698 LSA 97.5 MSA 18.0 SBA .5
 BDE .3249 BRA 2.4641 BC3 7.4568 F8P 2423 SG1 6740.9 SCS 112.8 THA 179.85 EL1 71.9 EL2 5.1 ALF 1.02

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 10 1971 FLIGHT TIME 260.00 ARRIVAL DATE JAN 25 1972

HELIOCENTRIC CONIC DISTANCE 603.061 EARTH TO MARS
 RL 151.05 LAL .00 LOL 226.70 VL 32.363 GAL -2.24 AZL 91.73 HCA 189.88 SMA 186.94 ECC .19582 INC 1.7328 V1 29.498
 RP 223.42 LAP .30 LOP 58.58 VP 21.865 GAP .94 AZP 88.29 TAL 346.23 TAP 176.11 RCA 150.34 APO 223.55 V2 24.612
 RC 210.586 GL -16.59 GP -.79 ZAL 119.14 ZAP 54.54 ETS 178.62 ZAE 94.03 ETE 180.49 ZAC 101.58 ETC 271.99 LVI -9.06

PLANETOCENTRIC CONIC
 C3 11.736 VHL 3.426 DLA -19.46 RAL 356.92 RAD 6638.9 VEL 11.481 PTH 6.53 VHP 3.251 DPA -23.88 RAP 295.39 ECC 1.1932
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 11 29 2620.16 -13.35 71.63 208.29 136.10 17 85 9 1620.2 4.99 58.77
 60.00 18 14 6 2453.55 -9.03 60.68 212.36 129.44 18 55 1 1453.5 7.06 42.74
 70.00 19 33 22 2220.64 -4.85 44.93 215.49 123.85 20 10 22 1220.6 9.09 25.36
 80.00 21 7 59 1924.47 -1.52 24.52 217.56 119.82 21 40 4 924.5 10.73 3.86
 90.00 22 41 39 1622.35 -.17 3.05 218.31 118.28 23 8 41 622.4 11.39 341.99
 100.00 23 50 51 1398.94 -1.32 345.89 217.56 119.82 24 14 10 398.9 10.73 325.23
 110.00 0 36 44 1267.46 -4.85 333.85 215.49 123.85 0 57 51 267.5 9.09 314.28

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .3471 TRA 2.5608 TC3-7.5025 BAU 1.1772 SGT 6884.4 SGR 129.0 SG3 1302.2 ST 74.5 SR 5.7 SS 67.8
 RDE .0671 RRA -.0357 RC3 -.0044 FAU .17431 RRT -.2331 RRF -.1028 RTF .9708 CRT .2318 CR8 -.5432 C8T -.9419
 FDE 1.9420 FRA 6.6462 FC-12.8583 B8P 11645 SGB 6885.6 R23 -.0448 R13 -.9708 LSA 99.1 MSA 17.8 S8A .5
 BDE .3535 BRA 2.5611 BC3 7.5025 F8P 2341 SGI 6884.5 SGI 125.4 THA 179.75 EL1 74.5 EL2 5.5 ALF 1.02

LAUNCH DATE MAY 10 1971 FLIGHT TIME 262.00 ARRIVAL DATE JAN 27 1972

HELIOCENTRIC CONIC DISTANCE 607.166 EARTH TO MARS
 RL 151.05 LAL .00 LOL 226.70 VL 32.372 GAL -2.33 AZL 91.75 HCA 190.97 SMA 187.09 ECC .19674 INC 1.7441 V1 29.498
 RP 223.81 LAP .33 LOP 59.67 VP 21.831 GAP .80 AZP 88.29 TAL 345.77 TAP 176.74 RCA 150.29 APO 223.90 V2 24.571
 RC 213.227 GL -16.56 GP -.71 ZAL 119.75 ZAP 53.57 ETS 178.66 ZAE 92.84 ETE 180.47 ZAC 101.66 ETC 272.02 LVI -9.19

PLANETOCENTRIC CONIC
 C3 11.948 VHL 3.457 DLA -19.18 RAL 357.51 RAD 6639.0 VEL 11.490 PTH 6.54 VHP 3.279 DPA -23.78 RAP 295.50 ECC 1.1968
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 12 33 2629.95 -13.83 72.06 209.04 135.99 17 56 23 1629.9 4.50 56.19
 60.00 18 14 47 2464.46 -9.51 61.22 213.10 129.35 18 55 52 1464.5 6.58 43.27
 70.00 19 33 28 2233.16 -5.32 45.59 216.23 123.79 20 10 41 1233.2 8.63 26.04
 80.00 21 7 29 1938.92 -2.01 25.31 218.29 119.80 21 39 48 938.9 10.26 4.68
 90.00 22 40 49 1637.84 -.67 3.91 219.03 118.27 23 8 7 637.8 10.92 342.89
 100.00 23 50 21 1413.39 -2.01 346.68 218.29 119.80 24 13 54 413.4 10.26 326.05
 110.00 0 36 50 1279.98 -5.32 334.51 216.23 123.79 0 58 10 280.0 8.63 314.95

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE .0734 RRA -.0436 RC3 -.0006 FAU .17023 RRT -.2767 RRF -.2303 RTF .9706 CRT .2301 CR8 -.5332 C8T -.9448
 FDE 1.9826 FRA 6.6032 FC-12.3347 B8P 11869 SGB 7029.0 R23 -.0399 R13 -.9706 LSA 101.1 MSA 17.9 S8A .6
 BDE .3845 BRA 2.6614 BC3 7.5422 F8P 2288 SGI 7027.7 SGI 136.2 THA 179.68 EL1 77.1 EL2 6.0 ALF 1.06

LAUNCH DATE MAY 10 1971 FLIGHT TIME 264.00 ARRIVAL DATE JAN 29 1972

HELIOCENTRIC CONIC DISTANCE 611.265 EARTH TO MARS
 RL 151.05 LAL .00 LOL 226.70 VL 32.381 GAL -2.41 AZL 91.75 HCA 192.05 SMA 187.23 ECC .19788 INC 1.7535 V1 29.498
 RP 224.20 LAP .37 LOP 60.75 VP 21.797 GAP .65 AZP 88.28 TAL 345.31 TAP 177.36 RCA 150.23 APO 224.26 V2 24.529
 RC 215.890 GL -16.50 GP -.64 ZAL 120.37 ZAP 52.64 ETS 178.70 ZAE 91.66 ETE 180.45 ZAC 101.72 ETC 272.05 LVI -9.30

PLANETOCENTRIC CONIC
 C3 12.165 VHL 3.488 DLA -18.87 RAL 358.08 RAD 6639.1 VEL 11.500 PTH 6.55 VHP 3.308 DPA -23.69 RAP 295.64 ECC 1.2002
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 13 31 2640.17 -14.33 72.52 209.77 135.87 17 57 31 1640.2 3.99 56.82
 60.00 18 15 17 2475.88 -10.00 61.78 213.84 129.25 18 56 33 1475.9 6.08 43.82
 70.00 19 33 24 2246.27 -5.82 46.28 216.96 123.71 20 10 50 1246.3 8.14 26.74
 80.00 21 6 46 1954.03 -2.52 26.14 219.01 119.76 21 39 20 954.0 9.78 5.54
 90.00 22 39 46 1654.02 -1.20 4.81 219.74 118.26 23 7 20 654.0 10.44 343.82
 100.00 23 49 38 1428.50 -2.52 347.51 219.01 119.76 24 13 27 428.5 9.78 326.91
 110.00 0 36 46 1293.09 -5.82 335.20 216.96 123.71 0 58 19 293.1 8.14 315.65

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .4097 TRA 2.7626 TC3-7.5742 BAU 1.2318 SGT 7167.3 SGR 198.4 SG3 1246.7 ST 79.8 SR 6.7 SS 67.5
 RDE .0799 RRA -.0510 RC3 .0018 FAU .16609 RRT -.3023 RRF -.2586 RTF .5.04 CRT .2343 CR8 -.5323 C8T -.9470
 FDE 1.9836 FRA 6.5572 FC-11.8206 B8P 12093 SGB 7169.0 R23 -.0365 R13 -.9704 LSA 103.2 MSA 17.9 S8A .6
 BDE .4174 BRA 2.7631 BC3 7.5742 F8P 2237 SGI 7167.4 SGI 151.0 THA 179.62 EL1 79.8 EL2 6.5 ALF 1.13

LAUNCH DATE MAY 10 1971 FLIGHT TIME 266.00 ARRIVAL DATE JAN 31 1972

HELIOCENTRIC CONIC DISTANCE 615.359 EARTH TO MARS
 RL 151.05 LAL .00 LOL 226.70 VL 32.390 GAL -2.50 AZL 91.76 HCA 193.12 SMA 187.40 ECC .19864 INC 1.7621 V1 29.498
 RP 224.59 LAP .40 LOP 61.82 VP 21.763 GAP .50 AZP 88.28 TAL 344.84 TAP 177.97 RCA 150.18 APO 224.63 V2 24.487
 RC 218.554 GL -16.43 GP -.58 ZAL 120.99 ZAP 51.73 ETS 178.74 ZAE 90.52 ETE 180.43 ZAC 101.77 ETC 272.09 LVI -9.42

PLANETOCENTRIC CONIC
 C3 12.387 VHL 3.520 DLA -18.55 RAL 358.64 RAD 6639.3 VEL 11.509 PTH 6.56 VHP 3.337 DPA -23.61 RAP 295.82 ECC 1.2039
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 14 22 2650.74 -14.84 72.99 210.51 135.74 17 58 33 1650.7 3.46 57.06
 60.00 18 15 41 2487.69 -10.51 62.37 214.57 129.13 18 57 9 1487.7 5.57 44.39
 70.00 19 33 12 2259.83 -6.33 47.00 217.68 123.63 20 10 52 1259.8 7.63 27.46
 80.00 21 5 55 1969.62 -3.04 27.00 219.72 119.72 21 38 45 969.6 9.27 6.42
 90.00 22 38 35 1670.69 -1.73 5.74 220.44 118.23 23 6 26 670.7 9.93 344.79
 100.00 23 48 47 1444.09 -3.04 348.37 219.72 119.72 24 12 51 444.1 9.27 327.79
 110.00 0 36 34 1306.64 -6.33 335.92 217.68 123.63 0 58 21 306.6 7.63 316.37

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .4500 TRA 2.8727 TC3-7.5819 BAU 1.2556 SGT 7304.2 SGR 172.7 SG3 1220.0 ST 82.9 SR 7.2 SS 67.8
 RDE .0866 RRA -.0581 RC3 .0028 FAU .16138 RRT -.3166 RRF -.2749 RTF .9701 CRT .2468 CR8 -.5345 C8T -.9503
 FDE 2.0180 FRA 6.5260 FC-11.2785 B8P 12401 SGB 7306.3 R23 -.0341 R13 -.9701 LSA 105.9 MSA 17.8 S8A .7
 BDE .4563 BRA 2.8733 BC3 7.5819 F8P 2203 SGI 7304.4 SGI 163.9 THA 179.57 EL1 83.0 EL2 7.0 ALF 1.24

LAUNCH DATE MAY 10 1971

FLIGHT TIME 268.00

ARRIVAL DATE FEB 2 1972

HELIOCENTRIC CONIC

DISTANCE 619.447

EARTH TO MARS

RL 151.05 LAL .00 LOL 228.70 VL 32.309 GAL -2.58 AZL 91.77 HCA 194.20 SMA 187.86 ECC .19962 INC 1.7691 V1 29.498
RP 224.98 LAP .43 LOP 62.90 VP 21.730 GAP .36 AZP 88.28 TAL 344.37 TAP 179.57 RCA 150.12 APO 225.00 V2 24.445
RC 221.219 GL -18.34 GP -.53 ZAL 121.61 ZAP 90.85 ETS 178.77 ZAE 89.39 ETE 180.42 ZAC 101.81 ETC 272.14 LVI -9.54

PLANETOCENTRIC CONIC

C3 12.616 VHL 3.552 DLA -18.21 RAL 359.19 RAD 6639.4 VEL 11.519 PTH 6.57 VHP 3.366 DPA -23.53 RAP 296.02 ECC 1.2076
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 17 15 9 2661.59 -15.37 73.48 211.24 135.60 17 59 31 1661.6 2.92 57.51
80.00 18 16 0 2499.80 -11.03 62.97 215.30 129.01 18 57 39 1499.8 5.04 44.97
70.00 19 32 54 2273.71 -6.85 47.73 218.40 123.54 20 10 48 1273.7 7.11 28.19
80.00 21 4 58 1985.56 -3.58 27.88 220.42 119.66 21 38 4 985.6 8.75 7.32
90.00 22 37 18 1687.70 -2.28 8.69 221.14 118.20 23 5 26 687.7 9.41 345.78
100.00 23 47 50 1460.03 -3.58 349.24 220.42 119.66 24 12 10 460.0 8.75 328.69
110.00 0 36 16 1320.53 -6.85 336.65 218.40 123.54 0 58 17 320.5 7.11 317.11

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .4888 TRA 2.9804 TC3-7.5940 BAU 1.2809 SGT 7439.1 SGR 186.8 SG3 1193.1 ST 85.9 SR 7.7 SS 68.0
RDE .0935 RRA -.0648 RC3 .0031 FAU .15710 RRT -.3239 RRF -.2835 RTF .9698 CRT .2592 CR8 -.5362 CST -.9529
PDE 2.0441 FRA 6.4824 FC-10.7801 B8P 12660 SGB 7441.5 R23 -.0325 R13 -.9698 LSA 108.4 MSA 17.8 SSA .7
BDE .4977 BRA 2.9811 BC3 7.5940 F8P 2158 SG1 7439.4 SG2 176.7 THA 179.53 EL1 86.0 EL2 7.5 ALF 1.54

LAUNCH DATE MAY 10 1971

FLIGHT TIME 270.00

ARRIVAL DATE FEB 4 1972

HELIOCENTRIC CONIC

DISTANCE 623.530

EARTH TO MARS

RL 151.05 LAL .00 LOL 228.70 VL 32.408 GAL -2.67 AZL 91.78 HCA 195.27 SMA 187.72 ECC .20062 INC 1.7749 V1 29.498
RP 223.37 LAP .47 LOP 63.96 VP 21.697 GAP .21 AZP 88.29 TAL 343.90 TAP 179.17 RCA 150.06 APO 225.38 V2 24.403
RC 223.884 GL -16.25 GP -.49 ZAL 122.23 ZAP 90.00 ETS 178.79 ZAE 88.29 ETE 180.41 ZAC 101.84 ETC 272.20 LVI -9.66

PLANETOCENTRIC CONIC

C3 12.852 VHL 3.585 DLA -17.87 RAL 359.73 RAD 6639.5 VEL 11.529 PTH 6.58 VHP 3.396 DPA -23.45 RAP 296.24 ECC 1.2115
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 17 15 53 2672.66 -15.91 73.98 211.97 135.45 18 0 26 1672.7 2.36 57.98
80.00 18 16 14 2512.15 -11.56 63.58 216.03 128.88 18 58 7 1512.1 4.49 45.57
70.00 19 32 33 2287.84 -7.38 48.48 219.12 123.44 20 10 40 1287.8 6.58 28.94
80.00 21 3 57 2001.74 -4.13 28.77 221.13 119.60 21 37 19 1001.7 8.22 8.23
90.00 22 35 57 1704.95 -2.83 7.66 221.84 118.15 23 4 22 705.0 8.88 346.75
100.00 23 46 49 1476.21 -4.13 350.14 221.13 119.60 24 11 25 476.2 8.22 329.59
110.00 0 35 55 1334.66 -7.38 337.40 219.12 123.44 0 58 9 334.7 6.58 317.86

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .3265 TRA 3.0882 TC3-7.6085 BAU 1.3073 SGT 7573.7 SGR 200.5 SG3 1166.9 ST 88.8 SR 8.2 SS 67.9
RDE .1006 RRA -.0713 RC3 .0027 FAU .15512 RRT -.3267 RRF -.2875 RTF .9695 CRT .2713 CR8 -.5422 CST -.9552
PDE 2.0630 FRA 6.4373 FC-10.3145 B8P 12889 SGB 7576.4 R23 -.0312 R13 -.9695 LSA 110.7 MSA 17.8 SSA .8
BDE .5360 BRA 3.0890 BC3 7.6086 F8P 2111 SG1 7574.0 SG2 189.4 THA 179.50 EL1 88.8 EL2 7.9 ALF 1.45

LAUNCH DATE MAY 10 1971

FLIGHT TIME 272.00

ARRIVAL DATE FEB 6 1972

HELIOCENTRIC CONIC

DISTANCE 627.607

EARTH TO MARS

RL 151.05 LAL .00 LOL 228.70 VL 32.417 GAL -2.78 AZL 91.78 HCA 196.33 SMA 187.88 ECC .20165 INC 1.7803 V1 29.498
RP 223.78 LAP .50 LOP 65.03 VP 21.684 GAP .06 AZP 88.29 TAL 343.42 TAP 179.78 RCA 149.99 APO 225.76 V2 24.361
RC 226.590 GL -16.14 GP -.46 ZAL 122.84 ZAP 49.17 ETS 178.82 ZAE 87.21 ETE 180.40 ZAC 101.86 ETC 272.26 LVI -8.78

PLANETOCENTRIC CONIC

C3 13.094 VHL 3.619 DLA -17.53 RAL .27 RAD 6639.6 VEL 11.540 PTH 6.59 VHP 3.426 DPA -23.38 RAP 296.49 ECC 1.2155
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 17 16 34 2683.92 -16.46 74.50 212.70 135.30 18 1 18 1683.9 1.80 58.45
80.00 18 16 28 2524.70 -12.09 64.21 218.76 128.74 18 58 31 1524.7 3.94 46.17
70.00 19 32 8 2302.18 -7.92 49.24 219.84 123.33 20 10 30 1302.2 6.04 29.70
80.00 21 2 54 2018.11 -4.68 29.67 221.83 119.52 21 38 32 1018.1 7.68 9.14
90.00 22 34 34 1722.37 -3.39 8.63 222.54 118.09 23 3 17 722.4 8.34 347.75
100.00 23 45 45 1492.58 -4.68 351.04 221.83 119.52 24 10 38 492.6 7.68 330.51
110.00 0 35 30 1349.00 -7.92 338.18 219.84 123.33 0 57 59 349.0 6.04 318.62

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .5890 TRA 3.2003 TC3-7.6073 BAU 1.3317 SGT 7704.8 SGR 213.9 SG3 1141.0 ST 91.9 SR 8.8 SS 68.1
RDE .1078 RRA -.0778 RC3 .0017 FAU .14874 RRT -.3263 RRF -.2877 RTF .9691 CRT .2863 CR8 -.5487 CST -.9573
PDE 2.0697 FRA 6.3963 FC3-8.8339 B8P 13161 SGB 7707.6 R23 -.0304 R13 -.9691 LSA 113.3 MSA 17.8 SSA .8
BDE .5791 BRA 3.2012 BC3 7.6073 F8P 2073 SG1 7704.8 SG2 202.2 THA 179.48 EL1 92.0 EL2 8.4 ALF 1.57

LAUNCH DATE MAY 10 1971

FLIGHT TIME 274.00

ARRIVAL DATE FEB 8 1972

HELIOCENTRIC CONIC

DISTANCE 631.677

EARTH TO MARS

RL 151.05 LAL .00 LOL 228.70 VL 32.427 GAL -2.85 AZL 91.79 HCA 197.39 SMA 188.04 ECC .20269 INC 1.7844 V1 29.498
RP 226.18 LAP .83 LOP 68.09 VP 21.631 GAP -.09 AZP 88.30 TAL 342.95 TAP 180.34 RCA 149.93 APO 226.16 V2 24.319
RC 229.218 GL -16.03 GP -.42 ZAL 123.46 ZAP 48.37 ETS 178.84 ZAE 86.15 ETE 180.39 ZAC 101.88 ETC 272.32 LVI -9.80

PLANETOCENTRIC CONIC

C3 13.344 VHL 3.653 DLA -17.17 RAL .80 RAD 6639.7 VEL 11.550 PTH 6.60 VHP 3.456 DPA -23.30 RAP 296.77 ECC 1.2196
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 17 17 12 2895.34 -17.01 78.02 213.44 135.13 18 2 8 1895.3 1.22 58.92
80.00 18 16 36 2537.41 -12.83 64.85 217.49 128.60 18 58 53 1537.4 3.39 46.78
70.00 19 31 41 2316.87 -8.46 50.02 220.58 123.21 20 10 18 1316.7 5.49 30.46
80.00 21 1 48 2034.61 -5.23 30.98 222.54 119.44 21 35 43 1034.6 7.14 10.06
90.00 22 33 10 1738.88 -3.95 9.61 223.24 118.02 23 2 10 739.9 7.79 348.75
100.00 23 44 40 1508.08 -5.23 381.99 222.54 119.44 24 9 49 509.1 7.14 331.43
110.00 0 38 3 1363.48 -8.46 338.93 220.58 123.21 0 57 47 363.5 5.49 319.38

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .8073 TRA 3.3093 TC3-7.8169 BAU 1.5588 SGT 7839.1 SGR 227.1 SG3 1115.3 ST 94.8 SR 9.3 SS 67.9
RDE .1152 RRA -.0837 RC3 .0004 FAU .14493 RRT -.3239 RRF -.2858 RTF .9687 CRT .2987 CR8 -.5543 CST -.9593
PDE 2.1040 FRA 6.3469 FC3-9.4025 B8P 13362 SGB 7838.4 R23 -.0297 R13 -.9687 LSA 115.6 MSA 17.9 SSA .9
BDE .8181 BRA 3.3103 BC3 7.8169 F8P 2024 SG1 7839.5 SG2 214.8 THA 179.46 EL1 94.8 EL2 8.8 ALF 1.89

LAUNCH DATE MAY 10 1971

FLIGHT TIME 276.00

ARRIVAL DATE FEB 10 1972

HELIOCENTRIC CONIC DISTANCE 635.743 EARTH TO MARS
 RL 151.05 LAL .00 LOL 228.70 VL 32.436 GAL -2.94 AZL 91.79 HCA 198.45 SMA 188.21 ECC .20375 INC 1.7890 V1 29.498
 RP 226.95 LAP .57 LOP 67.15 VP 21.598 GAP -.24 AZP 88.30 TAL 342.47 TAP 180.92 RCA 149.86 APO 226.55 V2 24.278
 RC 231.880 GL -15.92 GP -.40 ZAL 124.08 ZAP 47.59 ETS 178.87 ZAE 85.11 ETE 180.38 ZAC 101.89 ETC 272.39 LVI -10.03

PLANETOCENTRIC CONIC
 C3 13.801 VHL 3.888 DLA -16.82 RAL 1.32 RAD 6639.9 VEL 11.561 PTH 6.61 VHP 3.486 DPA -23.23 RAP 297.07 ECC 1.2238
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 17 49 2706.88 -17.56 75.55 214.17 134.96 18 2 56 1706.9 .64 59.41
 60.00 18 18 43 2550.24 -13.18 65.50 218.22 128.44 18 59 14 1550.2 2.82 47.39
 70.00 19 31 13 2331.27 -9.00 50.80 221.28 123.09 20 10 4 1331.3 4.94 31.23
 80.00 21 0 42 2051.19 -5.78 31.50 223.25 119.34 21 34 53 1051.2 6.59 10.99
 90.00 22 31 45 1757.48 -4.52 10.60 223.95 117.95 23 1 2 757.5 7.24 349.75
 100.00 23 43 34 1525.66 -5.78 392.87 223.25 119.34 24 8 59 525.7 6.59 332.36
 110.00 0 34 35 1378.09 -9.00 339.72 221.28 123.09 0 57 33 378.1 4.94 320.15

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .6543 TRA 3.4278 TC3-7.6015 BAU 1.3823 SGT 7963.7 SGR 240.1 SG3 1090.8 ST 98.1 SR 9.8 SS 68.0
 RDE .1228 RRA -.0898 RC3 -.0014 FAU .14066 RRT -.3198 RRF -.2821 RTF .9683 CRT .3150 CRS -.5616 CST -.9616
 FDE 2.1291 FRA 6.3086 FC3-8.9531 BSP 13657 SGB 7987.3 R23 -.0293 R13 -.9683 LSA 118.4 MSA 17.9 SSA .9
 BDE .6657 BRA 3.4290 BC3 7.6015 F8P 1990 SG1 7964.1 SG2 227.4 THA 179.45 EL1 98.1 EL2 9.3 ALF 1.82

LAUNCH DATE MAY 10 1971

FLIGHT TIME 278.00

ARRIVAL DATE FEB 12 1972

HELIOCENTRIC CONIC DISTANCE 639.803 EARTH TO MARS
 RL 151.05 LAL .00 LOL 228.70 VL 32.446 GAL -3.03 AZL 91.79 HCA 199.51 SMA 188.37 ECC .20483 INC 1.7922 V1 29.498
 RP 226.94 LAP .60 LOP 68.20 VP 21.566 GAP -.38 AZP 88.31 TAL 341.99 TAP 181.49 RCA 149.79 APO 226.96 V2 24.236
 RC 234.543 GL -15.79 GP -.37 ZAL 124.69 ZAP 46.84 ETS 178.89 ZAE 84.10 ETE 180.37 ZAC 101.90 ETC 272.47 LVI -10.17

PLANETOCENTRIC CONIC
 C3 13.867 VHL 3.724 DLA -16.46 RAL 1.84 RAD 6640.0 VEL 11.573 PTH 6.62 VHP 3.517 DPA -23.15 RAP 297.38 ECC 1.2282
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 18 25 2718.54 -18.12 76.10 214.91 134.78 18 3 43 1718.5 .06 59.89
 60.00 18 16 50 2563.19 -13.72 66.15 218.96 128.27 18 59 33 1563.2 2.25 48.01
 70.00 19 30 43 2345.97 -9.55 51.59 222.01 122.95 20 9 49 1346.0 4.38 32.00
 80.00 20 59 35 2067.83 -6.34 32.43 223.97 119.24 21 34 3 1067.8 6.04 11.91
 90.00 22 30 19 1775.10 -5.08 11.59 224.65 117.86 22 59 54 775.1 6.69 350.75
 100.00 23 42 27 1542.30 -6.34 353.80 223.97 119.24 24 8 9 542.3 6.04 333.28
 110.00 0 34 5 1392.78 -9.55 340.50 222.01 122.95 0 57 18 392.8 4.38 320.92

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .6963 TRA 3.5413 TC3-7.5986 BAU 1.4087 SGT 8090.4 SGR 252.8 SG3 1066.1 ST 101.0 SR 10.3 SS 68.0
 RDE .1305 RRA -.0957 RC3 -.0033 FAU .13674 RRT -.3146 RRF -.2771 RTF .9676 CRT .3282 CRS -.5686 CST -.9631
 FDE 2.1463 FRA 6.2619 FC3-8.9374 BSP 13866 SGB 8094.4 R23 -.0292 R13 -.9676 LSA 120.9 MSA 17.9 SSA .9
 BDE .7084 BRA 3.5426 BC3 7.5986 F8P 1946 SG1 8090.8 SG2 240.0 THA 179.44 EL1 101.1 EL2 9.7 ALF 1.93

LAUNCH DATE MAY 10 1971

FLIGHT TIME 280.00

ARRIVAL DATE FEB 14 1972

HELIOCENTRIC CONIC DISTANCE 643.856 EARTH TO MARS
 RL 151.05 LAL .00 LOL 228.70 VL 32.455 GAL -3.13 AZL 91.80 HCA 200.56 SMA 188.54 ECC .20592 INC 1.7953 V1 29.498
 RP 227.33 LAP .63 LOP 69.25 VP 21.534 GAP -.53 AZP 88.32 TAL 341.50 TAP 182.06 RCA 149.71 APO 227.36 V2 24.195
 RC 237.203 GL -15.67 GP -.35 ZAL 125.30 ZAP 46.11 ETS 178.91 ZAE 83.10 ETE 180.36 ZAC 101.90 ETC 272.54 LVI -10.30

PLANETOCENTRIC CONIC
 C3 14.140 VHL 3.760 DLA -16.10 RAL 2.35 RAD 6640.1 VEL 11.584 PTH 6.63 VHP 3.547 DPA -23.08 RAP 297.72 ECC 1.2327
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 18 58 2730.29 -18.69 76.63 215.65 134.59 18 4 29 1730.3 -.53 60.38
 60.00 18 16 55 2578.21 -14.27 66.82 219.70 128.10 18 59 51 1576.2 1.88 48.84
 70.00 19 30 13 2360.73 -10.09 52.38 222.74 122.80 20 9 33 1360.7 3.82 32.78
 80.00 20 58 28 2084.50 -6.89 33.36 224.68 119.12 21 33 12 1084.5 5.48 12.84
 90.00 22 28 55 1792.77 -5.64 12.58 225.36 117.76 22 58 47 792.8 6.13 351.74
 100.00 23 41 20 1558.97 -6.89 394.72 224.68 119.12 24 7 19 559.0 5.48 334.21
 110.00 0 33 35 1407.84 -10.09 341.30 222.74 122.80 0 57 2 407.5 3.82 321.70

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .7399 TRA 3.6572 TC3-7.5900 BAU 1.4348 SGT 8215.4 SGR 265.4 SG3 1041.9 ST 104.0 SR 10.8 SS 67.9
 RDE .1384 RRA -.1018 RC3 -.0055 FAU .13290 RRT -.3087 RRF -.2712 RTF .9671 CRT .3415 CRS -.5755 CST -.9646
 FDE 2.1606 FRA 6.2134 FC3-8.1425 B8P 14090 SGB 8219.7 R23 -.0291 R13 -.9671 LSA 123.4 MSA 18.0 SSA 1.0
 BDE .7528 BRA 3.6586 BC3 7.5900 F8P 1905 SG1 8215.8 SG2 252.4 THA 179.43 EL1 104.1 EL2 10.2 ALF 2.05

LAUNCH DATE MAY 11 1971 FLIGHT TIME 98.00 ARRIVAL DATE AUG 17 1971

HELIOCENTRIC CONIC DISTANCE 288.085 EARTH TO MARS
RL 151.08 LAL .00 LOL 229.87 VL 35.378 GAL -1.97 AZL 91.85 HCA 91.58 SMA 262.59 ECC .42578 INC 1.8495 V1 29.491
RP 207.22 LAP -1.85 LOP 321.23 VP 27.847 GAP 22.24 AZP 89.95 TAL 353.39 TAP 84.96 RCA 150.78 APO 374.39 V2 26.432
RC 56.455 GL -10.85 GP -.03 ZAL 105.16 ZAP 176.65 ETS 100.38 ZAE 174.42 ETE 61.99 ZAC 100.02 ETC 277.73 LVI -17.96

LAUNCH DATE MAY 11 1971 FLIGHT TIME 100.00 ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC DISTANCE 289.969 EARTH TO MARS
RL 151.08 LAL .00 LOL 229.87 VL 35.175 GAL -1.89 AZL 91.85 HCA 92.83 SMA 259.43 ECC .40963 INC 1.8492 V1 29.491
RP 207.13 LAP -1.85 LOP 322.50 VP 27.802 GAP 21.72 AZP 89.91 TAL 353.50 TAP 86.32 RCA 150.80 APO 360.06 V2 26.443
RC 56.701 GL -10.96 GP -.03 ZAL 105.11 ZAP 175.76 ETS 180.31 ZAE 173.99 ETE 54.54 ZAC 99.97 ETC 277.61 LVI -18.06

LAUNCH DATE MAY 11 1971 FLIGHT TIME 102.00 ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC DISTANCE 292.090 EARTH TO MARS
RL 151.08 LAL .00 LOL 229.87 VL 34.988 GAL -1.80 AZL 91.85 HCA 94.09 SMA 249.07 ECC .39448 INC 1.8490 V1 29.491
RP 207.05 LAP -1.84 LOP 323.78 VP 27.370 GAP 21.21 AZP 89.87 TAL 353.62 TAP 87.71 RCA 150.82 APO 347.32 V2 26.453
RC 57.030 GL -11.27 GP -.03 ZAL 105.03 ZAP 174.86 ETS 180.27 ZAE 173.51 ETE 48.31 ZAC 99.92 ETC 277.88 LVI -18.16

LAUNCH DATE MAY 11 1971 FLIGHT TIME 104.00 ARRIVAL DATE AUG 23 1971

HELIOCENTRIC CONIC DISTANCE 294.439 EARTH TO MARS
RL 151.08 LAL .00 LOL 229.87 VL 34.808 GAL -1.72 AZL 91.85 HCA 95.36 SMA 243.39 ECC .38028 INC 1.8487 V1 29.491
RP 206.97 LAP -1.84 LOP 325.03 VP 27.181 GAP 20.71 AZP 89.83 TAL 353.75 TAP 89.11 RCA 150.83 APO 335.95 V2 26.462
RC 57.440 GL -11.58 GP -.03 ZAL 104.93 ZAP 175.95 ETS 180.25 ZAE 173.00 ETE 43.15 ZAC 99.87 ETC 277.95 LVI -18.28

LAUNCH DATE MAY 11 1971

FLIGHT TIME 108.00

ARRIVAL DATE AUG 25 1971

HELIOCENTRIC CONIC
 RL 151.08 LAL .00 LOL 229.67 VL 34.640 GAL -1.64 AZL 91.85 HCA 96.62 SMA 238.30 ECC .36696 INC 1.8484 V1 29.491
 RP 206.90 LAP -1.84 LOP 328.30 VP 26.943 GAP 20.21 AZP 89.79 TAL 353.90 TAP 90.52 RCA 150.85 APO 325.74 V2 26.469
 RC 57.930 GL -11.89 GP -.03 ZAL 104.81 ZAP 175.03 ETS 180.23 ZAE 172.49 ETE 38.87 ZAC 99.82 ETC 278.02 LVI -18.35

PLANETOCENTRIC CONIC
 C3 29.376 VHL 5.420 DLA -20.78 RAL 341.28 RAD 6646.8 VEL 12.219 PTH 7.17 VHP 9.745 DPA -16.61 RAP 322.35 ECC 1.4835
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 10 54 2806.22 -22.27 80.31 203.55 133.20 16 57 41 1806.2 -4.35 63.96
 60.00 17 15 34 2634.25 -16.69 69.82 208.55 127.23 17 59 28 1634.3 -1.88 51.41
 70.00 18 37 27 2393.57 -11.30 54.16 212.41 122.45 19 17 20 1393.6 2.57 34.50
 80.00 20 15 7 2087.86 -7.00 33.54 215.00 119.10 20 49 55 1087.9 5.37 13.02
 90.00 21 50 25 1780.46 -5.25 11.89 215.96 117.83 22 20 6 780.5 6.52 351.05
 100.00 22 57 59 1562.33 -7.00 354.91 215.00 119.10 23 24 1 562.3 5.37 334.39
 110.00 23 36 53 1440.39 -11.30 343.08 212.41 122.45 24 0 53 440.4 2.57 323.42

DIFFERENTIAL CORRECTIONS
 TDE -.4077 TRA -.9183 TC3 .0692 BAU .0463 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.5081 RRA .2036 RC3 .0956 FAU .03815 SGT 1126.7 SGR 593.5 SG3 137.1 ST 26.6 SR 27.1 SS 15.0
 FDE .1790 FRA .8825 FC3-1.1243 BSP 1667 RRT .0004 RRF .0019 RTF -.6764 CRT .7292 CRS .4204 CST .9237
 BDE .6515 BRA .9406 BC3 .1180 FSP 176 SGB 1273.5 R23 .0023 R13 -.6764 LSA 37.0 MSA 17.1 S5A 1.2
 SG1 1126.7 SG2 593.5 THA .02 EL1 35.3 EL2 14.0 ALF 45.72

LAUNCH DATE MAY 11 1971

FLIGHT TIME 108.00

ARRIVAL DATE AUG 27 1971

HELIOCENTRIC CONIC
 RL 151.08 LAL .00 LOL 229.67 VL 34.482 GAL -1.55 AZL 91.85 HCA 97.89 SMA 233.71 ECC .35446 INC 1.8462 V1 29.491
 RP 206.85 LAP -1.83 LOP 327.56 VP 26.746 GAP 19.73 AZP 89.75 TAL 354.07 TAP 91.95 RCA 150.87 APO 316.55 V2 26.478
 RC 58.496 GL -12.21 GP -.03 ZAL 104.66 ZAP 172.09 ETS 180.22 ZAE 171.99 ETE 35.31 ZAC 99.78 ETC 278.09 LVI -18.44

PLANETOCENTRIC CONIC
 C3 27.637 VHL 5.257 DLA -21.12 RAL 341.28 RAD 6646.1 VEL 12.149 PTH 7.12 VHP 9.432 DPA -16.71 RAP 322.68 ECC 1.4548
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 12 26 2783.72 -21.22 79.20 202.73 133.64 16 58 50 1783.7 -3.22 62.62
 60.00 17 17 39 2610.32 -15.70 68.57 207.72 127.61 18 1 9 1610.3 .18 50.26
 70.00 18 40 14 2367.50 -10.34 52.75 211.59 122.73 19 19 42 1367.5 3.56 33.13
 80.00 20 18 47 2059.10 -6.05 31.94 214.20 119.29 20 53 6 1059.1 6.33 11.43
 90.00 21 54 34 1750.14 -4.28 10.19 215.17 117.98 22 23 44 750.1 7.47 349.33
 100.00 23 1 39 1533.57 -6.05 353.31 214.20 119.29 23 27 12 533.6 6.33 332.80
 110.00 23 39 41 1414.32 -10.34 341.66 211.59 122.73 24 3 15 414.3 3.56 322.05

DIFFERENTIAL CORRECTIONS
 TDE -.3994 TRA -.9089 TC3 .0864 BAU .0493 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.4930 RRA .1971 RC3 .1017 FAU .03958 SGT 1151.3 SGR 594.3 SG3 146.8 ST 27.0 SR 27.1 SS 15.4
 FDE .1801 FRA .9171 FC3-1.2398 BSP 1716 RRT -.0015 RRF .0019 RTF -.6861 CRT .7250 CRS .4065 CST .9202
 BDE .6343 BRA .9301 BC3 .1335 FSP 191 SGB 1295.7 R23 -.0005 R13 .6861 LSA 37.3 MSA 17.4 S5A 1.2
 SG1 1151.3 SG2 594.3 THA 179.94 EL1 35.5 EL2 14.2 ALF 45.17

LAUNCH DATE MAY 11 1971

FLIGHT TIME 110.00

ARRIVAL DATE AUG 29 1971

HELIOCENTRIC CONIC
 RL 151.08 LAL .00 LOL 229.67 VL 34.333 GAL -1.47 AZL 91.85 HCA 99.16 SMA 229.56 ECC .34272 INC 1.8460 V1 29.491
 RP 206.80 LAP -1.82 LOP 328.83 VP 26.560 GAP 19.25 AZP 89.71 TAL 354.24 TAP 93.39 RCA 150.89 APO 308.24 V2 26.482
 RC 59.137 GL -12.53 GP -.03 ZAL 104.49 ZAP 171.14 ETS 180.21 ZAE 171.51 ETE 32.33 ZAC 99.73 ETC 278.16 LVI -18.52

PLANETOCENTRIC CONIC
 C3 26.043 VHL 5.103 DLA -21.47 RAL 341.28 RAD 6645.4 VEL 12.083 PTH 7.06 VHP 9.130 DPA -16.61 RAP 323.00 ECC 1.4286
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 13 57 2761.50 -20.17 78.13 201.95 134.05 16 59 58 1761.5 -2.10 61.69
 60.00 17 19 43 2588.81 -14.71 67.58 206.92 127.98 18 2 49 1588.8 1.22 49.13
 70.00 18 43 5 2341.54 -9.38 51.58 210.80 122.99 19 22 6 1341.5 4.55 31.77
 80.00 20 22 32 2030.25 -5.08 30.34 213.42 119.48 20 56 23 1030.3 7.28 9.82
 90.00 21 58 51 1719.81 -3.31 8.48 214.40 118.10 22 27 30 719.8 8.42 347.59
 100.00 23 5 24 1504.72 -5.08 381.71 213.42 119.48 23 30 29 504.7 7.28 331.19
 110.00 23 42 31 1388.38 -9.38 340.27 210.80 122.99 24 5 39 388.4 4.55 320.69

DIFFERENTIAL CORRECTIONS
 TDE -.3929 TRA -.8988 TC3 .1065 BAU .0528 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.4784 RRA .1909 RC3 .1080 FAU .04109 SGT 1175.4 SGR 594.8 SG3 157.2 ST 27.4 SR 27.1 SS 15.9
 FDE .1810 FRA .9538 FC3-1.3661 BSP 1780 RRT -.0011 RRF .0019 RTF -.6761 CRT .7226 CRS .3918 CST .9194
 BDE .6191 BRA .9188 BC3 .1517 FSP 207 SGB 1317.4 R23 -.0009 R13 .8961 LSA 37.7 MSA 17.8 S5A 1.2
 SG1 1175.4 SG2 594.8 THA 179.96 EL1 35.8 EL2 14.3 ALF 44.53

LAUNCH DATE MAY 11 1971

FLIGHT TIME 112.00

ARRIVAL DATE AUG 31 1971

HELIOCENTRIC CONIC
 RL 151.08 LAL .00 LOL 229.67 VL 34.192 GAL -1.39 AZL 91.85 HCA 100.42 SMA 225.80 ECC .33170 INC 1.8477 V1 29.491
 RP 206.75 LAP -1.82 LOP 330.10 VP 26.383 GAP 18.78 AZP 89.67 TAL 354.42 TAP 94.85 RCA 150.90 APO 300.70 V2 26.487
 RC 59.850 GL -12.84 GP -.03 ZAL 104.30 ZAP 170.18 ETS 180.21 ZAE 171.07 ETE 29.82 ZAC 99.69 ETC 278.22 LVI -18.60

PLANETOCENTRIC CONIC
 C3 24.581 VHL 4.958 DLA -21.83 RAL 341.22 RAD 6644.8 VEL 12.023 PTH 7.01 VHP 8.838 DPA -16.51 RAP 323.30 ECC 1.4045
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 15 25 2739.56 -19.13 77.08 201.18 134.44 17 1 5 1739.6 -1.00 60.77
 60.00 17 21 47 2563.10 -13.72 66.15 206.14 128.27 18 4 30 1563.1 2.26 48.01
 70.00 18 45 57 2315.67 -8.42 49.96 210.02 123.22 19 24 32 1315.7 5.53 30.41
 80.00 20 26 24 2001.29 -4.11 28.74 212.67 119.60 20 59 45 1001.3 8.24 8.20
 90.00 22 3 16 1688.82 -2.32 6.76 213.66 118.19 22 31 25 688.8 9.37 345.83
 100.00 23 9 16 1475.76 -4.11 350.11 212.67 119.60 23 33 51 475.8 8.24 329.57
 110.00 23 45 23 1362.49 -8.42 338.88 210.02 123.22 24 8 6 362.5 5.53 319.33

DIFFERENTIAL CORRECTIONS
 TDE -.3778 TRA -.8801 TC3 .1411 BAU .0597 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.4643 RRA .1848 RC3 .1144 FAU .04263 SGT 1187.7 SGR 594.8 SG3 168.2 ST 27.3 SR 27.1 SS 16.4
 FDE .1830 FRA .9934 FC3-1.5014 BSP 1726 RRT -.0027 RRF .0018 RTF -.7160 CRT .7157 CRS .3789 CST .9139
 BDE .5988 BRA .8993 BC3 .1817 FSP 226 SGB 1328.3 R23 .0008 R13 .7160 LSA 37.6 MSA 18.1 S5A 1.2
 SG1 1187.7 SG2 594.8 THA 179.90 EL1 35.6 EL2 14.5 ALF 44.59

LAUNCH DATE MAY 11 1971 FLIGHT TIME 114.00 ARRIVAL DATE SEP 2 1971

Table with columns: HELIOCENTRIC CONIC, PLANETOCENTRIC CONIC, DIFFERENTIAL CORRECTIONS, DISTANCE 308.516, MID-COURSE EXECUTION ACCURACY, ORBIT DETERMINATION ACCURACY, EARTH TO MARS. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, etc.

LAUNCH DATE MAY 11 1971 FLIGHT TIME 116.00 ARRIVAL DATE SEP 4 1971

Table with columns: HELIOCENTRIC CONIC, PLANETOCENTRIC CONIC, DIFFERENTIAL CORRECTIONS, DISTANCE 311.669, MID-COURSE EXECUTION ACCURACY, ORBIT DETERMINATION ACCURACY, EARTH TO MARS. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, etc.

LAUNCH DATE MAY 11 1971 FLIGHT TIME 118.00 ARRIVAL DATE SEP 6 1971

Table with columns: HELIOCENTRIC CONIC, PLANETOCENTRIC CONIC, DIFFERENTIAL CORRECTIONS, DISTANCE 314.953, MID-COURSE EXECUTION ACCURACY, ORBIT DETERMINATION ACCURACY, EARTH TO MARS. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, etc.

LAUNCH DATE MAY 11 1971 FLIGHT TIME 120.00 ARRIVAL DATE SEP 8 1971

Table with columns: HELIOCENTRIC CONIC, PLANETOCENTRIC CONIC, DIFFERENTIAL CORRECTIONS, DISTANCE 318.288, MID-COURSE EXECUTION ACCURACY, ORBIT DETERMINATION ACCURACY, EARTH TO MARS. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, etc.

LAUNCH DATE MAY 11 1971 FLIGHT TIME 122.00 ARRIVAL DATE SEP 10 1971

HELIOCENTRIC CONIC DISTANCE 321.716 EARTH TO MARS
 RL 151.08 LAL .00 LOL 229.67 VL 33.603 GAL -1.01 AZL 91.85 HCA 106.77 SMA 211.44 ECC .28595 INC 1.8464 V1 29.491
 RP 206.88 LAP -1.77 LOP 336.45 VP 25.624 GAP 16.57 AZP 89.47 TAL 355.47 TAP 102.24 RCA 150.98 APO 271.90 V2 26.496
 RC 84.414 GL -14.42 GP -.04 ZAL 103.13 ZAP 165.09 ETS 180.21 ZAE 169.65 ETE 21.78 ZAC 99.50 ETC 278.47 LVI -18.92

PLANETOCENTRIC CONIC
 C3 18.894 VHL 4.347 DLA -23.71 RAL 340.80 RAD 6642.3 VEL 11.786 PTH 6.81 VHP 7.524 DPA -16.11 RAP 324.54 ECC 1.3109
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 22 27 2635.77 -14.11 72.32 197.74 135.92 17 6 23 1635.8 4.21 56.43
 60.00 17 32 2 2450.69 -8.91 60.54 202.64 129.47 18 12 53 1450.7 7.18 42.80
 70.00 19 0 46 2189.80 -3.67 43.31 206.57 123.98 19 37 16 1189.8 10.23 23.71
 80.00 20 47 13 1856.67 .78 20.80 209.34 119.85 21 18 10 856.7 12.87 359.96
 90.00 22 27 49 1532.22 2.73 358.02 210.42 118.16 22 53 21 532.2 14.03 336.68
 100.00 23 30 5 1331.14 .78 342.16 209.34 119.85 23 52 16 331.1 12.87 321.33
 110.00 0 4 9 1236.62 -3.67 332.23 206.57 123.98 0 24 45 236.6 10.23 312.62

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3498 TRA -.8338 TC3 .2530 BAW .0740 SGT 1304.6 SGR 588.8 SG3 236.0 ST 29.3 SR 26.6 SS 18.7
 RDE -.4008 RRA .1573 RC3 .1473 FAU .05254 RRT -.0000 RRF .0014 RTF -.7454 CRT .7032 CR8 .2878 CST .8797
 FDE .1772 FRA 1.2083 FC3-2.4076 B8P 2060 SGB 1431.3 R23 -.0014 R13 .7454 LSA 39.0 MSA 19.9 S8A 1.3
 BDE .5320 BRA .8485 BC3 .2928 F8P 333 SG1 1304.6 SGT 588.8 THA 180.00 EL1 36.5 EL2 15.2 ALF 41.19

LAUNCH DATE MAY 11 1971 FLIGHT TIME 124.00 ARRIVAL DATE SEP 12 1971

HELIOCENTRIC CONIC DISTANCE 325.201 EARTH TO MARS
 RL 151.08 LAL .00 LOL 229.67 VL 33.505 GAL -.94 AZL 91.85 HCA 108.04 SMA 209.25 ECC .27841 INC 1.8462 V1 29.491
 RP 206.89 LAP -1.76 LOP 337.72 VP 25.494 GAP 16.15 AZP 89.43 TAL 355.89 TAP 103.73 RCA 150.99 APO 267.50 V2 26.495
 RC 85.312 GL -14.73 GP -.04 ZAL 102.86 ZAP 164.02 ETS 180.21 ZAE 169.55 ETE 20.78 ZAC 99.47 ETC 278.51 LVI -18.97

PLANETOCENTRIC CONIC
 C3 18.017 VHL 4.245 DLA -24.09 RAL 340.68 RAD 6641.9 VEL 11.749 PTH 6.78 VHP 7.288 DPA -16.05 RAP 324.73 ECC 1.2965
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 23 47 2616.33 -13.16 71.46 197.13 136.15 17 7 23 1616.3 5.19 55.61
 60.00 17 34 4 2429.40 -7.99 59.50 202.02 129.63 18 14 33 1429.4 8.11 41.56
 70.00 19 3 50 2165.48 -2.75 42.04 205.96 124.06 19 39 55 1165.5 11.12 22.39
 80.00 20 51 43 1827.82 1.76 19.21 208.76 119.81 21 22 11 827.8 13.76 358.29
 90.00 22 33 18 1500.22 3.76 356.22 209.87 118.05 22 58 18 500.2 14.93 334.77
 100.00 23 34 35 1302.29 1.76 340.58 208.76 119.81 23 56 17 302.3 13.76 319.65
 110.00 0 7 12 1212.30 -2.75 330.96 205.96 124.06 0 27 24 212.3 11.12 311.31

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3429 TRA -.8224 TC3 .2793 BAW .0768 SGT 1322.5 SGR 586.5 SG3 252.3 ST 29.5 SR 26.5 SS 19.2
 RDE -.3893 RRA .1523 RC3 .1539 FAU .05492 RRT .0005 RRF .0011 RTF -.7511 CRT .7000 CR8 .2683 CST .8721
 FDE .1748 FRA 1.2573 FC3-2.6388 B8P 2102 SGB 1446.7 R23 .0016 R13 -.7510 LSA 39.1 MSA 20.2 S8A 1.3
 BDE .5188 BRA .8364 BC3 .3189 F8P 360 SG1 1322.5 SGT 586.5 THA .02 EL1 36.6 EL2 15.2 ALF 40.67

LAUNCH DATE MAY 11 1971 FLIGHT TIME 126.00 ARRIVAL DATE SEP 14 1971

HELIOCENTRIC CONIC DISTANCE 328.747 EARTH TO MARS
 RL 151.08 LAL .00 LOL 229.67 VL 33.413 GAL -.87 AZL 91.85 HCA 109.31 SMA 207.23 ECC .27133 INC 1.8459 V1 29.491
 RP 206.71 LAP -1.74 LOP 338.99 VP 25.371 GAP 15.74 AZP 89.39 TAL 355.92 TAP 103.23 RCA 151.00 APO 263.46 V2 26.493
 RC 66.667 GL -15.03 GP -.04 ZAL 102.58 ZAP 162.92 ETS 180.21 ZAE 169.53 ETE 19.91 ZAC 99.44 ETC 278.54 LVI -19.01

PLANETOCENTRIC CONIC
 C3 17.212 VHL 4.149 DLA -24.47 RAL 340.55 RAD 6641.6 VEL 11.715 PTH 6.75 VHP 7.059 DPA -16.00 RAP 324.90 ECC 1.2833
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 25 5 2597.39 -12.23 70.82 196.55 136.35 17 8 22 1597.4 6.13 54.81
 60.00 17 36 5 2408.56 -7.08 58.49 201.42 129.78 18 18 14 1408.6 9.01 40.54
 70.00 19 6 55 2141.52 -1.83 40.79 205.38 124.11 19 42 36 1141.5 12.00 21.00
 80.00 20 56 21 1799.03 2.73 17.63 208.22 119.74 21 26 20 799.0 14.63 356.60
 90.00 22 39 0 1467.93 4.79 354.41 209.35 117.90 23 3 28 467.9 15.83 332.82
 100.00 23 39 13 1275.50 2.73 339.00 208.22 119.74 24 0 26 273.5 14.63 317.97
 110.00 0 10 17 1188.34 -1.83 329.71 205.38 124.11 0 30 5 188.3 12.00 310.00

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3353 TRA -.8105 TC3 .3059 BAW .0795 SGT 1338.4 SGR 583.8 SG3 269.6 ST 29.6 SR 26.3 SS 19.7
 RDE -.3783 RRA .1475 RC3 .1603 FAU .05740 RRT .0006 RRF .0013 RTF -.7566 CRT .6963 CR8 .2488 CST .8637
 FDE .1712 FRA 1.3088 FC3-2.8870 B8P 2138 SGB 1460.2 R23 .0018 R13 -.7566 LSA 39.1 MSA 20.6 S8A 1.4
 BDE .5055 BRA .8238 BC3 .3454 F8P 389 SG1 1338.4 SGT 583.8 THA .02 EL1 36.5 EL2 15.3 ALF 40.22

LAUNCH DATE MAY 11 1971 FLIGHT TIME 128.00 ARRIVAL DATE SEP 16 1971

HELIOCENTRIC CONIC DISTANCE 332.348 EARTH TO MARS
 RL 151.08 LAL .00 LOL 229.67 VL 33.326 GAL -.80 AZL 91.85 HCA 110.58 SMA 205.37 ECC .26469 INC 1.8456 V1 29.491
 RP 206.73 LAP -1.73 LOP 340.26 VP 25.253 GAP 15.34 AZP 89.35 TAL 356.15 TAP 106.73 RCA 151.01 APO 259.73 V2 26.489
 RC 67.877 GL -15.33 GP -.04 ZAL 102.30 ZAP 161.80 ETS 180.21 ZAE 169.57 ETE 19.17 ZAC 99.42 ETC 278.57 LVI -19.05

PLANETOCENTRIC CONIC
 C3 16.471 VHL 4.058 DLA -24.85 RAL 340.41 RAD 6641.2 VEL 11.684 PTH 6.72 VHP 6.839 DPA -15.95 RAP 325.05 ECC 1.2711
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 26 22 2578.97 -11.32 69.82 195.99 136.53 17 9 21 1579.0 7.06 54.03
 60.00 17 36 5 2388.22 -6.19 57.50 200.85 129.90 18 17 54 1388.2 9.89 39.54
 70.00 19 10 1 2117.95 -.93 39.56 204.83 124.14 19 45 19 1118.0 12.85 19.79
 80.00 21 1 6 1770.31 3.70 16.05 207.71 119.65 21 30 36 770.3 15.49 354.90
 90.00 22 44 58 1435.30 5.82 352.58 208.88 117.72 23 8 53 435.3 16.71 330.84
 100.00 23 43 58 1244.78 3.70 337.42 207.71 119.65 24 4 42 244.8 15.49 316.27
 110.00 0 13 23 1164.77 -.93 328.48 204.83 124.14 0 32 48 164.8 12.85 308.71

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3283 TRA -.7996 TC3 .3309 BAW .0816 SGT 1354.4 SGR 580.6 SG3 288.2 ST 29.8 SR 26.2 SS 20.2
 RDE -.3677 RRA .1429 RC3 .1666 FAU .06006 RRT .0004 RRF .0014 RTF -.7612 CRT .6926 CR8 .2257 CST .8554
 FDE .1678 FRA 1.3648 FC3-3.1566 B8P 2177 SGB 1473.7 R23 .0017 R13 -.7612 LSA 39.2 MSA 20.9 S8A 1.4
 BDE .4929 BRA .8123 BC3 .3704 F8P 420 SG1 1354.4 SGT 580.6 THA .01 EL1 36.5 EL2 15.4 ALF 39.73

LAUNCH DATE MAY 11 1971

FLIGHT TIME 130.00

ARRIVAL DATE SEP 18 1971

Heliocentric Conic: RL 151.08 LAL .00 LOL 229.67 VL 33.249 GAL -.74 AZL 91.85 HCA 111.84 SMA 203.66 ECC .25846 INC 1.8484 V1 29.491
 RP 208.77 LAP -1.71 LOP 341.53 VP 25.140 GAP 14.95 AZP 89.31 TAL 356.38 TAP 108.23 RCA 151.02 APO 256.29 V2 26.489
 RC 69.140 GL -15.63 GP -.04 ZAL 102.02 ZAP 160.65 ETS 180.21 ZAE 169.68 ETE 18.55 ZAC 99.40 ETC 278.59 LVI -19.08

Distance 335.999 Earth to Mars

Planeto-centric Conic: C3 15.789 VHL 3.974 DLA -25.22 RAL 340.26 RAD 6640.9 VEL 11.655 PTH 6.69 VHP 6.626 DPA -15.91 RAP 325.17 ECC 1.2598
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 16 27 38 2581.10 -10.44 69.04 195.45 136.69 17 10 19 1561.1 7.95 53.27
 80.00 17 40 5 2368.39 -5.33 56.55 200.31 130.01 18 19 34 1360.4 10.74 38.86
 70.00 19 13 9 2094.80 -.05 36.35 204.31 124.15 19 48 3 1094.8 13.68 18.51
 60.00 21 5 59 1741.65 4.66 14.47 207.23 119.52 21 35 0 741.7 16.34 353.19
 50.00 22 51 13 1402.24 6.87 350.71 208.44 117.50 23 14 35 402.2 17.58 328.80
 40.00 23 48 50 1216.12 4.66 335.84 207.23 119.52 24 9 7 216.1 16.34 314.56
 30.00 0 16 31 1141.62 -.05 327.27 204.31 124.15 0 35 32 141.6 13.68 307.43

Differential Corrections: TDE -.3210 TRA -.7861 TC3 .3608 BAU .0844 SGT 1366.1 SGR 577.2 S63 308.2 ST 29.8 SR 26.0 SS 20.7
 RDE -.3574 RRA .1385 RC3 .1727 FAU .06305 RRT .0017 RRF .0007 RTF -.7658 CRT .6896 CRS .2035 CST .8456
 FDE .1629 FRA 1.4196 FC3 -3.4570 BSP 2202 SGB 1483.0 R23 .0022 R13 -.7658 LSA 39.2 MSA 21.3 SSA 1.4
 BDE .4804 BRA .7982 BC3 .4000 FSP 453 S61 1366.1 S62 577.2 THA .05 EL1 36.4 EL2 15.4 ALF 39.34

LAUNCH DATE MAY 11 1971

FLIGHT TIME 132.00

ARRIVAL DATE SEP 20 1971

Heliocentric Conic: RL 151.08 LAL .00 LOL 229.67 VL 33.168 GAL -.68 AZL 91.85 HCA 113.11 SMA 202.08 ECC .25261 INC 1.8451 V1 29.491
 RP 206.81 LAP -1.70 LOP 342.79 VP 25.033 GAP 14.57 AZP 89.28 TAL 356.61 TAP 109.73 RCA 151.03 APO 253.12 V2 26.480
 RC 70.455 GL -15.92 GP -.04 ZAL 101.73 ZAP 159.48 ETS 180.21 ZAE 169.87 ETE 18.05 ZAC 99.38 ETC 278.61 LVI -19.10

Distance 339.696 Earth to Mars

Planeto-centric Conic: C3 15.161 VHL 3.894 DLA -25.59 RAL 340.11 RAD 6640.6 VEL 11.628 PTH 6.67 VHP 6.420 DPA -15.88 RAP 325.26 ECC 1.2495
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 16 28 52 2543.78 -9.58 68.29 194.94 136.83 17 11 16 1543.8 8.81 52.53
 80.00 17 42 4 2349.11 -4.48 55.62 199.80 130.09 18 21 13 1349.1 11.37 37.60
 70.00 19 16 17 2072.10 .82 37.17 203.81 124.15 19 50 49 1072.1 14.49 17.24
 60.00 21 11 0 1713.07 5.62 12.89 206.79 119.37 21 39 33 713.1 17.16 351.47
 50.00 22 57 47 1368.66 7.92 348.80 208.03 117.24 23 20 36 368.7 18.45 326.72
 40.00 23 53 51 1187.54 5.62 334.25 206.79 119.37 24 13 39 187.5 17.16 312.84
 30.00 0 19 39 1118.92 .82 326.09 203.81 124.15 0 38 18 118.5 14.49 306.16

Differential Corrections: TDE -.3137 TRA -.7752 TC3 .3815 BAU .0854 SGT 1378.8 SGR 573.4 S63 329.2 ST 29.9 SR 25.8 SS 21.3
 RDE -.3475 RRA .1342 RC3 .1786 FAU .06596 RRT .0005 RRF .0017 RTF -.7691 CRT .6853 CRS .1800 CST .8360
 FDE .1578 FRA 1.4837 FC3 -3.7663 BSP 2239 SGB 1493.2 R23 .0021 R13 -.7691 LSA 39.2 MSA 21.7 SSA 1.4
 BDE .4681 BRA .7868 BC3 .4212 FSP 489 S61 1378.8 S62 573.4 THA .01 EL1 36.3 EL2 15.4 ALF 38.90

LAUNCH DATE MAY 11 1971

FLIGHT TIME 134.00

ARRIVAL DATE SEP 22 1971

Heliocentric Conic: RL 151.08 LAL .00 LOL 229.67 VL 33.096 GAL -.63 AZL 91.84 HCA 114.38 SMA 200.61 ECC .24713 INC 1.8448 V1 29.491
 RP 206.87 LAP -1.68 LOP 344.06 VP 24.931 GAP 14.20 AZP 89.24 TAL 356.84 TAP 111.22 RCA 151.04 APO 250.19 V2 26.474
 RC 71.818 GL -16.20 GP -.05 ZAL 101.45 ZAP 158.28 ETS 180.21 ZAE 170.13 ETE 17.65 ZAC 99.37 ETC 278.63 LVI -19.12

Distance 343.436 Earth to Mars

Planeto-centric Conic: C3 14.584 VHL 3.819 DLA -25.96 RAL 339.96 RAD 6640.3 VEL 11.603 PTH 6.65 VHP 6.222 DPA -15.86 RAP 325.33 ECC 1.2400
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 16 30 5 2527.05 -8.75 67.57 194.46 136.96 17 12 12 1527.0 9.64 51.81
 80.00 17 44 2 2330.39 -3.66 54.72 199.32 130.16 18 22 52 1330.4 12.36 36.86
 70.00 19 19 26 2049.88 1.67 36.01 203.35 124.12 19 53 36 1049.9 15.27 16.00
 60.00 21 16 9 1684.55 6.57 11.30 206.38 119.19 21 44 14 684.6 17.97 349.73
 50.00 23 4 43 1334.41 8.98 346.84 207.68 116.93 23 28 58 334.4 19.30 324.57
 40.00 0 2 57 1159.03 6.57 332.67 206.38 119.19 0 22 16 159.0 17.97 311.10
 30.00 0 22 48 1096.70 1.67 324.93 203.35 124.12 0 41 3 96.7 15.27 304.91

Differential Corrections: TDE -.3081 TRA -.7816 TC3 .4052 BAU .0868 SGT 1386.2 SGR 569.2 S63 351.3 ST 29.8 SR 25.6 SS 21.8
 RDE -.3379 RRA .1301 RC3 .1842 FAU .06914 RRT .0005 RRF .0017 RTF -.7722 CRT .6817 CRS .1884 CST .8284
 FDE .1511 FRA 1.5459 FC3 -4.1042 BSP 2240 SGB 1498.5 R23 .0023 R13 -.7722 LSA 39.1 MSA 22.1 SSA 1.4
 BDE .4559 BRA .7726 BC3 .4491 FSP 527 S61 1386.2 S62 569.2 THA .02 EL1 36.1 EL2 15.4 ALF 38.57

LAUNCH DATE MAY 11 1971

FLIGHT TIME 136.00

ARRIVAL DATE SEP 24 1971

Heliocentric Conic: RL 151.08 LAL .00 LOL 229.67 VL 33.028 GAL -.57 AZL 91.84 HCA 115.65 SMA 199.26 ECC .24200 INC 1.8445 V1 29.491
 RP 206.93 LAP -1.66 LOP 345.33 VP 24.833 GAP 13.83 AZP 89.20 TAL 357.07 TAP 112.71 RCA 151.04 APO 247.49 V2 26.466
 RC 73.226 GL -16.47 GP -.05 ZAL 101.17 ZAP 157.06 ETS 180.21 ZAE 170.47 ETE 17.37 ZAC 99.36 ETC 278.63 LVI -19.12

Distance 347.213 Earth to Mars

Planeto-centric Conic: C3 14.052 VHL 3.749 DLA -26.31 RAL 339.81 RAD 6640.1 VEL 11.581 PTH 6.62 VHP 6.030 DPA -15.85 RAP 325.37 ECC 1.2313
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 16 31 17 2510.91 -7.94 66.88 194.00 137.07 17 13 8 1510.9 10.44 51.12
 80.00 17 45 58 2312.27 -2.87 53.85 198.86 130.22 18 24 30 1312.3 13.13 35.75
 70.00 19 22 35 2028.18 2.50 34.87 202.92 124.07 19 56 23 1028.2 16.02 14.77
 60.00 21 21 28 1656.10 7.51 9.72 206.00 118.98 21 49 4 656.1 18.75 347.99
 50.00 23 12 6 1299.28 10.06 344.83 207.36 116.57 23 33 46 299.3 20.14 322.34
 40.00 0 8 15 1130.57 7.51 331.08 206.00 118.98 0 27 8 130.6 18.75 309.36
 30.00 0 25 57 1075.00 2.50 323.79 202.92 124.07 0 43 52 75.0 16.02 303.69

Differential Corrections: TDE -.2994 TRA -.7487 TC3 .4280 BAU .0879 SGT 1393.5 SGR 564.7 S63 375.4 ST 29.8 SR 25.3 SS 22.4
 RDE -.3287 RRA .1262 RC3 .1895 FAU .07262 RRT .0011 RRF .0022 RTF -.7747 CRT .6789 CRS .1317 CST .8134
 FDE .1436 FRA 1.6142 FC3 -4.4738 BSP 2267 SGB 1503.6 R23 .0032 R13 -.7747 LSA 39.1 MSA 22.5 SSA 1.4
 BDE .4446 BRA .7592 BC3 .4680 FSP 564 S61 1393.5 S62 564.7 THA .03 EL1 36.0 EL2 15.4 ALF 38.18

LAUNCH DATE MAY 11 1971

FLIGHT TIME 138.00

ARRIVAL DATE SEP 26 1971

HELIOCENTRIC CONIC

RL 151.08 LAL .00 LOL 229.67 VL 32.964 GAL -.52 AZL 91.84 HCA 116.91 SMA 198.01 ECC .23718 INC 1.8442 V1 29.491
 RP 207.00 LAP -1.64 LOP 346.59 VP 24.740 GAP 13.48 AZP 89.17 TAL 357.29 TAP 114.20 RCA 151.05 APO 244.98 V2 26.458
 RC 74.683 GL -16.74 GP -.05 ZAL 100.89 ZAP 155.80 ETS 180.21 ZAE 170.88 ETE 17.22 ZAC 99.36 ETC 278.64 LVI -19.12

PLANETOCENTRIC CONIC

C3 13.562 VHL 3.683 DLA -26.66 RAL 339.66 RAD 6639.8 VEL 11.560 PTH 6.60 VHP 5.846 DPA -15.85 RAP 325.38 ECC 1.2232
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 32 27 2495.35 -7.17 66.22 193.57 137.16 17 14 3 1495.3 11.21 50.44
 60.00 17 47 53 2294.71 -2.09 53.01 198.43 130.26 18 26 8 1294.7 13.88 34.86
 70.00 19 25 45 2006.97 3.30 33.77 202.51 124.01 19 59 12 1007.0 16.75 13.56
 80.00 21 26 56 1627.61 8.45 8.12 205.66 118.74 21 54 4 627.6 19.52 346.22
 90.00 23 20 3 1282.82 11.16 342.72 207.09 116.15 23 41 6 262.8 20.99 320.00
 100.00 0 13 44 1102.08 8.45 329.49 205.66 118.74 0 32 6 102.1 19.52 307.59
 110.00 0 29 7 1053.79 3.30 322.68 202.51 124.01 0 46 41 53.8 16.75 302.48

DIFFERENTIAL CORRECTIONS

TDE -.2836 TRA -.7266 TC3 .4735 BAW .0928
 RDE -.3197 RRA .1224 RC3 .1946 FAU .07638
 FDE .1330 FRA 1.6613 FC3-4.8758 BSP 2168
 BDE .4273 BRA .7368 BC3 .5119 F8P 603

MID-COURSE EXECUTION ACCURACY

SGT 1384.3 SGR 559.8 SG3 400.7
 RRT -.0002 RRF .0024 RTF -.7860
 SGB 1493.2 R23 -.0022 R13 .7860
 SG1 1384.3 SG2 559.8 THA 179.99

ORBIT DETERMINATION ACCURACY

ST 29.1 SR 25.1 SS 22.9
 CRT .6688 CR8 .1038 CST .8050
 LSA 38.4 MSA 22.9 SSA 1.4
 EL1 35.2 EL2 15.4 ALF 38.70

LAUNCH DATE MAY 11 1971

FLIGHT TIME 140.00

ARRIVAL DATE SEP 28 1971

HELIOCENTRIC CONIC

RL 151.08 LAL .00 LOL 229.67 VL 32.905 GAL -.47 AZL 91.84 HCA 118.18 SMA 196.86 ECC .23268 INC 1.8439 V1 29.491
 RP 207.08 LAP -1.63 LOP 347.86 VP 24.650 GAP 13.13 AZP 89.13 TAL 357.50 TAP 115.68 RCA 151.05 APO 242.67 V2 26.440
 RC 76.180 GL -17.00 GP -.05 ZAL 100.82 ZAP 154.51 ETS 180.21 ZAE 171.37 ETE 17.20 ZAC 99.36 ETC 278.63 LVI -19.12

PLANETOCENTRIC CONIC

C3 13.112 VHL 3.621 DLA -27.00 RAL 339.51 RAD 6639.6 VEL 11.540 PTH 6.59 VHP 5.668 DPA -15.86 RAP 325.36 ECC 1.2158
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 33 36 2480.47 -6.42 65.59 193.16 137.24 17 14 57 1480.5 11.95 49.79
 60.00 17 49 47 2277.86 -1.35 52.21 198.03 130.26 18 27 44 1277.9 14.58 34.00
 70.00 19 28 53 1986.43 4.09 32.69 202.14 123.94 20 2 0 986.4 17.45 12.38
 80.00 21 32 34 1599.28 9.37 6.52 205.36 118.48 21 59 13 599.3 20.27 344.45
 90.00 23 28 41 1224.83 12.29 340.50 206.88 115.67 23 49 6 224.8 21.83 317.53
 100.00 0 19 22 1073.75 9.37 327.89 205.36 118.48 0 37 15 73.8 20.27 305.82
 110.00 0 32 15 1033.25 4.09 321.61 202.14 123.94 0 49 29 33.2 17.45 301.30

DIFFERENTIAL CORRECTIONS

TDE -.2811 TRA -.7170 TC3 .4729 BAW .0900
 RDE -.3111 RRA .1188 RC3 .1992 FAU .08002
 FDE .1258 FRA 1.7566 FC3-5.2833 BSP 2220
 BDE .4193 BRA .7267 BC3 .5132 F8P 649

MID-COURSE EXECUTION ACCURACY

SGT 1391.4 SGR 554.6 SG3 426.8
 RRT -.0004 RRF .0030 RTF -.7812
 SGB 1497.9 R23 -.0026 R13 .7812
 SG1 1391.4 SG2 554.6 THA 179.99

ORBIT DETERMINATION ACCURACY

ST 29.3 SR 24.8 SS 23.6
 CRT .6694 CR8 .0821 CST .7914
 LSA 38.6 MSA 23.3 SSA 1.5
 EL1 35.2 EL2 15.3 ALF 37.97

LAUNCH DATE MAY 11 1971

FLIGHT TIME 142.00

ARRIVAL DATE SEP 30 1971

HELIOCENTRIC CONIC

RL 151.08 LAL .00 LOL 229.67 VL 32.849 GAL -.43 AZL 91.84 HCA 119.44 SMA 195.79 ECC .22847 INC 1.8436 V1 29.491
 RP 207.17 LAP -1.61 LOP 349.12 VP 24.584 GAP 12.79 AZP 89.09 TAL 357.71 TAP 117.15 RCA 151.06 APO 240.52 V2 26.439
 RC 77.718 GL -17.25 GP -.05 ZAL 100.37 ZAP 153.20 ETS 180.20 ZAE 171.93 ETE 17.38 ZAC 99.37 ETC 278.62 LVI -19.10

PLANETOCENTRIC CONIC

C3 12.698 VHL 3.563 DLA -27.32 RAL 339.37 RAD 6639.4 VEL 11.523 PTH 6.57 VHP 5.496 DPA -15.88 RAP 325.31 ECC 1.2090
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 34 44 2466.22 -5.71 64.99 192.78 137.31 17 15 50 1466.2 12.65 49.17
 60.00 17 51 38 2261.66 -.64 51.43 197.65 130.30 18 29 20 1261.7 15.26 33.17
 70.00 19 32 1 1966.49 4.84 31.64 201.79 123.85 20 4 47 966.5 18.12 11.22
 80.00 21 38 22 1570.94 10.29 4.92 205.09 118.10 22 4 33 570.9 20.99 342.66
 90.00 23 38 16 1184.29 13.47 338.11 206.72 115.10 23 58 1 184.3 22.67 314.86
 100.00 0 25 10 1045.41 10.29 326.29 205.09 118.10 0 42 36 45.4 20.99 304.03
 110.00 0 35 23 1013.31 4.84 320.56 201.79 123.85 0 52 17 13.3 18.12 300.14

DIFFERENTIAL CORRECTIONS

TDE -.2782 TRA -.7051 TC3 .4805 BAW .0886
 RDE -.3027 RRA .1154 RC3 .2034 FAU .08413
 FDE .1199 FRA 1.8360 FC3-5.7356 BSP 2272
 BDE .4111 BRA .7145 BC3 .5218 F8P 702

MID-COURSE EXECUTION ACCURACY

SGT 1394.9 SGR 549.1 SG3 455.4
 RRT .0013 RRF .0025 RTF -.7888
 SGB 1499.1 R23 .0036 R13 -.7768
 SG1 1394.9 SG2 549.1 THA .03

ORBIT DETERMINATION ACCURACY

ST 29.4 SR 24.5 SS 24.3
 CRT .6706 CR8 .0637 CST .7790
 LSA 38.7 MSA 23.6 SSA 1.5
 EL1 35.2 EL2 15.2 ALF 37.36

LAUNCH DATE MAY 11 1971

FLIGHT TIME 144.00

ARRIVAL DATE OCT 2 1971

HELIOCENTRIC CONIC

RL 151.08 LAL .00 LOL 229.67 VL 32.796 GAL -.38 AZL 91.84 HCA 120.70 SMA 194.80 ECC .22453 INC 1.8432 V1 29.491
 RP 207.26 LAP -1.58 LOP 350.39 VP 24.482 GAP 12.45 AZP 89.06 TAL 357.90 TAP 118.61 RCA 151.06 APO 238.54 V2 26.428
 RC 79.295 GL -17.49 GP -.06 ZAL 100.12 ZAP 151.85 ETS 180.20 ZAE 172.56 ETE 17.70 ZAC 99.38 ETC 278.61 LVI -19.08

PLANETOCENTRIC CONIC

C3 12.316 VHL 3.509 DLA -27.64 RAL 339.23 RAD 6639.2 VEL 11.506 PTH 6.55 VHP 5.331 DPA -15.91 RAP 325.23 ECC 1.2027
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 35 50 2452.62 -5.03 64.41 192.43 137.37 17 16 43 1452.6 13.32 48.56
 60.00 17 53 28 2246.13 .04 50.69 197.30 130.30 18 30 54 1246.1 15.91 32.36
 70.00 19 35 7 1947.20 5.57 30.63 201.47 123.75 20 7 35 947.2 18.77 10.10
 80.00 21 44 23 1542.54 11.20 3.30 204.86 117.86 22 10 5 542.5 21.70 340.84
 90.00 23 49 21 1139.55 14.75 335.45 206.65 114.41 24 8 20 139.5 23.55 311.88
 100.00 0 31 11 1017.01 11.20 324.67 204.86 117.86 0 48 8 17.0 21.70 302.21
 110.00 0 38 30 982.08 5.57 297.45 201.47 123.75 2 23 12 5282.1 18.77 276.92

DIFFERENTIAL CORRECTIONS

TDE -.2719 TRA -.6917 TC3 .4827 BAW .0865
 RDE -.2946 RRA .1120 RC3 .2073 FAU .08636
 FDE .1086 FRA 1.9204 FC3-6.2106 BSP 2260
 BDE .4009 BRA .7007 BC3 .5253 F8P 750

MID-COURSE EXECUTION ACCURACY

SGT 1391.6 SGR 543.2 SG3 485.4
 RRT -.0006 RRF .0037 RTF -.7760
 SGB 1493.9 R23 -.0032 R13 .7760
 SG1 1391.6 SG2 543.2 THA 179.99

ORBIT DETERMINATION ACCURACY

ST 29.3 SR 24.2 SS 25.0
 CRT .6681 CR8 .0381 CST .7649
 LSA 38.6 MSA 24.1 SSA 1.5
 EL1 34.9 EL2 15.2 ALF 37.04

LAUNCH DATE MAY 11 1971

FLIGHT TIME 146.00

ARRIVAL DATE OCT 4 1971

Heliocentric Conic: RL 151.08 LAL .00 LOL 229.67 VL 32.747 GAL -.34 AZL 91.84 HCA 121.96 SMA 193.89 ECC .22085 INC 1.8429 V1 29.491
 RP 207.37 LAP -1.36 LOP 351.65 VP 24.403 GAP 12.13 AZP 89.02 TAL 358.09 TAP 120.06 RCA 151.07 APO 236.70 V2 26.415
 RC 80.909 GL -17.73 GP -.06 ZAL 99.88 ZAP 150.46 ETS 180.19 ZAE 173.26 ETE 18.34 ZAC 99.39 ETC 278.58 LVI -19.04

Distance 366.581 Earth to Mars

Planetocentric Conic: CS 11.965 VHL 3.459 DLA -27.94 RAL 339.10 RAD 6639.0 VEL 11.491 PTH 6.54 VHP 5.172 DPA -15.95 RAP 325.11 ECC 1.1969
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 36 56 2439.67 -4.38 63.87 192.10 137.42 17 17 35 1439.7 13.95 47.99
 60.00 17 55 16 2231.30 .70 49.98 196.98 130.30 18 32 27 1231.3 16.52 31.59
 70.00 19 38 12 1928.59 6.28 29.64 201.19 123.64 20 10 20 928.6 19.38 9.00
 80.00 21 50 36 1514.04 12.10 1.67 204.67 117.51 22 15 50 514.0 22.38 339.00
 90.00 0 7 4 1086.63 16.21 332.25 206.69 113.49 0 25 11 86.6 24.51 308.29
 100.00 0 37 24 6276.55 12.10 300.94 204.67 117.51 2 22 0 5276.6 22.38 278.28
 110.00 0 41 34 6263.45 6.28 296.47 201.19 123.64 2 25 58 5263.4 19.38 275.82

Differential Corrections: TDE -.2666 TRA -.6760 TC3 .4872 BAU .0849 SGT 1383.8 SGR 537.1 SG3 516.8 ST 29.1 SR 23.9 SS 25.6
 RDE -.2867 RRA .1089 RC3 .2107 FAU .09290 RRT -.0002 RRF .0043 RTF -.7735 CRT .6682 CR8 .0138 CST .7489
 FDE .0966 FRA 2.0033 FC3-6.7213 B8P 2266 SGB 1484.3 R23 -.0044 R13 -.7735 LSA 38.4 MSA 24.5 S8A 1.5
 BDE .3915 BRA .6847 BC3 .5308 F8P 810 SG1 1383.8 SG2 537.1 THA .00 EL1 34.6 EL2 15.0 ALF 36.78

LAUNCH DATE MAY 11 1971

FLIGHT TIME 148.00

ARRIVAL DATE OCT 6 1971

Heliocentric Conic: RL 151.08 LAL .00 LOL 229.67 VL 32.701 GAL -.31 AZL 91.84 HCA 123.22 SMA 193.04 ECC .21741 INC 1.8425 V1 29.491
 RP 207.48 LAP -1.34 LOP 352.91 VP 24.327 GAP 11.81 AZP 88.99 TAL 358.27 TAP 121.50 RCA 151.07 APO 235.00 V2 26.402
 RC 82.560 GL -17.95 GP -.06 ZAL 99.66 ZAP 149.05 ETS 180.19 ZAE 174.04 ETE 19.38 ZAC 99.41 ETC 278.55 LVI -19.00

Distance 370.534 Earth to Mars

Planetocentric Conic: CS 11.642 VHL 3.412 DLA -28.22 RAL 338.98 RAD 6638.9 VEL 11.477 PTH 6.53 VHP 5.020 DPA -16.00 RAP 324.95 ECC 1.1916
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 37 59 2427.40 -3.76 63.36 191.80 137.46 17 18 27 1427.4 14.55 47.44
 60.00 17 57 1 2217.18 1.32 49.31 196.69 130.28 18 33 58 1217.2 17.10 30.85
 70.00 19 41 14 1910.70 6.95 28.70 200.92 123.52 20 13 4 910.7 19.96 7.94
 80.00 21 57 4 1485.35 12.99 .01 204.51 117.12 22 21 50 485.3 23.05 337.13
 90.00 0 29 38 1005.95 18.33 327.28 207.04 111.92 0 46 23 5.9 25.77 302.72
 100.00 0 43 52 6247.86 12.99 299.28 204.51 117.12 2 28 0 5247.9 23.05 276.41
 110.00 0 44 36 6245.56 6.95 295.52 200.92 123.52 2 28 42 5245.6 19.96 274.76

Differential Corrections: TDE -.2617 TRA -.6609 TC3 .4823 BAU .0821 SGT 1374.0 SGR 530.6 SG3 550.6 ST 29.0 SR 23.6 SS 26.4
 RDE -.2791 RRA .1058 RC3 .2136 FAU .09765 RRT -.0003 RRF .0047 RTF -.7697 CRT .6685 CR8 -.0043 CR7 .7365
 FDE .0884 FRA 2.1010 FC3-7.2615 B8P 2262 SGB 1472.9 R23 -.0044 R13 .7697 LSA 38.4 MSA 24.9 S8A 1.5
 BDE .3825 BRA .6694 BC3 .5275 F8P 869 SG1 1374.0 SG2 530.6 THA 179.99 EL1 34.3 EL2 14.8 ALF 36.45

LAUNCH DATE MAY 11 1971

FLIGHT TIME 150.00

ARRIVAL DATE OCT 8 1971

Heliocentric Conic: RL 151.08 LAL .00 LOL 229.67 VL 32.658 GAL -.28 AZL 91.84 HCA 124.48 SMA 192.25 ECC .21420 INC 1.8422 V1 29.491
 RP 207.60 LAP -1.32 LOP 354.17 VP 24.254 GAP 11.50 AZP 88.96 TAL 358.44 TAP 122.92 RCA 151.07 APO 233.43 V2 26.388
 RC 84.247 GL -18.16 GP -.06 ZAL 99.46 ZAP 147.59 ETS 180.18 ZAE 174.88 ETE 21.05 ZAC 99.44 ETC 278.51 LVI -18.95

Distance 374.508 Earth to Mars

Planetocentric Conic: CS 11.345 VHL 3.368 DLA -28.50 RAL 338.87 RAD 6638.7 VEL 11.464 PTH 6.51 VHP 4.873 DPA -16.07 RAP 324.76 ECC 1.1867
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 39 2 2415.79 -3.18 62.87 191.53 137.80 17 19 18 1415.8 15.12 46.92
 60.00 17 58 43 2203.79 1.91 48.67 196.42 130.28 18 35 27 1203.8 17.65 30.14
 70.00 19 44 12 1893.87 7.59 27.79 200.69 123.40 20 15 48 893.6 20.51 8.91
 80.00 22 3 49 1456.35 13.89 398.32 204.39 116.70 22 28 6 456.4 23.69 335.22
 86.34 0 14 8 1049.31 19.86 331.09 207.14 110.88 0 31 37 49.3 26.71 308.10
 100.00 0 50 37 6216.86 13.89 297.89 204.39 116.70 2 34 18 5216.9 23.69 274.80
 110.00 0 47 35 6228.42 7.59 294.61 200.69 123.40 2 31 23 5228.4 20.51 273.74

Differential Corrections: TDE -.2573 TRA -.6447 TC3 .4812 BAU .0773 SGT 1358.3 SGR 523.8 SG3 583.8 ST 28.8 SR 23.3 SS 27.2
 RDE -.2716 RRA .1029 RC3 .2160 FAU .10207 RRT -.0016 RRF .0068 RTF -.7524 CRT .6704 CR8 -.0239 CR7 .7214
 FDE .0770 FRA 2.1883 FC3-7.7889 B8P 2213 SGB 1455.8 R23 -.0081 R13 .7624 LSA 38.4 MSA 25.3 S8A 1.8
 BDE .3742 BRA .6888 BC3 .5093 F8P 823 SG1 1358.3 SG2 523.8 THA 179.98 EL1 34.0 EL2 14.6 ALF 36.16

LAUNCH DATE MAY 11 1971

FLIGHT TIME 152.00

ARRIVAL DATE OCT 10 1971

Heliocentric Conic: RL 151.08 LAL .00 LOL 229.67 VL 32.618 GAL -.24 AZL 91.84 HCA 125.74 SMA 191.88 ECC .21120 INC 1.8419 V1 29.491
 RP 207.73 LAP -1.30 LOP 356.43 VP 24.183 GAP 11.20 AZP 88.82 TAL 358.60 TAP 124.34 RCA 151.07 APO 231.87 V2 26.373
 RC 86.969 GL -18.36 GP -.07 ZAL 99.27 ZAP 146.10 ETS 180.17 ZAE 175.78 ETE 23.80 ZAC 99.47 ETC 278.46 LVI -18.88

Distance 378.502 Earth to Mars

Planetocentric Conic: CS 11.072 VHL 3.328 DLA -28.78 RAL 338.78 RAD 6638.6 VEL 11.452 PTH 6.50 VHP 4.732 DPA -16.15 RAP 324.53 ECC 1.1822
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 40 3 2404.07 -2.63 62.41 191.28 137.92 17 20 8 1404.9 15.65 46.42
 60.00 18 0 23 2191.18 2.46 48.06 196.18 130.24 18 36 54 1191.2 18.16 29.47
 70.00 19 47 7 1877.23 8.20 26.92 200.48 123.27 20 18 25 877.2 21.03 5.93
 80.00 22 10 58 1426.87 14.78 356.59 204.32 116.24 22 34 42 426.9 24.32 333.26
 84.58 23 55 19 1091.19 20.16 334.28 206.78 110.95 24 13 30 91.2 27.01 309.24
 100.00 0 57 43 6189.38 14.78 295.86 204.32 116.24 2 40 52 5189.4 24.32 272.53
 110.00 0 50 30 6212.09 8.20 293.74 200.48 123.27 2 34 2 5212.1 21.03 272.75

Differential Corrections: TDE -.2534 TRA -.6278 TC3 .4811 BAU .0742 SGT 1342.0 SGR 516.8 SG3 621.4 ST 28.6 SR 23.0 SS 28.0
 RDE -.2644 RRA .1002 RC3 .2180 FAU .10748 RRT -.0005 RRF .0063 RTF -.7569 CRT .6734 CR8 -.0395 CR7 .7077
 FDE .0694 FRA 2.3019 FC3-8.4035 B8P 2191 SGB 1438.1 R23 -.0059 R13 .7569 LSA 38.4 MSA 25.6 S8A 1.8
 BDE .3682 BRA .6838 BC3 .5010 F8P 987 SG1 1342.0 SG2 516.8 THA 179.99 EL1 33.7 EL2 14.4 ALF 35.88

LAUNCH DATE MAY 11 1971

FLIGHT TIME 154.00

ARRIVAL DATE OCT 12 1971

HELIOCENTRIC CONIC

DISTANCE 382.516

EARTH TO MARS

RL 151.08 LAL .00 LOL 229.67 VL 32.980 GAL -.22 AZL 91.84 HCA 127.00 SMA 190.65 ECC .20842 INC 1.8415 V1 29.491
 RP 207.86 LAP -1.47 LOP 356.68 VP 24.116 GAP 10.90 AZP 88.89 TAL 358.74 TAP 125.74 RCA 151.08 APO 230.63 V2 26.357
 RC 87.725 GL -18.56 GP -.07 ZAL 99.10 ZAP 144.57 ETS 180.16 ZAE 176.72 ETE 28.66 ZAC 99.51 ETC 278.41 LVI -18.81

PLANETOCENTRIC CONIC

C3 10.822 VHL 3.290 DLA -28.99 RAL 338.70 RAD 6638.5 VEL 11.442 PTH 6.49 VHP 4.597 DPA -16.24 RAP 324.27 ECC 1.1781
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 41 3 2394.64 -2.12 61.98 191.06 137.54 17 20 57 1394.6 16.14 45.96
 60.00 18 2 0 2179.27 2.99 47.49 195.97 130.21 18 38 19 1179.3 18.64 28.83
 70.00 19 49 58 1861.74 8.78 26.09 200.30 123.14 20 20 59 861.7 21.51 4.99
 80.00 22 18 26 1396.61 15.68 354.79 204.28 115.74 22 41 43 396.6 24.94 331.22
 83.33 23 44 49 1119.27 20.43 336.46 206.44 111.03 24 3 28 119.3 27.29 311.36
 100.00 1 5 14 6159.12 15.68 294.07 204.28 115.74 2 47 53 5159.1 24.94 270.50
 110.00 0 53 20 6196.60 8.78 292.92 200.30 123.14 2 38 36 5196.6 21.51 271.81

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2477 TRA -.6114 TC3 .4250 BAU .0692 SGT 1321.5 SGR 509.4 SG3 660.4 ST 28.3 SR 22.6 SS 28.9
 RDE -.2574 RRA .0975 RC3 .2194 FAU .11291 RRT -.0038 RRF .0085 RTF -.7477 CRT .6737 CR8 -.0631 CST .6903
 FDE .0534 FRA 2.4133 FC3-9.0331 B8P 2160 SGB 1416.3 R23 -.0052 R13 .7477 LSA 38.3 MSA 26.0 SSA 1.5
 BDE .3573 BRA .6191 BC3 .4783 F8P 1082 SGI 1321.5 SGT 509.4 THA 179.90 EL1 33.3 EL2 14.2 ALF 35.75

LAUNCH DATE MAY 11 1971

FLIGHT TIME 156.00

ARRIVAL DATE OCT 14 1971

HELIOCENTRIC CONIC

DISTANCE 386.546

EARTH TO MARS

RL 151.08 LAL .00 LOL 229.67 VL 32.546 GAL -.19 AZL 91.84 HCA 128.25 SMA 190.23 ECC .20582 INC 1.8411 V1 29.491
 RP 208.01 LAP -1.45 LOP 357.94 VP 24.050 GAP 10.61 AZP 88.86 TAL 358.87 TAP 127.12 RCA 151.08 APO 229.38 V2 26.340
 RC 89.314 GL -18.74 GP -.07 ZAL 98.95 ZAP 143.01 ETS 180.13 ZAE 177.69 ETE 38.51 ZAC 99.55 ETC 278.35 LVI -18.73

PLANETOCENTRIC CONIC

C3 10.591 VHL 3.254 DLA -29.22 RAL 338.63 RAD 6638.3 VEL 11.432 PTH 6.48 VHP 4.467 DPA -16.34 RAP 323.96 ECC 1.1743
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 42 1 2385.07 -1.84 61.58 190.67 137.55 17 21 46 1385.1 16.61 45.52
 60.00 18 3 34 2168.13 3.48 46.96 195.78 130.18 18 39 42 1168.1 19.09 28.23
 70.00 19 52 43 1847.08 9.33 25.31 200.14 123.01 20 23 30 847.1 21.96 4.09
 80.00 22 26 34 1365.00 16.61 352.90 204.30 115.17 22 49 19 365.0 25.55 329.07
 82.33 23 36 36 1140.47 20.69 338.13 206.14 111.10 23 55 36 140.5 27.55 312.98
 100.00 1 13 22 6127.51 16.61 292.18 204.30 115.17 2 55 29 5127.5 25.55 268.35
 110.00 0 56 5 6181.94 9.33 292.13 200.14 123.01 2 39 7 5181.9 21.96 270.92

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2363 TRA -.5856 TC3 .4039 BAU .0652 SGT 1279.6 SGR 501.8 SG3 699.1 ST 27.3 SR 22.2 SS 29.6
 RDE -.2505 RRA .0949 RC3 .2204 FAU .11851 RRT -.0079 RRF .0125 RTF -.7401 CRT .6711 CR8 -.1035 CST .6631
 FDE .0206 FRA 2.5140 FC3-9.6868 B8P 2046 SGB 1374.5 R23 -.0056 R13 .7401 LSA 37.6 MSA 26.5 SSA 1.5
 BDE .3444 BRA .5932 BC3 .4601 F8P 1127 SGI 1279.6 SGT 501.8 THA 179.79 EL1 32.6 EL2 13.9 ALF 36.42

LAUNCH DATE MAY 11 1971

FLIGHT TIME 158.00

ARRIVAL DATE OCT 16 1971

HELIOCENTRIC CONIC

DISTANCE 390.592

EARTH TO MARS

RL 151.08 LAL .00 LOL 229.67 VL 32.513 GAL -.17 AZL 91.84 HCA 129.50 SMA 189.66 ECC .20341 INC 1.8407 V1 29.491
 RP 208.16 LAP -1.42 LOP 359.19 VP 23.986 GAP 10.33 AZP 88.83 TAL 358.99 TAP 128.49 RCA 151.08 APO 228.24 V2 26.323
 RC 91.337 GL -18.91 GP -.08 ZAL 98.82 ZAP 141.40 ETS 180.14 ZAE 178.52 ETE 62.74 ZAC 99.60 ETC 278.28 LVI -18.63

PLANETOCENTRIC CONIC

C3 10.381 VHL 3.222 DLA -29.42 RAL 338.58 RAD 6638.2 VEL 11.423 PTH 6.47 VHP 4.343 DPA -16.46 RAP 323.61 ECC 1.1708
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 42 58 2376.23 -1.20 61.21 190.70 137.56 17 22 34 1376.2 17.03 45.12
 60.00 18 5 4 2157.83 3.93 46.47 195.62 130.14 18 41 2 1157.8 19.51 27.68
 70.00 19 55 21 1833.41 9.83 24.57 200.02 122.87 20 25 55 833.4 22.38 3.25
 80.00 22 35 31 1331.41 17.57 350.87 204.37 114.54 22 57 43 331.4 26.16 326.77
 81.52 23 29 59 1157.00 20.93 339.45 205.87 111.17 23 49 16 157.0 27.79 314.25
 100.00 1 22 19 6093.92 17.57 290.15 204.37 114.54 3 3 33 5093.9 26.16 266.04
 110.00 0 58 44 6168.27 9.83 291.40 200.02 122.87 2 41 32 5168.3 22.38 270.08

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2419 TRA -.5687 TC3 .3502 BAU .0575 SGT 1258.5 SGR 493.9 SG3 740.5 ST 27.7 SR 21.9 SS 30.5
 RDE -.2438 RRA .0925 RC3 .2208 FAU .12412 RRT -.0010 RRF .0104 RTF -.7110 CRT .6892 CR8 -.0943 CST .6914
 FDE .0304 FRA 2.6359 FC-10.3512 B8P 2060 SGB 1352.0 R23 -.0095 R13 .7210 LSA 38.3 MSA 26.7 SSA 1.5
 BDE .3435 BRA .5761 BC3 .4140 F8P 1214 SGI 1258.5 SGT 493.9 THA 179.97 EL1 32.6 EL2 13.4 ALF 35.48

LAUNCH DATE MAY 11 1971

FLIGHT TIME 160.00

ARRIVAL DATE OCT 18 1971

HELIOCENTRIC CONIC

DISTANCE 394.654

EARTH TO MARS

RL 151.08 LAL .00 LOL 229.67 VL 32.483 GAL -.15 AZL 91.84 HCA 130.75 SMA 189.13 ECC .20117 INC 1.8402 V1 29.491
 RP 208.32 LAP -1.39 LOP .44 VP 23.925 GAP 10.06 AZP 88.80 TAL 359.09 TAP 129.84 RCA 151.08 APO 227.17 V2 26.304
 RC 93.190 GL -19.08 GP -.08 ZAL 98.70 ZAP 139.76 ETS 180.12 ZAE 178.70 ETE 114.10 ZAC 99.65 ETC 278.20 LVI -18.53

PLANETOCENTRIC CONIC

C3 10.187 VHL 3.192 DLA -29.61 RAL 338.54 RAD 6638.1 VEL 11.414 PTH 6.47 VHP 4.225 DPA -16.59 RAP 323.22 ECC 1.1677
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 43 54 2368.01 -.78 60.87 190.55 137.57 17 23 22 1368.0 17.43 44.74
 60.00 18 6 31 2148.22 4.35 46.01 195.48 130.11 18 42 19 1148.2 19.89 27.15
 70.00 19 57 54 1820.57 10.31 23.88 199.91 122.74 20 28 14 820.6 22.77 2.46
 80.00 22 46 7 1293.11 18.64 348.53 204.52 113.76 23 7 40 293.1 26.81 324.10
 80.82 23 24 25 1170.60 21.15 340.55 205.63 111.23 23 43 55 170.6 28.01 315.30
 100.00 1 32 54 6055.62 18.64 287.80 204.52 113.76 3 13 50 5055.6 26.81 263.38
 110.00 1 1 16 6155.43 10.31 290.70 199.91 122.74 2 43 51 5155.4 22.77 269.28

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2270 TRA -.5400 TC3 .3441 BAU .0557 SGT 1207.4 SGR 485.7 SG3 787.1 ST 26.4 SR 21.5 SS 31.4
 RDE -.2375 RRA .0901 RC3 .2207 FAU .13109 RRT -.0052 RRF .0127 RTF -.7194 CRT .6839 CR8 -.1254 CST .6329
 FDE .0022 FRA 2.7569 FC-11.1406 B8P 1830 SGB 1301.4 R23 -.0082 R13 .7194 LSA 37.7 MSA 26.9 SSA 1.5
 BDE .3284 BRA .5475 BC3 .4088 F8P 1267 SGI 1207.4 SGT 485.7 THA 179.86 EL1 31.3 EL2 13.2 ALF 36.61

LAUNCH DATE MAY 11 1971

FLIGHT TIME 162.00

ARRIVAL DATE OCT 20 1971

HELIOCENTRIC CONIC

DISTANCE 398.727

EARTH TO MARS

RL 151.08 LAL .00 LOL 229.67 VL 32.455 GAL -.14 AZL 91.84 HCA 132.00 SMA 188.64 ECC .19911 INC 1.8399 V1 29.491
RP 208.49 LAP -1.37 LOP 1.69 VP 23.866 GAP 9.79 AZP 88.77 TAL 359.17 TAP 131.18 RCA 151.08 APO 226.20 V2 26.264
RC 95.074 GL -19.23 GP -.08 ZAL 98.62 ZAP 138.08 ETS 180.11 ZAE 177.90 ETE 149.41 ZAC 99.71 ETC 278.11 LVI -18.41

PLANETOCENTRIC CONIC

C3 10.011 VHL 3.164 DLA -29.78 RAL 338.53 RAD 6638.0 VEL 11.406 PTH 6.46 VHP 4.112 DPA -16.73 RAP 322.80 ECC 1.1648
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 44 48 2360.59 -.41 60.56 190.44 137.57 17 24 9 1360.6 17.79 44.39
60.00 18 7 53 2139.55 4.73 45.59 195.37 130.07 18 43 33 1139.6 20.23 26.68
70.00 20 0 17 1808.91 10.73 23.25 199.83 122.62 20 30 26 808.9 23.12 1.73
80.00 23 0 23 1243.75 19.96 345.46 204.83 112.68 23 21 7 243.7 27.55 320.62
90.25 23 19 55 1181.32 21.35 341.43 205.43 111.27 23 39 37 181.3 28.21 316.13
100.00 1 47 11 6006.26 19.96 284.74 204.83 112.68 3 27 17 5006.3 27.55 259.90
110.00 1 3 39 6143.77 10.73 290.07 199.83 122.62 2 46 3 5143.8 23.12 268.55

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2383 TRA -.5263 TC3 .2502 BAU .0446 SGT 1190.7 SGR 477.3 SG3 831.3 ST 27.1 SR 21.1 SS 32.4
RDE -.2309 RRA .0879 RC3 .2201 FAU .13709 RRT .0018 RRF .0100 RTF -.6826 CRT .7088 CR8 -.1101 CST .6177
FDE .0184 FRA 2.6876 FC-11.8553 B8P 189D SGB 1282.8 R23 .0115 R13 -.6826 LSA 38.6 HSA 27.1 SSA 1.5
BDE .3318 BRA .5338 BC3 .3333 F8P 1380 SG1 1190.7 SG2 477.3 THA .05 EL1 32.0 EL2 12.6 ALF 35.09

LAUNCH DATE MAY 11 1971

FLIGHT TIME 164.00

ARRIVAL DATE OCT 22 1971

HELIOCENTRIC CONIC

DISTANCE 402.814

EARTH TO MARS

RL 151.08 LAL .00 LOL 229.67 VL 32.429 GAL -.12 AZL 91.84 HCA 133.25 SMA 188.19 ECC .19719 INC 1.8394 V1 29.491
RP 208.67 LAP -1.34 LOP 2.93 VP 23.808 GAP 9.52 AZP 88.74 TAL 359.25 TAP 132.49 RCA 151.08 APO 225.30 V2 26.264
RC 96.908 GL -19.37 GP -.09 ZAL 98.56 ZAP 136.36 ETS 180.09 ZAE 176.71 ETE 163.22 ZAC 99.77 ETC 278.01 LVI -18.28

PLANETOCENTRIC CONIC

C3 9.850 VHL 3.138 DLA -29.94 RAL 338.53 RAD 6638.0 VEL 11.399 PTH 6.45 VHP 4.004 DPA -16.88 RAP 322.33 ECC 1.1621
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 45 41 2353.78 -.07 60.28 190.35 137.58 17 24 55 1353.8 18.11 44.07
60.00 18 9 12 2131.60 5.08 45.21 195.29 130.03 18 44 44 1131.6 20.55 26.24
70.00 20 2 33 1798.16 11.13 22.66 199.76 122.50 20 32 31 798.2 23.44 1.06
79.75 23 16 8 1190.27 21.53 342.17 205.26 111.31 23 35 58 190.3 28.40 316.83
79.75 23 16 8 1190.27 21.53 342.17 205.26 111.31 23 35 58 190.3 28.40 316.83
79.75 23 16 8 1190.27 21.53 342.17 205.26 111.31 23 35 58 190.3 28.40 316.83
110.00 1 5 55 6133.03 11.13 289.49 199.76 122.50 2 48 8 5133.0 23.44 267.88

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2322 TRA -.5027 TC3 .1975 BAU .0388 SGT 1147.5 SGR 468.6 SG3 880.3 ST 26.5 SR 20.7 SS 33.3
RDE -.2246 RRA .0857 RC3 .2190 FAU .14405 RRT -.0008 RRF .0129 RTF -.6617 CRT .7147 CR8 -.1318 CST .5935
FDE -.0032 FRA 3.0269 FC-12.6605 B8P 1793 SGB 1239.5 R23 -.0122 R13 .6617 LSA 38.6 HSA 27.3 SSA 1.5
BDE .3230 BRA .5100 BC3 .2949 F8P 1465 SG1 1147.5 SG2 468.6 THA 179.98 EL1 31.3 EL2 12.2 ALF 35.35

LAUNCH DATE MAY 11 1971

FLIGHT TIME 166.00

ARRIVAL DATE OCT 24 1971

HELIOCENTRIC CONIC

DISTANCE 406.912

EARTH TO MARS

RL 151.08 LAL .00 LOL 229.67 VL 32.405 GAL -.11 AZL 91.84 HCA 134.49 SMA 187.78 ECC .19542 INC 1.8389 V1 29.491
RP 208.85 LAP -1.31 LOP 4.18 VP 23.752 GAP 9.27 AZP 88.71 TAL 359.30 TAP 133.79 RCA 151.08 APO 224.47 V2 26.243
RC 98.929 GL -19.50 GP -.09 ZAL 98.52 ZAP 134.60 ETS 180.07 ZAE 175.36 ETE 169.61 ZAC 99.84 ETC 277.91 LVI -18.14

PLANETOCENTRIC CONIC

C3 9.703 VHL 3.115 DLA -30.07 RAL 338.56 RAD 6637.9 VEL 11.393 PTH 6.45 VHP 3.902 DPA -17.05 RAP 321.82 ECC 1.1597
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 46 33 2347.68 .24 60.02 190.29 137.58 17 25 41 1347.7 18.41 43.79
60.00 18 10 27 2124.48 5.39 44.86 195.22 130.00 18 45 51 1124.5 20.83 25.85
70.00 20 4 39 1788.52 11.48 22.14 199.73 122.39 20 34 27 788.5 23.72 .45
79.33 23 13 5 1197.32 21.70 342.76 205.12 111.34 23 33 2 197.3 28.56 317.39
79.33 23 13 5 1197.32 21.70 342.76 205.12 111.34 23 33 2 197.3 28.56 317.39
79.33 23 13 5 1197.32 21.70 342.76 205.12 111.34 23 33 2 197.3 28.56 317.39
110.00 1 8 1 6123.38 11.48 288.96 199.73 122.39 2 50 4 5123.4 23.72 267.28

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2313 TRA -.4797 TC3 .0960 BAU .0308 SGT 1106.5 SGR 459.7 SG3 926.3 ST 26.2 SR 20.3 SS 34.4
RDE -.2184 RRA .0836 RC3 .2175 FAU .14992 RRT -.0043 RRF .0170 RTF -.6.05 CRT .7281 CR8 -.1468 CST .9653
FDE -.0193 FRA 3.1732 FC-13.3761 B8P 1720 SGB 1198.1 R23 -.0138 R13 .6205 LSA 38.9 HSA 27.6 SSA 1.5
BDE .3181 BRA .4870 BC3 .2378 F8P 1570 SG1 1106.5 SG2 459.7 THA 179.88 EL1 31.0 EL2 11.8 ALF 35.18

LAUNCH DATE MAY 11 1971

FLIGHT TIME 168.00

ARRIVAL DATE OCT 26 1971

HELIOCENTRIC CONIC

DISTANCE 411.021

EARTH TO MARS

RL 151.08 LAL .00 LOL 229.67 VL 32.383 GAL -.11 AZL 91.84 HCA 135.73 SMA 187.40 ECC .19379 INC 1.8385 V1 29.491
RP 209.04 LAP -1.28 LOP 5.42 VP 23.697 GAP 9.01 AZP 88.88 TAL 359.34 TAP 135.07 RCA 151.08 APO 223.71 V2 26.221
RC 100.898 GL -19.82 GP -.10 ZAL 98.50 ZAP 132.80 ETS 180.05 ZAE 173.92 ETE 173.14 ZAC 99.91 ETC 277.79 LVI -17.98

PLANETOCENTRIC CONIC

C3 9.570 VHL 3.094 DLA -30.19 RAL 338.60 RAD 6637.8 VEL 11.387 PTH 6.44 VHP 3.805 DPA -17.23 RAP 321.27 ECC 1.1575
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 47 24 2342.23 .51 59.79 190.25 137.57 17 26 26 1342.2 18.67 43.53
60.00 18 11 37 2118.15 5.67 44.56 195.19 129.97 18 46 56 1118.1 21.08 25.50
70.00 20 6 34 1779.95 11.79 21.67 199.71 122.29 20 38 14 779.9 23.97 359.91
78.98 23 10 37 1203.03 21.85 343.25 205.01 111.36 23 30 40 203.0 28.70 317.84
78.98 23 10 37 1203.03 21.85 343.25 205.01 111.36 23 30 40 203.0 28.70 317.84
78.98 23 10 37 1203.03 21.85 343.25 205.01 111.36 23 30 40 203.0 28.70 317.84
110.00 1 9 57 6114.81 11.79 288.50 199.71 122.29 2 51 52 5114.8 23.97 266.73

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2334 TRA -.4536 TC3 .0151 BAU .0276 SGT 1063.8 SGR 450.5 SG3 977.3 ST 26.1 SR 19.8 SS 35.3
RDE -.2123 RRA .0816 RC3 .2155 FAU .15740 RRT .0026 RRF .0142 RTF -.5794 CRT .7478 CR8 -.1375 CST .5487
FDE -.0088 FRA 3.3116 FC-14.2385 B8P 1481 SGB 1155.3 R23 .0161 R13 -.5794 LSA 39.4 HSA 27.6 SSA 1.5
BDE .3155 BRA .4809 BC3 .2160 F8P 1603 SG1 1063.8 SG2 450.5 THA .08 EL1 30.8 EL2 11.1 ALF 34.84

LAUNCH DATE MAY 11 1971

FLIGHT TIME 170.00

ARRIVAL DATE OCT 28 1971

HELIOCENTRIC CONIC

RL 151.08 LAL .00 LOL 229.67 VL 32.363 GAL -.10 AZL 91.84 HCA 136.97 SMA 187.08 ECC .19229 INC 1.8379 V1 29.491
RP 209.24 LAP -1.25 LOP 6.66 VP 23.644 GAP 8.77 AZP 88.66 TAL 359.36 TAP 136.34 RCA 151.08 APO 223.02 V2 26.198
RC 102.893 GL -19.74 GP -.10 ZAL 98.91 ZAP 130.97 ETS 180.03 ZAE 172.39 ETE 175.32 ZAC 99.99 ETC 277.67 LVI -17.81

PLANETOCENTRIC CONIC

C3 9.450 VHL 3.074 DLA -30.28 RAL 338.67 RAD 6637.8 VEL 11.382 PTH 6.43 VHP 3.714 DPA -17.41 RAP 320.68 ECC 1.1555
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 48 13 2337.46 .75 59.60 190.23 137.57 17 27 11 1337.5 18.89 43.31
60.00 18 12 44 2112.62 5.91 44.29 195.17 129.94 18 47 56 1112.6 21.29 25.19
70.00 20 8 20 1772.49 12.06 21.26 199.71 122.20 20 37 53 772.5 24.18 359.44
78.69 23 8 44 1207.35 21.98 343.63 204.93 111.38 23 28 51 207.3 28.82 318.19
78.69 23 8 44 1207.35 21.98 343.63 204.93 111.38 23 28 51 207.3 28.82 318.19
78.69 23 8 44 1207.35 21.98 343.63 204.93 111.38 23 28 51 207.3 28.82 318.19
110.00 1 11 42 6107.35 12.06 288.09 199.71 122.20 2 53 30 5107.3 24.18 266.26

DIFFERENTIAL CORRECTIONS

TDE -.2328 TRA -.4299 TC3 -.1082 BAU .0302
RDE -.2063 RRA .0797 RC3 .2132 FAU .16289
FDE -.0180 FRA 3.4787 FC-14.9238 B8P 1381
BDE .3110 BRA .4372 BC3 .2391 F8P 1714

MID-COURSE EXECUTION ACCURACY

SGT 1026.5 SGR 441.1 S63 1024.3
RRT -.0032 RRF .0191 RTF -.5213
SGB 1117.3 R23 -.0170 R13 .5213
SG1 1026.5 S62 441.1 THA 179.90

ORBIT DETERMINATION ACCURACY

ST 25.8 SR 19.4 S8 36.4
CRT .7623 CR8 -.1438 CST .5245
LSA 39.9 MSA 27.7 S8A 1.5
EL1 30.5 EL2 10.8 ALF 34.65

LAUNCH DATE MAY 11 1971

FLIGHT TIME 172.00

ARRIVAL DATE OCT 30 1971

HELIOCENTRIC CONIC

RL 151.08 LAL .00 LOL 229.67 VL 32.344 GAL -.10 AZL 91.84 HCA 138.21 SMA 186.73 ECC .19092 INC 1.8374 V1 29.491
RP 209.44 LAP -1.22 LOP 7.90 VP 23.592 GAP 8.53 AZP 88.63 TAL 359.37 TAP 137.58 RCA 151.08 APO 222.36 V2 26.174
RC 104.913 GL -19.84 GP -.10 ZAL 98.54 ZAP 129.10 ETS 180.01 ZAE 170.80 ETE 176.76 ZAC 100.07 ETC 277.54 LVI -17.63

PLANETOCENTRIC CONIC

C3 9.341 VHL 3.056 DLA -30.36 RAL 338.75 RAD 6637.7 VEL 11.377 PTH 6.43 VHP 3.627 DPA -17.61 RAP 320.05 ECC 1.1537
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 49 1 2333.35 .96 59.42 190.24 137.57 17 27 54 1333.3 19.09 43.12
60.00 18 13 45 2107.89 6.12 44.06 195.18 129.91 18 48 53 1107.9 21.48 24.93
70.00 20 9 54 1766.17 12.29 20.92 199.73 122.12 20 39 20 766.2 24.36 359.04
78.46 23 7 23 1210.45 22.09 343.91 204.89 111.38 23 27 34 210.5 28.92 318.44
78.46 23 7 23 1210.45 22.09 343.91 204.89 111.38 23 27 34 210.5 28.92 318.44
78.46 23 7 23 1210.45 22.09 343.91 204.89 111.38 23 27 34 210.5 28.92 318.44
110.00 1 13 17 6101.02 12.29 287.74 199.73 122.12 2 54 58 5101.0 24.36 265.86

DIFFERENTIAL CORRECTIONS

TDE -.2340 TRA -.3989 TC3 -.2116 BAU .0373
RDE -.2004 RRA .0777 RC3 .2104 FAU .17035
FDE -.0105 FRA 3.6282 FC-15.7884 B8P 1244
BDE .3081 BRA .4064 BC3 .2984 F8P 1827

MID-COURSE EXECUTION ACCURACY

SGT 980.0 SGR 431.4 S63 1076.6
RRT .0043 RRF .0182 RTF -.4565
SGB 1070.7 R23 .0206 R13 -.4565
SG1 980.0 S62 431.4 THA .13

ORBIT DETERMINATION ACCURACY

ST 25.5 SR 19.0 S8 37.3
CRT .7843 CR8 -.1396 CST .4979
LSA 40.4 MSA 27.8 S8A 1.5
EL1 30.2 EL2 9.9 ALF 34.49

LAUNCH DATE MAY 11 1971

FLIGHT TIME 174.00

ARRIVAL DATE NOV 1 1971

HELIOCENTRIC CONIC

RL 151.08 LAL .00 LOL 229.67 VL 32.327 GAL -.10 AZL 91.84 HCA 139.44 SMA 186.44 ECC .18967 INC 1.8369 V1 29.491
RP 209.66 LAP -1.19 LOP 9.13 VP 23.941 GAP 8.29 AZP 88.60 TAL 359.36 TAP 138.80 RCA 151.08 APO 221.80 V2 26.150
RC 106.958 GL -19.93 GP -.11 ZAL 98.59 ZAP 127.19 ETS 179.99 ZAE 169.15 ETE 177.77 ZAC 100.15 ETC 277.40 LVI -17.44

PLANETOCENTRIC CONIC

C3 9.243 VHL 3.040 DLA -30.42 RAL 338.88 RAD 6637.6 VEL 11.373 PTH 6.43 VHP 3.548 DPA -17.82 RAP 319.38 ECC 1.1521
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 49 48 2329.89 1.13 59.28 190.28 137.57 17 28 38 1329.9 19.26 42.93
60.00 18 14 43 2103.98 6.29 43.87 195.22 129.89 18 49 47 1104.0 21.63 24.71
70.00 20 11 17 1760.99 12.48 20.63 199.77 122.05 20 40 38 761.0 24.51 358.70
78.29 23 6 33 1212.43 22.18 344.09 204.87 111.37 23 26 45 212.4 29.00 318.60
78.29 23 6 33 1212.43 22.18 344.09 204.87 111.37 23 26 45 212.4 29.00 318.60
78.29 23 6 33 1212.43 22.18 344.09 204.87 111.37 23 26 45 212.4 29.00 318.60
110.00 1 14 39 6095.85 12.48 287.46 199.77 122.05 2 56 15 5095.8 24.51 265.53

DIFFERENTIAL CORRECTIONS

TDE -.2318 TRA -.3684 TC3 -.3501 BAU .0503
RDE -.1945 RRA .0759 RC3 .2073 FAU .17646
FDE -.0244 FRA 3.7893 FC-16.5275 B8P 1113
BDE .3024 BRA .3761 BC3 .4069 F8P 1935

MID-COURSE EXECUTION ACCURACY

SGT 940.3 SGR 421.6 S63 1125.1
RRT -.0008 RRF .0225 RTF -.3882
SGB 1030.5 R23 -.0221 R13 .3682
SG1 940.3 S62 421.6 THA 179.97

ORBIT DETERMINATION ACCURACY

ST 24.9 SR 18.5 S8 38.3
CRT .8017 CR8 -.1504 CST .4629
LSA 40.7 MSA 27.8 S8A 1.5
EL1 29.6 EL2 9.3 ALF 34.64

LAUNCH DATE MAY 11 1971

FLIGHT TIME 176.00

ARRIVAL DATE NOV 3 1971

HELIOCENTRIC CONIC

RL 151.08 LAL .00 LOL 229.67 VL 32.311 GAL -.11 AZL 91.84 HCA 140.68 SMA 186.18 ECC .18852 INC 1.8364 V1 29.491
RP 209.87 LAP -1.16 LOP 10.38 VP 23.492 GAP 8.06 AZP 88.50 TAL 359.33 TAP 140.01 RCA 151.08 APO 221.28 V2 26.124
RC 109.028 GL -20.01 GP -.12 ZAL 98.67 ZAP 125.25 ETS 179.96 ZAE 167.44 ETE 178.50 ZAC 100.24 ETC 277.25 LVI -17.23

PLANETOCENTRIC CONIC

C3 9.156 VHL 3.026 DLA -30.48 RAL 338.99 RAD 6637.6 VEL 11.369 PTH 6.42 VHP 3.469 DPA -18.03 RAP 318.67 ECC 1.1507
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 50 33 2327.05 1.20 59.16 190.34 137.56 17 29 20 1327.1 19.39 42.82
60.00 18 15 36 2100.70 6.43 43.72 195.27 129.87 18 50 36 1100.8 21.76 24.53
70.00 20 12 27 1756.95 12.63 20.41 199.82 122.00 20 41 44 757.0 24.62 358.45
78.17 23 6 11 1213.39 22.25 344.20 204.89 111.36 23 26 24 213.4 29.06 318.69
78.17 23 6 11 1213.39 22.25 344.20 204.89 111.36 23 26 24 213.4 29.06 318.69
78.17 23 6 11 1213.39 22.25 344.20 204.89 111.36 23 26 24 213.4 29.06 318.69
110.00 1 15 50 6091.81 12.63 287.24 199.82 122.00 2 57 21 5091.8 24.62 265.27

DIFFERENTIAL CORRECTIONS

TDE -.2249 TRA -.3350 TC3 -.4793 BAU .0637
RDE -.1886 RRA .0740 RC3 .2030 FAU .18329
FDE -.0689 FRA 3.9478 FC-17.3310 B8P 835
BDE .2936 BRA .3431 BC3 .5208 F8P 1970

MID-COURSE EXECUTION ACCURACY

SGT 898.4 SGR 411.7 S63 1175.9
RRT -.0086 RRF .0292 RTF -.2687
SGB 988.2 R23 -.0262 R13 .2687
SG1 898.4 S62 411.6 THA 179.71

ORBIT DETERMINATION ACCURACY

ST 24.0 SR 18.0 S8 39.3
CRT .8170 CR8 -.1821 CST .4100
LSA 41.0 MSA 27.6 S8A 1.4
EL1 28.7 EL2 8.7 ALF 35.27

LAUNCH DATE MAY 11 1971

FLIGHT TIME 178.00

ARRIVAL DATE NOV 5 1971

HELIOCENTRIC CONIC

RL 151.08 LAL .00 LOL 229.67 VL 32.207 GAL -.11 AZL 91.84 HCA 141.91 SMA 185.94 ECC .18748 INC 1.8357 V1 29.491
RP 210.10 LAP -1.13 LOP 11.59 VP 23.443 GAP 7.83 AZP 88.56 TAL 359.29 TAP 141.20 RCA 151.08 APO 220.80 V2 26.098
RC 111.121 GL -20.08 GP -.12 ZAL 98.78 ZAP 123.28 ETS 179.93 ZAE 165.67 ETE 179.04 ZAC 100.32 ETC 277.09 LVI -17.01

PLANETOCENTRIC CONIC

C3 9.078 VHL 3.013 DLA -30.49 RAL 339.14 RAD 6637.6 VEL 11.366 PTH 6.42 VHP 3.397 DPA -18.26 RAP 317.93 ECC 1.1494
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 51 17 2324.83 1.39 59.07 190.42 137.56 17 30 2 1324.8 19.50 42.71
60.00 18 16 24 2096.38 6.53 43.60 195.35 129.86 18 51 22 1098.4 21.85 24.40
70.00 20 13 26 1754.03 12.73 20.25 199.90 121.96 20 42 40 754.0 24.71 358.26
78.10 23 6 17 1213.30 22.31 344.21 204.93 111.33 23 26 30 213.3 29.10 318.69
78.10 23 6 17 1213.30 22.31 344.21 204.93 111.33 23 26 30 213.3 29.10 318.69
78.10 23 6 17 1213.30 22.31 344.21 204.93 111.33 23 26 30 213.3 29.10 318.69
110.00 1 16 48 6088.88 12.73 287.07 199.90 121.96 2 58 17 5088.9 24.71 265.08

DIFFERENTIAL CORRECTIONS

TDE -.2226 TRA -.2928 TC3 -.5716 BAU .0735 SGT 845.7 SGR 401.3 S63 1237.0 ST 23.3 SR 17.6 SS 39.9
RDE -.1831 RRA .0722 RC3 .1997 FAU .19393 RRT .0089 RRF .0229 RTF -.1584 CRT .8437 CRS -.1767 CST .3704
FDE -.0623 FRA 4.0727 FC-18.4941 B8P 633 SGB 936.0 R23 .0247 R13 -.1563 LSA 41.2 MSA 27.3 SSA 1.4
BDE .2882 BRA .3015 BC3 .6054 F8P 2111 SG1 845.7 S62 401.3 THA .31 EL1 28.1 EL2 7.8 ALF 35.67

FLIGHT TIME 180.00

ARRIVAL DATE NOV 7 1971

HELIOCENTRIC CONIC

RL 151.08 LAL .00 LOL 229.67 VL 32.205 GAL -.12 AZL 91.84 HCA 143.13 SMA 185.73 ECC .18655 INC 1.8351 V1 29.491
RP 210.33 LAP -1.10 LOP 12.82 VP 23.396 GAP 7.61 AZP 88.53 TAL 359.23 TAP 142.36 RCA 151.08 APO 220.37 V2 26.071
RC 113.239 GL -20.15 GP -.13 ZAL 98.91 ZAP 121.29 ETS 179.91 ZAE 163.86 ETE 179.44 ZAC 100.41 ETC 276.92 LVI -16.78

PLANETOCENTRIC CONIC

C3 9.011 VHL 3.002 DLA -30.49 RAL 339.31 RAD 6637.5 VEL 11.363 PTH 6.42 VHP 3.330 DPA -18.49 RAP 317.16 ECC 1.1483
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 52 0 2323.33 1.46 59.01 190.53 137.56 17 30 44 1323.3 19.57 42.64
60.00 18 17 8 2096.85 6.60 43.53 195.45 129.85 18 52 5 1096.9 21.91 24.31
70.00 20 14 11 1752.44 12.79 20.16 199.99 121.94 20 43 23 752.4 24.75 358.16
78.10 23 6 55 1212.08 22.35 344.14 205.01 111.30 23 27 7 212.1 29.12 318.60
78.10 23 6 55 1212.08 22.35 344.14 205.01 111.30 23 27 7 212.1 29.12 318.60
78.10 23 6 55 1212.08 22.35 344.14 205.01 111.30 23 27 7 212.1 29.12 318.60
110.00 1 17 33 6087.30 12.79 286.99 199.99 121.94 2 59 1 5087.3 24.75 264.98

DIFFERENTIAL CORRECTIONS

TDE -.2327 TRA -.2680 TC3 -.7910 BAU .0982 SGT 880.5 SGR 390.8 S63 1282.1 ST 23.9 SR 17.1 SS 41.3
RDE -.1773 RRA .0704 RC3 .1960 FAU .19762 RRT .0055 RRF .0280 RTF -.0153 CRT .8677 CRS -.1565 CST .3453
FDE -.0331 FRA 4.2693 FC-18.9866 B8P 472 SGB 963.4 R23 .0281 R13 -.0152 LSA 42.4 MSA 27.7 SSA 1.4
BDE .2926 BRA .2771 BC3 .8149 F8P 2189 SG1 880.5 S62 390.8 THA .17 EL1 28.5 EL2 7.1 ALF 34.20

FLIGHT TIME 182.00

ARRIVAL DATE NOV 9 1971

HELIOCENTRIC CONIC

RL 151.08 LAL .00 LOL 229.67 VL 32.273 GAL -.13 AZL 91.83 HCA 144.36 SMA 185.53 ECC .18571 INC 1.8345 V1 29.491
RP 210.57 LAP -1.07 LOP 14.04 VP 23.349 GAP 7.40 AZP 88.51 TAL 359.15 TAP 143.51 RCA 151.08 APO 219.99 V2 26.044
RC 115.380 GL -20.20 GP -.13 ZAL 99.07 ZAP 119.27 ETS 179.88 ZAE 162.00 ETE 179.75 ZAC 100.51 ETC 276.75 LVI -16.54

PLANETOCENTRIC CONIC

C3 8.952 VHL 2.992 DLA -30.48 RAL 339.51 RAD 6637.5 VEL 11.360 PTH 6.41 VHP 3.288 DPA -18.72 RAP 316.36 ECC 1.1473
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 52 42 2322.38 1.51 58.97 190.66 137.56 17 31 25 1322.4 19.61 42.60
60.00 18 17 47 2096.01 6.63 43.49 195.57 129.84 18 52 43 1096.0 21.94 24.26
70.00 20 14 45 1751.88 12.81 20.13 200.10 121.93 20 43 57 751.9 24.77 358.12
78.13 23 7 59 1209.90 22.37 343.98 205.11 111.26 23 28 9 209.9 29.12 318.44
78.13 23 7 59 1209.90 22.37 343.98 205.11 111.26 23 28 9 209.9 29.12 318.44
78.13 23 7 59 1209.90 22.37 343.98 205.11 111.26 23 28 9 209.9 29.12 318.44
110.00 1 18 7 6086.74 12.81 286.96 200.10 121.93 2 59 34 5086.7 24.77 264.95

DIFFERENTIAL CORRECTIONS

TDE -.2329 TRA -.2296 TC3 -.9540 BAU .1184 SGT 886.0 SGR 380.1 S63 1334.3 ST 23.8 SR 16.6 SS 42.2
RDE -.1717 RRA .0686 RC3 .1916 FAU .20476 RRT .0100 RRF .0290 RTF .0170 CRT .8911 CRS -.1549 CST .2993
FDE -.0303 FRA 4.4365 FC-19.8027 B8P 288 SGB 964.1 R23 .0274 R13 .1271 LSA 43.1 MSA 27.6 SSA 1.4
BDE .2893 BRA .2396 BC3 .9730 F8P 2293 SG1 886.0 S62 380.1 THA .30 EL1 28.1 EL2 6.3 ALF 34.04

FLIGHT TIME 184.00

ARRIVAL DATE NOV 11 1971

HELIOCENTRIC CONIC

RL 151.08 LAL .00 LOL 229.67 VL 32.263 GAL -.15 AZL 91.83 HCA 145.58 SMA 185.36 ECC .18496 INC 1.8337 V1 29.491
RP 210.82 LAP -1.04 LOP 15.26 VP 23.304 GAP 7.19 AZP 88.49 TAL 359.06 TAP 144.64 RCA 151.08 APO 219.65 V2 26.015
RC 117.545 GL -20.25 GP -.14 ZAL 99.25 ZAP 117.23 ETS 179.85 ZAE 160.10 ETE 179.99 ZAC 100.60 ETC 276.57 LVI -16.28

PLANETOCENTRIC CONIC

C3 8.901 VHL 2.993 DLA -30.48 RAL 339.72 RAD 6637.5 VEL 11.358 PTH 6.41 VHP 3.210 DPA -18.98 RAP 315.83 ECC 1.1468
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 53 23 2322.03 1.53 58.95 190.82 137.56 17 32 5 1322.0 19.63 42.58
60.00 18 18 22 2095.91 6.64 43.48 195.71 129.84 18 53 18 1095.9 21.95 24.26
70.00 20 15 6 1752.44 12.79 20.16 200.22 121.94 20 44 19 752.4 24.75 358.16
78.22 23 9 29 1206.76 22.38 343.75 205.24 111.20 23 29 36 206.8 29.10 318.20
78.22 23 9 29 1206.76 22.38 343.75 205.24 111.20 23 29 36 206.8 29.10 318.20
78.22 23 9 29 1206.76 22.38 343.75 205.24 111.20 23 29 36 206.8 29.10 318.20
110.00 1 18 29 6087.29 12.79 286.99 200.22 121.94 2 59 56 5087.3 24.75 264.98

DIFFERENTIAL CORRECTIONS

TDE -.2355 TRA -.1908 TC3-1.1373 BAU .1372 SGT 919.6 SGR 369.2 S63 1382.9 ST 23.5 SR 16.1 SS 43.2
RDE -.1661 RRA .0688 RC3 .1872 FAU .21108 RRT .0152 RRF .0287 RTF .2677 CRT .9142 CRS -.1410 CST .2597
FDE -.0073 FRA 4.6249 FC-20.5277 B8P 31 SGB 991.0 R23 .0239 R13 .2678 LSA 43.8 MSA 27.5 SSA 1.4
BDE .2882 BRA .2021 BC3 1.1527 F8P 2385 SG1 919.7 S62 369.2 THA .42 EL1 28.0 EL2 5.5 ALF 33.50

LAUNCH DATE MAY 11 1971

FLIGHT TIME 186.00

ARRIVAL DATE NOV 13 1971

HELIOCENTRIC CONIC
 RL 151.08 LAL .00 LOL 229.67 VL 32.254 GAL -.18 AZL 91.83 HCA 146.80 SMA 105.21 ECC .18430 INC 1.8330 V1 29.491
 RP 211.07 LAP -1.00 LOP 16.48 VP 23.259 GAP 6.98 AZP 88.47 TAL 358.95 TAP 145.75 RCA 151.08 APO 219.34 V2 25.986
 RC 119.734 GL -20.28 GP -.15 ZAL 99.45 ZAP 115.17 ETS 179.82 ZAE 158.16 ETE 180.18 ZAC 100.69 ETC 276.38 LVI -16.02

DISTANCE 448.350
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 8.858 VHL 2.976 DLA -30.40 RAL 339.96 RAD 6637.4 VEL 11.356 PTH 6.41 VHP 3.157 DPA -19.20 RAP 314.67 ECC 1.1450
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 54 2 2322.26 1.52 58.96 190.99 137.56 17 32 44 1322.3 19.82 42.59
 60.00 18 18 53 2096.53 6.61 43.51 195.87 129.85 18 53 49 1096.5 21.92 24.29
 70.00 20 15 16 1754.07 12.73 20.25 200.36 121.96 20 44 31 754.1 24.70 358.26
 78.36 23 11 27 1202.60 22.37 343.44 205.40 111.14 23 31 29 202.6 29.07 317.88
 78.36 23 11 27 1202.60 22.37 343.44 205.40 111.14 23 31 29 202.6 29.07 317.88
 78.36 23 11 27 1202.60 22.37 343.44 205.40 111.14 23 31 29 202.6 29.07 317.88
 110.00 1 18 39 6088.93 12.73 287.08 200.36 121.96 3 0 8 5088.9 24.70 265.09

MID-COURSE EXECUTION ACCURACY
 SGT 981.9 SGR 358.1 S63 1433.3
 RRT .0231 RRF .0259 RTF .4041
 SGB 1026.5 R23 .0151 R13 .4041
 S61 982.0 S62 358.0 THA .57

ORBIT DETERMINATION ACCURACY
 ST 23.3 SR 15.6 SS 43.8
 CRT .9364 CRS -.1325 CST .2088
 LSA 44.2 MSA 27.4 SSA 1.3
 EL1 27.7 EL2 4.6 ALF 33.12

LAUNCH DATE MAY 11 1971

FLIGHT TIME 186.00

ARRIVAL DATE NOV 15 1971

HELIOCENTRIC CONIC
 RL 151.08 LAL .00 LOL 229.67 VL 32.248 GAL -.18 AZL 91.83 HCA 148.01 SMA 105.08 ECC .18371 INC 1.8321 V1 29.491
 RP 211.33 LAP -.97 LOP 17.70 VP 23.214 GAP 6.77 AZP 88.45 TAL 358.82 TAP 146.84 RCA 151.08 APO 219.08 V2 25.957
 RC 121.945 GL -20.31 GP -.15 ZAL 99.68 ZAP 113.09 ETS 179.79 ZAE 156.19 ETE 180.32 ZAC 100.78 ETC 276.19 LVI -15.75

DISTANCE 452.525
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 8.823 VHL 2.970 DLA -30.33 RAL 340.21 RAD 6637.4 VEL 11.359 PTH 6.41 VHP 3.109 DPA -19.44 RAP 313.79 ECC 1.1452
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 54 40 2323.05 1.48 58.99 191.19 137.56 17 33 23 1323.1 19.58 42.63
 60.00 18 19 19 2097.83 6.55 43.58 196.05 129.85 18 54 17 1097.6 21.87 24.37
 70.00 20 15 16 1756.72 12.63 20.40 200.51 122.00 20 44 32 756.7 24.63 358.43
 78.55 23 13 51 1197.45 22.34 343.04 205.58 111.07 23 33 48 197.5 29.01 317.49
 78.55 23 13 51 1197.45 22.34 343.04 205.58 111.07 23 33 48 197.5 29.01 317.49
 78.55 23 13 51 1197.45 22.34 343.04 205.58 111.07 23 33 48 197.5 29.01 317.49
 110.00 1 18 38 6091.58 12.63 287.22 200.51 122.00 3 0 10 5091.6 24.63 265.26

MID-COURSE EXECUTION ACCURACY
 SGT 1028.2 SGR 347.1 S63 1481.0
 RRT .0173 RRF .0347 RTF .5220
 SGB 1085.2 R23 .0244 R13 .5221
 S61 1028.2 S62 347.0 THA .38

ORBIT DETERMINATION ACCURACY
 ST 22.6 SR 15.1 SS 45.0
 CRT .9545 CRS -.1598 CST .1233
 LSA 45.1 MSA 26.9 SSA 1.3
 EL1 26.9 EL2 3.8 ALF 33.22

LAUNCH DATE MAY 11 1971

FLIGHT TIME 190.00

ARRIVAL DATE NOV 17 1971

HELIOCENTRIC CONIC
 RL 151.08 LAL .00 LOL 229.67 VL 32.239 GAL -.20 AZL 91.83 HCA 149.23 SMA 104.96 ECC .18321 INC 1.8312 V1 29.491
 RP 211.60 LAP -.94 LOP 18.91 VP 23.171 GAP 6.57 AZP 88.43 TAL 358.68 TAP 147.91 RCA 151.08 APO 218.85 V2 25.926
 RC 124.177 GL -20.33 GP -.16 ZAL 99.93 ZAP 111.01 ETS 179.76 ZAE 154.20 ETE 180.44 ZAC 100.87 ETC 275.99 LVI -15.47

DISTANCE 456.702
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 8.796 VHL 2.966 DLA -30.25 RAL 340.49 RAD 6637.4 VEL 11.354 PTH 6.41 VHP 3.065 DPA -19.68 RAP 312.91 ECC 1.1448
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 55 18 2324.45 1.41 59.05 191.41 137.56 17 34 2 1324.5 19.51 42.69
 60.00 18 19 42 2099.89 6.46 43.68 196.25 129.87 18 54 42 1099.9 21.79 24.48
 70.00 20 15 4 1760.48 12.90 20.61 200.69 122.05 20 44 24 760.3 24.52 358.67
 78.80 23 16 48 1190.99 22.29 342.54 205.80 110.99 23 36 39 191.0 28.94 316.99
 78.80 23 16 48 1190.99 22.29 342.54 205.80 110.99 23 36 39 191.0 28.94 316.99
 78.80 23 16 48 1190.99 22.29 342.54 205.80 110.99 23 36 39 191.0 28.94 316.99
 110.00 1 18 26 6095.34 12.50 287.43 200.69 122.05 3 0 1 5095.3 24.52 265.50

MID-COURSE EXECUTION ACCURACY
 SGT 1130.1 SGR 335.5 S63 1527.2
 RRT .0261 RRF .0269 RTF .5101
 SGB 1178.0 R23 .0095 R13 .6101
 S61 1130.1 S62 335.3 THA .49

ORBIT DETERMINATION ACCURACY
 ST 23.2 SR 14.6 SS 45.8
 CRT .9710 CRS -.1114 CST .1065
 LSA 45.9 MSA 27.2 SSA 1.3
 EL1 27.3 EL2 3.0 ALF 31.74

LAUNCH DATE MAY 11 1971

FLIGHT TIME 192.00

ARRIVAL DATE NOV 19 1971

HELIOCENTRIC CONIC
 RL 151.08 LAL .00 LOL 229.67 VL 32.233 GAL -.23 AZL 91.83 HCA 150.43 SMA 104.86 ECC .18278 INC 1.8302 V1 29.491
 RP 211.87 LAP -.90 LOP 20.12 VP 23.128 GAP 6.38 AZP 88.41 TAL 358.53 TAP 148.96 RCA 151.07 APO 218.65 V2 25.896
 RC 126.431 GL -20.34 GP -.17 ZAL 100.20 ZAP 108.91 ETS 179.73 ZAE 152.17 ETE 180.52 ZAC 100.96 ETC 275.79 LVI -15.18

DISTANCE 460.883
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 8.776 VHL 2.962 DLA -30.15 RAL 340.79 RAD 6637.4 VEL 11.353 PTH 6.41 VHP 3.025 DPA -19.92 RAP 312.00 ECC 1.1444
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 55 53 2326.37 1.31 59.13 191.65 137.56 17 34 40 1326.4 19.42 42.78
 60.00 18 20 0 2102.59 6.35 43.81 196.47 129.88 18 55 3 1102.6 21.69 24.63
 70.00 20 14 42 1765.16 12.33 20.86 200.87 122.11 20 44 7 765.2 24.39 358.97
 79.10 23 20 14 1183.38 22.23 341.95 206.03 110.90 23 39 57 183.4 28.85 316.41
 79.10 23 20 14 1183.38 22.23 341.95 206.03 110.90 23 39 57 183.4 28.85 316.41
 79.10 23 20 14 1183.38 22.23 341.95 206.03 110.90 23 39 57 183.4 28.85 316.41
 110.00 1 18 4 6100.02 12.33 287.69 200.87 122.11 2 59 44 5100.0 24.39 265.79

MID-COURSE EXECUTION ACCURACY
 SGT 1242.2 SGR 323.9 S63 1566.0
 RRT .0244 RRF .0286 RTF .6846
 SGB 1283.7 R23 .0106 R13 .6847
 S61 1242.2 S62 323.8 THA .39

ORBIT DETERMINATION ACCURACY
 ST 23.2 SR 14.0 SS 46.7
 CRT .9833 CRS -.1029 CST .0477
 LSA 46.7 MSA 27.0 SSA 1.2
 EL1 27.0 EL2 2.2 ALF 31.00

LAUNCH DATE MAY 11 1971

FLIGHT TIME 194.00

ARRIVAL DATE NOV 21 1971

Heliocentric Conic: RL 151.08 LAL .00 LOL 229.67 VL 32.228 GAL -.25 AZL 91.83 MCA 151.64 SMA 184.78 ECC .18242 INC 1.8293 V1 29.491
 RP 212.14 LAP -.87 LOP 21.32 VP 23.086 GAP 6.18 AZP 88.39 TAL 358.36 TAP 150.00 RCA 151.07 APO 218.49 V2 25.864
 RC 128.708 GL -20.34 GP -.18 ZAL 100.50 ZAP 106.82 ETS 179.69 ZAE 190.13 ETE 180.59 ZAC 101.04 ETC 275.59 LVI -14.88

Distance 468.067 Earth to Mars

Planetary Conic: CS 8.762 VHL 2.960 DLA -30.03 RAL 341.10 RAD 6637.4 VEL 11.352 PTH 6.40 VHP 2.990 DPA -20.16 RAP 311.09 ECC 1.1442
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 58 28 2326.83 1.19 39.23 191.91 137.56 17 35 17 1328.8 19.31 42.90
 60.00 18 20 15 2105.94 6.20 43.97 196.71 129.90 18 55 21 1105.9 21.56 24.82
 70.00 20 14 11 1770.76 12.13 21.17 201.07 122.18 20 43 42 770.8 24.23 359.33
 79.45 23 24 9 1174.58 22.16 341.26 206.29 110.80 23 43 44 174.6 28.74 315.73
 79.45 23 24 9 1174.58 22.16 341.26 206.29 110.80 23 43 44 174.6 28.74 315.73
 79.45 23 24 9 1174.58 22.16 341.26 206.29 110.80 23 43 44 174.6 28.74 315.73
 110.00 1 17 33 6105.62 12.13 287.99 201.07 122.18 2 59 19 5105.6 24.23 266.15

Differential Corrections: TDE -.2397 TRA .0360 TC3-2.1651 BAW .2543 SGT 1365.5 SGR 312.1 S63 1604.6 ST 23.3 SR 13.5 S8 47.6
 RDE -.1362 RRA .0575 RC3 .1632 FAU .23978 RRT .0249 RRF .0262 RTF .7435 CRT .9915 CR8 -.0814 CST -.0015
 FDE .1134 FRA 5.4444 FC-23.6913 B8P 1366 SGB 1400.7 R23 .0067 R13 .7435 LSA 47.6 MSA 26.9 S8A 1.2
 BDE .2767 BRA .0679 BC3 2.1712 F8P 2778 S61 1365.5 S62 312.0 THA .34 EL1 26.9 EL2 1.5 ALF 30.00

LAUNCH DATE MAY 11 1971

FLIGHT TIME 196.00

ARRIVAL DATE NOV 23 1971

Heliocentric Conic: RL 151.08 LAL .00 LOL 229.67 VL 32.224 GAL -.28 AZL 91.83 MCA 152.84 SMA 184.71 ECC .18213 INC 1.8283 V1 29.491
 RP 212.43 LAP -.83 LOP 22.53 VP 23.044 GAP 5.99 AZP 88.37 TAL 358.17 TAP 151.01 RCA 151.07 APO 218.35 V2 25.832
 RC 130.999 GL -20.33 GP -.19 ZAL 100.82 ZAP 104.72 ETS 179.66 ZAE 148.08 ETE 180.64 ZAC 101.12 ETC 275.38 LVI -14.59

Distance 469.252 Earth to Mars

Planetary Conic: CS 8.755 VHL 2.959 DLA -29.90 RAL 341.43 RAD 6637.4 VEL 11.352 PTH 6.40 VHP 2.958 DPA -20.40 RAP 310.17 ECC 1.1441
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 57 2 2331.81 1.04 59.36 192.18 137.57 17 35 54 1331.8 19.16 43.04
 60.00 18 20 26 2109.93 6.03 44.16 196.96 129.92 18 55 36 1109.9 21.40 25.04
 70.00 20 13 31 1777.24 11.89 21.52 201.29 122.26 20 43 8 777.2 24.05 359.74
 79.88 23 28 42 1164.18 22.07 340.45 206.58 110.70 23 48 6 164.2 28.61 314.94
 79.88 23 28 42 1164.18 22.07 340.45 206.58 110.70 23 48 6 164.2 28.61 314.94
 79.88 23 28 42 1164.18 22.07 340.45 206.58 110.70 23 48 6 164.2 28.61 314.94
 110.00 1 16 54 6112.10 11.89 288.35 201.29 122.25 2 58 46 5112.1 24.05 266.56

Differential Corrections: TDE -.2395 TRA .0878 TC3-2.3893 BAW .2803 SGT 1500.9 SGR 300.2 S63 1640.0 ST 23.5 SR 13.0 S8 48.2
 RDE -.1326 RRA .0575 RC3 .1582 FAU .24472 RRT .0246 RRF .0228 RTF .7916 CRT .9947 CR8 -.0636 CST -.0572
 FDE .1522 FRA 5.5763 FC-24.1986 B8P 1674 SGB 1530.7 R23 .0025 R13 .7916 LSA 48.2 MSA 26.7 S8A 1.2
 BDE .2738 BRA .1039 BC3 2.3945 F8P 2829 S61 1500.9 S62 300.1 THA .29 EL1 26.8 EL2 1.2 ALF 28.87

LAUNCH DATE MAY 11 1971

FLIGHT TIME 198.00

ARRIVAL DATE NOV 25 1971

Heliocentric Conic: RL 151.08 LAL .00 LOL 229.67 VL 32.220 GAL -.31 AZL 91.83 MCA 154.04 SMA 184.66 ECC .18190 INC 1.8271 V1 29.491
 RP 212.72 LAP -.80 LOP 23.73 VP 23.002 GAP 5.81 AZP 88.36 TAL 357.97 TAP 152.01 RCA 151.07 APO 218.25 V2 25.799
 RC 133.312 GL -20.32 GP -.19 ZAL 101.15 ZAP 102.63 ETS 179.63 ZAE 146.02 ETE 180.68 ZAC 101.20 ETC 275.18 LVI -14.29

Distance 473.439 Earth to Mars

Planetary Conic: CS 8.755 VHL 2.959 DLA -29.75 RAL 341.78 RAD 6637.4 VEL 11.352 PTH 6.40 VHP 2.930 DPA -20.62 RAP 309.26 ECC 1.1441
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 57 35 2335.29 .88 59.51 192.48 137.57 17 36 30 1335.3 19.00 43.21
 60.00 18 20 33 2114.53 8.83 44.36 197.24 129.95 18 55 48 1114.5 21.22 25.30
 70.00 20 12 44 1784.96 11.83 21.92 201.92 122.34 20 42 28 784.6 23.83 .20
 80.00 23 9 25 1230.23 20.31 344.82 206.19 112.36 23 29 59 230.2 27.74 319.87
 90.37 23 33 51 1152.13 21.96 339.91 206.88 110.88 23 53 3 152.1 28.47 314.01
 100.00 1 58 12 5992.76 20.31 283.89 206.19 112.36 3 36 9 4992.8 27.74 258.84
 110.00 1 16 8 6119.41 11.83 289.75 201.92 122.34 2 58 9 5119.4 23.83 267.03

Differential Corrections: TDE -.2392 TRA .1409 TC3-2.6231 BAW .3079 SGT 1649.9 SGR 288.2 S63 1670.0 ST 23.7 SR 12.4 S8 49.1
 RDE -.1271 RRA .0836 RC3 .1833 FAU .24793 RRT .0223 RRF .0219 RTF .8260 CRT .9925 CR8 -.0468 CST -.1136
 FDE .1818 FRA 5.7303 FC-24.9170 B8P 1989 SGB 1674.9 R23 .0023 R13 .8260 LSA 49.2 MSA 26.6 S8A 1.1
 BDE .2708 BRA .1803 BC3 2.6275 F8P 2886 S61 1649.9 S62 288.1 THA .23 EL1 26.8 EL2 1.3 ALF 27.84

LAUNCH DATE MAY 11 1971

FLIGHT TIME 200.00

ARRIVAL DATE NOV 27 1971

Heliocentric Conic: RL 151.08 LAL .00 LOL 229.67 VL 32.218 GAL -.35 AZL 91.83 MCA 155.24 SMA 184.62 ECC .18174 INC 1.8259 V1 29.491
 RP 213.01 LAP -.76 LOP 24.92 VP 22.961 GAP 5.62 AZP 88.34 TAL 357.78 TAP 153.00 RCA 151.06 APO 218.17 V2 25.786
 RC 135.643 GL -20.29 GP -.21 ZAL 101.51 ZAP 100.96 ETS 179.59 ZAE 143.95 ETE 180.71 ZAC 101.28 ETC 274.97 LVI -13.98

Distance 477.688 Earth to Mars

Planetary Conic: CS 8.780 VHL 2.980 DLA -29.58 RAL 342.18 RAD 6637.4 VEL 11.352 PTH 6.40 VHP 2.907 DPA -20.85 RAP 308.34 ECC 1.1442
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 58 6 2339.28 .88 59.67 192.79 137.57 17 37 5 1339.3 18.81 43.39
 60.00 18 20 38 2119.73 5.60 44.63 197.53 129.98 18 55 87 1119.7 21.02 25.59
 70.00 20 11 49 1792.65 11.33 22.36 201.77 122.44 20 41 42 792.7 23.60 .71
 80.00 22 58 23 1270.41 19.25 347.13 206.10 113.27 23 19 33 270.4 27.16 322.51
 80.94 23 39 44 1138.12 21.84 338.42 207.21 110.46 23 58 42 138.1 28.31 312.95
 100.00 1 45 11 6032.92 19.25 286.40 206.10 113.27 3 25 44 5032.9 27.16 261.78
 110.00 1 15 11 6127.51 11.33 289.19 201.77 122.44 2 57 19 5127.5 23.60 267.54

Differential Corrections: TDE -.2374 TRA .1956 TC3-2.8574 BAW .3351 SGT 1806.1 SGR 276.0 S63 1697.1 ST 24.0 SR 11.9 S8 49.7
 RDE -.1215 RRA .0515 RC3 .1483 FAU .25109 RRT .0193 RRF .0201 RTF .8552 CRT .9845 CR8 -.0399 CST -.1824
 FDE .2101 FRA 5.8556 FC-24.8137 B8P 2309 SGB 1827.1 R23 .0012 R13 .8552 LSA 49.9 MSA 26.3 S8A 1.1
 BDE .2667 BRA .2025 BC3 2.8612 F8P 2943 S61 1806.2 S62 276.0 THA .17 EL1 26.7 EL2 1.9 ALF 28.11

LAUNCH DATE MAY 11 1971

FLIGHT TIME 202.00

ARRIVAL DATE NOV 29 1971

HELIOCENTRIC CONIC DISTANCE 481.817 EARTH TO MARS

RL 151.08 LAL .00 LOL 229.67 VL 32.216 GAL -.38 AZL 91.82 HCA 156.43 SMA 184.59 ECC .18163 INC 1.8244 V1 29.491
 RP 213.31 LAP -.73 LOP 26.12 VP 22.921 GAP 5.44 AZP 88.33 TAL 357.53 TAP 153.96 RCA 151.06 APO 218.11 V2 25.732
 RC 137.991 GL -20.26 GP -.22 ZAL 101.89 ZAP 96.49 ETS 179.56 ZAE 141.89 ETE 180.73 ZAC 101.35 ETC 274.77 LVI -13.68

PLANETOCENTRIC CONIC

C3 8.772 VHL 2.982 DLA -29.40 RAL 342.53 RAD 6637.4 VEL 11.353 PTH 6.41 VHP 2.886 DPA -21.06 RAP 307.44 ECC 1.1444
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 58 36 2343.74 .44 59.86 193.13 137.57 17 37 40 1343.7 18.59 43.60
 60.00 18 20 38 2125.90 5.35 44.91 197.83 130.00 18 56 4 1125.5 20.79 25.91
 70.00 20 10 48 1801.48 11.01 22.85 202.03 122.54 20 40 49 801.5 23.34 1.27
 80.00 22 50 9 1302.07 18.39 349.08 206.12 113.94 23 11 51 302.1 26.66 324.73
 81.61 23 48 27 1121.74 21.71 337.16 207.56 110.33 24 5 9 121.7 28.14 311.70
 100.00 1 36 56 6064.58 18.39 288.36 206.12 113.94 3 18 1 5064.6 26.66 264.00
 110.00 1 14 10 6136.34 11.01 289.67 202.03 122.54 2 56 26 5136.3 23.34 268.09

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2398 TRA .2522 TC3-3.0953 BAU .3634 SGT 1970.7 SGR 263.7 S63 1723.1 ST 24.5 SR 11.3 SS 30.4
 RDE -.1199 RRA .0494 RC3 .1432 FAU .25442 RRT .0157 RRF .0148 RTF .8771 CRT .9711 CRS -.0152 CST -.2318
 FDE .2671 FRA 5.9788 FC-25.1081 B8P 2634 S6B 1888.3 R23 .0008 R13 .8771 LSA 50.8 MSA 26.1 SSA 1.1
 BDE .2628 BRA .2570 BC3 3.0986 F8P 2988 S61 1970.7 S62 263.6 THA .12 EL1 26.8 EL2 2.5 ALF 24.45

LAUNCH DATE MAY 11 1971

FLIGHT TIME 204.00

ARRIVAL DATE DEC 1 1971

HELIOCENTRIC CONIC DISTANCE 486.007 EARTH TO MARS

RL 151.08 LAL .00 LOL 229.67 VL 32.215 GAL -.42 AZL 91.82 HCA 157.62 SMA 184.57 ECC .18158 INC 1.8230 V1 29.491
 RP 213.61 LAP -.69 LOP 27.30 VP 22.881 GAP 5.26 AZP 88.31 TAL 357.29 TAP 154.91 RCA 151.06 APO 218.08 V2 25.697
 RC 140.356 GL -20.22 GP -.23 ZAL 102.29 ZAP 96.45 ETS 179.53 ZAE 139.83 ETE 180.74 ZAC 101.41 ETC 274.57 LVI -13.38

PLANETOCENTRIC CONIC

C3 8.790 VHL 2.985 DLA -29.20 RAL 342.93 RAD 6637.4 VEL 11.353 PTH 6.41 VHP 2.870 DPA -21.27 RAP 306.55 ECC 1.1447
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 59 8 2348.68 .19 60.06 193.47 137.58 17 38 14 1348.7 18.36 43.84
 60.00 18 20 36 2131.84 5.07 45.22 198.16 130.03 18 56 8 1131.8 20.54 26.26
 70.00 20 9 41 1811.01 10.68 23.36 202.30 122.64 20 39 52 811.0 23.06 1.86
 80.00 22 43 10 1330.11 17.61 350.79 206.20 114.51 23 5 20 330.1 26.18 326.68
 82.39 23 54 14 1102.22 21.56 335.66 207.93 110.19 24 12 36 102.2 27.95 310.23
 100.00 1 29 57 6092.62 17.61 290.07 206.20 114.51 3 11 30 5092.6 26.18 265.95
 110.00 1 13 3 6145.87 10.68 290.19 202.30 122.64 2 55 29 5145.9 23.06 268.69

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2331 TRA .3107 TC3-3.3328 BAU .3920 SGT 2140.4 SGR 251.2 S63 1742.5 ST 24.9 SR 10.8 SS 51.1
 RDE -.1103 RRA .0472 RC3 .1382 FAU .25644 RRT .0112 RRF .0101 RTF .8942 CRT .9518 CRS .0068 CST -.2838
 FDE .3200 FRA 6.0945 FC-25.2565 B8P 2969 S6B 1155.1 R23 -.0000 R13 .8942 LSA 51.7 MSA 25.9 SSA 1.0
 BDE .2579 BRA .3142 BC3 3.3357 F8P 3025 S61 2140.4 S62 251.2 THA .08 EL1 27.0 EL2 3.1 ALF 22.66

LAUNCH DATE MAY 11 1971

FLIGHT TIME 206.00

ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC DISTANCE 490.196 EARTH TO MARS

RL 151.08 LAL .00 LOL 229.67 VL 32.215 GAL -.46 AZL 91.82 HCA 158.81 SMA 184.56 ECC .18158 INC 1.8211 V1 29.491
 RP 213.92 LAP -.66 LOP 28.49 VP 22.841 GAP 5.09 AZP 88.30 TAL 357.03 TAP 155.84 RCA 151.05 APO 218.08 V2 25.662
 RC 142.739 GL -20.18 GP -.24 ZAL 102.70 ZAP 94.43 ETS 179.50 ZAE 137.79 ETE 180.75 ZAC 101.47 ETC 274.37 LVI -13.09

PLANETOCENTRIC CONIC

C3 8.814 VHL 2.989 DLA -28.99 RAL 343.34 RAD 6637.4 VEL 11.354 PTH 6.41 VHP 2.856 DPA -21.48 RAP 305.68 ECC 1.1451
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 59 33 2354.08 -.08 60.29 193.84 137.58 17 38 48 1354.1 18.10 44.09
 60.00 18 20 31 2138.71 4.77 45.55 198.49 130.07 18 56 10 1138.7 20.27 26.63
 70.00 20 8 28 1821.20 10.28 23.91 202.59 122.75 20 38 49 821.2 22.75 2.50
 80.00 22 36 56 1358.14 18.86 352.37 206.32 115.01 22 59 32 356.1 25.72 328.47
 83.33 0 7 18 1078.60 21.40 333.85 208.31 110.04 0 25 16 78.6 27.74 308.45
 100.00 1 23 43 6118.65 18.86 291.64 206.32 115.01 3 5 42 5118.7 25.72 287.74
 110.00 1 11 50 6156.06 10.28 290.74 202.59 122.75 2 54 26 5156.1 22.75 289.32

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2300 TRA .3707 TC3-3.5729 BAU .4213 SGT 2316.6 SGR 238.7 S63 1760.6 ST 25.6 SR 10.2 SS 51.9
 RDE -.1047 RRA .0450 RC3 .1331 FAU .25780 RRT .0059 RRF .0057 RTF .5468 CRT .9276 CRS .0307 CST -.3521
 FDE .3798 FRA 6.2261 FC-25.3228 B8P 3299 S6B 2328.9 R23 .0003 R13 .9068 LSA 52.8 MSA 25.8 SSA 1.0
 BDE .2527 BRA .3735 BC3 3.5754 F8P 3064 S61 2316.6 S62 238.7 THA .03 EL1 27.3 EL2 3.6 ALF 20.71

LAUNCH DATE MAY 11 1971

FLIGHT TIME 208.00

ARRIVAL DATE DEC 5 1971

HELIOCENTRIC CONIC DISTANCE 494.386 EARTH TO MARS

RL 151.08 LAL .00 LOL 229.67 VL 32.215 GAL -.50 AZL 91.82 HCA 159.99 SMA 184.57 ECC .18164 INC 1.8193 V1 29.491
 RP 214.24 LAP -.62 LOP 29.67 VP 22.802 GAP 4.92 AZP 88.29 TAL 356.77 TAP 156.76 RCA 151.04 APO 218.09 V2 25.627
 RC 145.138 GL -20.12 GP -.26 ZAL 103.14 ZAP 92.43 ETS 179.46 ZAE 135.75 ETE 180.76 ZAC 101.53 ETC 274.18 LVI -12.79

PLANETOCENTRIC CONIC

C3 8.843 VHL 2.974 DLA -28.77 RAL 343.76 RAD 6637.4 VEL 11.356 PTH 6.41 VHP 2.846 DPA -21.67 RAP 304.83 ECC 1.1455
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 0 0 2359.92 -.38 60.53 194.22 137.57 17 39 20 1359.9 17.82 44.36
 60.00 18 20 23 2146.11 4.44 45.90 198.84 130.10 18 56 9 1146.1 19.97 27.04
 70.00 20 7 11 1831.99 9.88 24.50 202.90 122.86 20 37 43 832.0 22.43 3.16
 80.00 22 31 13 1380.88 16.15 353.86 206.48 115.46 22 54 14 380.9 25.25 330.16
 84.50 0 18 29 1048.61 21.22 331.58 208.72 109.89 0 35 58 48.6 27.52 306.21
 100.00 1 18 0 6143.39 16.15 293.13 206.48 115.46 3 0 24 5143.4 25.25 269.43
 110.00 1 10 33 6166.85 9.88 291.32 202.90 122.86 2 53 20 5166.9 22.43 269.99

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2256 TRA .4330 TC3-3.8098 BAU .4507 SGT 2495.8 SGR 226.1 S63 1774.4 ST 26.2 SR 9.7 SS 52.5
 RDE -.0991 RRA .0427 RC3 .1279 FAU .25932 RRT .0000 RRF .0007 RTF .9187 CRT .8978 CRS .0449 CST -.3893
 FDE .4171 FRA 6.3229 FC-25.3878 B8P 3644 S6B 2506.0 R23 .0007 R13 .9187 LSA 53.7 MSA 25.5 SSA .9
 BDE .2464 BRA .4351 BC3 3.8119 F8P 3093 S61 2495.8 S62 226.1 THA .00 EL1 27.7 EL2 4.0 ALF 18.70

LAUNCH DATE MAY 11 1971

FLIGHT TIME 210.00

ARRIVAL DATE DEC 7 1971

HELIOCENTRIC CONIC

DISTANCE 498.576

EARTH TO MARS

RL 151.08 LAL .00 LOL 229.67 VL 32.216 GAL -1.54 AZL 91.82 HCA 161.17 SMA 184.58 ECC .18174 INC 1.8173 V1 29.491
RP 214.55 LAP -.59 LOP 30.85 VP 22.762 GAP 4.75 AZP 88.28 TAL 356.49 TAP 157.66 RCA 151.04 APO 218.13 V2 25.591
RC 147.555 GL -20.06 GP -.27 ZAL 103.59 ZAP 80.46 ETS 179.43 ZAE 133.74 ETE 180.76 ZAC 101.57 ETC 273.99 LVI -12.50

PLANETOCENTRIC CONIC

C3 8.878 VHL 2.980 DLA -28.53 RAL 344.20 RAD 6637.5 VEL 11.357 PTH 6.41 VHP 2.839 DPA -21.85 RAP 304.01 ECC 1.1461
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 0 25 2386.21 -1.69 60.80 194.61 137.57 17 39 52 1366.2 17.52 44.65
60.00 18 20 12 2154.01 4.10 46.28 199.21 130.13 18 56 6 1154.0 19.66 27.47
70.00 20 5 49 1843.37 9.46 23.11 203.21 122.97 20 36 33 843.4 22.08 3.86
80.00 22 25 52 1404.77 15.44 355.28 206.67 115.88 22 49 17 404.8 24.78 331.77
86.10 0 33 24 1006.80 21.04 328.43 209.14 109.72 0 50 10 6.8 27.27 303.10
100.00 1 12 40 6167.28 15.44 294.93 206.67 115.88 2 55 27 3167.3 24.78 271.05
110.00 1 9 11 6178.23 9.46 291.93 203.21 122.97 2 52 9 5178.2 22.08 270.69

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2201 TRA .4984 TC3-4.0445 BAU .4803 SGT 2677.4 SGR 213.3 SCS 1782.4 ST 27.0 SR 9.1 SS 53.2
RDE -.0935 RRA .0405 RC3 .1227 FAU .25972 RRT -.0070 RRF -.0064 RTF .9273 CRT .8634 CRS .0715 CST -.4329
FDE .4836 FRA 6.4121 FC-25.3270 B8P 3984 SGB 2665.9 R23 -.0001 R13 -.9273 LSA 54.7 MSA 25.3 S8A .9
BDE .2391 BRA .4981 BC3 4.0464 F8P 3107 SGI 2677.4 SGI 213.3 THA 179.97 EL1 28.1 EL2 4.4 ALF 16.65

LAUNCH DATE MAY 11 1971

FLIGHT TIME 212.00

ARRIVAL DATE DEC 9 1971

HELIOCENTRIC CONIC

DISTANCE 502.765

EARTH TO MARS

RL 151.08 LAL .00 LOL 229.67 VL 32.218 GAL -1.58 AZL 91.82 HCA 162.33 SMA 184.61 ECC .18189 INC 1.8151 V1 29.491
RP 214.88 LAP -.55 LOP 32.03 VP 22.724 GAP 4.58 AZP 88.27 TAL 356.20 TAP 158.55 RCA 151.03 APO 218.19 V2 25.554
RC 149.988 GL -19.98 GP -.29 ZAL 104.06 ZAP 88.53 ETS 179.40 ZAE 131.75 ETE 180.76 ZAC 101.62 ETC 273.81 LVI -12.22

PLANETOCENTRIC CONIC

C3 8.918 VHL 2.986 DLA -28.27 RAL 344.84 RAD 6637.5 VEL 11.359 PTH 6.41 VHP 2.835 DPA -22.03 RAP 303.21 ECC 1.1468
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 0 49 2372.92 -1.03 61.08 195.02 137.57 17 40 22 1372.9 17.19 44.96
60.00 18 19 58 2162.40 3.73 46.69 199.59 130.16 18 56 0 1162.4 19.32 27.92
70.00 20 4 23 1853.30 9.02 25.75 203.55 123.08 20 35 18 853.3 21.71 4.59
80.00 22 20 50 1428.07 14.75 356.66 206.88 116.26 22 44 38 428.1 24.30 333.34
90.00 1 1 12 6211.38 20.35 299.97 209.39 110.07 2 44 44 5211.4 26.82 274.81
100.00 1 7 37 6190.58 14.75 293.93 206.88 116.26 2 50 48 5190.6 24.30 272.61
110.00 1 7 43 6190.16 9.02 292.57 203.55 123.08 2 50 56 5190.2 21.71 271.42

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2132 TRA .5612 TC3-4.2743 BAU .5098 SGT 2859.9 SGR 200.5 SCS 1785.0 ST 27.7 SR 8.5 SS 53.7
RDE -.0878 RRA .0381 RC3 .1173 FAU .25960 RRT -.0148 RRF -.0139 RTF .9351 CRT .8245 CRS .0946 CST -.4780
FDE .5420 FRA 6.4792 FC-25.2004 B8P 4329 SGB 2866.9 R23 .0000 R13 -.9351 LSA 55.7 MSA 25.0 S8A .8
BDE .2306 BRA .5625 BC3 4.2759 F8P 3114 SGI 2859.9 SGI 200.4 THA 179.94 EL1 28.6 EL2 4.7 ALF 14.60

LAUNCH DATE MAY 11 1971

FLIGHT TIME 214.00

ARRIVAL DATE DEC 11 1971

HELIOCENTRIC CONIC

DISTANCE 506.952

EARTH TO MARS

RL 151.08 LAL .00 LOL 229.67 VL 32.220 GAL -1.63 AZL 91.81 HCA 163.52 SMA 184.64 ECC .18209 INC 1.8124 V1 29.491
RP 215.21 LAP -.51 LOP 33.20 VP 22.685 GAP 4.41 AZP 88.26 TAL 355.90 TAP 159.42 RCA 151.02 APO 218.26 V2 25.518
RC 152.438 GL -19.90 GP -.31 ZAL 104.54 ZAP 86.63 ETS 179.36 ZAE 129.78 ETE 180.76 ZAC 101.65 ETC 273.63 LVI -11.95

PLANETOCENTRIC CONIC

C3 8.964 VHL 2.994 DLA -28.00 RAL 345.10 RAD 6637.5 VEL 11.361 PTH 6.41 VHP 2.833 DPA -22.20 RAP 302.45 ECC 1.1475
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 1 12 2380.06 -1.39 61.37 195.44 137.56 17 40 52 1380.1 16.85 45.29
60.00 18 19 41 2171.29 3.34 47.11 199.99 130.19 18 55 52 1171.3 18.97 28.40
70.00 20 2 53 1867.78 8.56 26.41 203.89 123.19 20 34 1 867.8 21.32 5.35
80.00 22 16 0 1450.97 14.05 358.00 207.11 116.62 22 40 11 451.0 23.81 334.87
90.00 0 34 43 1016.30 18.07 327.93 209.00 112.13 0 31 40 16.3 25.62 303.43
100.00 1 2 48 6213.48 14.05 297.28 207.11 116.62 2 48 22 5213.5 23.81 274.14
110.00 1 6 16 6202.62 8.56 293.24 203.89 123.19 2 49 38 5202.6 21.32 272.18

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2053 TRA .6260 TC3-4.5006 BAU .5395 SGT 3044.6 SGR 187.5 SCS 1788.0 ST 26.6 SR 7.9 SS 54.5
RDE -.0821 RRA .0358 RC3 .1118 FAU .25853 RRT -.0230 RRF -.0211 RTF .5-05 CRT .7817 CRS .1222 CST -.9170
FDE .6149 FRA 6.5635 FC-24.9687 B8P 4674 SGB 3050.3 R23 -.0006 R13 -.9405 LSA 56.9 MSA 24.8 S8A .8
BDE .2211 BRA .6290 BC3 4.5020 F8P 3125 SGI 3044.6 SGI 187.5 THA 179.92 EL1 29.3 EL2 4.8 ALF 12.58

LAUNCH DATE MAY 11 1971

FLIGHT TIME 216.00

ARRIVAL DATE DEC 13 1971

HELIOCENTRIC CONIC

DISTANCE 511.139

EARTH TO MARS

RL 151.08 LAL .00 LOL 229.67 VL 32.222 GAL -1.68 AZL 91.81 HCA 164.89 SMA 184.68 ECC .18232 INC 1.8095 V1 29.491
RP 215.54 LAP -.48 LOP 34.37 VP 22.647 GAP 4.25 AZP 88.25 TAL 355.59 TAP 160.28 RCA 151.01 APO 218.36 V2 25.480
RC 154.904 GL -19.81 GP -.33 ZAL 105.04 ZAP 84.78 ETS 179.33 ZAE 127.84 ETE 180.76 ZAC 101.68 ETC 273.46 LVI -11.68

PLANETOCENTRIC CONIC

C3 9.015 VHL 3.003 DLA -27.72 RAL 345.57 RAD 6637.5 VEL 11.363 PTH 6.42 VHP 2.834 DPA -22.36 RAP 301.72 ECC 1.1484
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 1 32 2387.62 -1.77 61.69 195.88 137.55 17 41 20 1387.6 16.48 45.64
60.00 18 19 20 2180.65 2.93 47.36 200.59 130.21 18 55 41 1180.6 18.39 28.91
70.00 20 1 20 1880.74 8.07 27.11 204.25 123.30 20 32 41 880.7 20.92 6.14
80.00 22 11 22 1473.60 13.36 359.33 207.36 116.95 22 35 56 473.6 23.31 336.36
90.00 0 21 54 1065.35 18.78 330.95 209.02 113.10 0 39 40 65.3 24.86 306.84
100.00 0 58 10 6236.12 13.36 298.80 207.36 116.95 2 42 6 5236.1 23.31 275.84
110.00 1 4 42 6215.60 8.07 293.93 204.25 123.30 2 48 18 5215.6 20.92 272.96

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1985 TRA .6982 TC3-4.7246 BAU .5698 SGT 3231.4 SGR 174.6 SCS 1785.7 ST 29.6 SR 7.4 SS 55.1
RDE -.0763 RRA .0335 RC3 .1080 FAU .25791 RRT -.0312 RRF -.0280 RTF .9458 CRT .7364 CRS .1425 CST -.5591
FDE .6705 FRA 6.6310 FC-24.7672 B8P 5012 SGB 3236.1 R23 -.0016 R13 -.9458 LSA 58.0 MSA 24.4 S8A .7
BDE .2108 BRA .6970 BC3 4.7258 F8P 3114 SGI 3231.4 SGI 174.5 THA 179.90 EL1 30.1 EL2 4.9 ALF 10.87

LAUNCH DATE MAY 11 1971

FLIGHT TIME 218.00

ARRIVAL DATE DEC 15 1971

HELIOCENTRIC CONIC

DISTANCE 515.324

EARTH TO MARS

RL 151.08 LAL .00 LOL 229.67 VL 32.225 GAL -.73 AZL 91.81 HCA 165.86 SMA 184.74 ECC .18260 INC 1.8053 V1 29.491
 RP 215.87 LAP -.44 LOP 35.53 VP 22.609 GAP 4.09 AZP 88.25 TAL 355.27 TAP 161.12 RCA 151.00 APO 218.47 V2 25.443
 RC 157.385 GL -19.71 GP -.38 ZAL 105.55 ZAP 82.94 ETS 179.30 ZAE 125.92 ETE 180.76 ZAC 101.70 ETC 273.30 LVI -11.42

PLANETOCENTRIC CONIC

C3 9.071 VHL 3.012 DLA -27.42 RAL 346.04 RAD 6637.6 VEL 11.366 PTH 6.42 VHP 2.837 DPA -22.52 RAP 301.02 ECC 1.1495
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 1 50 2395.61 -2.17 82.02 196.32 137.54 17 41 46 1395.6 16.10 46.00
 60.00 18 18 57 2190.49 2.49 48.03 200.80 130.24 18 55 28 1190.5 18.19 29.43
 70.00 19 59 42 1894.22 7.57 27.82 204.61 123.40 20 31 16 894.2 20.49 6.95
 80.00 22 6 53 1496.07 12.66 .63 207.64 117.27 22 31 49 496.1 22.80 337.83
 90.00 0 12 2 1105.17 15.70 333.37 209.14 113.82 0 30 27 105.2 24.18 309.55
 100.00 0 53 41 6258.58 12.66 299.90 207.64 117.27 2 38 0 5258.6 22.80 277.11
 110.00 1 3 4 8229.07 7.57 294.85 204.61 123.40 2 46 54 5229.1 20.49 273.78

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1886 TRA .7631 TC3-4.9527 BAU .6008 SGT 3421.0 SGR 161.6 SG3 1781.4 ST 30.7 SR 6.8 SS 55.4
 RDE -.0706 RRA .0312 RC3 .0998 FAU .25743 RRT -.0395 RRF -.0395 RTF .9503 CRT .6937 CR8 .1612 CST -.5939
 FDE .7214 FRA 6.6681 FC-24.5676 B8P 5332 SGB 3424.9 R23 -.0021 R13 -.9503 LSA 59.0 MSA 24.2 SSA .7
 BDE .2014 BRA .7637 BC3 4.9537 F8P 3103 SGI 3421.1 SG2 161.4 THA 179.89 EL1 31.1 EL2 4.8 ALF 8.93

LAUNCH DATE MAY 11 1971

FLIGHT TIME 220.00

ARRIVAL DATE DEC 17 1971

HELIOCENTRIC CONIC

DISTANCE 519.507

EARTH TO MARS

RL 151.08 LAL .00 LOL 229.67 VL 32.229 GAL -.78 AZL 91.80 HCA 167.02 SMA 184.79 ECC .18292 INC 1.8015 V1 29.491
 RP 216.21 LAP -.41 LOP 36.69 VP 22.571 GAP 3.92 AZP 88.24 TAL 354.93 TAP 161.95 RCA 150.99 APO 218.60 V2 25.405
 RC 159.881 GL -19.60 GP -.39 ZAL 106.08 ZAP 81.15 ETS 179.26 ZAE 124.04 ETE 180.76 ZAC 101.71 ETC 273.15 LVI -11.17

PLANETOCENTRIC CONIC

C3 9.133 VHL 3.022 DLA -27.10 RAL 346.52 RAD 6637.6 VEL 11.368 PTH 6.42 VHP 2.843 DPA -22.66 RAP 300.37 ECC 1.1503
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 2 6 2404.02 -2.59 82.38 196.77 137.92 17 42 10 1404.0 15.69 46.39
 60.00 18 18 30 2200.80 2.04 48.52 201.22 130.28 18 55 11 1200.8 17.77 29.98
 70.00 19 58 0 1908.20 7.04 28.57 204.99 123.51 20 29 49 908.2 20.04 7.79
 80.00 22 2 30 1518.48 11.96 1.92 207.92 117.56 22 27 49 518.5 22.28 339.29
 90.00 0 3 39 1140.52 14.72 335.50 209.31 114.42 0 22 39 140.5 23.53 311.94
 100.00 0 49 18 6280.99 11.96 301.20 207.92 117.56 2 33 59 5281.0 22.28 278.97
 110.00 1 1 23 8243.06 7.04 295.39 204.99 123.51 2 45 26 5243.1 20.04 274.61

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1767 TRA .8330 TC3-5.1604 BAU .4302 SGT 3604.7 SGR 148.5 SG3 1771.0 ST 31.8 SR 6.2 SS 56.0
 RDE -.0647 RRA .0290 RC3 .0933 FAU .25520 RRT -.0469 RRF -.0412 RTF .9538 CRT .6435 CR8 .1845 CST -.6290
 FDE .7868 FRA 6.7085 FC-24.1915 B8P 5676 SGB 3607.8 R23 -.0036 R13 -.9538 LSA 60.1 MSA 23.8 SSA .6
 BDE .1882 BRA .8343 BC3 5.1613 F8P 3087 SGI 3604.7 SG2 148.3 THA 179.89 EL1 32.1 EL2 4.7 ALF 7.31

LAUNCH DATE MAY 11 1971

FLIGHT TIME 222.00

ARRIVAL DATE DEC 19 1971

HELIOCENTRIC CONIC

DISTANCE 523.688

EARTH TO MARS

RL 151.08 LAL .00 LOL 229.67 VL 32.233 GAL -.84 AZL 91.80 HCA 168.17 SMA 184.86 ECC .18328 INC 1.7966 V1 29.491
 RP 216.56 LAP -.37 LOP 37.85 VP 22.533 GAP 3.77 AZP 88.24 TAL 354.59 TAP 162.77 RCA 150.98 APO 218.74 V2 25.366
 RC 162.390 GL -19.47 GP -.42 ZAL 106.62 ZAP 79.41 ETS 179.23 ZAE 122.19 ETE 180.76 ZAC 101.72 ETC 273.01 LVI -10.93

PLANETOCENTRIC CONIC

C3 9.199 VHL 3.033 DLA -26.77 RAL 347.00 RAD 6637.6 VEL 11.371 PTH 6.42 VHP 2.851 DPA -22.81 RAP 299.75 ECC 1.1514
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 2 18 2412.68 -3.04 62.75 197.23 137.50 17 42 31 1412.9 15.26 46.79
 60.00 18 17 58 2211.62 1.96 49.04 201.65 130.28 18 54 50 1211.6 17.33 30.55
 70.00 19 56 14 1922.71 6.50 29.33 205.37 123.60 20 28 17 922.7 19.57 8.69
 80.00 21 58 12 1540.93 11.25 3.21 208.23 117.84 22 23 53 540.9 21.74 340.74
 90.00 23 52 12 1173.28 13.79 337.46 209.52 114.94 24 11 45 173.3 22.90 314.13
 100.00 0 45 0 1015.40 11.25 324.58 208.23 117.84 1 1 55 15.4 21.74 302.11
 110.00 0 59 36 6237.57 6.50 296.16 205.37 123.60 2 43 54 5237.6 19.57 275.48

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1839 TRA .9058 TC3-5.3658 BAU .6600 SGT 3789.8 SGR 135.3 SG3 1759.9 ST 33.0 SR 5.8 SS 56.6
 RDE -.0588 RRA .0289 RC3 .0882 FAU .25288 RRT -.0521 RRF -.0441 RTF .5367 CRT .5935 CR8 .2061 CST -.6611
 FDE .8526 FRA 6.7486 FC-23.7988 B8P 6014 SGB 3792.2 R23 -.0059 R13 -.9567 LSA 61.4 MSA 23.5 SSA .6
 BDE .1741 BRA .9062 BC3 5.3663 F8P 3073 SGI 3789.8 SG2 135.1 THA 179.89 EL1 33.2 EL2 4.5 ALF 5.88

LAUNCH DATE MAY 11 1971

FLIGHT TIME 224.00

ARRIVAL DATE DEC 21 1971

HELIOCENTRIC CONIC

DISTANCE 527.867

EARTH TO MARS

RL 151.08 LAL .00 LOL 229.67 VL 32.237 GAL -.89 AZL 91.79 HCA 169.33 SMA 184.93 ECC .18360 INC 1.7904 V1 29.491
 RP 216.91 LAP -.33 LOP 39.00 VP 22.496 GAP 3.61 AZP 88.24 TAL 354.24 TAP 163.57 RCA 150.96 APO 218.90 V2 25.327
 RC 164.912 GL -19.33 GP -.46 ZAL 107.17 ZAP 77.71 ETS 179.19 ZAE 120.37 ETE 180.77 ZAC 101.71 ETC 272.87 LVI -10.69

PLANETOCENTRIC CONIC

C3 9.270 VHL 3.045 DLA -26.42 RAL 347.49 RAD 6637.7 VEL 11.374 PTH 6.43 VHP 2.861 DPA -22.95 RAP 299.18 ECC 1.1526
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 2 27 2422.22 -3.50 63.14 197.70 137.48 17 42 49 1422.2 14.80 47.21
 60.00 18 17 22 2222.97 1.06 49.58 202.09 130.29 18 54 25 1223.0 16.86 31.15
 70.00 19 54 21 1937.79 5.93 30.13 205.76 123.70 20 26 39 937.8 19.08 9.54
 80.00 21 53 55 1563.56 10.52 4.50 208.54 118.10 22 19 58 563.6 21.18 342.19
 90.00 23 45 16 1204.48 12.89 339.30 209.75 115.39 24 5 20 204.5 22.26 316.19
 100.00 0 40 43 1038.03 10.52 325.87 208.54 118.10 0 58 1 38.0 21.18 303.56
 110.00 0 57 43 6272.65 5.93 296.95 205.76 123.70 2 42 16 5272.6 19.08 276.37

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1507 TRA .9771 TC3-5.5704 BAU .6904 SGT 3975.1 SGR 122.1 SG3 1746.1 ST 34.3 SR 5.0 SS 57.2
 RDE -.0528 RRA .0250 RC3 .0783 FAU .25057 RRT -.0533 RRF -.0427 RTF .9591 CRT .5468 CR8 .2266 CST -.6670
 FDE .9199 FRA 6.7700 FC-23.4017 B8P 6328 SGB 3977.0 R23 -.0085 R13 -.9591 LSA 62.7 MSA 23.2 SSA .5
 BDE .1596 BRA .9774 BC3 5.5710 F8P 3044 SGI 3975.1 SG2 121.9 THA 179.91 EL1 34.4 EL2 4.2 ALF 4.66

LAUNCH DATE MAY 11 1971 FLIGHT TIME 226.00 ARRIVAL DATE DEC 23 1971

HELIOCENTRIC CONIC DISTANCE 532.044 EARTH TO MARS
 RL 151.08 LAL .00 LOL 229.67 VL 32.242 GAL -.95 AZL 91.78 HCA 170.48 SMA 185.01 ECC .18411 INC 1.7822 V1 29.491
 RP 217.26 LAP -.30 LOP 40.15 VP 22.459 GAP 3.45 AZP 88.24 TAL 353.88 TAP 164.36 RCA 150.95 APO 219.07 V2 25.288
 RC 167.446 GL -19.17 GP -.52 ZAL 107.73 ZAP 76.06 ETS 179.14 ZAE 118.59 ETE 180.77 ZAC 101.69 ETC 272.75 LVI -10.46

PLANETOCENTRIC CONIC
 C3 9.345 VHL 3.057 DLA -26.05 RAL 347.98 RAD 6637.7 VEL 11.378 PTH 6.43 VHP 2.872 DPA -23.09 RAP 298.65 ECC 1.1538
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 17 2 31 2432.07 -4.00 63.55 198.17 137.45 17 43 3 1432.1 14.32 47.65
 60.00 18 16 38 2234.91 .54 50.15 202.53 130.30 18 53 53 1234.9 16.37 31.78
 70.00 19 52 21 1953.90 5.34 30.96 206.15 123.78 20 24 54 953.5 18.56 10.46
 80.00 21 49 36 1586.50 9.79 5.80 208.85 118.35 22 16 3 586.5 20.60 343.64
 90.00 23 38 40 1234.76 11.99 341.08 210.00 115.80 23 59 15 234.8 21.61 318.18
 100.00 0 36 24 1060.97 9.79 327.17 208.85 118.35 0 54 5 61.0 20.60 305.01
 110.00 0 53 43 1000.32 5.34 319.88 206.15 123.78 1 12 23 .3 18.56 299.38

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1386 TRA 1.0473 TC3-5.7758 BAU .7216 SGT 4160.6 SGR 108.8 SG3 1729.1 ST 35.6 SR 4.4 SS 57.4
 RDE -.0487 RRA .0233 RC3 .0694 FAU .24825 RRT -.0460 RRF -.0312 RTF .9613 CRT .5084 CRS .2360 CBT -.7133
 FDE .9843 FRA 6.7713 FC-22.9977 B8P 6612 SGB 4162.1 R23 -.0132 R13 -.9613 LSA 63.7 MSA 22.9 SSA .5
 BDE .1463 BRA 1.0476 BC3 5.7762 F8P 3000 SGI 4160.6 SG2 108.7 THA 179.93 EL1 35.7 EL2 3.8 ALF 3.66

LAUNCH DATE MAY 11 1971 FLIGHT TIME 226.00 ARRIVAL DATE DEC 25 1971

HELIOCENTRIC CONIC DISTANCE 536.218 EARTH TO MARS
 RL 151.08 LAL .00 LOL 229.67 VL 32.247 GAL -1.01 AZL 91.78 HCA 171.63 SMA 185.09 ECC .18458 INC 1.7750 V1 29.491
 RP 217.61 LAP -.26 LOP 41.30 VP 22.422 GAP 3.30 AZP 88.24 TAL 353.52 TAP 165.14 RCA 150.93 APO 219.26 V2 25.249
 RC 169.992 GL -18.99 GP -.58 ZAL 108.31 ZAP 74.44 ETS 179.10 ZAE 118.85 ETE 180.78 ZAC 101.65 ETC 272.63 LVI -10.22

PLANETOCENTRIC CONIC
 C3 9.424 VHL 3.070 DLA -25.65 RAL 348.46 RAD 6637.7 VEL 11.381 PTH 6.43 VHP 2.886 DPA -23.24 RAP 298.16 ECC 1.1551
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 17 2 27 2442.51 -4.52 63.99 198.63 137.41 17 43 10 1442.5 13.81 48.12
 60.00 18 15 46 2247.53 -.02 50.76 202.96 130.30 18 53 13 1247.5 15.85 32.43
 70.00 19 50 10 1969.97 4.71 31.82 206.54 123.87 20 23 0 970.0 18.01 11.42
 80.00 21 45 11 1609.97 9.02 7.13 209.17 118.58 22 12 1 610.0 19.99 345.12
 90.00 23 32 14 1284.71 11.10 342.83 210.26 116.18 23 53 19 264.7 20.94 320.12
 100.00 0 31 59 1084.44 9.02 328.50 209.17 118.58 0 50 3 84.4 19.99 306.49
 110.00 0 53 32 1016.79 4.71 320.74 206.54 123.87 1 10 29 16.8 18.01 300.34

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1135 TRA 1.1302 TC3-5.9314 BAU .7473 SGT 4333.9 SGR 95.5 SG3 1710.9 ST 37.1 SR 3.8 SS 58.6
 RDE -.0405 RRA .0221 RC3 .0591 FAU .24349 RRT -.0220 RRF -.0015 RTF .9630 CRT .4484 CRS .2572 CBT -.7453
 FDE 1.0679 FRA 6.8222 FC-22.3687 B8P 7030 SGB 4334.9 R23 -.0198 R13 -.9630 LSA 65.8 MSA 22.4 SSA .4
 BDE .1205 BRA 1.1304 BC3 5.9317 F8P 3006 SGI 4333.9 SG2 95.5 THA 179.97 EL1 37.1 EL2 3.4 ALF 2.68

LAUNCH DATE MAY 11 1971 FLIGHT TIME 230.00 ARRIVAL DATE DEC 27 1971

HELIOCENTRIC CONIC DISTANCE 540.391 EARTH TO MARS
 RL 151.08 LAL .00 LOL 229.67 VL 32.252 GAL -1.07 AZL 91.78 HCA 172.77 SMA 185.19 ECC .18507 INC 1.7611 V1 29.491
 RP 217.97 LAP -.22 LOP 42.44 VP 22.385 GAP 3.14 AZP 88.28 TAL 353.14 TAP 165.91 RCA 150.91 APO 219.46 V2 25.209
 RC 172.547 GL -18.78 GP -.67 ZAL 108.90 ZAP 72.87 ETS 179.04 ZAE 115.13 ETE 180.80 ZAC 101.59 ETC 272.53 LVI -9.98

PLANETOCENTRIC CONIC
 C3 9.506 VHL 3.083 DLA -25.22 RAL 348.93 RAD 6637.8 VEL 11.384 PTH 6.44 VHP 2.901 DPA -23.40 RAP 297.72 ECC 1.1564
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 17 2 13 2453.65 -3.08 64.48 199.09 137.37 17 43 7 1453.7 13.26 48.61
 60.00 18 14 40 2260.95 -.61 51.40 203.39 130.30 18 52 21 1260.9 15.29 33.13
 70.00 19 47 44 1987.35 4.05 32.74 206.91 123.94 20 20 51 987.4 17.42 12.43
 80.00 21 40 34 1634.20 8.23 8.49 209.48 118.60 22 7 48 634.2 19.35 346.63
 90.00 23 25 48 1294.79 10.19 344.57 210.52 116.52 23 47 23 294.8 20.25 322.05
 100.00 0 27 22 1108.67 8.23 329.86 209.48 118.60 0 45 50 108.7 19.35 308.00
 110.00 0 51 8 1034.17 4.05 321.68 206.91 123.94 1 8 20 34.2 17.42 301.35

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1068 TRA 1.1923 TC3-6.1803 BAU .7829 SGT 4524.1 SGR 82.5 SG3 1692.2 ST 38.3 SR 3.3 SS 57.3
 RDE -.0343 RRA .0214 RC3 .0498 FAU .24930 RRT -.0393 RRF .0599 RTF .578 CRT .4442 CRS .2243 CBT -.7708
 FDE 1.0209 FRA 6.7144 FC-22.3410 B8P 7179 SGB 4524.9 R23 .0257 R13 .9875 LSA 65.6 MSA 21.7 SSA .4
 BDE .1123 BRA 1.1925 BC3 6.1805 F8P 2844 SGI 4524.1 SG2 82.4 THA .04 EL1 38.5 EL2 2.9 ALF 2.17

LAUNCH DATE MAY 11 1971 FLIGHT TIME 232.00 ARRIVAL DATE DEC 29 1971

HELIOCENTRIC CONIC DISTANCE 544.888 EARTH TO MARS
 RL 151.08 LAL .00 LOL 229.67 VL 32.258 GAL -1.13 AZL 91.75 HCA 173.91 SMA 185.28 ECC .18561 INC 1.7444 V1 29.491
 RP 218.33 LAP -.19 LOP 43.88 VP 22.348 GAP 2.89 AZP 88.26 TAL 352.78 TAP 166.67 RCA 150.89 APO 219.67 V2 25.169
 RC 175.114 GL -18.91 GP -.79 ZAL 109.50 ZAP 71.38 ETS 178.97 ZAE 113.48 ETE 180.82 ZAC 101.49 ETC 272.43 LVI -9.73

PLANETOCENTRIC CONIC
 C3 9.589 VHL 3.097 DLA -24.75 RAL 349.40 RAD 6637.8 VEL 11.388 PTH 6.44 VHP 2.917 DPA -23.59 RAP 297.33 ECC 1.1578
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 17 1 44 2465.85 -5.69 64.97 199.53 137.32 17 42 49 1465.8 12.67 49.15
 60.00 18 13 15 2275.61 -1.25 52.10 203.79 130.28 18 51 11 1275.6 14.68 33.88
 70.00 19 44 53 2006.22 3.33 33.73 207.27 124.01 20 18 19 1006.2 16.78 13.52
 80.00 21 35 30 1688.99 7.38 9.93 209.76 119.01 22 3 10 660.0 18.65 348.23
 90.00 23 19 3 1326.07 9.24 348.37 210.75 118.85 23 41 9 326.1 19.50 324.04
 100.00 0 22 18 1134.46 7.38 331.30 209.76 119.01 0 41 13 134.5 18.65 309.60
 110.00 0 48 15 1053.04 3.33 322.64 207.27 124.01 1 5 48 53.0 16.78 302.43

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.0853 TRA 1.2681 TC3-6.3361 BAU .8123 SGT 4700.9 SGR 70.4 SG3 1669.6 ST 40.0 SR 2.6 SS 58.1
 RDE -.0276 RRA .0220 RC3 .0301 FAU .24077 RRT .1925 RRF .1895 RTF .9679 CRT .4359 CRS .2039 CBT -.7893
 FDE 1.1081 FRA 6.7298 FC-21.7375 B8P 7484 SGB 4701.4 R23 .0423 R13 .9879 LSA 67.3 MSA 21.4 SSA .3
 BDE .0886 BRA 1.2683 BC3 6.3361 F8P 2825 SGI 4700.9 SG2 69.6 THA .13 EL1 40.0 EL2 2.4 ALF 1.65

LAUNCH DATE MAY 11 1971

FLIGHT TIME 234.00

ARRIVAL DATE DEC 31 1971

HELIOCENTRIC CONIC
 RL 151.08 LAL .00 LOL 229.67 VL 32.264 GAL -1.20 AZL 91.72 HCA 175.04 SMA 185.38 ECC .18617 INC 1.7215 V1 29.491
 RP 219.89 LAP -.15 LOP 44.72 VP 22.312 GAP 2.84 AZP 88.28 TAL 352.37 TAP 167.41 RCA 150.87 APO 219.90 V2 25.129
 RC 177.690 GL -18.18 GP -.96 ZAL 110.13 ZAP 69.87 ETS 178.87 ZAE 111.82 ETE 180.86 ZAC 101.33 ETC 272.34 LVI -9.45

DISTANCE 548.722 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.671 VHL 3.110 DLA -24.20 RAL 349.83 RAD 6637.9 VEL 11.392 PTH 6.44 VHP 2.935 DPA -23.81 RAP 296.99 ECC 1.1592
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 0 48 2479.53 -6.38 65.55 199.94 137.25 17 42 8 1479.5 11.99 49.75
 60.00 18 11 17 2292.05 -1.98 52.88 204.16 130.26 18 49 30 1292.1 13.99 34.72
 70.00 19 41 22 2027.25 2.53 34.83 207.57 124.07 20 15 9 1027.3 16.05 14.72
 80.00 21 29 41 1688.23 6.45 11.51 209.99 119.22 21 57 49 688.2 17.86 349.96
 90.00 23 11 34 1359.66 8.20 348.29 210.94 117.16 23 34 13 359.7 18.67 326.16
 100.00 0 16 29 1162.70 6.45 332.88 209.99 119.22 0 35 52 162.7 17.86 311.33
 110.00 0 44 44 1074.07 2.53 323.74 207.57 124.07 1 2 38 74.1 16.05 303.63

DIFFERENTIAL CORRECTIONS
 TDE -.0552 TRA 1.3502 TC3-6.4865 BAU .8387 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.0204 RRA .0244 RC3 .0091 FAU .23524 SGT 4870.8 SGR 62.2 S63 1645.6 ST 41.7 SR 2.0 SS 59.4
 FDE 1.2133 FRA 6.7559 FC-21.0577 BSP 7851 RRT .3615 RRF .4350 RTF .9683 CRT .4734 CRS .1236 CST -.8126
 BDE .0589 BRA 1.3504 BC3 6.4865 FSP 2820 SGB 4871.2 R23 .0709 R13 .9683 LSA 69.5 MSA 20.8 SSA .3
 S61 4870.8 S62 57.5 THA .28 EL1 41.7 EL2 1.8 ALF 1.31

LAUNCH DATE MAY 11 1971

FLIGHT TIME 236.00

ARRIVAL DATE JAN 2 1972

HELIOCENTRIC CONIC
 RL 151.08 LAL .00 LOL 229.67 VL 32.271 GAL -1.26 AZL 91.69 HCA 176.18 SMA 185.49 ECC .18676 INC 1.6732 V1 29.491
 RP 219.06 LAP -.11 LOP 45.85 VP 22.275 GAP 2.69 AZP 88.32 TAL 351.97 TAP 168.14 RCA 150.85 APO 220.13 V2 25.089
 RC 180.275 GL -17.70 GP -1.24 ZAL 110.77 ZAP 68.44 ETS 178.73 ZAE 110.21 ETE 180.93 ZAC 101.08 ETC 272.26 LVI -9.08

DISTANCE 552.883 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.747 VHL 3.122 DLA -23.52 RAL 350.20 RAD 6637.9 VEL 11.395 PTH 6.45 VHP 2.955 DPA -24.13 RAP 296.71 ECC 1.1604
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 59 3 2495.82 -7.19 66.24 200.26 137.16 17 40 39 1495.8 11.19 50.46
 60.00 18 8 19 2311.64 -2.84 53.82 204.43 130.22 18 46 50 1311.6 13.16 35.72
 70.00 19 36 34 2052.19 1.58 36.13 207.78 124.12 20 10 46 1052.2 15.19 16.13
 80.00 21 22 20 1721.16 5.35 13.33 210.11 119.42 21 51 1 721.2 16.93 351.96
 90.00 23 2 29 1398.14 7.00 350.48 211.01 117.47 23 25 47 398.1 17.69 328.55
 100.00 0 9 8 1195.63 5.35 334.70 210.11 119.42 0 29 3 195.6 16.93 313.33
 110.00 0 39 56 1099.01 1.58 325.05 207.78 124.12 0 58 15 99.0 15.19 305.04

DIFFERENTIAL CORRECTIONS
 TDE -.0679 TRA 1.3825 TC3-6.8272 BAU .8896 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.0128 RRA .0302 RC3 -.0244 FAU .23777 SGT 5083.7 SGR 66.7 S63 1624.3 ST 42.5 SR 1.5 SS 57.6
 FDE 1.1533 FRA 6.6106 FC-21.1191 BSP 7612 RRT .6943 RRF .7596 RTF .9685 CRT .7168 CRS -.1688 CST -.8037
 BDE .0691 BRA 1.3828 BC3 6.8272 FSP 2634 SGB 5084.1 R23 .1210 R13 .9685 LSA 68.3 MSA 21.3 SSA .2
 S61 5083.9 S62 48.0 THA .52 EL1 42.5 EL2 1.0 ALF 1.43

LAUNCH DATE MAY 11 1971

FLIGHT TIME 238.00

ARRIVAL DATE JAN 4 1972

HELIOCENTRIC CONIC
 RL 151.08 LAL .00 LOL 229.67 VL 32.277 GAL -1.33 AZL 91.62 HCA 177.30 SMA 185.60 ECC .18739 INC 1.5936 V1 29.491
 RP 219.43 LAP -.08 LOP 46.98 VP 22.239 GAP 2.54 AZP 88.38 TAL 351.56 TAP 168.87 RCA 150.82 APO 220.38 V2 25.048
 RC 182.871 GL -16.91 GP -1.74 ZAL 111.45 ZAP 67.05 ETS 178.47 ZAE 108.63 ETE 181.05 ZAC 100.59 ETC 272.19 LVI -8.51

DISTANCE 557.041 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.800 VHL 3.130 DLA -22.56 RAL 350.44 RAD 6637.9 VEL 11.397 PTH 6.45 VHP 2.975 DPA -24.67 RAP 296.51 ECC 1.1613
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 55 30 2517.66 -8.28 67.17 200.39 137.02 17 37 20 1517.7 10.11 51.41
 60.00 18 3 5 2337.96 -3.99 55.08 204.49 130.14 18 42 3 1338.0 12.04 37.04
 70.00 19 28 56 2085.57 .30 37.87 207.74 124.15 20 3 41 1085.6 14.01 18.00
 80.00 21 11 31 1764.51 3.90 15.73 209.98 119.63 21 40 56 764.5 15.66 354.55
 90.00 22 49 40 1447.95 5.42 353.29 210.82 117.80 23 13 48 448.0 16.37 331.61
 100.00 23 54 23 1238.98 3.90 337.10 209.98 119.63 24 15 2 239.0 15.66 315.92
 110.00 0 32 18 1132.39 .30 326.79 207.74 124.15 0 51 10 132.4 14.01 306.91

DIFFERENTIAL CORRECTIONS
 TDE -.0712 TRA 1.4109 TC3-7.1805 BAU .9408 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.0040 RRA .0434 RC3 -.0848 FAU .24013 SGT 5295.9 SGR 101.4 S63 1601.9 ST 43.0 SR 1.3 SS 56.0
 FDE 1.1066 FRA 6.4469 FC-21.2141 BSP 7360 RRT .8945 RRF .9521 RTF .5.93 CRT .9876 CRS -.7232 CST -.8031
 BDE .0713 BRA 1.4116 BC3 7.1810 FSP 2445 SGB 5296.9 R23 .1903 R13 .9693 LSA 67.3 MSA 21.3 SSA .1
 S61 5296.7 S62 45.3 THA .98 EL1 43.0 EL2 .2 ALF 1.77

LAUNCH DATE MAY 11 1971

FLIGHT TIME 240.00

ARRIVAL DATE JAN 6 1972

HELIOCENTRIC CONIC
 RL 151.08 LAL .00 LOL 229.67 VL 32.284 GAL -1.40 AZL 91.45 HCA 178.43 SMA 185.72 ECC .18804 INC 1.4069 V1 29.491
 RP 219.80 LAP -.04 LOP 48.10 VP 22.203 GAP 2.39 AZP 88.55 TAL 351.15 TAP 169.58 RCA 150.80 APO 220.64 V2 25.007
 RC 185.475 GL -15.15 GP -2.96 ZAL 112.24 ZAP 65.72 ETS 177.87 ZAE 107.06 ETE 181.37 ZAC 99.39 ETC 272.12 LVI -7.30

DISTANCE 561.196 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.776 VHL 3.127 DLA -20.70 RAL 350.24 RAD 6637.9 VEL 11.396 PTH 6.45 VHP 3.000 DPA -25.91 RAP 296.48 ECC 1.1609
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 46 21 2556.74 -10.22 68.85 199.93 136.73 17 28 57 1556.7 8.16 53.09
 60.00 17 50 53 2385.08 -6.06 57.35 203.90 129.92 18 30 39 1385.1 10.02 39.39
 70.00 19 12 37 2144.84 -1.96 40.96 206.99 124.10 19 48 22 1144.8 11.88 21.26
 80.00 20 50 7 1839.71 1.36 19.87 209.06 119.83 21 20 46 839.7 13.39 358.98
 90.00 22 25 19 1532.62 2.72 358.04 209.82 118.16 22 50 51 532.6 14.01 336.71
 100.00 23 32 58 1314.18 1.36 341.23 209.06 119.83 23 54 53 314.2 13.39 320.35
 110.00 0 15 59 1191.66 -1.96 329.88 206.99 124.10 0 35 51 191.7 11.88 310.18

DIFFERENTIAL CORRECTIONS
 TDE -.0719 TRA 1.4008 TC3-7.6938 BAU 1.0061 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE .0078 RRA .0788 RC3 -.2358 FAU .24631 SGT 5540.3 SGR 213.9 S63 1582.6 ST 42.3 SR 2.4 SS 53.1
 FDE 1.0228 FRA 6.1675 FC-21.8118 BSP 6757 RRT .9543 RRF .9959 RTF .9709 CRT .8956 CRS -.9843 CST -.8058
 BDE .0723 BRA 1.4030 BC3 7.6974 FSP 2152 SGB 5544.5 R23 .2318 R13 .9710 LSA 64.8 MSA 20.6 SSA .1
 S61 5544.1 S62 63.9 THA 2.11 EL1 42.4 EL2 1.1 ALF 2.95

LAUNCH DATE MAY 11 1971

FLIGHT TIME 252.00

ARRIVAL DATE JAN 10 1972

HELIOCENTRIC CONIC

RL 151.08 LAL .00 LOL 229.67 VL 32.330 GAL -1.84 AZL 91.97 HCA 185.09 SMA 186.50 ECC .19249 INC 1.9683 V1 29.491
RP 222.07 LAP .17 LOP 54.76 VP 21.991 GAP 1.50 AZP 88.04 TAL 348.57 TAP 173.66 RCA 150.60 APO 222.40 V2 24.759
RC 201.270 GL -19.44 GP .86 ZAL 115.40 ZAP 58.41 ETS 179.72 ZAE 98.71 ETE 180.32 ZAC 103.23 ETC 272.01 LVI -10.61

PLANETOCENTRIC CONIC

C3 11.167 VHL 3.342 DLA -23.05 RAL 355.88 RAD 6638.6 VEL 11.457 PTH 6.51 VHP 3.141 DPA -22.24 RAP 295.15 ECC 1.1838
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 19 29 2533.47 -9.07 67.85 207.14 136.91 18 1 43 1533.5 9.32 52.09
60.00 18 27 54 2351.91 -4.99 55.73 211.42 130.08 19 7 6 1351.5 11.46 37.72
70.00 19 54 58 2095.59 -.08 38.39 214.83 124.15 20 29 53 1095.6 13.65 18.55
80.00 21 39 7 1789.62 3.72 16.01 217.20 119.65 22 8 36 769.6 15.51 354.86
90.00 23 18 14 1449.94 5.36 353.40 218.10 117.81 23 42 24 449.9 16.32 331.73
100.00 0 25 55 1244.09 3.72 337.38 217.20 119.65 0 46 39 244.1 15.51 316.23
110.00 0 58 20 1142.41 -.08 327.31 214.83 124.15 1 17 22 142.4 13.65 307.47

DIFFERENTIAL CORRECTIONS

TDE .0912 TRA 2.1495 TC3-7.3311 BAU 1.0947
RDE .0230 RRA -.0803 RC3 .1532 FAU .19530
FDE 1.5730 FRA 6.6398 FC-15.1412 BSP 10333
BDE .0940 BRA 2.1510 BC3 7.3327 FSP 2445

MID-COURSE EXECUTION ACCURACY

SGT 6330.3 SGR 185.6 SG3 1400.5
RRT -.9321 RRF -.9248 RTF .9702
SGB 6333.0 R23 .0561 R13 -.9703
SG1 6332.6 SG2 67.2 THA 178.43

ORBIT DETERMINATION ACCURACY

ST 61.0 SR 3.0 SS 62.4
CRT -.6612 CRS .2236 CST -.8777
LSA 84.6 MSA 21.7 SSA .3
EL1 61.1 EL2 2.2 ALF 178.14

LAUNCH DATE MAY 11 1971

FLIGHT TIME 254.00

ARRIVAL DATE JAN 20 1972

HELIOCENTRIC CONIC

RL 151.08 LAL .00 LOL 229.67 VL 32.339 GAL -1.92 AZL 91.95 HCA 186.19 SMA 186.64 ECC .19332 INC 1.9497 V1 29.491
RP 222.46 LAP .21 LOP 55.86 VP 21.957 GAP 1.36 AZP 88.06 TAL 348.12 TAP 174.32 RCA 150.56 APO 222.72 V2 24.717
RC 203.922 GL -19.10 GP .70 ZAL 116.07 ZAP 57.32 ETS 179.64 ZAE 97.41 ETE 180.36 ZAC 103.07 ETC 272.01 LVI -10.47

PLANETOCENTRIC CONIC

C3 11.309 VHL 3.363 DLA -22.47 RAL 356.33 RAD 6638.7 VEL 11.463 PTH 6.51 VHP 3.168 DPA -22.40 RAP 295.19 ECC 1.1861
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 18 36 2548.45 -9.81 68.49 207.63 136.79 18 1 5 1548.4 8.58 52.73
60.00 18 26 2 2369.12 -5.36 56.58 211.87 130.00 19 5 31 1369.1 10.71 38.60
70.00 19 51 42 2117.30 -.91 39.53 215.24 124.14 20 26 59 1117.3 12.87 19.75
80.00 21 34 2 1797.02 2.80 17.52 217.55 119.74 22 3 59 797.0 14.69 356.48
90.00 23 12 1 1480.96 4.37 355.14 218.42 117.97 23 36 42 481.0 15.47 333.61
100.00 0 20 50 1271.50 2.80 338.89 217.55 119.74 0 42 1 271.5 14.69 317.85
110.00 0 55 4 1164.12 -.91 328.44 215.24 124.14 1 14 28 164.1 12.87 308.67

DIFFERENTIAL CORRECTIONS

TDE .1414 TRA 2.2543 TC3-7.3666 BAU 1.1140
RDE .0303 RRA -.0792 RC3 .1327 FAU .19038
FDE 1.6300 FRA 6.6073 FC-14.5732 BSP 10763
BDE .1446 BRA 2.2557 BC3 7.3678 FSP 2401

MID-COURSE EXECUTION ACCURACY

SGT 6471.7 SGR 178.7 SG3 1372.1
RRT -.8962 RRF -.8845 RTF .9717
SGB 6474.2 R23 .0304 R13 -.9717
SG1 6473.7 SG2 79.3 THA 178.58

ORBIT DETERMINATION ACCURACY

ST 63.9 SR 3.4 SS 62.9
CRT -.4923 CRS .0571 CST -.8961
LSA 87.4 MSA 20.7 SSA .3
EL1 64.0 EL2 2.9 ALF 178.50

LAUNCH DATE MAY 11 1971

FLIGHT TIME 256.00

ARRIVAL DATE JAN 22 1972

HELIOCENTRIC CONIC

RL 151.08 LAL .00 LOL 229.67 VL 32.347 GAL -2.00 AZL 91.94 HCA 187.28 SMA 186.78 ECC .19417 INC 1.9329 V1 29.491
RP 222.84 LAP .25 LOP 56.95 VP 21.922 GAP 1.21 AZP 88.08 TAL 347.67 TAP 174.98 RCA 150.52 APO 223.05 V2 24.675
RC 206.578 GL -18.81 GP .59 ZAL 116.73 ZAP 56.27 ETS 179.58 ZAE 96.14 ETE 180.38 ZAC 102.96 ETC 272.02 LVI -10.38

PLANETOCENTRIC CONIC

C3 11.468 VHL 3.386 DLA -21.95 RAL 356.80 RAD 6638.8 VEL 11.470 PTH 6.52 VHP 3.194 DPA -22.50 RAP 295.28 ECC 1.1887
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 18 7 2562.52 -10.51 69.10 208.18 136.68 18 0 50 1562.5 7.88 53.33
60.00 18 24 41 2385.52 -6.08 57.37 212.39 129.92 19 4 26 1385.5 10.00 39.41
70.00 19 49 7 2137.27 -1.67 40.57 215.72 124.12 20 24 45 1137.3 12.15 20.85
80.00 21 29 55 1821.81 1.96 18.88 217.98 119.80 22 0 17 821.8 13.94 357.93
90.00 23 7 0 1508.69 3.48 356.70 218.83 118.08 23 32 9 508.7 14.69 335.28
100.00 0 16 43 1296.28 1.96 340.25 217.98 119.80 0 38 19 296.3 13.94 319.30
110.00 0 52 30 1184.09 -1.67 329.49 215.72 124.12 1 12 14 184.1 12.15 309.77

DIFFERENTIAL CORRECTIONS

TDE .1778 TRA 2.3479 TC3-7.4395 BAU 1.1407
RDE .0375 RRA -.0798 RC3 .1172 FAU .18442
FDE 1.7103 FRA 6.6027 FC-13.9220 BSP 11022
BDE .1817 BRA 2.3493 BC3 7.4404 FSP 2388

MID-COURSE EXECUTION ACCURACY

SGT 6619.9 SGR 177.5 SG3 1345.1
RRT -.8546 RRF -.8388 RTF .5000
SGB 6622.3 R23 .0186 R13 -.9700
SG1 6621.7 SG2 92.1 THA 178.69

ORBIT DETERMINATION ACCURACY

ST 66.4 SR 3.9 SS 64.0
CRT -.3654 CRS -.0702 CST -.9019
LSA 89.9 MSA 20.8 SSA .4
EL1 66.4 EL2 3.6 ALF 178.78

LAUNCH DATE MAY 11 1971

FLIGHT TIME 258.00

ARRIVAL DATE JAN 24 1972

HELIOCENTRIC CONIC

RL 151.08 LAL .00 LOL 229.67 VL 32.356 GAL -2.08 AZL 91.92 HCA 188.37 SMA 186.93 ECC .19505 INC 1.9230 V1 29.491
RP 223.23 LAP .28 LOP 58.04 VP 21.888 GAP 1.07 AZP 88.10 TAL 347.22 TAP 175.59 RCA 150.47 APO 223.39 V2 24.633
RC 209.236 GL -18.56 GP .51 ZAL 117.38 ZAP 55.25 ETS 179.54 ZAE 94.89 ETE 180.40 ZAC 102.87 ETC 272.04 LVI -10.34

PLANETOCENTRIC CONIC

C3 11.638 VHL 3.411 DLA -21.46 RAL 357.30 RAD 6638.9 VEL 11.477 PTH 6.53 VHP 3.222 DPA -22.57 RAP 295.35 ECC 1.1915
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 17 53 2576.02 -11.17 69.69 208.76 136.56 18 0 49 1576.0 7.20 53.91
60.00 18 23 38 2401.15 -6.76 58.13 212.95 129.83 19 3 39 1401.1 9.33 40.18
70.00 19 46 59 2156.13 -2.39 41.55 216.25 124.08 20 22 55 1156.1 11.47 21.88
80.00 21 26 26 1844.89 1.18 20.15 218.47 119.84 21 57 11 844.9 13.23 359.28
90.00 23 2 44 1534.28 2.68 358.13 219.30 118.16 23 28 18 534.3 13.97 336.81
100.00 0 13 14 1319.36 1.18 341.52 218.47 119.84 0 35 13 319.4 13.23 320.65
110.00 0 50 21 1202.94 -2.39 330.47 216.25 124.08 1 10 24 202.9 11.47 310.80

DIFFERENTIAL CORRECTIONS

TDE .2286 TRA 2.4580 TC3-7.4532 BAU 1.1597
RDE .0444 RRA -.0817 RC3 .1038 FAU .17767
FDE 1.8012 FRA 6.6096 FC-13.2170 BSP 11471
BDE .2328 BRA 2.4594 BC3 7.4539 FSP 2396

MID-COURSE EXECUTION ACCURACY

SGT 6759.0 SGR 179.8 SG3 1318.2
RRT -.8110 RRF -.7918 RTF .9691
SGB 6761.4 R23 .0097 R13 -.9691
SG1 6760.6 SG2 105.2 THA 178.76

ORBIT DETERMINATION ACCURACY

ST 69.7 SR 4.3 SS 65.3
CRT -.2529 CRS -.1639 CST -.9120
LSA 93.4 MSA 20.4 SSA .4
EL1 69.7 EL2 4.2 ALF 179.09

LAUNCH DATE MAY 11 1971

FLIGHT TIME 260.00

ARRIVAL DATE JAN 26 1972

HELIOCENTRIC CONIC
 RL 131.08 LAL .00 LOL 229.67 VL 32.365 GAL -2.16 AZL 91.92 HCA 189.46 SMA 187.08 ECC .19594 INC 1.9135 V1 29.491
 RP 223.62 LAP .31 LOP 59.13 VP 21.854 GAP .92 AZP 88.11 TAL 348.76 TAP 176.22 RCA 150.42 APO 223.74 V2 24.592
 RC 211.896 GL -18.33 GP .45 ZAL 118.03 ZAP 54.27 ETS 179.51 ZAE 93.67 ETE 180.41 ZAC 102.81 ETC 272.07 LVI -10.31

PLANETOCENTRIC CONIC
 C3 11.817 VHL 3.438 DLA -21.00 RAL 357.80 RAD 6639.0 VEL 11.485 PTH 6.53 VHP 3.250 DPA -22.61 RAP 295.46 ECC 1.1945
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 17 47 2589.15 -11.82 70.26 209.36 136.43 18 0 56 1509.2 6.55 54.47
 60.00 18 22 47 2416.27 -7.42 58.86 213.54 129.73 19 3 4 1416.3 8.68 40.92
 70.00 19 45 8 2174.22 -3.08 42.50 218.80 124.03 20 21 22 1174.2 10.81 22.86
 80.00 21 23 21 1866.79 .44 21.35 219.00 119.85 21 54 28 866.8 12.55 .55
 90.00 22 58 58 1558.39 1.89 359.46 219.80 118.22 23 24 56 558.4 13.27 338.24
 100.00 0 10 9 1341.26 .44 342.72 219.00 119.85 0 32 31 341.3 12.55 321.92
 110.00 0 48 30 1221.04 -3.08 331.42 216.80 124.03 1 8 51 221.0 10.81 311.78

DIFFERENTIAL CORRECTIONS
 TDE .2937 TRA 2.5435 TC3-7.5422 BAU 1.1918 SGT 8905.6 SGR 184.5 S63 1289.5 ST 71.7 SR 4.9 SS 64.7
 RDE .0319 RRA -.0838 RC3 .0943 FAU .17525 RRT -.7679 RRF -.7465 RTF .9700 CRT -.1775 CRS -.2265 CST -.9175
 FDE 1.7973 FRA 6.5286 FC-12.8394 BSP 11581 SGB 8908.1 R23 .0022 R13 -.9700 LSA 94.6 MSA 20.1 SSA .5
 BDE .2590 BRA 2.5449 BC3 7.5428 F8P 2303 S61 8907.1 S62 118.2 THA 178.82 EL1 71.7 EL2 4.8 ALF 179.31

LAUNCH DATE MAY 11 1971

FLIGHT TIME 262.00

ARRIVAL DATE JAN 28 1972

HELIOCENTRIC CONIC
 RL 151.08 LAL .00 LOL 229.67 VL 32.374 GAL -2.24 AZL 91.91 HCA 190.54 SMA 187.23 ECC .19686 INC 1.9078 V1 29.491
 RP 224.01 LAP .35 LOP 60.21 VP 21.820 GAP .77 AZP 88.12 TAL 346.30 TAP 176.84 RCA 150.37 APO 224.09 V2 24.550
 RC 214.558 GL -18.12 GP .40 ZAL 118.68 ZAP 53.31 ETS 179.49 ZAE 92.48 ETE 180.42 ZAC 102.75 ETC 272.10 LVI -10.32

PLANETOCENTRIC CONIC
 C3 12.005 VHL 3.465 DLA -20.54 RAL 358.31 RAD 6639.1 VEL 11.493 PTH 6.54 VHP 3.278 DPA -22.64 RAP 295.61 ECC 1.1976
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 17 48 2602.09 -12.46 70.83 209.99 136.30 18 1 10 1602.1 5.90 55.01
 60.00 18 22 5 2431.10 -8.06 59.58 214.15 129.62 19 2 37 1431.1 8.03 41.64
 70.00 19 43 29 2191.85 -3.75 43.42 217.39 123.97 20 20 1 1191.8 10.16 23.82
 80.00 21 20 35 1887.93 -.28 22.51 219.55 119.86 21 52 3 887.9 11.89 1.77
 90.00 22 55 34 1581.54 1.14 .77 220.34 118.26 23 21 56 581.5 12.60 339.60
 100.00 0 7 23 1382.41 -.28 343.86 219.55 119.86 0 30 5 362.4 11.89 323.14
 110.00 0 46 51 1238.67 -3.75 332.34 217.39 123.97 1 7 30 238.7 10.16 312.73

DIFFERENTIAL CORRECTIONS
 TDE .2990 TRA 2.6303 TC3-7.5612 BAU 1.2138 SGT 7043.0 SGR 190.9 S63 1262.2 ST 74.8 SR 5.4 SS 65.3
 RDE .0390 RRA -.0868 RC3 .0846 FAU .17008 RRT -.7280 RRF -.7025 RTF .9698 CRT -.1026 CRS -.2806 CST -.9251
 FDE 1.8496 FRA 6.5010 FC-12.2650 BSP 11932 SGB 7045.6 R23 -.0026 R13 -.9698 LSA 97.5 MSA 19.8 SSA .5
 BDE .3048 BRA 2.6317 BC3 7.5617 F8P 2272 S61 7044.3 S62 131.3 THA 178.87 EL1 74.8 EL2 5.4 ALF 179.57

LAUNCH DATE MAY 11 1971

FLIGHT TIME 264.00

ARRIVAL DATE JAN 30 1972

HELIOCENTRIC CONIC
 RL 151.08 LAL .00 LOL 229.67 VL 32.383 GAL -2.33 AZL 91.90 HCA 191.62 SMA 187.39 ECC .19780 INC 1.9025 V1 29.491
 RP 224.40 LAP .38 LOP 61.29 VP 21.786 GAP .63 AZP 88.14 TAL 345.83 TAP 177.45 RCA 150.32 APO 224.45 V2 24.508
 RC 217.222 GL -17.91 GP .38 ZAL 119.33 ZAP 52.38 ETS 179.47 ZAE 91.31 ETE 180.43 ZAC 102.70 ETC 272.13 LVI -10.34

PLANETOCENTRIC CONIC
 C3 12.202 VHL 3.493 DLA -20.10 RAL 358.82 RAD 6639.2 VEL 11.501 PTH 6.55 VHP 3.306 DPA -22.66 RAP 295.78 ECC 1.2008
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 17 53 2614.91 -13.09 71.39 210.63 136.16 18 1 28 1614.9 5.26 55.55
 60.00 18 21 30 2445.73 -8.70 60.30 214.77 129.51 19 2 19 1445.7 7.40 42.36
 70.00 19 41 59 2209.13 -4.41 44.33 217.99 123.90 20 18 48 1209.1 9.52 24.75
 80.00 21 18 2 1908.49 -.98 23.64 220.12 119.84 21 49 51 908.5 11.24 2.93
 90.00 22 52 27 1603.93 .42 2.02 220.90 118.28 23 19 11 603.9 11.94 340.91
 100.00 0 4 50 1382.96 -.98 345.01 220.12 119.84 0 27 53 383.0 11.24 324.32
 110.00 0 45 21 1255.95 -4.41 333.25 217.99 123.90 1 6 17 255.9 9.52 313.66

DIFFERENTIAL CORRECTIONS
 TDE .3393 TRA 2.7538 TC3-7.5928 BAU 1.2388 SGT 7181.6 SGR 198.5 S63 1235.6 ST 77.7 SR 5.9 SS 65.7
 RDE .0663 RRA -.0901 RC3 .0783 FAU .16566 RRT -.6885 RRF -.6613 RTF .5986 CRT -.0426 CRS -.3237 CST -.9307
 FDE 1.8879 FRA 6.4647 FC-11.7537 BSP 12213 SGB 7184.4 R23 -.0064 R13 -.9696 LSA 100.0 MSA 19.6 SSA .6
 BDE .3458 BRA 2.7530 BC3 7.5930 F8P 2232 S61 7182.9 S62 144.3 THA 178.91 EL1 77.7 EL2 5.9 ALF 179.81

LAUNCH DATE MAY 11 1971

FLIGHT TIME 266.00

ARRIVAL DATE FEB 1 1972

HELIOCENTRIC CONIC
 RL 151.08 LAL .00 LOL 229.67 VL 32.392 GAL -2.41 AZL 91.90 HCA 192.70 SMA 187.54 ECC .19873 INC 1.8978 V1 29.491
 RP 224.79 LAP .42 LOP 62.36 VP 21.752 GAP .48 AZP 88.15 TAL 345.36 TAP 178.06 RCA 150.27 APO 224.82 V2 24.466
 RC 218.898 GL -17.72 GP .32 ZAL 119.98 ZAP 51.49 ETS 179.46 ZAE 90.17 ETE 180.43 ZAC 102.66 ETC 272.18 LVI -10.37

PLANETOCENTRIC CONIC
 C3 12.407 VHL 3.522 DLA -19.67 RAL 359.33 RAD 6639.3 VEL 11.510 PTH 6.56 VHP 3.335 DPA -22.68 RAP 295.98 ECC 1.2042
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 18 1 2627.64 -13.71 71.98 211.28 136.02 18 1 49 1627.6 4.62 56.09
 60.00 18 20 59 2460.22 -9.32 61.01 215.41 129.39 19 1 59 1460.2 6.77 43.06
 70.00 19 40 36 2226.15 -5.05 45.22 218.61 123.82 20 17 42 1226.1 8.89 25.66
 80.00 21 15 40 1928.59 -1.86 24.74 220.72 119.82 21 47 49 928.6 10.99 4.09
 90.00 22 49 34 1625.72 -.28 3.23 221.48 118.28 23 16 40 625.7 11.29 342.18
 100.00 0 2 28 1403.06 -1.66 346.11 220.72 119.82 0 25 51 403.1 10.59 323.46
 110.00 0 43 58 1272.97 -5.05 334.14 218.61 123.82 1 5 11 273.0 8.89 314.59

DIFFERENTIAL CORRECTIONS
 TDE .3771 TRA 2.8555 TC3-7.6285 BAU 1.2651 SGT 7319.3 SGR 207.0 S63 1209.1 ST 80.5 SR 6.5 SS 65.8
 RDE .0737 RRA -.0938 RC3 .0888 FAU .16185 RRT -.6498 RRF -.6231 RTF .9694 CRT .0071 CRS -.3587 CST -.9352
 FDE 1.9187 FRA 6.4220 FC-11.2725 BSP 12447 SGB 7322.2 R23 -.0093 R13 -.9694 LSA 102.3 MSA 19.4 SSA .6
 BDE .3842 BRA 2.8570 BC3 7.6268 F8P 2184 S61 7320.5 S62 157.3 THA 178.95 EL1 80.5 EL2 6.5 ALF .03

LAUNCH DATE MAY 11 1971

FLIGHT TIME 268.00

ARRIVAL DATE FEB 3 1972

HELIOCENTRIC CONIC

DISTANCE 610.870

EARTH TO MARS

RL 151.08 LAL .00 LOL 229.67 VL 32.401 GAL -2.50 AZL 91.89 HCA 193.77 SMA 187.70 ECC .19973 INC 1.8941 V1 29.491
RP 225.18 LAP .45 LOP 63.43 VP 21.719 GAP .33 AZP 88.18 TAL 344.89 TAP 178.66 RCA 150.21 APO 225.19 V2 24.424
RC 222.581 GL -17.83 GP .30 ZAL 120.62 ZAP 30.62 ETS 179.45 ZAE 89.05 ETE 180.43 ZAC 102.82 ETC 272.23 LVI -10.42

PLANETOCENTRIC CONIC

C3 12.621 VHL 3.553 DLA -19.24 RAL 359.84 RAD 6639.4 VEL 11.519 PTH 6.57 VHP 3.364 DPA -22.66 RAP 296.20 ECC 1.2077
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 18 12 2640.31 -14.34 72.52 211.94 135.07 18 2 12 1640.3 3.99 56.62
60.00 18 20 31 2474.59 -9.94 81.72 216.07 129.26 19 1 46 1474.6 6.14 43.76
70.00 19 39 19 2242.96 -5.69 46.11 219.24 123.73 20 16 42 1243.0 8.26 26.56
80.00 21 13 27 1948.32 -2.32 25.83 221.33 119.78 21 45 56 948.3 9.96 5.21
90.00 22 46 51 1647.03 -0.97 4.42 222.08 118.26 23 14 18 647.0 10.65 343.42
100.00 0 0 15 1422.79 -2.32 347.20 221.33 119.78 0 23 58 422.8 9.96 326.58
110.00 0 42 41 1289.78 -5.69 335.03 219.24 123.73 1 4 11 289.8 8.26 315.48

DIFFERENTIAL CORRECTIONS

TDE .4179 TRA 2.9607 TC3-7.6465 BAU 1.2902
RDE .0811 RRA -.0974 RC3 .0617 FAU .15724
FDE 1.9463 FRA 6.3792 FC-10.7862 BSP 12698
BDE .4237 BRA 2.9623 BC3 7.6467 FSP 2138

MID-COURSE EXECUTION ACCURACY

SGT 7453.0 SGR 216.1 SG3 1182.5
RRT -.6156 RRF -.5877 RTF .9692
SGB 7456.2 R23 -.0116 R13 -.9691
SG1 7454.2 SG2 170.3 THA 178.98

ORBIT DETERMINATION ACCURACY

ST 83.4 SR 7.0 SS 66.0
CRT .0522 CR8 -.3089 CST -.9396
LSA 104.8 MSA 19.2 S8A .7
EL1 83.4 EL2 7.0 ALF .23

LAUNCH DATE MAY 11 1971

FLIGHT TIME 270.00

ARRIVAL DATE FEB 5 1972

HELIOCENTRIC CONIC

DISTANCE 622.951

EARTH TO MARS

RL 151.08 LAL .00 LOL 229.67 VL 32.410 GAL -2.59 AZL 91.89 HCA 194.83 SMA 187.86 ECC .20073 INC 1.8905 V1 29.491
RP 225.57 LAP .48 LOP 64.50 VP 21.688 GAP .19 AZP 88.17 TAL 344.42 TAP 179.25 RCA 150.15 APO 225.57 V2 24.362
RC 225.217 GL -17.38 GP .27 ZAL 121.26 ZAP 49.78 ETS 179.45 ZAE 87.96 ETE 180.44 ZAC 102.58 ETC 272.28 LVI -10.48

PLANETOCENTRIC CONIC

C3 12.843 VHL 3.584 DLA -18.81 RAL .35 RAD 6639.5 VEL 11.529 PTH 6.58 VHP 3.394 DPA -22.65 RAP 296.44 ECC 1.2114
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 18 25 2652.96 -14.95 73.09 212.62 135.71 18 2 38 1653.0 3.35 57.15
60.00 18 20 7 2488.90 -10.56 62.42 216.75 129.12 19 1 36 1488.9 5.51 44.45
70.00 19 38 6 2259.61 -6.32 46.99 219.89 123.63 20 15 46 1259.6 7.64 27.45
80.00 21 11 22 1967.74 -2.98 26.90 221.95 119.72 21 44 9 967.7 9.33 6.31
90.00 22 44 18 1667.93 -1.64 5.59 222.69 118.24 23 12 6 667.9 10.01 344.63
100.00 23 54 14 1442.22 -2.98 348.26 221.95 119.72 24 18 16 442.2 9.33 327.68
110.00 0 41 29 1306.43 -6.32 335.90 219.89 123.63 1 3 15 306.4 7.64 316.36

DIFFERENTIAL CORRECTIONS

TDE .4574 TRA 3.0654 TC3-7.6688 BAU 1.3167
RDE .0886 RRA -.1013 RC3 .0552 FAU .15319
FDE 1.9731 FRA 6.3344 FC-10.3265 BSP 12919
BDE .4659 BRA 3.0671 BC3 7.6690 FSP 2091

MID-COURSE EXECUTION ACCURACY

SGT 7586.3 SGR 225.7 SG3 1156.6
RRT -.5840 RRF -.5550 RTF .9688
SGB 7589.7 R23 -.0136 R13 -.9688
SG1 7587.5 SG2 183.2 THA 179.00

ORBIT DETERMINATION ACCURACY

ST 86.2 SR 7.5 SS 66.1
CRT .0910 CR8 -.4151 CST -.9431
LSA 107.2 MSA 19.1 S8A .7
EL1 86.2 EL2 7.5 ALF .46

LAUNCH DATE MAY 11 1971

FLIGHT TIME 272.00

ARRIVAL DATE FEB 7 1972

HELIOCENTRIC CONIC

DISTANCE 627.028

EARTH TO MARS

RL 151.08 LAL .00 LOL 229.67 VL 32.420 GAL -2.68 AZL 91.89 HCA 195.90 SMA 188.03 ECC .20175 INC 1.8875 V1 29.491
RP 225.96 LAP .52 LOP 65.56 VP 21.653 GAP .04 AZP 88.18 TAL 343.94 TAP 179.84 RCA 150.09 APO 225.96 V2 24.340
RC 227.883 GL -17.17 GP .25 ZAL 121.90 ZAP 48.96 ETS 179.44 ZAE 86.89 ETE 180.44 ZAC 102.55 ETC 272.34 LVI -10.55

PLANETOCENTRIC CONIC

C3 13.073 VHL 3.616 DLA -18.39 RAL .86 RAD 6639.6 VEL 11.539 PTH 6.58 VHP 3.423 DPA -22.62 RAP 296.71 ECC 1.2151
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 18 39 2665.59 -15.57 73.66 213.30 135.55 18 3 5 1665.6 2.72 57.68
60.00 18 19 45 2503.13 -11.17 63.13 217.41 128.98 19 1 28 1503.1 4.89 45.13
70.00 19 36 58 2276.12 -6.94 47.86 220.54 123.53 20 14 54 1276.1 7.02 28.32
80.00 21 9 23 1986.90 -3.63 27.95 222.59 119.66 21 42 30 986.9 8.71 7.39
90.00 22 41 53 1688.49 -2.31 6.74 223.32 118.19 23 10 2 688.5 9.38 345.81
100.00 23 52 14 1461.37 -3.63 349.32 222.59 119.66 24 16 36 461.4 8.71 328.76
110.00 0 40 20 1322.94 -6.94 336.78 220.54 123.53 1 2 23 322.9 7.02 317.24

DIFFERENTIAL CORRECTIONS

TDE .4983 TRA 3.1728 TC3-7.6831 BAU 1.3428
RDE .0962 RRA -.1054 RC3 .0489 FAU .14920
FDE 1.9970 FRA 6.2903 FC3-9.8805 BSP 13149
BDE .5075 BRA 3.1746 BC3 7.6832 FSP 2046

MID-COURSE EXECUTION ACCURACY

SGT 7717.8 SGR 235.6 SG3 1131.2
RRT -.3549 RRF -.5251 RTF .5484
SGB 7721.4 R23 -.0152 R13 -.9684
SG1 7718.9 SG2 196.0 THA 179.03

ORBIT DETERMINATION ACCURACY

ST 89.1 SR 8.1 SS 66.1
CRT .1262 CR8 -.4378 CST -.9465
LSA 109.6 MSA 19.0 S8A .8
EL1 89.1 EL2 8.0 ALF .66

LAUNCH DATE MAY 11 1971

FLIGHT TIME 274.00

ARRIVAL DATE FEB 9 1972

HELIOCENTRIC CONIC

DISTANCE 631.095

EARTH TO MARS

RL 151.08 LAL .00 LOL 229.67 VL 32.429 GAL -2.77 AZL 91.89 HCA 196.96 SMA 188.19 ECC .20278 INC 1.8853 V1 29.491
RP 226.35 LAP .55 LOP 66.62 VP 21.620 GAP -.11 AZP 88.20 TAL 343.46 TAP 180.42 RCA 150.03 APO 226.35 V2 24.289
RC 230.548 GL -18.99 GP .23 ZAL 122.53 ZAP 48.17 ETS 179.44 ZAE 85.83 ETE 180.44 ZAC 102.52 ETC 272.41 LVI -10.64

PLANETOCENTRIC CONIC

C3 13.311 VHL 3.648 DLA -17.97 RAL 1.37 RAD 6639.7 VEL 11.549 PTH 6.59 VHP 3.453 DPA -22.60 RAP 297.00 ECC 1.2191
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 18 55 2678.20 -16.18 74.24 213.99 135.38 18 3 33 1678.2 2.08 58.21
60.00 18 19 25 2517.32 -11.70 63.84 218.09 128.83 19 1 22 1517.3 4.27 45.81
70.00 19 35 53 2292.51 -7.56 48.73 221.21 123.41 20 14 6 1292.5 6.40 29.19
80.00 21 7 29 2005.82 -4.26 28.99 223.24 119.58 21 40 55 1005.8 8.09 8.46
90.00 22 39 35 1708.74 -2.96 7.87 223.96 118.14 23 8 4 708.7 8.76 346.97
100.00 23 50 21 1480.30 -4.26 350.36 223.24 119.58 24 15 1 480.3 8.09 329.82
110.00 0 39 16 1339.33 -7.56 337.65 221.21 123.41 1 1 35 339.3 6.40 318.11

DIFFERENTIAL CORRECTIONS

TDE .5440 TRA 3.2852 TC3-7.6816 BAU 1.3670
RDE .1039 RRA -.1097 RC3 .0429 FAU .14490
FDE 2.0283 FRA 6.2513 FC3-9.4248 BSP 13423
BDE .5538 BRA 3.2870 BC3 7.6817 FSP 2011

MID-COURSE EXECUTION ACCURACY

SGT 7846.3 SGR 245.8 SG3 1106.3
RRT -.5279 RRF -.4971 RTF .9679
SGB 7850.2 R23 -.0168 R13 -.9679
SG1 7847.4 SG2 208.7 THA 179.05

ORBIT DETERMINATION ACCURACY

ST 92.3 SR 8.6 SS 66.3
CRT .1602 CR8 -.4594 CST -.9497
LSA 112.4 MSA 19.0 S8A .8
EL1 92.3 EL2 8.5 ALF .86

LAUNCH DATE MAY 11 1971

FLIGHT TIME 276.00

ARRIVAL DATE FEB 11 1972

HELIOCENTRIC CONIC

DISTANCE 635.160

EARTH TO MARS

RL 151.00 LAL .00 LOL 229.67 VL 32.439 GAL -2.86 AZL 91.88 MCA 199.02 SMA 188.36 ECC .20384 INC 1.8832 V1 29.491
RP 228.74 LAP .56 LOP 67.68 VP 21.588 GAP -.25 AZP 88.21 TAL 342.98 TAP 181.00 RCA 149.96 APO 226.75 V2 24.257
RC 233.212 GL -18.81 GP .22 ZAL 123.17 ZAP 47.40 ETS 179.44 ZAE 84.80 ETE 180.44 ZAC 102.49 ETC 272.48 LVI -10.73

PLANETOCENTRIC CONIC

C3 13.557 VHL 3.682 DLA -17.56 RAL 1.88 RAD 6639.8 VEL 11.559 PTH 6.60 VHP 3.483 DPA -22.56 RAP 297.31 ECC 1.2231
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 17 19 12 2690.81 -16.79 74.81 214.69 135.20 18 4 3 1690.0 1.48 58.73
80.00 18 19 7 2531.47 -12.38 64.55 218.70 128.67 19 1 18 1531.5 3.65 46.49
70.00 19 34 52 2308.79 -8.17 49.60 221.89 123.28 20 13 20 1308.8 5.79 30.05
60.00 21 5 41 2024.54 -4.89 30.03 223.90 119.49 21 39 25 1024.5 7.47 9.50
90.00 22 37 23 1728.71 -3.60 8.99 224.61 118.07 23 6 12 728.7 8.14 348.11
100.00 23 48 33 1499.01 -4.89 351.40 223.90 119.49 24 13 32 499.0 7.47 330.87
110.00 0 38 14 1355.61 -8.17 338.51 221.89 123.28 1 0 50 355.6 5.79 318.97

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .5881 TRA 3.3972 TC3-7.6821 BAU 1.3923	SGT 7974.0 SGR 256.2 SG3 1081.7	ST 95.3 SR 9.1 SS 66.4
RDE .1118 RRA -.1141 RC3 .0371 FAU .14093	RRT -.5030 RRF -.4714 RTF .9675	CRT .1899 CRS -.4780 CST -.9525
FDE 2.0511 FRA 6.2070 FC3-8.9997 B8P 13665	SG8 7978.1 R23 -.0182 R13 -.9675	LSA 115.0 MSA 18.9 SSA .9
BDE .5986 BRA 3.3991 BC3 7.6822 F8P 1971	SG1 7975.0 SG2 221.4 THA 179.07	EL1 95.3 EL2 9.0 ALF 1.05

LAUNCH DATE MAY 11 1971

FLIGHT TIME 278.00

ARRIVAL DATE FEB 13 1972

HELIOCENTRIC CONIC

DISTANCE 639.218

EARTH TO MARS

RL 151.00 LAL .00 LOL 229.67 VL 32.448 GAL -2.95 AZL 91.88 MCA 199.07 SMA 188.52 ECC .20491 INC 1.8809 V1 29.491
RP 227.13 LAP .61 LOP 68.73 VP 21.556 GAP -.40 AZP 88.22 TAL 342.50 TAP 181.56 RCA 149.89 APO 227.15 V2 24.215
RC 235.874 GL -18.84 GP .20 ZAL 123.80 ZAP 46.86 ETS 179.44 ZAE 83.79 ETE 180.43 ZAC 102.45 ETC 272.56 LVI -10.83

PLANETOCENTRIC CONIC

C3 13.811 VHL 3.716 DLA -17.15 RAL 2.38 RAD 6640.0 VEL 11.570 PTH 6.61 VHP 3.513 DPA -22.53 RAP 297.64 ECC 1.2273
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 17 19 29 2703.41 -17.40 75.39 215.40 135.01 18 4 33 1703.4 .82 59.26
80.00 18 18 50 2545.58 -12.98 65.26 219.48 128.50 19 1 16 1545.6 3.03 47.17
70.00 19 33 53 2324.97 -8.77 50.46 222.57 123.14 20 12 38 1325.0 5.17 30.90
60.00 21 3 57 2043.06 -5.51 31.05 224.57 119.39 21 38 0 1043.1 6.86 10.54
90.00 22 35 17 1748.43 -4.23 10.09 225.27 117.99 23 4 25 748.4 7.53 349.25
100.00 23 46 49 1517.54 -5.51 352.42 224.57 119.39 24 12 6 517.5 6.86 331.90
110.00 0 37 15 1371.79 -8.77 339.38 222.57 123.14 1 0 7 371.8 5.17 318.82

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .8307 TRA 3.3092 TC3-7.6839 BAU 1.4188	SGT 8100.6 SGR 266.8 SG3 1057.6	ST 98.2 SR 9.7 SS 66.3
RDE .1198 RRA -.1185 RC3 .0317 FAU .13713	RRT -.4800 RRF -.4477 RTF .9669	CRT .2159 CRS -.4844 CST -.9549
FDE 2.0690 FRA 6.1616 FC3-8.5955 B8P 13879	SG8 8105.0 R23 -.0192 R13 -.9669	LSA 117.4 MSA 18.9 SSA .9
BDE .8419 BRA 3.3112 BC3 7.6840 F8P 1928	SG1 8101.6 SG2 234.0 THA 179.09	EL1 98.3 EL2 9.4 ALF 1.23

LAUNCH DATE MAY 11 1971

FLIGHT TIME 280.00

ARRIVAL DATE FEB 15 1972

HELIOCENTRIC CONIC

DISTANCE 643.289

EARTH TO MARS

RL 151.00 LAL .00 LOL 229.67 VL 32.458 GAL -3.05 AZL 91.88 MCA 200.12 SMA 188.69 ECC .20600 INC 1.8794 V1 29.491
RP 227.52 LAP .65 LOP 69.78 VP 21.524 GAP -.55 AZP 88.23 TAL 342.01 TAP 182.13 RCA 149.82 APO 227.56 V2 24.174
RC 238.532 GL -18.48 GP .19 ZAL 124.42 ZAP 45.93 ETS 179.45 ZAE 82.79 ETE 180.43 ZAC 102.42 ETC 272.64 LVI -10.94

PLANETOCENTRIC CONIC

C3 14.074 VHL 3.752 DLA -16.74 RAL 2.88 RAD 6640.1 VEL 11.582 PTH 6.63 VHP 3.543 DPA -22.48 RAP 297.99 ECC 1.2316
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 17 19 47 2716.01 -18.00 75.98 216.11 134.82 18 5 3 1716.0 .18 59.79
80.00 18 18 33 2559.85 -13.57 65.97 220.19 128.32 19 1 15 1559.7 2.41 47.84
70.00 19 32 56 2341.07 -9.37 51.32 223.27 123.00 20 11 57 1341.1 4.56 31.75
60.00 21 2 17 2061.42 -6.12 32.07 225.25 119.28 21 38 39 1061.4 6.25 11.58
90.00 22 33 16 1767.93 -4.85 11.19 225.94 117.89 23 2 44 767.9 8.91 350.34
100.00 23 45 9 1535.89 -6.12 353.44 225.25 119.28 24 10 45 535.9 6.25 332.93
110.00 0 36 19 1387.89 -9.37 340.24 223.27 123.00 0 59 26 387.9 4.56 320.67

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .6788 TRA 3.6270 TC3-7.6894 BAU 1.4431	SGT 8224.8 SGR 277.4 SG3 1034.1	ST 101.4 SR 10.2 SS 66.4
RDE .1278 RRA -.1230 RC3 .0284 FAU .13303	RRT -.4585 RRF -.4254 RTF .9663	CRT .2421 CRS -.5104 CST -.9573
FDE 2.0934 FRA 6.1216 FC3-8.1841 B8P 14136	SG8 8229.5 R23 -.0203 R13 -.9663	LSA 120.2 MSA 18.8 SSA .9
BDE .6907 BRA 3.6291 BC3 7.6894 F8P 1892	SG1 8225.8 SG2 246.5 THA 179.11	EL1 101.5 EL2 9.9 ALF 1.41

LAUNCH DATE MAY 12 1971

FLIGHT TIME 104.00

ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC

DISTANCE 293.223

EARTH TO MARS

RL 151.12 LAL .00 LOL 230.64 VL 34.753 GAL -1.52 AZL 91.85 HCA 95.02 SMA 241.87 ECC .37602 INC 1.8456 V1 29.484
 RP 206.94 LAP -1.84 LOP 325.66 VP 27.092 GAP 20.54 AZP 89.84 TAL 354.44 TAP 89.46 RCA 150.92 APO 332.81 V2 26.466
 RC 57.675 GL -11.70 GP -.11 ZAL 103.77 ZAP 173.69 ETS 180.97 ZAE 172.64 ETE 39.42 ZAC 99.74 ETC 278.03 LVI -18.28

PLANETOCENTRIC CONIC

C3 30.442 VHL 5.517 DLA -20.64 RAL 341.09 RAD 6647.2 VEL 12.263 PTH 7.21 VHP 9.954 DPA -16.88 RAP 322.41 ECC 1.5010
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 16 5 38 2818.03 -22.82 80.89 203.85 132.95 16 52 36 1818.0 -4.94 64.06
 60.00 17 10 5 2646.64 -17.19 70.47 208.86 127.03 17 54 11 1646.6 -1.42 52.00
 70.00 18 31 40 2406.78 -11.78 54.88 212.73 122.29 19 11 47 1406.8 2.06 35.19
 80.00 20 9 1 2102.12 -7.47 34.34 215.31 118.99 20 44 3 1102.1 4.89 13.81
 90.00 21 44 8 1795.30 -5.72 12.73 216.27 117.74 22 14 3 795.3 6.05 351.89
 100.00 22 51 33 1576.60 -7.47 355.71 215.31 118.99 23 18 9 576.6 4.89 335.18
 110.00 23 31 8 1453.60 -11.78 343.80 212.73 122.29 23 55 20 453.6 2.06 324.11

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4007 TRA -.9094 TC3 .0633 BAU .0450 SGT 1093.8 SGR 893.3 S63 129.8 ST 25.7 SR 27.1 SS 14.2
 RDE -.5173 RRA .2083 RC3 .0907 FAU .03724 RRT -.0042 RRF .0051 RTF -.6634 CRT .7267 CR8 .4133 CBT .9218
 FDE .1667 FRA .8361 FC3-1.0592 B8P 1611 SGB 1244.3 R23 -.0011 R13 .6634 LSA 36.3 HSA 16.8 SSA 1.2
 BDE .6543 BRA .9329 BC3 .1106 F8P 163 S61 1093.8 S62 593.3 THA 179.81 EL1 34.7 EL2 13.8 ALF 47.02

LAUNCH DATE MAY 12 1971

FLIGHT TIME 106.00

ARRIVAL DATE AUG 26 1971

HELIOCENTRIC CONIC

DISTANCE 295.809

EARTH TO MARS

RL 151.12 LAL .00 LOL 230.64 VL 34.588 GAL -1.44 AZL 91.84 HCA 96.29 SMA 236.92 ECC .36291 INC 1.8447 V1 29.484
 RP 206.87 LAP -1.83 LOP 326.93 VP 26.886 GAP 20.05 AZP 89.80 TAL 354.60 TAP 90.89 RCA 150.94 APO 322.90 V2 26.473
 RC 58.203 GL -12.01 GP -.11 ZAL 103.62 ZAP 172.76 ETS 180.88 ZAE 172.12 ETE 35.66 ZAC 99.69 ETC 278.10 LVI -16.37

PLANETOCENTRIC CONIC

C3 28.601 VHL 5.348 DLA -20.98 RAL 341.10 RAD 6646.5 VEL 12.188 PTH 7.15 VHP 9.632 DPA -16.78 RAP 322.75 ECC 1.4707
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 16 7 8 2795.26 -21.76 79.77 203.00 133.42 16 53 44 1795.3 -3.80 63.10
 60.00 17 12 7 2622.45 -16.20 69.20 208.01 127.42 17 55 50 1622.5 -.36 50.84
 70.00 18 34 25 2380.52 -10.82 53.45 211.88 122.59 19 14 6 1380.5 3.06 33.82
 80.00 20 12 36 2073.23 -6.52 32.73 214.48 119.20 20 47 9 1073.2 5.86 12.21
 90.00 21 48 11 1764.92 -4.75 11.02 215.45 117.91 22 17 36 764.9 7.01 350.17
 100.00 22 55 28 1547.71 -6.52 354.10 214.48 119.20 23 21 16 547.7 5.86 333.58
 110.00 23 33 51 1427.33 -10.82 342.37 211.88 122.59 23 57 39 427.3 3.06 322.73

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3950 TRA -.9010 TC3 .0802 BAU .0480 SGT 1120.4 SGR 594.7 S63 139.0 ST 26.2 SR 27.1 SS 14.6
 RDE -.5020 RRA .2019 RC3 .0966 FAU .03861 RRT -.0045 RRF .0054 RTF -.6735 CRT .7242 CR8 .3989 CBT .9172
 FDE .1677 FRA .8692 FC3-1.1687 B8P 1661 SGB 1268.4 R23 -.0012 R13 .6735 LSA 36.6 HSA 17.1 SSA 1.2
 BDE .6388 BRA .9234 BC3 .1256 F8P 179 S61 1120.4 S62 594.6 THA 179.81 EL1 35.0 EL2 14.0 ALF 46.31

LAUNCH DATE MAY 12 1971

FLIGHT TIME 108.00

ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC

DISTANCE 298.551

EARTH TO MARS

RL 151.12 LAL .00 LOL 230.64 VL 34.432 GAL -1.36 AZL 91.84 HCA 97.56 SMA 232.46 ECC .35062 INC 1.8437 V1 29.484
 RP 206.82 LAP -1.83 LOP 328.20 VP 26.692 GAP 19.56 AZP 89.76 TAL 354.77 TAP 92.32 RCA 150.95 APO 313.96 V2 26.479
 RC 58.807 GL -12.33 GP -.11 ZAL 103.48 ZAP 171.82 ETS 180.82 ZAE 171.62 ETE 32.53 ZAC 99.64 ETC 278.16 LVI -16.45

PLANETOCENTRIC CONIC

C3 26.916 VHL 5.188 DLA -21.33 RAL 341.08 RAD 6645.8 VEL 12.119 PTH 7.09 VHP 9.323 DPA -16.68 RAP 323.07 ECC 1.4430
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 16 8 37 2772.75 -20.70 78.87 202.19 133.85 16 54 50 1772.8 -2.87 62.16
 60.00 17 14 9 2598.47 -15.20 67.96 207.17 127.79 17 57 28 1598.5 .70 49.70
 70.00 18 37 12 2354.34 -9.86 52.04 211.05 122.87 19 18 26 1354.3 4.06 32.44
 80.00 20 16 17 2044.25 -5.55 31.12 213.87 119.38 20 50 21 1044.3 6.82 10.60
 90.00 21 52 22 1734.32 -3.78 9.30 214.65 118.05 22 21 18 734.3 7.97 348.43
 100.00 22 59 9 1518.73 -5.55 352.49 213.87 119.38 23 24 27 518.7 6.82 331.97
 110.00 23 36 38 1401.16 -9.86 340.95 211.05 122.87 23 59 59 401.2 4.06 321.36

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3882 TRA -.8903 TC3 .0997 BAU .0515 SGT 1143.9 SGR 595.8 S63 140.9 ST 26.7 SR 27.1 SS 15.0
 RDE -.4872 RRA .1956 RC3 .1027 FAU .04008 RRT -.0044 RRF .0056 RTF -.6740 CRT .7216 CR8 .3842 CBT .9124
 FDE .1664 FRA .9037 FC3-1.2892 B8P 1714 SGB 1289.7 R23 -.0015 R13 .6840 LSA 37.0 HSA 17.5 SSA 1.2
 BDE .6230 BRA .9115 BC3 .1431 F8P 194 S61 1143.9 S62 595.5 THA 179.82 EL1 35.3 EL2 14.2 ALF 45.71

LAUNCH DATE MAY 12 1971

FLIGHT TIME 110.00

ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC

DISTANCE 301.430

EARTH TO MARS

RL 151.12 LAL .00 LOL 230.64 VL 34.285 GAL -1.28 AZL 91.84 HCA 98.82 SMA 228.42 ECC .33909 INC 1.8428 V1 29.484
 RP 206.77 LAP -1.82 LOP 329.47 VP 26.508 GAP 19.06 AZP 89.72 TAL 354.95 TAP 93.77 RCA 150.97 APO 305.88 V2 26.485
 RC 59.485 GL -12.64 GP -.12 ZAL 103.27 ZAP 170.86 ETS 180.78 ZAE 171.16 ETE 29.89 ZAC 99.59 ETC 278.23 LVI -18.53

PLANETOCENTRIC CONIC

C3 25.372 VHL 5.037 DLA -21.68 RAL 341.04 RAD 6645.1 VEL 12.056 PTH 7.04 VHP 9.024 DPA -16.58 RAP 323.37 ECC 1.4178
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 16 10 4 2790.55 -19.63 77.61 201.39 134.25 16 55 55 1750.6 -1.55 61.23
 60.00 17 18 11 2574.74 -14.21 66.74 206.36 128.12 17 59 8 1574.7 1.74 48.56
 70.00 18 40 1 2328.30 -8.89 50.64 210.25 123.11 19 18 49 1328.3 5.05 31.08
 80.00 20 20 3 2015.21 -4.58 29.51 212.89 119.54 20 53 38 1015.2 7.78 8.98
 90.00 21 56 41 1703.51 -2.79 7.58 213.88 118.15 22 25 5 703.5 8.92 346.87
 100.00 23 2 55 1489.88 -4.58 350.88 212.89 119.54 23 27 45 489.7 7.78 330.35
 110.00 23 39 27 1373.11 -8.89 339.56 210.25 123.11 24 2 22 375.1 5.05 319.99

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3812 TRA -.8793 TC3 .1200 BAU .0590 SGT 1166.7 SGR 596.0 S63 159.4 ST 27.0 SR 27.1 SS 15.5
 RDE -.4730 RRA .1895 RC3 .1089 FAU .04159 RRT -.0045 RRF .0060 RTF -.6938 CRT .7188 CR8 .3683 CBT .9071
 FDE .1663 FRA .9390 FC3-1.4192 B8P 1761 SGB 1310.1 R23 -.0018 R13 .6938 LSA 37.2 HSA 17.8 SSA 1.2
 BDE .6075 BRA .8995 BC3 .1620 F8P 211 S61 1166.7 S62 596.0 THA 179.82 EL1 35.5 EL2 14.4 ALF 45.13

LAUNCH DATE MAY 12 1971 FLIGHT TIME 112.00 ARRIVAL DATE SEP 1 1971

HELIOCENTRIC CONIC										DISTANCE 304.432										EARTH TO MARS																																																																																					
RL	181.12	LAL	.00	LOL	230.64	VL	34.147	GAL	-1.20	AZL	91.84	HCA	100.00	SMA	224.76	ECC	.32826	INC	1.8418	V1	29.484	RP	206.74	LAP	-1.01	LOP	330.73	VP	26.333	GAP	18.62	AZP	89.60	TAL	355.14	TAP	95.24	RCA	150.98	APO	298.94	V2	26.489	RC	80.233	GL	-12.95	GP	-1.12	ZAL	103.06	ZAP	169.80	ETS	180.72	ZAE	170.73	ETE	27.65	ZAC	99.55	ETC	278.28	LVI	-16.60																																								
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																					
C3	23.956	VHL	4.895	DLA	-22.05	RAL	340.98	RAD	6644.6	VEL	11.997	PTH	6.99	VHP	8.735	DPA	-16.49	RAP	323.67	ECC	1.3943	LNCH	AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG	SGT	1179.8	SGR	596.1	SG3	170.6	ST	27.0	SR	27.1	SS	16.0	RDE	-4.591	RRA	.1636	RC3	.1153	FAU	.04322	RRT	-.0060	RRF	.0059	RTF	-.7125	CRT	.7121	CRS	.3542	CST	.9049	FDE	.1697	FRA	.9775	FC3	-1.5618	BSP	1726	SG8	1321.8	R23	-.0002	R13	.7125	LSA	37.2	MSA	18.2	SSA	1.2	BDE	.5679	BRA	.8610	BC3	.1928	FSP	230	SG1	1179.8	SG2	596.1	THA	179.77	EL1	35.4	EL2	14.5	ALF	45.17

LAUNCH DATE MAY 12 1971 FLIGHT TIME 114.00 ARRIVAL DATE SEP 3 1971

HELIOCENTRIC CONIC										DISTANCE 307.543										EARTH TO MARS																																																																																					
RL	151.12	LAL	.00	LOL	230.64	VL	34.017	GAL	-1.12	AZL	91.84	HCA	101.36	SMA	221.44	ECC	.31811	INC	1.8408	V1	29.484	RP	206.71	LAP	-1.80	LOP	332.00	VP	26.168	GAP	18.17	AZP	89.64	TAL	355.35	TAP	96.71	RCA	151.00	APO	291.88	V2	26.492	RC	81.050	GL	-13.27	GP	-1.13	ZAL	102.84	ZAP	168.89	ETS	180.69	ZAE	170.36	ETE	25.74	ZAC	99.50	ETC	278.34	LVI	-16.67																																								
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																					
C3	22.660	VHL	4.760	DLA	-22.41	RAL	340.91	RAD	6644.0	VEL	11.944	PTH	6.95	VHP	8.456	DPA	-16.40	RAP	323.94	ECC	1.3729	LNCH	AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG	SGT	1207.0	SGR	595.8	SG3	182.8	ST	27.5	SR	27.1	SS	16.4	RDE	-4.458	RRA	.1779	RC3	.1218	FAU	.04505	RRT	-.0051	RRF	.0061	RTF	-.7171	CRT	.7107	CRS	.3356	CST	.8973	FDE	.1685	FRA	1.0160	FC3	-1.7213	BSP	1808	SG8	1346.0	R23	-.0013	R13	.7171	LSA	37.6	MSA	18.5	SSA	1.3	BDE	.5753	BRA	.8729	BC3	.2119	FSP	248	SG1	1207.0	SG2	595.8	THA	179.81	EL1	35.7	EL2	14.7	ALF	44.31

LAUNCH DATE MAY 12 1971 FLIGHT TIME 116.00 ARRIVAL DATE SEP 5 1971

HELIOCENTRIC CONIC										DISTANCE 310.750										EARTH TO MARS																																																																																					
RL	151.12	LAL	.00	LOL	230.64	VL	33.894	GAL	-1.05	AZL	91.84	HCA	102.63	SMA	218.40	ECC	.30857	INC	1.8398	V1	29.484	RP	206.69	LAP	-1.80	LOP	333.27	VP	26.010	GAP	17.72	AZP	89.60	TAL	355.56	TAP	98.19	RCA	151.01	APO	285.79	V2	26.495	RC	61.933	GL	-13.58	GP	-1.13	ZAL	102.60	ZAP	167.89	ETS	180.67	ZAE	170.04	ETE	24.09	ZAC	99.46	ETC	278.39	LVI	-16.73																																								
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																					
C3	21.470	VHL	4.634	DLA	-22.79	RAL	340.81	RAD	6643.5	VEL	11.894	PTH	6.90	VHP	8.187	DPA	-16.32	RAP	324.20	ECC	1.3533	LNCH	AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG	SGT	1230.6	SGR	595.1	SG3	195.7	ST	27.9	SR	27.0	SS	16.8	RDE	-4.329	RRA	.1723	RC3	.1280	FAU	.04697	RRT	-.0048	RRF	.0059	RTF	-.7130	CRT	.7082	CRS	.3185	CST	.8909	FDE	.1677	FRA	1.0555	FC3	-1.9941	BSP	1882	SG8	1356.9	R23	-.0013	R13	.7230	LSA	37.8	MSA	18.9	SSA	1.3	BDE	.5618	BRA	.8627	BC3	.2337	FSP	269	SG1	1230.6	SG2	595.0	THA	179.83	EL1	35.8	EL2	14.8	ALF	43.64

LAUNCH DATE MAY 12 1971 FLIGHT TIME 118.00 ARRIVAL DATE SEP 7 1971

HELIOCENTRIC CONIC										DISTANCE 314.046										EARTH TO MARS																																																																																					
RL	151.12	LAL	.00	LOL	230.64	VL	33.779	GAL	-1.07	AZL	91.84	HCA	103.90	SMA	215.63	ECC	.29962	INC	1.8389	V1	29.484	RP	206.68	LAP	-1.79	LOP	334.54	VP	25.861	GAP	17.28	AZP	89.56	TAL	355.77	TAP	99.67	RCA	151.02	APO	280.24	V2	26.496	RC	62.879	GL	-13.89	GP	-1.13	ZAL	102.35	ZAP	166.86	ETS	180.64	ZAE	169.78	ETE	22.67	ZAC	99.42	ETC	278.44	LVI	-16.79																																								
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																					
C3	20.378	VHL	4.514	DLA	-23.17	RAL	340.71	RAD	6643.0	VEL	11.848	PTH	6.86	VHP	7.928	DPA	-16.25	RAP	324.44	ECC	1.3354	LNCH	AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG	SGT	1253.1	SGR	593.9	SG3	209.3	ST	28.2	SR	26.9	SS	17.2	RDE	-4.205	RRA	.1670	RC3	.1344	FAU	.04900	RRT	-.0052	RRF	.0065	RTF	-.7290	CRT	.7047	CRS	.2971	CST	.8829	FDE	.1650	FRA	1.0973	FC3	-2.0817	BSP	1939	SG8	1386.7	R23	-.0016	R13	.7290	LSA	38.0	MSA	19.3	SSA	1.3	BDE	.5481	BRA	.8525	BC3	.2569	FSP	290	SG1	1253.1	SG2	593.9	THA	179.82	EL1	36.0	EL2	15.0	ALF	43.04

LAUNCH DATE MAY 12 1971

FLIGHT TIME 128.00

ARRIVAL DATE SEP 17 1971

Heliocentric Conic: RL 151.12 LAL .00 LOL 230.64 VL 33.299 GAL -.84 AZL 91.83 HCA 110.25 SMA 204.84 ECC .26249 INC 1.8338 V1 29.484
RP 206.75 LAP -1.72 LOP 340.89 VP 25.217 GAP 19.21 AZP 89.37 TAL 356.93 TAP 107.18 RCA 151.07 APO 258.61 V2 26.487
RC 88.502 GL -19.39 GP -.16 ZAL 100.95 ZAP 181.42 ETS 100.58 ZAE 169.47 ETE 17.91 ZAC 99.26 ETC 278.62 LVI -19.00

Planetocentric Conic: C3 16.112 VHL 4.014 DLA -25.06 RAL 340.01 RAD 8841.1 VEL 11.669 PTH 6.70 VHP 6.757 DPA -15.98 RAP 325.34 ECC 1.2652
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 21 53 2589.19 -10.84 89.39 195.38 136.62 17 4 43 1569.2 7.54 53.62
60.00 17 34 2 2377.32 -5.72 56.98 200.25 129.96 18 13 39 1377.3 10.36 39.00
70.00 19 6 36 2105.15 -.44 38.89 204.24 124.15 19 41 41 1105.2 15.31 19.00
80.00 20 58 41 1754.38 4.24 15.17 207.15 119.58 21 27 55 754.4 15.96 353.95
90.00 22 43 19 1416.91 6.40 351.54 208.33 117.60 23 6 56 416.9 17.20 329.71
100.00 23 41 33 1228.85 4.24 336.54 207.15 119.58 24 2 1 228.9 15.96 315.32
110.00 0 9 59 1151.97 -.44 327.81 204.24 124.15 0 29 11 152.0 15.31 306.00

Differential Corrections: TDE -.3182 TRA -.7803 TC3 .3512 BAU .0836 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
RDE -.3647 RRA .1430 RC3 .1892 FAU .06117 SGT 1339.9 SGR 582.5 SG3 292.8 ST 29.2 SR 26.2 SS 19.6
FDE .1463 FRA 1.3429 FC3-3.2886 BSP 2150 RRT -.0061 RRF .0093 RTF -.7577 CRT .6864 CRS .1871 CST .8388
BDE .4827 BRA .7933 BC3 .3881 FSP 428 SGB 1481.0 R23 -.0036 R13 .7577 LSA 38.4 MSA 21.1 SSA 1.4
SG1 1339.9 SG2 582.5 THA 179.81 EL1 36.1 EL2 15.4 ALF 40.64

LAUNCH DATE MAY 12 1971

FLIGHT TIME 132.00

ARRIVAL DATE SEP 19 1971

Heliocentric Conic: RL 151.12 LAL .00 LOL 230.64 VL 33.218 GAL -.58 AZL 91.83 HCA 111.51 SMA 203.17 ECC .25638 INC 1.8327 V1 29.484
RP 206.78 LAP -1.71 LOP 342.16 VP 25.108 GAP 14.82 AZP 89.33 TAL 357.17 TAP 108.68 RCA 151.08 APO 255.25 V2 26.483
RC 89.791 GL -19.88 GP -.17 ZAL 100.89 ZAP 180.27 ETS 100.57 ZAE 169.82 ETE 17.31 ZAC 99.24 ETC 278.64 LVI -19.02

Planetocentric Conic: C3 15.454 VHL 3.931 DLA -25.43 RAL 339.84 RAD 8640.7 VEL 11.641 PTH 6.68 VHP 6.546 DPA -15.93 RAP 325.45 ECC 1.2543
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 23 4 2351.56 -9.96 88.63 194.84 136.77 17 5 36 1551.6 8.42 52.87
60.00 17 35 57 2357.73 -4.86 56.03 199.71 130.06 18 15 15 1357.7 11.20 38.03
70.00 19 9 40 2082.20 .43 37.69 203.71 124.15 19 44 22 1082.2 14.13 17.81
80.00 21 3 33 1725.73 5.20 13.59 206.66 119.44 21 32 19 725.7 16.80 352.23
90.00 22 49 39 1363.55 7.43 349.65 207.89 117.36 23 12 43 383.5 18.07 327.65
100.00 23 46 25 1200.20 5.20 334.96 206.66 119.44 24 6 26 200.2 16.80 313.60
110.00 0 13 2 1129.02 .43 326.61 203.71 124.15 0 31 51 129.0 14.13 306.73

Differential Corrections: TDE -.3089 TRA -.7681 TC3 .3771 BAU .0855 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
RDE -.3547 RRA .1388 RC3 .1708 FAU .06408 SGT 1331.7 SGR 579.1 SG3 312.8 ST 29.2 SR 26.1 SS 20.2
FDE .1404 FRA 1.3989 FC3-3.5896 BSP 2181 RRT -.0065 RRF .0100 RTF -.7618 CRT .6825 CRS .1632 CST .8284
BDE .4703 BRA .7805 BC3 .4139 FSP 461 SGB 1470.6 R23 -.0039 R13 .7618 LSA 38.4 MSA 21.5 SSA 1.4
SG1 1331.7 SG2 579.1 THA 179.80 EL1 36.0 EL2 15.5 ALF 40.26

LAUNCH DATE MAY 12 1971

FLIGHT TIME 132.00

ARRIVAL DATE SEP 21 1971

Heliocentric Conic: RL 151.12 LAL .00 LOL 230.64 VL 33.140 GAL -.52 AZL 91.83 HCA 112.78 SMA 201.62 ECC .25065 INC 1.8316 V1 29.484
RP 206.84 LAP -1.69 LOP 343.43 VP 25.001 GAP 14.44 AZP 89.29 TAL 357.40 TAP 110.18 RCA 151.08 APO 252.16 V2 26.477
RC 71.130 GL -15.96 GP -.17 ZAL 100.36 ZAP 159.08 ETS 100.56 ZAE 169.84 ETE 16.82 ZAC 99.22 ETC 278.66 LVI -19.03

Planetocentric Conic: C3 14.848 VHL 3.853 DLA -25.80 RAL 339.88 RAD 8640.5 VEL 11.615 PTH 6.66 VHP 6.343 DPA -15.93 RAP 325.54 ECC 1.2444
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 24 14 2334.51 -9.12 87.89 194.33 136.90 17 6 28 1534.5 9.27 52.14
60.00 17 37 51 2338.71 -4.03 55.12 199.19 130.13 18 16 49 1338.7 12.01 37.08
70.00 19 12 44 2059.73 1.29 36.52 203.21 124.13 19 47 4 1059.7 14.92 16.55
80.00 21 8 34 1697.18 6.15 12.00 206.22 119.27 21 36 51 697.2 17.61 350.50
90.00 22 56 20 1349.62 8.51 347.71 207.49 117.07 23 18 50 349.6 18.92 325.53
100.00 23 51 26 1171.65 6.15 333.37 206.22 119.27 24 10 58 171.6 17.61 311.87
110.00 0 16 6 1106.55 1.29 325.44 203.21 124.13 0 34 33 106.5 14.92 305.47

Differential Corrections: TDE -.3010 TRA -.7565 TC3 .4042 BAU .0875 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
RDE -.3450 RRA .1347 RC3 .1761 FAU .06726 SGT 1363.2 SGR 575.4 SG3 334.5 ST 29.2 SR 25.9 SS 20.7
FDE .1324 FRA 1.4601 FC3-3.9219 BSP 2198 RRT -.0078 RRF .0113 RTF -.759 CRT .6774 CRS .1399 CST .8188
BDE .4578 BRA .7684 BC3 .4409 FSP 496 SGB 1479.7 R23 -.0041 R13 .7659 LSA 38.3 MSA 22.0 SSA 1.4
SG1 1363.2 SG2 575.3 THA 179.77 EL1 35.8 EL2 15.5 ALF 39.92

LAUNCH DATE MAY 12 1971

FLIGHT TIME 134.00

ARRIVAL DATE SEP 23 1971

Heliocentric Conic: RL 151.12 LAL .00 LOL 230.64 VL 33.069 GAL -.47 AZL 91.83 HCA 114.05 SMA 200.20 ECC .24529 INC 1.8305 V1 29.484
RP 206.90 LAP -1.67 LOP 344.69 VP 24.899 GAP 14.07 AZP 89.25 TAL 357.63 TAP 111.68 RCA 151.09 APO 249.30 V2 26.470
RC 72.517 GL -16.23 GP -.18 ZAL 100.07 ZAP 157.87 ETS 100.55 ZAE 170.14 ETE 16.43 ZAC 99.21 ETC 278.67 LVI -19.04

Planetocentric Conic: C3 14.290 VHL 3.780 DLA -26.16 RAL 339.51 RAD 8640.2 VEL 11.591 PTH 6.63 VHP 6.147 DPA -15.91 RAP 325.60 ECC 1.2352
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 25 22 2318.06 -8.30 87.19 193.84 137.02 17 7 20 1518.1 10.09 51.43
60.00 17 39 43 2320.29 -3.22 54.23 198.70 130.19 18 18 23 1320.3 12.79 36.16
70.00 19 15 48 2037.78 2.13 35.38 202.74 124.10 19 49 46 1037.8 15.69 15.31
80.00 21 13 43 1668.71 7.09 10.42 205.81 119.08 21 41 32 668.7 18.41 348.76
90.00 23 3 25 1314.95 9.58 345.73 207.13 116.74 23 25 20 314.9 19.77 323.34
100.00 0 0 31 1143.18 7.09 331.79 205.81 119.08 0 19 34 143.2 18.41 310.13
110.00 0 19 10 1084.60 2.13 324.29 202.74 124.10 0 37 15 84.6 15.69 304.23

Differential Corrections: TDE -.2951 TRA -.7424 TC3 .4240 BAU .0881 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
RDE -.3356 RRA .1308 RC3 .1811 FAU .07051 SGT 1369.1 SGR 571.3 SG3 356.7 ST 29.2 SR 25.7 SS 21.2
FDE .1268 FRA 1.5186 FC3-4.2715 BSP 2228 RRT -.0070 RRF .0112 RTF -.7672 CRT .6758 CRS .1151 CST .8058
BDE .4469 BRA .7539 BC3 .4610 FSP 537 SGB 1483.5 R23 -.0047 R13 .7672 LSA 38.2 MSA 22.3 SSA 1.5
SG1 1369.1 SG2 571.2 THA 179.80 EL1 35.7 EL2 15.5 ALF 39.53

LAUNCH DATE MAY 12 1971

FLIGHT TIME 136.00

ARRIVAL DATE SEP 25 1971

HELIOCENTRIC CONIC

DISTANCE 346,495 EARTH TO MARS
 RL 151.12 LAL .00 LOL 230.64 VL 33.002 GAL -.42 AZL 91.83 HCA 115.31 SMA 198.88 ECC .24026 INC 1.8284 V1 29.484
 RP 208.96 LAP -1.65 LOP 345.96 VP 24.803 GAP 13.71 AZP 89.22 TAL 357.86 TAP 113.17 RCA 151.10 APO 246.66 V2 26.482
 RC 73.950 GL -18.49 GP -.19 ZAL 99.78 ZAP 156.63 ETS 180.54 ZAE 170.52 ETE 16.13 ZAC 99.19 ETC 278.67 LVI -19.04

PLANETOCENTRIC CONIC

C3 13.777 VHL 3.712 DLA -26.51 RAL 339.34 RAD 6639.9 VEL 11.589 PTH 6.61 VHP 5.958 DPA -15.91 RAP 325.62 ECC 1.2287
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 26 28 2302.23 -7.51 66.51 193.37 137.12 17 8 10 1502.2 10.87 30.74
 60.00 17 41 34 2302.48 -2.44 53.38 198.23 130.24 18 19 57 1302.5 13.55 35.26
 70.00 19 18 52 2018.38 2.95 34.26 202.31 124.04 19 52 29 1016.4 16.43 14.10
 80.00 21 19 1 1640.34 8.03 8.83 205.43 118.85 21 46 21 640.3 19.18 347.01
 90.00 23 10 58 1279.28 10.66 343.87 206.82 116.35 23 32 17 279.3 20.61 321.06
 100.00 0 5 48 1114.81 8.03 330.20 205.43 118.85 0 24 23 114.8 19.18 308.38
 110.00 0 22 15 1063.20 2.95 323.18 202.31 124.04 0 39 58 63.2 16.43 303.01

DIFFERENTIAL CORRECTIONS

TDE -.2882 TRA -.7293 TC3 .4447 BAU .0888
 RDE -.3286 RRA .1271 RC3 .1858 FAU .07394
 FDE .1199 FRA 1.5832 FC3-4.6461 B8P 2235
 BDE .4356 BRA .7403 BC3 .4820 F8P 575

MID-COURSE EXECUTION ACCURACY

SGT 1374.5 SGR 566.8 SG3 380.8
 RRT -.0077 RRF .0122 RTF -.7897
 SGB 1486.8 R23 -.0051 R13 .7897
 SG1 1374.5 SG2 566.8 THA 179.78

ORBIT DETERMINATION ACCURACY

ST 29.2 SR 25.4 SS 21.8
 CRT .6725 CRS .0923 CST .7949
 LSA 38.1 MSA 22.7 SSA 1.5
 EL1 35.5 EL2 15.5 ALF 39.20

LAUNCH DATE MAY 12 1971

FLIGHT TIME 138.00

ARRIVAL DATE SEP 27 1971

HELIOCENTRIC CONIC

DISTANCE 350,322 EARTH TO MARS
 RL 151.12 LAL .00 LOL 230.64 VL 32.940 GAL -.37 AZL 91.83 HCA 116.58 SMA 197.66 ECC .23555 INC 1.8282 V1 29.484
 RP 207.04 LAP -1.84 LOP 347.23 VP 24.710 GAP 13.35 AZP 89.18 TAL 358.08 TAP 114.66 RCA 151.10 APO 244.22 V2 26.454
 RC 75.426 GL -16.75 GP -.20 ZAL 99.50 ZAP 155.36 ETS 180.53 ZAE 170.97 ETE 15.95 ZAC 99.19 ETC 278.67 LVI -19.03

PLANETOCENTRIC CONIC

C3 13.304 VHL 3.648 DLA -26.85 RAL 339.17 RAD 6639.7 VEL 11.549 PTH 6.59 VHP 5.775 DPA -15.92 RAP 325.62 ECC 1.2190
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 27 33 2486.99 -6.75 65.87 192.93 137.21 17 9 0 1487.0 11.62 30.08
 60.00 17 43 23 2285.27 -1.68 52.56 197.79 130.27 18 21 29 1285.3 14.27 34.38
 70.00 19 21 56 1995.51 3.74 33.17 201.89 123.97 19 55 12 995.5 17.14 12.90
 80.00 21 24 28 1811.95 8.96 7.24 205.08 118.60 21 31 20 811.9 19.94 345.24
 90.00 23 19 9 1242.11 11.78 341.51 206.56 115.90 23 39 51 242.1 21.45 318.65
 100.00 0 11 16 1086.42 8.96 328.61 205.08 118.60 0 29 22 86.4 19.94 306.61
 110.00 0 25 18 1042.33 3.74 322.08 201.89 123.97 0 42 41 42.3 17.14 301.82

DIFFERENTIAL CORRECTIONS

TDE -.2714 TRA -.7087 TC3 .4852 BAU .0927
 RDE -.3179 RRA .1235 RC3 .1901 FAU .07777
 FDE .1012 FRA 1.6530 FC3-5.0605 B8P 2153
 BDE .4180 BRA .7193 BC3 .5211 F8P 616

MID-COURSE EXECUTION ACCURACY

SGT 1365.2 SGR 562.0 SG3 406.4
 RRT -.0122 RRF .0158 RTF -.7795
 SGB 1476.3 R23 -.0043 R13 .7795
 SG1 1365.2 SG2 562.0 THA 179.65

ORBIT DETERMINATION ACCURACY

ST 28.4 SR 25.2 SS 22.3
 CRT .6597 CRS .0508 CST .7799
 LSA 37.3 MSA 23.3 SSA 1.5
 EL1 34.6 EL2 15.5 ALF 39.86

LAUNCH DATE MAY 12 1971

FLIGHT TIME 140.00

ARRIVAL DATE SEP 29 1971

HELIOCENTRIC CONIC

DISTANCE 354,181 EARTH TO MARS
 RL 151.12 LAL .00 LOL 230.64 VL 32.881 GAL -.32 AZL 91.83 HCA 117.84 SMA 196.53 ECC .23115 INC 1.8271 V1 29.484
 RP 207.12 LAP -1.62 LOP 348.49 VP 24.622 GAP 13.01 AZP 89.15 TAL 358.29 TAP 116.14 RCA 151.10 APO 241.96 V2 26.444
 RC 78.944 GL -16.99 GP -.20 ZAL 99.23 ZAP 154.06 ETS 180.52 ZAE 171.49 ETE 15.90 ZAC 99.19 ETC 278.66 LVI -19.02

PLANETOCENTRIC CONIC

C3 12.870 VHL 3.587 DLA -27.17 RAL 339.01 RAD 6639.5 VEL 11.530 PTH 6.58 VHP 5.600 DPA -15.94 RAP 325.59 ECC 1.2118
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 28 37 2472.46 -6.02 65.25 192.52 137.28 17 9 49 1472.5 12.34 49.44
 60.00 17 45 11 2268.79 -.95 51.77 197.39 130.29 18 22 59 1268.8 14.96 33.53
 70.00 19 24 58 1975.35 4.51 32.11 201.51 123.89 19 57 54 975.3 17.83 11.74
 80.00 21 30 4 1583.75 9.87 5.65 204.78 118.32 21 56 28 583.7 20.67 343.47
 90.00 23 28 6 1203.10 12.93 339.22 206.35 115.37 23 48 9 203.1 22.29 316.10
 100.00 0 16 52 1058.22 9.87 327.01 204.78 118.32 0 34 30 58.2 20.67 304.84
 110.00 0 28 21 1022.17 4.51 321.03 201.51 123.89 0 45 23 22.2 17.83 300.86

DIFFERENTIAL CORRECTIONS

TDE -.2704 TRA -.7000 TC3 .4888 BAU .0905
 RDE -.3095 RRA .1201 RC3 .1939 FAU .08184
 FDE .0964 FRA 1.7302 FC3-5.4919 B8P 2215
 BDE .4110 BRA .7102 BC3 .5259 F8P 667

MID-COURSE EXECUTION ACCURACY

SGT 1374.4 SGR 558.9 SG3 433.7
 RRT -.0114 RRF .0183 RTF -.7758
 SGB 1482.9 R23 -.0057 R13 .7758
 SG1 1374.4 SG2 558.9 THA 179.68

ORBIT DETERMINATION ACCURACY

ST 28.7 SR 24.9 SS 23.0
 CRT .6617 CRS .0344 CST .7678
 LSA 37.6 MSA 23.7 SSA 1.5
 EL1 34.7 EL2 15.4 ALF 39.00

LAUNCH DATE MAY 12 1971

FLIGHT TIME 142.00

ARRIVAL DATE OCT 1 1971

HELIOCENTRIC CONIC

DISTANCE 358,068 EARTH TO MARS
 RL 151.12 LAL .00 LOL 230.64 VL 32.828 GAL -.28 AZL 91.83 HCA 119.11 SMA 195.49 ECC .22703 INC 1.8258 V1 29.484
 RP 207.21 LAP -1.80 LOP 349.78 VP 24.537 GAP 12.87 AZP 89.11 TAL 358.50 TAP 117.61 RCA 151.11 APO 239.87 V2 26.433
 RC 78.502 GL -17.23 GP -.21 ZAL 98.96 ZAP 152.73 ETS 180.51 ZAE 172.08 ETE 15.90 ZAC 99.19 ETC 278.65 LVI -18.99

PLANETOCENTRIC CONIC

C3 12.470 VHL 3.531 DLA -27.49 RAL 338.88 RAD 6639.3 VEL 11.513 PTH 6.56 VHP 5.431 DPA -15.97 RAP 325.53 ECC 1.2052
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 29 39 2458.57 -5.33 64.67 192.14 137.35 17 10 37 1458.6 13.02 48.83
 60.00 17 46 56 2252.99 -.26 51.02 197.01 130.30 18 24 29 1253.0 15.62 32.72
 70.00 19 27 59 1955.83 5.25 31.08 201.16 123.80 20 0 35 955.8 18.48 10.60
 80.00 21 35 51 1555.56 10.78 4.04 204.50 118.01 22 1 46 555.6 21.38 341.68
 90.00 23 38 13 1180.95 14.14 336.72 206.21 114.75 23 57 34 160.9 23.14 313.31
 100.00 0 22 39 1030.03 10.78 325.41 204.50 118.01 0 39 49 30.0 21.38 303.05
 110.00 0 31 21 1002.65 5.25 320.00 201.16 123.80 0 48 4 2.6 18.48 299.92

DIFFERENTIAL CORRECTIONS

TDE -.2882 TRA -.6872 TC3 .4943 BAU .0887
 RDE -.3013 RRA .1189 RC3 .1973 FAU .08570
 FDE .0920 FRA 1.8069 FC3-5.9499 B8P 2235
 BDE .4034 BRA .6971 BC3 .5322 F8P 716

MID-COURSE EXECUTION ACCURACY

SGT 1375.2 SGR 551.4 SG3 462.1
 RRT -.0097 RRF .0163 RTF -.7731
 SGB 1481.6 R23 -.0074 R13 .7731
 SG1 1375.2 SG2 551.4 THA 179.73

ORBIT DETERMINATION ACCURACY

ST 28.8 SR 24.7 SS 23.7
 CRT .6641 CRS .0199 CST .7583
 LSA 37.7 MSA 24.0 SSA 1.5
 EL1 34.7 EL2 15.3 ALF 38.39

LAUNCH DATE MAY 12 1971

FLIGHT TIME 144.00

ARRIVAL DATE OCT 3 1971

HELIOCENTRIC CONIC

DISTANCE 361.983

EARTH TO MARS

RL 151.12 LAL .00 LOL 230.64 VL 32.773 GAL -.24 AZL 91.82 HCA 120.37 SMA 194.92 ECC .22310 INC 1.8246 V1 29.484
RP 207.31 LAP -1.57 LOP 381.02 VP 24.456 GAP 12.34 AZP 89.08 TAL 358.70 TAP 119.07 RCA 151.11 APO 237.94 V2 26.422
RC 80.098 GL -17.46 GP -.22 ZAL 98.71 ZAP 151.37 ETS 180.50 ZAE 172.75 ETE 16.27 ZAC 99.19 ETC 278.63 LVI -18.98

PLANETOCENTRIC CONIC

C3 12.102 VHL 3.479 DLA -27.79 RAL 338.71 RAD 6639.1 VEL 11.497 PTH 6.55 VHP 5.288 DPA -16.01 RAP 325.43 ECC 1.1992
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 30 39 2445.34 -4.66 64.11 191.78 137.40 17 11 25 1445.3 13.67 48.24
60.00 17 48 39 2837.88 .41 50.30 196.65 130.30 18 25 57 1237.9 16.25 31.93
70.00 19 30 58 1937.00 5.96 30.09 200.84 123.69 20 3 15 937.0 19.10 9.50
80.00 21 41 49 1527.35 11.68 2.43 204.27 117.68 22 7 16 527.4 22.06 339.87
90.00 23 50 13 1113.26 15.48 333.86 206.16 113.96 24 8 46 113.3 24.04 310.10
100.00 0 28 36 1001.83 11.68 323.80 204.27 117.68 0 45 18 1.8 22.06 301.23
110.00 0 34 20 6271.86 5.96 298.91 200.84 123.69 2 18 52 5271.9 19.10 278.32

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2642 TRA -.8727 TC3 .4992 BAW .0870 SGT 1370.7 SGR 545.7 S63 492.7 ST 28.7 SR 24.4 SS 24.4
RDE -.2934 RRA .1138 RC3 .2001 FAU .09026 RRT -.0091 RRF .0189 RTF -.7696 CRT .6652 CRS -.0013 CST .7413
FDE .0825 FRA 1.8852 FC3-6.4567 BSP 2215 SGB 1475.3 R23 -.0086 R13 .7696 LSA 37.6 MSA 24.4 SSA 1.5
BDE .3948 BRA .6823 BC3 .5378 FSP 762 S61 1370.7 S62 545.6 THA 179.75 EL1 34.5 EL2 15.2 ALF 37.99

LAUNCH DATE MAY 12 1971

FLIGHT TIME 146.00

ARRIVAL DATE OCT 5 1971

HELIOCENTRIC CONIC

DISTANCE 365.921

EARTH TO MARS

RL 151.12 LAL .00 LOL 230.64 VL 32.727 GAL -.20 AZL 91.82 HCA 121.63 SMA 193.63 ECC .21958 INC 1.8233 V1 29.484
RP 207.42 LAP -1.55 LOP 352.28 VP 24.377 GAP 12.02 AZP 89.04 TAL 358.89 TAP 120.52 RCA 151.11 APO 236.15 V2 26.409
RC 81.730 GL -17.68 GP -.23 ZAL 98.48 ZAP 149.97 ETS 180.49 ZAE 173.49 ETE 16.81 ZAC 99.20 ETC 278.60 LVI -18.91

PLANETOCENTRIC CONIC

C3 11.763 VHL 3.430 DLA -28.08 RAL 338.57 RAD 6638.9 VEL 11.482 PTH 6.53 VHP 5.111 DPA -16.07 RAP 325.30 ECC 1.1936
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 31 39 2432.79 -4.03 63.58 191.45 137.45 17 12 11 1432.8 14.29 47.68
60.00 17 50 19 2223.49 1.04 49.61 196.33 130.29 18 27 23 1223.5 16.84 31.18
70.00 19 33 54 1918.90 6.64 29.13 200.54 123.58 20 5 53 918.9 19.69 8.43
80.00 21 47 59 1499.08 12.57 .80 204.07 117.31 22 12 58 499.1 22.73 338.03
90.00 0 10 17 1052.80 17.12 330.18 206.27 112.86 0 27 50 52.8 25.07 305.97
100.00 0 34 47 6261.60 12.57 300.08 204.07 117.31 2 19 8 5261.6 22.73 277.30
110.00 0 37 16 6253.75 6.64 295.96 200.54 123.58 2 21 30 5253.8 19.69 275.25

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2596 TRA -.6569 TC3 .4953 BAW .0842 SGT 1360.4 SGR 539.6 S63 523.5 ST 28.6 SR 24.1 SS 25.0
RDE -.2857 RRA .1109 RC3 .2025 FAU .09458 RRT -.0095 RRF .0193 RTF -.7657 CRT .6662 CRS -.0248 CST .7245
FDE .0706 FRA 1.9692 FC3-6.9612 BSP 2208 SGB 1463.5 R23 -.0107 R13 .7657 LSA 37.5 MSA 24.8 SSA 1.5
BDE .3860 BRA .6662 BC3 .5351 FSP 814 S61 1360.4 S62 539.6 THA 179.74 EL1 34.3 EL2 15.0 ALF 37.70

LAUNCH DATE MAY 12 1971

FLIGHT TIME 148.00

ARRIVAL DATE OCT 7 1971

HELIOCENTRIC CONIC

DISTANCE 369.883

EARTH TO MARS

RL 151.12 LAL .00 LOL 230.64 VL 32.682 GAL -.17 AZL 91.82 HCA 122.89 SMA 192.80 ECC .21622 INC 1.8221 V1 29.484
RP 207.54 LAP -1.53 LOP 353.34 VP 24.302 GAP 11.70 AZP 89.01 TAL 359.07 TAP 121.96 RCA 151.11 APO 234.49 V2 26.395
RC 83.399 GL -17.88 GP -.24 ZAL 98.26 ZAP 148.53 ETS 180.48 ZAE 174.31 ETE 17.73 ZAC 99.22 ETC 278.57 LVI -18.88

PLANETOCENTRIC CONIC

C3 11.451 VHL 3.384 DLA -28.38 RAL 338.44 RAD 6638.8 VEL 11.469 PTH 6.52 VHP 4.960 DPA -16.13 RAP 325.13 ECC 1.1885
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 32 36 2420.92 -3.44 63.08 191.14 137.48 17 12 57 1420.9 14.87 47.15
60.00 17 51 57 2209.84 1.84 48.96 196.02 130.27 18 28 47 1209.8 17.40 30.46
70.00 19 36 47 1901.56 7.29 28.21 200.27 123.46 20 8 28 901.6 20.25 7.39
80.00 21 54 23 1470.67 13.45 359.15 203.91 116.91 22 18 54 470.7 23.38 336.17
87.83 0 20 53 1011.01 19.72 328.23 206.80 110.80 0 37 44 11.0 26.56 303.27
100.00 0 41 11 6233.18 13.45 298.43 203.91 116.91 2 25 4 5233.2 23.38 275.44
110.00 0 40 9 6236.42 7.29 295.04 200.27 123.46 2 24 5 5236.4 20.25 274.22

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2532 TRA -.6442 TC3 .4817 BAW .0801 SGT 1351.5 SGR 535.2 S63 557.1 ST 28.4 SR 23.8 SS 25.8
RDE -.2783 RRA .1081 RC3 .2043 FAU .08923 RRT -.0148 RRF .0231 RTF -.7599 CRT .6629 CRS -.0501 CST .7098
FDE .0564 FRA 2.0655 FC3-7.5022 BSP 2231 SGB 1452.9 R23 -.0097 R13 .7599 LSA 37.4 MSA 25.3 SSA 1.5
BDE .3762 BRA .6532 BC3 .5233 FSP 884 S61 1351.5 S62 535.2 THA 179.60 EL1 33.9 EL2 14.9 ALF 37.47

LAUNCH DATE MAY 12 1971

FLIGHT TIME 150.00

ARRIVAL DATE OCT 9 1971

HELIOCENTRIC CONIC

DISTANCE 373.867

EARTH TO MARS

RL 151.12 LAL .00 LOL 230.64 VL 32.640 GAL -.13 AZL 91.82 HCA 124.15 SMA 192.03 ECC .21309 INC 1.8207 V1 29.484
RP 207.66 LAP -1.51 LOP 354.80 VP 24.230 GAP 11.40 AZP 88.98 TAL 359.23 TAP 123.38 RCA 151.11 APO 232.96 V2 26.381
RC 85.104 GL -18.08 GP -.25 ZAL 98.05 ZAP 147.06 ETS 180.47 ZAE 175.18 ETE 19.26 ZAC 99.24 ETC 278.53 LVI -18.80

PLANETOCENTRIC CONIC

C3 11.184 VHL 3.341 DLA -28.61 RAL 338.32 RAD 6638.6 VEL 11.456 PTH 6.51 VHP 4.816 DPA -16.21 RAP 324.93 ECC 1.1857
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 33 33 2409.74 -2.88 62.82 190.86 137.51 17 13 42 1409.7 15.41 46.64
60.00 17 53 32 2196.94 2.21 48.34 195.75 130.25 18 30 9 1196.9 17.93 29.78
70.00 19 39 36 1885.03 7.91 27.33 200.03 123.33 20 11 1 885.0 20.78 6.40
80.00 22 1 4 1441.99 14.32 357.48 203.78 116.48 22 25 6 442.0 24.00 334.27
85.44 0 0 33 1070.09 20.02 332.68 206.40 110.80 0 18 23 70.1 26.86 307.66
100.00 0 47 51 6204.50 14.32 296.75 203.78 116.48 2 31 16 5204.5 24.00 273.54
110.00 0 42 58 6219.88 7.91 294.16 200.03 123.33 2 26 38 5219.9 20.78 273.22

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2462 TRA -.6311 TC3 .4832 BAW .0756 SGT 1339.3 SGR 526.6 S63 593.1 ST 28.1 SR 23.4 SS 26.8
RDE -.2710 RRA .1055 RC3 .2056 FAU .10406 RRT -.0215 RRF .0286 RTF -.7540 CRT .6589 CRS -.0789 CST .6931
FDE .0383 FRA 2.1740 FC3-8.0691 BSP 2259 SGB 1439.1 R23 -.0095 R13 .7541 LSA 37.2 MSA 25.9 SSA 1.5
BDE .3662 BRA .6398 BC3 .5068 FSP 970 S61 1339.4 S62 526.5 THA 179.43 EL1 33.4 EL2 14.8 ALF 37.32

LAUNCH DATE MAY 12 1971

FLIGHT TIME 152.00

ARRIVAL DATE OCT 11 1971

HELIOCENTRIC CONIC **DISTANCE 377.069** **EARTH TO MARS**
 RL 151.12 LAL .00 LOL 230.64 VL 32.801 GAL -.11 AZL 91.82 HCA 125.40 SMA 191.33 ECC .21017 INC 1.8194 V1 29.484
 RP 207.80 LAP -1.48 LOP 356.05 VP 24.160 GAP 11.10 AZP 88.95 TAL 359.39 TAP 124.79 RCA 151.11 APO 231.54 V2 26.365
 RC 88.843 GL -18.27 GP -.26 ZAL 97.87 ZAP 145.56 ETS 180.45 ZAE 176.12 ETE 21.91 ZAC 99.27 ETC 278.48 LVI -18.72

PLANETOCENTRIC CONIC
 C3 10.901 VHL 3.302 DLA -28.86 RAL 338.22 RAD 6630.5 VEL 11.445 PTH 6.50 VHP 4.677 DPA -16.30 RAP 324.68 ECC 1.1794
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 34 27 2399.26 -2.35 62.18 190.61 137.53 17 14 27 1399.3 15.92 46.17
 60.00 17 55 4 2184.82 2.74 47.76 195.50 130.22 18 31 29 1184.8 18.42 29.13
 70.00 19 42 20 1869.35 8.50 26.50 199.81 123.20 20 13 29 869.3 21.27 5.45
 80.00 22 8 3 1412.89 15.20 355.76 203.70 116.01 22 31 36 412.9 24.61 332.32
 84.00 23 44 26 1103.19 20.30 335.22 206.03 110.96 24 2 49 103.2 27.14 310.15
 100.00 0 54 51 6175.40 15.20 295.04 203.70 116.01 2 37 47 5175.4 24.61 271.60
 110.00 0 45 42 6204.20 8.50 293.32 199.81 123.20 2 29 6 5204.2 21.27 272.27

DIFFERENTIAL CORRECTIONS **MID-COURSE EXECUTION ACCURACY** **ORBIT DETERMINATION ACCURACY**
 TDE -.2457 TRA -.6109 TC3 .4624 BAU .0738 SGT 1319.2 SGR 519.6 SG3 830.6 ST 28.0 SR 23.1 S8 27.4
 RDE -.2640 RRA .1029 RC3 .2062 FAU .10986 RRT -.0145 RRF .0259 RTF -.7489 CRT .6688 CRS -.0808 CST .6823
 FDE .0391 FRA 2.2610 FC3-8.7252 BSP 2168 SGB 1417.9 R23 -.0130 R13 .7490 LSA 37.3 MSA 26.0 SSA 1.6
 BDE .3806 BRA .6195 BC3 .5063 FSP 1015 SG1 1319.2 SG2 519.5 THA 179.61 EL1 33.3 EL2 14.4 ALF 36.93

LAUNCH DATE MAY 12 1971

FLIGHT TIME 154.00

ARRIVAL DATE OCT 13 1971

HELIOCENTRIC CONIC **DISTANCE 381.890** **EARTH TO MARS**
 RL 151.12 LAL .00 LOL 230.64 VL 32.564 GAL -.08 AZL 91.82 HCA 126.66 SMA 190.67 ECC .20746 INC 1.8180 V1 29.484
 RP 207.94 LAP -1.48 LOP 357.31 VP 24.093 GAP 10.80 AZP 88.91 TAL 359.53 TAP 126.19 RCA 151.12 APO 230.23 V2 26.349
 RC 88.616 GL -18.45 GP -.27 ZAL 97.70 ZAP 144.02 ETS 180.44 ZAE 177.12 ETE 26.90 ZAC 99.30 ETC 278.42 LVI -18.64

PLANETOCENTRIC CONIC
 C3 10.659 VHL 3.265 DLA -29.08 RAL 338.13 RAD 6638.4 VEL 11.435 PTH 6.49 VHP 4.544 DPA -16.41 RAP 324.40 ECC 1.1794
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 35 21 2389.47 -1.86 61.77 190.38 137.55 17 15 10 1389.5 16.39 45.72
 60.00 17 56 32 2173.47 3.24 47.22 195.28 130.19 18 32 46 1173.5 18.88 28.52
 70.00 19 44 58 1854.55 9.05 25.71 199.62 123.07 20 15 53 854.6 21.73 4.55
 80.00 22 15 28 1383.07 16.08 353.99 203.66 115.50 22 38 31 363.1 25.21 330.31
 82.91 23 35 17 1126.92 20.56 337.08 205.69 111.03 23 34 4 126.9 27.41 311.95
 100.00 1 2 16 6145.58 16.08 293.26 203.66 115.50 2 44 41 5145.6 25.21 269.58
 110.00 0 48 20 6189.41 9.05 292.53 199.62 123.07 2 31 30 5189.4 21.73 271.37

DIFFERENTIAL CORRECTIONS **MID-COURSE EXECUTION ACCURACY** **ORBIT DETERMINATION ACCURACY**
 TDE -.2430 TRA -.5981 TC3 .4063 BAU .0649 SGT 1301.9 SGR 512.4 SG3 667.8 ST 27.9 SR 22.8 S3 28.4
 RDE -.2571 RRA .1006 RC3 .2064 FAU .11450 RRT -.0216 RRF .0311 RTF -.7331 CRT .6712 CRS -.0941 CST .6698
 FDE .0305 FRA 2.3811 FC3-9.2998 BSP 2125 SGB 1399.1 R23 -.0124 R13 .7332 LSA 37.5 MSA 26.4 SSA 1.6
 BDE .3538 BRA .6065 BC3 .4557 FSP 1078 SG1 1301.9 SG2 512.2 THA 179.42 EL1 33.1 EL2 14.2 ALF 36.48

LAUNCH DATE MAY 12 1971

FLIGHT TIME 156.00

ARRIVAL DATE OCT 15 1971

HELIOCENTRIC CONIC **DISTANCE 385.927** **EARTH TO MARS**
 RL 151.12 LAL .00 LOL 230.64 VL 32.530 GAL -.06 AZL 91.82 HCA 127.91 SMA 190.07 ECC .20493 INC 1.8185 V1 29.484
 RP 208.08 LAP -1.43 LOP 358.56 VP 24.028 GAP 10.52 AZP 88.88 TAL 359.66 TAP 127.57 RCA 151.12 APO 229.02 V2 26.332
 RC 90.421 GL -18.61 GP -.28 ZAL 97.55 ZAP 142.43 ETS 180.42 ZAE 178.12 ETE 38.33 ZAC 99.33 ETC 278.35 LVI -18.54

PLANETOCENTRIC CONIC
 C3 10.436 VHL 3.231 DLA -29.29 RAL 338.05 RAD 6638.3 VEL 11.425 PTH 6.48 VHP 4.417 DPA -16.53 RAP 324.08 ECC 1.1718
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 36 13 2380.37 -1.40 61.39 190.18 137.56 17 15 53 1380.4 16.83 45.31
 60.00 17 57 37 2162.90 3.71 46.71 195.09 130.16 18 34 0 1162.9 19.30 27.95
 70.00 19 47 31 1840.65 9.56 24.96 199.45 122.94 20 18 11 840.7 22.16 3.70
 80.00 22 23 27 1352.00 16.98 352.12 203.66 114.93 22 45 59 352.0 25.79 328.18
 82.03 23 28 0 1145.15 20.81 338.52 205.38 111.09 23 47 5 145.1 27.66 313.34
 100.00 1 10 15 6114.51 16.98 291.39 203.66 114.93 2 52 9 5114.5 25.79 267.46
 110.00 0 50 53 6175.51 9.56 291.78 199.45 122.94 2 33 48 5175.5 22.16 270.52

DIFFERENTIAL CORRECTIONS **MID-COURSE EXECUTION ACCURACY** **ORBIT DETERMINATION ACCURACY**
 TDE -.2309 TRA -.5792 TC3 .4117 BAU .0642 SGT 1275.0 SGR 505.0 SG3 714.6 ST 27.1 SR 22.4 S8 29.4
 RDE -.2505 RRA .0983 RC3 .2057 FAU .12145 RRT -.0284 RRF .0395 RTF -.7332 CRT .6630 CRS -.1493 CST .6393
 FDE -.0120 FRA 2.5091 FC-10.0743 BSP 2007 SGB 1371.4 R23 -.0148 R13 .7333 LSA 36.9 MSA 27.1 SSA 1.6
 BDE .3407 BRA .5875 BC3 .4602 FSP 1143 SG1 1275.1 SG2 504.7 THA 179.24 EL1 32.2 EL2 14.1 ALF 37.04

LAUNCH DATE MAY 12 1971

FLIGHT TIME 158.00

ARRIVAL DATE OCT 17 1971

HELIOCENTRIC CONIC **DISTANCE 389.979** **EARTH TO MARS**
 RL 151.12 LAL .00 LOL 230.64 VL 32.499 GAL -.04 AZL 91.82 HCA 129.16 SMA 189.51 ECC .20259 INC 1.8150 V1 29.484
 RP 208.24 LAP -1.41 LOP 359.81 VP 23.965 GAP 10.24 AZP 88.85 TAL 359.77 TAP 128.93 RCA 151.12 APO 227.90 V2 26.313
 RC 92.259 GL -18.77 GP -.30 ZAL 97.42 ZAP 140.81 ETS 180.41 ZAE 178.92 ETE 73.32 ZAC 99.37 ETC 278.28 LVI -18.43

PLANETOCENTRIC CONIC
 C3 10.233 VHL 3.199 DLA -29.48 RAL 338.00 RAD 6638.2 VEL 11.416 PTH 6.47 VHP 4.295 DPA -16.66 RAP 323.72 ECC 1.1684
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 37 3 2372.00 -.98 61.04 190.01 137.57 17 16 35 1372.0 17.24 44.92
 60.00 17 59 18 2153.17 4.13 46.24 194.92 130.12 18 35 12 1153.2 19.69 27.42
 70.00 19 49 56 1827.78 10.04 24.27 199.31 122.82 20 20 23 827.8 22.55 2.90
 80.00 22 32 14 1318.99 17.92 350.12 203.73 114.29 22 54 13 319.0 26.38 325.91
 81.30 23 22 3 1159.55 21.04 339.68 205.11 111.14 23 41 22 159.6 27.88 314.45
 100.00 1 19 2 6081.51 17.92 289.39 203.73 114.29 3 0 24 5081.5 26.38 265.18
 110.00 0 53 18 6162.64 10.04 291.09 199.31 122.82 2 36 1 5162.6 22.55 269.73

DIFFERENTIAL CORRECTIONS **MID-COURSE EXECUTION ACCURACY** **ORBIT DETERMINATION ACCURACY**
 TDE -.2424 TRA -.5592 TC3 .3522 BAU .0557 SGT 1250.3 SGR 497.0 SG3 755.8 ST 27.7 SR 22.0 S8 30.3
 RDE -.2438 RRA .0962 RC3 .2046 FAU .12727 RRT -.0140 RRF .0352 RTF -.7103 CRT .6918 CRS -.1151 CST .6325
 FDE .0160 FRA 2.6208 FC-10.7672 BSP 1953 SGB 1345.4 R23 -.0235 R13 .7104 LSA 37.9 MSA 27.0 SSA 1.6
 BDE .3438 BRA .5674 BC3 .4073 FSP 1235 SG1 1250.3 SG2 497.0 THA 179.62 EL1 32.8 EL2 13.5 ALF 35.73

LAUNCH DATE MAY 12 1971

FLIGHT TIME 160.00

ARRIVAL DATE OCT 19 1971

HELIOCENTRIC CONIC

RL 131.12 LAL .00 LOL 230.64 VL 32.469 GAL -.02 AZL 91.81 HCA 130.41 SMA 188.99 ECC .20041 INC 1.8134 V1 29.484
RP 208.41 LAP -1.38 LOP 1.06 VP 23.904 GAP 9.96 AZP 88.82 TAL 359.87 TAP 130.28 RCA 151.12 APO 226.87 V2 26.294
RC 94.128 GL -18.92 GP -.31 ZAL 97.32 ZAP 139.15 ETS 180.39 ZAE 178.71 ETE 135.97 ZAC 99.42 ETC 278.20 LVI -18.31

PLANETOCENTRIC CONIC

C3 10.046 VHL 3.170 DLA -29.65 RAL 337.96 RAD 6630.1 VEL 11.408 PTH 6.46 VHP 4.178 DPA -16.80 RAP 323.32 ECC 1.1653
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 37 32 2364.29 -.60 60.72 189.86 137.57 17 17 17 1364.3 17.61 44.56
60.00 18 0 36 2144.21 4.53 45.81 194.77 130.09 18 36 20 1144.2 20.05 26.93
70.00 19 52 13 1815.85 10.48 23.62 199.19 122.69 20 22 29 815.9 22.91 2.16
80.00 22 42 37 1281.50 18.95 347.81 203.87 113.51 23 3 58 281.5 26.99 323.29
80.68 23 17 5 1171.26 21.25 340.64 204.87 111.19 23 36 36 171.3 28.08 315.36
100.00 1 29 24 8044.01 18.95 287.09 203.87 113.51 3 10 8 5044.0 26.99 282.96
110.00 0 55 35 6150.71 10.48 290.45 199.19 122.69 2 36 6 5150.7 22.91 268.99

DIFFERENTIAL CORRECTIONS

TDE -.2438 TRA -.5421 TC3 .3458 BAU .0538 SGT 1230.5 SGR 488.9 SG3 807.0 ST 27.8 SR 21.7 SS 31.4
RDE -.2374 RRA .0942 RC3 .2028 FAU .13475 RRT -.0063 RRF .0359 RTF -.7080 CRT .7033 CRS -.1105 CST .6237
FDE .0223 FRA 2.7635 FC-11.6128 B8P 2319 SGB 1324.0 R23 -.0306 R13 .7080 LSA 38.5 MSA 27.2 SSA 1.5
BDE .3403 BRA .5503 BC3 .4008 F8P 1520 SG1 1230.5 SG2 488.9 THA 179.63 EL1 32.7 EL2 13.1 ALF 35.15

LAUNCH DATE MAY 12 1971

FLIGHT TIME 162.00

ARRIVAL DATE OCT 21 1971

HELIOCENTRIC CONIC

RL 151.12 LAL .00 LOL 230.64 VL 32.442 GAL -.01 AZL 91.81 HCA 131.66 SMA 188.52 ECC .19840 INC 1.8118 V1 29.484
RP 208.58 LAP -1.35 LOP 2.31 VP 23.845 GAP 9.70 AZP 88.80 TAL 359.95 TAP 131.61 RCA 151.12 APO 225.92 V2 26.274
RC 96.027 GL -19.05 GP -.32 ZAL 97.24 ZAP 137.46 ETS 180.37 ZAE 177.64 ETE 161.02 ZAC 99.47 ETC 278.11 LVI -18.18

PLANETOCENTRIC CONIC

C3 9.875 VHL 3.143 DLA -29.81 RAL 337.94 RAD 6638.0 VEL 11.401 PTH 6.45 VHP 4.068 DPA -16.96 RAP 322.88 ECC 1.1625
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 38 40 2357.32 -.25 60.42 189.74 137.58 17 17 57 1357.3 17.94 44.24
60.00 18 1 49 2136.11 4.86 45.42 194.65 130.05 18 37 25 1136.1 20.37 26.49
70.00 19 54 21 1805.04 10.88 23.04 199.10 122.58 20 24 26 805.0 23.23 2.16
80.00 22 57 12 1231.18 20.29 344.68 204.17 112.39 23 17 43 231.2 27.73 319.73
80.17 23 13 2 1180.56 21.43 341.40 204.66 111.22 23 32 43 180.6 28.27 316.09
100.00 1 43 59 5993.70 20.29 283.95 204.17 112.39 3 23 53 4993.7 27.73 259.01
110.00 0 57 44 6139.90 10.88 289.86 199.10 122.58 2 40 3 5139.9 23.23 268.31

DIFFERENTIAL CORRECTIONS

TDE -.2716 TRA -.5522 TC3 .0236 BAU .0269 SGT 1261.6 SGR 480.5 SG3 823.2 ST 30.3 SR 21.2 SS 34.1
RDE -.2306 RRA .0926 RC3 .2026 FAU .12901 RRT -.0258 RRF .0413 RTF -.6338 CRT .7312 CRS .0343 CST .7020
FDE .1805 FRA 3.0149 FC-11.3100 B8P 2308 SGB 1350.0 R23 -.0221 R13 .6339 LSA 43.0 MSA 26.0 SSA 1.6
BDE .3563 BRA .5599 BC3 .2040 F8P 1498 SG1 1261.7 SG2 480.3 THA 179.34 EL1 34.7 EL2 12.6 ALF 31.82

LAUNCH DATE MAY 12 1971

FLIGHT TIME 164.00

ARRIVAL DATE OCT 23 1971

HELIOCENTRIC CONIC

RL 152.12 LAL .00 LOL 230.64 VL 32.417 GAL .00 AZL 91.81 HCA 132.90 SMA 188.08 ECC .19654 INC 1.8101 V1 29.484
RP 208.78 LAP -1.33 LOP 3.56 VP 23.788 GAP 9.43 AZP 88.77 TAL .02 TAP 132.92 RCA 151.12 APO 225.05 V2 26.254
RC 97.955 GL -19.18 GP -.34 ZAL 97.18 ZAP 135.72 ETS 180.35 ZAE 176.33 ETE 169.92 ZAC 99.58 ETC 278.00 LVI -18.03

PLANETOCENTRIC CONIC

C3 9.719 VHL 3.118 DLA -29.94 RAL 337.94 RAD 6637.9 VEL 11.394 PTH 6.45 VHP 3.962 DPA -17.13 RAP 322.40 ECC 1.1600
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 39 26 2351.01 .07 60.16 189.64 137.58 17 18 37 1351.0 18.25 43.95
60.00 18 2 58 2128.78 5.20 45.07 194.56 130.02 18 38 27 1128.0 20.66 26.09
70.00 19 56 20 1795.25 11.23 22.51 199.02 122.47 20 26 16 795.2 23.52 .87
79.73 23 9 42 1188.05 21.60 342.03 204.49 111.25 23 29 30 188.1 28.43 316.60
79.73 23 9 42 1188.05 21.60 342.03 204.49 111.25 23 29 30 188.1 28.43 316.60
79.73 23 9 42 1188.05 21.60 342.03 204.49 111.25 23 29 30 188.1 28.43 316.60
110.00 0 59 43 6130.11 11.23 289.33 199.02 122.47 2 41 53 5130.1 23.52 267.70

DIFFERENTIAL CORRECTIONS

TDE -.2858 TRA -.5535 TC3 .7027 BAU .0946 SGT 1358.7 SGR 470.1 SG3 1056.8 ST 31.6 SR 20.8 SS 37.8
RDE -.2240 RRA .0912 RC3 .1908 FAU .18009 RRT .0647 RRF -.0132 RTF -.7180 CRT .7447 CRS .1523 CST .7558
FDE .3206 FRA 3.3083 FC-16.0412 B8P 766 SGB 1437.0 R23 .0441 R13 -.7776 LSA 47.2 MSA 25.1 SSA 1.6
BDE .3631 BRA .5610 BC3 .7282 F8P 959 SG1 1359.1 SG2 469.0 THA 1.46 EL1 35.8 EL2 12.3 ALF 29.94

LAUNCH DATE MAY 12 1971

FLIGHT TIME 166.00

ARRIVAL DATE OCT 25 1971

HELIOCENTRIC CONIC

RL 151.12 LAL .00 LOL 230.64 VL 32.393 GAL .01 AZL 91.81 HCA 134.15 SMA 187.88 ECC .19482 INC 1.8084 V1 29.484
RP 208.94 LAP -1.30 LOP 4.80 VP 23.732 GAP 9.18 AZP 88.74 TAL .07 TAP 134.22 RCA 151.12 APO 224.24 V2 26.232
RC 99.910 GL -19.29 GP -.36 ZAL 97.15 ZAP 133.95 ETS 180.32 ZAE 174.92 ETE 174.13 ZAC 99.58 ETC 277.90 LVI -17.87

PLANETOCENTRIC CONIC

C3 9.577 VHL 3.095 DLA -30.06 RAL 337.97 RAD 6637.8 VEL 11.388 PTH 6.44 VHP 3.862 DPA -17.31 RAP 321.88 ECC 1.1576
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 40 11 2345.41 .35 59.93 189.57 137.58 17 19 17 1345.4 18.51 43.68
60.00 18 4 2 2122.31 5.49 44.76 194.49 129.99 18 39 25 1122.3 20.91 25.73
70.00 19 58 9 1786.61 11.55 22.04 198.97 122.37 20 27 56 786.6 23.77 .33
79.37 23 7 5 1193.80 21.76 342.52 204.34 111.27 23 26 59 193.8 28.57 317.13
79.37 23 7 5 1193.80 21.76 342.52 204.34 111.27 23 26 59 193.8 28.57 317.13
79.37 23 7 5 1193.80 21.76 342.52 204.34 111.27 23 26 59 193.8 28.57 317.13
110.00 1 1 31 6121.47 11.55 288.86 198.97 122.37 2 43 33 5121.5 23.77 267.16

DIFFERENTIAL CORRECTIONS

TDE -.1639 TRA -.5208 TC3 .2503 BAU .0404 SGT 1165.1 SGR 465.7 SG3 1027.0 ST 22.6 SR 20.6 SS 40.0
RDE -.2202 RRA .0895 RC3 .1915 FAU .16555 RRT -.1313 RRF .1207 RTF -.6802 CRT .5623 CRS -.4823 CST .4470
FDE -.4626 FRA 3.4598 FC-14.9650 B8P 879 SGB 1254.7 R23 -.0149 R13 .6808 LSA 42.4 MSA 27.0 SSA 1.5
BDE .2745 BRA .5285 BC3 .3152 F8P 1254 SG1 1167.0 SG2 460.9 THA 176.44 EL1 27.0 EL2 14.2 ALF 40.33

LAUNCH DATE MAY 12 1971

FLIGHT TIME 168.00

ARRIVAL DATE OCT 27 1971

HELIOCENTRIC CONIC DISTANCE 410.437 EARTH TO MARS
 RL 151.12 LAL .00 LOL 230.64 VL 32.372 GAL .02 AZL 91.81 HCA 135.39 SMA 187.51 ECC .19324 INC 1.8067 V1 29.484
 RP 209.14 LAP -1.27 LOP 6.04 VP 23.678 GAP 8.93 AZP 88.71 TAL .10 TAP 139.49 RCA 151.12 APO 225.51 V2 26.209
 RC 101.892 GL -19.39 GP -.37 ZAL 97.14 ZAP 132.13 ETS 180.30 ZAE 173.43 ETE 176.51 ZAC 99.64 ETC 277.78 LVI -17.70

PLANETOCENTRIC CONIC
 C3 9.448 VHL 3.074 DLA -30.15 RAL 338.01 RAD 6637.8 VEL 11.382 PTH 6.43 VHP 3.767 DPA -17.50 RAP 321.31 ECC 1.1555
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 40 55 2340.48 .60 59.72 189.53 137.57 17 19 55 1340.5 18.75 43.45
 60.00 18 5 2 2116.65 5.73 44.49 194.44 129.96 18 40 19 1116.6 21.14 25.42
 70.00 19 59 47 1779.09 11.82 21.62 198.94 122.28 20 29 26 779.1 23.99 359.86
 79.08 23 5 2 1198.21 21.89 342.91 204.23 111.27 23 25 0 198.2 28.69 317.48
 79.08 23 5 2 1198.21 21.89 342.91 204.23 111.27 23 25 0 198.2 28.69 317.48
 79.08 23 5 2 1198.21 21.89 342.91 204.23 111.27 23 25 0 198.2 28.69 317.48
 110.00 1 3 9 6113.93 11.82 288.45 198.94 122.28 2 45 3 5113.9 23.99 266.68

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1761 TRA -.3298 TC3 .2106 BAU .0356 SGT 793.8 SGR 453.8 SG3 976.8 ST 19.6 SR 20.1 SS 29.3
 RDE -.2136 RRA .0854 RC3 .1868 FAU .17456 RRT .0413 RRF .0266 RTF -.5587 CRT .7559 CRS -.4642 CST .2190
 FDE -.3297 FRA 2.5723 FC-15.9954 BSP 915 SGB 914.3 R23 .0608 R13 -.5576 LSA 31.4 MSA 25.6 SSA 1.5
 BDE .2770 BRA .3407 BC3 .2815 FSP 1412 SG1 794.1 SG2 453.2 THA 2.00 EL1 26.3 EL2 9.8 ALF 46.03

LAUNCH DATE MAY 12 1971

FLIGHT TIME 170.00

ARRIVAL DATE OCT 29 1971

HELIOCENTRIC CONIC DISTANCE 414.559 EARTH TO MARS
 RL 151.12 LAL .00 LOL 230.64 VL 32.352 GAL .02 AZL 91.80 HCA 136.63 SMA 188.98 ECC .19179 INC 1.8047 V1 29.484
 RP 209.34 LAP -1.24 LOP 7.28 VP 23.625 GAP 8.69 AZP 88.69 TAL .12 TAP 136.75 RCA 151.12 APO 222.84 V2 26.186
 RC 103.900 GL -19.48 GP -.39 ZAL 97.16 ZAP 130.29 ETS 190.27 ZAE 171.67 ETE 178.00 ZAC 99.71 ETC 277.65 LVI -17.52

PLANETOCENTRIC CONIC
 C3 9.331 VHL 3.055 DLA -30.23 RAL 338.07 RAD 6637.7 VEL 11.377 PTH 6.43 VHP 3.677 DPA -17.71 RAP 320.71 ECC 1.1536
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 41 37 2336.23 .81 59.54 189.51 137.57 17 20 33 1336.2 18.95 43.25
 60.00 18 5 58 2111.80 5.94 44.25 194.42 129.93 18 41 10 1111.8 21.33 25.15
 70.00 20 1 13 1772.72 12.06 21.28 198.92 122.20 20 30 46 772.7 24.17 359.45
 78.84 23 3 35 1201.22 22.00 343.18 204.15 111.27 23 23 36 201.2 28.80 317.73
 78.84 23 3 35 1201.22 22.00 343.18 204.15 111.27 23 23 36 201.2 28.80 317.73
 78.84 23 3 35 1201.22 22.00 343.18 204.15 111.27 23 23 36 201.2 28.80 317.73
 110.00 1 4 35 6107.58 12.06 288.10 198.92 122.20 2 46 23 5107.6 24.17 266.28

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1449 TRA -.3539 TC3 -.0440 BAU .0236 SGT 815.4 SGR 446.6 SG3 1019.8 ST 17.8 SR 19.8 SS 35.4
 RDE -.2087 RRA .0845 RC3 .1841 FAU .17312 RRT -.1031 RRF .0940 RTF -.4596 CRT .6651 CRS -.5884 CST .2026
 FDE -.5620 FRA 2.9817 FC-16.0626 BSP 1088 SGB 929.7 R23 -.0268 R13 .4612 LSA 37.7 MSA 23.2 SSA 1.5
 BDE .2540 BRA .3639 BC3 .1893 FSP 1609 SG1 817.2 SG2 443.2 THA 175.42 EL1 24.3 EL2 10.8 ALF 49.44

LAUNCH DATE MAY 12 1971

FLIGHT TIME 172.00

ARRIVAL DATE OCT 31 1971

HELIOCENTRIC CONIC DISTANCE 418.689 EARTH TO MARS
 RL 151.12 LAL .00 LOL 230.64 VL 32.334 GAL .02 AZL 91.80 HCA 137.86 SMA 188.67 ECC .19046 INC 1.8027 V1 29.484
 RP 209.55 LAP -1.21 LOP 8.51 VP 23.574 GAP 8.45 AZP 88.66 TAL .12 TAP 137.98 RCA 151.12 APO 222.22 V2 26.162
 RC 105.933 GL -19.57 GP -.41 ZAL 97.20 ZAP 128.40 ETS 180.24 ZAE 170.25 ETE 178.99 ZAC 99.78 ETC 277.51 LVI -17.32

PLANETOCENTRIC CONIC
 C3 9.225 VHL 3.037 DLA -30.29 RAL 338.16 RAD 6637.6 VEL 11.372 PTH 6.42 VHP 3.592 DPA -17.92 RAP 320.07 ECC 1.1518
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 42 17 2332.65 .99 59.39 189.51 137.57 17 21 10 1332.6 19.12 43.08
 60.00 18 6 49 2107.76 6.12 44.06 194.42 129.91 18 41 56 1107.8 21.48 24.92
 70.00 20 2 26 1787.52 12.24 21.00 198.93 122.14 20 31 54 767.5 24.32 359.13
 78.67 23 2 38 1203.07 22.10 343.36 204.10 111.26 23 22 41 203.1 28.88 317.88
 78.67 23 2 38 1203.07 22.10 343.36 204.10 111.26 23 22 41 203.1 28.88 317.88
 78.67 23 2 38 1203.07 22.10 343.36 204.10 111.26 23 22 41 203.1 28.88 317.88
 110.00 1 5 50 6102.38 12.24 287.82 198.93 122.14 2 47 32 5102.4 24.32 265.93

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2385 TRA -.3380 TC3 -.0879 BAU .0245 SGT 886.4 SGR 434.3 SG3 1097.9 ST 25.1 SR 19.2 SS 33.4
 RDE -.2011 RRA .0832 RC3 .1778 FAU .18503 RRT .0813 RRF .0276 RTF -.4339 CRT .8250 CRS -.1433 CST .4331
 FDE -.0043 FRA 3.2437 FC-17.3641 BSP 907 SGB 969.1 R23 .0737 R13 -.4220 LSA 36.3 MSA 26.0 SSA 1.5
 BDE .3119 BRA .3481 BC3 .1984 FSP 1694 SG1 867.3 SG2 432.4 THA 3.11 EL1 30.3 EL2 9.0 ALF 35.87

LAUNCH DATE MAY 12 1971

FLIGHT TIME 174.00

ARRIVAL DATE NOV 2 1971

HELIOCENTRIC CONIC DISTANCE 422.829 EARTH TO MARS
 RL 151.12 LAL .00 LOL 230.64 VL 32.318 GAL .02 AZL 91.80 HCA 139.10 SMA 186.39 ECC .18925 INC 1.8007 V1 29.484
 RP 209.78 LAP -1.18 LOP 9.75 VP 23.523 GAP 8.21 AZP 88.64 TAL .10 TAP 139.20 RCA 151.12 APO 221.66 V2 26.137
 RC 107.990 GL -19.84 GP -.43 ZAL 97.27 ZAP 126.49 ETS 180.21 ZAE 168.58 ETE 179.68 ZAC 99.85 ETC 277.37 LVI -17.11

PLANETOCENTRIC CONIC
 C3 9.130 VHL 3.022 DLA -30.33 RAL 338.26 RAD 6637.6 VEL 11.368 PTH 6.42 VHP 3.513 DPA -18.15 RAP 319.39 ECC 1.1503
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 42 56 2329.72 1.14 59.27 189.54 137.57 17 21 46 1329.7 19.26 42.94
 60.00 18 7 35 2104.53 6.26 43.90 194.44 129.89 18 42 39 1104.5 21.61 24.74
 70.00 20 3 29 1783.50 12.39 20.77 198.95 122.08 20 32 53 763.5 24.44 358.87
 78.56 23 2 14 1203.69 22.17 343.44 204.08 111.24 23 22 18 203.7 28.94 317.94
 78.56 23 2 14 1203.69 22.17 343.44 204.08 111.24 23 22 18 203.7 28.94 317.94
 78.56 23 2 14 1203.69 22.17 343.44 204.08 111.24 23 22 18 203.7 28.94 317.94
 110.00 1 6 52 6098.36 12.39 287.60 198.95 122.08 2 48 30 5098.4 24.44 265.69

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1849 TRA -.2694 TC3 -.3212 BAU .0446 SGT 714.8 SGR 426.0 SG3 1092.4 ST 19.7 SR 18.8 SS 32.5
 RDE -.1966 RRA .0807 RC3 .1733 FAU .18809 RRT .0178 RRF .0603 RTF -.1682 CRT .8191 CRS -.4879 CST .0894
 FDE -.4099 FRA 2.9877 FC-17.8358 BSP 662 SGB 832.1 R23 .0650 R13 -.1876 LSA 34.2 MSA 25.0 SSA 1.5
 BDE .2699 BRA .2813 BC3 .3650 FSP 1707 SG1 714.9 SG2 425.9 THA .94 EL1 26.0 EL2 8.2 ALF 43.51

LAUNCH DATE MAY 12 1971

FLIGHT TIME 176.00

ARRIVAL DATE NOV 4 1971

HELIOCENTRIC CONIC

RL 151.12 LAL .00 LOL 230.64 VL 32.303 GAL .01 AZL 91.80 HCA 140.33 SMA 186.14 ECC .18814 INC 1.7986 V1 29.484
 RP 209.99 LAP -1.13 LOP 10.98 VP 23.474 GAP 7.98 AZP 88.62 TAL .07 TAP 140.40 RCA 151.12 APO 221.16 V2 26.111
 RC 110.071 GL -19.70 GP -.45 ZAL 97.36 ZAP 124.54 ETS 180.18 ZAE 166.83 ETE 180.18 ZAC 99.92 ETC 277.22 LVI -16.80

DISTANCE 426.975

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 9.044 VHL 3.007 DLA -30.35 RAL 336.39 RAD 6637.5 VEL 11.364 PTH 6.42 VHP 3.438 DPA -18.38 RAP 318.67 ECC 1.1488
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 43 34 2327.43 1.26 59.18 189.59 137.56 17 22 21 1327.4 19.37 42.84
 60.00 18 8 16 2102.09 6.37 43.78 194.49 129.88 18 43 18 1102.1 21.71 24.60
 70.00 20 4 19 1760.65 12.49 20.62 198.99 122.05 20 33 39 760.7 24.52 358.68
 78.50 23 2 19 1203.24 22.23 343.43 204.09 111.21 23 22 23 203.2 28.97 317.91
 78.50 23 2 19 1203.24 22.23 343.43 204.09 111.21 23 22 23 203.2 28.97 317.91
 110.00 1 7 41 6095.51 12.49 287.44 198.99 122.05 2 49 17 5095.5 24.52 265.51

DIFFERENTIAL CORRECTIONS

TDE -.1369 TRA -.4243 TC3 -.4837 BAU .0619
 RDE -.1923 RRA .0839 RC3 .1683 FAU .19128
 FDE -.8716 FRA 4.8196 FC-18.3094 BSP 560
 BDE .2362 BRA .4325 BC3 .5121 FSP 1894

MID-COURSE EXECUTION ACCURACY

SGT 1014.9 SGR 423.2 SG3 1330.8
 RRT -.2499 RRF .2249 RTF -.4049
 SGB 1099.6 R23 -.1076 R13 .4107
 SG1 1021.4 SG2 407.2 THA 172.92

ORBIT DETERMINATION ACCURACY

ST 19.2 SR 18.5 SS 53.7
 CRT .5624 CR8 -.5861 CST .3327
 LSA 55.1 MSA 23.4 S5A 1.5
 EL1 23.6 EL2 12.5 ALF 43.32

LAUNCH DATE MAY 12 1971

FLIGHT TIME 178.00

ARRIVAL DATE NOV 6 1971

HELIOCENTRIC CONIC

RL 151.12 LAL .00 LOL 230.64 VL 32.289 GAL .00 AZL 91.80 HCA 141.58 SMA 185.91 ECC .18714 INC 1.7962 V1 29.484
 RP 210.22 LAP -1.12 LOP 12.21 VP 23.426 GAP 7.76 AZP 88.59 TAL .02 TAP 141.58 RCA 151.12 APO 220.70 V2 26.088
 RC 112.177 GL -19.75 GP -.47 ZAL 97.47 ZAP 122.56 ETS 180.15 ZAE 165.04 ETE 180.54 ZAC 100.00 ETC 277.05 LVI -16.64

DISTANCE 431.129

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 8.968 VHL 2.995 DLA -30.35 RAL 338.54 RAD 6637.5 VEL 11.361 PTH 6.41 VHP 3.368 DPA -18.62 RAP 317.92 ECC 1.1476
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 44 10 2325.76 1.34 59.11 189.67 137.56 17 22 56 1325.8 19.45 42.76
 60.00 18 8 52 2100.40 6.44 43.70 194.55 129.87 18 43 53 1120.4 21.77 24.51
 70.00 20 4 56 1758.93 12.55 20.52 199.04 122.03 20 34 15 758.9 24.57 358.57
 78.50 23 2 52 1201.74 22.27 343.33 204.13 111.17 23 22 54 201.7 28.99 317.81
 78.50 23 2 52 1201.74 22.27 343.33 204.13 111.17 23 22 54 201.7 28.99 317.81
 110.00 1 8 18 6093.79 12.55 287.34 199.04 122.03 2 49 52 5093.8 24.57 265.40

DIFFERENTIAL CORRECTIONS

TDE -.2893 TRA -.3236 TC3 -.2371 BAU .0337
 RDE -.1824 RRA .0813 RC3 .1513 FAU .23680
 FDE .4341 FRA 4.4961 FC-22.8588 BSP 387
 BDE .3420 BRA .3337 BC3 .2812 FSP 1563

MID-COURSE EXECUTION ACCURACY

SGT 917.2 SGR 403.0 SG3 1465.0
 RRT .1378 RRF .0390 RTF -.3644
 SGB 1001.8 R23 .1018 R13 -.3613
 SG1 919.2 SG2 398.3 THA 4.27

ORBIT DETERMINATION ACCURACY

ST 29.7 SR 17.7 SS 45.5
 CRT .8654 CR8 .1169 CST .5925
 LSA 50.2 MSA 27.4 S5A 1.4
 EL1 33.7 EL2 7.8 ALF 28.93

LAUNCH DATE MAY 12 1971

FLIGHT TIME 180.00

ARRIVAL DATE NOV 8 1971

HELIOCENTRIC CONIC

RL 151.12 LAL .00 LOL 230.64 VL 32.277 GAL -.01 AZL 91.79 HCA 142.78 SMA 185.70 ECC .18624 INC 1.7939 V1 29.484
 RP 210.45 LAP -1.09 LOP 13.43 VP 23.379 GAP 7.54 AZP 88.57 TAL .03 TAP 142.73 RCA 151.12 APO 220.29 V2 26.058
 RC 114.307 GL -19.79 GP -.49 ZAL 97.62 ZAP 120.55 ETS 180.11 ZAE 163.20 ETE 180.80 ZAC 100.07 ETC 276.89 LVI -16.40

DISTANCE 435.282

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 8.902 VHL 2.984 DLA -30.33 RAL 338.72 RAD 6637.5 VEL 11.358 PTH 6.41 VHP 3.303 DPA -18.87 RAP 317.15 ECC 1.1465
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 44 46 2324.82 1.39 59.07 189.77 137.56 17 23 30 1324.8 19.50 42.71
 60.00 18 9 24 2099.62 6.48 43.66 194.64 129.86 18 44 24 1099.6 21.80 24.47
 70.00 20 5 19 1758.36 12.57 20.50 199.12 122.02 20 34 38 758.6 24.58 358.55
 78.56 23 4 0 1198.96 22.29 343.13 204.20 111.11 23 23 59 199.0 28.99 317.60
 78.56 23 4 0 1198.96 22.29 343.13 204.20 111.11 23 23 59 199.0 28.99 317.60
 110.00 1 8 42 6093.42 12.57 287.32 199.12 122.02 2 50 15 5093.4 24.58 265.37

DIFFERENTIAL CORRECTIONS

TDE -.2255 TRA -.2560 TC3 -.8905 BAU .1076
 RDE -.1789 RRA .0787 RC3 .1565 FAU .20133
 FDE -.1885 FRA 4.1735 FC-19.5796 BSP .817
 BDE .2878 BRA .2686 BC3 .9041 FSP 2521

MID-COURSE EXECUTION ACCURACY

SGT 892.4 SGR 396.9 SG3 1289.8
 RRT -.0027 RRF .1115 RTF .2795
 SGB 976.6 R23 -.1117 R13 -.0794
 SG1 892.4 SG2 396.9 THA 179.92

ORBIT DETERMINATION ACCURACY

ST 23.3 SR 17.4 SS 40.4
 CRT .8626 CR8 -.2742 CST .2390
 LSA 41.1 MSA 28.0 S5A 1.5
 EL1 28.1 EL2 7.3 ALF 35.50

LAUNCH DATE MAY 12 1971

FLIGHT TIME 182.00

ARRIVAL DATE NOV 10 1971

HELIOCENTRIC CONIC

RL 151.12 LAL .00 LOL 230.64 VL 32.266 GAL -.02 AZL 91.79 HCA 144.00 SMA 185.52 ECC .18544 INC 1.7913 V1 29.484
 RP 210.70 LAP -1.05 LOP 14.65 VP 23.332 GAP 7.33 AZP 88.55 TAL 359.87 TAP 143.87 RCA 151.12 APO 219.92 V2 26.030
 RC 116.460 GL -19.83 GP -.51 ZAL 97.79 ZAP 118.53 ETS 180.06 ZAE 161.33 ETE 181.00 ZAC 100.15 ETC 276.71 LVI -16.13

DISTANCE 439.448

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 8.844 VHL 2.974 DLA -30.29 RAL 338.91 RAD 6637.4 VEL 11.356 PTH 6.41 VHP 3.242 DPA -19.12 RAP 316.34 ECC 1.1455
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 45 19 2324.44 1.41 59.05 189.89 137.56 17 24 4 1324.4 19.51 42.69
 60.00 18 9 51 2099.53 6.48 43.66 194.75 129.86 18 44 51 1099.5 21.80 24.46
 70.00 20 5 31 1759.23 12.54 20.54 199.20 122.03 20 34 50 759.2 24.56 358.59
 78.67 23 5 35 1195.13 22.30 342.85 204.30 111.05 23 25 31 195.1 28.97 317.31
 78.67 23 5 35 1195.13 22.30 342.85 204.30 111.05 23 25 31 195.1 28.97 317.31
 110.00 1 8 53 6094.09 12.54 287.36 199.20 122.03 2 50 27 5094.1 24.56 265.42

DIFFERENTIAL CORRECTIONS

TDE -.2337 TRA -.2246 TC3 -1.1386 BAU .1358
 RDE -.1728 RRA .0778 RC3 .1529 FAU .19630
 FDE -.0276 FRA 4.4364 FC-19.2169 BSP 167
 BDE .2906 BRA .2377 BC3 1.1488 FSP 2352

MID-COURSE EXECUTION ACCURACY

SGT 955.2 SGR 386.4 SG3 1306.4
 RRT .0035 RRF .1194 RTF .1940
 SGB 1030.4 R23 .1186 R13 .1941
 SG1 955.2 SG2 386.4 THA .10

ORBIT DETERMINATION ACCURACY

ST 23.8 SR 16.9 SS 41.9
 CRT .8869 CR8 -.1702 CST .2926
 LSA 42.7 MSA 27.9 S5A 1.4
 EL1 28.4 EL2 6.5 ALF 34.23

LAUNCH DATE MAY 12 1971

FLIGHT TIME 184.00

ARRIVAL DATE NOV 12 1971

HELIOCENTRIC CONIC DISTANCE 443.617 EARTH TO MARS
 RL 151.12 LAL .00 LOL 230.64 VL 32.256 GAL -.04 AZL 91.79 HCA 145.22 SMA 185.35 ECC .18472 INC 1.7887 V1 29.484
 RP 210.95 LAP -.02 LOP 15.87 VP 23.287 GAP 7.12 AZP 88.93 TAL 359.77 TAP 144.99 RCA 151.12 APO 219.59 V2 26.001
 RC 118.637 GL -19.85 GP -.53 ZAL 97.98 ZAP 116.48 ETS 180.04 ZAE 159.41 ETE 181.15 ZAC 100.22 ETC 276.53 LVI -15.86
 PLANETOCENTRIC CONIC
 C3 8.793 VHL 2.985 DLA -30.24 RAL 339.13 RAD 6637.4 VEL 11.353 PTH 6.41 VHP 3.187 DPA -19.38 RAP 315.50 ECC 1.1447
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 45 51 2324.67 1.40 59.06 190.04 137.56 17 24 36 1324.7 19.50 42.70
 60.00 18 10 13 2100.20 6.45 43.89 194.88 129.87 18 45 14 1100.2 21.78 24.50
 70.00 20 5 30 1781.03 12.48 20.84 199.31 122.05 20 34 51 761.0 24.51 358.71
 78.83 23 7 41 1190.14 22.29 342.47 204.43 110.98 23 27 31 190.1 28.93 316.93
 78.83 23 7 41 1190.14 22.29 342.47 204.43 110.98 23 27 31 190.1 28.93 316.93
 78.83 23 7 41 1190.14 22.29 342.47 204.43 110.98 23 27 31 190.1 28.93 316.93
 110.00 1 8 53 6095.88 12.48 287.46 199.31 122.05 2 50 29 5095.9 24.51 265.53
 DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2370 TRA -.1853 TC3-1.2504 BAU .1480 SGT 965.0 SGR 375.6 SG3 1375.8 ST 23.7 SR 16.4 SS 42.6
 RDE -.1872 RRA .0766 RC3 .1438 FAU .20871 RRT .0378 RRF .1220 RTF .3129 CRT .9105 CRS -.1876 CST .2421
 FDE -.0204 FRA 4.5828 FC-20.5482 B8P 121 SGB 1035.6 R23 .1081 R13 .3136 LSA 43.2 MSA 28.0 SSA 1.4
 BDE .2900 BRA .2005 BC3 1.2587 F8P 2398 SG1 965.2 SG2 375.3 THA .99 EL1 28.3 EL2 5.7 ALF 33.64

LAUNCH DATE MAY 12 1971

FLIGHT TIME 186.00

ARRIVAL DATE NOV 14 1971

HELIOCENTRIC CONIC DISTANCE 447.790 EARTH TO MARS
 RL 151.12 LAL .00 LOL 230.64 VL 32.248 GAL -.05 AZL 91.79 HCA 146.44 SMA 185.21 ECC .18408 INC 1.7858 V1 29.484
 RP 211.20 LAP -.99 LOP 17.09 VP 23.242 GAP 6.91 AZP 88.91 TAL 359.66 TAP 146.10 RCA 151.12 APO 219.30 V2 25.972
 RC 120.836 GL -19.86 GP -.56 ZAL 98.19 ZAP 114.41 ETS 180.00 ZAE 157.48 ETE 181.26 ZAC 100.29 ETC 276.34 LVI -15.58
 PLANETOCENTRIC CONIC
 C3 8.750 VHL 2.958 DLA -30.18 RAL 339.38 RAD 6637.4 VEL 11.352 PTH 6.40 VHP 3.136 DPA -19.64 RAP 314.64 ECC 1.1440
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 46 22 2325.49 1.35 59.10 190.20 137.56 17 25 7 1325.5 19.46 42.74
 60.00 18 10 31 2101.60 6.39 43.76 195.03 129.88 18 45 33 1101.6 21.72 24.50
 70.00 20 5 18 1783.90 12.37 20.79 199.43 122.09 20 34 42 763.9 24.43 358.89
 79.05 23 10 18 1183.87 22.26 341.99 204.58 110.90 23 30 2 183.9 28.87 316.45
 79.05 23 10 18 1183.87 22.26 341.99 204.58 110.90 23 30 2 183.9 28.87 316.45
 79.05 23 10 18 1183.87 22.26 341.99 204.58 110.90 23 30 2 183.9 28.87 316.45
 110.00 1 8 40 6098.76 12.37 287.62 199.43 122.09 2 50 19 5098.8 24.43 265.71
 DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2333 TRA -.1401 TC3-1.3926 BAU .1637 SGT 990.8 SGR 364.7 SG3 1445.6 ST 23.1 SR 15.9 SS 43.0
 RDE -.1619 RRA .0753 RC3 .1339 FAU .22251 RRT .0649 RRF .1264 RTF .4512 CRT .9322 CRS -.1886 CST .1643
 FDE -.0523 FRA 4.6881 FC-22.0145 B8P 353 SGB 1055.8 R23 .0928 R13 .4521 LSA 43.3 MSA 27.6 SSA 1.4
 BDE .2840 BRA .1591 BC3 1.3991 F8P 2491 SG1 991.1 SG2 363.8 THA 1.58 EL1 27.6 EL2 4.8 ALF 33.79

LAUNCH DATE MAY 12 1971

FLIGHT TIME 188.00

ARRIVAL DATE NOV 16 1971

HELIOCENTRIC CONIC DISTANCE 451.967 EARTH TO MARS
 RL 151.12 LAL .00 LOL 230.64 VL 32.240 GAL -.07 AZL 91.78 HCA 147.65 SMA 185.08 ECC .18353 INC 1.7827 V1 29.484
 RP 211.46 LAP -.95 LOP 18.30 VP 23.198 GAP 6.71 AZP 88.49 TAL 359.52 TAP 147.18 RCA 151.12 APO 219.05 V2 25.942
 RC 123.058 GL -19.86 GP -.59 ZAL 98.43 ZAP 112.33 ETS 179.96 ZAE 155.47 ETE 181.34 ZAC 100.37 ETC 276.15 LVI -15.29
 PLANETOCENTRIC CONIC
 C3 8.715 VHL 2.952 DLA -30.07 RAL 339.62 RAD 6637.4 VEL 11.350 PTH 6.40 VHP 3.089 DPA -19.90 RAP 313.77 ECC 1.1434
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 46 51 2326.89 1.28 59.15 190.39 137.56 17 25 36 1326.9 19.40 42.81
 60.00 18 10 44 2103.71 6.30 43.86 195.19 129.89 18 45 48 1103.7 21.64 24.70
 70.00 20 4 55 1787.80 12.23 21.01 199.56 122.14 20 34 23 767.8 24.32 359.14
 79.33 23 13 26 1176.36 22.21 341.41 204.75 110.81 23 33 2 176.4 28.79 315.87
 79.33 23 13 26 1176.36 22.21 341.41 204.75 110.81 23 33 2 176.4 28.79 315.87
 79.33 23 13 26 1176.36 22.21 341.41 204.75 110.81 23 33 2 176.4 28.79 315.87
 110.00 1 8 17 6102.86 12.23 287.83 199.56 122.14 2 50 0 5102.7 24.32 265.96
 DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2364 TPA -.0931 TC3-1.5922 BAU .1861 SGT 1066.7 SGR 353.3 SG3 1483.7 ST 23.2 SR 15.4 SS 43.3
 RDE -.1561 RRA .0740 RC3 .1261 FAU .22857 RRT .0912 RRF .1287 RTF .5548 CRT .9535 CRS -.1483 CST .1402
 FDE .0232 FRA 4.7848 FC-22.7067 B8P 659 SGB 1123.7 R23 .0892 R13 .5654 LSA 43.5 MSA 27.5 SSA 1.3
 BDE .2833 BRA .1189 BC3 1.5971 F8P 2525 SG1 1067.2 SG2 351.7 THA 1.94 EL1 27.5 EL2 3.9 ALF 33.00

LAUNCH DATE MAY 12 1971

FLIGHT TIME 190.00

ARRIVAL DATE NOV 18 1971

HELIOCENTRIC CONIC DISTANCE 458.145 EARTH TO MARS
 RL 151.12 LAL .00 LOL 230.64 VL 32.233 GAL -.10 AZL 91.78 HCA 148.87 SMA 184.97 ECC .18305 INC 1.7795 V1 29.484
 RP 211.73 LAP -.92 LOP 19.51 VP 23.155 GAP 6.91 AZP 88.48 TAL 359.38 TAP 148.24 RCA 151.11 APO 218.83 V2 25.911
 RC 123.302 GL -19.86 GP -.61 ZAL 98.70 ZAP 110.25 ETS 179.92 ZAE 153.46 ETE 181.40 ZAC 100.43 ETC 275.95 LVI -14.99
 PLANETOCENTRIC CONIC
 C3 8.688 VHL 2.947 DLA -29.96 RAL 339.90 RAD 6637.4 VEL 11.349 PTH 6.40 VHP 3.046 DPA -20.16 RAP 312.88 ECC 1.1430
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 47 19 2328.91 1.18 59.24 190.60 137.56 17 26 8 1328.9 19.30 42.91
 60.00 18 10 53 2106.59 6.17 44.00 195.38 129.91 18 45 59 1106.6 21.53 24.86
 70.00 20 4 20 1772.80 12.05 21.28 199.71 122.20 20 33 53 772.0 24.17 359.46
 79.69 23 17 11 1167.28 22.15 340.71 204.95 110.70 23 36 39 167.3 28.69 315.18
 79.69 23 17 11 1167.28 22.15 340.71 204.95 110.70 23 36 39 167.3 28.69 315.18
 79.69 23 17 11 1167.28 22.15 340.71 204.95 110.70 23 36 39 167.3 28.69 315.18
 110.00 1 7 43 6107.86 12.05 288.11 199.71 122.20 2 49 30 5107.7 24.17 266.28
 DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2359 TRA -.0548 TC3-1.8380 BAU .2139 SGT 1182.9 SGR 343.3 SG3 1520.7 ST 23.1 SR 14.9 SS 44.9
 RDE -.1508 RRA .0732 RC3 .1195 FAU .22995 RRT .0933 RRF .1509 RTF .6372 CRT .9668 CRS -.1751 CST .0595
 FDE -.0204 FRA 5.0279 FC-22.9183 B8P 855 SGB 1231.7 R23 .0864 R13 .6380 LSA 45.0 MSA 27.2 SSA 1.3
 BDE .2800 BRA .0914 BC3 1.8418 F8P 2716 SG1 1183.3 SG2 341.6 THA 1.69 EL1 27.2 EL2 3.2 ALF 32.43

LAUNCH DATE MAY 12 1971

FLIGHT TIME 192.00

ARRIVAL DATE NOV 20 1971

HELIOCENTRIC CONIC

RL 151.12 LAL .00 LOL 230.64 VL 32.228 GAL -.12 AZL 91.78 HCA 150.07 SMA 184.88 ECC .18265 INC 1.7760 V1 29.484
 RP 212.01 LAP -.89 LOP 20.72 VP 23.112 GAP 6.31 AZP 88.46 TAL 359.21 TAP 149.29 RCA 151.11 APO 218.65 V2 25.880
 RC 127.366 GL -19.84 GP -.64 ZAL 98.99 ZAP 108.15 ETS 179.87 ZAE 151.43 ETE 181.44 ZAC 100.50 ETC 275.75 LVI -14.68

PLANETOCENTRIC CONIC

C3 8.665 VHL 2.944 DLA -29.83 RAL 340.19 RAD 6637.3 VEL 11.348 PTH 6.40 VHP 3.008 DPA -20.42 RAP 311.97 ECC 1.1426
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 47 45 2331.48 1.05 59.35 190.83 137.57 17 26 36 1331.5 19.18 43.03
 60.00 18 10 57 2110.13 6.02 44.17 195.58 129.92 18 46 7 1110.1 21.39 25.05
 70.00 20 3 36 1778.73 11.84 21.61 199.87 122.27 20 33 15 778.7 24.00 359.83
 80.00 23 9 9 1196.26 21.18 342.46 204.81 111.55 23 29 5 196.3 28.18 317.24
 80.11 23 21 34 1156.61 22.06 339.88 205.18 110.59 23 40 50 156.6 28.57 314.36
 100.00 1 55 57 5958.77 21.18 281.74 204.81 111.55 3 35 15 4958.8 28.18 256.51
 110.00 1 6 58 6113.59 11.84 288.43 199.87 122.27 2 48 52 5113.6 24.00 266.68

DIFFERENTIAL CORRECTIONS

TDE -.2369 TRA -.0073 TC3-2.0415 BAU .2368
 RDE -.1450 RRA .0719 RC3 .1102 FAU .23856
 FDE .0473 FRA 5.1398 FC-23.8360 BSP 1177
 BDE .2794 BRA .0723 BC3 2.0445 FSP 2729

MID-COURSE EXECUTION ACCURACY

SGT 1288.8 SGR 331.6 SG3 1569.3
 RRT .1184 RRF .1535 RTF .7106
 SGB 1330.7 R23 .0639 R13 .7112
 SG1 1289.4 SG2 329.1 THA 1.87

ORBIT DETERMINATION ACCURACY

ST 23.3 SR 14.3 S8 45.3
 CRT .9803 CRS -.1409 CST .0274
 LSA 45.4 MSA 27.2 S8A 1.3
 EL1 27.3 EL2 2.4 ALF 31.33

LAUNCH DATE MAY 12 1971

FLIGHT TIME 194.00

ARRIVAL DATE NOV 22 1971

HELIOCENTRIC CONIC

RL 151.12 LAL .00 LOL 230.64 VL 32.223 GAL -.15 AZL 91.77 HCA 151.28 SMA 184.81 ECC .18231 INC 1.7723 V1 29.484
 RP 212.29 LAP -.85 LOP 21.93 VP 23.070 GAP 6.12 AZP 88.45 TAL 359.04 TAP 150.31 RCA 151.11 APO 218.50 V2 25.848
 RC 129.850 GL -19.81 GP -.68 ZAL 99.29 ZAP 106.06 ETS 179.83 ZAE 149.39 ETE 181.47 ZAC 100.56 ETC 275.54 LVI -14.36

PLANETOCENTRIC CONIC

C3 8.649 VHL 2.941 DLA -29.68 RAL 340.51 RAD 6637.3 VEL 11.347 PTH 6.40 VHP 2.974 DPA -20.68 RAP 311.07 ECC 1.1423
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 48 9 2334.80 .90 59.48 191.07 137.57 17 27 4 1334.6 19.03 43.17
 60.00 18 10 57 2114.34 5.83 44.37 195.80 129.95 18 46 11 1114.3 21.23 25.29
 70.00 20 2 42 1785.59 11.59 21.98 200.05 122.35 20 32 28 785.6 23.80 .27
 80.00 22 54 29 1246.85 19.88 345.66 204.54 112.75 23 15 16 246.9 27.51 320.84
 80.60 23 26 38 1144.05 21.97 338.91 205.43 110.47 23 45 42 144.0 28.43 313.41
 100.00 1 41 16 6009.36 19.88 284.93 204.54 112.75 3 21 26 5009.4 27.51 260.12
 110.00 1 6 5 6120.45 11.59 288.80 200.05 122.35 2 48 5 5120.4 23.80 267.09

DIFFERENTIAL CORRECTIONS

TDE -.2392 TRA .0406 TC3-2.2774 BAU .2636
 RDE -.1394 RRA .0709 RC3 .1028 FAU .24076
 FDE .1001 FRA 5.3022 FC-24.0980 BSP 1489
 BDE .2768 BRA .0817 BC3 2.2797 FSP 2789

MID-COURSE EXECUTION ACCURACY

SGT 1421.2 SGR 320.4 SG3 1598.5
 RRT .1317 RRF .1654 RTF .7598
 SGB 1456.9 R23 .0606 R13 .7603
 SG1 1421.9 SG2 317.5 THA 1.79

ORBIT DETERMINATION ACCURACY

ST 23.4 SR 13.8 S8 46.2
 CRT .9891 CRS -.1174 CST -.0140
 LSA 46.3 MSA 27.1 S8A 1.2
 EL1 27.1 EL2 1.8 ALF 30.34

LAUNCH DATE MAY 12 1971

FLIGHT TIME 196.00

ARRIVAL DATE NOV 24 1971

HELIOCENTRIC CONIC

RL 151.12 LAL .00 LOL 230.64 VL 32.219 GAL -.18 AZL 91.77 HCA 152.48 SMA 184.74 ECC .18204 INC 1.7684 V1 29.484
 RP 212.57 LAP -.82 LOP 23.13 VP 23.028 GAP 5.94 AZP 88.43 TAL 358.84 TAP 151.32 RCA 151.11 APO 218.37 V2 25.815
 RC 132.153 GL -19.77 GP -.71 ZAL 99.83 ZAP 103.97 ETS 179.78 ZAE 147.33 ETE 181.49 ZAC 100.62 ETC 275.34 LVI -14.04

PLANETOCENTRIC CONIC

C3 8.640 VHL 2.939 DLA -29.51 RAL 340.84 RAD 6637.3 VEL 11.347 PTH 6.40 VHP 2.944 DPA -20.94 RAP 310.16 ECC 1.1422
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 48 32 2338.27 .71 59.63 191.34 137.57 17 27 31 1338.3 18.86 43.35
 60.00 18 10 52 2119.23 5.62 44.61 196.04 129.97 18 46 12 1119.2 21.04 25.56
 70.00 20 1 40 1793.21 11.30 22.40 200.25 122.45 20 31 33 793.2 23.58 .75
 80.00 22 45 9 1280.84 18.97 347.77 204.46 113.50 23 6 30 280.8 27.00 323.24
 81.19 23 32 31 1129.21 21.85 337.77 205.70 110.34 23 51 21 129.2 28.28 312.28
 100.00 1 31 57 6043.36 18.97 287.05 204.46 113.50 3 12 40 5043.4 27.00 262.52
 110.00 1 5 2 6128.21 11.30 289.23 200.25 122.45 2 47 10 5128.2 23.58 267.58

DIFFERENTIAL CORRECTIONS

TDE -.2375 TRA .0904 TC3-2.5032 BAU .2893
 RDE -.1340 RRA .0688 RC3 .0939 FAU .24624
 FDE .0723 FRA 5.4401 FC-24.6727 BSP 1792
 BDE .2727 BRA .1142 BC3 2.5049 FSP 2833

MID-COURSE EXECUTION ACCURACY

SGT 1555.9 SGR 309.4 SG3 1636.8
 RRT .1483 RRF .1823 RTF .8596
 SGB 1586.4 R23 .0587 R13 .8060
 SG1 1556.6 SG2 305.9 THA 1.76

ORBIT DETERMINATION ACCURACY

ST 23.5 SR 13.3 S8 46.9
 CRT .9938 CRS -.1371 CST -.1018
 LSA 47.0 MSA 26.7 S8A 1.2
 EL1 26.9 EL2 1.3 ALF 29.43

LAUNCH DATE MAY 12 1971

FLIGHT TIME 198.00

ARRIVAL DATE NOV 26 1971

HELIOCENTRIC CONIC

RL 151.12 LAL .00 LOL 230.64 VL 32.216 GAL -.21 AZL 91.76 HCA 153.68 SMA 184.69 ECC .18184 INC 1.7642 V1 29.484
 RP 212.86 LAP -.78 LOP 24.32 VP 22.987 GAP 5.75 AZP 88.42 TAL 358.64 TAP 152.32 RCA 151.11 APO 218.28 V2 25.782
 RC 134.475 GL -19.72 GP -.74 ZAL 99.98 ZAP 101.89 ETS 179.74 ZAE 145.27 ETE 181.50 ZAC 100.67 ETC 275.13 LVI -13.72

PLANETOCENTRIC CONIC

C3 8.637 VHL 2.939 DLA -29.33 RAL 341.18 RAD 6637.3 VEL 11.347 PTH 6.40 VHP 2.918 DPA -21.19 RAP 309.25 ECC 1.1421
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 48 53 2342.48 .50 59.81 191.62 137.57 17 27 56 1342.5 18.65 43.55
 60.00 18 10 44 2124.77 5.38 44.88 196.29 130.00 18 46 8 1124.8 20.82 25.87
 70.00 20 0 29 1801.95 10.99 22.87 200.45 122.54 20 30 30 802.0 23.32 1.30
 80.00 22 37 27 1340.00 18.17 349.57 204.45 114.11 22 59 17 310.0 26.53 325.28
 81.89 23 39 23 1111.57 21.73 336.41 205.99 110.20 23 57 55 111.6 28.10 310.95
 100.00 1 24 15 6072.51 18.17 288.84 204.45 114.11 3 5 28 5072.5 26.53 264.55
 110.00 1 3 51 6136.81 10.99 289.69 200.45 122.54 2 48 8 5136.8 23.32 268.12

DIFFERENTIAL CORRECTIONS

TDE -.2377 TRA .1423 TC3-2.7404 BAU .3166
 RDE -.1283 RRA .0688 RC3 .0851 FAU .25038
 FDE .1440 FRA 5.5796 FC-25.0953 BSP 2110
 BDE .2701 BRA .1580 BC3 2.7417 FSP 2941

MID-COURSE EXECUTION ACCURACY

SGT 1706.0 SGR 297.8 SG3 1669.4
 RRT .1658 RRF .1932 RTF .8373
 SGB 1731.8 R23 .0508 R13 .8375
 SG1 1706.7 SG2 293.6 THA 1.71

ORBIT DETERMINATION ACCURACY

ST 23.8 SR 12.7 S8 47.6
 CRT .9940 CRS -.1068 CST -.1383
 LSA 47.8 MSA 26.6 S8A 1.2
 EL1 26.9 EL2 1.2 ALF 28.06

LAUNCH DATE MAY 12 1971 FLIGHT TIME 200.00 ARRIVAL DATE NOV 28 1971

HELIOCENTRIC CONIC DISTANCE 477.075 EARTH TO MARS
 RL 151.12 LAL .00 LOL 230.64 VL 32.214 GAL -.24 AZL 91.76 HCA 154.87 SMA 184.66 ECC .18169 INC 1.7593 V1 29.484
 RP 213.16 LAP -.75 LOP 23.52 VP 22.946 GAP 5.57 AZP 88.41 TAL 358.42 TAP 153.29 RCA 151.11 APO 218.21 V2 25.749
 RC 136.814 GL -19.86 GP -.78 ZAL 100.35 ZAP 99.82 ETS 179.69 ZAE 143.20 ETE 181.50 ZAC 100.72 ETC 274.93 LVI -13.39

PLANETOCENTRIC CONIC
 C3 8.640 VHL 2.939 DLA -29.12 RAL 341.55 RAD 6637.3 VEL 11.347 PTH 6.40 VHP 2.895 DPA -21.44 RAP 308.35 ECC 1.1422
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 49 12 2347.23 .26 60.00 191.92 137.58 17 20 20 1347.2 18.43 43.77
 60.00 18 10 30 2130.94 5.11 45.17 196.56 130.03 18 46 1 1130.9 20.58 26.21
 70.00 19 59 9 1811.37 10.64 23.36 200.67 122.65 20 29 21 811.4 23.05 1.88
 80.00 22 30 38 1336.80 17.42 351.20 204.48 114.64 22 52 55 336.8 26.07 327.14
 82.73 23 47 29 1090.26 21.58 334.78 206.30 110.05 24 5 39 90.3 27.91 309.34
 100.00 1 17 26 6099.31 17.42 290.48 204.48 114.64 2 59 5 8099.3 26.07 266.41
 110.00 1 2 32 6146.23 10.64 290.20 200.67 122.65 2 44 58 5146.2 23.05 268.71

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 1864.6 SGR 286.3 SG3 1898.0 ST 24.1 SR 12.2 SS 48.4
 RRT .1828 RRF .2074 RTF .8621 CRT .9895 CRS -.0852 CST -.1848
 SGB 1886.5 R23 .0468 R13 .8623 LSA 48.7 MSA 26.4 SSA 1.1
 SGI 1865.4 SG2 281.3 THA 1.65 EL1 27.0 EL2 1.6 ALF 26.61

LAUNCH DATE MAY 12 1971 FLIGHT TIME 202.00 ARRIVAL DATE NOV 30 1971

HELIOCENTRIC CONIC DISTANCE 481.265 EARTH TO MARS
 RL 151.12 LAL .00 LOL 230.64 VL 32.213 GAL -.28 AZL 91.75 HCA 156.06 SMA 184.63 ECC .18160 INC 1.7542 V1 29.484
 RP 213.46 LAP -.71 LOP 26.71 VP 22.906 GAP 5.39 AZP 88.40 TAL 358.18 TAP 154.25 RCA 151.10 APO 218.14 V2 25.714
 RC 139.171 GL -19.60 GP -.82 ZAL 100.75 ZAP 97.76 ETS 179.64 ZAE 141.14 ETE 181.50 ZAC 100.76 ETC 274.73 LVI -13.07

PLANETOCENTRIC CONIC
 C3 8.648 VHL 2.941 DLA -28.90 RAL 341.92 RAD 6637.3 VEL 11.347 PTH 6.40 VHP 2.876 DPA -21.69 RAP 307.46 ECC 1.1423
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 49 29 2352.50 -.00 60.22 192.23 137.58 17 28 42 1352.5 18.18 44.01
 60.00 18 10 13 2137.74 4.81 45.50 196.85 130.06 18 45 51 1137.7 20.31 26.58
 70.00 19 57 43 1821.57 10.27 23.93 200.90 122.75 20 28 5 821.6 22.74 2.52
 80.00 22 24 21 1362.26 16.69 352.74 204.55 115.12 22 47 3 362.3 25.60 328.89
 83.76 0 1 13 1063.72 21.42 332.76 206.62 109.88 0 18 57 63.7 27.70 307.35
 100.00 1 11 9 6124.77 16.69 292.01 204.55 115.12 2 53 14 5124.8 25.60 268.16
 110.00 1 1 5 6156.43 10.27 290.76 200.90 122.75 2 43 42 5156.4 22.74 269.34

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 2029.6 SGR 275.0 SG3 1717.7 ST 24.5 SR 11.6 SS 49.0
 RRT .1998 RRF .2253 RTF .8824 CRT .9801 CRS -.0804 CST -.2479
 SGB 2048.1 R23 .0468 R13 .8825 LSA 49.5 MSA 26.1 SSA 1.1
 SGI 2030.3 SG2 269.3 THA 1.58 EL1 27.0 EL2 2.1 ALF 25.11

LAUNCH DATE MAY 12 1971 FLIGHT TIME 204.00 ARRIVAL DATE DEC 2 1971

HELIOCENTRIC CONIC DISTANCE 485.455 EARTH TO MARS
 RL 151.12 LAL .00 LOL 230.64 VL 32.212 GAL -.32 AZL 91.75 HCA 157.25 SMA 184.62 ECC .18157 INC 1.7488 V1 29.484
 RP 213.77 LAP -.68 LOP 27.90 VP 22.868 GAP 5.21 AZP 88.39 TAL 357.94 TAP 155.19 RCA 151.10 APO 218.14 V2 25.680
 RC 141.545 GL -19.51 GP -.87 ZAL 101.16 ZAP 95.73 ETS 179.59 ZAE 139.09 ETE 181.50 ZAC 100.79 ETC 274.53 LVI -12.74

PLANETOCENTRIC CONIC
 C3 8.662 VHL 2.943 DLA -28.86 RAL 342.31 RAD 6637.3 VEL 11.348 PTH 6.40 VHP 2.861 DPA -21.92 RAP 306.58 ECC 1.1425
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 49 44 2358.29 -.29 60.47 192.56 137.58 17 29 3 1358.3 17.90 44.28
 60.00 18 9 51 2145.16 4.48 45.86 197.14 130.09 18 45 37 1145.2 20.01 26.99
 70.00 19 56 9 1832.52 9.87 24.52 201.15 122.86 20 26 42 832.5 22.41 3.20
 80.00 22 18 26 1386.91 15.97 354.22 204.65 115.57 22 41 33 386.9 25.13 330.57
 85.11 0 13 45 1028.58 21.24 330.11 206.97 109.71 0 30 54 28.6 27.47 304.72
 100.00 1 5 14 6149.42 15.97 293.49 204.65 115.57 2 47 44 5149.4 25.13 269.84
 110.00 0 59 32 6167.38 9.87 291.35 201.15 122.86 2 42 19 5167.4 22.41 270.02

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 2200.0 SGR 283.2 SG3 1735.9 ST 24.9 SR 11.0 SS 49.8
 RRT .2189 RRF .2412 RTF .8773 CRT .9662 CRS -.0478 CST -.2828
 SGB 2215.7 R23 .0431 R13 .8975 LSA 50.5 MSA 26.0 SSA 1.1
 SGI 2200.8 SG2 256.7 THA 1.52 EL1 27.1 EL2 2.6 ALF 23.40

LAUNCH DATE MAY 12 1971 FLIGHT TIME 206.00 ARRIVAL DATE DEC 4 1971

HELIOCENTRIC CONIC DISTANCE 489.646 EARTH TO MARS
 RL 151.12 LAL .00 LOL 230.64 VL 32.212 GAL -.36 AZL 91.74 HCA 158.44 SMA 184.62 ECC .18159 INC 1.7424 V1 29.484
 RP 214.08 LAP -.64 LOP 29.08 VP 22.828 GAP 5.04 AZP 88.38 TAL 357.88 TAP 156.11 RCA 151.10 APO 218.15 V2 25.645
 RC 143.936 GL -19.42 GP -.91 ZAL 101.59 ZAP 93.72 ETS 179.53 ZAE 137.04 ETE 181.49 ZAC 100.81 ETC 274.33 LVI -12.41

PLANETOCENTRIC CONIC
 C3 8.680 VHL 2.946 DLA -28.41 RAL 342.72 RAD 6637.4 VEL 11.349 PTH 6.40 VHP 2.848 DPA -22.16 RAP 305.72 ECC 1.1429
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 49 57 2364.80 -.81 60.73 192.90 137.57 17 29 21 1364.6 17.59 44.58
 60.00 18 9 25 2153.19 4.13 46.24 197.45 130.12 18 45 18 1153.2 19.69 27.42
 70.00 19 54 29 1844.19 9.43 25.15 201.41 122.98 20 25 13 844.2 22.05 3.91
 80.00 22 12 49 1411.03 15.26 355.65 204.77 115.98 22 36 20 411.0 24.65 332.20
 87.19 0 32 35 6261.29 21.05 303.89 207.33 109.53 2 16 56 5261.3 27.22 278.53
 100.00 0 59 36 6173.54 15.26 294.93 204.77 115.98 2 42 30 5173.5 24.65 271.47
 110.00 0 57 51 6179.05 9.43 291.97 201.41 122.98 2 40 50 5179.1 22.05 270.74

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 2375.0 SGR 251.9 SG3 1750.3 ST 25.4 SR 10.5 SS 50.3
 RRT .2401 RRF .2635 RTF .9105 CRT .9482 CRS -.0430 CST -.3421
 SGB 2388.3 R23 .0438 R13 .9106 LSA 51.3 MSA 25.6 SSA 1.0
 SGI 2375.8 SG2 244.5 THA 1.47 EL1 27.3 EL2 3.1 ALF 21.61

LAUNCH DATE MAY 12 1971 FLIGHT TIME 208.00 ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC DISTANCE 493.836 EARTH TO MARS
 RL 151.12 LAL .00 LOL 230.64 VL 32.213 GAL - .40 AZL 91.74 HCA 159.62 SMA 184.63 ECC .18165 INC 1.7359 V1 29.484
 RP 214.39 LAP -.60 LOP 30.26 VP 22.787 GAP 4.87 AZP 88.37 TAL 357.41 TAP 157.02 RCA 151.09 APO 218.17 V2 25.609
 RC 148.344 GL -19.31 GP -.97 ZAL 102.05 ZAP 91.74 ETS 179.48 ZAE 135.02 ETE 181.48 ZAC 100.83 ETC 274.14 LVI -12.09

PLANETOCENTRIC CONIC
 C3 8.704 VHL 2.950 DLA -28.13 RAL 343.13 RAD 6637.4 VEL 11.350 PTH 6.40 VHP 2.839 DPA -22.39 RAP 304.89 ECC 1.1433
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 50 6 2371.44 -.99 61.01 193.25 137.57 17 29 38 1371.4 17.26 44.89
 60.00 18 8 54 2181.82 3.75 46.66 197.77 130.16 18 44 56 1161.8 19.35 27.89
 70.00 19 52 42 1856.57 8.97 25.81 201.68 123.09 20 23 39 856.6 21.67 4.67
 80.00 22 7 23 1434.87 14.54 357.06 204.92 116.37 22 31 18 434.9 24.16 335.79
 90.00 0 32 26 6267.79 18.99 303.55 206.98 111.36 2 16 53 5267.8 26.13 278.80
 100.00 0 54 11 6197.38 14.54 296.33 204.92 116.37 2 37 28 5197.4 24.16 273.07
 110.00 0 56 4 6191.43 8.97 292.64 201.68 123.09 2 39 16 5191.4 21.67 271.50

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2218 TRA .4265 TC3-3.9563 BAU .4804 SGT 2552.9 SGR 240.5 S63 1765.1 ST 26.0 SR 9.9 SS 51.0
 RDE -.0998 RRA .0641 RC3 .0388 FAU .26035 RRT .2644 RRF .2868 RTF .9212 CRT .9256 CRS -.0240 CST -.3877
 FDE .4045 FRA 6.1474 FC-25.8942 B8P 3767 SGB 2564.2 R23 .0427 R13 .9213 LSA 52.3 MSA 25.3 SSA 1.0
 BDE .2431 BRA .4313 BC3 3.9565 F8P 3076 S61 2553.7 S62 231.8 THA 1.44 EL1 27.6 EL2 3.5 ALF 19.77

LAUNCH DATE MAY 12 1971 FLIGHT TIME 210.00 ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC DISTANCE 498.025 EARTH TO MARS
 RL 151.12 LAL .00 LOL 230.64 VL 32.214 GAL - .44 AZL 91.73 HCA 160.80 SMA 184.65 ECC .18177 INC 1.7281 V1 29.484
 RP 214.72 LAP -.57 LOP 31.44 VP 22.748 GAP 4.70 AZP 88.37 TAL 357.12 TAP 157.92 RCA 151.09 APO 218.22 V2 25.573
 RC 148.770 GL -19.19 GP -1.02 ZAL 102.51 ZAP 89.78 ETS 179.42 ZAE 133.01 ETE 181.47 ZAC 100.83 ETC 275.95 LVI -11.77

PLANETOCENTRIC CONIC
 C3 8.733 VHL 2.955 DLA -27.84 RAL 343.55 RAD 6637.4 VEL 11.351 PTH 6.40 VHP 2.833 DPA -22.61 RAP 304.09 ECC 1.1437
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 50 12 2378.80 -1.32 61.32 193.62 137.56 17 29 51 1378.8 16.91 45.23
 60.00 18 8 18 2171.07 3.35 47.10 198.11 130.19 18 44 29 1171.1 18.97 28.39
 70.00 19 50 48 1869.65 8.49 26.51 201.95 123.21 20 21 58 869.7 21.26 5.47
 80.00 22 2 6 1458.58 13.82 358.45 205.09 116.73 22 26 24 458.6 23.65 335.37
 90.00 0 15 33 1040.91 17.43 329.45 206.81 112.63 0 32 54 40.9 25.25 305.15
 100.00 0 48 54 6221.09 13.82 297.72 205.09 116.73 2 32 35 5221.1 23.65 274.64
 110.00 0 54 10 6204.51 8.49 293.34 201.95 123.21 2 37 35 5204.5 21.26 272.29

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2162 TRA .4873 TC3-4.1998 BAU .4904 SGT 2734.8 SGR 229.3 S63 1771.2 ST 26.6 SR 9.3 SS 51.6
 RDE -.0937 RRA .0633 RC3 .0288 FAU .26062 RRT .2912 RRF .3142 RTF .9296 CRT .9008 CRS -.0123 CST -.4345
 FDE .4562 FRA 6.2254 FC-25.8360 B8P 4098 SGB 2744.4 R23 .0436 R13 .9297 LSA 53.2 MSA 25.0 SSA .9
 BDE .2357 BRA .4914 BC3 4.1999 F8P 3083 S61 2735.6 S62 219.3 THA 1.41 EL1 28.0 EL2 3.9 ALF 17.84

LAUNCH DATE MAY 12 1971 FLIGHT TIME 212.00 ARRIVAL DATE DEC 10 1971

HELIOCENTRIC CONIC DISTANCE 502.214 EARTH TO MARS
 RL 151.12 LAL .00 LOL 230.64 VL 32.216 GAL - .49 AZL 91.72 HCA 161.97 SMA 184.68 ECC .18193 INC 1.7195 V1 29.484
 RP 215.04 LAP -.53 LOP 32.61 VP 22.709 GAP 4.53 AZP 88.36 TAL 356.83 TAP 158.80 RCA 151.08 APO 218.28 V2 25.536
 RC 151.211 GL -19.06 GP -1.09 ZAL 103.00 ZAP 87.87 ETS 179.36 ZAE 131.03 ETE 181.47 ZAC 100.82 ETC 273.77 LVI -11.45

PLANETOCENTRIC CONIC
 C3 8.767 VHL 2.961 DLA -27.52 RAL 343.98 RAD 6637.4 VEL 11.352 PTH 6.41 VHP 2.830 DPA -22.83 RAP 303.31 ECC 1.1443
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 50 15 2386.71 -1.72 61.65 193.99 137.55 17 30 2 1386.7 16.53 45.60
 60.00 18 7 36 2180.95 2.91 47.57 198.45 130.21 18 43 57 1180.9 18.98 28.92
 70.00 19 48 47 1883.43 7.97 27.25 202.24 123.32 20 20 10 883.4 20.83 6.30
 80.00 21 56 55 1482.29 13.09 359.83 205.27 117.08 22 21 37 482.3 23.12 336.93
 90.00 0 3 42 1086.10 16.22 332.22 206.80 113.48 0 21 49 86.1 24.52 308.26
 100.00 0 43 43 6244.80 13.09 299.10 205.27 117.08 2 27 48 5244.8 23.12 276.21
 110.00 0 52 9 6218.29 7.97 294.07 202.24 123.32 2 35 47 5218.3 20.83 273.13

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2086 TRA .5505 TC3-4.4372 BAU .5201 SGT 2917.2 SGR 218.4 S63 1775.0 ST 27.3 SR 8.7 SS 52.3
 RDE -.0877 RRA .0628 RC3 .0179 FAU .26012 RRT .3221 RRF .3462 RTF .5561 CRT .8723 CRS .0036 CST -.4766
 FDE .9248 FRA 6.3117 FC-25.6868 B8P 4442 SGB 2925.4 R23 .0456 R13 .9362 LSA 54.3 MSA 24.7 SSA .9
 BDE .2263 BRA .5541 BC3 4.4372 F8P 3095 S61 2918.1 S62 206.7 THA 1.39 EL1 28.4 EL2 4.1 ALF 15.91

LAUNCH DATE MAY 12 1971 FLIGHT TIME 214.00 ARRIVAL DATE DEC 12 1971

HELIOCENTRIC CONIC DISTANCE 506.401 EARTH TO MARS
 RL 151.12 LAL .00 LOL 230.64 VL 32.218 GAL - .54 AZL 91.71 HCA 163.14 SMA 184.72 ECC .18214 INC 1.7100 V1 29.484
 RP 215.37 LAP -.50 LOP 33.78 VP 22.671 GAP 4.37 AZP 88.36 TAL 356.52 TAP 159.66 RCA 151.07 APO 218.36 V2 25.499
 RC 153.669 GL -18.91 GP -1.16 ZAL 103.50 ZAP 85.98 ETS 179.30 ZAE 129.07 ETE 181.46 ZAC 100.81 ETC 273.60 LVI -11.13

PLANETOCENTRIC CONIC
 C3 8.805 VHL 2.967 DLA -27.18 RAL 344.42 RAD 6637.4 VEL 11.354 PTH 6.41 VHP 2.829 DPA -23.05 RAP 302.57 ECC 1.1449
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 50 14 2395.16 -2.15 62.01 194.37 137.54 17 30 9 1395.2 16.12 45.98
 60.00 18 6 49 2191.46 2.45 48.08 198.79 130.24 18 43 20 1191.5 18.15 29.48
 70.00 19 46 38 1897.92 7.43 28.02 202.53 123.43 20 18 16 897.9 20.37 7.17
 80.00 21 51 48 1506.12 12.35 1.21 205.46 117.40 22 16 54 506.1 22.57 338.49
 90.00 23 49 56 1125.18 15.15 334.58 206.86 114.17 24 8 41 125.2 23.82 310.91
 100.00 0 38 36 6268.63 12.35 300.48 205.46 117.40 2 23 4 5268.6 22.57 277.76
 110.00 0 50 0 6232.78 7.43 294.84 202.53 123.43 2 33 53 5232.8 20.37 274.00

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1991 TRA .6142 TC3-4.6714 BAU .5499 SGT 3100.2 SGR 207.8 S63 1772.9 ST 28.0 SR 8.1 SS 52.9
 RDE -.0816 RRA .0623 RC3 .0064 FAU .25932 RRT .3578 RRF .3822 RTF .9419 CRT .8414 CRS .0197 CST -.5156
 FDE .5980 FRA 6.3630 FC-25.4975 B8P 4785 SGB 3107.1 R23 .0470 R13 .9420 LSA 55.3 MSA 24.4 SSA .8
 BDE .2152 BRA .6174 BC3 4.6714 F8P 3102 S61 3101.1 S62 194.0 THA 1.38 EL1 28.9 EL2 4.3 ALF 14.03

LAUNCH DATE MAY 12 1971

FLIGHT TIME 216.00

ARRIVAL DATE DEC 14 1971

HELIOCENTRIC CONIC

DISTANCE 510.988

EARTH TO MARS

RL 151.12 LAL .00 LOL 230.84 VL 32.221 GAL -.59 AZL 91.70 HCA 164.31 SMA 184.78 ECC .18239 INC 1.6991 V1 29.484
RP 213.71 LAP -.48 LOP 34.95 VP 22.632 GAP 4.20 AZP 88.36 TAL 356.20 TAP 160.51 RCA 151.06 APO 210.46 V2 25.461
RC 158.143 GL -18.74 GP -1.24 ZAL 104.02 ZAP 84.14 ETS 179.23 ZAE 127.14 ETE 181.46 ZAC 100.77 ETC 273.44 LVI -10.81

PLANETOCENTRIC CONIC

C3 8.847 VHL 2.974 DLA -26.82 RAL 344.86 RAD 6637.4 VEL 11.356 PTH 6.41 VHP 2.831 DPA -23.26 RAP 301.86 ECC 1.1456
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 50 7 2404.20 -2.60 62.38 194.76 137.52 17 30 11 1404.2 15.68 46.39
60.00 18 5 54 2202.63 1.96 48.61 199.14 130.26 18 42 36 1202.6 17.70 30.08
70.00 19 44 21 1913.15 6.86 28.83 202.83 123.54 20 16 14 913.2 19.88 8.08
80.00 21 46 42 1530.18 11.59 2.59 205.67 117.71 22 12 12 530.2 22.00 340.05
90.00 23 41 9 1161.07 14.14 336.73 206.96 114.75 -24 0 30 161.1 23.14 313.32
100.00 0 33 29 1004.65 11.59 323.96 205.67 117.71 0 50 14 4.7 22.00 301.42
110.00 0 47 43 6248.01 6.86 295.65 202.83 123.54 2 31 51 5248.0 19.88 274.91

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1889 TRA .6796 TC3-4.9036 BAU .5800 SGT 3285.4 SGR 198.0 SG3 1771.1 ST 28.9 SR 7.5 SS 53.4
RDE -.0755 RRA .0622 RC3 -.0083 FAU .25872 RRT .4009 RRF .4266 RTF .9472 CRT .8103 CR8 .0254 CST -.5581
PDE .6567 FRA 6.4157 FC-25.3188 B8P 5125 SGB 3291.3 R23 .0498 R13 .9472 LSA 56.3 MSA 23.9 SSA .8
BDE .2034 BRA .6824 BC3 4.9037 F8P 3094 SG1 3286.3 SG2 181.3 THA 1.39 EL1 29.5 EL2 4.3 ALF 12.22

LAUNCH DATE MAY 12 1971

FLIGHT TIME 218.00

ARRIVAL DATE DEC 16 1971

HELIOCENTRIC CONIC

DISTANCE 514.772

EARTH TO MARS

RL 151.12 LAL .00 LOL 230.84 VL 32.224 GAL -.64 AZL 91.69 HCA 165.47 SMA 184.82 ECC .18268 INC 1.6861 V1 29.484
RP 216.04 LAP -.42 LOP 36.11 VP 22.594 GAP 4.04 AZP 88.37 TAL 355.88 TAP 161.35 RCA 151.06 APO 210.58 V2 25.424
RC 158.631 GL -18.55 GP -1.33 ZAL 104.56 ZAP 82.33 ETS 179.16 ZAE 125.23 ETE 181.46 ZAC 100.73 ETC 273.28 LVI -10.90

PLANETOCENTRIC CONIC

C3 8.894 VHL 2.992 DLA -26.43 RAL 345.31 RAD 6637.5 VEL 11.358 PTH 6.41 VHP 2.835 DPA -23.48 RAP 301.20 ECC 1.1464
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 49 54 2413.87 -3.09 62.79 195.15 137.50 17 30 8 1413.9 15.21 46.83
60.00 18 4 51 2214.54 1.44 49.18 199.50 130.28 18 41 45 1214.5 17.21 30.71
70.00 19 41 53 1929.19 6.25 29.68 203.13 123.64 20 14 3 929.2 19.36 9.04
80.00 21 41 33 1554.65 10.81 3.99 205.88 118.00 22 7 28 554.6 21.40 341.62
90.00 23 33 0 1195.22 13.16 338.76 207.00 115.26 23 52 55 195.2 22.45 315.58
100.00 0 28 21 1029.12 10.81 325.36 205.88 118.00 0 45 30 29.1 21.40 302.99
110.00 0 45 16 6264.05 6.25 296.50 203.13 123.64 2 29 40 5264.1 19.36 275.86

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1776 TRA .7457 TC3-5.1310 BAU .6101 SGT 3470.2 SGR 189.1 SG3 1763.6 ST 29.8 SR 6.9 SS 54.1
RDE -.0692 RRA .0624 RC3 -.0196 FAU .25650 RRT .4501 RRF .4786 RTF .9504 CRT .7812 CR8 .0310 CST -.5933
PDE .7300 FRA 6.4735 FC-24.9681 B8P 5455 SGB 3475.3 R23 .0558 R13 .9505 LSA 57.5 MSA 23.6 SSA .7
BDE .1906 BRA .7483 BC3 5.1311 F8P 3091 SG1 3471.2 SG2 168.8 THA 1.41 EL1 30.3 EL2 4.3 ALF 10.53

LAUNCH DATE MAY 12 1971

FLIGHT TIME 220.00

ARRIVAL DATE DEC 18 1971

HELIOCENTRIC CONIC

DISTANCE 518.955

EARTH TO MARS

RL 151.12 LAL .00 LOL 230.84 VL 32.228 GAL -.69 AZL 91.67 HCA 166.63 SMA 184.88 ECC .18301 INC 1.6718 V1 29.484
RP 216.39 LAP -.39 LOP 37.27 VP 22.557 GAP 3.88 AZP 88.37 TAL 355.54 TAP 162.17 RCA 151.05 APO 218.71 V2 25.385
RC 161.134 GL -18.33 GP -1.44 ZAL 105.11 ZAP 80.56 ETS 179.08 ZAE 123.36 ETE 181.48 ZAC 100.66 ETC 273.13 LVI -10.18

PLANETOCENTRIC CONIC

C3 8.944 VHL 2.991 DLA -26.02 RAL 345.75 RAD 6637.5 VEL 11.360 PTH 6.41 VHP 2.842 DPA -23.70 RAP 300.57 ECC 1.1472
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 49 34 2424.22 -3.60 63.22 195.54 137.47 17 29 58 1424.2 14.71 47.30
60.00 18 3 38 2227.22 .88 49.79 199.85 130.29 18 40 45 1227.2 16.69 31.37
70.00 19 39 14 1946.10 5.62 30.57 203.43 123.74 20 11 40 946.1 18.80 10.03
80.00 21 36 19 1579.63 10.01 5.41 206.09 118.28 22 2 39 579.6 20.77 343.21
90.00 23 25 14 1228.41 12.18 340.71 207.22 115.72 23 45 42 228.4 21.75 317.76
100.00 0 23 7 1054.10 10.01 326.78 206.09 118.28 0 40 41 54.1 20.77 304.58
110.00 0 42 37 6280.95 5.62 297.39 203.43 123.74 2 27 18 5281.0 18.80 276.85

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1617 TRA .8146 TC3-5.3482 BAU .6395 SGT 3653.1 SGR 181.5 SG3 1755.7 ST 30.7 SR 6.3 SS 54.9
RDE -.0627 RRA .0630 RC3 -.0349 FAU .25473 RRT .5089 RRF .5388 RTF .9540 CRT .7494 CR8 .0341 CST -.8303
PDE .8132 FRA 6.5162 FC-24.6579 B8P 5803 SGB 3657.6 R23 .0609 R13 .9541 LSA 58.8 MSA 23.1 SSA .7
BDE .1734 BRA .8171 BC3 5.3483 F8P 3076 SG1 3654.2 SG2 156.2 THA 1.45 EL1 31.1 EL2 4.1 ALF 8.96

LAUNCH DATE MAY 12 1971

FLIGHT TIME 222.00

ARRIVAL DATE DEC 20 1971

HELIOCENTRIC CONIC

DISTANCE 523.135

EARTH TO MARS

RL 151.12 LAL .00 LOL 230.84 VL 32.232 GAL -.74 AZL 91.65 HCA 167.79 SMA 184.95 ECC .18338 INC 1.6540 V1 29.484
RP 216.73 LAP -.35 LOP 38.43 VP 22.519 GAP 3.72 AZP 88.38 TAL 355.19 TAP 162.98 RCA 151.03 APO 218.86 V2 25.347
RC 163.849 GL -18.08 GP -1.57 ZAL 105.67 ZAP 78.84 ETS 178.99 ZAE 121.52 ETE 181.47 ZAC 100.57 ETC 272.99 LVI -9.86

PLANETOCENTRIC CONIC

C3 8.997 VHL 2.999 DLA -25.57 RAL 346.19 RAD 6637.5 VEL 11.362 PTH 6.42 VHP 2.850 DPA -23.94 RAP 299.99 ECC 1.1481
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 49 4 2435.34 -4.16 63.69 195.93 137.44 17 29 39 1435.3 14.16 47.80
60.00 18 2 12 2240.79 .28 50.44 200.20 130.30 18 39 33 1240.8 16.13 32.08
70.00 19 36 21 1964.01 4.94 31.51 203.72 123.84 20 9 5 964.0 18.21 11.08
80.00 21 30 56 1605.38 9.17 6.87 206.30 118.54 21 57 41 605.4 20.11 344.83
90.00 23 17 36 1261.33 11.20 342.63 207.37 116.14 23 38 38 261.3 21.02 319.90
100.00 0 17 43 1079.86 9.17 328.24 206.30 118.54 0 35 43 79.9 20.11 306.20
110.00 0 39 43 1010.83 4.94 320.43 203.72 123.84 0 56 34 10.8 18.21 300.00

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1469 TRA .8827 TC3-5.5683 BAU .6698 SGT 3838.1 SGR 178.1 SG3 1744.5 ST 31.7 SR 5.7 SS 55.6
RDE -.0561 RRA .0643 RC3 -.0519 FAU .25238 RRT .5751 RRF .6082 RTF .9566 CRT .7287 CR8 .0210 CST -.6639
PDE .8860 FRA 6.5530 FC-24.2859 B8P 6114 SGB 3842.1 R23 .0700 R13 .9566 LSA 60.1 MSA 22.7 SSA .6
BDE .1572 BRA .8851 BC3 5.5686 F8P 3043 SG1 3839.4 SG2 144.0 THA 1.51 EL1 32.0 EL2 3.9 ALF 7.61

LAUNCH DATE MAY 12 1971

FLIGHT TIME 224.00

ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC

DISTANCE 527.314

EARTH TO MARS

RL 151.12 LAL .00 LOL 230.64 VL 32.236 GAL -.80 AZL 91.63 HCA 168.94 SMA 189.02 ECC .10378 INC 1.6331 V1 29.484
RP 217.08 LAP -.31 LOP 39.58 VP 22.482 GAP 3.57 AZP 88.40 TAL 354.84 TAP 163.78 RCA 151.02 APO 219.03 V2 25.308
RC 166.178 GL -17.79 GP -1.72 ZAL 106.23 ZAP 77.16 ETS 178.90 ZAE 119.72 ETE 181.49 ZAC 100.45 ETC 272.86 LVI -9.52

PLANETOCENTRIC CONIC

C3 9.052 VHL 3.009 DLA -25.08 RAL 346.62 RAD 6637.5 VEL 11.365 PTH 6.42 VHP 2.861 DPA -24.18 RAP 299.45 ECC 1.1490
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 48 21 2447.35 -4.77 64.19 196.31 137.39 17 29 9 1447.4 13.57 48.33
60.00 18 0 31 2255.41 -1.36 51.13 200.54 130.30 18 38 7 1255.4 15.52 32.84
70.00 19 33 8 1983.12 4.21 32.52 204.00 123.92 20 6 11 983.1 17.56 12.19
80.00 21 25 16 1632.15 8.30 8.37 206.50 118.78 21 52 29 632.2 19.40 346.51
90.00 23 9 58 1294.51 10.20 344.55 207.51 116.52 23 31 32 294.5 20.26 322.03
100.00 0 12 4 1106.62 8.30 329.74 206.50 118.78 0 30 31 106.6 19.40 307.87
110.00 0 36 30 1029.94 4.21 321.43 204.00 123.92 0 53 40 29.9 17.56 301.10

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1288 TRA .9518 TC3-5.7773 BAU .6992 SGT 4018.8 SGR 173.5 SG3 1726.2 ST 32.8 SR 5.1 SS 56.2
RDE -.0493 RRA .0663 RC3 -.0715 FAU .24950 RRT .6478 RRF .6834 RTF .9591 CRT .7150 CRS -.0060 CST -.6983
FDE .9564 FRA 6.5666 FC-23.8614 BSP 6451 SGB 4022.5 R23 .0807 R13 .9592 LSA 61.4 MSA 22.1 S3A .6
BDE .1379 BRA .9542 BC3 5.7777 FSP 3026 SG1 4020.4 SG2 132.1 THA 1.60 EL1 33.1 EL2 3.6 ALF 6.46

LAUNCH DATE MAY 12 1971

FLIGHT TIME 226.00

ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC

DISTANCE 531.489

EARTH TO MARS

RL 151.12 LAL .00 LOL 230.64 VL 32.241 GAL -.86 AZL 91.61 HCA 170.09 SMA 185.11 ECC .18422 INC 1.6070 V1 29.484
RP 217.43 LAP -.28 LOP 40.73 VP 22.445 GAP 3.41 AZP 88.42 TAL 354.47 TAP 164.58 RCA 151.01 APO 219.21 V2 25.269
RC 166.717 GL -17.45 GP -1.91 ZAL 106.85 ZAP 75.53 ETS 178.78 ZAE 117.94 ETE 181.51 ZAC 100.30 ETC 272.74 LVI -9.17

PLANETOCENTRIC CONIC

C3 9.109 VHL 3.018 DLA -24.53 RAL 347.04 RAD 6637.6 VEL 11.367 PTH 6.42 VHP 2.873 DPA -24.46 RAP 298.96 ECC 1.1490
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 47 22 2460.47 -5.42 64.75 196.67 137.34 17 28 23 1460.5 12.93 48.91
60.00 17 58 30 2271.31 -1.06 51.89 200.86 130.29 18 36 21 1271.3 14.86 33.66
70.00 19 29 31 2003.71 3.43 33.59 204.26 124.00 20 2 55 1003.7 16.86 13.37
80.00 21 19 14 1660.35 7.37 9.95 206.69 119.02 21 46 54 660.3 18.64 348.25
90.00 23 2 5 1328.59 9.16 346.51 207.64 116.87 23 24 14 328.6 19.44 324.20
100.00 0 6 1 1134.82 7.37 331.32 206.69 119.02 0 24 56 134.8 18.64 309.62
110.00 0 32 53 1050.53 3.43 322.51 204.26 124.00 0 50 24 50.5 16.86 302.29

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1094 TRA 1.0212 TC3-5.9908 BAU .7297 SGT 4202.5 SGR 175.2 SG3 1713.4 ST 34.0 SR 4.6 SS 56.9
RDE -.0421 RRA .0695 RC3 -.0951 FAU .24694 RRT .7239 RRF .7622 RTF .9611 CRT .7195 CRS -.0569 CST -.7294
FDE 1.0297 FRA 6.5839 FC-23.4692 BSP 6760 SGB 4206.2 R23 .0955 R13 .9612 LSA 62.8 MSA 21.5 S3A .5
BDE .1172 BRA 1.0235 BC3 5.9916 FSP 2992 SG1 4204.4 SG2 120.8 THA 1.73 EL1 34.2 EL2 3.1 ALF 5.54

LAUNCH DATE MAY 12 1971

FLIGHT TIME 228.00

ARRIVAL DATE DEC 26 1971

HELIOCENTRIC CONIC

DISTANCE 535.663

EARTH TO MARS

RL 151.12 LAL .00 LOL 230.64 VL 32.247 GAL -.92 AZL 91.58 HCA 171.23 SMA 185.19 ECC .18469 INC 1.5753 V1 29.484
RP 217.79 LAP -.24 LOP 41.87 VP 22.408 GAP 3.26 AZP 88.44 TAL 354.10 TAP 165.33 RCA 150.99 APO 219.40 V2 25.229
RC 171.268 GL -17.03 GP -2.14 ZAL 107.46 ZAP 73.94 ETS 178.64 ZAE 116.21 ETE 181.55 ZAC 100.09 ETC 272.63 LVI -8.79

PLANETOCENTRIC CONIC

C3 9.166 VHL 3.028 DLA -23.92 RAL 347.44 RAD 6637.6 VEL 11.370 PTH 6.42 VHP 2.887 DPA -24.77 RAP 298.52 ECC 1.1509
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 46 1 2474.98 -6.15 65.36 197.00 137.27 17 27 16 1475.0 12.22 49.53
60.00 17 56 0 2288.85 -1.84 52.73 201.14 130.27 18 34 9 1288.8 14.12 34.56
70.00 19 25 20 2026.23 2.57 34.77 204.48 124.07 19 59 6 1026.2 16.09 14.66
80.00 21 12 36 1690.53 6.37 11.64 206.83 119.23 21 40 46 690.5 17.80 350.10
90.00 22 53 44 1364.31 8.05 348.55 207.74 117.20 23 16 29 364.3 18.56 326.45
100.00 23 59 27 1165.00 6.37 333.00 206.83 119.23 24 14 52 165.0 17.80 311.47
110.00 0 28 42 1073.05 2.57 323.69 204.48 124.07 0 46 35 73.0 16.09 303.58

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.0842 TRA 1.0923 TC3-6.1858 BAU .7382 SGT 4378.3 SGR 182.6 SG3 1692.5 ST 35.3 SR 4.0 SS 57.6
RDE -.0344 RRA .0741 RC3 -.1230 FAU .24318 RRT .7959 RRF .8361 RTF .530 CRT .7430 CRS -.1413 CST -.7627
FDE 1.1122 FRA 6.5855 FC-22.9681 BSP 7097 SGB 4382.1 R23 .1142 R13 .9631 LSA 64.4 MSA 20.8 S3A .5
BDE .0909 BRA 1.0948 BC3 6.1871 FSP 2963 SG1 4380.7 SG2 110.5 THA 1.90 EL1 35.4 EL2 2.7 ALF 4.83

LAUNCH DATE MAY 12 1971

FLIGHT TIME 230.00

ARRIVAL DATE DEC 28 1971

HELIOCENTRIC CONIC

DISTANCE 539.835

EARTH TO MARS

RL 151.12 LAL .00 LOL 230.64 VL 32.252 GAL -.98 AZL 91.53 HCA 172.37 SMA 185.29 ECC .18519 INC 1.5327 V1 29.484
RP 218.15 LAP -.20 LOP 43.01 VP 22.371 GAP 3.11 AZP 88.48 TAL 353.72 TAP 166.10 RCA 150.97 APO 219.60 V2 25.189
RC 173.829 GL -16.53 GP -2.44 ZAL 108.09 ZAP 72.39 ETS 178.47 ZAE 114.50 ETE 181.61 ZAC 99.81 ETC 272.52 LVI -8.36

PLANETOCENTRIC CONIC

C3 9.221 VHL 3.037 DLA -23.22 RAL 347.79 RAD 6637.6 VEL 11.372 PTH 6.42 VHP 2.903 DPA -25.13 RAP 298.13 ECC 1.1517
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 44 7 2491.34 -6.97 66.05 197.29 137.19 17 25 38 1491.3 11.41 50.27
60.00 17 52 90 2308.56 -2.70 53.67 201.37 130.23 18 31 19 1308.6 13.29 35.56
70.00 19 20 20 2051.34 1.61 36.08 204.65 124.12 19 54 31 1051.3 15.22 16.08
80.00 21 5 5 1723.52 5.27 13.47 206.91 119.43 21 33 48 723.5 16.86 352.10
90.00 22 44 34 1402.64 6.85 350.73 207.78 117.50 23 7 57 402.6 17.57 328.83
100.00 23 47 57 1198.00 5.27 334.83 206.91 119.43 24 7 55 198.0 16.86 313.47
110.00 0 23 42 1098.16 1.61 325.00 204.65 124.12 0 42 0 98.2 15.22 305.00

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.0653 TRA 1.1536 TC3-6.4210 BAU .7918 SGT 4564.2 SGR 198.9 SG3 1674.4 ST 36.5 SR 3.6 SS 56.7
RDE -.0272 RRA .0802 RC3 -.1631 FAU .24407 RRT .8620 RRF .8992 RTF .9675 CRT .8013 CRS -.2856 CST -.7973
FDE 1.0984 FRA 6.4901 FC-22.9164 BSP 7296 SGB 4568.5 R23 .1277 R13 .9676 LSA 64.7 MSA 19.6 S3A .4
BDE .0707 BRA 1.1564 BC3 6.4231 FSP 2821 SG1 4567.4 SG2 100.8 THA 2.15 EL1 36.6 EL2 2.1 ALF 4.49

LAUNCH DATE MAY 12 1971

FLIGHT TIME 232.00

ARRIVAL DATE DEC 30 1971

HELIOCENTRIC CONIC

DISTANCE 544.001

EARTH TO MARS

RL 191.12 LAL .00 LOL 230.64 VL 32.258 GAL -1.04 AZL 91.48 HCA 173.81 BMA 185.39 ECC .18573 INC 1.4747 V1 29.484
RP 218.51 LAP -.17 LOP 44.15 VP 22.335 GAP 2.95 AZP 88.53 TAL 353.33 TAP 168.85 RCA 150.96 APO 219.82 V2 25.148
RC 176.400 GL -15.87 GP -2.85 ZAL 108.75 ZAP 70.89 ETS 178.25 ZAE 112.83 ZAC 99.43 ETC 272.43 LVI -7.88

PLANETOCENTRIC CONIC

C3 9.270 VHL 3.045 DLA -22.38 RAL 348.09 RAD 8637.7 VEL 11.374 PTH 6.43 VHP 2.921 DPA -25.60 RAP 297.81 ECC 1.1526
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 41 24 2510.53 -7.92 66.87 197.50 137.07 17 23 19 1510.5 10.46 51.10
60.00 17 48 40 2331.62 -3.72 54.78 201.53 130.16 18 27 32 1331.6 12.31 36.73
70.00 19 14 7 2080.45 .50 37.80 204.73 124.15 19 48 47 1080.4 14.19 17.71
80.00 20 56 10 1761.06 4.01 15.54 206.91 119.61 21 25 31 761.1 15.77 354.35
90.00 22 33 59 1445.54 5.50 353.15 207.73 117.78 22 58 5 445.5 16.44 331.46
100.00 23 39 2 1235.53 4.01 336.91 208.91 119.61 23 59 37 235.5 15.77 315.72
110.00 0 17 29 1127.27 .50 326.92 204.73 124.15 0 36 16 127.3 14.19 306.63

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.0385 TRA 1.2183 TC3-8.6433 BAU .8237 SGT 4745.3 SGR 227.0 SG3 1651.7 ST 37.8 SR 3.2 SS 57.7
RDE -.0179 RRA .0907 RC3 -.2100 FAU .24002 RRT .9071 RRF .9457 RTF .9678 CRT .8951 CR8 -.4878 CST -.8200
FDE 1.1994 FRA 6.4823 FC-22.4154 B8P 7547 SGB 4750.7 R23 .1607 R13 .9677 LSA 66.4 M8A 19.0 S8A .4
BDE .0406 BRA 1.2217 BC3 6.6466 F8P 2791 SGI 4749.7 SGI 95.5 THA 2.49 EL1 38.0 EL2 1.4 ALF 4.40

LAUNCH DATE MAY 12 1971

FLIGHT TIME 234.00

ARRIVAL DATE JAN 1 1972

HELIOCENTRIC CONIC

DISTANCE 548.164

EARTH TO MARS

RL 191.12 LAL .00 LOL 230.64 VL 32.264 GAL -1.11 AZL 91.40 HCA 174.85 BMA 185.49 ECC .18630 INC 1.3963 V1 29.484
RP 218.88 LAP -.13 LOP 45.28 VP 22.298 GAP 2.80 AZP 88.61 TAL 352.94 TAP 187.98 RCA 150.94 APO 220.05 V2 25.109
RC 178.981 GL -14.97 GP -3.42 ZAL 109.43 ZAP 69.44 ETS 177.94 ZAE 111.18 ZAC 98.88 ETC 272.34 LVI -7.20

PLANETOCENTRIC CONIC

C3 9.308 VHL 3.051 DLA -21.32 RAL 348.29 RAD 8637.7 VEL 11.376 PTH 6.43 VHP 2.941 DPA -26.22 RAP 297.56 ECC 1.1532
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 37 22 2534.06 -9.09 67.87 197.60 136.91 17 19 36 1534.1 9.29 52.12
60.00 17 42 54 2359.81 -4.95 56.13 201.55 130.05 18 22 13 1359.8 11.11 36.13
70.00 19 5 55 2115.73 -.85 39.44 204.86 124.14 19 41 11 1115.7 12.93 19.67
80.00 20 44 59 1805.70 2.51 18.00 206.75 119.76 21 15 5 805.7 14.43 356.99
90.00 22 21 3 1495.81 3.90 355.98 207.52 118.03 22 45 59 495.8 15.05 334.51
100.00 23 27 51 1280.18 2.51 339.37 208.73 119.76 23 49 11 280.2 14.43 318.36
110.00 0 9 18 1162.55 -.85 329.36 204.86 124.14 0 28 40 162.5 12.93 308.58

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .0091 TRA 1.2900 TC3-6.8309 BAU .6507 SGT 4912.8 SGR 273.3 SG3 1625.1 ST 39.5 SR 3.3 SS 59.2
RDE -.0066 RRA .1071 RC3 -.2740 FAU .23444 RRT .9369 RRF .9751 RTF .9681 CRT .9750 CR8 -.7303 CST -.8550
FDE 1.3267 FRA 6.4775 FC-21.8059 B8P 7688 SGB 4920.4 R23 .1937 R13 .9683 LSA 69.0 M8A 17.7 S8A .3
BDE .0112 BRA 1.2944 BC3 6.8364 F8P 2765 SGI 4919.5 SGI 95.4 THA 2.98 EL1 39.6 EL2 .7 ALF 4.66

LAUNCH DATE MAY 12 1971

FLIGHT TIME 236.00

ARRIVAL DATE JAN 3 1972

HELIOCENTRIC CONIC

DISTANCE 552.324

EARTH TO MARS

RL 191.12 LAL .00 LOL 230.64 VL 32.271 GAL -1.17 AZL 91.28 HCA 175.78 BMA 185.80 ECC .18689 INC 1.2739 V1 29.484
RP 219.25 LAP -.09 LOP 46.41 VP 22.282 GAP 2.65 AZP 88.72 TAL 352.54 TAP 168.31 RCA 150.91 APO 220.29 V2 25.086
RC 181.572 GL -13.64 GP -4.29 ZAL 110.16 ZAP 68.05 ETS 177.48 ZAE 109.57 ETE 182.01 ZAC 98.02 ETC 272.26 LVI -6.28

PLANETOCENTRIC CONIC

C3 9.324 VHL 3.053 DLA -19.86 RAL 348.32 RAD 8637.7 VEL 11.377 PTH 6.43 VHP 2.963 DPA -27.13 RAP 297.41 ECC 1.1534
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 31 0 2565.30 -10.64 69.22 197.48 136.85 17 13 46 1565.3 7.74 53.45
60.00 17 34 15 2397.11 -6.58 57.93 201.34 129.85 18 14 12 1397.1 9.50 39.98
70.00 18 54 15 2161.92 -2.61 41.88 204.34 124.07 19 30 17 1161.9 11.26 22.20
80.00 20 29 48 1863.01 .57 21.14 206.32 119.85 21 0 49 863.0 12.67 .33
90.00 22 3 83 1559.40 1.85 359.53 207.04 118.22 22 29 53 559.4 13.24 338.30
100.00 23 12 58 1337.48 .57 342.51 208.32 119.85 23 34 55 337.5 12.67 321.70
110.00 23 53 42 1208.74 -2.61 330.77 204.34 124.07 24 13 50 208.7 11.26 311.11

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .0628 TRA 1.3805 TC3-7.0637 BAU .8817 SGT 5087.4 SGR 350.8 SG3 1598.2 ST 41.3 SR 4.1 SS 60.8
RDE .0078 RRA .1333 RC3 -.3739 FAU .23018 RRT .9543 RRF .9908 RTF .5688 CRT .9967 CR8 -.9076 CST -.8898
FDE 1.4509 FRA 6.4867 FC-21.3730 B8P 8155 SGB 5099.5 R23 .2205 R13 .9691 LSA 71.7 M8A 16.0 S8A .3
BDE .0631 BRA 1.3570 BC3 7.0736 F8P 2715 SGI 5088.4 SGI 104.6 THA 3.77 EL1 41.5 EL2 .3 ALF 5.60

LAUNCH DATE MAY 12 1971

FLIGHT TIME 238.00

ARRIVAL DATE JAN 5 1972

HELIOCENTRIC CONIC

DISTANCE 556.481

EARTH TO MARS

RL 191.12 LAL .00 LOL 230.64 VL 32.278 GAL -1.24 AZL 91.07 HCA 176.90 BMA 185.72 ECC .18752 INC 1.0503 V1 29.484
RP 219.62 LAP -.08 LOP 47.54 VP 22.226 GAP 2.50 AZP 88.93 TAL 352.13 TAP 169.03 RCA 150.89 APO 220.54 V2 25.028
RC 184.172 GL -11.41 GP -5.79 ZAL 110.95 ZAP 66.74 ETS 176.71 ZAE 107.95 ETE 182.36 ZAC 96.53 ETC 272.19 LVI -4.80

PLANETOCENTRIC CONIC

C3 9.298 VHL 3.049 DLA -17.57 RAL 347.97 RAD 8637.7 VEL 11.375 PTH 6.43 VHP 2.992 DPA -28.65 RAP 297.43 ECC 1.1530
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 19 50 2612.68 -12.98 71.30 196.95 136.19 17 3 22 1612.7 5.37 55.46
60.00 17 19 46 2453.29 -9.02 60.67 200.68 129.45 18 0 39 1453.3 7.07 42.72
70.00 18 35 32 2230.55 -5.22 45.45 203.53 123.80 19 12 42 1230.5 8.72 25.90
80.00 20 6 22 1948.22 -2.25 25.71 205.38 119.78 20 38 49 946.2 10.03 5.10
90.00 21 38 5 1680.35 -1.08 4.61 208.03 118.26 22 5 36 650.4 10.55 343.61
100.00 22 49 14 1420.69 -2.25 347.08 205.38 119.78 23 12 55 420.7 10.03 326.46
110.00 23 34 58 1277.36 -5.22 334.37 203.53 123.80 23 56 16 277.4 8.72 314.81

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .1074 TRA 1.3825 TC3-7.4783 BAU .9322 SGT 5296.4 SGR 490.6 SG3 1566.3 ST 42.1 SR 5.8 SS 59.9
RDE .0263 RRA .1770 RC3 -.5598 FAU .23082 RRT .9636 RRF .9975 RTF .9696 CRT .9785 CR8 -.9780 CST -.9171
FDE 1.4900 FRA 6.2112 FC-21.4912 B8P 7942 SGB 5319.1 R23 .2345 R13 .9701 LSA 72.1 M8A 14.0 S8A .2
BDE .1106 BRA 1.3739 BC3 7.4992 F8P 2513 SGI 5317.4 SGI 130.7 THA 5.10 EL1 42.5 EL2 1.2 ALF 7.70

LAUNCH DATE MAY 12 1971

FLIGHT TIME 240.00

ARRIVAL DATE JAN 7 1972

Heliocentric Conic: RL 151.12 LAL .00 LOL 230.64 VL 32.265 GAL -1.31 AZL 90.63 HCA 178.02 SMA 185.83 ECC .18817 INC .3188 V1 29.484
 RP 219.99 LAP -.02 LOP 48.66 VP 22.190 GAP 2.36 AZP 89.37 TAL 351.71 TAP 169.74 RCA 150.87 APO 220.80 V2 24.987
 RC 186.781 GL -8.71 GP -8.93 ZAL 111.85 ZAP 65.63 ETS 175.10 ZAE 106.28 ETE 183.11 ZAC 93.39 ETC 272.12 LVI -1.79

Planetary Centric Conic: C3 9.204 VHL 3.034 DLA -13.00 RAL 346.63 RAD 6637.6 VEL 11.371 PTH 6.42 VHP 3.037 DPA -31.79 RAP 297.85 ECC 1.1515
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 56 0 2704.59 -17.45 75.45 195.51 134.99 16 41 5 1704.6 .76 59.31
 60.00 16 50 1 2560.96 -13.63 66.04 199.04 128.30 17 32 42 1561.0 2.35 47.91
 70.00 17 58 36 2359.31 -10.04 52.30 201.66 122.82 18 37 55 1359.3 3.87 32.70
 80.00 19 22 8 2097.86 -7.33 34.10 203.30 119.02 19 57 5 1097.9 5.03 13.58
 90.00 20 50 20 1813.29 -6.29 13.74 203.87 117.63 21 20 33 813.3 5.48 352.90
 100.00 22 4 59 1572.33 -7.33 355.47 203.30 119.02 22 31 12 572.3 5.03 334.95
 110.00 22 58 2 1406.13 -10.04 341.22 201.66 122.82 23 21 28 406.1 3.87 321.62

Differential Corrections: TDE .1743 TRA 1.2808 TC3-8.2198 BAU 1.0187 SGT 5580.8 SGR 795.6 SG3 1529.6 ST 41.4 SR 9.6 SS 58.4
 RDE .0606 RRA .2634 RC3 -.9877 FAU .23594 RRT .9871 RRF .9997 RTF .9688 CRT .9712 CRS -.9970 CST -.9511
 FDE 1.5473 FRA 5.7343 FC-22.1934 B8P 6963 SGB 5637.2 R23 .2419 R13 .9700 LSA 71.5 MSA 10.5 SSA .2
 BDE .1845 BRA 1.3076 BC3 8.2789 F8P 2132 SG1 5633.6 SG2 200.4 THA 7.86 EL1 42.4 EL2 2.2 ALF 12.74

LAUNCH DATE MAY 12 1971

FLIGHT TIME 242.00

ARRIVAL DATE JAN 9 1972

Heliocentric Conic: RL 151.12 LAL .00 LOL 230.64 VL 32.292 GAL -1.38 AZL 89.04 HCA 179.14 SMA 185.96 ECC .18885 INC .7116 V1 29.484
 RP 220.36 LAP .01 LOP 49.78 VP 22.155 GAP 2.21 AZP 90.96 TAL 351.30 TAP 170.44 RCA 150.84 APO 221.08 V2 24.946
 RC 189.399 GL 10.12 GP -19.65 ZAL 112.30 ZAP 65.78 ETS 169.91 ZAE 104.03 ETE 185.62 ZAC 82.71 ETC 272.10 LVI 8.17

Planetary Centric Conic: C3 9.491 VHL 3.081 DLA 2.80 RAL 340.74 RAD 6637.8 VEL 11.384 PTH 6.44 VHP 3.229 DPA -42.30 RAP 300.36 ECC 1.1982
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 33 42 3026.92 -32.02 92.26 193.05 127.28 15 24 9 2026.9 -15.28 73.11
 60.00 15 10 19 2929.51 -27.96 86.63 196.19 120.30 15 59 9 1929.5 -13.68 65.82
 70.00 15 59 16 2785.57 -24.29 77.09 198.32 114.78 16 45 41 1785.6 -12.20 55.23
 80.00 17 4 33 2581.12 -21.62 62.81 199.54 111.10 17 47 34 1581.1 -11.10 40.37
 90.00 18 24 40 2322.57 -20.63 44.20 199.94 109.78 19 3 23 1322.6 -10.69 21.58
 100.00 19 47 25 2055.60 -21.62 24.17 199.54 111.10 20 21 40 1055.6 -11.10 1.74
 110.00 20 58 42 1832.39 -24.29 6.01 198.32 114.78 21 29 14 832.4 -12.20 344.15

Differential Corrections: TDE .3990 TRA .7410 TC3-9.8567 BAU 1.2981 SGT 6272.1 SGR 1903.1 SG3 1407.6 ST 43.5 SR 21.1 SS 51.5
 RDE .1826 RRA .4367 RC3-2.7376 FAU .25593 RRT .9733 RRF 1.0000 RTF .9717 CRT .9886 CRS -.9999 CST -.9903
 FDE 1.6128 FRA 3.7802 FC-23.3438 B8P 2281 SGB 6554.5 R23 .2177 R13 .9760 LSA 70.4 MSA 4.8 SSA .2
 BDE .4388 BRA .8601 BC310.2298 F8P 758 SG1 6541.1 SG2 418.5 THA 16.52 EL1 48.2 EL2 2.7 ALF 25.71

LAUNCH DATE MAY 12 1971

FLIGHT TIME 246.00

ARRIVAL DATE JAN 13 1972

Heliocentric Conic: RL 151.12 LAL .00 LOL 230.64 VL 32.307 GAL -1.53 AZL 93.61 HCA 181.37 SMA 186.22 ECC .19029 INC 3.5915 V1 29.484
 RP 221.12 LAP .09 LOP 52.00 VP 22.084 GAP 1.91 AZP 86.39 TAL 350.43 TAP 171.80 RCA 150.78 APO 221.65 V2 24.863
 RC 194.659 GL -33.95 GP 12.46 ZAL 110.09 ZAP 62.32 ETS 185.84 ZAE 102.38 ETE 177.70 ZAC 114.79 ETC 272.32 LVI -21.49

Planetary Centric Conic: C3 13.274 VHL 3.643 DLA -36.68 RAL 1.90 RAD 6639.7 VEL 11.547 PTH 6.59 VHP 3.148 DPA -10.71 RAP 293.76 ECC 1.2185
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 59 22 2247.16 5.28 55.81 219.94 137.35 19 36 49 1247.2 23.14 38.92
 60.00 20 52 51 1944.71 13.15 36.01 227.32 128.45 21 25 16 944.7 27.52 15.35
 65.61 23 14 15 1534.27 24.10 9.91 234.95 118.52 23 39 49 534.3 33.66 344.66
 65.61 23 14 15 1534.27 24.10 9.91 234.95 118.52 23 39 49 534.3 33.66 344.66
 65.61 23 14 15 1534.27 24.10 9.91 234.95 118.52 23 39 49 534.3 33.66 344.66
 65.61 23 14 15 1534.27 24.10 9.91 234.95 118.52 23 39 49 534.3 33.66 344.66
 65.61 23 14 15 1534.27 24.10 9.91 234.95 118.52 23 39 49 534.3 33.66 344.66

Differential Corrections: TDE -.5733 TRA 1.8624 TC3-6.3715 BAU 1.1491 SGT 5975.1 SGR 1254.3 SG3 1374.3 ST 71.3 SR 14.0 SS 49.6
 RDE -.0042 RRA -.4740 RC3 1.1558 FAU .22181 RRT -.9738 RRF -.9993 RTF .5.55 CRT -.7588 CRS .9869 CST -.6439
 FDE .4282 FRA 6.0634 FC-14.4665 B8P 7401 SGB 6105.4 R23 .2507 R13 -.9679 LSA 80.9 MSA 34.4 SSA .1
 BDE .5733 BRA 1.9217 BC3 6.4755 F8P 1945 SG1 6099.0 SG2 279.5 THA 188.42 EL1 72.1 EL2 9.0 ALF 171.39

LAUNCH DATE MAY 12 1971

FLIGHT TIME 248.00

ARRIVAL DATE JAN 15 1972

Heliocentric Conic: RL 151.12 LAL .00 LOL 230.64 VL 32.315 GAL -1.60 AZL 92.82 HCA 182.48 SMA 186.35 ECC .19105 INC 2.8123 V1 29.484
 RP 221.50 LAP .12 LOP 53.11 VP 22.049 GAP 1.77 AZP 87.18 TAL 350.00 TAP 172.47 RCA 150.75 APO 221.95 V2 24.821
 RC 197.299 GL -27.41 GP 6.92 ZAL 111.98 ZAP 60.59 ETS 183.11 ZAE 101.03 ETE 179.11 ZAC 109.26 ETC 272.18 LVI -16.33

Planetary Centric Conic: C3 11.946 VHL 3.456 DLA -30.69 RAL 358.69 RAD 6639.0 VEL 11.490 PTH 6.54 VHP 3.115 DPA -16.21 RAP 294.48 ECC 1.1968
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 6 30 2375.48 -1.16 61.18 212.59 137.57 18 46 6 1375.5 17.07 45.08
 60.00 19 32 13 2147.42 4.39 45.97 217.91 130.10 20 8 1 1147.4 19.92 27.11
 70.00 21 30 44 1798.71 11.11 22.69 222.89 122.51 22 0 42 798.7 23.42 1.09
 77.55 0 20 14 1281.46 21.03 348.76 228.29 112.88 0 41 35 281.5 28.59 323.69
 77.55 0 20 14 1281.46 21.03 348.76 228.29 112.88 0 41 35 281.5 28.59 323.69
 77.55 0 20 14 1281.46 21.03 348.76 228.29 112.88 0 41 35 281.5 28.59 323.69
 110.00 2 34 6 6133.57 11.11 289.52 222.89 122.51 4 16 19 5133.6 23.42 267.92

Differential Corrections: TDE -.2776 TRA 1.9792 TC3-6.8224 BAU 1.0951 SGT 6083.6 SGR 738.3 SG3 1411.7 ST 62.1 SR 8.5 SS 54.5
 RDE -.0132 RRA -.2913 RC3 .6927 FAU .20971 RRT -.9775 RRF -.9978 RTF .9678 CRT -.8728 CRS .9648 CST -.7140
 FDE .9405 FRA 6.4404 FC-15.1986 B8P 9068 SGB 6128.2 R23 .2426 R13 -.9686 LSA 77.1 MSA 31.0 SSA .1
 BDE .2779 BRA 2.0006 BC3 6.8575 F8P 2303 SG1 6126.3 SG2 154.6 THA 173.23 EL1 62.5 EL2 4.1 ALF 173.14

LAUNCH DATE MAY 12 1971

FLIGHT TIME 290.00

ARRIVAL DATE JAN 17 1972

HELIOCENTRIC CONIC

RL 151.12 LAL .00 LOL 230.64 VL 32.324 GAL -1.68 AZL 92.52 HCA 183.58 SMA 186.49 ECC .19183 INC 2.5140 V1 29.484
RP 221.88 LAP .16 LOP 54.21 VP 22.014 GAP 1.62 AZP 87.48 TAL 349.58 TAP 173.14 RCA 150.71 APO 222.26 V2 24.780
RC 199.945 GL -24.68 GP 4.78 ZAL 113.07 ZAP 59.31 ETS 182.02 ZAE 99.67 ETE 179.65 ZAC 107.10 ETC 272.13 LVI -14.31

PLANETOCENTRIC CONIC

C3 11.831 VHL 3.410 DLA -27.97 RAL 357.84 RAD 6638.9 VEL 11.477 PTH 6.53 VHP 3.127 DPA -18.36 RAP 294.77 ECC 1.1914
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 47 54 2433.04 -4.05 63.59 210.58 137.44 18 28 27 1433.0 14.27 47.69
60.00 19 6 18 2224.48 1.00 49.66 215.42 130.29 19 43 23 1224.5 16.80 31.23
70.00 20 49 22 1921.38 6.55 29.26 219.60 123.60 21 21 24 921.4 19.61 8.57
80.00 23 2 7 1505.77 12.36 1.19 223.07 117.40 23 27 13 505.8 22.58 338.47
90.00 1 19 37 1075.03 16.52 331.54 225.11 113.28 1 37 32 75.0 24.70 307.50
100.00 1 48 53 6266.28 12.36 300.46 223.07 117.40 3 33 23 5268.3 22.58 277.74
110.00 1 52 45 6236.24 6.55 296.09 219.60 123.60 3 37 1 5236.2 19.61 275.40

DIFFERENTIAL CORRECTIONS

TDE -.1553 TRA 2.0593 TC3-7.0834 BAU 1.1042 SGT 6225.3 SGR 537.1 SG3 1400.3 ST 60.6 SR 6.3 SS 56.5
RDE -.0040 RRA -.2180 RC3 .5003 FAU .20382 RRT -.9784 RRF -.9943 RTF .9690 CRT -.9629 CRS .9108 CST -.7668
FDE 1.1468 FRA 6.4791 FC-15.1711 BSP 9632 SGB 6248.5 R23 .2220 R13 -.9693 LSA 78.2 MSA 28.2 S8A .2
BDE .1554 BRA 2.0708 BC3 7.1010 F8P 2343 SG1 6247.5 SG2 110.6 THA 175.17 EL1 60.9 EL2 1.7 ALF 174.33

LAUNCH DATE MAY 12 1971

FLIGHT TIME 292.00

ARRIVAL DATE JAN 19 1972

HELIOCENTRIC CONIC

RL 151.12 LAL .00 LOL 230.64 VL 32.332 GAL -1.75 AZL 92.36 HCA 184.68 SMA 186.63 ECC .19263 INC 2.3595 V1 29.484
RP 222.27 LAP .19 LOP 55.31 VP 21.979 GAP 1.48 AZP 87.64 TAL 349.11 TAP 173.79 RCA 150.68 APO 222.58 V2 24.738
RC 202.595 GL -23.08 GP 3.61 ZAL 113.95 ZAP 58.16 ETS 181.43 ZAE 98.34 ETE 179.93 ZAC 105.96 ETC 272.11 LVI -13.24

PLANETOCENTRIC CONIC

C3 11.564 VHL 3.401 DLA -26.30 RAL 357.66 RAD 6638.8 VEL 11.474 PTH 6.52 VHP 3.148 DPA -19.49 RAP 294.94 ECC 1.1903
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 38 31 2469.35 -5.87 65.12 209.91 137.30 18 19 41 1469.3 12.49 49.30
60.00 18 53 11 2270.76 -1.04 51.87 214.54 130.29 19 31 2 1270.8 14.88 33.63
70.00 20 29 46 1986.77 4.07 32.71 218.41 123.94 21 2 53 986.8 17.44 12.40
80.00 22 28 35 1614.88 8.86 7.40 221.33 118.63 22 55 30 614.9 19.86 345.43
90.00 0 23 6 1258.25 11.30 342.45 222.61 116.10 0 44 5 258.2 21.09 319.70
100.00 1 15 23 1089.35 8.86 328.77 221.33 118.63 1 33 32 89.3 19.86 306.80
110.00 1 33 9 1033.59 4.07 321.62 218.41 123.94 1 50 22 33.6 17.44 301.32

DIFFERENTIAL CORRECTIONS

TDE -.0535 TRA 2.1647 TC3-7.1773 BAU 1.1112 SGT 6355.2 SGR 431.9 SG3 1378.0 ST 61.6 SR 5.2 SS 58.8
RDE -.0040 RRA -.1823 RC3 .3864 FAU .19558 RRT -.9755 RRF -.9872 RTF .9694 CRT -.9990 CRS .8174 CST -.8119
FDE 1.3392 FRA 6.5186 FC-14.6423 B8P 10302 SGB 6369.9 R23 .1882 R13 -.9696 LSA 81.2 MSA 26.1 S8A .2
BDE .0536 BRA 2.1724 BC3 7.1877 F8P 2387 SG1 6369.2 SG2 94.8 THA 176.21 EL1 61.8 EL2 .2 ALF 175.21

LAUNCH DATE MAY 12 1971

FLIGHT TIME 294.00

ARRIVAL DATE JAN 21 1972

HELIOCENTRIC CONIC

RL 151.12 LAL .00 LOL 230.64 VL 32.340 GAL -1.83 AZL 92.27 HCA 185.77 SMA 186.77 ECC .19346 INC 2.2633 V1 29.484
RP 222.65 LAP .23 LOP 56.40 VP 21.944 GAP 1.33 AZP 87.75 TAL 348.66 TAP 174.44 RCA 150.64 APO 222.90 V2 24.696
RC 205.250 GL -22.04 GP 2.90 ZAL 114.73 ZAP 57.08 ETS 181.07 ZAE 97.03 ETE 180.10 ZAC 105.25 APO 272.10 LVI -12.59

PLANETOCENTRIC CONIC

C3 11.597 VHL 3.405 DLA -25.11 RAL 357.77 RAD 6638.9 VEL 11.475 PTH 6.52 VHP 3.172 DPA -20.19 RAP 295.08 ECC 1.1909
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 32 58 2496.41 -7.22 66.27 209.77 137.16 18 14 35 1496.4 11.16 50.49
60.00 18 45 12 2304.31 -2.52 53.47 214.28 130.24 19 23 36 1304.3 13.47 35.35
70.00 20 17 55 2031.74 2.36 35.06 217.97 124.08 20 51 48 1031.7 15.90 14.97
80.00 22 10 12 1680.31 6.71 11.07 220.86 119.16 22 38 12 680.3 18.08 349.48
90.00 23 55 0 1342.30 8.74 347.30 221.75 117.00 24 17 22 342.3 19.11 325.07
100.00 0 56 59 1184.78 6.71 332.43 220.86 119.16 1 16 14 154.8 18.08 310.84
110.00 1 21 17 1078.56 2.36 323.98 217.97 124.08 1 39 15 78.6 15.90 303.89

DIFFERENTIAL CORRECTIONS

TDE .0115 TRA 2.2548 TC3-7.2940 BAU 1.1319 SGT 6498.6 SGR 369.5 SG3 1393.1 ST 63.3 SR 4.6 SS 59.5
RDE .0133 RRA -.1807 RC3 .3176 FAU .19119 RRT -.9686 RRF -.9758 RTF .5.07 CRT -.9637 CRS .8784 CST -.8818
FDE 1.4252 FRA 6.4814 FC-14.2728 B8P 10688 SGB 6509.1 R23 .1425 R13 -.9708 LSA 83.5 MSA 26.5 S8A .3
BDE .0176 BRA 2.2605 BC3 7.3009 F8P 2351 SG1 6508.5 SG2 91.7 THA 176.85 EL1 63.4 EL2 1.2 ALF 175.96

LAUNCH DATE MAY 12 1971

FLIGHT TIME 296.00

ARRIVAL DATE JAN 23 1972

HELIOCENTRIC CONIC

RL 151.12 LAL .00 LOL 230.64 VL 32.349 GAL -1.91 AZL 92.20 HCA 186.86 SMA 186.92 ECC .19431 INC 2.1990 V1 29.484
RP 223.04 LAP .26 LOP 57.50 VP 21.910 GAP 1.19 AZP 87.82 TAL 348.21 TAP 175.07 RCA 150.60 APO 223.24 V2 24.654
RC 207.907 GL -21.26 GP 2.41 ZAL 115.47 ZAP 56.01 ETS 180.82 ZAE 95.76 ETE 180.21 ZAC 104.76 ETC 272.11 LVI -12.17

PLANETOCENTRIC CONIC

C3 11.682 VHL 3.418 DLA -24.16 RAL 358.02 RAD 6638.9 VEL 11.479 PTH 6.53 VHP 3.197 DPA -20.66 RAP 295.22 ECC 1.1923
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 29 22 2518.70 -8.33 67.22 209.91 137.02 18 11 21 1518.7 10.05 51.45
60.00 18 39 48 2331.41 -3.71 54.77 214.34 130.16 19 18 39 1331.4 12.32 36.72
70.00 20 9 46 2066.90 1.02 36.90 217.91 124.14 20 44 13 1066.9 14.67 16.95
80.00 21 57 57 1728.34 5.11 13.73 220.45 119.46 22 26 45 728.3 16.72 352.39
90.00 23 39 43 1400.10 6.93 350.59 221.45 117.49 24 3 3 400.1 17.64 328.67
100.00 0 44 44 1202.81 5.11 335.10 220.45 119.46 1 4 47 202.8 16.72 313.76
110.00 1 13 8 1113.72 1.02 325.81 217.91 124.14 1 31 42 113.7 14.67 305.87

DIFFERENTIAL CORRECTIONS

TDE .0819 TRA 2.3624 TC3-7.3357 BAU 1.1464 SGT 6633.6 SGR 329.6 SG3 1327.5 ST 65.9 SR 4.5 SS 61.3
RDE .0209 RRA -.1488 RC3 .2650 FAU .18381 RRT -.9554 RRF -.9589 RTF .9701 CRT -.8723 CRS .5131 CST -.8856
FDE 1.5554 FRA 6.4985 FC-13.8218 B8P 11214 SGB 6641.8 R23 .1078 R13 -.9702 LSA 87.0 MSA 23.5 S8A .3
BDE .0846 BRA 2.3671 BC3 7.3405 F8P 2370 SG1 6641.0 SG2 97.2 THA 177.28 EL1 66.0 EL2 2.2 ALF 176.61

LAUNCH DATE MAY 12 1971

FLIGHT TIME 256.00

ARRIVAL DATE JAN 25 1972

HELIOCENTRIC CONIC DISTANCE 597.808 EARTH TO MARS
 RL 151.12 LAL .00 LOL 230.64 VL 32.358 GAL -1.99 AZL 92.19 HCA 187.95 SMA 187.07 ECC .19518 INC 2.1488 V1 29.484
 RP 223.42 LAP .30 LOP 58.98 VP 21.876 GAP 1.04 AZP 87.87 TAL 347.75 TAP 175.70 RCA 150.55 APO 223.58 V2 24.812
 RC 210.868 GL -20.69 GP 2.06 ZAL 116.19 ZAP 54.99 ETS 180.84 ZAE 94.92 ETE 180.29 ZAC 104.41 ETC 272.13 LVI -11.87
 PLANETOCENTRIC CONIC
 C3 11.800 VHL 3.435 DLA -23.36 RAL 358.36 RAD 6639.0 VEL 11.484 PTH 6.53 VHP 3.224 DPA -20.99 RAP 295.36 ECC 1.1942
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 26 54 2538.21 -9.30 68.05 210.21 136.87 18 9 12 1538.2 9.09 52.29
 60.00 18 35 52 2354.79 -4.73 55.89 214.57 130.07 19 15 7 1354.8 11.32 37.88
 70.00 20 3 43 2096.55 -1.12 38.44 218.07 124.15 20 38 39 1096.5 13.62 18.61
 80.00 21 48 55 1767.27 3.80 15.88 220.50 119.64 22 18 23 767.3 15.58 354.72
 90.00 23 28 42 1445.42 5.90 353.15 221.44 117.78 23 52 48 445.4 16.44 331.46
 100.00 0 35 43 1241.74 3.80 337.25 220.50 119.64 0 56 25 241.7 15.58 316.09
 110.00 1 7 5 1143.37 -1.12 327.36 218.07 124.15 1 26 8 143.4 13.62 307.52
 DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .1235 TRA 2.4483 TC3-7.4435 BAU 1.1748 SGT 6780.9 SGR 303.5 SG3 1302.2 ST 67.9 SR 4.5 SS 62.3
 RDE .0293 RRA -.1405 RC3 .2282 FAU .17859 RRT -.9364 RRF -.9365 RTF .9685 CRT -.7511 CR8 .3401 CST -.8749
 FDE 1.6371 FRA 6.4818 FC-13.1021 B&P 11416 SGB 6787.7 R23 .0837 R13 -.9685 LSA 89.3 MSA 23.3 SSA .4
 BDE .1270 BRA 2.4523 BC3 7.4470 F&P 2346 SG1 6786.8 SG2 106.4 THA 177.60 EL1 68.0 EL2 3.0 ALF 177.12

LAUNCH DATE MAY 12 1971

FLIGHT TIME 260.00

ARRIVAL DATE JAN 27 1972

HELIOCENTRIC CONIC DISTANCE 601.916 EARTH TO MARS
 RL 151.12 LAL .00 LOL 230.64 VL 32.366 GAL -2.07 AZL 92.11 HCA 189.04 SMA 187.22 ECC .19607 INC 2.1128 V1 29.484
 RP 223.81 LAP .33 LOP 59.67 VP 21.842 GAP .89 AZP 87.91 TAL 347.29 TAP 176.33 RCA 150.51 APO 223.93 V2 24.971
 RC 213.227 GL -20.20 GP 1.80 ZAL 116.89 ZAP 54.01 ETS 180.51 ZAE 93.31 ETE 180.34 ZAC 104.14 ETC 272.15 LVI -11.67
 PLANETOCENTRIC CONIC
 C3 11.940 VHL 3.458 DLA -22.65 RAL 358.74 RAD 6639.0 VEL 11.490 PTH 6.54 VHP 3.251 DPA -21.24 RAP 295.52 ECC 1.1965
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 25 8 2555.89 -10.18 68.81 210.61 136.73 18 7 44 1555.9 8.21 53.05
 60.00 18 32 53 2375.74 -5.65 56.90 214.92 129.97 19 12 29 1375.7 10.42 38.93
 70.00 19 58 58 2122.65 -1.11 39.80 218.35 124.14 20 34 21 1122.7 12.68 20.05
 80.00 21 41 52 1800.63 2.68 17.72 220.71 119.75 22 11 52 800.6 14.58 356.69
 90.00 23 20 12 1483.48 4.29 355.29 221.60 117.98 23 44 55 483.5 15.40 333.76
 100.00 0 28 40 1275.11 2.68 339.09 220.71 119.75 0 49 55 275.1 14.58 318.06
 110.00 1 2 21 1169.47 -1.11 328.72 218.35 124.14 1 21 50 169.5 12.68 308.97
 DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .1663 TRA 2.5403 TC3-7.5190 BAU 1.2007 SGT 6921.7 SGR 286.2 SG3 1274.9 ST 70.3 SR 4.8 SS 62.3
 RDE .0377 RRA -.1351 RC3 .2001 FAU .17496 RRT -.9131 RRF -.9092 RTF .9693 CRT -.6152 CR8 .1877 CST -.8887
 FDE 1.6681 FRA 6.4237 FC-12.6861 BSP 11658 SGB 6927.6 R23 .0587 R13 -.9693 LSA 91.4 MSA 22.4 SSA .4
 BDE .1705 BRA 2.5439 BC3 7.5216 F&P 2279 SG1 6926.7 SG2 116.6 THA 177.84 EL1 70.3 EL2 3.8 ALF 177.58

LAUNCH DATE MAY 12 1971

FLIGHT TIME 262.00

ARRIVAL DATE JAN 29 1972

HELIOCENTRIC CONIC DISTANCE 606.017 EARTH TO MARS
 RL 151.12 LAL .00 LOL 230.64 VL 32.375 GAL -2.16 AZL 92.09 HCA 190.12 SMA 187.37 ECC .19699 INC 2.0837 V1 29.484
 RP 224.20 LAP .37 LOP 60.75 VP 21.808 GAP .75 AZP 87.95 TAL 346.82 TAP 176.94 RCA 150.46 APO 224.28 V2 24.529
 RC 215.890 GL -19.78 GP 1.59 ZAL 117.58 ZAP 53.07 ETS 180.40 ZAE 92.12 ETE 180.38 ZAC 103.93 ETC 272.18 LVI -11.93
 PLANETOCENTRIC CONIC
 C3 12.097 VHL 3.478 DLA -22.01 RAL 359.16 RAD 6639.1 VEL 11.497 PTH 6.55 VHP 3.278 DPA -21.42 RAP 295.70 ECC 1.1991
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 23 52 2572.42 -11.00 69.53 211.07 136.59 18 6 44 1572.4 7.38 53.75
 60.00 18 30 31 2395.15 -6.50 57.84 215.35 129.86 19 10 26 1395.1 9.59 39.88
 70.00 19 55 6 2146.49 -2.02 41.05 218.72 124.10 20 30 53 1146.5 11.82 21.35
 80.00 21 36 4 1830.49 1.67 19.36 221.02 119.82 22 6 35 830.5 13.67 358.44
 90.00 23 13 15 1517.04 3.22 357.17 221.88 118.11 23 38 32 517.0 14.46 335.78
 100.00 0 22 52 1304.96 1.67 340.73 221.02 119.82 0 44 37 305.0 13.67 319.81
 110.00 0 58 28 1193.31 -2.02 329.97 218.72 124.10 1 18 22 193.3 11.82 310.27
 DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .2061 TRA 2.6320 TC3-7.5921 BAU 1.2282 SGT 7062.5 SGR 275.4 SG3 1248.5 ST 72.6 SR 5.2 SS 62.6
 RDE .0459 RRA -.1319 RC3 .1771 FAU .17109 RRT -.8850 RRF -.8775 RTF .9693 CRT -.4906 CR8 .0595 CST -.8979
 FDE 1.7094 FRA 6.3754 FC-12.2436 BSP 11872 SGB 7067.9 R23 .0418 R13 -.9693 LSA 93.5 MSA 22.0 SSA .5
 BDE .2112 BRA 2.6354 BC3 7.5942 F&P 2226 SG1 7066.7 SG2 128.1 THA 178.02 EL1 72.7 EL2 4.5 ALF 177.99

LAUNCH DATE MAY 12 1971

FLIGHT TIME 264.00

ARRIVAL DATE JAN 31 1972

HELIOCENTRIC CONIC DISTANCE 610.113 EARTH TO MARS
 RL 151.12 LAL .00 LOL 230.64 VL 32.385 GAL -2.24 AZL 92.06 HCA 191.19 SMA 187.53 ECC .19792 INC 2.0611 V1 29.484
 RP 224.59 LAP .40 LOP 61.82 VP 21.774 GAP .60 AZP 87.98 TAL 346.36 TAP 177.55 RCA 150.41 APO 224.64 V2 24.487
 RC 218.554 GL -19.42 GP 1.43 ZAL 118.26 ZAP 52.15 ETS 180.32 ZAE 90.97 ETE 180.42 ZAC 103.75 ETC 272.22 LVI -11.44
 PLANETOCENTRIC CONIC
 C3 12.269 VHL 3.503 DLA -21.42 RAL 359.60 RAD 6639.2 VEL 11.504 PTH 6.55 VHP 3.306 DPA -21.56 RAP 295.90 ECC 1.2019
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 22 55 2588.13 -11.77 70.22 211.59 136.44 18 6 3 1588.1 6.60 54.42
 60.00 18 28 36 2413.46 -7.30 58.73 215.83 129.75 19 8 49 1413.5 8.80 40.78
 70.00 19 51 51 2168.74 -2.87 42.21 219.16 124.05 20 27 59 1168.7 11.01 22.57
 80.00 21 31 10 1857.89 .74 20.86 221.41 119.85 22 2 8 857.9 12.83 .03
 90.00 23 7 24 1547.51 2.24 358.87 222.25 118.20 23 33 11 547.5 13.59 337.59
 100.00 0 17 58 1332.36 .74 342.23 221.41 119.85 0 40 10 332.4 12.83 321.40
 110.00 0 55 13 1215.55 -2.87 331.13 219.16 124.05 1 15 28 215.6 11.01 311.48
 DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .2537 TRA 2.7354 TC3-7.6265 BAU 1.2512 SGT 7198.5 SGR 269.2 SG3 1222.5 ST 75.5 SR 5.6 SS 63.2
 RDE .0536 RRA -.1307 RC3 .1565 FAU .16607 RRT -.8532 RRF -.8425 RTF .9689 CRT -.3770 CR8 -.0444 CST -.9076
 FDE 1.7661 FRA 6.3494 FC-11.7185 BSP 12190 SGB 7203.5 R23 .0299 R13 -.9689 LSA 96.2 MSA 21.5 SSA .5
 BDE .2593 BRA 2.7386 BC3 7.6281 F&P 2198 SG1 7202.2 SG2 140.3 THA 178.17 EL1 75.5 EL2 5.2 ALF 178.40

LAUNCH DATE MAY 12 1971 FLIGHT TIME 274.00 ARRIVAL DATE FEB 10 1972

Heliocentric Conic: RL 151.12 LAL .00 LOL 230.84 VL 32.431 GAL -2.68 AZL 91.99 HCA 196.52 SMA 188.34 ECC .20289 INC 1.9909 V1 29.484
 RP 226.55 LAP .57 LOP 67.15 VP 21.610 GAP -.13 AZP 88.09 TAL 343.98 TAP 180.50 RCA 150.13 APO 226.55 V2 24.278
 RC 231.080 GL -17.98 GP .93 ZAL 121.59 ZAP 47.97 ETS 180.08 ZAE 85.52 ETE 180.50 ZAC 103.19 ETC 272.50 LVI -11.40

Planetocentric Conic: C3 13.292 VHL 3.648 DLA -18.81 RAL 1.96 RAD 6639.7 VEL 11.548 PTH 6.59 VHP 3.451 DPA -21.86 RAP 297.22 ECC 1.2188
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 20 54 2680.30 -15.31 73.42 214.59 135.62 18 5 15 1660.3 2.98 57.46
 60.00 18 22 36 2496.22 -10.87 82.79 218.74 129.05 19 4 13 1496.2 5.19 44.80
 70.00 19 40 37 2266.92 -6.59 47.37 221.92 123.59 20 18 24 1266.9 7.36 27.83
 80.00 21 13 52 1975.03 -3.23 27.30 224.00 119.70 21 46 47 975.0 9.09 6.72
 90.00 22 46 49 1675.20 -1.88 6.00 224.75 118.22 23 14 44 675.2 9.79 345.05
 100.00 0 0 40 1449.50 -3.23 348.66 224.00 119.70 0 24 50 449.5 9.09 328.09
 110.00 0 43 59 1313.74 -6.59 336.29 221.92 123.59 1 5 53 313.7 7.36 316.75

Differential Corrections: TDE .4749 TRA 3.2592 TC3-7.7477 BAU 1.3769 MID-COURSE EXECUTION ACCURACY SGT 7858.2 SGR 277.0 SG3 1096.6 ORBIT DETERMINATION ACCURACY ST 89.7 SR 8.1 SS 64.6
 RDE .0931 RRA -.1362 RC3 .0881 FAU .14514 RRT -.6789 RRF -.6558 RTF .9672 CRT -.0044 CRS -.3418 CST -.9375
 FDE 1.9438 FRA 6.1499 FC3-9.4530 BSP 13448 SGB 7863.1 R23 -.0018 R13 -.9672 LSA 109.0 MSA 20.1 SSA .8
 BDE .4839 BRA 3.2620 BC3 7.7462 FSP 1991 SG1 7860.4 SG2 203.3 THA 178.63 EL1 89.7 EL2 8.1 ALF 179.98

LAUNCH DATE MAY 12 1971 FLIGHT TIME 276.00 ARRIVAL DATE FEB 12 1972

Heliocentric Conic: RL 151.12 LAL .00 LOL 230.64 VL 32.441 GAL -2.77 AZL 91.98 HCA 197.58 SMA 188.50 ECC .20393 INC 1.9821 V1 29.484
 RP 226.94 LAP .60 LOP 68.20 VP 21.577 GAP -.27 AZP 88.11 TAL 343.49 TAP 181.07 RCA 150.06 APO 226.95 V2 24.236
 RC 234.543 GL -17.74 GP .86 ZAL 122.24 ZAP 47.21 ETS 180.05 ZAE 84.49 ETE 180.50 ZAC 103.11 ETC 272.97 LVI -11.45

Planetocentric Conic: C3 13.526 VHL 3.678 DLA -18.34 RAL 2.44 RAD 6639.8 VEL 11.558 PTH 6.60 VHP 3.480 DPA -21.87 RAP 297.55 ECC 1.2226
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 20 49 2674.04 -15.98 74.05 215.23 135.43 18 5 23 1674.0 2.29 58.03
 60.00 18 21 50 2511.78 -11.54 63.56 219.38 128.89 19 3 41 1511.8 4.51 45.53
 70.00 19 38 57 2285.04 -7.28 48.33 222.54 123.46 20 17 2 1285.0 6.68 28.79
 80.00 21 11 16 1996.14 -3.94 28.48 224.60 119.62 21 44 32 996.1 8.40 7.91
 90.00 22 43 43 1697.89 -2.61 7.26 225.33 118.17 23 12 1 697.9 9.09 346.35
 100.00 23 54 8 1470.61 -3.94 349.83 224.60 119.62 24 18 38 470.6 8.40 329.28
 110.00 0 42 20 1331.86 -7.28 337.25 222.54 123.46 1 4 32 331.9 6.68 317.71

Differential Corrections: TDE .5206 TRA 3.3692 TC3-7.7531 BAU 1.4020 MID-COURSE EXECUTION ACCURACY SGT 7984.8 SGR 282.9 SG3 1072.3 ORBIT DETERMINATION ACCURACY ST 92.7 SR 8.6 SS 64.7
 RDE .1012 RRA -.1388 RC3 .0781 FAU .14122 RRT -.6460 RRF -.6210 RTF .9668 CRT .0446 CRS -.3764 CST -.9416
 FDE 1.9704 FRA 6.1055 FC3-9.0388 BSP 13686 SGB 7989.8 R23 -.0053 R13 -.9668 LSA 111.6 MSA 20.0 SSA .8
 BDE .5303 BRA 3.3720 BC3 7.7535 FSP 1948 SG1 7986.9 SG2 215.9 THA 178.69 EL1 92.7 EL2 8.6 ALF .24

LAUNCH DATE MAY 12 1971 FLIGHT TIME 278.00 ARRIVAL DATE FEB 14 1972

Heliocentric Conic: RL 151.12 LAL .00 LOL 230.64 VL 32.451 GAL -2.87 AZL 91.97 HCA 198.83 SMA 188.67 ECC .20500 INC 1.9738 V1 29.484
 RP 227.33 LAP .63 LOP 69.25 VP 21.545 GAP -.42 AZP 88.13 TAL 343.01 TAP 181.64 RCA 149.99 APO 227.35 V2 24.195
 RC 237.203 GL -17.51 GP .81 ZAL 122.89 ZAP 46.48 ETS 180.03 ZAE 83.48 ETE 180.51 ZAC 103.04 ETC 272.85 LVI -11.92

Planetocentric Conic: C3 13.769 VHL 3.711 DLA -17.87 RAL 2.93 RAD 6639.9 VEL 11.569 PTH 6.61 VHP 3.510 DPA -21.87 RAP 297.89 ECC 1.2268
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 20 46 2687.66 -16.64 74.67 215.92 135.24 18 5 34 1687.7 1.81 58.60
 60.00 18 21 8 2527.15 -12.20 64.33 220.04 128.72 19 3 15 1527.2 3.84 48.29
 70.00 19 37 26 2302.86 -7.94 49.28 223.18 123.33 20 18 48 1302.9 6.01 29.74
 80.00 21 8 50 2016.77 -4.63 29.60 225.21 119.53 21 42 27 1016.8 7.73 9.07
 90.00 22 40 50 1719.99 -3.32 8.50 225.94 118.10 23 9 30 720.0 8.41 347.61
 100.00 23 51 42 1491.24 -4.63 350.97 225.21 119.53 24 16 33 491.2 7.73 330.44
 110.00 0 40 48 1349.88 -7.94 338.20 223.18 123.33 1 3 18 349.7 6.01 318.65

Differential Corrections: TDE .5844 TRA 3.4792 TC3-7.7590 BAU 1.4283 MID-COURSE EXECUTION ACCURACY SGT 8110.4 SGR 289.7 SG3 1048.8 ORBIT DETERMINATION ACCURACY ST 93.6 SR 9.1 SS 64.7
 RDE .1094 RRA -.1416 RC3 .0689 FAU .13728 RRT -.8146 RRF -.9880 RTF .561 CRT .0867 CRS -.4082 CST -.9449
 FDE 1.9939 FRA 6.0637 FC3-8.6316 BSP 13898 SGB 8115.5 R23 -.0079 R13 -.9661 LSA 114.1 MSA 19.9 SSA .8
 BDE .5749 BRA 3.4821 BC3 7.7593 FSP 1909 SG1 8112.3 SG2 228.5 THA 178.74 EL1 93.6 EL2 9.1 ALF .48

LAUNCH DATE MAY 12 1971 FLIGHT TIME 280.00 ARRIVAL DATE FEB 16 1972

Heliocentric Conic: RL 151.12 LAL .00 LOL 230.64 VL 32.461 GAL -2.96 AZL 91.97 HCA 199.88 SMA 188.84 ECC .20609 INC 1.9667 V1 29.484
 RP 227.72 LAP .66 LOP 70.30 VP 21.514 GAP -.57 AZP 88.15 TAL 342.52 TAP 182.20 RCA 149.92 APO 227.76 V2 24.153
 RC 239.859 GL -17.29 GP .76 ZAL 123.53 ZAP 45.76 ETS 180.01 ZAE 82.49 ETE 180.51 ZAC 102.97 ETC 272.73 LVI -11.59

Planetocentric Conic: C3 14.020 VHL 3.744 DLA -17.41 RAL 3.41 RAD 6640.1 VEL 11.579 PTH 6.62 VHP 3.540 DPA -21.86 RAP 298.25 ECC 1.2307
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 20 47 2701.16 -17.29 75.29 216.60 135.05 18 5 48 1701.2 .93 59.17
 60.00 18 20 30 2542.35 -12.84 65.10 220.71 128.54 19 2 53 1542.3 3.17 47.02
 70.00 19 36 0 2320.40 -8.60 50.22 223.83 123.18 20 14 41 1320.4 5.35 30.66
 80.00 21 6 34 2036.98 -5.31 30.72 225.85 119.43 21 40 31 1037.0 7.06 10.20
 90.00 22 38 8 1741.57 -4.01 9.71 226.56 118.02 23 7 10 741.6 7.74 348.84
 100.00 23 49 25 1511.45 -5.31 352.08 225.85 119.43 24 14 37 511.5 7.06 331.97
 110.00 0 39 23 1367.22 -8.60 339.13 223.83 123.18 1 2 10 367.2 5.35 319.98

Differential Corrections: TDE .6112 TRA 3.5933 TC3-7.7539 BAU 1.4534 MID-COURSE EXECUTION ACCURACY SGT 8234.1 SGR 297.1 SG3 1025.3 ORBIT DETERMINATION ACCURACY ST 98.7 SR 9.7 SS 64.8
 RDE .1177 RRA -.1447 RC3 .0603 FAU .13342 RRT -.5848 RRF -.5588 RTF .9656 CRT .1253 CRS -.4324 CST -.9482
 FDE 2.0164 FRA 6.0210 FC3-8.2388 BSP 14136 SGB 8239.4 R23 -.0103 R13 -.9656 LSA 116.8 MSA 19.8 SSA .9
 BDE .6224 BRA 3.5963 BC3 7.7542 FSP 1871 SG1 8235.9 SG2 241.0 THA 178.79 EL1 98.7 EL2 9.6 ALF .71

LAUNCH DATE MAY 13 1971 FLIGHT TIME 96.00 ARRIVAL DATE AUG 17 1971

Heliocentric Conic: RL 151.15 LAL .00 LOL 231.80 VL 35.456 GAL -1.63 AZL 91.85 HCA 89.63 SMA 265.99 ECC .43251 INC 1.8480 V1 29.478 RP 207.22 LAP -1.85 LOP 321.23 VP 27.963 GAP 22.41 AZP 90.01 TAL 354.60 TAP 84.23 RCA 150.95 APO 381.03 V2 26.432 RC 56.455 GL -10.60 GP -.17 ZAL 102.97 ZAP 177.06 ETS 183.25 ZAE 174.33 ETE 57.61 ZAC 99.83 ETC 277.81 LVI -17.94

Distance 283.416 Earth to Mars

Planeto-centric Conic: C3 38.633 VHL 6.216 DLA -19.59 RAL 340.74 RAD 6650.2 VEL 12.590 PTH 7.45 VHP 11.235 DPA -17.27 RAP 321.39 ECC 1.6358 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

Differential Corrections: TDE -.4146 TRA -.9312 TC3 .0140 BAU .0368 RDE -.5762 RRA .2335 RC3 .0698 FAU .03281 FDE .1505 FRA .7061 FC3 -.7353 BSP 1378 BDE .7099 BRA .9601 BC3 .0712 FSP 119

Mid-course Execution Accuracy: SGT 988.2 SGR 584.7 SG3 99.7 RRT -.0063 RRF .0072 RTF -.6124 SGB 1148.2 R23 -.0013 R13 .6124 SG1 988.2 SG2 584.7 THA 179.67

Orbit Determination Accuracy: ST 23.5 SR 26.8 SS 12.2 CRT .7323 CR3 .4432 CST .9304 LSA 34.4 MSA 15.4 SSA 1.1 EL1 33.2 EL2 12.9 ALF 50.08

LAUNCH DATE MAY 13 1971 FLIGHT TIME 98.00 ARRIVAL DATE AUG 19 1971

Heliocentric Conic: RL 151.15 LAL .00 LOL 231.80 VL 35.249 GAL -1.55 AZL 91.85 HCA 90.90 SMA 258.41 ECC .41581 INC 1.8472 V1 29.478 RP 207.13 LAP -1.85 LOP 322.50 VP 27.711 GAP 21.89 AZP 89.97 TAL 354.71 TAP 85.60 RCA 150.96 APO 365.86 V2 26.443 RC 56.701 GL -10.90 GP -.17 ZAL 102.91 ZAP 176.17 ETS 182.56 ZAE 173.86 ETE 50.62 ZAC 99.77 ETC 277.89 LVI -18.03

Distance 285.212 Earth to Mars

Planeto-centric Conic: C3 36.068 VHL 6.006 DLA -19.88 RAL 340.82 RAD 6649.3 VEL 12.488 PTH 7.38 VHP 10.866 DPA -17.15 RAP 321.76 ECC 1.5936 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

Differential Corrections: TDE -.4090 TRA -.9213 TC3 .0268 BAU .0384 RDE -.5592 RRA .2335 RC3 .0750 FAU .03394 FDE .1524 FRA .7334 FC3 -.8147 BSP 1429 BDE .6928 BRA .9487 BC3 .0796 FSP 129

Mid-course Execution Accuracy: SGT 1013.3 SGR 587.8 SG3 107.0 RRT -.0062 RRF .0072 RTF -.6247 SGB 1171.5 R23 -.0014 R13 .6247 SG1 1013.3 SG2 587.8 THA 179.69

Orbit Determination Accuracy: ST 24.0 SR 26.9 SS 12.6 CRT .7306 CR3 .4319 CST .9268 LSA 34.8 MSA 15.7 SSA 1.1 EL1 33.6 EL2 13.1 ALF 49.40

LAUNCH DATE MAY 13 1971 FLIGHT TIME 100.00 ARRIVAL DATE AUG 21 1971

Heliocentric Conic: RL 151.15 LAL .00 LOL 231.80 VL 35.054 GAL -1.48 AZL 91.85 HCA 92.16 SMA 251.70 ECC .40018 INC 1.8456 V1 29.478 RP 207.05 LAP -1.84 LOP 323.76 VP 27.472 GAP 21.38 AZP 89.93 TAL 354.83 TAP 86.99 RCA 150.97 APO 352.42 V2 26.453 RC 57.030 GL -11.21 GP -.18 ZAL 102.82 ZAP 175.27 ETS 182.14 ZAE 173.34 ETE 44.64 ZAC 99.72 ETC 277.96 LVI -18.13

Distance 287.268 Earth to Mars

Planeto-centric Conic: C3 33.729 VHL 5.808 DLA -20.19 RAL 340.87 RAD 6648.4 VEL 12.395 PTH 7.31 VHP 10.511 DPA -17.05 RAP 322.12 ECC 1.5551 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

Differential Corrections: TDE -.4033 TRA -.9115 TC3 .0409 BAU .0408 RDE -.5426 RRA .2196 RC3 .0804 FAU .03508 FDE .1540 FRA .7827 FC3 -.9003 BSP 1493 BDE .6761 BRA .9376 BC3 .0900 FSP 141

Mid-course Execution Accuracy: SGT 1038.5 SGR 590.4 SG3 114.6 RRT -.0061 RRF .0078 RTF -.6172 SGB 1194.6 R23 -.0020 R13 .6372 SG1 1038.5 SG2 590.4 THA 179.70

Orbit Determination Accuracy: ST 24.5 SR 27.0 SS 13.0 CRT .7288 CR3 .4192 CST .9227 LSA 35.2 MSA 16.1 SSA 1.1 EL1 33.9 EL2 13.4 ALF 48.72

LAUNCH DATE MAY 13 1971 FLIGHT TIME 102.00 ARRIVAL DATE AUG 23 1971

Heliocentric Conic: RL 151.15 LAL .00 LOL 231.80 VL 34.871 GAL -1.40 AZL 91.84 HCA 93.43 SMA 245.72 ECC .38552 INC 1.8440 V1 29.478 RP 206.97 LAP -1.84 LOP 325.03 VP 27.246 GAP 20.87 AZP 89.89 TAL 354.98 TAP 88.40 RCA 150.99 APO 340.45 V2 26.462 RC 57.440 GL -11.51 GP -.18 ZAL 102.71 ZAP 174.35 ETS 181.86 ZAE 172.80 ETE 40.06 ZAC 99.66 ETC 278.03 LVI -18.22

Distance 289.547 Earth to Mars

Planeto-centric Conic: C3 31.594 VHL 5.621 DLA -20.51 RAL 340.90 RAD 6647.6 VEL 12.309 PTH 7.24 VHP 10.169 DPA -16.94 RAP 322.47 ECC 1.5199 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

Differential Corrections: TDE -.3965 TRA -.9020 TC3 .0563 BAU .0434 RDE -.5266 RRA .2129 RC3 .0860 FAU .03635 FDE .1558 FRA .7925 FC3 -.9960 BSP 1538 BDE .6592 BRA .9268 BC3 .1028 FSP 154

Mid-course Execution Accuracy: SGT 1063.5 SGR 592.6 SG3 122.9 RRT -.0070 RRF .0076 RTF -.6491 SGB 1217.5 R23 -.0010 R13 .6491 SG1 1063.5 SG2 592.6 THA 179.67

Orbit Determination Accuracy: ST 25.0 SR 27.1 SS 13.4 CRT .7259 CR3 .4075 CST .9195 LSA 35.6 MSA 16.4 SSA 1.2 EL1 34.2 EL2 13.6 ALF 48.12

LAUNCH DATE MAY 13 1971

FLIGHT TIME 104.00

ARRIVAL DATE AUG 25 1971

HELIOCENTRIC CONIC

RL 151.15 LAL .00 LOL 231.60 VL 34.698 GAL -1.32 AZL 91.84 HCA 94.69 BMA 240.37 ECC .37179 INC 1.8423 V1 29.478
RP 206.90 LAP -1.84 LOP 326.30 VP 27.032 GAP 20.37 AZP 89.85 TAL 355.13 TAP 89.82 RCA 151.00 APO 329.73 V2 26.469
RC 57.930 GL -11.82 GP -.19 ZAL 102.57 ZAP 173.43 ETS 181.65 ZAE 172.27 ETE 36.10 ZAC 99.61 ETC 278.10 LVI -18.30

PLANETOCENTRIC CONIC

C3 29.642 VHL 5.444 DLA -20.85 RAL 340.90 RAD 6646.9 VEL 12.230 PTH 7.18 VHP 9.839 DPA -16.84 RAP 322.81 ECC 1.4878
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 16 1 50 2807.01 -22.31 80.34 203.29 133.18 16 48 37 1807.0 -4.39 63.59
60.00 17 6 36 2634.78 -16.71 69.84 208.31 127.22 17 50 31 1634.8 -.90 51.43
70.00 18 28 38 2393.65 -11.30 54.16 212.18 122.45 19 8 31 1393.6 2.56 34.50
80.00 20 6 29 2087.41 -6.99 33.52 214.78 119.10 20 41 16 1087.4 5.38 13.00
90.00 21 41 52 1779.69 -5.22 11.85 215.74 117.83 22 11 32 779.7 6.54 351.01
100.00 22 49 20 1561.88 -6.99 354.89 214.78 119.10 23 15 22 561.9 5.38 334.37
110.00 23 28 4 1440.47 -11.30 343.08 212.18 122.45 23 52 4 440.5 2.56 323.42

DIFFERENTIAL CORRECTIONS

TDE -.3846 TRA -.8896 TC3 .0802 BAV .0483
RDE -.5111 RRA .2064 RC3 .0917 FAU .03771
FDE .1557 FRA .0231 FC3-1.1014 BSP 1617
BDE .6397 BRA .9132 BC3 .1218 F8P 168

MID-COURSE EXECUTION ACCURACY

SGT 1084.0 SGR 594.4 S63 131.7
RRT -.0100 RRF .0084 RTF -.6654
SGB 1236.3 R23 .0011 R13 .8654
SG1 1084.0 S62 594.4 THA 179.55

ORBIT DETERMINATION ACCURACY

BT 25.2 BR 27.1 B8 13.8
CRT .7198 CR8 .3908 C8T .9160
L8A 35.7 M8A 16.8 B8A 1.2
EL1 34.4 EL2 13.8 ALF 47.91

LAUNCH DATE MAY 13 1971

FLIGHT TIME 106.00

ARRIVAL DATE AUG 27 1971

HELIOCENTRIC CONIC

RL 151.15 LAL .00 LOL 231.60 VL 34.535 GAL -1.24 AZL 91.84 HCA 95.98 BMA 235.98 ECC .35891 INC 1.8407 V1 29.478
RP 206.85 LAP -1.83 LOP 327.56 VP 26.830 GAP 19.88 AZP 89.81 TAL 355.30 TAP 91.26 RCA 151.02 APO 320.11 V2 26.476
RC 58.496 GL -12.13 GP -.19 ZAL 102.41 ZAP 172.49 ETS 181.50 ZAE 171.75 ETE 32.80 ZAC 99.56 ETC 278.17 LVI -18.38

PLANETOCENTRIC CONIC

C3 27.858 VHL 5.278 DLA -21.19 RAL 340.88 RAD 6648.2 VEL 12.158 PTH 7.12 VHP 9.521 DPA -16.74 RAP 323.13 ECC 1.4588
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 16 3 18 2784.22 -21.24 79.23 202.44 133.83 16 49 42 1784.2 -3.24 62.64
60.00 17 8 36 2610.52 -15.70 68.98 207.44 127.81 17 52 7 1610.5 .17 50.27
70.00 18 31 21 2367.26 -10.35 52.73 211.32 122.74 19 10 49 1367.3 3.57 33.12
80.00 20 10 5 2058.29 -6.02 31.90 213.94 119.30 20 44 23 1058.3 6.35 11.38
90.00 21 45 58 1749.00 -4.25 10.12 214.92 117.98 22 15 7 749.0 7.51 349.27
100.00 22 52 57 1532.76 -6.02 353.27 213.94 119.30 23 18 29 532.8 6.35 332.75
110.00 23 30 48 1414.08 -10.35 341.85 211.32 122.74 23 54 22 414.1 3.57 322.04

DIFFERENTIAL CORRECTIONS

TDE -.3834 TRA -.8817 TC3 .0914 BAV .0498
RDE -.4982 RRA .2001 RC3 .0978 FAU .03909
FDE .1570 FRA .0952 FC3-1.2148 BSP 1641
BDE .6270 BRA .9041 BC3 .1337 F8P 182

MID-COURSE EXECUTION ACCURACY

SGT 1111.9 SGR 595.8 S63 141.0
RRT -.0078 RRF .0083 RTF -.6704
SGB 1261.4 R23 -.0011 R13 .8704
SG1 1111.9 S62 595.8 THA 179.67

ORBIT DETERMINATION ACCURACY

BT 25.9 BR 27.2 B8 14.2
CRT .7207 CR8 .3781 C8T .9100
L8A 36.3 M8A 17.1 B8A 1.2
EL1 34.8 EL2 14.0 ALF 46.90

LAUNCH DATE MAY 13 1971

FLIGHT TIME 108.00

ARRIVAL DATE AUG 29 1971

HELIOCENTRIC CONIC

RL 151.15 LAL .00 LOL 231.60 VL 34.382 GAL -1.16 AZL 91.84 HCA 97.23 BMA 231.28 ECC .34683 INC 1.8390 V1 29.478
RP 206.80 LAP -1.82 LOP 328.83 VP 26.838 GAP 19.40 AZP 89.77 TAL 355.48 TAP 92.71 RCA 151.03 APO 311.42 V2 26.482
RC 59.137 GL -12.44 GP -.20 ZAL 102.23 ZAP 171.54 ETS 181.38 ZAE 171.26 ETE 30.08 ZAC 99.51 ETC 278.23 LVI -18.48

PLANETOCENTRIC CONIC

C3 26.225 VHL 5.121 DLA -21.54 RAL 340.84 RAD 6649.5 VEL 12.091 PTH 7.07 VHP 9.214 DPA -16.65 RAP 323.48 ECC 1.4318
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 16 4 43 2781.72 -20.18 78.14 201.82 134.05 16 50 43 1781.7 -2.11 61.70
60.00 17 10 36 2588.51 -14.70 67.34 206.80 127.88 17 53 42 1588.8 1.23 49.13
70.00 18 34 7 2340.99 -9.36 51.32 210.49 123.00 19 13 8 1341.0 4.57 31.74
80.00 20 13 46 2029.10 -5.04 30.28 213.13 119.47 20 47 35 1029.1 7.32 9.76
90.00 21 50 11 1718.11 -3.26 8.39 214.11 118.11 22 18 49 718.1 8.47 347.81
100.00 22 58 38 1503.57 -5.04 351.65 213.13 119.47 23 21 42 503.6 7.32 331.13
110.00 23 33 33 1387.81 -9.36 340.24 210.49 123.00 23 56 41 387.8 4.57 320.86

DIFFERENTIAL CORRECTIONS

TDE -.3772 TRA -.8710 TC3 .1131 BAV .0538
RDE -.4817 RRA .1940 RC3 .1038 FAU .04060
FDE .1587 FRA .0888 FC3-1.3401 BSP 1700
BDE .6118 BRA .8923 BC3 .1334 F8P 188

MID-COURSE EXECUTION ACCURACY

SGT 1139.4 SGR 596.8 S63 151.1
RRT -.0070 RRF .0090 RTF -.6718
SGB 1282.7 R23 -.0024 R13 .8818
SG1 1139.4 S62 596.8 THA 179.71

ORBIT DETERMINATION ACCURACY

BT 26.3 BR 27.2 B8 14.6
CRT .7184 CR8 .3810 C8T .9038
L8A 36.8 M8A 17.9 B8A 1.2
EL1 35.1 EL2 14.2 ALF 46.29

LAUNCH DATE MAY 13 1971

FLIGHT TIME 110.00

ARRIVAL DATE AUG 31 1971

HELIOCENTRIC CONIC

RL 151.15 LAL .00 LOL 231.60 VL 34.237 GAL -1.09 AZL 91.84 HCA 98.49 BMA 227.30 ECC .33549 INC 1.8374 V1 29.478
RP 206.78 LAP -1.82 LOP 330.10 VP 26.458 GAP 18.93 AZP 89.73 TAL 355.67 TAP 94.17 RCA 151.04 APO 303.55 V2 26.487
RC 59.880 GL -12.75 GP -.21 ZAL 102.02 ZAP 170.57 ETS 181.29 ZAE 170.81 ETE 27.88 ZAC 99.48 ETC 278.29 LVI -18.53

PLANETOCENTRIC CONIC

C3 24.729 VHL 4.973 DLA -21.80 RAL 340.78 RAD 6644.9 VEL 12.029 PTH 7.02 VHP 8.918 DPA -16.55 RAP 323.74 ECC 1.4070
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 16 8 8 2739.50 -19.13 77.08 200.81 134.44 16 51 48 1739.5 -1.00 60.77
60.00 17 12 35 2582.72 -13.70 66.13 203.79 128.28 17 53 18 1582.7 2.27 47.99
70.00 18 36 35 2334.81 -8.39 49.92 209.68 123.23 19 15 29 1314.8 5.56 30.37
80.00 20 17 34 1999.79 -4.06 28.66 212.34 119.61 20 50 54 999.8 8.29 8.12
90.00 21 54 33 1688.94 -2.26 6.85 213.34 118.20 22 22 40 688.9 9.43 345.72
100.00 23 0 26 1474.26 -4.06 350.03 212.34 119.61 23 25 0 474.3 8.29 329.49
110.00 23 36 21 1361.63 -8.39 338.84 209.68 123.23 23 59 3 361.6 5.56 319.28

DIFFERENTIAL CORRECTIONS

TDE -.3588 TRA -.8495 TC3 .1928 BAV .0622
RDE -.4677 RRA .1880 RC3 .1097 FAU .04208
FDE .1587 FRA .9267 FC3-1.4731 BSP 1599
BDE .5895 BRA .8701 BC3 .1881 F8P 217

MID-COURSE EXECUTION ACCURACY

SGT 1143.2 SGR 597.3 S63 161.7
RRT -.0103 RRF .0092 RTF -.7066
SGB 1289.9 R23 .0007 R13 .7066
SG1 1143.3 S62 597.3 THA 179.58

ORBIT DETERMINATION ACCURACY

BT 26.0 BR 27.2 B8 15.1
CRT .7091 CR8 .3488 C8T .9041
L8A 36.4 M8A 17.9 B8A 1.2
EL1 34.8 EL2 14.3 ALF 46.72

LAUNCH DATE MAY 13 1971

FLIGHT TIME 112.00

ARRIVAL DATE SEP 2 1971

HELIOCENTRIC CONIC

DISTANCE 303.428

EARTH TO MARS

RL 151.15 LAL .00 LOL 231.60 VL 34.101 GAL -1.01 AZL 91.84 HCA 99.76 SMA 223.74 ECC .32486 INC 1.8357 V1 29.478
RP 206.72 LAP -1.81 LOP 331.37 VP 26.284 GAP 18.47 AZP 89.69 TAL 355.87 TAP 95.64 RCA 151.05 APO 298.42 V2 26.491
RC 80.833 GL -13.06 GP -.21 ZAL 101.80 ZAP 169.58 ETS 181.22 ZAE 170.41 ETE 25.87 ZAC 99.41 ETC 278.35 LVI -18.60

PLANETOCENTRIC CONIC

C3 23.360 VHL 4.833 DLA -22.27 RAL 340.70 RAD 8644.3 VEL 11.973 PTH 6.97 VHP 8.632 DPA -16.47 RAP 324.03 ECC 1.3844
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 7 28 2717.70 -18.08 76.06 200.04 134.79 16 52 48 1717.7 .10 59.86
60.00 17 14 33 2539.30 -12.71 64.94 205.00 128.57 17 56 53 1539.3 3.30 46.87
70.00 18 39 44 2288.91 -7.42 48.54 208.90 123.43 19 17 53 1288.9 6.54 29.00
80.00 20 21 27 1970.57 -3.08 27.05 211.58 119.71 20 54 17 970.6 9.24 6.47
90.00 21 50 4 1655.70 -1.25 4.91 212.59 118.25 22 26 39 655.7 10.38 343.92
100.00 23 4 18 1445.04 -3.08 348.42 211.58 119.71 23 28 23 445.0 9.24 327.84
110.00 23 39 10 1335.72 -7.42 337.48 208.90 123.43 24 1 26 335.7 6.54 317.92

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3582 TRA -.8443 TC3 .1690 BAU .0640 SGT 1172.4 SGR 597.5 S63 173.2 ST 26.6 SR 27.1 SS 15.5
RDE -.4542 RRA .1823 RC3 .1159 FAU .04385 RRT -.0098 RRF .0897 RTF -.7094 CRT .7077 CR8 .3291 CST .8950
FDE .1569 FRA .9617 FC3 -1.6251 B8P 1718 SGB 1315.9 R23 -.0002 R13 .7094 L8A 36.8 M8A 18.2 S8A 1.2
BDE .5772 BRA .8637 BC3 .2050 F8P 235 SGI 1172.5 S62 597.4 TMA 179.61 EL1 35.1 EL2 14.5 ALF 45.79

LAUNCH DATE MAY 13 1971

FLIGHT TIME 114.00

ARRIVAL DATE SEP 4 1971

HELIOCENTRIC CONIC

DISTANCE 306.876

EARTH TO MARS

RL 151.15 LAL .00 LOL 231.60 VL 33.973 GAL -.84 AZL 91.83 HCA 101.03 SMA 220.80 ECC .31488 INC 1.8340 V1 29.478
RP 206.70 LAP -1.80 LOP 332.64 VP 26.120 GAP 18.01 AZP 89.65 TAL 356.09 TAP 97.12 RCA 151.07 APO 289.93 V2 26.494
RC 81.483 GL -13.37 GP -.22 ZAL 101.86 ZAP 168.59 ETS 181.18 ZAE 170.08 ETE 23.94 ZAC 99.38 ETC 278.40 LVI -18.66

PLANETOCENTRIC CONIC

C3 22.105 VHL 4.702 DLA -22.64 RAL 340.61 RAD 8643.8 VEL 11.920 PTH 6.93 VHP 8.357 DPA -16.39 RAP 324.30 ECC 1.3638
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 8 48 2696.29 -17.05 75.06 199.29 135.12 16 53 44 1696.3 1.17 58.96
60.00 17 16 31 2516.21 -11.73 63.78 204.23 128.84 17 58 27 1516.2 4.32 45.76
70.00 18 42 34 2265.22 -6.46 47.18 208.14 123.61 19 20 18 1265.2 7.50 27.64
80.00 20 25 25 1941.34 -2.09 25.44 210.85 119.79 20 57 46 941.3 10.18 4.82
90.00 22 3 43 1624.28 -.24 3.15 211.87 118.28 22 30 47 624.3 11.33 342.10
100.00 23 8 17 1415.82 -2.09 346.81 210.85 119.79 23 31 53 415.8 10.18 326.19
110.00 23 42 1 1310.04 -6.46 336.09 208.14 123.61 24 3 51 310.0 7.50 316.55

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3521 TRA -.8358 TC3 .1804 BAU .0664 SGT 1197.2 SGR 597.2 S63 185.5 ST 27.1 SR 27.1 SS 15.9
RDE -.4411 RRA .1767 RC3 .1221 FAU .04573 RRT -.0091 RRF .0104 RTF -.7135 CRT .7062 CR8 .3076 CST .8867
FDE .1542 FRA .9984 FC3 -1.7908 B8P 1802 SGB 1337.9 R23 -.0017 R13 .7135 L8A 37.1 M8A 18.6 S8A 1.3
BDE .5644 BRA .8542 BC3 .2245 F8P 254 SGI 1197.2 S62 597.2 TMA 179.65 EL1 35.4 EL2 14.7 ALF 45.01

LAUNCH DATE MAY 13 1971

FLIGHT TIME 116.00

ARRIVAL DATE SEP 6 1971

HELIOCENTRIC CONIC

DISTANCE 308.818

EARTH TO MARS

RL 151.15 LAL .00 LOL 231.60 VL 33.853 GAL -.86 AZL 91.83 HCA 102.30 SMA 217.84 ECC .30552 INC 1.8324 V1 29.478
RP 206.68 LAP -1.79 LOP 333.91 VP 25.985 GAP 17.57 AZP 89.61 TAL 356.30 TAP 98.68 RCA 151.08 APO 284.00 V2 26.496
RC 82.398 GL -13.68 GP -.23 ZAL 101.30 ZAP 167.57 ETS 181.11 ZAE 168.76 ETE 22.45 ZAC 99.32 ETC 278.45 LVI -18.72

PLANETOCENTRIC CONIC

C3 20.954 VHL 4.378 DLA -23.02 RAL 340.49 RAD 8643.3 VEL 11.872 PTH 6.89 VHP 8.090 DPA -16.31 RAP 324.55 ECC 1.3448
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 10 6 2875.29 -16.04 74.10 198.57 135.42 16 54 41 1675.3 2.23 58.09
60.00 17 18 28 2493.48 -10.76 62.65 203.50 129.08 18 0 2 1493.5 5.31 44.67
70.00 18 45 27 2237.78 -5.49 45.83 207.41 123.76 19 22 44 1237.8 8.45 26.28
80.00 20 29 30 1912.13 -1.10 23.84 210.14 119.84 21 1 22 912.1 11.12 3.16
90.00 22 8 33 1592.66 .78 1.39 211.19 118.27 22 35 5 592.7 12.27 340.25
100.00 23 12 22 1386.80 -1.10 345.21 210.14 119.84 23 35 28 386.6 11.12 324.32
110.00 23 44 53 1284.60 -5.49 334.75 207.41 123.76 24 6 18 284.6 8.45 315.20

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3466 TRA -.8272 TC3 .2119 BAU .0694 SGT 1221.3 SGR 598.5 S63 198.6 ST 27.3 SR 27.0 SS 16.3
RDE -.4286 RRA .1714 RC3 .1283 FAU .04770 RRT -.0091 RRF .0109 RTF -.7139 CRT .7033 CR8 .2677 CST .8790
FDE .1522 FRA 1.0384 FC3 -1.9706 B8P 1871 SGB 1359.2 R23 -.0023 R13 .7199 L8A 37.3 M8A 19.0 S8A 1.3
BDE .5512 BRA .8448 BC3 .2477 F8P 273 SGI 1221.3 S62 598.5 TMA 179.66 EL1 35.6 EL2 14.8 ALF 44.35

LAUNCH DATE MAY 13 1971

FLIGHT TIME 118.00

ARRIVAL DATE SEP 8 1971

HELIOCENTRIC CONIC

DISTANCE 313.145

EARTH TO MARS

RL 151.15 LAL .00 LOL 231.60 VL 33.739 GAL -.79 AZL 91.83 HCA 103.57 SMA 214.84 ECC .28674 INC 1.8307 V1 29.478
RP 206.67 LAP -1.78 LOP 338.18 VP 25.818 GAP 17.13 AZP 89.57 TAL 356.53 TAP 100.10 RCA 151.09 APO 278.59 V2 26.496
RC 83.376 GL -13.98 GP -.24 ZAL 101.03 ZAP 166.53 ETS 181.07 ZAE 169.53 ETE 21.14 ZAC 99.28 ETC 278.50 LVI -18.77

PLANETOCENTRIC CONIC

C3 19.897 VHL 4.461 DLA -23.40 RAL 340.37 RAD 8642.8 VEL 11.828 PTH 6.85 VHP 7.833 DPA -16.25 RAP 324.78 ECC 1.3275
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 11 22 2654.73 -18.04 73.17 197.87 135.89 16 55 37 1654.7 3.26 57.23
60.00 17 20 24 2471.14 -9.79 61.55 202.78 129.29 18 1 36 1471.1 6.29 43.59
70.00 18 48 20 2212.62 -4.54 44.51 206.71 123.89 19 23 13 1212.6 9.39 24.93
80.00 20 33 41 1882.96 -.11 22.24 209.47 119.86 21 5 4 983.0 12.04 1.48
90.00 22 13 33 1560.85 1.81 388.61 210.53 118.23 22 39 34 560.8 13.20 338.38
100.00 23 16 33 1357.43 -.11 343.61 209.47 119.86 23 38 10 357.4 12.04 322.85
110.00 23 47 47 1259.44 -4.54 333.43 206.71 123.89 24 8 46 259.4 9.39 313.85

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3400 TRA -.8172 TC3 .2363 BAU .0723 SGT 1242.3 SGR 595.5 S63 212.5 ST 27.8 SR 27.0 SS 16.8
RDE -.4164 RRA .1862 RC3 .1345 FAU .04977 RRT -.0096 RRF .0120 RTF -.7259 CRT .6998 CR8 .2645 CST .8698
FDE .1485 FRA 1.0792 FC3 -2.1653 B8P 1920 SGB 1377.6 R23 -.0029 R13 .7259 L8A 37.5 M8A 19.4 S8A 1.3
BDE .5376 BRA .8339 BC3 .2719 F8P 296 SGI 1242.3 S62 595.4 TMA 179.66 EL1 35.7 EL2 15.0 ALF 43.81

LAUNCH DATE MAY 13 1971	FLIGHT TIME 120.00	ARRIVAL DATE SEP 10 1971
HELIOCENTRIC CONIC	DISTANCE 316.947	EARTH TO MARS
RL 151.15 LAL .00 LOL 231.60 VL 33.632 GAL -.72 AZL 91.83 HCA 104.84 SMA 212.36 ECC .28050 INC 1.8290 V1 29.478		
RP 206.88 LAP -1.77 LOP 336.48 VP 25.677 GAP 16.70 AZP 89.53 TAL 356.76 TAP 101.60 RCA 151.10 APO 273.63 V2 28.496		
RC 84.414 GL -14.28 GP -.25 ZAL 100.75 ZAP 165.48 ETS 181.03 ZAE 169.36 ETE 20.00 ZAC 99.24 ETC 278.54 LVI -18.82		
PLANETOCENTRIC CONIC		
C3 18.927 VHL 4.351 DLA -23.78 RAL 340.23 RAD 6842.4 VEL 11.788 PTH 6.81 VHP 7.585 DPA -16.18 RAP 324.99 ECC 1.3115		
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG		
50.00 16 12 37 2634.65 -14.06 72.27 197.20 135.94 16 56 32 1634.6 4.27 56.38		
60.00 17 22 20 2449.23 -8.65 60.47 202.10 129.48 18 3 9 1449.2 7.24 42.53		
70.00 18 51 16 2187.79 -3.60 43.21 206.04 123.99 19 27 43 1187.0 10.31 23.60		
80.00 20 37 58 1853.84 .88 20.64 208.82 119.85 21 8 52 853.8 12.95 359.80		
90.00 22 18 44 1528.83 2.84 357.83 209.91 118.15 22 44 13 528.8 14.12 336.48		
100.00 23 20 50 1328.31 .86 342.01 208.82 119.85 23 42 58 328.3 12.95 321.17		
110.00 23 50 42 1234.61 -3.60 332.13 206.04 123.99 24 11 17 234.6 10.31 312.52		
DIFFERENTIAL CORRECTIONS	MID-COURSE EXECUTION ACCURACY	ORBIT DETERMINATION ACCURACY
TDE -.3335 TRA -.8086 TC3 .2820 BAU .0752	SGT 1261.8 SGR 594.0 SG3 227.3	ST 28.0 SR 26.9 SS 17.2
RDE -.4047 RRA .1612 RC3 .1405 FAU .05197	RRT -.0097 RRF .0124 RTF -.7319	CRT .6966 CRS .2436 CST .8613
FDE .1455 FRA 1.1218 FC3-2.3770 B8P 1961	SG8 1394.6 R23 -.0033 R13 .7319	LSA 37.6 MSA 19.7 SSA 1.3
BDE .5244 BRA .8225 BC3 .2973 F8P 319	SG1 1261.8 SG2 594.0 THA 179.66	EL1 35.8 EL2 15.1 ALF 43.28

LAUNCH DATE MAY 13 1971	FLIGHT TIME 122.00	ARRIVAL DATE SEP 12 1971
HELIOCENTRIC CONIC	DISTANCE 320.017	EARTH TO MARS
RL 151.15 LAL .00 LOL 231.60 VL 33.532 GAL -.86 AZL 91.83 HCA 106.11 SMA 210.09 ECC .28076 INC 1.8272 V1 29.478		
RP 206.89 LAP -1.78 LOP 337.72 VP 25.544 GAP 16.28 AZP 89.49 TAL 357.00 TAP 103.11 RCA 151.10 APO 269.07 V2 26.495		
RC 65.512 GL -14.58 GP -.25 ZAL 100.46 ZAP 164.40 ETS 181.00 ZAE 169.26 ETE 19.00 ZAC 99.20 ETC 278.58 LVI -18.86		
PLANETOCENTRIC CONIC		
C3 18.037 VHL 4.247 DLA -24.16 RAL 340.07 RAD 6841.9 VEL 11.750 PTH 6.78 VHP 7.346 DPA -16.13 RAP 325.19 ECC 1.2968		
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG		
50.00 16 13 50 2615.06 -13.10 71.40 196.55 136.16 16 57 25 1615.1 5.25 55.56		
60.00 17 24 15 2427.79 -7.92 59.42 201.44 129.65 18 4 42 1427.8 8.18 41.48		
70.00 18 54 12 2163.31 -2.66 41.93 205.39 124.06 19 30 16 1163.3 11.20 22.27		
80.00 20 42 22 1824.79 1.86 19.05 208.21 119.81 21 12 47 824.8 13.85 358.11		
90.00 22 24 8 1496.58 3.87 356.02 209.32 118.04 22 49 4 496.6 15.03 334.55		
100.00 23 25 14 1299.26 1.86 340.41 208.21 119.81 23 46 53 299.3 13.85 319.48		
110.00 23 53 39 1210.13 -2.66 330.85 205.39 124.06 24 13 49 210.1 11.20 311.19		
DIFFERENTIAL CORRECTIONS	MID-COURSE EXECUTION ACCURACY	ORBIT DETERMINATION ACCURACY
TDE -.3257 TRA -.7955 TC3 .2888 BAU .0781	SGT 1279.4 SGR 592.2 SG3 243.0	ST 28.2 SR 28.8 SS 17.6
RDE -.3934 RRA .1564 RC3 .1465 FAU .05426	RRT -.0108 RRF .0139 RTF -.7384	CRT .6921 CRS .2189 CST .8516
FDE .1408 FRA 1.1678 FC3-2.6044 B8P 2007	SG8 1409.8 R23 -.0037 R13 .7384	LSA 37.6 MSA 20.1 SSA 1.4
BDE .5108 BRA .8107 BC3 .3238 F8P 344	SG1 1279.4 SG2 592.1 THA 179.64	EL1 35.8 EL2 15.2 ALF 42.87

LAUNCH DATE MAY 13 1971	FLIGHT TIME 124.00	ARRIVAL DATE SEP 14 1971
HELIOCENTRIC CONIC	DISTANCE 323.951	EARTH TO MARS
RL 151.15 LAL .00 LOL 231.60 VL 33.437 GAL -.59 AZL 91.83 HCA 107.38 SMA 208.00 ECC .27351 INC 1.8254 V1 29.478		
RP 206.71 LAP -1.74 LOP 338.99 VP 25.418 GAP 15.87 AZP 89.45 TAL 357.24 TAP 104.61 RCA 151.11 APO 264.89 V2 26.493		
RC 66.867 GL -14.87 GP -.26 ZAL 100.17 ZAP 163.30 ETS 180.97 ZAE 169.23 ETE 18.13 ZAC 99.16 ETC 278.61 LVI -18.89		
PLANETOCENTRIC CONIC		
C3 17.218 VHL 4.149 DLA -24.54 RAL 339.91 RAD 6841.6 VEL 11.715 PTH 6.75 VHP 7.114 DPA -16.08 RAP 325.38 ECC 1.2834		
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG		
50.00 16 15 1 2593.99 -12.16 70.58 195.93 136.36 16 58 17 1596.0 6.20 54.75		
60.00 17 26 8 2406.83 -7.01 58.40 200.81 129.79 18 6 15 1406.8 9.08 40.46		
70.00 18 57 10 2139.22 -1.75 40.67 204.77 124.11 19 32 49 1139.2 12.08 20.96		
80.00 20 48 53 1795.83 2.84 17.45 207.63 119.73 21 16 49 795.8 14.73 356.41		
90.00 22 29 45 1464.07 4.91 354.20 208.77 117.89 22 54 9 464.1 15.93 332.59		
100.00 23 29 45 1270.31 2.84 338.82 207.63 119.73 23 50 55 270.3 14.73 317.78		
110.00 0 0 32 1186.04 -1.75 329.59 204.77 124.11 0 20 18 186.0 12.08 309.87		
DIFFERENTIAL CORRECTIONS	MID-COURSE EXECUTION ACCURACY	ORBIT DETERMINATION ACCURACY
TDE -.3189 TRA -.7850 TC3 .3191 BAU .0814	SGT 1297.9 SGR 589.9 SG3 260.3	ST 28.4 SR 26.6 SS 18.1
RDE -.3825 RRA .1517 RC3 .1523 FAU .05887	RRT -.0104 RRF .0142 RTF -.747	CRT .6887 CRS .1973 CST .8424
FDE .1371 FRA 1.2163 FC3-2.8595 B8P 2091	SG8 1425.6 R23 -.0045 R13 .7447	LSA 37.7 MSA 20.5 SSA 1.4
BDE .4984 BRA .7895 BC3 .3536 F8P 372	SG1 1297.9 SG2 589.9 THA 179.66	EL1 35.8 EL2 15.3 ALF 42.35

LAUNCH DATE MAY 13 1971	FLIGHT TIME 126.00	ARRIVAL DATE SEP 16 1971
HELIOCENTRIC CONIC	DISTANCE 327.140	EARTH TO MARS
RL 151.15 LAL .00 LOL 231.60 VL 33.348 GAL -.53 AZL 91.82 HCA 108.65 SMA 206.08 ECC .26670 INC 1.8237 V1 29.478		
RP 206.73 LAP -1.73 LOP 340.26 VP 25.297 GAP 15.47 AZP 89.42 TAL 357.48 TAP 106.12 RCA 151.12 APO 261.04 V2 26.489		
RC 67.877 GL -15.16 GP -.27 ZAL 99.87 ZAP 162.18 ETS 180.95 ZAE 169.27 ETE 17.36 ZAC 99.13 ETC 278.64 LVI -18.92		
PLANETOCENTRIC CONIC		
C3 16.466 VHL 4.058 DLA -24.91 RAL 339.74 RAD 6841.2 VEL 11.684 PTH 6.72 VHP 6.891 DPA -16.04 RAP 325.51 ECC 1.2710		
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG		
50.00 16 16 10 2577.47 -11.25 69.75 195.33 136.54 16 59 8 1577.5 7.13 53.97		
60.00 17 28 1 2386.38 -6.11 57.41 200.20 129.91 18 7 47 1386.4 9.97 39.45		
70.00 19 0 8 2115.54 -.84 39.43 204.19 124.14 19 35 24 1115.5 12.94 19.66		
80.00 20 51 31 1766.98 3.81 15.87 207.08 119.64 21 20 58 767.0 15.59 354.70		
90.00 22 35 36 1431.24 5.95 352.35 208.25 117.70 22 59 28 431.2 16.82 330.59		
100.00 23 34 22 1241.45 3.81 337.23 207.08 119.64 23 55 4 241.4 15.59 316.07		
110.00 0 3 30 1162.36 -.84 328.35 204.19 124.14 0 22 53 162.4 12.94 308.57		
DIFFERENTIAL CORRECTIONS	MID-COURSE EXECUTION ACCURACY	ORBIT DETERMINATION ACCURACY
TDE -.3121 TRA -.7732 TC3 .3441 BAU .0833	SGT 1312.0 SGR 587.4 SG3 278.2	ST 28.5 SR 26.5 SS 18.6
RDE -.3720 RRA .1473 RC3 .1579 FAU .05949	RRT -.0114 RRF .0155 RTF -.7492	CRT .6846 CRS .1729 CST .8320
FDE .1317 FRA 1.2667 FC3-3.1276 B8P 2081	SG8 1437.5 R23 -.0048 R13 .7492	LSA 37.7 MSA 20.9 SSA 1.4
BDE .4856 BRA .7871 BC3 .3786 F8P 402	SG1 1312.0 SG2 587.3 THA 179.63	EL1 35.7 EL2 15.4 ALF 41.96

LAUNCH DATE MAY 13 1971 FLIGHT TIME 128.00 ARRIVAL DATE SEP 18 1971

EARTH TO MARS

HELIOCENTRIC CONIC DISTANCE 330.781

RL 151.15 LAL .00 LOL 231.60 VL 33.264 GAL -.47 AZL 91.82 HCA 109.91 SMA 204.31 ECC .28032 INC 1.8218 V1 29.478
 RP 206.77 LAP -1.71 LOP 341.53 VP 25.182 GAP 15.07 AZP 89.38 TAL 357.72 TAP 107.63 RCA 151.13 APO 257.50 V2 26.485
 RC 69.140 GL -15.44 GP -.28 ZAL 99.56 ZAP 161.04 ETS 180.93 ZAE 169.38 ETE 16.69 ZAC 99.10 ETC 278.67 LVI -18.94

PLANETOCENTRIC CONIC

C3 15.774 VHL 3.972 DLA -25.28 RAL 339.57 RAD 6640.9 VEL 11.654 PTH 6.69 VHP 6.675 DPA -16.01 RAP 325.63 ECC 1.2596
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 17 18 2559.51 -10.36 68.97 194.78 136.70 16 59 57 1559.5 8.03 53.21
 60.00 17 29 52 2368.48 -5.24 56.45 199.63 130.02 18 9 19 1366.5 10.82 38.47
 70.00 19 3 7 2092.32 .05 38.22 203.63 124.15 19 38 0 1092.3 13.77 18.37
 80.00 20 36 16 1738.22 4.78 14.28 206.58 119.51 21 25 14 738.2 16.43 352.98
 90.00 22 41 45 1398.03 7.00 350.47 207.78 117.47 23 5 3 398.0 17.69 328.94
 100.00 23 39 7 1212.69 4.78 335.65 206.56 119.51 23 59 20 212.7 16.43 314.35
 110.00 0 6 30 1139.14 .05 327.14 203.63 124.15 0 25 29 139.1 13.77 307.29

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.3093 TRA -.7623 TC3 .3736 BAU .0860 SGT 1327.1 SGR 584.4 SG3 297.5 ST 28.6 SR 26.3 SS 19.1
 RDE -.3619 RRA .1431 RC3 .1633 FAU .06239 RRT -.0118 RRF .0157 RTF -.7543 CRT .6806 CR8 .1519 CST .0232
 FDE .1273 FRA 1.3189 FC3-3.4242 BSP 2131 SGB 1450.0 R23 -.0046 R13 .7543 LSA 37.7 MSA 21.3 SSA 1.4
 BDE .4735 BRA .7756 BC3 .4078 F8P 437 SG1 1327.1 SGT 584.3 THA 179.63 EL1 35.7 EL2 15.5 ALF 41.53

LAUNCH DATE MAY 13 1971 FLIGHT TIME 130.00 ARRIVAL DATE SEP 20 1971

EARTH TO MARS

HELIOCENTRIC CONIC DISTANCE 334.470

RL 151.15 LAL .00 LOL 231.60 VL 33.185 GAL -.41 AZL 91.82 HCA 111.18 SMA 202.68 ECC .25434 INC 1.8199 V1 29.478
 RP 206.81 LAP -1.70 LOP 342.79 VP 25.072 GAP 14.69 AZP 89.34 TAL 357.96 TAP 109.14 RCA 151.13 APO 254.23 V2 26.480
 RC 70.455 GL -15.72 GP -.29 ZAL 99.26 ZAP 159.87 ETS 180.91 ZAE 169.57 ETE 16.11 ZAC 99.08 ETC 278.68 LVI -18.96

PLANETOCENTRIC CONIC

C3 15.138 VHL 3.891 DLA -25.65 RAL 339.39 RAD 6640.6 VEL 11.627 PTH 6.67 VHP 6.467 DPA -15.99 RAP 325.73 ECC 1.2491
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 18 24 2542.14 -9.50 68.22 194.21 136.84 17 0 46 1542.1 8.89 52.48
 60.00 17 31 43 2347.15 -4.40 55.52 199.08 130.10 18 10 50 1347.2 11.65 37.50
 70.00 19 6 7 2069.59 .91 37.04 203.09 124.14 19 40 36 1069.6 14.57 17.10
 80.00 21 1 8 1709.58 5.74 12.69 206.08 119.35 21 29 38 709.6 17.26 351.26
 90.00 22 48 12 1364.32 8.05 348.55 207.34 117.20 23 10 56 364.3 18.56 326.45
 100.00 23 44 0 1184.05 5.74 334.06 206.08 119.35 24 3 44 184.1 17.26 312.63
 110.00 0 9 29 1116.41 .91 325.95 203.09 124.14 0 28 5 116.4 14.57 306.02

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2971 TRA -.7513 TC3 .3947 BAU .0868 SGT 1338.6 SGR 581.1 SG3 317.5 ST 28.6 SR 26.2 SS 19.6
 RDE -.3522 RRA .1390 RC3 .1684 FAU .06519 RRT -.0149 RRF .0193 RTF -.7576 CRT .6747 CR8 .1191 CST .8088
 FDE .1170 FRA 1.3768 FC3-3.7283 BSP 2146 SGB 1459.3 R23 -.0094 R13 .7576 LSA 37.5 MSA 21.8 SSA 1.4
 BDE .4607 BRA .7640 BC3 .4291 F8P 467 SG1 1338.7 SGT 581.0 THA 179.54 EL1 35.5 EL2 15.6 ALF 41.23

LAUNCH DATE MAY 13 1971 FLIGHT TIME 132.00 ARRIVAL DATE SEP 22 1971

EARTH TO MARS

HELIOCENTRIC CONIC DISTANCE 338.201

RL 151.15 LAL .00 LOL 231.60 VL 33.111 GAL -.36 AZL 91.82 HCA 112.45 SMA 201.17 ECC .24873 INC 1.8181 V1 29.478
 RP 206.87 LAP -1.68 LOP 344.06 VP 24.968 GAP 14.31 AZP 89.31 TAL 358.19 TAP 110.64 RCA 151.14 APO 251.21 V2 26.474
 RC 71.818 GL -15.98 GP -.31 ZAL 98.96 ZAP 158.67 ETS 180.89 ZAE 169.83 ETE 15.63 ZAC 99.06 ETC 278.70 LVI -18.96

PLANETOCENTRIC CONIC

C3 14.553 VHL 3.815 DLA -26.01 RAL 339.20 RAD 6640.3 VEL 11.602 PTH 6.64 VHP 6.267 DPA -15.97 RAP 325.81 ECC 1.2395
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 19 28 2525.37 -8.66 67.50 193.69 136.97 17 1 34 1525.4 9.72 51.74
 60.00 17 33 31 2328.42 -3.58 54.62 198.55 130.17 18 12 20 1328.4 12.45 36.57
 70.00 19 9 6 2047.38 1.76 35.88 202.59 124.11 19 43 14 1047.4 15.35 15.86
 80.00 21 6 8 1681.06 6.69 11.11 205.63 119.17 21 34 10 681.1 18.06 349.52
 90.00 22 55 0 1329.98 9.12 346.39 206.94 116.89 23 17 10 330.0 19.41 324.29
 100.00 23 49 0 1155.53 6.69 332.48 205.63 119.17 24 6 16 135.5 18.06 310.89
 110.00 0 12 29 1094.20 1.76 324.80 202.59 124.11 0 30 43 94.2 15.35 304.77

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2906 TRA -.7388 TC3 .4187 BAU .0882 SGT 1344.9 SGR 577.4 SG3 339.1 ST 28.6 SR 26.0 SS 20.1
 RDE -.3427 RRA .1331 RC3 .1731 FAU .06848 RRT -.0145 RRF .0195 RTF -.7595 CRT .6724 CR8 .0958 CST .7987
 FDE .1101 FRA 1.4303 FC3-4.0736 BSP 2173 SGB 1463.6 R23 -.0060 R13 .7595 LSA 37.4 MSA 22.1 SSA 1.5
 BDE .4493 BRA .7491 BC3 .4531 F8P 506 SG1 1344.9 SGT 577.3 THA 179.56 EL1 35.4 EL2 15.5 ALF 40.91

LAUNCH DATE MAY 13 1971 FLIGHT TIME 134.00 ARRIVAL DATE SEP 24 1971

EARTH TO MARS

HELIOCENTRIC CONIC DISTANCE 341.972

RL 151.15 LAL .00 LOL 231.60 VL 33.042 GAL -.31 AZL 91.82 HCA 113.72 SMA 199.78 ECC .24348 INC 1.8162 V1 29.478
 RP 206.93 LAP -1.66 LOP 345.33 VP 24.868 GAP 13.94 AZP 89.27 TAL 358.43 TAP 112.13 RCA 151.14 APO 248.42 V2 26.466
 RC 73.228 GL -16.24 GP -.32 ZAL 98.66 ZAP 157.45 ETS 180.87 ZAE 170.17 ETE 15.22 ZAC 99.04 ETC 278.71 LVI -18.96

PLANETOCENTRIC CONIC

C3 14.015 VHL 3.744 DLA -26.36 RAL 339.02 RAD 6640.1 VEL 11.579 PTH 6.62 VHP 6.073 DPA -15.97 RAP 325.85 ECC 1.2306
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 20 31 2509.23 -7.86 66.81 193.19 137.08 17 2 20 1509.2 10.52 51.04
 60.00 17 35 18 2310.31 -2.78 53.76 198.08 130.22 18 13 48 1310.3 13.22 35.65
 70.00 19 12 6 2025.72 2.59 34.75 202.12 124.07 19 45 51 1025.7 16.11 14.63
 80.00 21 11 17 1652.66 7.62 9.52 205.22 118.96 21 38 49 652.7 18.85 347.78
 90.00 23 2 15 1294.81 10.19 344.57 206.58 116.52 23 23 49 294.8 20.25 322.05
 100.00 23 54 9 1127.13 7.62 330.89 205.22 118.96 24 12 56 127.1 18.85 309.14
 110.00 0 15 28 1072.54 2.59 323.66 202.12 124.07 0 33 20 72.5 16.11 303.55

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2824 TRA -.7244 TC3 .4385 BAU .0886 SGT 1351.2 SGR 573.4 SG3 361.3 ST 28.5 SR 25.8 SS 20.6
 RDE -.3336 RRA .1314 RC3 .1775 FAU .07163 RRT -.0174 RRF .0225 RTF -.7618 CRT .6669 CR8 .0650 CST .7824
 FDE .0989 FRA 1.4906 FC3-4.4250 BSP 2193 SGB 1467.8 R23 -.0063 R13 .7618 LSA 37.2 MSA 22.6 SSA 1.5
 BDE .4371 BRA .7363 BC3 .4731 F8P 543 SG1 1351.2 SGT 573.3 THA 179.48 EL1 35.1 EL2 15.6 ALF 40.69

LAUNCH DATE MAY 13 1971

FLIGHT TIME 136.00

ARRIVAL DATE SEP 26 1971

HELIOCENTRIC CONIC

RL 151.15 LAL .00 LOL 231.60 VL 32.977 GAL -.26 AZL 91.81 HCA 114.98 SMA 198.49 ECC .23855 INC 1.8142 V1 29.478
RP 207.00 LAP -1.64 LOP 348.59 VP 24.772 GAP 13.58 AZP 89.23 TAL 358.66 TAP 113.64 RCA 151.14 APO 245.84 V2 26.458
RC 74.683 GL -16.50 GP -.33 ZAL 98.36 ZAP 156.19 ETS 180.86 ZAE 170.58 ETE 14.91 ZAC 99.03 ETC 278.71 LVI -18.95

PLANETOCENTRIC CONIC

C3 13.518 VHL 3.677 DLA -26.70 RAL 338.83 RAD 8639.8 VEL 11.558 PTH 6.60 VHP 5.886 DPA -15.98 RAP 325.87 ECC 1.2225
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 21 32 2493.65 -7.08 66.15 192.72 137.17 17 3 5 1493.7 11.29 50.37
60.00 17 37 3 2292.76 -2.01 52.92 197.58 130.26 18 15 16 1292.8 13.96 34.76
70.00 19 15 5 2004.55 3.40 33.64 201.67 124.00 19 48 29 1004.6 16.84 13.42
80.00 21 16 35 1624.22 8.56 7.93 204.83 118.71 21 43 39 624.2 19.61 346.01
90.00 23 10 3 1236.30 11.29 342.45 206.27 116.10 23 31 1 258.3 21.09 319.70
100.00 0 3 23 1098.69 8.56 329.30 204.83 118.71 0 21 41 98.7 19.61 307.38
110.00 0 18 27 1051.37 3.40 322.56 201.67 124.00 0 35 58 51.4 16.84 302.34

DIFFERENTIAL CORRECTIONS

TDE -.2655 TRA -.6985 TC3 .5048 BAU .0969
RDE -.3248 RRA .1279 RC3 .1814 FAU .07557
FDE .0907 FRA 1.5527 FC3-4.8393 B8P 2047
BDE .4195 BRA .7101 BC3 .5362 F8P 586

MID-COURSE EXECUTION ACCURACY

SGT 1339.3 SGR 569.0 SG3 386.6
RRR -.0169 RRF .0227 RTF -.7809
SGB 1455.2 R23 -.0067 R13 .7809
SG1 1339.3 SGT 568.9 THA 179.50

ORBIT DETERMINATION ACCURACY

ST 27.6 SR 25.5 SS 21.1
CRT .6562 CRS .0415 CST .7767
LSA 36.4 MSA 23.0 SSA 1.5
EL1 34.2 EL2 15.5 ALF 41.59

LAUNCH DATE MAY 13 1971

FLIGHT TIME 138.00

ARRIVAL DATE SEP 28 1971

HELIOCENTRIC CONIC

RL 151.15 LAL .00 LOL 231.60 VL 32.918 GAL -.21 AZL 91.81 HCA 116.25 SMA 197.30 ECC .23395 INC 1.8122 V1 29.478
RP 207.08 LAP -1.63 LOP 347.86 VP 24.681 GAP 13.23 AZP 89.20 TAL 358.88 TAP 115.13 RCA 151.14 APO 243.46 V2 26.449
RC 76.180 GL -16.74 GP -.34 ZAL 98.08 ZAP 154.91 ETS 180.84 ZAE 171.07 ETE 14.69 ZAC 99.01 ETC 278.70 LVI -18.94

PLANETOCENTRIC CONIC

C3 13.063 VHL 3.614 DLA -27.03 RAL 338.86 RAD 8639.6 VEL 11.538 PTH 6.58 VHP 5.708 DPA -16.00 RAP 325.85 ECC 1.2150
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 22 31 2478.82 -6.34 65.52 192.28 137.25 17 3 50 1478.8 12.03 49.72
60.00 17 38 47 2276.00 -1.27 52.12 197.14 130.28 18 16 43 1276.0 14.66 33.90
70.00 19 18 2 1984.15 4.17 32.57 201.26 123.93 19 51 6 984.1 17.53 12.25
80.00 21 22 0 1596.09 9.47 6.34 204.49 118.45 21 48 36 596.1 20.35 344.25
90.00 23 18 29 1220.43 12.42 340.24 206.02 115.81 23 38 50 220.4 21.92 317.24
100.00 0 8 48 1070.57 9.47 327.71 204.49 118.45 0 26 38 70.6 20.35 305.62
110.00 0 21 24 1030.97 4.17 321.49 201.26 123.93 0 38 35 31.0 17.53 301.16

DIFFERENTIAL CORRECTIONS

TDE -.2639 TRA -.6911 TC3 .5050 BAU .0939
RDE -.3183 RRA .1245 RC3 .1848 FAU .07945
FDE .0823 FRA 1.6205 FC3-5.2694 B8P 2136
BDE .4120 BRA .7023 BC3 .5378 F8P 626

MID-COURSE EXECUTION ACCURACY

SGT 1349.5 SGR 564.3 SG3 412.7
RRR -.0184 RRF .0242 RTF -.7742
SGB 1462.7 R23 -.0069 R13 .7743
SG1 1349.6 SGT 564.2 THA 179.47

ORBIT DETERMINATION ACCURACY

ST 27.9 SR 25.3 SS 21.8
CRT .6565 CRS .0187 CST .7618
LSA 36.6 MSA 23.4 SSA 1.5
EL1 34.3 EL2 15.5 ALF 40.75

LAUNCH DATE MAY 13 1971

FLIGHT TIME 140.00

ARRIVAL DATE SEP 30 1971

HELIOCENTRIC CONIC

RL 151.15 LAL .00 LOL 231.60 VL 32.858 GAL -.17 AZL 91.81 HCA 117.51 SMA 196.20 ECC .22965 INC 1.8102 V1 29.478
RP 207.17 LAP -1.81 LOP 349.12 VP 24.593 GAP 12.89 AZP 89.16 TAL 359.10 TAP 116.81 RCA 151.15 APO 241.26 V2 26.439
RC 77.718 GL -16.97 GP -.36 ZAL 97.80 ZAP 153.80 ETS 180.83 ZAE 171.62 ETE 14.58 ZAC 99.01 ETC 278.69 LVI -18.91

PLANETOCENTRIC CONIC

C3 12.644 VHL 3.596 DLA -27.35 RAL 338.48 RAD 8639.4 VEL 11.520 PTH 6.57 VHP 5.533 DPA -16.03 RAP 325.81 ECC 1.2081
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 23 29 2484.84 -5.83 64.92 191.86 137.32 17 4 34 1484.6 12.73 49.10
60.00 17 40 28 2259.90 -.56 51.35 196.73 130.30 18 18 8 1259.9 15.33 33.08
70.00 19 20 57 1984.39 4.92 31.53 200.87 123.84 19 53 42 964.4 18.19 11.10
80.00 21 27 34 1588.03 10.38 4.75 204.18 118.15 21 53 42 568.0 21.07 342.47
90.00 23 27 52 1180.08 13.59 337.86 205.82 115.04 23 47 32 180.1 22.76 314.58
100.00 0 14 22 1042.50 10.38 326.12 204.18 118.15 0 31 44 42.5 21.07 303.84
110.00 0 24 20 1011.21 4.92 320.45 200.87 123.84 0 41 11 11.2 18.19 300.02

DIFFERENTIAL CORRECTIONS

TDE -.2609 TRA -.6812 TC3 .5079 BAU .0915
RDE -.3081 RRA .1213 RC3 .1878 FAU .08347
FDE .0670 FRA 1.6948 FC3-5.7151 B8P 2229
BDE .4038 BRA .6920 BC3 .5415 F8P 689

MID-COURSE EXECUTION ACCURACY

SGT 1354.5 SGR 559.3 SG3 440.4
RRR -.0198 RRF .0282 RTF -.7793
SGB 1465.4 R23 -.0068 R13 .7696
SG1 1354.5 SGT 559.2 THA 179.43

ORBIT DETERMINATION ACCURACY

ST 28.0 SR 23.0 SS 22.4
CRT .6563 CRS -.0145 CST .7401
LSA 36.6 MSA 24.0 SSA 1.5
EL1 34.3 EL2 15.5 ALF 40.11

LAUNCH DATE MAY 13 1971

FLIGHT TIME 142.00

ARRIVAL DATE OCT 2 1971

HELIOCENTRIC CONIC

RL 151.15 LAL .00 LOL 231.60 VL 32.804 GAL -.13 AZL 91.81 HCA 118.77 SMA 195.19 ECC .22562 INC 1.8081 V1 29.478
RP 207.26 LAP -1.58 LOP 350.39 VP 24.509 GAP 12.56 AZP 89.13 TAL 359.31 TAP 118.08 RCA 151.15 APO 239.22 V2 26.428
RC 79.295 GL -17.20 GP -.37 ZAL 97.94 ZAP 152.25 ETS 180.81 ZAE 172.26 ETE 14.60 ZAC 99.01 ETC 278.68 LVI -18.87

PLANETOCENTRIC CONIC

C3 12.257 VHL 3.501 DLA -27.66 RAL 338.31 RAD 8639.2 VEL 11.504 PTH 6.55 VHP 5.366 DPA -16.07 RAP 325.73 ECC 1.2017
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 24 26 2431.12 -4.95 64.35 191.47 137.38 17 5 17 1451.1 13.39 48.50
60.00 17 42 6 2244.51 .12 50.61 196.34 130.30 18 19 31 1244.5 15.97 32.28
70.00 19 23 51 1945.32 5.64 30.53 200.51 123.74 19 56 16 945.3 18.83 9.99
80.00 21 33 19 1540.01 11.28 3.16 203.90 117.83 21 58 59 540.0 21.76 340.68
90.00 23 38 42 1135.68 14.86 335.21 205.70 114.34 23 57 37 135.7 23.62 311.62
100.00 0 20 6 1014.48 11.28 324.52 203.90 117.83 0 37 1 14.5 21.76 302.05
110.00 0 27 13 6280.18 5.64 297.35 200.51 123.74 2 11 53 5280.2 18.83 276.81

DIFFERENTIAL CORRECTIONS

TDE -.2557 TRA -.6726 TC3 .5102 BAU .0892
RDE -.3002 RRA .1183 RC3 .1903 FAU .08745
FDE .0550 FRA 1.7818 FC3-6.1768 B8P 2258
BDE .3943 BRA .6829 BC3 .5445 F8P 739

MID-COURSE EXECUTION ACCURACY

SGT 1359.0 SGR 554.0 SG3 469.7
RRR -.0246 RRF .0330 RTF -.7680
SGB 1467.6 R23 -.0103 R13 .7680
SG1 1359.1 SGT 553.8 THA 179.31

ORBIT DETERMINATION ACCURACY

ST 28.0 SR 24.8 SS 23.2
CRT .6520 CRS -.0404 CST .7264
LSA 36.5 MSA 24.5 SSA 1.5
EL1 34.1 EL2 15.5 ALF 39.64

LAUNCH DATE MAY 13 1971 FLIGHT TIME 144.00 ARRIVAL DATE OCT 4 1971

HELIOCENTRIC CONIC DISTANCE 361.313 EARTH TO MARS
RL 151.15 LAL .00 LOL 231.60 VL 32.754 GAL -.09 AZL 91.81 MCA 120.03 SMA 194.24 ECC .22186 INC 1.8060 V1 28.478

PLANETOCENTRIC CONIC

C3 11.902 VHL 3.450 DLA -27.95 RAL 338.15 RAD 6639.0 VEL 11.488 PTH 6.54 VHP 3.205 DPA -16.12 RAP 325.62 ECC 1.1859

DIFFERENTIAL CORRECTIONS

TDE -.2370 TRA -.6580 TC3 .4965 BAW .0847 SGT 1332.7 SGR 548.2 SG3 498.2 ST 28.3 SR 24.5 SS 23.9

LAUNCH DATE MAY 13 1971 FLIGHT TIME 146.00 ARRIVAL DATE OCT 6 1971

HELIOCENTRIC CONIC DISTANCE 365.263 EARTH TO MARS
RL 151.15 LAL .00 LOL 231.60 VL 32.707 GAL -.05 AZL 91.80 MCA 121.29 SMA 193.37 ECC .21835 INC 1.8038 V1 29.478

PLANETOCENTRIC CONIC

C3 11.575 VHL 3.402 DLA -28.23 RAL 338.00 RAD 6638.8 VEL 11.474 PTH 6.52 VHP 5.051 DPA -16.19 RAP 325.48 ECC 1.1905

DIFFERENTIAL CORRECTIONS

TDE -.2503 TRA -.6367 TC3 .4791 BAW .0800 SGT 1363.6 SGR 542.5 SG3 531.5 ST 28.3 SR 24.2 SS 25.0

LAUNCH DATE MAY 13 1971 FLIGHT TIME 148.00 ARRIVAL DATE OCT 8 1971

HELIOCENTRIC CONIC DISTANCE 369.233 EARTH TO MARS
RL 151.15 LAL .00 LOL 231.60 VL 32.663 GAL -.02 AZL 91.80 MCA 122.55 SMA 192.57 ECC .21507 INC 1.8016 V1 29.478

PLANETOCENTRIC CONIC

C3 11.274 VHL 3.358 DLA -28.49 RAL 337.86 RAD 6638.7 VEL 11.461 PTH 6.51 VHP 4.902 DPA -16.27 RAP 325.30 ECC 1.1855

DIFFERENTIAL CORRECTIONS

TDE -.2350 TRA -.6308 TC3 .3867 BAW .0683 SGT 1361.3 SGR 536.2 SG3 557.4 ST 28.9 SR 23.9 SS 26.2

LAUNCH DATE MAY 13 1971 FLIGHT TIME 150.00 ARRIVAL DATE OCT 10 1971

HELIOCENTRIC CONIC DISTANCE 373.225 EARTH TO MARS
RL 151.15 LAL .00 LOL 231.60 VL 32.622 GAL .01 AZL 91.80 MCA 123.81 SMA 191.82 ECC .21202 INC 1.7993 V1 29.478

PLANETOCENTRIC CONIC

C3 10.997 VHL 3.316 DLA -28.73 RAL 337.74 RAD 6638.6 VEL 11.449 PTH 6.50 VHP 4.760 DPA -16.36 RAP 325.08 ECC 1.1810

DIFFERENTIAL CORRECTIONS

TDE -.3780 TRA -.6089 TC3 .6819 BAW .0999 SGT 1429.4 SGR 526.8 SG3 631.3 ST 37.3 SR 23.5 SS 30.7

LAUNCH DATE MAY 13 1971 FLIGHT TIME 192.00 ARRIVAL DATE OCT 12 1971

HELIOCENTRIC CONIC DISTANCE 377.236 EARTH TO MARS
 RL 151.15 LAL .00 LOL 231.60 VL 32.584 GAL .03 AZL 91.80 HCA 125.07 SMA 191.13 ECC .20917 INC 1.7969 V1 29.478
 RP 207.86 LAP -1.47 LOP 358.60 VP 24.136 GAP 10.99 AZP 88.97 TAL .19 TAP 125.26 RCA 151.15 APO 231.11 V2 26.357
 RC 87.725 GL -18.16 GP -.46 ZAL 96.44 ZAP 145.00 ETS 180.73 ZAE 176.49 ETE 19.73 ZAC 99.06 ETC 278.49 LVI -18.55

PLANETOCENTRIC CONIC
 C3 10.743 VHL 3.278 DLA -28.96 RAL 337.63 RAD 6638.4 VEL 11.438 PTH 6.49 VHP 4.623 DPA -16.47 RAP 324.82 ECC 1.1768
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 28 44 2303.91 -2.08 61.95 189.91 137.54 17 8 38 1393.9 16.18 45.93
 60.00 17 49 36 2178.77 3.01 47.47 194.81 130.21 18 25 55 1178.8 18.66 26.61
 70.00 19 37 24 1861.74 8.78 26.09 199.12 123.14 20 8 25 861.7 21.51 4.99
 80.00 22 5 11 1398.82 15.62 354.93 203.07 115.77 22 28 29 398.8 24.90 331.37
 83.49 23 33 58 1113.67 20.44 336.05 205.26 110.97 23 52 32 113.7 27.28 310.94
 100.00 0 51 58 6161.33 15.62 294.20 203.07 115.77 2 34 40 5161.3 24.90 270.65
 110.00 0 40 46 6196.60 8.78 292.92 199.12 123.14 2 24 3 5196.6 21.51 271.81

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2137 TRA -.3755 TC3 .4853 BAU .0750 SGT 1250.1 SGR 523.0 SCS 634.9 ST 25.4 SR 23.3 SS 26.1
 RDE -.2642 RRA .1053 RC3 .1931 FAU .11293 RRT -.0445 RRF .0577 RTF -.7367 CRT .6361 CR8 -.2550 CST .5779
 FDE -.0930 FRA 2.1464 FC3-9.1005 B8P 1960 SGB 1355.1 R23 -.0181 R13 .7369 LSA 33.3 MSA 27.7 SSA 1.6
 BDE .3398 BRA .5650 BC3 .5223 F8P 970 SG1 1250.3 SGT 522.4 THA 178.71 EL1 31.2 EL2 14.6 ALF 41.09

LAUNCH DATE MAY 13 1971 FLIGHT TIME 154.00 ARRIVAL DATE OCT 14 1971

HELIOCENTRIC CONIC DISTANCE 381.264 EARTH TO MARS
 RL 151.15 LAL .00 LOL 231.60 VL 32.548 GAL .06 AZL 91.79 HCA 126.32 SMA 190.49 ECC .20653 INC 1.7945 V1 29.478
 RP 208.01 LAP -1.45 LOP 357.94 VP 24.070 GAP 10.70 AZP 88.94 TAL .33 TAP 126.65 RCA 151.15 APO 229.03 V2 26.340
 RC 89.514 GL -18.33 GP -.48 ZAL 96.27 ZAP 143.44 ETS 180.71 ZAE 177.52 ETE 24.78 ZAC 99.09 ETC 278.43 LVI -18.45

PLANETOCENTRIC CONIC
 C3 10.509 VHL 3.242 DLA -29.17 RAL 337.53 RAD 6638.3 VEL 11.428 PTH 6.48 VHP 4.492 DPA -16.58 RAP 324.53 ECC 1.1730
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 29 31 2384.58 -1.61 61.56 189.68 137.56 17 9 16 1304.6 16.63 45.50
 60.00 17 50 56 2187.97 3.48 46.95 194.58 130.18 18 27 4 1168.0 19.10 28.22
 70.00 19 39 50 1847.67 9.30 25.34 198.92 123.01 20 10 38 847.7 21.95 4.13
 80.00 22 12 28 1369.48 16.48 353.17 203.02 115.26 22 35 17 369.5 25.47 329.38
 82.53 23 25 57 1133.78 20.69 337.64 204.92 111.03 23 44 51 133.8 27.53 312.48
 100.00 0 59 15 6131.99 16.48 292.45 203.02 115.26 2 41 27 5132.0 25.47 268.65
 110.00 0 43 12 6182.53 9.30 292.16 198.92 123.01 2 26 15 5182.5 21.95 270.95

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2248 TRA -.5697 TC3 .4540 BAU .0692 SGT 1254.7 SGR 515.6 SCS 678.3 ST 26.3 SR 22.9 SS 27.3
 RDE -.2572 RRA .1033 RC3 .1917 FAU .11857 RRT -.0369 RRF .0547 RTF -.7288 CRT .6574 CR8 -.1942 CST .6058
 FDE -.0483 FRA 2.2916 FC3-9.7677 B8P 2003 SGB 1356.5 R23 -.0224 R13 .7290 LSA 34.9 MSA 27.3 SSA 1.6
 BDE .3417 BRA .5790 BC3 .4928 F8P 1083 SG1 1254.9 SGT 515.2 THA 178.96 EL1 31.9 EL2 14.3 ALF 39.05

LAUNCH DATE MAY 13 1971 FLIGHT TIME 156.00 ARRIVAL DATE OCT 16 1971

HELIOCENTRIC CONIC DISTANCE 385.308 EARTH TO MARS
 RL 151.15 LAL .00 LOL 231.60 VL 32.515 GAL .08 AZL 91.79 HCA 127.57 SMA 189.90 ECC .20407 INC 1.7920 V1 29.478
 RP 208.16 LAP -1.42 LOP 359.19 VP 24.005 GAP 10.42 AZP 88.91 TAL .45 TAP 128.03 RCA 151.15 APO 228.65 V2 26.323
 RC 91.337 GL -18.48 GP -.50 ZAL 96.13 ZAP 141.84 ETS 180.69 ZAE 178.57 ETE 38.52 ZAC 99.12 ETC 278.36 LVI -18.34

PLANETOCENTRIC CONIC
 C3 10.294 VHL 3.208 DLA -29.38 RAL 337.45 RAD 6638.2 VEL 11.419 PTH 6.47 VHP 4.367 DPA -16.72 RAP 324.19 ECC 1.1694
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 30 17 2375.94 -1.18 61.20 189.47 137.56 17 9 53 1375.9 17.05 45.10
 60.00 17 52 13 2157.97 3.92 46.47 194.37 130.14 18 28 11 1158.0 19.50 27.68
 70.00 19 42 10 1834.56 9.79 24.63 198.75 122.88 20 12 44 834.6 22.35 3.32
 80.00 22 20 18 1338.98 17.36 351.33 203.02 114.68 22 42 37 339.0 26.03 327.29
 81.75 23 19 27 1149.44 20.93 338.89 204.61 111.08 23 38 37 149.4 27.76 313.68
 100.00 1 7 5 6101.49 17.36 290.61 203.02 114.68 2 48 47 5101.5 26.03 266.56
 110.00 0 45 32 6169.41 9.79 291.46 198.75 122.88 2 28 21 5169.4 22.35 270.15

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2109 TRA -.9371 TC3 .4073 BAU .0618 SGT 1192.2 SGR 508.4 SCS 713.4 ST 25.0 SR 22.6 SS 27.8
 RDE -.2509 RRA .1012 RC3 .1898 FAU .12406 RRT -.0455 RRF .0634 RTF -.1.07 CRT .6542 CR8 -.2548 CST .5989
 FDE -.1006 FRA 2.3564 FC-10.4337 B8P 1826 SGB 1296.1 R23 -.0239 R13 .7110 LSA 33.5 MSA 28.0 SSA 1.6
 BDE .3277 BRA .5465 BC3 .4493 F8P 1128 SG1 1192.5 SGT 507.8 THA 178.64 EL1 30.7 EL2 13.9 ALF 40.56

LAUNCH DATE MAY 13 1971 FLIGHT TIME 158.00 ARRIVAL DATE OCT 18 1971

HELIOCENTRIC CONIC DISTANCE 389.367 EARTH TO MARS
 RL 151.15 LAL .00 LOL 231.60 VL 32.484 GAL .09 AZL 91.79 HCA 128.82 SMA 189.38 ECC .20179 INC 1.7894 V1 29.478
 RP 208.32 LAP -1.39 LOP 359.44 VP 23.943 GAP 10.14 AZP 88.88 TAL .56 TAP 129.39 RCA 151.15 APO 227.57 V2 26.304
 RC 93.190 GL -18.62 GP -.52 ZAL 96.01 ZAP 140.21 ETS 180.67 ZAE 179.25 ETE 95.95 ZAC 99.15 ETC 278.28 LVI -18.22

PLANETOCENTRIC CONIC
 C3 10.097 VHL 3.178 DLA -29.54 RAL 337.39 RAD 6638.1 VEL 11.410 PTH 6.46 VHP 4.247 DPA -16.86 RAP 323.82 ECC 1.1662
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 31 1 2368.05 -.78 60.87 189.30 137.57 17 10 29 1368.0 17.43 44.74
 60.00 17 53 25 2148.82 4.32 46.03 194.20 130.11 18 29 14 1148.8 19.87 27.19
 70.00 19 44 21 1822.50 10.23 23.98 198.59 122.76 20 14 43 822.5 22.71 2.58
 80.00 22 28 54 1306.62 18.26 349.36 203.07 114.04 22 50 41 306.6 26.58 325.04
 81.10 23 14 8 1181.89 21.14 339.90 204.34 111.12 23 33 30 161.9 27.96 314.64
 100.00 1 15 42 6069.13 18.26 288.63 203.07 114.04 2 56 51 5069.1 26.58 264.32
 110.00 0 47 43 6157.36 10.23 290.81 198.59 122.76 2 30 20 5157.4 22.71 269.40

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2224 TRA -.5317 TC3 .3764 BAU .0567 SGT 1196.8 SGR 500.6 SCS 765.5 ST 26.0 SR 22.2 SS 29.1
 RDE -.2442 RRA .0995 RC3 .1867 FAU .13138 RRT -.0371 RRF .0618 RTF -.6998 CRT .6757 CR8 -.2036 CST .5781
 FDE -.0596 FRA 2.5184 FC-11.2648 B8P 1793 SGB 1297.2 R23 -.0304 R13 .7001 LSA 35.2 MSA 27.8 SSA 1.6
 BDE .3304 BRA .5409 BC3 .4202 F8P 1206 SG1 1196.9 SGT 500.1 THA 178.92 EL1 31.4 EL2 13.6 ALF 38.48

LAUNCH DATE MAY 13 1971

FLIGHT TIME 160.00

ARRIVAL DATE OCT 20 1971

HELIOCENTRIC CONIC

DISTANCE 393.440

EARTH TO MARS

RL 151.18 LAL .00 LOL 231.60 VL 32.455 GAL .11 AZL 91.79 HCA 130.07 SMA 188.86 ECC .19967 INC 1.7867 V1 29.478
RP 208.49 LAP -1.37 LOP 1.69 VP 23.883 GAP 9.87 AZP 88.85 TAL .66 TAP 130.73 RCA 151.15 APO 226.37 V2 26.284
RC 95.074 GL -18.74 GP -.54 ZAL 95.91 ZAP 138.53 ETS 180.64 ZAE 178.52 ETE 155.77 ZAC 99.19 ETC 278.19 LVI -18.09

PLANETOCENTRIC CONIC

C3 9.917 VHL 3.149 DLA -29.69 RAL 337.35 RAD 6838.0 VEL 11.402 PTH 6.45 VHP 4.133 DPA -17.02 RAP 323.41 ECC 1.1632
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 31 43 2380.84 -.42 60.57 189.14 137.57 17 11 4 1360.8 17.77 44.40
60.00 17 54 33 2140.49 4.69 45.63 194.05 130.07 18 30 13 1140.5 20.20 26.73
70.00 19 46 23 1811.48 10.84 23.39 198.46 122.65 20 18 35 811.5 23.04 1.89
80.00 22 39 3 1269.93 19.27 347.10 203.19 113.26 23 0 13 269.9 27.17 322.48
80.56 23 9 44 1171.84 21.33 340.72 204.09 111.15 23 29 16 171.8 28.15 315.42
100.00 1 25 51 6032.44 19.27 286.37 203.19 113.26 3 6 23 5032.4 27.17 261.75
110.00 0 49 46 6148.34 10.84 290.21 198.46 122.65 2 32 12 5146.3 23.04 268.71

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2175 TRA -.8152 TC3 .3112 BAU .0479 SGT 1166.0 SGR 492.9 SG3 810.3 ST 25.6 SR 21.9 SS 30.3
RDE -.2381 RRA .0979 RC3 .1834 FAU .13712 RRT -.0472 RRF .0748 RTF -.6792 CRT .6774 CR8 -.2356 CST .5492
FDE -.0923 FRA 2.6617 FC-11.9712 B8P 1777 SGB 1265.9 R23 -.0358 R13 .8798 LSA 35.3 MSA 28.3 S8A 1.6
BDE .3225 BRA .5244 BC3 .3612 F8P 1307 SG1 1166.3 SG2 492.3 THA 178.61 EL1 30.9 EL2 13.3 ALF 38.49

LAUNCH DATE MAY 13 1971

FLIGHT TIME 162.00

ARRIVAL DATE OCT 22 1971

HELIOCENTRIC CONIC

DISTANCE 397.925

EARTH TO MARS

RL 151.15 LAL .00 LOL 231.60 VL 32.429 GAL .12 AZL 91.78 HCA 131.32 SMA 188.40 ECC .19772 INC 1.7840 V1 29.478
RP 208.67 LAP -1.34 LOP 2.93 VP 23.824 GAP 9.60 AZP 88.82 ZAL .73 TAP 132.08 RCA 151.15 APO 225.65 V2 26.264
RC 96.988 GL -18.86 GP -.57 ZAL 95.84 ZAP 136.82 ETS 180.82 ZAE 177.27 ETE 170.10 ZAC 99.23 ETC 278.10 LVI -17.94

PLANETOCENTRIC CONIC

C3 9.751 VHL 3.123 DLA -29.83 RAL 337.33 RAD 6837.9 VEL 11.395 PTH 6.45 VHP 4.024 DPA -17.19 RAP 322.95 ECC 1.1605
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 32 24 2394.34 -.10 60.30 189.01 137.58 17 11 38 1354.3 18.09 44.10
60.00 17 55 36 2132.98 5.02 45.27 193.92 130.04 18 31 9 1133.0 20.49 26.32
70.00 19 48 16 1801.98 11.00 22.85 198.35 122.54 20 18 18 801.6 23.34 1.27
80.00 22 54 4 1218.30 20.62 343.86 203.51 112.08 23 14 22 218.3 27.90 318.81
80.10 23 6 10 1179.63 21.51 341.37 203.88 111.18 23 25 50 179.6 28.32 318.03
100.00 1 40 51 5980.81 20.62 283.14 203.51 112.08 3 20 32 4980.8 27.90 258.09
110.00 0 51 36 6136.42 11.00 289.67 198.35 122.54 2 33 55 5136.4 23.34 268.09

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2170 TRA -.4920 TC3 .2403 BAU .0391 SGT 1124.2 SGR 484.8 SG3 854.8 ST 25.3 SR 21.5 SS 31.0
RDE -.2319 RRA .0962 RC3 .1792 FAU .14375 RRT -.0469 RRF .0798 RTF -.6486 CRT .6913 CR8 -.2467 CST .5232
FDE -.1060 FRA 2.7697 FC-12.7626 B8P 1683 SGB 1224.3 R23 -.0425 R13 .8491 LSA 35.4 MSA 28.5 S8A 1.6
BDE .3176 BRA .5013 BC3 .2998 F8P 1388 SG1 1124.5 SG2 484.2 THA 178.58 EL1 30.6 EL2 12.8 ALF 38.35

LAUNCH DATE MAY 13 1971

FLIGHT TIME 164.00

ARRIVAL DATE OCT 24 1971

HELIOCENTRIC CONIC

DISTANCE 401.622

EARTH TO MARS

RL 151.15 LAL .00 LOL 231.60 VL 32.404 GAL .13 AZL 91.78 HCA 132.56 SMA 187.97 ECC .19591 INC 1.7811 V1 29.478
RP 208.85 LAP -1.31 LOP 4.18 VP 23.767 GAP 9.35 AZP 88.80 TAL .80 TAP 133.36 RCA 151.15 APO 224.80 V2 26.243
RC 98.929 GL -18.97 GP -.59 ZAL 95.79 ZAP 135.07 ETS 180.59 ZAE 175.90 ETE 175.34 ZAC 99.28 ETC 277.99 LVI -17.78

PLANETOCENTRIC CONIC

C3 9.600 VHL 3.098 DLA -29.94 RAL 337.33 RAD 6837.8 VEL 11.389 PTH 6.44 VHP 3.920 DPA -17.38 RAP 322.46 ECC 1.1580
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 33 4 2348.53 .20 60.06 188.91 137.58 17 12 12 1348.5 18.37 43.83
60.00 17 56 35 2126.29 5.31 44.95 193.82 130.01 18 32 2 1126.3 20.76 25.95
70.00 19 49 59 1792.76 11.33 22.37 198.27 122.44 20 19 52 792.8 23.60 .72
79.72 23 3 17 1185.72 21.67 341.88 203.71 111.19 23 23 3 185.7 28.46 316.51
79.72 23 3 17 1185.72 21.67 341.88 203.71 111.19 23 23 3 185.7 28.46 316.51
79.72 23 3 17 1185.72 21.67 341.88 203.71 111.19 23 23 3 185.7 28.46 316.51
110.00 0 53 21 6127.58 11.33 289.19 198.27 122.44 2 35 29 5127.6 23.60 267.54

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2148 TRA -.4657 TC3 .1822 BAU .0323 SGT 1076.0 SGR 476.5 SG3 903.3 ST 24.8 SR 21.1 SS 31.8
RDE -.2259 RRA .0947 RC3 .1741 FAU .15132 RRT -.0445 RRF .0853 RTF -.1.95 CRT .7050 CR8 -.2618 CST .4953
FDE -.1245 FRA 2.8789 FC-13.6462 B8P 1494 SGB 1176.8 R23 -.0511 R13 .6201 LSA 35.4 MSA 28.6 S8A 1.6
BDE .3116 BRA .4752 BC3 .2520 F8P 1438 SG1 1076.3 SG2 475.9 THA 178.60 EL1 30.2 EL2 12.3 ALF 38.51

LAUNCH DATE MAY 13 1971

FLIGHT TIME 166.00

ARRIVAL DATE OCT 26 1971

HELIOCENTRIC CONIC

DISTANCE 405.730

EARTH TO MARS

RL 151.15 LAL .00 LOL 231.60 VL 32.382 GAL .14 AZL 91.78 HCA 133.80 SMA 187.58 ECC .19424 INC 1.7781 V1 29.478
RP 209.04 LAP -1.28 LOP 5.42 VP 23.712 GAP 9.09 AZP 88.77 TAL .84 TAP 134.64 RCA 151.15 APO 224.02 V2 26.221
RC 100.898 GL -19.07 GP -.62 ZAL 95.76 ZAP 133.28 ETS 180.56 ZAE 174.44 ETE 177.93 ZAC 99.32 ETC 277.88 LVI -17.61

PLANETOCENTRIC CONIC

C3 9.462 VHL 3.078 DLA -30.04 RAL 337.35 RAD 6837.8 VEL 11.383 PTH 6.44 VHP 3.822 DPA -17.57 RAP 321.92 ECC 1.1557
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 33 42 2343.44 .45 59.85 188.84 137.57 17 12 45 1343.4 18.61 43.59
60.00 17 57 30 2120.47 5.57 44.67 193.74 129.98 18 32 50 1120.5 20.99 25.63
70.00 19 51 30 1785.10 11.61 21.95 198.20 122.35 20 21 15 785.1 23.82 .24
79.42 23 1 4 1190.21 21.80 342.28 203.56 111.19 23 20 55 190.2 28.58 316.87
79.42 23 1 4 1190.21 21.80 342.28 203.56 111.19 23 20 55 190.2 28.58 316.87
79.42 23 1 4 1190.21 21.80 342.28 203.56 111.19 23 20 55 190.2 28.58 316.87
110.00 0 54 52 6119.95 11.61 288.78 198.20 122.35 2 36 52 5120.0 23.82 267.06

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2135 TRA -.4446 TC3 .0608 BAU .0227 SGT 1036.6 SGR 468.2 SG3 946.6 ST 24.5 SR 20.7 SS 32.8
RDE -.2201 RRA .0933 RC3 .1692 FAU .15663 RRT -.0519 RRF .0979 RTF -.5665 CRT .7172 CR8 -.2815 CST .4597
FDE -.1508 FRA 3.0199 FC-14.3305 B8P 1438 SGB 1137.4 R23 -.0611 R13 .5674 LSA 35.8 MSA 28.7 S8A 1.6
BDE .3066 BRA .4543 BC3 .1798 F8P 1548 SG1 1037.0 SG2 467.4 THA 178.32 EL1 29.8 EL2 11.9 ALF 38.36

LAUNCH DATE MAY 13 1971

FLIGHT TIME 176.00

ARRIVAL DATE NOV 5 1971

HELIOCENTRIC CONIC

RL 191.15 LAL .00 LOL 231.60 VL 32.294 GAL .13 AZL 91.76 HCA 139.98 SMA 186.09 ECC .18778 INC 1.7611 V1 29.478
RP 210.10 LAP -1.13 LOP 11.59 VP 23.456 GAP 7.91 AZP 88.65 TAL .82 TAP 140.79 RCA 151.15 APO 221.04 V2 26.098
RC 111.121 GL -19.38 GP -.78 ZAL 96.02 ZAP 123.81 ETS 180.39 ZAE 166.19 ETE 181.69 ZAC 99.61 ETC 277.18 LVI -16.53

DISTANCE 426.400

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 8.943 VML 2.991 DLA -30.23 RAL 337.78 RAD 6637.5 VEL 11.360 PTH 6.41 VHP 3.408 DPA -10.73 RAP 318.66 ECC 1.1472
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 36 29 2328.07 1.22 59.20 188.83 137.56 17 15 17 1328.1 19.34 42.87
60.00 18 0 50 2103.66 6.30 43.86 193.69 129.89 18 35 54 1103.7 21.64 24.69
70.00 19 56 4 1764.62 12.35 20.83 198.14 122.10 20 25 29 764.6 24.41 358.94
78.85 22 58 31 1192.86 22.20 342.64 203.29 111.06 23 18 24 192.9 28.89 317.12
78.85 22 58 31 1192.86 22.20 342.64 203.29 111.06 23 18 24 192.9 28.89 317.12
78.85 22 58 31 1192.86 22.20 342.64 203.29 111.06 23 18 24 192.9 28.89 317.12
110.00 0 59 27 6099.48 12.35 287.66 198.14 122.10 2 41 6 5099.5 24.41 265.76

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2153 TRA -.3054 TC3 -.5452 BAU .0671 SGT 857.4 SGR 423.1 S63 1203.4 ST 23.0 SR 18.6 SS 37.4
RDE -.1916 RRA .0879 RC3 .1321 FAU .19319 RRT -.0178 RRF .1482 RTF -.1516 CRT .8160 CR3 -.3020 CST .2951
FDE -.1995 FRA 3.7394 FC-18.7007 B8P 618 SGB 956.1 R23 -.1447 R13 .1524 LSA 38.5 MSA 28.1 SSA 1.5
BDE .2882 BRA .3178 BC3 .5610 F8P 1999 S61 857.4 S62 423.0 THA 179.33 EL1 28.2 EL2 8.7 ALF 37.64

LAUNCH DATE MAY 13 1971

FLIGHT TIME 178.00

ARRIVAL DATE NOV 7 1971

HELIOCENTRIC CONIC

RL 191.15 LAL .00 LOL 231.60 VL 32.281 GAL .12 AZL 91.76 HCA 141.20 SMA 185.87 ECC .18682 INC 1.7572 V1 29.478
RP 210.33 LAP -1.10 LOP 12.82 VP 23.408 GAP 7.69 AZP 88.63 TAL .76 TAP 141.96 RCA 151.15 APO 220.60 V2 26.071
RC 113.239 GL -19.41 GP -.61 ZAL 96.14 ZAP 121.82 ETS 180.35 ZAE 164.38 ETE 181.90 ZAC 99.67 ETC 277.02 LVI -16.28

DISTANCE 430.557

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 8.869 VML 2.978 DLA -30.21 RAL 337.93 RAD 6637.5 VEL 11.357 PTH 6.41 VHP 3.340 DPA -10.99 RAP 317.90 ECC 1.1460
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 36 58 2326.94 1.28 59.16 188.90 137.56 17 15 45 1326.9 19.40 42.81
60.00 18 1 15 2102.69 6.34 43.81 193.75 129.88 18 36 18 1102.7 21.68 24.64
70.00 19 56 21 1764.05 12.37 20.80 198.18 122.09 20 25 45 764.1 24.42 358.90
78.91 22 59 34 1189.77 22.23 342.42 203.33 111.00 23 19 24 189.8 28.88 316.89
78.91 22 59 34 1189.77 22.23 342.42 203.33 111.00 23 19 24 189.8 28.88 316.89
78.91 22 59 34 1189.77 22.23 342.42 203.33 111.00 23 19 24 189.8 28.88 316.89
110.00 0 59 44 6098.91 12.37 287.63 198.18 122.09 2 41 22 5098.9 24.42 265.72

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2127 TRA -.2618 TC3 -.6754 BAU .0814 SGT 818.0 SGR 413.2 S63 1249.7 ST 22.3 SR 18.1 SS 37.4
RDE -.1861 RRA .0867 RC3 .1225 FAU .20155 RRT .0137 RRF .1541 RTF -.0051 CRT .8445 CR3 -.3059 CST .2409
FDE -.2056 FRA 3.8039 FC-19.6750 B8P 296 SGB 916.4 R23 .1542 R13 -.0044 LSA 38.2 MSA 27.6 SSA 1.5
BDE .2826 BRA .2758 BC3 .6865 F8P 2013 S61 818.0 S62 413.2 THA .53 EL1 27.6 EL2 7.8 ALF 38.14

LAUNCH DATE MAY 13 1971

FLIGHT TIME 180.00

ARRIVAL DATE NOV 9 1971

HELIOCENTRIC CONIC

RL 191.15 LAL .00 LOL 231.60 VL 32.269 GAL .11 AZL 91.75 HCA 142.43 SMA 185.68 ECC .18596 INC 1.7531 V1 29.478
RP 210.57 LAP -1.07 LOP 14.04 VP 23.361 GAP 7.47 AZP 88.61 TAL .69 TAP 143.11 RCA 151.15 APO 220.20 V2 26.044
RC 115.380 GL -19.44 GP -.85 ZAL 96.30 ZAP 119.81 ETS 180.31 ZAE 162.52 ETE 182.05 ZAC 99.73 ETC 276.85 LVI -16.01

DISTANCE 434.717

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 8.803 VML 2.967 DLA -30.16 RAL 338.10 RAD 6637.4 VEL 11.354 PTH 6.41 VHP 3.277 DPA -19.25 RAP 317.12 ECC 1.1449
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 37 26 2326.55 1.30 59.14 189.00 137.56 17 16 12 1326.5 19.41 42.79
60.00 18 1 35 2102.63 6.35 43.81 193.83 129.88 18 36 38 1102.6 21.68 24.64
70.00 19 56 24 1764.85 12.34 20.85 198.24 122.10 20 25 49 764.8 24.40 358.95
79.04 23 1 14 1185.31 22.23 342.09 203.40 110.93 23 21 0 185.3 28.86 316.55
79.04 23 1 14 1185.31 22.23 342.09 203.40 110.93 23 21 0 185.3 28.86 316.55
79.04 23 1 14 1185.31 22.23 342.09 203.40 110.93 23 21 0 185.3 28.86 316.55
110.00 0 59 46 6099.70 12.34 287.67 198.24 122.10 2 41 26 5099.7 24.40 265.77

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2234 TRA -.2435 TC3 -.9022 BAU .1070 SGT 876.7 SGR 404.1 S63 1302.8 ST 23.1 SR 17.7 SS 39.4
RDE -.1803 RRA .0868 RC3 .1147 FAU .20841 RRT .0242 RRF .1748 RTF .101 CRT .8637 CR3 -.2763 CST .2348
FDE -.1683 FRA 4.0911 FC-20.2009 B8P 292 SGB 965.4 R23 .1712 R13 .1212 LSA 40.1 MSA 28.1 SSA 1.5
BDE .2871 BRA .2583 BC3 .9095 F8P 2228 S61 876.8 S62 404.0 THA .81 EL1 28.1 EL2 7.3 ALF 36.29

LAUNCH DATE MAY 13 1971

FLIGHT TIME 182.00

ARRIVAL DATE NOV 11 1971

HELIOCENTRIC CONIC

RL 191.15 LAL .00 LOL 231.60 VL 32.259 GAL .09 AZL 91.75 HCA 143.65 SMA 185.50 ECC .18510 INC 1.7488 V1 29.478
RP 210.82 LAP -1.04 LOP 15.26 VP 23.315 GAP 7.26 AZP 88.59 TAL .60 TAP 144.24 RCA 151.15 APO 219.65 V2 26.015
RC 117.345 GL -19.45 GP -.89 ZAL 96.48 ZAP 117.77 ETS 180.28 ZAE 160.63 ETE 182.15 ZAC 99.79 ETC 276.87 LVI -15.73

DISTANCE 438.883

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 8.745 VML 2.957 DLA -30.10 RAL 338.30 RAD 6637.4 VEL 11.351 PTH 6.40 VHP 3.218 DPA -19.52 RAP 316.30 ECC 1.1439
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 37 31 2326.72 1.29 59.15 189.11 137.56 17 16 38 1326.7 19.41 42.80
60.00 18 1 31 2103.27 6.32 43.84 193.93 129.89 18 36 54 1103.3 21.66 24.67
70.00 19 56 16 1766.67 12.27 20.95 198.31 122.12 20 25 42 766.7 24.35 359.07
79.23 23 3 25 1179.60 22.22 341.66 203.49 110.85 23 23 5 179.6 28.81 316.12
79.23 23 3 25 1179.60 22.22 341.66 203.49 110.85 23 23 5 179.6 28.81 316.12
79.23 23 3 25 1179.60 22.22 341.66 203.49 110.85 23 23 5 179.6 28.81 316.12
110.00 0 59 38 6101.53 12.27 287.77 198.31 122.12 2 41 19 5101.5 24.35 265.89

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2265 TRA -.2027 TC3 -1.0688 BAU .1258 SGT 893.3 SGR 393.7 S63 1352.2 ST 23.0 SR 17.2 SS 39.5
RDE -.1747 RRA .0858 RC3 .1037 FAU .21450 RRT .0647 RRF .1801 RTF .2731 CRT .8910 CR3 -.2585 CST .1957
FDE -.1397 FRA 4.1679 FC-21.2340 B8P 135 SGB 976.3 R23 .1585 R13 .2758 LSA 40.0 MSA 27.9 SSA 1.5
BDE .2860 BRA .2200 BC3 1.0735 F8P 2313 S61 893.8 S62 392.7 THA 2.03 EL1 28.0 EL2 6.4 ALF 35.79

LAUNCH DATE MAY 13 1971

FLIGHT TIME 192.00

ARRIVAL DATE NOV 21 1971

Heliocentric Conic: RL 151.15 LAL .00 LOL 231.60 VL 32.223 GAL -.01 AZL 91.72 HCA 149.71 SMA 184.90 ECC .18253 INC 1.7230 V1 29.478
 RP 212.14 LAP -.87 LOP 21.32 VP 23.096 GAP 6.25 AZP 88.51 TAL 359.91 TAP 149.62 RCA 151.15 APO 216.65 V2 25.884
 RC 128.706 GL -19.33 GP -1.11 ZAL 97.75 ZAP 107.39 ETS 100.01 ZAE 150.68 ETE 182.30 ZAC 100.05 ETC 275.70 LVI -14.18

PLANETOCENTRIC CONIC: C3 8.364 VHL 2.928 DLA -29.51 RAL 339.58 RAD 6637.3 VEL 11.343 PTH 6.40 VHP 2.992 DPA -20.92 RAP 311.94 ECC 1.1409
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 39 35 2336.71 .79 59.56 190.00 137.57 17 18 32 1336.7 18.93 43.27
 60.00 18 1 54 2117.72 5.69 44.54 194.70 129.97 18 37 12 1117.7 21.10 25.48
 70.00 19 52 39 1791.93 11.36 22.33 198.69 122.43 20 22 31 791.9 23.62 .67
 80.00 22 35 53 1260.13 18.99 347.73 203.08 113.48 22 57 15 260.1 27.01 323.19
 81.21 23 23 48 1126.98 21.89 337.82 204.33 110.29 23 42 33 127.0 28.29 312.12
 100.00 1 22 43 6042.64 18.99 287.00 203.08 113.48 3 3 25 5042.6 27.01 262.47
 110.00 0 56 2 6126.78 11.36 289.15 198.89 122.43 2 38 8 5126.8 23.62 267.49

Differential Corrections: TDE -.2385 TRA -.0134 TC3-2.1932 BAU .2512 SGT 1366.2 SGR 347.4 SCS 1563.9 ST 23.4 SR 14.6 SS 47.2
 RDE -.1466 RRA .0858 RC3 .0590 FAU .22753 RRT .1769 RRF .2966 RTF .6839 CRT .9727 CR8 -.1952 CST .0107
 FDE .0011 FRA 5.3768 FC-23.0011 B8P 1289 SGB 1409.7 R23 .1703 R13 .6860 LSA 47.3 MSA 27.4 SSA 1.3
 BDE .2800 BRA .0867 BC3 2.1940 F8P 2783 SGI 1367.7 SGI 341.6 THA 2.75 EL1 27.5 EL2 2.9 ALF 31.69

LAUNCH DATE MAY 13 1971

FLIGHT TIME 194.00

ARRIVAL DATE NOV 23 1971

Heliocentric Conic: RL 151.15 LAL .00 LOL 231.60 VL 32.219 GAL -.04 AZL 91.72 HCA 150.91 SMA 184.83 ECC .18222 INC 1.7166 V1 29.478
 RP 212.43 LAP -.83 LOP 22.53 VP 23.054 GAP 6.06 AZP 88.50 TAL 359.72 TAP 150.64 RCA 151.15 APO 218.51 V2 25.832
 RC 130.999 GL -19.28 GP -1.17 ZAL 98.07 ZAP 105.30 ETS 179.95 ZAE 148.63 ETE 182.29 ZAC 100.09 ETC 275.50 LVI -13.85

PLANETOCENTRIC CONIC: C3 8.547 VHL 2.923 DLA -29.33 RAL 339.90 RAD 6637.3 VEL 11.343 PTH 6.40 VHP 2.960 DPA -21.20 RAP 311.03 ECC 1.1407
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 39 50 2340.48 .60 59.72 190.24 137.57 17 18 50 1340.5 18.75 43.45
 60.00 18 1 40 2122.76 5.47 44.78 194.90 129.99 18 37 3 1122.8 20.90 25.75
 70.00 19 51 25 1799.93 11.06 22.76 199.05 122.52 20 21 25 799.9 23.38 1.17
 80.00 22 28 25 1307.91 18.23 349.44 203.03 114.06 22 50 13 307.9 26.56 325.13
 81.89 23 30 18 1109.65 21.77 336.29 204.56 110.15 23 48 48 109.6 28.12 310.81
 100.00 1 15 13 6070.42 18.23 288.71 203.03 114.06 2 56 24 5070.4 26.56 264.41
 110.00 0 54 47 6134.79 11.06 289.58 199.05 122.52 2 37 2 5134.8 23.38 267.99

Differential Corrections: TDE -.2399 TRA .0430 TC3-2.3743 BAU .2713 SGT 1468.9 SGR 334.7 SCS 1615.0 ST 23.6 SR 14.1 SS 45.3
 RDE -.1408 RRA .0836 RC3 .0393 FAU .24580 RRT .2361 RRF .2935 RTF .7753 CRT .9862 CR8 -.1653 CST -.0383
 FDE .0607 FRA 5.2158 FC-24.8978 B8P 1593 SGB 1506.5 R23 .1040 R13 .7766 LSA 45.4 MSA 27.3 SSA 1.3
 BDE .2782 BRA .0940 BC3 2.3746 F8P 2888 SGI 1471.1 SGI 324.7 THA 3.24 EL1 27.4 EL2 2.0 ALF 30.62

LAUNCH DATE MAY 13 1971

FLIGHT TIME 196.00

ARRIVAL DATE NOV 25 1971

Heliocentric Conic: RL 151.15 LAL .00 LOL 231.60 VL 32.215 GAL -.07 AZL 91.71 HCA 152.11 SMA 184.77 ECC .18197 INC 1.7098 V1 29.478
 RP 212.72 LAP -.80 LOP 23.73 VP 23.012 GAP 5.88 AZP 88.48 TAL 359.52 TAP 151.64 RCA 151.15 APO 218.40 V2 25.799
 RC 133.312 GL -19.21 GP -1.22 ZAL 98.41 ZAP 103.21 ETS 179.89 ZAE 146.57 ETE 182.27 ZAC 100.12 ETC 275.29 LVI -13.51

PLANETOCENTRIC CONIC: C3 8.536 VHL 2.922 DLA -29.13 RAL 340.23 RAD 6637.3 VEL 11.342 PTH 6.40 VHP 2.931 DPA -21.48 RAP 310.13 ECC 1.1405
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 40 3 2344.81 .38 59.90 190.49 137.57 17 19 7 1344.8 18.54 43.65
 60.00 18 1 21 2128.49 5.21 45.06 195.13 130.02 18 36 50 1128.5 20.67 26.07
 70.00 19 50 2 1808.84 10.74 23.24 199.22 122.82 20 20 11 808.8 23.12 1.73
 80.00 22 21 38 1333.88 17.50 351.02 203.02 114.58 22 43 52 333.9 26.12 326.94
 82.71 23 38 6 1088.58 21.64 334.88 204.82 109.99 23 56 14 88.6 27.94 309.22
 100.00 1 8 26 6096.39 17.50 290.30 203.02 114.58 2 50 2 5096.4 26.12 266.21
 110.00 0 53 24 6143.70 10.74 290.07 199.22 122.82 2 35 48 5143.7 23.12 268.55

Differential Corrections: TDE -.2391 TRA .0824 TC3-2.6183 BAU .2988 SGT 1612.4 SGR 324.7 SCS 1640.0 ST 23.8 SR 13.6 SS 45.8
 RDE -.1353 RRA .0831 RC3 .0277 FAU .24938 RRT .2642 RRF .3143 RTF .1.84 CRT .9923 CR8 -.1587 CST -.0957
 FDE .0858 FRA 5.3048 FC-25.2941 B8P 1935 SGB 1644.8 R23 .0935 R13 .8174 LSA 45.8 MSA 27.1 SSA 1.3
 BDE .2747 BRA .1242 BC3 2.6185 F8P 2803 SGI 1614.8 SGI 312.7 THA 3.16 EL1 27.3 EL2 1.5 ALF 29.81

LAUNCH DATE MAY 13 1971

FLIGHT TIME 198.00

ARRIVAL DATE NOV 27 1971

Heliocentric Conic: RL 151.15 LAL .00 LOL 231.60 VL 32.212 GAL -.11 AZL 91.70 HCA 153.31 SMA 184.73 ECC .18179 INC 1.7025 V1 29.478
 RP 213.01 LAP -.76 LOP 24.92 VP 22.971 GAP 5.69 AZP 88.48 TAL 359.31 TAP 152.82 RCA 151.15 APO 218.31 V2 25.766
 RC 135.643 GL -19.13 GP -1.28 ZAL 98.78 ZAP 101.14 ETS 179.83 ZAE 144.50 ETE 182.26 ZAC 100.15 ETC 275.09 LVI -13.18

PLANETOCENTRIC CONIC: C3 8.530 VHL 2.921 DLA -28.91 RAL 340.57 RAD 6637.3 VEL 11.342 PTH 6.39 VHP 2.906 DPA -21.75 RAP 309.23 ECC 1.1404
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 40 13 2349.71 .14 60.11 190.76 137.58 17 19 23 1349.7 18.31 43.88
 60.00 18 0 58 2134.90 4.93 45.37 195.36 130.05 18 36 33 1134.9 20.42 26.42
 70.00 19 48 30 1818.61 10.38 23.77 199.41 122.72 20 18 49 818.6 22.83 2.33
 80.00 22 15 18 1358.81 16.79 352.53 203.04 115.06 22 37 56 358.8 25.67 328.65
 83.73 23 47 40 1082.10 21.49 332.67 205.10 109.82 24 5 22 62.1 27.73 307.23
 100.00 1 2 5 6121.32 16.79 291.81 203.04 115.06 2 44 7 5121.3 25.67 267.92
 110.00 0 51 52 6153.47 10.38 290.60 199.41 122.72 2 34 26 5153.5 22.83 269.16

Differential Corrections: TDE -.2369 TRA .1427 TC3-2.8677 BAU .3270 SGT 1767.6 SGR 315.9 SCS 1859.1 ST 23.9 SR 13.0 SS 46.6
 RDE -.1299 RRA .0831 RC3 .0180 FAU .24907 RRT .2873 RRF .3453 RTF .8425 CRT .9942 CR8 -.1742 CST -.1741
 FDE .0739 FRA 5.4770 FC-25.2791 B8P 2240 SGB 1795.6 R23 .1002 R13 .8434 LSA 47.0 MSA 26.5 SSA 1.2
 BDE .2702 BRA .1652 BC3 2.8678 F8P 2898 SGI 1770.0 SGI 302.2 THA 3.03 EL1 27.2 EL2 1.2 ALF 28.60

LAUNCH DATE MAY 13 1971 FLIGHT TIME 208.00 ARRIVAL DATE DEC 7 1971

Table with columns for Heliocentric Conic, Distance, Earth to Mars, Planocentric Conic, and Differential Corrections. Includes parameters like RL, RP, RC, C3, LNCH, and TDE.

LAUNCH DATE MAY 13 1971 FLIGHT TIME 210.00 ARRIVAL DATE DEC 9 1971

Table with columns for Heliocentric Conic, Distance, Earth to Mars, Planocentric Conic, and Differential Corrections. Includes parameters like RL, RP, RC, C3, LNCH, and TDE.

LAUNCH DATE MAY 13 1971 FLIGHT TIME 212.00 ARRIVAL DATE DEC 11 1971

Table with columns for Heliocentric Conic, Distance, Earth to Mars, Planocentric Conic, and Differential Corrections. Includes parameters like RL, RP, RC, C3, LNCH, and TDE.

LAUNCH DATE MAY 13 1971 FLIGHT TIME 214.00 ARRIVAL DATE DEC 13 1971

Table with columns for Heliocentric Conic, Distance, Earth to Mars, Planocentric Conic, and Differential Corrections. Includes parameters like RL, RP, RC, C3, LNCH, and TDE.

LAUNCH DATE MAY 13 1971

FLIGHT TIME 216.00

ARRIVAL DATE DEC 15 1971

HELIOCENTRIC CONIC
 RL 131.15 LAL .00 LOL 231.60 VL 32.219 GAL -.49 AZL 91.59 HCA 163.93 SMA 184.84 ECC .18247 INC 1.5941 V1 29.478
 RP 215.87 LAP -.44 LOP 35.53 VP 22.618 GAP 4.16 AZP 88.47 TAL 356.82 TAP 160.75 RCA 151.11 APO 218.57 V2 25.443
 RC 157.385 GL -17.69 GP -2.11 ZAL 102.87 ZAP 83.81 ETS 179.12 ZAE 126.43 ETE 182.09 ZAC 99.91 ETC 273.41 LVI -9.98

PLANETOCENTRIC CONIC
 C3 8.897 VHL 2.949 DLA -25.95 RAL 344.17 RAD 6637.4 VEL 11.349 PTH 6.40 VHP 2.829 DPA -24.12 RAP 302.00 ECC 1.1431
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 39 0 2420.27 -3.41 63.06 193.70 137.48 17 19 20 1420.3 14.90 47.12
 60.00 17 52 56 2223.62 1.04 49.61 197.97 130.29 18 30 0 1223.6 16.84 31.19
 70.00 19 28 20 1943.12 5.73 30.41 201.51 123.73 20 0 43 943.1 18.90 9.86
 80.00 21 25 3 1577.80 10.07 5.31 204.14 118.26 21 51 21 577.8 20.82 343.09
 90.00 23 13 37 1227.68 12.20 340.67 205.25 115.71 23 34 5 227.7 21.76 317.71
 100.00 0 11 51 1052.27 10.07 326.68 204.14 118.26 0 29 23 52.3 20.82 304.46
 110.00 0 31 42 6277.97 5.73 297.24 201.51 123.73 2 16 20 5278.0 18.90 276.68

DIFFERENTIAL CORRECTIONS
 TDE -.1791 TRA .6641 TC3-5.0753 BAU .5903 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.0747 RRA .0880 RC3 -.1173 FAU .25852 SGT 3337.8 SGR 249.0 S03 1757.0 ST 26.0 SR 7.8 SS 52.2
 FDE .6774 FRA 6.2335 FC-25.7343 BSP 5244 SRT .6382 RRF .6755 RTF .9474 CRT .8605 CRS -.0608 CST -.5517
 BDE .1941 BRA .6699 BC3 5.0766 FSP 3074 SGB 3347.1 R23 .0894 R13 .9476 LSA 55.0 MSA 23.5 SSA .8
 S01 3341.6 S02 191.5 THA 2.73 EL1 28.8 EL2 3.9 ALF 13.70

LAUNCH DATE MAY 13 1971

FLIGHT TIME 218.00

ARRIVAL DATE DEC 17 1971

HELIOCENTRIC CONIC
 RL 151.15 LAL .00 LOL 231.60 VL 32.223 GAL -.54 AZL 91.57 HCA 165.09 SMA 184.90 ECC .18277 INC 1.5733 V1 29.478
 RP 216.21 LAP -.41 LOP 36.69 VP 22.580 GAP 4.00 AZP 88.48 TAL 356.49 TAP 161.58 RCA 151.11 APO 218.69 V2 25.405
 RC 159.881 GL -17.42 GP -2.26 ZAL 103.53 ZAP 81.72 ETS 179.01 ZAE 124.53 ETE 182.08 ZAC 99.80 ETC 273.26 LVI -9.62

PLANETOCENTRIC CONIC
 C3 8.735 VHL 2.956 DLA -25.49 RAL 344.59 RAD 6637.4 VEL 11.351 PTH 6.40 VHP 2.834 DPA -24.40 RAP 301.36 ECC 1.1438
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 38 20 2431.48 -3.97 63.53 194.05 137.45 17 18 51 1431.5 14.35 47.62
 60.00 17 51 19 2237.37 .43 50.27 198.28 130.30 18 28 36 1237.4 16.27 31.91
 70.00 19 25 12 1961.35 5.04 31.37 201.76 123.82 19 57 53 961.3 18.30 10.92
 80.00 21 19 21 1604.04 9.22 6.79 204.31 118.53 21 46 5 604.0 20.14 344.75
 90.00 23 5 41 1261.14 11.21 342.62 205.35 116.13 23 26 42 261.1 21.02 319.89
 100.00 0 6 9 1078.51 9.22 328.16 204.31 118.53 0 24 8 78.5 20.14 306.12
 110.00 0 28 34 1008.17 5.04 320.29 201.76 123.82 0 45 22 8.2 18.30 299.84

DIFFERENTIAL CORRECTIONS
 TDE -.1649 TRA .7284 TC3-5.3043 BAU .6197 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.0679 RRA .0903 RC3 -.1371 FAU .25596 SGT 3518.6 SGR 248.0 S03 1747.1 ST 28.8 SR 7.2 SS 52.9
 FDE .7527 FRA 6.2798 FC-25.3681 BSP 5588 SRT .6871 RRF .7256 RTF .9508 CRT .8402 CRS -.0713 CST -.5926
 BDE .1783 BRA .7340 BC3 5.3061 FSP 3069 SGB 3527.3 R23 .0971 R13 .9511 LSA 56.2 MSA 22.9 SSA .8
 S01 3522.7 S02 180.0 THA 2.76 EL1 29.4 EL2 3.8 ALF 12.07

LAUNCH DATE MAY 13 1971

FLIGHT TIME 220.00

ARRIVAL DATE DEC 19 1971

HELIOCENTRIC CONIC
 RL 151.15 LAL .00 LOL 231.60 VL 32.227 GAL -.60 AZL 91.55 HCA 166.25 SMA 184.96 ECC .18310 INC 1.5491 V1 29.478
 RP 216.56 LAP -.37 LOP 37.85 VP 22.542 GAP 3.84 AZP 88.50 TAL 356.15 TAP 162.39 RCA 151.10 APO 218.83 V2 25.366
 RC 162.390 GL -17.10 GP -2.44 ZAL 104.10 ZAP 79.98 ETS 178.89 ZAE 122.67 ETE 182.09 ZAC 99.67 ETC 273.11 LVI -9.24

PLANETOCENTRIC CONIC
 C3 8.778 VHL 2.962 DLA -24.98 RAL 345.00 RAD 6637.4 VEL 11.353 PTH 6.41 VHP 2.841 DPA -24.68 RAP 300.76 ECC 1.1444
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 37 28 2443.59 -4.58 64.04 194.39 137.41 17 18 12 1443.6 13.76 48.18
 60.00 17 49 27 2252.16 -.22 50.98 198.58 130.30 18 26 59 1252.2 15.86 32.67
 70.00 19 21 46 1980.75 4.30 32.39 202.00 123.91 19 54 47 980.8 17.64 12.05
 80.00 21 13 26 1631.24 8.33 8.32 204.47 118.78 21 40 38 631.2 19.43 346.45
 90.00 22 57 46 1294.76 10.19 344.57 205.46 116.52 23 19 21 294.8 20.25 322.05
 100.00 0 0 14 1105.71 8.33 329.69 204.47 118.78 0 18 40 105.7 19.43 307.82
 110.00 0 25 8 1027.57 4.30 321.31 202.00 123.91 0 42 16 27.6 17.64 300.97

DIFFERENTIAL CORRECTIONS
 TDE -.1490 TRA .7930 TC3-5.5363 BAU .6498 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.0810 RRA .0932 RC3 -.1609 FAU .25451 RRT .7378 RRF .7764 RTF .5446 CRT .8247 CRS -.0961 CST -.6346
 FDE .8177 FRA 6.3058 FC-25.1062 BSP 5915 SGB 3710.5 R23 .1046 R13 .9548 LSA 57.3 MSA 22.3 SSA .8
 BDE .1610 BRA .7985 BC3 5.5387 FSP 3043 S01 3706.7 S02 168.6 THA 2.86 EL1 30.1 EL2 3.7 ALF 10.60

LAUNCH DATE MAY 13 1971

FLIGHT TIME 222.00

ARRIVAL DATE DEC 21 1971

HELIOCENTRIC CONIC
 RL 151.15 LAL .00 LOL 231.60 VL 32.231 GAL -.65 AZL 91.52 HCA 167.40 SMA 185.04 ECC .18348 INC 1.5203 V1 29.478
 RP 216.91 LAP -.33 LOP 39.01 VP 22.505 GAP 3.68 AZP 88.52 TAL 355.79 TAP 163.19 RCA 151.09 APO 218.99 V2 25.327
 RC 164.912 GL -16.74 GP -2.65 ZAL 104.68 ZAP 78.28 ETS 178.75 ZAE 120.84 ETE 182.10 ZAC 99.50 ETC 272.98 LVI -8.85

PLANETOCENTRIC CONIC
 C3 8.819 VHL 2.970 DLA -24.42 RAL 345.41 RAD 6637.4 VEL 11.355 PTH 6.41 VHP 2.851 DPA -24.99 RAP 300.21 ECC 1.1451
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 36 22 2456.76 -5.24 64.59 194.73 137.36 17 17 19 1456.8 13.11 48.75
 60.00 17 47 17 2268.18 -.93 51.74 198.87 130.29 18 25 5 1268.2 14.99 33.50
 70.00 19 17 58 2001.55 3.51 33.48 202.23 123.99 19 51 20 1001.5 16.94 13.25
 80.00 21 7 12 1659.69 7.39 9.92 204.62 119.01 21 34 52 659.7 18.65 348.21
 90.00 22 49 43 1329.06 9.14 346.54 205.55 116.88 23 11 52 329.1 19.43 324.23
 100.00 23 50 4 1134.16 7.39 331.28 204.62 119.01 24 8 58 134.2 18.65 309.58
 110.00 0 21 20 1048.36 3.51 322.40 202.23 123.99 0 38 49 48.4 16.94 302.17

DIFFERENTIAL CORRECTIONS
 TDE -.1306 TRA .8593 TC3-5.7601 BAU .6795 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.0536 RRA .0972 RC3 -.1863 FAU .25127 SGT 3882.7 SGR 255.7 S03 1723.7 ST 30.5 SR 6.0 SS 54.3
 FDE .9008 FRA 6.3379 FC-24.6660 BSP 6242 SRT .7849 RRF .8248 RTF .9567 CRT .8180 CRS -.1328 CST -.6716
 BDE .1412 BRA .8638 BC3 5.7631 FSP 3028 SGB 3891.1 R23 .1172 R13 .9570 LSA 58.7 MSA 21.7 SSA .7
 S01 3887.9 S02 158.2 THA 2.96 EL1 30.9 EL2 3.4 ALF 9.30

LAUNCH DATE MAY 13 1971

FLIGHT TIME 224.00

ARRIVAL DATE DEC 23 1971

HELIOCENTRIC CONIC

DISTANCE 526.758

EARTH TO MARS

RL 151.15 LAL .00 LOL 231.60 VL 32.236 GAL -1.71 AZL 91.49 HCA 160.55 SMA 185.12 ECC .18389 INC 1.4852 V1 29.478
RP 217.26 LAP -.30 LOP 40.16 VP 22.468 GAP 3.53 AZP 88.54 TAL 355.43 TAP 163.98 RCA 151.08 APO 219.16 V2 25.256
RC 167.446 GL -16.32 GP -2.89 ZAL 105.29 ZAP 76.62 ETS 178.60 ZAE 119.05 ETE 182.12 ZAC 99.28 ETC 272.85 LVI -8.44

PLANETOCENTRIC CONIC

C3 8.863 VML 2.977 DLA -23.80 RAL 345.79 RAD 6637.5 VEL 11.357 PTH 6.41 VHP 2.862 DPA -25.33 RAP 299.71 ECC 1.1459
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 34 57 2471.19 -5.96 65.20 195.04 137.29 17 16 8 1471.2 12.40 49.38
60.00 17 44 43 2285.65 -1.70 52.58 199.13 130.27 18 22 48 1285.7 14.26 34.40
70.00 19 13 42 2024.01 2.65 34.66 202.43 124.06 19 47 26 1024.0 16.17 14.53
80.00 21 0 30 1689.76 6.40 11.59 204.74 119.23 21 28 40 689.8 17.82 350.05
90.00 22 41 20 1364.55 8.05 348.57 205.63 117.20 23 4 5 364.5 18.55 326.46
100.00 23 43 22 1164.23 6.40 332.96 204.74 119.23 24 2 47 164.2 17.82 311.42
110.00 0 17 5 1070.83 2.65 323.57 202.43 124.06 0 34 56 70.8 16.17 303.45

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1116 TRA .9214 TC3-5.9983 BAU .7112 SGT 4069.2 SGR 266.4 SG3 1711.4 ST 31.5 SR 5.5 SS 54.9
RDE -.0460 RRA .1022 RC3 -.2184 FAU .24980 RRT .8303 RRF .8699 RTF .9594 CRT .8257 CRS -.1941 CST -.7067
FDE .9700 FRA 6.3398 FC-24.3990 BSP 6520 SGB 4077.9 R23 .1297 R13 .9597 LSA 59.9 MSA 21.0 SSA .7
BDE .1207 BRA .9271 BC3 6.0023 FSP 2974 SG1 4075.2 SG2 148.3 THA 3.12 EL1 31.8 EL2 3.1 ALF 8.27

LAUNCH DATE MAY 13 1971

FLIGHT TIME 226.00

ARRIVAL DATE DEC 25 1971

HELIOCENTRIC CONIC

DISTANCE 530.933

EARTH TO MARS

RL 151.15 LAL .00 LOL 231.60 VL 32.241 GAL -.77 AZL 91.45 HCA 169.70 SMA 185.20 ECC .18433 INC 1.4446 V1 29.478
RP 217.61 LAP -.26 LOP 41.30 VP 22.431 GAP 3.37 AZP 88.58 TAL 355.07 TAP 164.76 RCA 151.06 APO 219.34 V2 25.249
RC 169.992 GL -15.81 GP -3.19 ZAL 105.91 ZAP 75.01 ETS 178.42 ZAE 117.28 ETE 182.16 ZAC 99.01 ETC 272.73 LVI -7.99

PLANETOCENTRIC CONIC

C3 8.907 VML 2.985 DLA -23.11 RAL 346.15 RAD 6637.5 VEL 11.358 PTH 6.41 VHP 2.875 DPA -25.71 RAP 299.26 ECC 1.1466
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 33 7 2487.19 -6.76 65.88 195.32 137.21 17 14 34 1487.2 11.61 50.09
60.00 17 41 38 2304.96 -2.54 53.50 199.36 130.23 18 20 3 1305.0 13.44 35.38
70.00 19 8 50 2048.60 1.72 35.94 202.59 124.12 19 42 59 1048.6 15.31 15.92
80.00 20 53 11 1722.01 5.32 13.38 204.83 119.42 21 21 53 722.0 16.90 352.01
90.00 22 32 26 1401.93 6.88 350.69 205.68 117.50 22 55 47 401.9 17.59 328.79
100.00 23 36 3 1196.48 5.32 334.75 204.83 119.42 23 56 0 196.5 16.90 313.38
110.00 0 12 12 1095.41 1.72 324.86 202.59 124.12 0 30 28 95.4 15.31 304.84

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.0845 TRA .9898 TC3-6.2033 BAU .7393 SGT 4243.2 SGR 282.9 SG3 1691.3 ST 32.5 SR 5.0 SS 55.7
RDE -.0377 RRA .1091 RC3 -.2536 FAU .24580 RRT .8687 RRF .9084 RTF .9614 CRT .8429 CRS -.2830 CST -.7479
FDE 1.0601 FRA 6.3507 FC-23.8905 BSP 6870 SGB 4252.7 R23 .1460 R13 .9617 LSA 61.5 MSA 20.1 SSA .6
BDE .0925 BRA .9958 BC3 6.2065 FSP 2952 SG1 4250.4 SG2 139.9 THA 3.32 EL1 32.8 EL2 2.7 ALF 7.41

LAUNCH DATE MAY 13 1971

FLIGHT TIME 228.00

ARRIVAL DATE DEC 27 1971

HELIOCENTRIC CONIC

DISTANCE 535.105

EARTH TO MARS

RL 151.15 LAL .00 LOL 231.60 VL 32.246 GAL -.83 AZL 91.39 HCA 170.84 SMA 185.29 ECC .18481 INC 1.3943 V1 29.478
RP 217.97 LAP -.22 LOP 42.44 VP 22.394 GAP 3.22 AZP 88.62 TAL 354.69 TAP 165.53 RCA 151.05 APO 219.54 V2 25.209
RC 172.547 GL -15.20 GP -3.56 ZAL 106.55 ZAP 73.44 ETS 178.20 ZAE 115.55 ETE 182.21 ZAC 98.67 ETC 272.62 LVI -7.49

PLANETOCENTRIC CONIC

C3 8.950 VML 2.992 DLA -22.31 RAL 346.48 RAD 6637.5 VEL 11.360 PTH 6.41 VHP 2.891 DPA -26.15 RAP 298.86 ECC 1.1473
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 30 43 2505.25 -7.66 66.84 195.56 137.10 17 12 28 1505.3 10.72 50.87
60.00 17 37 52 2326.88 -3.50 54.54 199.55 130.17 18 16 39 1326.7 12.52 36.48
70.00 19 3 8 2075.98 .67 37.37 202.71 124.15 19 37 44 1076.0 14.35 17.46
80.00 20 44 59 1757.25 4.14 15.33 204.87 119.60 21 14 16 757.3 15.88 354.12
90.00 22 22 40 1442.14 5.81 352.98 205.87 117.76 22 48 42 442.1 16.53 331.28
100.00 23 27 50 1231.72 4.14 336.70 204.87 119.60 23 48 22 231.7 15.88 315.49
110.00 0 6 30 1122.80 .67 326.29 202.71 124.15 0 25 13 122.8 14.35 306.38

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.0511 TRA 1.0595 TC3-6.4031 BAU .7669 SGT 4413.7 SGR 307.6 SG3 1870.7 ST 33.8 SR 4.6 SS 57.0
RDE -.0283 RRA .1183 RC3 -.2964 FAU .24152 RRT .8905 RRF .9399 RTF .9530 CRT .8794 CRS -.4117 CST -.7080
FDE 1.1686 FRA 6.3624 FC-23.3632 BSP 7227 SGB 4426.4 R23 .1654 R13 .9633 LSA 63.6 MSA 19.0 SSA .6
BDE .0984 BRA 1.0881 BC3 6.4100 FSP 2927 SG1 4424.4 SG2 133.5 THA 3.59 EL1 34.0 EL2 2.2 ALF 6.83

LAUNCH DATE MAY 13 1971

FLIGHT TIME 230.00

ARRIVAL DATE DEC 29 1971

HELIOCENTRIC CONIC

DISTANCE 539.278

EARTH TO MARS

RL 151.15 LAL .00 LOL 231.60 VL 32.252 GAL -.89 AZL 91.33 HCA 171.98 SMA 185.39 ECC .18532 INC 1.3271 V1 29.478
RP 218.33 LAP -.19 LOP 43.50 VP 22.357 GAP 3.07 AZP 88.68 TAL 354.31 TAP 166.29 RCA 151.03 APO 219.75 V2 25.189
RC 175.114 GL -14.44 GP -4.03 ZAL 107.20 ZAP 71.92 ETS 177.93 ZAE 113.85 ETE 182.29 ZAC 98.22 ETC 272.52 LVI -6.91

PLANETOCENTRIC CONIC

C3 8.988 VML 2.998 DLA -21.38 RAL 346.74 RAD 6637.5 VEL 11.362 PTH 6.41 VHP 2.908 DPA -26.69 RAP 298.52 ECC 1.1479
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 16 27 30 2526.08 -8.70 67.33 195.74 136.96 17 9 36 1526.1 9.69 51.77
60.00 17 33 7 2351.59 -4.59 55.74 199.66 130.08 18 12 19 1351.6 11.46 37.73
70.00 18 56 16 2107.14 -.52 39.00 202.74 124.15 19 31 23 1107.1 13.24 19.19
80.00 20 35 29 1796.84 2.81 17.30 204.82 119.74 21 5 25 796.6 14.70 356.46
90.00 22 11 38 1486.47 4.20 355.45 205.58 117.99 22 36 25 486.5 15.31 333.94
100.00 23 18 21 1271.11 2.81 338.87 204.82 119.74 23 39 32 271.1 14.70 317.83
110.00 23 55 43 1153.96 -.52 327.91 202.74 124.15 24 14 56 154.0 13.24 308.11

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.0242 TRA 1.1150 TC3-6.6588 BAU .8013 SGT 4602.1 SGR 344.3 SG3 1652.7 ST 34.9 SR 4.4 SS 56.3
RDE -.0196 RRA .1294 RC3 -.3600 FAU .24236 RRT .9286 RRF .9637 RTF .9674 CRT .9277 CRS -.5682 CST -.8270
FDE 1.1812 FRA 6.2561 FC-23.3450 BSP 7431 SGB 4615.0 R23 .1743 R13 .9678 LSA 64.1 MSA 17.6 SSA .5
BDE .0312 BRA 1.1225 BC3 6.6685 FSP 2797 SG1 4613.2 SG2 127.5 THA 3.98 EL1 35.2 EL2 1.6 ALF 6.70

LAUNCH DATE MAY 13 1971

FLIGHT TIME 232.00

ARRIVAL DATE DEC 31 1971

HELIOCENTRIC CONIC
 RL 151.15 LAL .00 LOL 231.60 VL 32.250 GAL -0.95 AZL 91.24 HCA 173.11 SMA 185.49 ECC .18586 INC 1.2395 V1 29.478
 RP 219.69 LAP -.15 LOP 44.72 VP 22.321 GAP 2.72 AZP 88.77 TAL 353.91 TAP 167.03 RCA 151.02 APO 219.97 V2 25.129
 RC 177.690 GL -13.46 GP -4.66 ZAL 107.89 ZAP 70.46 ETS 177.56 ZAE 112.18 ETE 182.40 ZAC 97.62 ETC 272.43 LVI -6.20

DISTANCE 543.442 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.019 VHL 3.003 DLA -20.23 RAL 346.92 RAD 6637.5 VEL 11.363 PTH 6.42 VHP 2.928 DPA -27.36 RAP 298.26 ECC 1.1484
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 23 8 2551.04 -9.94 68.61 195.82 136.77 17 5 39 1551.0 8.45 52.84
 60.00 17 26 56 2361.34 -5.89 57.17 199.67 129.94 18 6 38 1381.3 10.18 39.20
 70.00 18 47 41 2143.97 -1.93 40.92 202.67 124.11 19 23 25 1144.0 11.91 21.22
 80.00 20 24 3 1842.40 1.26 20.01 204.66 119.83 20 54 45 842.4 13.31 359.14
 90.00 21 58 37 1537.31 2.57 356.30 205.38 118.17 22 24 15 537.3 13.88 336.99
 100.00 23 6 55 1316.87 1.26 341.38 204.66 119.83 23 28 51 316.9 13.31 320.50
 110.00 23 47 7 1190.79 -1.93 329.84 202.67 124.11 24 6 58 190.8 11.91 310.13

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .0192 TRA 1.1783 TC3-6.8827 BAU .8315 SGT 4778.2 SGR 396.3 SG3 1629.9 ST 36.5 SR 4.6 SS 57.8
 RDE -.0073 RRA .1470 RC3 -.4328 FAU .23791 RRT .9453 RRF .9801 RTF .9680 CRT .9750 CR8 -.7442 CST -.8625
 FDE 1.3073 FRA 6.2421 FC-22.8364 B8P 7727 SGB 4794.6 R23 .1975 R13 .9684 LSA 66.6 MSA 16.3 SSA .5
 BDE .0205 BRA 1.1875 BC3 6.8963 F8P 2765 SG1 4792.9 SG2 128.9 THA 4.49 EL1 36.0 EL2 1.0 ALF 6.94

LAUNCH DATE MAY 13 1971

FLIGHT TIME 234.00

ARRIVAL DATE JAN 2 1972

HELIOCENTRIC CONIC
 RL 151.15 LAL .00 LOL 231.60 VL 32.265 GAL -1.02 AZL 91.12 HCA 174.25 SMA 185.60 ECC .18643 INC 1.1200 V1 29.478
 RP 219.06 LAP -.11 LOP 45.85 VP 22.285 GAP 2.77 AZP 88.88 TAL 353.52 TAP 167.76 RCA 151.00 APO 220.20 V2 25.089
 RC 180.275 GL -12.12 GP -5.52 ZAL 108.61 ZAP 69.05 ETS 177.11 ZAE 110.54 ETE 182.57 ZAC 98.77 ETC 272.35 LVI -5.28

DISTANCE 547.604 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.038 VHL 3.006 DLA -18.78 RAL 346.96 RAD 6637.5 VEL 11.364 PTH 6.42 VHP 2.951 DPA -28.27 RAP 298.09 ECC 1.1487
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 18 54 2582.40 -11.49 69.97 195.78 136.50 16 59 57 1582.4 6.88 54.18
 60.00 17 18 31 2418.54 -7.52 58.97 199.92 129.71 17 58 50 1418.5 8.58 41.03
 70.00 18 36 25 2189.53 -3.66 43.30 202.42 123.98 19 12 55 1189.5 10.24 23.69
 80.00 20 9 34 1898.00 -.62 23.06 204.31 119.85 20 41 12 898.0 11.57 2.33
 90.00 21 42 27 1598.36 .60 1.71 204.99 118.27 22 9 6 598.4 12.10 340.59
 100.00 22 52 26 1372.47 -.62 344.43 204.31 119.85 23 15 19 372.5 11.57 323.71
 110.00 23 35 52 1236.35 -3.66 332.22 202.42 123.98 23 56 28 236.4 10.24 312.61

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .0798 TRA 1.2442 TC3-7.0797 BAU .8578 SGT 4941.2 SGR 471.3 SG3 1598.1 ST 38.9 SR 5.3 SS 59.9
 RDE .0085 RRA .1728 RC3 -.5282 FAU .23112 RRT .9556 RRF .9903 RTF .9681 CRT .9961 CR8 -.8856 CST -.9039
 FDE 1.4630 FRA 6.2283 FC-22.1380 B8P 8092 SGB 4963.6 R23 .2187 R13 .9687 LSA 70.1 MSA 14.3 SSA .4
 BDE .0802 BRA 1.2562 BC3 7.0993 F8P 2743 SG1 4961.7 SG2 138.3 THA 5.21 EL1 39.2 EL2 .5 ALF 7.74

LAUNCH DATE MAY 13 1971

FLIGHT TIME 236.00

ARRIVAL DATE JAN 4 1972

HELIOCENTRIC CONIC
 RL 151.15 LAL .00 LOL 231.60 VL 32.271 GAL -1.08 AZL 90.94 HCA 175.37 SMA 185.71 ECC .18703 INC .9278 V1 29.478
 RP 219.43 LAP -.08 LOP 46.98 VP 22.249 GAP 2.82 AZP 89.08 TAL 353.11 TAP 188.48 RCA 150.98 APO 220.45 V2 25.048
 RC 182.871 GL -10.18 GP -6.79 ZAL 109.38 ZAP 67.72 ETS 176.42 ZAE 108.91 ETE 182.83 ZAC 95.92 ETC 272.28 LVI -4.00

DISTANCE 551.783 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.039 VHL 3.007 DLA -16.72 RAL 346.78 RAD 6637.5 VEL 11.364 PTH 6.42 VHP 2.978 DPA -29.57 RAP 298.05 ECC 1.1488
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 7 31 2624.80 -13.58 71.83 195.44 136.05 16 51 18 1624.8 4.78 55.97
 60.00 17 6 18 2468.51 -9.68 61.42 199.11 129.31 17 47 26 1468.5 6.40 43.46
 70.00 18 20 38 2250.00 -5.96 46.48 201.89 123.69 18 58 8 1250.0 8.00 26.93
 80.00 19 49 57 1970.44 -3.07 27.04 203.68 119.71 20 22 47 970.4 9.24 6.47
 90.00 21 20 58 1676.99 -1.94 6.10 204.30 118.22 21 48 32 677.0 9.74 345.15
 100.00 22 32 49 1444.91 -3.07 348.41 203.68 119.71 22 56 53 444.9 9.24 327.83
 110.00 23 20 4 1298.82 -5.96 335.40 201.89 123.69 23 41 41 296.6 8.00 315.85

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .1265 TRA 1.2685 TC3-7.4504 BAU .9042 SGT 5145.8 SGR 588.5 SG3 1869.9 ST 40.2 SR 6.7 SS 60.0
 RDE .0265 RRA .2081 RC3 -.6904 FAU .23068 RRT .9627 RRF .9981 RTF .5388 CRT .9943 CR8 -.9377 CST -.9302
 FDE 1.5292 FRA 6.0550 FC-22.0935 B8P 8000 SGB 5179.3 R23 .2310 R13 .9696 LSA 71.4 MSA 12.5 SSA .4
 BDE .1293 BRA 1.2835 BC3 7.4623 F8P 2577 SG1 5176.9 SG2 158.3 THA 6.29 EL1 40.8 EL2 .7 ALF 9.45

LAUNCH DATE MAY 13 1971

FLIGHT TIME 238.00

ARRIVAL DATE JAN 6 1972

HELIOCENTRIC CONIC
 RL 151.15 LAL .00 LOL 231.60 VL 32.278 GAL -1.15 AZL 90.65 HCA 176.50 SMA 185.83 ECC .18766 INC .6273 V1 29.478
 RP 219.80 LAP -.04 LOP 48.10 VP 22.213 GAP 2.47 AZP 89.35 TAL 352.70 TAP 169.19 RCA 150.96 APO 220.70 V2 25.007
 RC 185.475 GL -7.02 GP -8.86 ZAL 110.17 ZAP 66.51 ETS 175.32 ZAE 107.27 ETE 183.26 ZAC 93.46 ETC 272.21 LVI -2.00

DISTANCE 555.917 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.017 VHL 3.003 DLA -13.57 RAL 346.08 RAD 6637.5 VEL 11.363 PTH 6.42 VHP 3.015 DPA -31.64 RAP 298.22 ECC 1.1484
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 52 6 2689.07 -16.70 74.73 194.74 135.22 16 36 55 1689.1 1.54 58.66
 60.00 16 46 48 2543.58 -12.89 65.16 198.27 126.52 17 29 12 1543.6 3.12 47.07
 70.00 17 56 13 2339.51 -9.31 51.24 200.90 123.01 18 35 13 1339.5 4.62 31.67
 80.00 19 20 33 2075.53 -6.59 32.86 202.56 119.19 19 55 9 1075.5 5.78 12.34
 90.00 20 49 8 1789.76 -5.54 12.42 203.13 117.78 21 18 58 789.8 6.23 351.57
 100.00 22 3 25 1550.00 -6.59 394.22 202.56 119.19 22 29 15 550.0 5.78 333.71
 110.00 22 55 40 1386.33 -9.31 340.16 200.90 123.01 23 18 46 386.3 4.62 320.58

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .2470 TRA 1.3053 TC3-7.7060 BAU .9357 SGT 5310.8 SGR 779.4 SG3 1526.4 ST 45.6 SR 9.9 SS 63.7
 RDE .0612 RRA .2703 RC3 -.9305 FAU .22305 RRT .9665 RRF .9988 RTF .9689 CRT .9943 CR8 -.9902 CST -.9728
 FDE 1.7838 FRA 5.9219 FC-21.4144 B8P 8314 SGB 5367.7 R23 .2377 R13 .9702 LSA 78.5 MSA 8.7 SSA .4
 BDE .2544 BRA 1.3330 BC3 7.7619 F8P 2518 SG1 5364.0 SG2 198.0 THA 8.08 EL1 46.7 EL2 1.0 ALF 12.19

LAUNCH DATE MAY 13 1971

FLIGHT TIME 242.00

ARRIVAL DATE JAN 10 1972

HELIOCENTRIC CONIC

DISTANCE 564.216

EARTH TO MARS

RL 151.15 LAL .00 LOL 231.60 VL 32.293 GAL -1.29 AZL 88.53 HCA 178.73 SMA 186.08 ECC .18900 INC 1.4477 V1 29.478
 RP 220.55 LAP .03 LOP 50.34 VP 22.142 GAP 2.17 AZP 91.47 TAL 351.86 TAP 170.59 RCA 150.91 APO 221.24 V2 24.925
 RC 190.711 GL 15.33 GP -22.74 ZAL 110.89 ZAP 66.04 ETS 168.40 ZAE 103.30 ETE 186.20 ZAC 79.60 ETC 272.17 LVI 10.95

PLANETOCENTRIC CONIC

C3 9.759 VHL 3.124 DLA 7.60 RAL 338.74 RAD 6637.9 VEL 11.396 PTH 6.45 VHP 3.309 DPA -45.28 RAP 301.58 ECC 1.1806
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 4 3 3128.35 -36.03 98.63 193.39 123.47 14 56 12 2128.3 -20.15 77.83
 60.00 14 35 28 3044.76 -31.69 94.11 196.40 116.33 15 26 13 2044.8 -18.45 71.83
 70.00 15 18 34 2917.97 -27.78 85.79 198.35 110.71 16 7 12 1918.0 -16.87 62.65
 80.00 16 18 29 2730.29 -24.95 72.63 199.43 106.96 17 4 0 1730.3 -15.69 49.06
 90.00 17 36 15 2479.33 -23.88 54.53 199.77 105.61 18 17 35 1479.3 -15.24 30.83
 100.00 19 1 21 2204.76 -24.95 34.00 199.43 106.96 19 38 6 1204.8 -15.69 10.43
 110.00 20 18 1 1964.78 -27.78 14.71 198.35 110.71 20 50 45 964.8 -16.87 351.56

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.1055 TRA 1.1421 TC3-7.7070 BAU 1.0521 SGT 5836.0 SGR 2046.0 SG3 1238.0 ST 106.5 SR 43.1 SS 87.5
 RDE .4287 RRA .6327 RC3-2.3726 FAU .18539 RRT .9718 RRF .9999 RTF .9696 CRT .9931 CRS-1.0000 CST -.9932
 FDE 3.0461 FRA 4.4743 FC-16.4454 BSP 8910 SGB 5995.8 R23 .2185 R13 .9758 LSA 144.2 MSA 8.4 SSA .1
 BDE 1.1857 BRA 1.3057 BC3 8.0639 FSP 1937 SG1 5978.6 SG2 454.6 THA 19.55 EL1 114.8 EL2 4.7 ALF 21.95

LAUNCH DATE MAY 13 1971

FLIGHT TIME 246.00

ARRIVAL DATE JAN 14 1972

HELIOCENTRIC CONIC

DISTANCE 572.500

EARTH TO MARS

RL 151.15 LAL .00 LOL 231.60 VL 32.309 GAL -1.44 AZL 96.22 HCA 180.96 SMA 186.34 ECC .19044 INC 6.2233 V1 29.478
 RP 221.31 LAP .10 LOP 52.56 VP 22.071 GAP 1.88 AZP 83.78 TAL 350.98 TAP 171.94 RCA 150.85 APO 221.82 V2 24.842
 RC 195.978 GL -50.44 GP 28.33 ZAL 105.29 ZAP 65.35 ETS 193.45 ZAE 101.52 ETE 174.26 ZAC 130.59 ETC 273.06 LVI -36.16

PLANETOCENTRIC CONIC

C3 20.627 VHL 4.542 DLA -50.21 RAL 15.03 RAD 6643.1 VEL 11.859 PTH 6.87 VHP 3.547 DPA 5.07 RAP 292.00 ECC 1.3395
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 46.62 22 44 26 1846.76 27.05 39.99 259.85 134.06 23 15 13 846.8 42.37 16.98
 46.62 22 44 26 1846.76 27.05 39.99 259.85 134.06 23 15 13 846.8 42.37 16.98
 46.62 22 44 26 1846.76 27.05 39.99 259.85 134.06 23 15 13 846.8 42.37 16.98
 46.62 22 44 26 1846.76 27.05 39.99 259.85 134.06 23 15 13 846.8 42.37 16.98
 46.62 22 44 26 1846.76 27.05 39.99 259.85 134.06 23 15 13 846.8 42.37 16.98
 46.62 22 44 26 1846.76 27.05 39.99 259.85 134.06 23 15 13 846.8 42.37 16.98

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5678 TRA 2.3577 TC3-3.8641 BAU 1.1415 SGT 5867.6 SGR 2652.6 SG3 1035.1 ST 78.5 SR 36.2 SS 52.6
 RDE -.1917 RRA -1.1524 RC3 1.4845 FAU .15695 RRT -.9712 RRF -.9993 RTF .9622 CRT -.6865 CRS .9934 CST -.5986
 FDE 1.1979 FRA 5.2094 FC3-6.5875 BSP 10869 SGB 6439.3 R23 .2335 R13 -.9723 LSA 91.9 MSA 42.6 SSA .0
 BDE .5993 BRA 2.6242 BC3 4.1394 FSP 1894 SG1 6413.3 SG2 578.7 THA 156.09 EL1 82.8 EL2 25.0 ALF 160.60

LAUNCH DATE MAY 13 1971

FLIGHT TIME 248.00

ARRIVAL DATE JAN 16 1972

HELIOCENTRIC CONIC

DISTANCE 576.633

EARTH TO MARS

RL 151.15 LAL .00 LOL 231.60 VL 32.317 GAL -1.51 AZL 93.88 HCA 182.06 SMA 186.47 ECC .19120 INC 3.3749 V1 29.478
 RP 221.89 LAP .14 LOP 53.66 VP 22.036 GAP 1.74 AZP 86.12 TAL 350.55 TAP 172.61 RCA 150.82 APO 222.13 V2 24.801
 RC 198.621 GL -35.89 GP 14.15 ZAL 109.41 ZAP 61.10 ETS 187.18 ZAE 100.59 ETE 177.79 ZAC 116.47 ETC 272.40 LVI -23.10

PLANETOCENTRIC CONIC

C3 13.917 VHL 3.730 DLA -38.08 RAL 3.72 RAD 6640.0 VEL 11.575 PTH 6.62 VHP 3.199 DPA -9.02 RAP 293.67 ECC 1.2290
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 14 4 2218.41 6.72 54.60 223.27 137.21 19 51 3 1218.4 24.46 37.47
 60.00 21 20 30 1881.04 15.82 32.75 231.71 127.56 21 51 51 881.0 29.66 11.33
 63.36 23 6 5 1578.33 24.59 13.80 237.96 120.04 23 32 23 578.3 34.72 348.62
 63.36 23 6 5 1578.33 24.59 13.80 237.96 120.04 23 32 23 578.3 34.72 348.62
 63.36 23 6 5 1578.33 24.59 13.80 237.96 120.04 23 32 23 578.3 34.72 348.62
 63.36 23 6 5 1578.33 24.59 13.80 237.96 120.04 23 32 23 578.3 34.72 348.62

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4946 TRA 2.1093 TC3-5.9008 BAU 1.1181 SGT 6074.4 SGR 1393.3 SG3 1310.1 ST 72.8 SR 16.8 SS 52.5
 RDE -.0300 RRA -.5652 RC3 1.1399 FAU .18723 RRT -.9745 RRF -.9991 RTF .5559 CRT -.7729 CRS .9860 CST -.6564
 FDE .7427 FRA 6.1676 FC-12.2692 BSP 9564 SGB 6232.2 R23 .2471 R13 -.9687 LSA 84.1 MSA 35.5 SSA .1
 BDE .4985 BRA 2.1837 BC3 6.0099 FSP 2209 SG1 6224.7 SG2 305.3 THA 167.37 EL1 73.9 EL2 10.5 ALF 169.71

LAUNCH DATE MAY 13 1971

FLIGHT TIME 250.00

ARRIVAL DATE JAN 18 1972

HELIOCENTRIC CONIC

DISTANCE 580.762

EARTH TO MARS

RL 151.15 LAL .00 LOL 231.60 VL 32.328 GAL -1.59 AZL 93.17 HCA 183.16 SMA 186.61 ECC .19198 INC 3.1651 V1 29.478
 RP 222.07 LAP .17 LOP 54.76 VP 22.001 GAP 1.59 AZP 86.83 TAL 350.10 TAP 173.27 RCA 150.79 APO 222.44 V2 24.759
 RC 201.270 GL -30.23 GP 9.27 ZAL 111.17 ZAP 59.36 ETS 184.74 ZAE 99.28 ETE 178.95 ZAC 111.60 ETC 272.27 LVI -18.58

PLANETOCENTRIC CONIC

C3 12.618 VHL 3.552 DLA -32.91 RAL .87 RAD 6639.4 VEL 11.519 PTH 6.57 VHP 3.161 DPA -13.86 RAP 294.32 ECC 1.2077
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 24 54 2333.48 .95 59.43 216.26 137.57 19 3 47 1333.5 19.09 43.12
 60.00 19 58 14 2085.01 7.11 42.96 222.14 126.77 20 32 59 1085.0 22.37 23.65
 70.00 22 21 26 1863.04 15.95 15.17 228.49 120.61 22 49 9 663.0 27.13 352.30
 72.42 23 46 3 1402.79 22.12 358.49 231.93 115.01 24 9 26 402.8 30.45 353.36
 72.42 23 46 3 1402.79 22.12 358.49 231.93 115.01 24 9 26 402.8 30.45 353.36
 72.42 23 46 3 1402.79 22.12 358.49 231.93 115.01 24 9 26 402.8 30.45 353.36
 110.00 3 24 48 5997.90 15.95 281.99 228.49 120.61 5 4 46 4997.9 27.13 255.12

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3461 TRA 2.1100 TC3-6.6380 BAU 1.1282 SGT 6242.7 SGR 947.5 SG3 1348.3 ST 67.3 SR 11.2 SS 53.6
 RDE -.0170 RRA -.3842 RC3 .8354 FAU .19974 RRT -.9783 RRF -.9979 RTF .9667 CRT -.8514 CRS .9673 CST -.6907
 FDE .9016 FRA 6.3022 FC-13.7050 BSP 9662 SGB 6314.2 R23 .2455 R13 -.9679 LSA 80.3 MSA 32.9 SSA .1
 BDE .3466 BRA 2.1447 BC3 6.6883 FSP 2264 SG1 6310.9 SG2 202.9 THA 171.56 EL1 68.0 EL2 5.8 ALF 171.88

LAUNCH DATE MAY 13 1971

FLIGHT TIME 252.00

ARRIVAL DATE JAN 20 1972

HELIOCENTRIC CONIC

DISTANCE 584.888

EARTH TO MARS

RL 151.15 LAL .00 LOL 231.60 VL 32.333 GAL -1.67 AZL 92.83 HCA 184.26 SMA 186.76 ECC .19278 INC 2.8289 V1 29.478
RP 222.46 LAP .21 LOP 55.86 VP 21.967 GAP 1.45 AZP 87.18 TAL 349.65 TAP 175.92 RCA 150.75 APO 222.76 V2 24.717
RC 203.922 GL -27.22 GP 6.85 ZAL 112.35 ZAP 56.05 ETS 185.49 ZAE 97.96 ETE 179.51 ZAC 109.19 ETC 272.22 LVI -16.34

PLANETOCENTRIC CONIC

C3 12.177 VHL 3.489 DLA -29.99 RAL 359.82 RAD 6639.1 VEL 11.500 PTH 6.55 VHP 3.166 DPA -16.25 RAP 294.68 ECC 1.2004
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 18 3 3 2396.05 -2.19 62.04 213.65 137.54 18 42 59 1396.1 16.07 46.02
60.00 19 26 42 2173.49 3.24 47.22 218.87 130.19 20 2 55 1173.5 18.86 28.52
70.00 21 20 22 1839.10 9.62 24.88 223.63 122.93 21 51 1 839.1 22.21 3.60
79.59 0 35 54 1237.60 20.47 345.23 229.50 112.41 0 56 32 237.6 27.89 320.25
79.59 0 35 54 1237.60 20.47 345.23 229.50 112.41 0 56 32 237.6 27.89 320.25
79.59 0 35 54 1237.60 20.47 345.23 229.50 112.41 0 56 32 237.6 27.89 320.25
110.00 2 23 44 6173.96 9.62 291.70 223.63 122.93 4 6 38 5174.0 22.21 270.43

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1916 TRA 2.2112 TC3-6.8549 BAW 1.1207 SGT 6368.5 SGR 725.1 S63 1344.0 ST 65.2 SR 8.7 SS 56.2
RDE -.0120 RRA -.3033 RC3 .6323 FAW .19237 RRT -.9778 RRF -.9955 RTF .9685 CRT -.9363 CR8 .9347 CST -.7511
FDE 1.1488 FRA 6.4020 FC-13.6774 B8P 10559 SGB 6409.6 R23 .2267 R13 -.9691 LSA 81.2 MSA 30.0 SSA .2
BDE .1919 BRA 2.2319 BC3 6.8840 F8P 2364 S61 6407.8 S62 150.9 THA 173.64 EL1 65.7 EL2 3.0 ALF 172.86

LAUNCH DATE MAY 13 1971

FLIGHT TIME 254.00

ARRIVAL DATE JAN 22 1972

HELIOCENTRIC CONIC

DISTANCE 589.008

EARTH TO MARS

RL 151.15 LAL .00 LOL 231.60 VL 32.342 GAL -1.75 AZL 92.63 HCA 185.36 SMA 186.90 ECC .19360 INC 2.6291 V1 29.478
RP 222.84 LAP .25 LOP 56.95 VP 21.932 GAP 1.30 AZP 87.38 TAL 349.20 TAP 174.58 RCA 150.72 APO 223.09 V2 24.675
RC 206.576 GL -25.33 GP 5.41 ZAL 113.30 ZAP 56.89 ETS 182.74 ZAE 96.66 ETE 179.83 ZAC 107.75 ETC 272.20 LVI -15.02

PLANETOCENTRIC CONIC

C3 12.019 VHL 3.467 DLA -28.03 RAL 359.45 RAD 6639.1 VEL 11.493 PTH 6.54 VHP 3.183 DPA -17.67 RAP 294.93 ECC 1.1978
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 17 50 44 2438.42 -4.32 63.82 212.52 137.43 18 31 23 1438.4 14.01 47.93
60.00 19 9 18 2229.43 .78 49.89 217.42 130.29 19 46 28 1229.4 16.60 31.49
70.00 20 52 40 1925.46 6.39 29.48 221.65 123.62 21 24 45 925.5 19.48 8.81
80.00 23 6 11 1507.45 12.30 1.29 225.17 117.42 23 31 18 507.4 22.54 358.58
90.00 1 26 16 1068.35 16.70 331.13 227.32 113.16 1 44 4 68.3 24.81 307.04
100.00 1 52 58 6269.96 12.30 300.56 225.17 117.42 3 37 28 5270.0 22.54 277.85
110.00 1 56 2 6260.32 6.39 296.30 221.65 123.62 3 40 23 5260.3 19.48 275.64

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.0984 TRA 2.2943 TC3-7.0465 BAW 1.1332 SGT 6307.7 SGR 593.9 S63 1327.2 ST 65.4 SR 7.2 SS 57.8
RDE -.0031 RRA -.2555 RC3 .9074 FAW .18674 RRT -.9763 RRF -.9910 RTF .9686 CRT -.9864 CR8 .8769 CST -.7888
FDE 1.3014 FRA 6.4167 FC-13.4512 B8P 11005 SGB 6334.8 R23 .2076 R13 -.9690 LSA 82.9 MSA 26.2 SSA .2
BDE .0984 BRA 2.3085 BC3 7.0647 F8P 2377 S61 6333.5 S62 128.0 THA 174.91 EL1 65.7 EL2 1.2 ALF 173.80

LAUNCH DATE MAY 13 1971

FLIGHT TIME 256.00

ARRIVAL DATE JAN 24 1972

HELIOCENTRIC CONIC

DISTANCE 593.121

EARTH TO MARS

RL 151.15 LAL .00 LOL 231.60 VL 32.350 GAL -1.83 AZL 92.50 HCA 186.44 SMA 187.05 ECC .19445 INC 2.4955 V1 29.478
RP 223.23 LAP .28 LOP 58.04 VP 21.898 GAP 1.18 AZP 87.52 TAL 348.74 TAP 175.19 RCA 150.68 APO 223.42 V2 24.633
RC 209.236 GL -24.00 GP 4.46 ZAL 114.15 ZAP 55.81 ETS 182.24 ZAE 95.40 ETE 180.04 ZAC 106.80 ETC 272.20 LVI -14.16

PLANETOCENTRIC CONIC

C3 11.990 VHL 3.463 DLA -26.58 RAL 359.40 RAD 6639.1 VEL 11.492 PTH 6.54 VHP 3.205 DPA -18.60 RAP 295.15 ECC 1.1973
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 17 42 56 2470.73 -5.94 65.18 212.06 137.29 18 24 6 1470.7 12.43 49.36
60.00 18 58 11 2270.56 -1.03 51.86 216.77 130.29 19 36 2 1270.6 14.89 33.62
70.00 20 35 45 1983.67 4.19 32.54 220.71 123.93 21 8 49 983.7 17.55 12.22
80.00 22 36 24 1606.05 9.15 6.91 223.74 118.54 23 3 10 606.1 20.09 344.88
90.00 0 32 50 1243.24 11.74 341.58 225.10 115.91 0 53 33 243.2 21.42 318.73
100.00 1 23 11 1080.92 9.15 328.27 223.74 118.54 1 41 12 80.5 20.09 306.24
110.00 1 39 7 1030.49 4.19 321.46 220.71 123.93 1 56 18 30.5 17.55 301.14

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.0299 TRA 2.3751 TC3-7.2097 BAW 1.1577 SGT 6651.6 SGR 509.0 S63 1306.8 ST 66.4 SR 6.3 SS 59.4
RDE .0057 RRA -.2256 RC3 .4204 FAW .18098 RRT -.9713 RRF -.9837 RTF .5071 CRT -.9983 CR8 .7893 CST -.8114
FDE 1.4346 FRA 6.4229 FC-13.0675 B8P 11313 SGB 6671.0 R23 .1852 R13 -.9673 LSA 85.1 MSA 27.2 SSA .3
BDE .0304 BRA 2.3858 BC3 7.2219 F8P 2384 S61 6669.9 S62 120.8 THA 175.75 EL1 66.7 EL2 .4 ALF 174.59

LAUNCH DATE MAY 13 1971

FLIGHT TIME 258.00

ARRIVAL DATE JAN 26 1972

HELIOCENTRIC CONIC

DISTANCE 597.233

EARTH TO MARS

RL 151.15 LAL .00 LOL 231.60 VL 32.359 GAL -1.91 AZL 92.40 HCA 187.53 SMA 187.20 ECC .19532 INC 2.4018 V1 29.478
RP 223.62 LAP .31 LOP 59.13 VP 21.864 GAP 1.01 AZP 87.62 TAL 348.28 TAP 175.82 RCA 150.64 APO 223.76 V2 24.592
RC 211.896 GL -23.01 GP 3.79 ZAL 114.95 ZAP 54.78 ETS 181.88 ZAE 94.16 ETE 180.18 ZAC 106.12 ETC 272.22 LVI -13.57

PLANETOCENTRIC CONIC

C3 12.031 VHL 3.469 DLA -25.42 RAL 359.53 RAD 6639.1 VEL 11.494 PTH 6.54 VHP 3.229 DPA -19.25 RAP 295.36 ECC 1.1980
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 17 37 35 2497.24 -7.26 66.30 211.95 137.15 18 19 12 1497.2 11.12 50.52
60.00 18 50 26 2303.49 -2.48 53.43 216.53 130.24 19 28 49 1303.5 13.50 35.31
70.00 20 24 6 2028.09 2.50 34.87 220.30 124.07 20 57 54 1028.1 16.03 14.76
80.00 22 17 55 1671.85 6.99 10.60 223.07 119.10 22 45 47 671.9 18.32 348.96
90.00 0 7 53 1329.87 9.12 346.58 224.22 116.89 0 30 3 329.9 19.41 324.28
100.00 1 4 43 1146.32 6.99 331.96 223.07 119.10 1 23 49 146.3 18.32 310.33
110.00 1 27 28 1074.90 2.50 323.79 220.30 124.07 1 45 23 74.9 16.03 303.68

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .0272 TRA 2.4587 TC3-7.3412 BAW 1.1822 SGT 6794.0 SGR 450.5 S63 1283.0 ST 67.9 SR 5.8 SS 59.9
RDE .0153 RRA -.2047 RC3 .3594 FAW .17742 RRT -.9645 RRF -.9732 RTF .9679 CRT -.9667 CR8 .6703 CST -.8351
FDE 1.4990 FRA 6.3748 FC-12.7668 B8P 11573 SGB 6808.9 R23 .1491 R13 -.9680 LSA 87.0 MSA 25.9 SSA .3
BDE .0313 BRA 2.4672 BC3 7.3499 F8P 2328 S61 6807.9 S62 118.8 THA 176.34 EL1 68.1 EL2 1.5 ALF 175.30

LAUNCH DATE MAY 13 1971 FLIGHT TIME 260.00 ARRIVAL DATE JAN 28 1972

Table with columns for Heliocentric Conic, Planetary Centric Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH, and various trajectory points.

LAUNCH DATE MAY 13 1971 FLIGHT TIME 262.00 ARRIVAL DATE JAN 30 1972

Table with columns for Heliocentric Conic, Planetary Centric Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH, and various trajectory points.

LAUNCH DATE MAY 13 1971 FLIGHT TIME 264.00 ARRIVAL DATE FEB 1 1972

Table with columns for Heliocentric Conic, Planetary Centric Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH, and various trajectory points.

LAUNCH DATE MAY 13 1971 FLIGHT TIME 266.00 ARRIVAL DATE FEB 3 1972

Table with columns for Heliocentric Conic, Planetary Centric Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH, and various trajectory points.

LAUNCH DATE MAY 13 1971

FLIGHT TIME 268.00

ARRIVAL DATE FEB 5 1972

HELIOCENTRIC CONIC

DISTANCE 617.706

EARTH TO MARS

RL 151.15 LAL .00 LOL 231.60 VL 32.403 GAL -2.33 AZL 92.17 HCA 192.91 SMA 187.99 ECC .19997 INC 2.1677 V1 29.478
 RP 223.57 LAP .48 LOP 64.30 VP 21.697 GAP .29 AZP 87.89 TAL 345.94 TAP 178.84 RCA 150.40 APO 225.58 V2 24.382
 RC 225.217 GL -20.10 GP 2.11 ZAL 118.57 ZAP 50.20 ETS 180.99 ZAE 88.39 ETE 180.50 ZAC 104.40 ETC 272.40 LVI -12.34

PLANETOCENTRIC CONIC

C3 12.698 VHL 3.563 DLA -21.47 RAL 1.23 RAD 6639.4 VEL 11.923 PTH 6.57 VHP 3.363 DPA -20.76 RAP 296.53 ECC 1.2090
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 25 43 2594.39 -12.08 70.49 213.57 136.38 18 8 58 1594.4 6.29 54.69
 60.00 18 31 29 2419.50 -7.56 59.02 217.86 129.71 19 11 49 1419.5 8.54 41.08
 70.00 19 54 51 2174.45 -3.09 42.51 221.22 124.03 20 31 5 1174.5 10.80 22.88
 80.00 21 34 18 1863.18 .56 21.15 223.50 119.85 22 5 21 863.2 12.66 .34
 90.00 23 10 36 1552.56 2.07 359.15 224.34 118.21 23 36 29 552.6 13.44 337.89
 100.00 0 21 6 1337.66 .56 342.52 223.50 119.85 0 43 23 337.7 12.66 321.71
 110.00 0 58 13 1221.27 -3.09 331.43 221.22 124.03 1 18 34 221.3 10.80 311.79

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .2648 TRA 2.9228 TC3-7.7177 BAU 1.3108 SGT 7479.0 SGR 330.8 SG3 1158.4 ST 79.1 SR 6.4 SS 61.9
 RDE .0582 RRA -.1659 RC3 .1906 FAU .15733 RRT -.8712 RRF -.8633 RTF .9676 CRT -.4528 CRS .0232 CST -.9008
 FDE 1.7487 FRA 6.1637 FC-10.7265 B8P 12757 SGB 7486.3 R23 .0407 R13 -.9676 LSA 98.1 MSA 22.5 SSA .6
 BDE .2711 BRA 2.9275 BC3 7.7201 F8P 2091 SGI 7484.6 SG2 162.3 THA 177.79 EL1 79.2 EL2 5.7 ALF 177.91

LAUNCH DATE MAY 13 1971

FLIGHT TIME 270.00

ARRIVAL DATE FEB 7 1972

HELIOCENTRIC CONIC

DISTANCE 621.784

EARTH TO MARS

RL 151.15 LAL .00 LOL 231.60 VL 32.415 GAL -2.42 AZL 92.14 HCA 193.97 SMA 188.15 ECC .20096 INC 2.1426 V1 29.478
 RP 225.96 LAP .52 LOP 65.56 VP 21.684 GAP .14 AZP 87.92 TAL 345.46 TAP 179.43 RCA 150.34 APO 225.96 V2 24.340
 RC 227.883 GL -19.72 GP 1.94 ZAL 119.26 ZAP 49.37 ETS 180.90 ZAE 87.30 ETE 180.53 ZAC 104.21 ETC 272.46 LVI -12.26

PLANETOCENTRIC CONIC

C3 12.884 VHL 3.589 DLA -20.85 RAL 1.86 RAD 6639.5 VEL 11.531 PTH 6.58 VHP 3.392 DPA -20.90 RAP 296.81 ECC 1.2120
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 24 41 2610.62 -12.88 71.20 214.10 136.21 18 8 12 1610.6 5.47 55.37
 60.00 18 29 28 2436.35 -8.38 59.94 218.35 129.57 19 10 6 1438.3 7.72 42.00
 70.00 19 51 29 2197.21 -3.96 43.70 221.67 123.95 20 28 6 1197.2 9.96 24.11
 80.00 21 29 21 1890.93 -3.36 22.68 223.89 119.86 22 0 52 890.9 11.79 1.94
 90.00 23 4 45 1583.19 1.09 .86 224.71 118.26 23 31 8 583.2 12.55 339.70
 100.00 0 16 9 1365.40 -3.38 344.04 223.89 119.86 0 38 54 365.4 11.79 323.31
 110.00 0 54 52 1244.02 -3.96 332.62 221.67 123.95 1 15 36 244.0 9.96 313.02

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .3123 TRA 3.0266 TC3-7.7478 BAU 1.3348 SGT 7610.0 SGR 323.8 SG3 1134.0 ST 81.9 SR 6.8 SS 62.3
 RDE .0664 RRA -.1643 RC3 .1899 FAU .15295 RRT -.8426 RRF -.8319 RTF .9671 CRT -.3537 CRS -.0653 CST -.9094
 FDE 1.7914 FRA 6.1306 FC-10.2775 B8P 13029 SGB 7616.9 R23 .0308 R13 -.9672 LSA 100.7 MSA 22.1 SSA .7
 BDE .3192 BRA 3.0311 BC3 7.7497 F8P 2058 SGI 7614.9 SG2 174.2 THA 177.95 EL1 81.9 EL2 6.3 ALF 178.32

LAUNCH DATE MAY 13 1971

FLIGHT TIME 272.00

ARRIVAL DATE FEB 9 1972

HELIOCENTRIC CONIC

DISTANCE 625.826

EARTH TO MARS

RL 151.15 LAL .00 LOL 231.60 VL 32.424 GAL -2.51 AZL 92.12 HCA 195.03 SMA 188.32 ECC .20197 INC 2.1210 V1 29.478
 RP 226.35 LAP .55 LOP 66.62 VP 21.631 GAP -.00 AZP 87.95 TAL 344.98 TAP 180.01 RCA 150.28 APO 226.35 V2 24.299
 RC 230.548 GL -19.36 GP 1.79 ZAL 119.94 ZAP 48.57 ETS 180.82 ZAE 86.24 ETE 180.53 ZAC 104.05 ETC 272.52 LVI -12.22

PLANETOCENTRIC CONIC

C3 13.081 VHL 3.617 DLA -20.26 RAL 2.11 RAD 6639.6 VEL 11.539 PTH 6.59 VHP 3.420 DPA -21.01 RAP 297.12 ECC 1.2153
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 23 51 2826.32 -13.65 71.90 214.65 136.03 18 7 38 1626.3 4.69 56.03
 60.00 18 27 43 2456.48 -9.16 60.83 218.88 129.42 19 8 40 1456.5 6.93 42.88
 70.00 19 48 32 2218.90 -4.78 44.84 222.18 123.86 20 25 31 1218.9 9.16 25.27
 80.00 21 24 59 1917.07 -1.27 24.11 224.34 119.83 21 56 56 917.1 10.96 3.44
 90.00 22 59 36 1611.84 .16 2.48 225.14 118.28 23 26 28 611.8 11.70 341.38
 100.00 0 11 46 1391.54 -1.27 345.48 224.34 119.83 0 34 58 391.5 10.96 324.81
 110.00 0 51 55 1265.72 -4.78 333.76 222.18 123.86 1 13 0 265.7 9.16 314.19

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .3584 TRA 3.1301 TC3-7.7758 BAU 1.3601 SGT 7739.4 SGR 319.7 SG3 1108.8 ST 84.6 SR 7.2 SS 62.8
 RDE .0745 RRA -.1638 RC3 .1518 FAU .14889 RRT -.8122 RRF -.7987 RTF .9667 CRT -.2655 CRS -.1403 CST -.9164
 FDE 1.8282 FRA 6.0906 FC3-9.8536 B8P 13282 SGB 7746.0 R23 .0224 R13 -.9667 LSA 103.3 MSA 21.7 SSA .7
 BDE .3460 BRA 3.1343 BC3 7.7773 F8P 2015 SGI 7743.7 SG2 186.4 THA 178.08 EL1 84.7 EL2 7.0 ALF 178.69

LAUNCH DATE MAY 13 1971

FLIGHT TIME 274.00

ARRIVAL DATE FEB 11 1972

HELIOCENTRIC CONIC

DISTANCE 629.923

EARTH TO MARS

RL 151.15 LAL .00 LOL 231.60 VL 32.434 GAL -2.60 AZL 92.10 HCA 196.09 SMA 188.48 ECC .20299 INC 2.1021 V1 29.478
 RP 226.74 LAP .58 LOP 67.88 VP 21.599 GAP -.15 AZP 87.98 TAL 344.50 TAP 180.58 RCA 150.22 APO 226.74 V2 24.257
 RC 233.212 GL -19.03 GP 1.65 ZAL 120.62 ZAP 47.79 ETS 180.75 ZAE 85.20 ETE 180.56 ZAC 103.90 ETC 272.59 LVI -12.20

PLANETOCENTRIC CONIC

C3 13.290 VHL 3.646 DLA -19.70 RAL 2.56 RAD 6639.7 VEL 11.548 PTH 6.59 VHP 3.449 DPA -21.09 RAP 297.44 ECC 1.2187
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 23 12 2641.61 -14.40 72.58 215.23 135.85 18 7 14 1641.6 3.92 56.68
 60.00 18 26 13 2474.05 -9.92 61.69 219.44 129.26 19 7 27 1474.0 6.16 43.73
 70.00 19 45 55 2239.76 -5.57 45.94 222.68 123.75 20 23 14 1239.8 8.38 26.39
 80.00 21 21 4 1941.95 -2.11 25.48 224.83 119.79 21 53 26 941.9 10.17 4.85
 90.00 22 55 0 1638.94 -.71 3.97 225.61 118.27 23 22 19 638.9 10.89 342.95
 100.00 0 7 52 1416.42 -2.11 346.85 224.83 119.79 0 31 28 416.4 10.17 326.22
 110.00 0 49 17 1286.58 -5.57 334.86 222.68 123.75 1 10 43 286.6 8.38 315.31

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .4044 TRA 3.2349 TC3-7.7982 BAU 1.3858 SGT 7867.3 SGR 318.1 SG3 1085.9 ST 87.4 SR 7.7 SS 62.8
 RDE .0828 RRA -.1634 RC3 .1358 FAU .14498 RRT -.7807 RRF -.7645 RTF .9663 CRT -.1876 CRS -.2039 CST -.9225
 FDE 1.8625 FRA 6.0488 FC3-9.4441 B8P 13492 SGB 7873.8 R23 .0154 R13 -.9663 LSA 105.8 MSA 21.5 SSA .7
 BDE .4128 BRA 3.2390 BC3 7.7994 F8P 1973 SGI 7871.2 SG2 198.7 THA 178.19 EL1 87.4 EL2 7.5 ALF 179.05

LAUNCH DATE MAY 13 1971

FLIGHT TIME 276.00

ARRIVAL DATE FEB 13 1972

HELIOCENTRIC CONIC

DISTANCE 633.984

EARTH TO MARS

RL 131.15 LAL .00 LOL 231.60 VL 32.443 GAL -2.69 AZL 92.09 HCA 197.14 SMA 188.65 ECC .20404 INC 2.0856 V1 29.478
 RP 227.13 LAP .61 LOP 68.73 VP 21.967 GAP -.29 AZP 88.01 TAL 344.01 TAP 181.15 RCA 150.16 APO 227.14 V2 24.215
 RC 235.874 GL -18.72 GP 1.54 ZAL 121.29 ZAP 47.04 ETS 180.70 ZAE 84.18 ETE 180.58 ZAC 103.77 ETC 272.66 LVI -12.20

PLANETOCENTRIC CONIC

C3 13.510 VHL 3.678 DLA -19.16 RAL 3.02 RAD 6639.8 VEL 11.557 PTH 6.60 VHP 3.478 DPA -21.15 RAP 297.78 ECC 1.2223
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 22 41 2656.57 -15.13 73.25 215.84 135.67 18 6 58 1656.6 3.17 57.30
 60.00 18 24 54 2491.15 -10.66 62.54 220.02 129.10 19 6 25 1491.1 5.41 44.56
 70.00 19 43 33 2259.94 -6.33 47.00 223.24 123.63 20 21 13 1259.9 7.63 27.46
 80.00 21 17 32 1965.79 -2.91 26.79 225.36 119.73 21 50 18 965.8 9.39 6.20
 90.00 22 50 51 1664.77 -1.54 5.41 226.12 118.24 23 18 36 664.8 10.11 344.45
 100.00 0 4 19 1440.27 -2.91 348.16 225.36 119.73 0 28 20 440.3 9.39 327.57
 110.00 0 46 55 1306.75 -6.33 335.92 223.24 123.63 1 8 42 306.8 7.63 316.38

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .4499 TRA 3.3414 TC3-7.8178 BAU 1.4121 SGT 7995.3 SGR 318.5 SCS 1062.6 ST 90.3 SR 8.2 SS 63.0
 RDE .0911 RRA -.1640 RC3 .1214 FAU .14127 RRT -.7486 RRF -.7300 RTF .9659 CRT -.1193 CRS -.2574 CST -.9279
 FDE 1.8913 FRA 6.0073 FC3-9.0530 BSP 13701 SGB 8001.6 R23 .0096 R13 -.9659 LSA 108.3 MSA 21.2 SSA .8
 BDE .4590 BRA 3.3454 BC3 7.8187 FSP 1929 SGI 7998.9 SG2 211.0 THA 178.29 EL1 90.3 EL2 8.1 ALF 179.38

LAUNCH DATE MAY 13 1971

FLIGHT TIME 278.00

ARRIVAL DATE FEB 15 1972

HELIOCENTRIC CONIC

DISTANCE 638.039

EARTH TO MARS

RL 131.15 LAL .00 LOL 231.60 VL 32.453 GAL -2.78 AZL 92.07 HCA 198.19 SMA 188.82 ECC .20510 INC 2.0712 V1 29.478
 RP 227.52 LAP .65 LOP 69.78 VP 21.535 GAP -.44 AZP 88.03 TAL 343.52 TAP 181.71 RCA 150.09 APO 227.55 V2 24.174
 RC 238.532 GL -18.43 GP 1.44 ZAL 121.96 ZAP 46.31 ETS 180.65 ZAE 83.18 ETE 180.59 ZAC 103.65 ETC 272.74 LVI -12.23

PLANETOCENTRIC CONIC

C3 13.739 VHL 3.707 DLA -18.63 RAL 3.48 RAD 6639.9 VEL 11.567 PTH 6.61 VHP 3.507 DPA -21.19 RAP 298.14 ECC 1.2261
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 22 17 2671.26 -15.84 73.92 216.46 135.47 18 6 49 1671.3 2.43 57.92
 60.00 18 23 44 2507.87 -11.37 63.37 220.63 128.93 19 5 32 1507.9 4.68 45.36
 70.00 19 41 24 2279.54 -7.07 48.04 223.82 123.50 20 19 24 1279.5 6.89 28.50
 80.00 21 14 18 1988.79 -3.69 28.05 225.91 119.65 21 47 27 988.8 8.65 7.50
 90.00 22 47 3 1689.57 -2.34 6.80 226.66 118.19 23 15 13 689.6 9.35 345.87
 100.00 0 1 6 1463.26 -3.69 349.42 225.91 119.65 0 25 29 463.3 8.65 328.87
 110.00 0 44 46 1326.36 -7.07 336.96 223.82 123.50 1 6 53 326.4 6.89 317.42

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .4990 TRA 3.4534 TC3-7.8170 BAU 1.4360 SGT 8118.7 SGR 320.4 SCS 1039.4 ST 93.3 SR 8.7 SS 63.2
 RDE .0994 RRA -.1633 RC3 .1079 FAU .13705 RRT -.7165 RRF -.6957 RTF .9652 CRT -.0578 CRS -.3035 CST -.9330
 FDE 1.9237 FRA 5.9713 FC3-8.6359 BSP 13964 SGB 8125.0 R23 .0052 R13 -.9652 LSA 111.1 MSA 21.0 SSA .8
 BDE .5088 BRA 3.4574 BC3 7.8178 FSP 1897 SGI 8122.0 SG2 223.4 THA 178.38 EL1 93.3 EL2 8.7 ALF 179.69

LAUNCH DATE MAY 13 1971

FLIGHT TIME 280.00

ARRIVAL DATE FEB 17 1972

HELIOCENTRIC CONIC

DISTANCE 642.088

EARTH TO MARS

RL 131.15 LAL .00 LOL 231.60 VL 32.463 GAL -2.88 AZL 92.06 HCA 199.23 SMA 188.99 ECC .20618 INC 2.0581 V1 29.478
 RP 227.91 LAP .68 LOP 70.82 VP 21.503 GAP -.59 AZP 88.06 TAL 343.04 TAP 182.27 RCA 150.03 APO 227.96 V2 24.133
 RC 241.186 GL -18.15 GP 1.35 ZAL 122.62 ZAP 45.60 ETS 180.60 ZAE 82.19 ETE 180.60 ZAC 103.54 ETC 272.82 LVI -12.27

PLANETOCENTRIC CONIC

C3 13.979 VHL 3.739 DLA -18.12 RAL 3.95 RAD 6640.0 VEL 11.578 PTH 6.62 VHP 3.537 DPA -21.22 RAP 298.51 ECC 1.2301
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 21 59 2685.72 -16.54 74.58 217.11 135.27 18 6 45 1685.7 1.71 58.52
 60.00 18 22 42 2524.28 -12.07 64.19 221.26 128.75 19 4 46 1524.3 3.96 46.15
 70.00 19 39 26 2298.66 -7.79 49.06 224.43 123.36 20 17 45 1298.7 6.17 29.51
 80.00 21 11 20 2011.07 -4.44 29.28 226.49 119.56 21 44 51 1011.1 7.91 8.75
 90.00 22 43 34 1713.50 -3.11 8.14 227.22 118.12 23 12 8 713.5 8.61 347.24
 100.00 23 54 12 1485.54 -4.44 350.65 226.49 119.56 24 18 57 485.5 7.91 330.12
 110.00 0 42 49 1345.48 -7.79 337.97 224.43 123.36 1 5 14 345.5 6.17 318.43

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .5455 TRA 3.5644 TC3-7.8208 BAU 1.4617 SGT 8242.2 SGR 323.7 SCS 1016.6 ST 96.2 SR 9.2 SS 63.3
 RDE .1078 RRA -.1688 RC3 .0958 FAU .13333 RRT -.6848 RRF -.6620 RTF .9647 CRT -.0040 CRS -.3428 CST -.9373
 FDE 1.9474 FRA 5.9291 FC3-8.2577 BSP 14188 SGB 8248.5 R23 .0011 R13 -.9647 LSA 113.6 MSA 20.8 SSA .9
 BDE .5561 BRA 3.5683 BC3 7.8214 FSP 1859 SGI 8245.1 SG2 235.8 THA 178.46 EL1 96.2 EL2 9.2 ALF 179.98

LAUNCH DATE MAY 14 1971

FLIGHT TIME 96.00

ARRIVAL DATE AUG 18 1971

HELIOCENTRIC CONIC

DISTANCE 281.919

EARTH TO MARS

RL 151.18 LAL .00 LOL 232.57 VL 35.390 GAL -1.42 AZL 91.85 HCA 89.30 SBA 263.72 ECC .42731 INC 1.8481 V1 29.471
RP 207.18 LAP -1.85 LOP 321.87 VP 27.892 GAP 22.24 AZP 90.02 TAL 355.26 TAP 84.56 RCA 151.03 APO 376.41 V2 26.438
RC 56.588 GL -10.72 GP -.24 ZAL 101.83 ZAP 176.82 ETS 184.34 ZAE 174.04 ETE 51.98 ZAC 99.70 ETC 277.89 LVI -17.97

PLANETOCENTRIC CONIC

C3 37.597 VHL 6.132 DLA -19.78 RAL 340.60 RAD 6649.8 VEL 12.549 PTH 7.42 VHP 11.107 DPA -17.21 RAP 321.80 ECC 1.6187
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 52 0 2889.55 -26.09 84.56 206.37 131.31 16 40 10 1889.5 -8.51 87.09
60.00 16 59 8 2721.68 -20.22 74.50 211.43 125.63 17 40 29 1721.7 -4.72 55.59
70.00 18 14 58 2486.98 -14.66 59.31 215.20 121.20 18 56 25 1487.0 -1.00 39.37
80.00 19 50 17 2188.65 -10.29 39.21 217.83 118.18 20 26 46 1188.6 1.97 18.58
90.00 21 24 19 1885.35 -6.54 17.84 218.75 117.06 21 55 44 885.4 3.18 356.95
100.00 22 33 9 1663.12 -10.29 .98 217.83 118.18 23 0 52 663.1 1.87 339.95
110.00 23 14 24 1533.79 -14.66 348.23 215.28 121.20 23 59 58 533.8 -1.00 320.29

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4080 TRA -.9134 TC3 .0222 BAU .0373 SGT 983.2 SGR 585.6 SCS 101.1 ST 23.3 SR 26.8 SS 11.9
RDE -.5690 RRA .2310 RC3 .0708 FAU .03314 RRT -.0078 RRF .0092 RTF -.6098 CRT .7302 CRS .4264 CST .9244
FDE .1425 FRA .6949 FC3 -.7632 B8P 1370 SGB 1144.3 R23 -.0018 R13 .6098 LSA 34.2 MSA 15.3 SSA 1.1
BDE .6984 BRA .9422 BC3 .0742 F8P 121 SGI 983.2 SGT 585.5 THA 179.59 EL1 33.1 EL2 12.9 ALF 80.45

LAUNCH DATE MAY 14 1971

FLIGHT TIME 98.00

ARRIVAL DATE AUG 20 1971

HELIOCENTRIC CONIC

DISTANCE 283.808

EARTH TO MARS

RL 151.18 LAL .00 LOL 232.57 VL 35.186 GAL -1.34 AZL 91.85 HCA 90.58 SBA 258.38 ECC .41089 INC 1.8458 V1 29.471
RP 207.08 LAP -1.85 LOP 323.13 VP 27.642 GAP 21.72 AZP 89.98 TAL 355.38 TAP 85.93 RCA 151.04 APO 381.74 V2 26.448
RC 56.856 GL -11.02 GP -.25 ZAL 101.75 ZAP 175.82 ETS 183.48 ZAE 173.52 ETE 45.85 ZAC 99.64 ETC 277.96 LVI -18.08

PLANETOCENTRIC CONIC

C3 35.108 VHL 5.925 DLA -20.08 RAL 340.68 RAD 6648.9 VEL 12.450 PTH 7.35 VHP 10.742 DPA -17.11 RAP 322.16 ECC 1.5778
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 53 33 2865.85 -25.02 83.32 205.42 131.89 16 41 19 1865.9 -7.33 66.08
60.00 16 57 8 2696.77 -19.23 73.14 210.47 128.13 17 42 5 1696.8 -3.62 84.40
70.00 18 17 34 2480.29 -13.71 57.83 214.33 121.99 18 58 35 1460.3 .02 37.98
80.00 19 53 35 2159.81 -9.36 37.58 216.90 118.48 20 29 35 1159.8 2.95 16.99
90.00 21 27 58 1855.33 -7.61 16.13 217.84 117.32 21 58 54 855.3 4.14 355.28
100.00 22 36 27 1634.28 -9.36 388.95 216.90 118.48 23 3 41 634.3 2.95 338.36
110.00 23 17 1 1507.11 -13.71 346.74 214.33 121.99 23 42 8 507.1 .02 326.90

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3985 TRA -.9036 TC3 .0383 BAU .0393 SGT 1007.9 SGR 588.7 SCS 108.5 ST 23.8 SR 26.9 SS 12.3
RDE -.5523 RRA .2241 RC3 .0780 FAU .03428 RRT -.0087 RRF .0095 RTF -.6224 CRT .7277 CRS .4141 CST .9208
FDE .1441 FRA .7225 FC3 -.8488 B8P 1422 SGB 1187.2 R23 -.0013 R13 .6224 LSA 34.5 MSA 15.7 SSA 1.1
BDE .6810 BRA .9310 BC3 .0838 F8P 132 SGI 1007.9 SGT 588.7 THA 179.56 EL1 33.4 EL2 13.1 ALF 49.84

LAUNCH DATE MAY 14 1971

FLIGHT TIME 100.00

ARRIVAL DATE AUG 22 1971

HELIOCENTRIC CONIC

DISTANCE 285.945

EARTH TO MARS

RL 151.18 LAL .00 LOL 232.57 VL 34.994 GAL -1.27 AZL 91.84 HCA 91.83 SBA 249.88 ECC .39551 INC 1.8435 V1 29.471
RP 207.01 LAP -1.84 LOP 324.40 VP 27.407 GAP 21.21 AZP 89.94 TAL 355.52 TAP 87.33 RCA 151.05 APO 348.72 V2 26.487
RC 57.225 GL -11.33 GP -.26 ZAL 101.64 ZAP 175.01 ETS 182.94 ZAE 172.97 ETE 40.79 ZAC 99.59 ETC 278.04 LVI -18.15

PLANETOCENTRIC CONIC

C3 32.839 VHL 5.731 DLA -20.40 RAL 340.69 RAD 6648.1 VEL 12.359 PTH 7.28 VHP 10.390 DPA -17.00 RAP 322.52 ECC 1.5404
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 55 3 2842.32 -23.94 82.11 204.49 132.43 16 42 26 1842.3 -6.15 85.08
60.00 16 59 7 2671.95 -18.23 71.81 209.54 128.59 17 43 39 1671.9 -2.53 93.21
70.00 18 20 12 2433.59 -12.75 56.35 213.41 121.96 19 0 48 1433.6 1.04 36.59
80.00 19 56 57 2130.79 -8.41 35.94 215.99 118.75 20 32 28 1130.8 3.93 15.40
90.00 21 31 45 1825.03 -6.66 14.41 216.94 117.55 22 2 10 825.0 5.11 353.56
100.00 22 39 49 1605.27 -8.41 357.31 215.99 118.75 23 6 34 605.3 3.93 336.77
110.00 23 19 39 1480.41 -12.75 345.27 213.41 121.96 23 44 19 480.4 1.04 325.51

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3927 TRA -.8937 TC3 .0506 BAU .0421 SGT 1032.6 SGR 591.4 SCS 116.3 ST 24.3 SR 27.0 SS 12.7
RDE -.5381 RRA .2174 RC3 .0814 FAU .03550 RRT -.0086 RRF .0099 RTF -.6351 CRT .7258 CRS .4010 CST .9169
FDE .1454 FRA .7511 FC3 -.9358 B8P 1482 SGB 1190.0 R23 -.0018 R13 .6351 LSA 34.9 MSA 16.1 SSA 1.1
BDE .6645 BRA .9197 BC3 .0958 F8P 144 SGI 1032.6 SGT 591.4 THA 179.58 EL1 33.8 EL2 13.4 ALF 49.19

LAUNCH DATE MAY 14 1971

FLIGHT TIME 102.00

ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC

DISTANCE 288.296

EARTH TO MARS

RL 151.18 LAL .00 LOL 232.57 VL 34.813 GAL -1.19 AZL 91.84 HCA 93.09 SBA 244.08 ECC .38110 INC 1.8412 V1 29.471
RP 206.94 LAP -1.84 LOP 325.66 VP 27.184 GAP 20.70 AZP 89.90 TAL 355.67 TAP 88.77 RCA 151.06 APO 337.11 V2 26.466
RC 57.675 GL -11.63 GP -.26 ZAL 101.51 ZAP 174.09 ETS 182.56 ZAE 172.43 ETE 36.61 ZAC 99.53 ETC 278.11 LVI -18.24

PLANETOCENTRIC CONIC

C3 30.768 VHL 5.547 DLA -20.72 RAL 340.69 RAD 6647.3 VEL 12.276 PTH 7.22 VHP 10.051 DPA -16.90 RAP 322.86 ECC 1.5064
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 56 32 2819.00 -22.87 80.94 203.59 132.93 16 43 31 1819.0 -4.99 64.10
60.00 17 1 6 2647.27 -17.22 70.50 208.62 127.02 17 45 13 1647.3 -1.45 52.03
70.00 18 22 52 2406.92 -11.79 54.89 212.50 122.29 19 2 59 1406.9 2.06 35.20
80.00 20 0 24 2101.64 -7.46 34.31 215.10 119.00 20 35 26 1101.6 4.91 13.79
90.00 21 35 38 1794.46 -5.69 12.68 216.06 117.75 22 5 32 794.5 6.08 351.84
100.00 22 43 16 1576.11 -7.46 355.68 215.10 119.00 23 9 32 576.1 4.91 335.16
110.00 23 22 18 1453.74 -11.79 343.81 212.50 122.29 23 46 32 453.7 2.06 324.11

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3861 TRA -.8833 TC3 .0677 BAU .0483 SGT 1056.6 SGR 593.7 SCS 124.7 ST 24.7 SR 27.1 SS 13.1
RDE -.5204 RRA .2109 RC3 .0869 FAU .03678 RRT -.0089 RRF .0107 RTF -.6488 CRT .7232 CRS .3849 CST .9111
FDE .1453 FRA .7797 FC3 -1.0348 B8P 1525 SGB 1211.9 R23 -.0023 R13 .6488 LSA 35.3 MSA 16.4 SSA 1.2
BDE .6480 BRA .9081 BC3 .1102 F8P 158 SGI 1056.6 SGT 593.7 THA 179.58 EL1 34.1 EL2 13.6 ALF 48.61

LAUNCH DATE MAY 14 1971										FLIGHT TIME 104.00										ARRIVAL DATE AUG 26 1971																																																																									
HELIOCENTRIC CONIC										DISTANCE 290.833										EARTH TO MARS																																																																									
RL	151.18	LAL	.00	LOL	232.57	VL	34.643	GAL	-1.12	AZL	91.84	HCA	94.36	SMA	238.89	ECC	.36760	INC	1.8389	V1	29.471	RP	206.87	LAP	-1.83	LOP	326.93	VP	26.973	GAP	20.21	AZP	89.86	TAL	355.84	TAP	90.20	RCA	151.08	APO	326.71	V2	26.473	RC	58.203	GL	-11.94	GP	-.27	ZAL	101.35	ZAP	173.15	ETS	182.29	ZAE	171.89	ETE	33.14	ZAC	99.47	ETC	278.17	LVI	-18.32																												
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																									
C3	28.877	VHL	5.374	DLA	-21.08	RAL	340.87	RAD	6646.6	VEL	12.199	PTH	7.16	VHP	9.728	DPA	-16.80	RAP	323.19	ECC	1.4752	SGT	1076.6	SGR	595.5	SG3	133.6	ST	25.1	SR	27.2	SS	13.5	RDE	-.5052	RRA	.2045	RC3	.0928	FAU	.03812	RRT	-.0085	RRF	.0112	RTF	-.6592	CRT	.7210	CR8	.3700	CST	.9059	FDE	.1458	FRA	.8102	FC3	-1.1430	BSP	1541	SG8	1230.3	R23	-.0031	R13	.6593	LSA	35.6	MSA	16.8	SSA	1.2	BDE	.6313	BRA	.8934	BC3	.1270	FSP	169	SG1	1076.6	SG2	595.5	THA	179.61	EL1	34.3	EL2	13.8	ALF	48.14

LAUNCH DATE MAY 14 1971										FLIGHT TIME 106.00										ARRIVAL DATE AUG 28 1971																																																																									
HELIOCENTRIC CONIC										DISTANCE 293.533										EARTH TO MARS																																																																									
RL	151.18	LAL	.00	LOL	232.57	VL	34.483	GAL	-1.04	AZL	91.84	HCA	95.63	SMA	234.22	ECC	.35494	INC	1.8366	V1	29.471	RP	206.82	LAP	-1.83	LOP	326.20	VP	26.773	GAP	19.72	AZP	89.82	TAL	356.01	TAP	91.64	RCA	151.09	APO	317.36	V2	26.479	RC	58.807	GL	-12.24	GP	-.28	ZAL	101.17	ZAP	172.21	ETS	182.08	ZAE	171.38	ETE	30.23	ZAC	99.42	ETC	278.24	LVI	-18.39																												
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																									
C3	27.147	VHL	5.210	DLA	-21.41	RAL	340.83	RAD	6645.9	VEL	12.129	PTH	7.10	VHP	9.410	DPA	-16.71	RAP	323.51	ECC	1.4468	SGT	1104.4	SGR	597.0	SG3	143.3	ST	25.5	SR	27.2	SS	13.9	RDE	-.4903	RRA	.1984	RC3	.0984	FAU	.03982	RRT	-.0104	RRF	.0118	RTF	-.6693	CRT	.7168	CR8	.3533	CST	.9010	FDE	.1457	FRA	.8424	FC3	-1.2635	BSP	1625	SG8	1255.4	R23	-.0019	R13	.6693	LSA	35.9	MSA	17.2	SSA	1.2	BDE	.6157	BRA	.8859	BC3	.1446	FSP	185	SG1	1104.5	SG2	596.9	THA	179.54	EL1	34.6	EL2	14.0	ALF	47.30

LAUNCH DATE MAY 14 1971										FLIGHT TIME 108.00										ARRIVAL DATE AUG 30 1971																																																																									
HELIOCENTRIC CONIC										DISTANCE 296.378										EARTH TO MARS																																																																									
RL	151.18	LAL	.00	LOL	232.57	VL	34.332	GAL	-.97	AZL	91.83	HCA	96.90	SMA	230.01	ECC	.34307	INC	1.8342	V1	29.471	RP	206.77	LAP	-1.82	LOP	329.47	VP	26.583	GAP	19.24	AZP	89.78	TAL	356.20	TAP	93.10	RCA	151.10	APO	308.92	V2	26.485	RC	59.485	GL	-12.55	GP	-.29	ZAL	100.96	ZAP	171.24	ETS	181.92	ZAE	170.90	ETE	27.76	ZAC	99.37	ETC	278.30	LVI	-18.46																												
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																									
C3	25.568	VHL	5.056	DLA	-21.77	RAL	340.57	RAD	6645.2	VEL	12.064	PTH	7.05	VHP	9.108	DPA	-16.62	RAP	323.82	ECC	1.4208	SGT	1128.3	SGR	598.0	SG3	153.3	ST	26.0	SR	27.2	SS	14.3	RDE	-.4764	RRA	.1924	RC3	.1043	FAU	.04113	RRT	-.0099	RRF	.0121	RTF	-.690	CRT	.7147	CR8	.3371	CST	.8949	FDE	.1453	FRA	.8741	FC3	-1.3929	BSP	1681	SG8	1277.0	R23	-.0028	R13	.6791	LSA	36.2	MSA	17.5	SSA	1.2	BDE	.6010	BRA	.8747	BC3	.1642	FSP	201	SG1	1128.3	SG2	598.0	THA	179.58	EL1	34.9	EL2	14.2	ALF	46.86

LAUNCH DATE MAY 14 1971										FLIGHT TIME 110.00										ARRIVAL DATE SEP 1 1971																																																																									
HELIOCENTRIC CONIC										DISTANCE 299.348										EARTH TO MARS																																																																									
RL	151.18	LAL	.00	LOL	232.57	VL	34.190	GAL	-.90	AZL	91.83	HCA	98.16	SMA	226.19	ECC	.33193	INC	1.8319	V1	29.471	RP	206.74	LAP	-1.81	LOP	330.73	VP	26.404	GAP	18.77	AZP	89.74	TAL	356.41	TAP	94.57	RCA	151.11	APO	301.27	V2	26.489	RC	60.233	GL	-12.86	GP	-.30	ZAL	100.74	ZAP	170.27	ETS	181.79	ZAE	170.47	ETE	25.66	ZAC	99.32	ETC	278.36	LVI	-18.53																												
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																									
C3	24.117	VHL	4.911	DLA	-22.13	RAL	340.49	RAD	6644.6	VEL	12.004	PTH	7.00	VHP	8.813	DPA	-16.53	RAP	324.11	ECC	1.3969	SGT	1136.2	SGR	598.6	SG3	164.2	ST	25.7	SR	27.2	SS	14.7	RDE	-.4627	RRA	.1866	RC3	.1103	FAU	.04271	RRT	-.0135	RRF	.0133	RTF	-.7028	CRT	.7030	CR8	.3196	CST	.8929	FDE	.1450	FRA	.9110	FC3	-1.3333	BSP	1601	SG8	1284.3	R23	-.0022	R13	.7029	LSA	36.0	MSA	17.9	SSA	1.2	BDE	.5792	BRA	.8530	BC3	.1997	FSP	221	SG1	1136.3	SG2	598.5	THA	179.43	EL1	34.6	EL2	14.3	ALF	47.33

LAUNCH DATE MAY 14 1971

FLIGHT TIME 112.00

ARRIVAL DATE SEP 3 1971

HELIOCENTRIC CONIC

DISTANCE 302.433

EARTH TO MARS

RL 151.18 LAL .00 LOL 232.97 VL 34.036 GAL -.02 AZL 91.83 HCA 99.43 SMA 222.72 ECC .32149 INC 1.8295 V1 29.471
RP 206.71 LAP -1.80 LOP 332.00 VP 26.234 GAP 18.31 AZP 89.70 TAL 356.62 TAP 96.05 RCA 151.12 APO 294.33 V2 26.492
RC 81.050 GL -13.16 GP -.31 ZAL 100.50 ZAP 166.28 ETS 181.69 ZAE 170.09 ETE 23.85 ZAC 99.27 ETC 278.41 LVI -18.59

PLANETOCENTRIC CONIC

C3 22.792 VHL 4.774 DLA -22.50 RAL 340.39 RAD 6644.1 VEL 11.949 PTH 6.95 VHP 8.530 DPA -16.45 RAP 324.38 ECC 1.3751
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 3 21 2706.73 -17.56 75.55 199.44 134.96 16 48 28 1706.7 .69 59.40
60.00 17 10 50 2527.29 -12.20 64.34 204.40 128.71 17 52 57 1527.3 3.83 46.29
70.00 18 36 33 2275.29 -6.91 47.82 208.31 123.53 19 14 28 1275.3 7.05 26.28
80.00 20 18 58 1954.78 -2.54 26.18 211.01 119.76 20 51 32 954.8 9.75 5.58
90.00 21 57 0 1638.56 -.70 3.95 212.03 118.27 22 24 18 638.6 10.90 342.93
100.00 23 1 49 1429.25 -2.54 347.55 211.01 119.76 23 25 39 429.3 9.75 326.95
110.00 23 35 59 1322.11 -6.91 336.73 208.31 123.53 23 56 1 322.1 7.05 317.20

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3457 TRA -.8265 TC3 .1833 BAU .0861 SGT 1164.2 SGR 598.8 SG3 175.8 ST 26.3 SR 27.2 S8 15.1
RDE -.4495 RRA .1810 RC3 .1163 FAU .04449 RRT -.0131 RRF .0141 RTF -.7058 CRT .7038 CR8 .2990 CST .8839
FDE .1427 FRA .9457 FC3-1.6898 B8P 1702 SGB 1309.2 R23 -.0015 R13 .7058 LSA 36.3 MSA 18.3 S8A 1.3
BDE .5670 BRA .8461 BC3 .2171 F8P 238 SG1 1164.3 SGT 598.7 THA 179.47 EL1 34.9 EL2 14.5 ALF 46.43

LAUNCH DATE MAY 14 1971

FLIGHT TIME 114.00

ARRIVAL DATE SEP 5 1971

HELIOCENTRIC CONIC

DISTANCE 305.617

EARTH TO MARS

RL 151.18 LAL .00 LOL 232.97 VL 33.930 GAL -.75 AZL 91.83 HCA 100.70 SMA 219.57 ECC .31170 INC 1.8271 V1 29.471
RP 206.69 LAP -1.80 LOP 333.27 VP 26.072 GAP 17.86 AZP 89.66 TAL 356.84 TAP 97.54 RCA 151.13 APO 288.01 V2 26.495
RC 61.933 GL -13.47 GP -.32 ZAL 100.24 ZAP 166.27 ETS 181.61 ZAE 169.76 ETE 22.28 ZAC 99.22 ETC 278.46 LVI -18.65

PLANETOCENTRIC CONIC

C3 21.577 VHL 4.648 DLA -22.87 RAL 340.27 RAD 6643.5 VEL 11.898 PTH 6.91 VHP 8.257 DPA -16.38 RAP 324.64 ECC 1.3591
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 4 37 2685.41 -16.33 74.57 198.68 135.28 16 49 23 1685.4 1.72 58.31
60.00 17 12 44 2504.26 -11.22 63.19 203.63 128.97 17 54 29 1504.3 4.84 45.19
70.00 18 39 22 2249.60 -5.94 46.46 207.55 125.69 19 16 51 1249.6 8.01 26.91
80.00 20 22 57 1925.41 -1.55 24.57 210.27 119.82 20 55 2 925.4 10.70 3.91
90.00 22 1 42 1606.87 .32 2.18 211.31 118.28 22 28 29 606.9 11.85 341.08
100.00 23 5 49 1399.88 -1.85 345.94 210.27 119.82 23 29 9 399.9 10.70 323.28
110.00 23 38 48 1286.42 -8.94 335.38 207.55 125.69 24 0 24 296.4 8.01 318.83

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3410 TRA -.8186 TC3 .2049 BAU .0689 SGT 1189.1 SGR 598.6 SG3 188.4 ST 26.7 SR 27.2 S8 15.5
RDE -.4367 RRA .1756 RC3 .1223 FAU .04643 RRT -.0132 RRF .0151 RTF -.7106 CRT .7013 CR8 .2760 CST .8742
FDE .1393 FRA .9818 FC3-1.8629 B8P 1786 SGB 1331.3 R23 -.0025 R13 .7106 LSA 36.6 MSA 18.7 S8A 1.3
BDE .5541 BRA .8372 BC3 .2387 F8P 257 SG1 1189.2 SGT 598.5 THA 179.49 EL1 35.1 EL2 14.7 ALF 45.71

LAUNCH DATE MAY 14 1971

FLIGHT TIME 116.00

ARRIVAL DATE SEP 7 1971

HELIOCENTRIC CONIC

DISTANCE 308.893

EARTH TO MARS

RL 151.18 LAL .00 LOL 232.97 VL 33.811 GAL -.68 AZL 91.82 HCA 101.97 SMA 216.69 ECC .30251 INC 1.8247 V1 29.471
RP 206.68 LAP -1.79 LOP 334.54 VP 25.919 GAP 17.41 AZP 89.62 TAL 357.06 TAP 99.04 RCA 151.14 APO 282.24 V2 26.496
RC 62.879 GL -13.77 GP -.33 ZAL 99.97 ZAP 167.24 ETS 181.33 ZAE 169.50 ETE 20.92 ZAC 99.17 ETC 278.51 LVI -18.70

PLANETOCENTRIC CONIC

C3 20.463 VHL 4.524 DLA -23.25 RAL 340.14 RAD 6643.0 VEL 11.852 PTH 6.87 VHP 7.994 DPA -16.31 RAP 324.89 ECC 1.3368
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 5 51 2684.53 -15.52 73.61 197.96 135.56 16 50 16 1664.5 2.77 57.64
60.00 17 14 38 2481.62 -10.25 62.06 202.68 129.19 17 55 59 1481.6 5.83 44.10
70.00 18 42 12 2224.18 -4.98 45.12 206.81 123.83 19 19 16 1224.2 8.96 25.55
80.00 20 27 2 1896.07 -.55 22.96 209.56 119.85 20 58 38 896.1 11.63 2.24
90.00 22 6 35 1574.99 1.35 .40 210.62 118.25 22 32 50 575.0 12.79 339.22
100.00 23 9 54 1370.54 -.55 344.33 209.56 119.85 23 32 45 370.5 11.63 323.60
110.00 23 41 38 1271.00 -4.98 334.04 206.81 123.83 24 2 49 271.0 8.96 314.47

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3333 TRA -.8088 TC3 .2284 BAU .0717 SGT 1210.9 SGR 598.0 SG3 201.5 ST 27.0 SR 27.1 S8 15.9
RDE -.4244 RRA .1704 RC3 .1283 FAU .04839 RRT -.0132 RRF .0163 RTF -.7167 CRT .6985 CR8 .2531 CST .8646
FDE .1359 FRA 1.0201 FC3-2.0474 B8P 1851 SGB 1350.5 R23 -.0037 R13 .7167 LSA 36.8 MSA 19.1 S8A 1.3
BDE .5409 BRA .8265 BC3 .2620 F8P 278 SG1 1210.9 SGT 597.9 THA 179.51 EL1 35.3 EL2 14.9 ALF 45.12

LAUNCH DATE MAY 14 1971

FLIGHT TIME 118.00

ARRIVAL DATE SEP 9 1971

HELIOCENTRIC CONIC

DISTANCE 312.249

EARTH TO MARS

RL 151.18 LAL .00 LOL 232.97 VL 33.700 GAL -.61 AZL 91.82 HCA 103.24 SMA 214.05 ECC .29389 INC 1.8223 V1 29.471
RP 206.67 LAP -1.77 LOP 335.81 VP 25.774 GAP 16.98 AZP 89.58 TAL 357.30 TAP 100.54 RCA 151.15 APO 276.96 V2 26.496
RC 63.888 GL -14.07 GP -.34 ZAL 99.69 ZAP 166.20 ETS 181.47 ZAE 169.30 ETE 19.72 ZAC 99.13 ETC 278.56 LVI -18.75

PLANETOCENTRIC CONIC

C3 19.441 VHL 4.409 DLA -23.63 RAL 339.99 RAD 6642.6 VEL 11.809 PTH 6.83 VHP 7.740 DPA -16.25 RAP 325.11 ECC 1.3200
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 7 3 2644.12 -14.92 72.69 197.25 135.82 16 51 7 1644.1 3.79 56.78
60.00 17 16 31 2459.40 -9.29 60.97 202.17 129.39 17 57 30 1459.4 6.80 43.02
70.00 18 45 3 2199.08 -4.03 43.80 206.11 123.94 19 21 42 1199.1 9.89 24.21
80.00 20 31 14 1866.79 .44 21.35 208.89 119.85 21 2 21 866.8 12.55 .55
90.00 22 11 39 1542.92 2.39 358.61 209.97 118.19 22 37 22 542.9 13.72 337.32
100.00 23 14 6 1341.26 .44 342.72 208.89 119.85 23 36 27 341.3 12.55 321.92
110.00 23 44 30 1245.90 -4.03 332.72 206.11 123.94 24 5 16 245.9 9.89 313.12

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3290 TRA -.7987 TC3 .2540 BAU .0747 SGT 1231.3 SGR 597.0 SG3 215.7 ST 27.3 SR 27.0 S8 16.3
RDE -.4126 RRA .1653 RC3 .1342 FAU .05056 RRT -.0135 RRF .0170 RTF -.7226 CRT .6952 CR8 .2309 CST .8554
FDE .1324 FRA 1.0599 FC3-2.2514 B8P 1900 SGB 1368.4 R23 -.0042 R13 .7227 LSA 36.9 MSA 19.4 S8A 1.3
BDE .5277 BRA .8156 BC3 .2873 F8P 301 SG1 1231.4 SGT 596.9 THA 179.51 EL1 35.4 EL2 15.0 ALF 44.59

LAUNCH DATE MAY 14 1971 FLIGHT TIME 120.00 ARRIVAL DATE SEP 11 1971

HELIOCENTRIC CONIC DISTANCE 319.679 EARTH TO MARS
 RL 151.18 LAL .00 LOL 232.57 VL 33.995 GAL -.55 AZL 91.82 HCA 104.51 SMA 211.64 ECC .28580 INC 1.8189 V1 29.471
 RP 206.68 LAP -1.76 LOP 337.08 VP 25.635 GAP 16.55 AZP 89.54 TAL 357.54 TAP 102.05 RCA 151.15 APO 272.13 V2 26.498
 RC 64.956 GL -14.36 GP -.35 ZAL 99.39 ZAP 165.13 ETS 181.42 ZAE 169.16 ETE 18.86 ZAC 99.09 ETC 278.60 LVI -18.79

PLANETOCENTRIC CONIC
 C3 18.503 VHL 4.302 DLA -24.01 RAL 339.83 RAD 6642.2 VEL 11.770 PTH 6.80 VHP 7.494 DPA -16.19 RAP 325.31 ECC 1.3045
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 8 13 2624.20 -13.55 71.81 196.57 136.06 18 51 58 1624.2 4.79 55.94
 60.00 17 18 22 2437.64 -8.35 59.90 201.48 129.57 17 59 0 1437.6 7.75 41.98
 70.00 18 47 56 2174.33 -3.09 42.50 205.43 124.03 19 24 10 1174.3 10.80 22.87
 80.00 20 35 32 1837.59 1.43 19.75 208.24 119.83 21 6 9 837.6 13.46 358.86
 90.00 22 18 54 1510.64 3.42 356.81 209.34 118.09 22 42 5 510.6 14.64 335.40
 100.00 23 18 24 1312.06 1.43 341.12 208.24 119.83 23 40 16 312.1 13.46 320.22
 110.00 23 47 22 1221.15 -3.09 331.42 205.43 124.03 24 7 43 221.2 10.80 311.79

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3225 TRA -.7884 TC3 .2794 BAU .0773 SGT 1250.6 8GR 595.6 8G3 230.7 ST 27.5 8R 26.9 8S 16.7
 RDE -.4012 RRA .1805 RC3 .1400 FAU .05277 RRT -.0141 RRF .0187 RTF -.7287 CRT .6916 CR8 .2060 C8T .8447
 FDE .1278 FRA 1.1034 FC3-2.4690 B8P 1949 SGB 1385.2 R23 -.0054 R13 .7287 L8A 37.0 M8A 19.8 88A 1.4
 BDE .5147 BRA .8046 BC3 .3125 F8P 326 SGT 1250.6 8G2 595.6 THA 179.50 EL1 35.4 EL2 15.1 ALF 44.08

LAUNCH DATE MAY 14 1971 FLIGHT TIME 122.00 ARRIVAL DATE SEP 13 1971

HELIOCENTRIC CONIC DISTANCE 319.175 EARTH TO MARS
 RL 151.18 LAL .00 LOL 232.57 VL 33.496 GAL -.48 AZL 91.82 HCA 105.78 SMA 209.42 ECC .27822 INC 1.8174 V1 29.471
 RP 206.70 LAP -1.75 LOP 338.35 VP 25.504 GAP 16.14 AZP 89.51 TAL 357.78 TAP 103.56 RCA 151.16 APO 267.69 V2 26.494
 RC 66.082 GL -14.65 GP -.37 ZAL 99.09 ZAP 164.04 ETS 181.38 ZAE 169.09 ETE 17.72 ZAC 99.05 ETC 278.63 LVI -18.82

PLANETOCENTRIC CONIC
 C3 17.842 VHL 4.200 DLA -24.39 RAL 339.66 RAD 6641.8 VEL 11.733 PTH 6.76 VHP 7.257 DPA -16.14 RAP 325.50 ECC 1.2903
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 9 22 2604.80 -12.59 70.95 195.92 136.27 16 52 46 1604.8 5.76 55.13
 60.00 17 20 13 2416.36 -7.42 58.87 200.81 129.73 18 0 29 1416.4 8.67 40.92
 70.00 18 50 49 2149.96 -2.16 41.23 204.78 124.09 19 26 39 1150.0 11.69 21.54
 80.00 20 39 56 1808.48 2.41 18.15 207.62 119.77 21 10 5 808.5 14.35 357.15
 90.00 22 22 22 1478.12 4.46 354.99 208.75 117.95 22 47 0 478.1 15.55 333.44
 100.00 23 22 48 1282.95 2.41 339.52 207.62 119.77 23 44 11 283.0 14.35 318.52
 110.00 23 50 16 1196.78 -2.16 330.15 204.78 124.09 24 10 13 196.8 11.69 310.46

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3142 TRA -.7772 TC3 .3105 BAU .0809 SGT 1267.6 8GR 593.9 8G3 246.9 ST 27.6 8R 26.8 88 17.1
 RDE -.3901 RRA .1958 RC3 .1496 FAU .05926 RRT -.0156 RRF .0200 RTF -.7358 CRT .6862 CR8 .1789 C8T .8338
 FDE .1215 FRA 1.1486 FC3-2.7117 B8P 1986 SGB 1399.8 R23 -.0054 R13 .7358 L8A 36.9 M8A 20.3 88A 1.4
 BDE .5009 BRA .7927 BC3 .3429 F8P 350 SGT 1267.6 8G2 593.8 THA 179.46 EL1 35.4 EL2 15.3 ALF 43.78

LAUNCH DATE MAY 14 1971 FLIGHT TIME 124.00 ARRIVAL DATE SEP 15 1971

HELIOCENTRIC CONIC DISTANCE 322.731 EARTH TO MARS
 RL 151.18 LAL .00 LOL 232.57 VL 33.403 GAL -.42 AZL 91.81 HCA 107.05 SMA 207.39 ECC .27111 INC 1.8148 V1 29.471
 RP 206.72 LAP -1.74 LOP 339.62 VP 25.379 GAP 15.73 AZP 89.47 TAL 358.02 TAP 105.07 RCA 151.16 APO 263.61 V2 26.491
 RC 67.265 GL -14.93 GP -.38 ZAL 98.78 ZAP 162.93 ETS 181.34 ZAE 169.10 ETE 16.89 ZAC 99.01 ETC 278.66 LVI -18.85

PLANETOCENTRIC CONIC
 C3 18.851 VHL 4.105 DLA -24.77 RAL 339.48 RAD 6641.4 VEL 11.700 PTH 6.73 VHP 7.029 DPA -16.10 RAP 325.68 ECC 1.2773
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 10 20 2595.95 -11.66 70.12 195.29 136.46 18 53 34 1585.9 6.71 54.33
 60.00 17 22 2 2395.60 -6.52 57.86 200.17 129.86 18 1 58 1395.6 9.57 39.91
 70.00 18 33 44 2126.02 -1.24 39.98 204.16 124.13 19 29 10 1126.0 12.56 20.23
 80.00 20 44 27 1779.48 3.39 18.55 207.04 119.68 21 14 7 779.5 15.22 355.44
 90.00 22 28 4 1448.33 5.51 353.14 208.20 117.78 22 52 8 445.3 16.44 331.45
 100.00 23 27 19 1253.98 3.39 337.92 207.04 119.68 23 48 13 254.0 15.22 318.81
 110.00 23 53 10 1172.83 -1.24 328.90 204.16 124.13 24 12 43 172.8 12.56 309.15

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3071 TRA -.7688 TC3 .3338 BAU .0888 SGT 1282.3 8GR 591.7 8G3 263.5 ST 27.8 8R 26.7 88 17.8
 RDE -.3798 RRA .1814 RC3 .1810 FAU .08767 RRT -.0169 RRF .0218 RTF -.7397 CRT .6822 CR8 .1850 C8T .8238
 FDE .1163 FRA 1.1918 FC3-2.9627 B8P 2019 SGB 1412.3 R23 -.0056 R13 .7397 L8A 36.9 M8A 20.6 88A 1.4
 BDE .4882 BRA .7806 BC3 .3664 F8P 377 SGT 1282.4 8G2 591.6 THA 179.43 EL1 35.3 EL2 15.3 ALF 43.37

LAUNCH DATE MAY 14 1971 FLIGHT TIME 126.00 ARRIVAL DATE SEP 17 1971

HELIOCENTRIC CONIC DISTANCE 326.342 EARTH TO MARS
 RL 151.18 LAL .00 LOL 232.57 VL 33.315 GAL -.36 AZL 91.81 HCA 108.32 SMA 205.51 ECC .26444 INC 1.8123 V1 29.471
 RP 206.75 LAP -1.72 LOP 340.89 VP 25.260 GAP 15.33 AZP 89.43 TAL 358.27 TAP 106.59 RCA 151.17 APO 259.86 V2 26.487
 RC 68.502 GL -15.21 GP -.39 ZAL 98.47 ZAP 161.80 ETS 181.30 ZAE 169.17 ETE 16.16 ZAC 98.98 ETC 278.69 LVI -18.87

PLANETOCENTRIC CONIC
 C3 16.124 VHL 4.016 DLA -25.14 RAL 339.29 RAD 6641.1 VEL 11.669 PTH 6.71 VHP 6.808 DPA -16.07 RAP 325.80 ECC 1.2654
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 11 32 2567.66 -10.76 69.32 194.69 136.63 18 54 20 1567.7 7.62 53.55
 60.00 17 23 50 2375.38 -5.63 56.88 199.56 129.97 18 3 26 1375.4 10.44 38.91
 70.00 18 56 39 2102.52 -1.34 38.75 203.56 124.15 19 31 41 1102.5 13.40 18.94
 80.00 20 49 5 1750.60 4.36 14.96 206.49 119.57 21 18 16 750.6 16.07 353.72
 90.00 22 34 1 1412.20 6.55 351.27 207.68 117.57 22 37 33 412.2 17.32 329.42
 100.00 23 31 57 1225.07 4.36 336.33 206.49 119.57 23 52 22 225.1 16.07 315.09
 110.00 0 0 1 1149.34 -1.34 327.67 203.56 124.15 0 19 10 149.3 13.40 307.85

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2993 TRA -.7580 TC3 .3682 BAU .0858 SGT 1299.5 8GR 589.2 8G3 282.8 ST 27.8 8R 26.8 88 18.1
 RDE -.3693 RRA .1471 RC3 .1581 FAU .08064 RRT -.0189 RRF .0237 RTF -.7462 CRT .6761 CR8 .1296 C8T .8111
 FDE .1088 FRA 1.2452 FC3-3.2556 B8P 2065 SGB 1428.9 R23 -.0059 R13 .7463 L8A 36.9 M8A 21.1 88A 1.4
 BDE .4753 BRA .7702 BC3 .3981 F8P 411 SGT 1299.6 8G2 589.1 THA 179.38 EL1 35.2 EL2 15.5 ALF 43.02

LAUNCH DATE MAY 14 1971

FLIGHT TIME 120.00

ARRIVAL DATE SEP 19 1971

HELIOCENTRIC CONIC

DISTANCE 330.003

EARTH TO MARS

RL 151.10 LAL .00 LOL 232.57 VL 33.233 GAL -.30 AZL 91.81 HCA 109.50 SMA 203.79 ECC .25818 INC 1.8087 V1 29.471
RP 206.79 LAP -1.71 LOP 342.16 VP 25.146 GAP 14.94 AZP 89.39 TAL 358.52 TAP 108.10 RCA 151.17 APO 256.40 V2 26.483
RC 89.791 GL -15.48 GP -.41 ZAL 98.15 ZAP 180.84 ETS 181.27 ZAE 169.32 ETE 15.51 ZAC 98.95 ETC 278.71 LVI -18.89

PLANETOCENTRIC CONIC

C3 15.456 VHL 3.931 DLA -25.51 RAL 339.09 RAD 6640.7 VEL 11.641 PTH 6.68 VHP 6.595 DPA -16.05 RAP 325.91 ECC 1.2544
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 12 35 2549.96 -9.88 68.56 194.11 136.78 16 55 5 1550.0 8.50 52.80
60.00 17 25 37 2355.73 -4.77 55.94 198.98 130.07 18 4 52 1355.7 11.28 37.93
70.00 18 59 34 2079.51 .54 37.55 203.00 124.15 19 34 13 1079.5 14.22 17.66
80.00 20 53 50 1721.65 5.33 13.37 205.97 119.42 21 22 32 721.8 16.91 392.00
90.00 22 40 15 1378.64 7.61 349.37 207.21 117.32 23 3 14 378.6 18.19 327.34
100.00 23 36 42 1198.32 5.33 334.74 205.97 119.42 23 56 38 196.3 16.91 313.37
110.00 0 2 56 1126.33 .54 326.47 203.00 124.15 0 21 42 126.3 14.22 306.58

DIFFERENTIAL CORRECTIONS

TDE -.2927 TRA -.7448 TC3 .3880 BAU .0884
RDE -.3594 RRA .1431 RC3 .1610 FAU .06334
PDE .1031 FRA 1.2984 FC3-3.5480 BSP 2099
BDE .4635 BRA .7585 BC3 .4182 FSP 445

MID-COURSE EXECUTION ACCURACY

SGT 1311.7 SGR 586.3 SG3 301.8
RRF -.0208 RRF .0256 RTF -.7491
SCB 1436.8 R23 -.0061 R13 .7492
SG1 1311.8 SG2 586.2 THA 179.33

ORBIT DETERMINATION ACCURACY

ST 27.9 SR 26.4 SS 18.6
CRT .6722 CRS .1029 CST .8009
LSA 36.8 MSA 21.5 SSA 1.4
EL1 35.2 EL2 15.5 ALF 42.62

LAUNCH DATE MAY 14 1971

FLIGHT TIME 130.00

ARRIVAL DATE SEP 21 1971

HELIOCENTRIC CONIC

DISTANCE 333.709

EARTH TO MARS

RL 151.10 LAL .00 LOL 232.57 VL 33.158 GAL -.25 AZL 91.81 HCA 110.85 SMA 202.20 ECC .25233 INC 1.8071 V1 29.471
RP 206.84 LAP -1.69 LOP 343.43 VP 25.038 GAP 14.56 AZP 89.36 TAL 358.76 TAP 109.61 RCA 151.18 APO 253.21 V2 26.477
RC 71.130 GL -15.75 GP -.42 ZAL 97.84 ZAP 159.46 ETS 181.24 ZAE 169.54 ETE 14.95 ZAC 98.92 ETC 278.73 LVI -18.89

PLANETOCENTRIC CONIC

C3 14.842 VHL 3.853 DLA -25.87 RAL 338.90 RAD 6640.5 VEL 11.614 PTH 6.66 VHP 6.389 DPA -16.03 RAP 326.00 ECC 1.2443
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 13 36 2532.87 -9.04 67.82 193.56 136.91 18 55 49 1332.9 9.35 52.06
60.00 17 27 22 2336.88 -3.94 55.02 198.42 130.14 18 6 18 1336.7 12.10 36.98
70.00 19 2 29 2057.02 1.40 36.38 202.46 124.13 19 36 46 1057.0 15.02 16.40
80.00 20 58 43 1693.23 6.28 11.79 205.48 119.25 21 26 56 693.2 17.72 350.26
90.00 22 46 50 1344.54 8.67 347.42 206.77 117.02 23 9 14 344.5 19.05 325.21
100.00 23 41 34 1167.70 6.28 333.15 205.48 119.25 24 1 2 167.7 17.72 311.63
110.00 0 5 51 1103.84 1.40 325.30 202.46 124.13 0 24 15 103.8 15.02 305.32

DIFFERENTIAL CORRECTIONS

TDE -.2858 TRA -.7513 TC3 .4155 BAU .0887
RDE -.3499 RRA .1392 RC3 .1655 FAU .06658
PDE .0939 FRA 1.3463 FC3-3.8837 BSP 2150
BDE .4517 BRA .7444 BC3 .4473 FSP 483

MID-COURSE EXECUTION ACCURACY

SGT 1320.5 SGR 583.1 SG3 322.4
RRF -.0210 RRF .0265 RTF -.7323
SCB 1443.5 R23 -.0069 R13 .7523
SG1 1320.6 SG2 582.9 THA 179.34

ORBIT DETERMINATION ACCURACY

ST 27.9 SR 26.2 SS 19.0
CRT .6686 CRS .0747 CST .7867
LSA 36.7 MSA 21.9 SSA 1.5
EL1 35.0 EL2 15.6 ALF 42.33

LAUNCH DATE MAY 14 1971

FLIGHT TIME 132.00

ARRIVAL DATE SEP 23 1971

HELIOCENTRIC CONIC

DISTANCE 337.457

EARTH TO MARS

RL 151.10 LAL .00 LOL 232.57 VL 33.083 GAL -.20 AZL 91.80 HCA 112.12 SMA 200.73 ECC .24684 INC 1.8045 V1 29.471
RP 206.90 LAP -1.87 LOP 344.89 VP 24.935 GAP 14.18 AZP 89.32 TAL 359.00 TAP 111.12 RCA 151.18 APO 250.27 V2 26.470
RC 72.517 GL -16.00 GP -.44 ZAL 97.53 ZAP 158.25 ETS 181.22 ZAE 169.84 ETE 14.45 ZAC 98.89 ETC 278.74 LVI -18.89

PLANETOCENTRIC CONIC

C3 14.277 VHL 3.778 DLA -26.22 RAL 338.70 RAD 6640.2 VEL 11.590 PTH 6.63 VHP 6.181 DPA -16.03 RAP 326.06 ECC 1.2350
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 14 35 2518.40 -8.22 67.12 193.03 137.03 18 56 32 1318.4 10.17 51.35
60.00 17 29 5 2318.26 -3.13 54.14 197.90 130.20 18 7 43 1318.3 12.88 36.05
70.00 19 5 23 2035.08 2.23 35.24 201.95 124.09 19 39 19 1035.1 15.78 15.16
80.00 21 3 42 1664.76 7.23 10.20 205.03 119.05 21 31 27 664.8 18.52 348.52
90.00 22 53 48 1309.73 9.74 345.43 206.37 116.68 23 15 37 309.7 19.90 323.00
100.00 23 48 34 1139.23 7.23 331.57 205.03 119.05 24 5 33 139.2 18.52 309.89
110.00 0 8 46 1081.90 2.23 324.15 201.95 124.09 0 26 48 81.9 15.78 304.08

DIFFERENTIAL CORRECTIONS

TDE -.2809 TRA -.7211 TC3 .4338 BAU .0889
RDE -.3407 RRA .1355 RC3 .1697 FAU .06947
PDE .0871 FRA 1.4091 FC3-4.2123 BSP 2138
BDE .4414 BRA .7337 BC3 .4658 FSP 514

MID-COURSE EXECUTION ACCURACY

SGT 1331.9 SGR 579.5 SG3 343.7
RRF -.0225 RRF .0300 RTF -.1555
SCB 1452.5 R23 -.0091 R13 .7555
SG1 1332.0 SG2 579.3 THA 179.31

ORBIT DETERMINATION ACCURACY

ST 28.1 SR 26.1 SS 19.6
CRT .6658 CRS .0510 CST .7743
LSA 36.7 MSA 22.4 SSA 1.5
EL1 35.0 EL2 15.6 ALF 41.84

LAUNCH DATE MAY 14 1971

FLIGHT TIME 134.00

ARRIVAL DATE SEP 25 1971

HELIOCENTRIC CONIC

DISTANCE 341.243

EARTH TO MARS

RL 151.10 LAL .00 LOL 232.57 VL 33.015 GAL -.15 AZL 91.80 HCA 113.38 SMA 199.37 ECC .24170 INC 1.8017 V1 29.471
RP 206.96 LAP -1.65 LOP 345.96 VP 24.836 GAP 13.82 AZP 89.28 TAL 359.24 TAP 112.82 RCA 151.18 APO 247.55 V2 26.462
RC 73.950 GL -16.25 GP -.46 ZAL 97.22 ZAP 157.01 ETS 181.19 ZAE 170.21 ETE 14.03 ZAC 98.87 ETC 278.74 LVI -18.88

PLANETOCENTRIC CONIC

C3 13.757 VHL 3.709 DLA -26.57 RAL 338.50 RAD 6639.9 VEL 11.568 PTH 6.61 VHP 5.999 DPA -16.04 RAP 326.10 ECC 1.2264
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 15 33 2500.57 -7.43 66.44 192.53 137.13 18 57 13 1500.6 10.95 50.67
60.00 17 30 46 2300.48 -2.35 53.29 197.39 130.24 18 9 7 1300.5 13.63 35.15
70.00 19 8 17 2013.74 3.05 34.12 201.48 124.03 19 41 51 1013.7 16.52 13.95
80.00 21 8 50 1636.42 8.16 8.61 204.61 118.82 21 36 6 636.4 19.29 346.77
90.00 23 1 14 1273.95 10.82 343.36 206.02 116.29 23 22 28 274.0 20.73 320.71
100.00 23 51 42 1110.89 8.16 329.98 204.61 118.82 24 10 13 110.9 19.29 308.14
110.00 0 11 40 1060.56 3.05 323.04 201.48 124.03 0 29 20 60.6 16.52 302.86

DIFFERENTIAL CORRECTIONS

TDE -.2690 TRA -.7074 TC3 .4583 BAU .0901
RDE -.3319 RRA .1320 RC3 .1732 FAU .07320
PDE .0690 FRA 1.4709 FC3-4.6067 BSP 2161
BDE .4272 BRA .7196 BC3 .4900 FSP 557

MID-COURSE EXECUTION ACCURACY

SGT 1334.6 SGR 575.6 SG3 368.0
RRF -.0283 RRF .0348 RTF -.7582
SCB 1453.4 R23 -.0084 R13 .7583
SG1 1334.7 SG2 575.3 THA 179.14

ORBIT DETERMINATION ACCURACY

ST 27.7 SR 25.9 SS 20.1
CRT .6559 CRS .0073 CST .7547
LSA 36.2 MSA 23.0 SSA 1.3
EL1 34.5 EL2 15.7 ALF 42.00

LAUNCH DATE MAY 14 1971 FLIGHT TIME 136.00 ARRIVAL DATE SEP 27 1971

HELIOCENTRIC CONIC DISTANCE 345.084 EARTH TO MARS
RL 151.18 LAL .00 LOL 232.57 VL 32.951 GAL -.10 AZL 91.80 HCA 114.65 SMA 198.11 ECC .23688 INC 1.7990 V1 29.471
RP 207.04 LAP -1.64 LOP 347.23 VP 24.741 GAP 13.46 AZP 89.25 TAL 359.47 TAP 114.12 RCA 151.18 APO 245.04 V2 26.454
RC 75.428 GL -16.49 GP -.47 ZAL 96.92 ZAP 155.75 ETS 181.17 ZAE 170.66 ETE 13.69 ZAC 98.85 ETC 278.74 LVI -18.86

PLANETOCENTRIC CONIC
C3 13.278 VHL 3.644 DLA -26.90 RAL 338.30 RAD 6639.7 VEL 11.547 PTH 6.59 VHP 5.815 DPA -16.05 RAP 326.10 ECC 1.2185
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 16 16 28 2485.34 -8.67 65.80 192.05 137.22 16 57 53 1485.3 11.71 50.00
80.00 17 32 26 2283.30 -1.59 52.46 196.92 130.27 18 10 29 1283.3 14.35 34.28
70.00 19 11 10 1992.93 3.84 33.03 201.02 123.96 19 44 23 992.9 17.23 12.75
80.00 21 14 7 1608.09 9.08 7.02 204.23 118.56 21 40 55 608.1 20.04 345.00
90.00 23 9 18 1236.84 11.94 341.19 205.72 115.63 23 29 55 236.6 21.97 318.30
100.00 0 0 55 1082.56 9.08 328.39 204.23 118.56 0 18 57 82.6 20.04 306.37
110.00 0 14 33 1039.75 3.84 321.95 201.02 123.96 0 31 52 39.8 17.23 301.67

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.2509 TRA -.8652 TC3 .5030 BAU .0946 SGT 1322.7 SGR 571.4 SG3 392.0 ST 26.8 SR 25.6 SS 20.7
RDE -.3233 RRA .1286 RC3 .1765 FAU .07663 RRT -.0348 RRF .0386 RTF -.7730 CRT .6401 CR8 -.0221 CST .7491
FDE .0569 FRA 1.5349 FC3-4.9963 BSP 2053 SGB 1440.8 R23 -.0055 R13 .7731 LSA 35.3 MSA 23.5 S8A 1.5
BDE .4092 BRA .6972 BC3 .5331 FSP 605 SG1 1322.9 SG2 571.0 THA 178.94 EL1 33.6 EL2 15.7 ALF 43.06

LAUNCH DATE MAY 14 1971 FLIGHT TIME 138.00 ARRIVAL DATE SEP 29 1971

HELIOCENTRIC CONIC DISTANCE 348.917 EARTH TO MARS
RL 151.18 LAL .00 LOL 232.57 VL 32.891 GAL -.06 AZL 91.80 HCA 115.91 SMA 196.95 ECC .23238 INC 1.7961 V1 29.471
RP 207.12 LAP -1.62 LOP 348.49 VP 24.651 GAP 13.11 AZP 89.21 TAL 359.70 TAP 115.61 RCA 151.18 APO 242.72 V2 26.444
RC 76.944 GL -16.72 GP -.49 ZAL 96.63 ZAP 154.45 ETS 181.15 ZAE 171.18 ETE 13.43 ZAC 98.84 ETC 278.73 LVI -18.83

PLANETOCENTRIC CONIC
C3 12.838 VHL 3.583 DLA -27.22 RAL 338.10 RAD 6639.5 VEL 11.529 PTH 6.58 VHP 5.637 DPA -16.08 RAP 326.07 ECC 1.2113
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 16 17 22 2470.86 -3.94 65.18 191.60 137.29 16 58 33 1470.9 12.42 49.37
80.00 17 34 2 2266.91 -.87 51.68 196.47 130.29 18 11 49 1266.9 15.04 33.44
70.00 19 14 1 1972.92 4.60 31.98 200.60 123.88 19 46 54 972.9 17.91 11.60
80.00 21 19 31 1580.08 9.99 5.44 203.88 118.28 21 45 51 580.1 20.78 343.24
90.00 23 18 7 1197.61 13.09 338.90 205.47 115.29 23 38 5 197.6 22.40 315.74
100.00 0 6 19 1054.55 9.99 326.81 203.88 118.28 0 23 53 54.6 20.78 304.61
110.00 0 17 23 1019.74 4.60 320.90 200.60 123.88 0 34 23 19.7 17.91 300.51

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.2591 TRA -.6758 TC3 .4899 BAU .0895 SGT 1330.8 SGR 566.7 SG3 414.6 ST 27.6 SR 25.4 SS 21.2
RDE -.3150 RRA .1254 RC3 .1793 FAU .07975 RRT -.0267 RRF .0366 RTF -.7618 CRT .6563 CR8 -.0180 CST .7376
FDE .0615 FRA 1.5887 FC3-5.3777 BSP 2208 SGB 1446.4 R23 -.0118 R13 .7619 LSA 36.0 MSA 23.6 S8A 1.5
BDE .4079 BRA .6871 BC3 .5217 FSP 673 SG1 1330.9 SG2 566.4 THA 179.20 EL1 34.2 EL2 15.5 ALF 41.41

LAUNCH DATE MAY 14 1971 FLIGHT TIME 140.00 ARRIVAL DATE OCT 1 1971

HELIOCENTRIC CONIC DISTANCE 352.799 EARTH TO MARS
RL 151.18 LAL .00 LOL 232.57 VL 32.835 GAL -.02 AZL 91.79 HCA 117.18 SMA 195.88 ECC .22818 INC 1.7932 V1 29.471
RP 207.21 LAP -1.60 LOP 349.76 VP 24.564 GAP 12.77 AZP 89.18 TAL 359.91 TAP 117.09 RCA 151.18 APO 240.57 V2 26.433
RC 78.502 GL -16.94 GP -.51 ZAL 96.35 ZAP 153.12 ETS 181.13 ZAE 171.78 ETE 13.25 ZAC 98.83 ETC 278.72 LVI -18.80

PLANETOCENTRIC CONIC
C3 12.433 VHL 3.528 DLA -27.53 RAL 337.92 RAD 6639.3 VEL 11.511 PTH 6.56 VHP 5.466 DPA -16.12 RAP 326.02 ECC 1.2046
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 16 18 14 2457.05 -5.25 64.60 191.18 137.35 16 59 11 1457.0 13.10 48.76
80.00 17 35 37 2251.23 -.18 50.93 196.05 130.30 18 13 8 1251.2 15.89 32.83
70.00 19 16 50 1953.40 5.33 30.96 200.21 123.79 19 49 23 953.6 18.55 10.47
80.00 21 25 4 1552.17 10.89 3.85 203.56 117.97 21 50 56 552.2 21.46 341.46
90.00 23 28 5 1155.49 14.30 336.40 205.29 114.66 23 47 20 155.4 23.25 312.94
100.00 0 11 51 1026.64 10.89 325.22 203.56 117.97 0 28 58 26.6 21.46 302.83
110.00 0 20 12 1000.41 5.33 319.88 200.21 123.79 0 38 93 .4 18.55 299.39

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.2703 TRA -.6754 TC3 .5727 BAU .0998 SGT 1374.0 SGR 561.6 SG3 456.7 ST 28.8 SR 25.2 SS 22.8
RDE -.3069 RRA .1227 RC3 .1808 FAU .08657 RRT -.0100 RRF .0383 RTF -.7784 CRT .6703 CR8 -.0130 CST .7288
FDE .0701 FRA 1.7137 FC3-6.0277 BSP 2537 SGB 1484.3 R23 -.0270 R13 .7784 LSA 37.3 MSA 24.1 S8A 1.5
BDE .4080 BRA .6865 BC3 .6005 FSP 778 SG1 1374.0 SG2 561.6 THA 179.72 EL1 35.0 EL2 15.3 ALF 39.34

LAUNCH DATE MAY 14 1971 FLIGHT TIME 142.00 ARRIVAL DATE OCT 3 1971

HELIOCENTRIC CONIC DISTANCE 356.712 EARTH TO MARS
RL 151.18 LAL .00 LOL 232.57 VL 32.783 GAL .02 AZL 91.79 HCA 118.44 SMA 194.89 ECC .22424 INC 1.7903 V1 29.471
RP 207.31 LAP -1.57 LOP 351.02 VP 24.482 GAP 12.44 AZP 89.15 TAL .12 TAP 118.56 RCA 151.18 APO 238.59 V2 26.422
RC 80.098 GL -17.15 GP -.53 ZAL 96.08 ZAP 151.76 ETS 181.11 ZAE 172.45 ETE 13.17 ZAC 98.82 ETC 278.70 LVI -18.75

PLANETOCENTRIC CONIC
C3 12.081 VHL 3.473 DLA -27.82 RAL 337.74 RAD 6639.1 VEL 11.495 PTH 6.54 VHP 5.302 DPA -16.18 RAP 325.93 ECC 1.1985
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 16 19 5 2443.92 -4.89 64.05 190.78 137.41 16 59 49 1443.9 13.74 48.18
80.00 17 37 9 2238.27 .48 50.22 195.86 130.30 18 14 25 1236.3 16.31 31.85
70.00 19 19 36 1933.00 6.03 29.98 199.84 123.68 19 51 51 935.0 19.17 9.38
80.00 21 30 46 1524.33 11.77 2.86 203.28 117.64 21 56 10 524.3 22.14 339.87
90.00 23 38 56 1107.69 15.63 333.53 205.20 113.87 23 58 25 107.7 24.14 309.72
100.00 0 17 34 828.84 11.77 301.53 203.28 117.64 2 2 21 528.8 22.14 278.94
110.00 0 22 58 828.86 6.03 298.81 199.84 123.68 2 7 28 528.9 19.17 276.20

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.2255 TRA -.6291 TC3 .6026 BAU .1015 SGT 1300.4 SGR 556.6 SG3 477.0 ST 25.6 SR 24.9 SS 21.2
RDE -.2997 RRA .1191 RC3 .1814 FAU .09244 RRT -.0333 RRF .0437 RTF -.7613 CRT .6279 CR8 -.2165 CST .8175
FDE .0487 FRA 1.6291 FC3-6.6353 BSP 1808 SGB 1414.5 R23 -.0126 R13 .7614 LSA 33.0 MSA 25.2 S8A 1.6
BDE .3751 BRA .6403 BC3 .6293 FSP 677 SG1 1300.5 SG2 556.2 THA 179.00 EL1 32.3 EL2 15.4 ALF 43.79

LAUNCH DATE MAY 14 1971

FLIGHT TIME 144.00

ARRIVAL DATE OCT 5 1971

HELIOCENTRIC CONIC DISTANCE 360.646 EARTH TO MARS
 RL 151.18 LAL .00 LOL 232.57 VL 32.733 GAL .06 AZL 91.79 HCA 119.70 SMA 193.97 ECC .22057 INC 1.7873 V1 29.471
 RP 207.42 LAP -1.55 LOP 352.28 VP 24.402 GAP 12.12 AZP 89.11 TAL .32 TAP 120.02 RCA 151.18 APO 236.75 V2 26.409
 RC 81.73D GL -17.35 GP -.96 ZAL 95.83 ZAP 150.37 ETS 181.08 ZAE 173.19 ETE 13.24 ZAC 98.82 ETC 278.67 LVI -18.70

PLANETOCENTRIC CONIC
 C3 11.718 VHL 3.423 DLA -28.10 RAL 337.57 RAD 6638.9 VEL 11.480 PTH 6.53 VHP 5.143 DPA -16.24 RAP 325.80 ECC 1.1928
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 19 54 2431.49 -3.97 63.53 190.41 137.45 17 0 25 1431.5 14.35 47.62
 60.00 17 38 38 2222.06 1.10 49.54 195.29 130.29 18 15 40 1222.1 16.90 31.10
 70.00 19 22 18 1917.18 6.71 29.04 199.51 123.57 19 54 15 917.2 19.75 8.32
 80.00 21 36 38 1496.55 12.64 .66 203.04 117.27 22 1 35 496.6 22.79 337.87
 90.00 0 0 4 1046.64 17.28 329.80 205.28 112.74 0 17 31 46.6 25.16 305.55
 100.00 0 23 26 6259.06 12.64 299.93 203.04 117.27 2 7 45 5259.1 22.79 277.14
 110.00 0 28 40 6252.04 6.71 295.87 199.51 123.57 2 9 52 5252.0 19.75 275.15

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2244 TRA -.6203 TC3 .5311 BAU .0880 SGT 1287.8 SGR 551.2 SG3 502.8 ST 25.8 SR 24.7 SS 22.5
 RDE -.2921 RRA .1167 RC3 .1832 FAU .09419 RRT -.0443 RRF .0552 RTF -.7523 CRT .6297 CRS -.2008 CST .6286
 FDE -.0422 FRA 1.7607 FC3-6.9589 BSP 2008 SGB 1400.8 R23 -.0144 R13 .7525 LSA 33.4 MSA 25.8 SSA 1.6
 BDE .3683 BRA .6312 BC3 .5618 FSP 758 SG1 1288.1 SG2 550.6 THA 178.67 EL1 32.2 EL2 15.3 ALF 43.01

LAUNCH DATE MAY 14 1971

FLIGHT TIME 146.00

ARRIVAL DATE OCT 7 1971

HELIOCENTRIC CONIC DISTANCE 364.604 EARTH TO MARS
 RL 151.18 LAL .00 LOL 232.57 VL 32.687 GAL .09 AZL 91.78 HCA 120.96 SMA 193.12 ECC .21715 INC 1.7843 V1 29.471
 RP 207.54 LAP -1.53 LOP 353.54 VP 24.325 GAP 11.80 AZP 89.08 TAL .51 TAP 121.47 RCA 151.18 APO 235.05 V2 26.395
 RC 83.399 GL -17.54 GP -.58 ZAL 95.59 ZAP 148.94 ETS 181.06 ZAE 174.01 ETE 13.49 ZAC 98.82 ETC 278.64 LVI -18.63

PLANETOCENTRIC CONIC
 C3 11.402 VHL 3.377 DLA -28.37 RAL 337.41 RAD 6638.8 VEL 11.467 PTH 6.52 VHP 4.991 DPA -16.32 RAP 325.65 ECC 1.1876
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 20 41 2419.76 -3.38 63.04 190.07 137.48 17 1 1 1419.8 14.92 47.10
 60.00 17 40 4 2208.61 1.70 48.90 194.95 130.27 18 16 52 1208.6 17.45 30.40
 70.00 19 24 56 1900.17 7.35 28.14 199.19 123.45 19 56 37 900.2 20.30 7.91
 80.00 21 42 42 1468.78 13.51 359.04 202.83 116.88 22 7 11 468.8 23.42 336.04
 87.68 0 7 35 1014.41 19.75 328.49 205.71 110.79 0 24 29 14.4 26.58 303.52
 100.00 0 29 30 6231.30 13.51 298.32 202.83 116.88 2 13 21 5231.3 23.42 275.32
 110.00 0 28 19 6235.03 7.35 294.96 199.19 123.45 2 12 14 5235.0 20.30 274.13

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2293 TRA -.6182 TC3 .5287 BAU .0853 SGT 1300.3 SGR 545.2 SG3 538.3 ST 26.4 SR 24.4 SS 23.5
 RDE -.2847 RRA .1143 RC3 .1832 FAU .09914 RRT -.0422 RRF .0529 RTF -.7510 CRT .6388 CRS -.1605 CST .6511
 FDE -.0177 FRA 1.8681 FC3-7.5274 BSP 2014 SGB 1410.0 R23 -.0145 R13 .7511 LSA 34.3 MSA 25.8 SSA 1.6
 BDE .3655 BRA .6267 BC3 .5596 FSP 815 SG1 1300.5 SG2 544.6 THA 178.77 EL1 32.5 EL2 15.2 ALF 41.46

LAUNCH DATE MAY 14 1971

FLIGHT TIME 148.00

ARRIVAL DATE OCT 9 1971

HELIOCENTRIC CONIC DISTANCE 368.585 EARTH TO MARS
 RL 151.18 LAL .00 LOL 232.57 VL 32.644 GAL .12 AZL 91.78 HCA 122.22 SMA 192.33 ECC .21395 INC 1.7811 V1 29.471
 RP 207.66 LAP -1.51 LOP 354.80 VP 24.252 GAP 11.49 AZP 89.05 TAL .69 TAP 122.90 RCA 151.18 APO 233.48 V2 26.381
 RC 85.104 GL -17.72 GP -.60 ZAL 95.37 ZAP 147.47 ETS 181.04 ZAE 174.89 ETE 14.02 ZAC 98.83 ETC 278.60 LVI -18.56

PLANETOCENTRIC CONIC
 C3 11.111 VHL 3.333 DLA -28.62 RAL 337.26 RAD 6638.6 VEL 11.454 PTH 6.50 VHP 4.845 DPA -16.41 RAP 325.45 ECC 1.1829
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 21 27 2408.75 -2.83 62.57 189.75 137.51 17 1 35 1408.7 15.46 46.60
 60.00 17 41 26 2195.95 2.25 48.29 194.64 130.25 18 18 2 1195.9 17.97 29.72
 70.00 19 27 30 1884.03 7.95 27.28 198.91 123.33 19 58 54 884.0 20.81 6.34
 80.00 21 48 58 1440.97 14.36 357.42 202.66 116.46 22 12 59 441.0 24.03 334.20
 85.44 23 44 30 1069.18 20.04 332.62 205.27 110.86 24 2 19 69.2 26.87 307.59
 100.00 0 35 46 6203.48 14.36 296.69 202.66 116.46 2 19 9 5203.5 24.03 273.47
 110.00 0 30 52 6218.88 7.95 294.11 198.91 123.33 2 14 31 5218.9 20.81 273.16

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2281 TRA -.5987 TC3 .5147 BAU .0811 SGT 1282.8 SGR 539.1 SG3 571.6 ST 26.3 SR 24.1 SS 24.2
 RDE -.2776 RRA .1120 RC3 .1827 FAU .10405 RRT -.0407 RRF .0585 RTF -.7526 CRT .6463 CRS -.1879 CST .6222
 FDE -.0367 FRA 1.9487 FC3-8.1068 BSP 2073 SGB 1391.4 R23 -.0218 R13 .7428 LSA 34.1 MSA 26.3 SSA 1.6
 BDE .3593 BRA .6090 BC3 .5462 FSP 896 SG1 1283.0 SG2 538.5 THA 178.81 EL1 32.4 EL2 14.9 ALF 41.06

LAUNCH DATE MAY 14 1971

FLIGHT TIME 150.00

ARRIVAL DATE OCT 11 1971

HELIOCENTRIC CONIC DISTANCE 372.585 EARTH TO MARS
 RL 151.18 LAL .00 LOL 232.57 VL 32.604 GAL .15 AZL 91.78 HCA 123.47 SMA 191.60 ECC .21097 INC 1.7778 V1 29.471
 RP 207.80 LAP -1.48 LOP 356.05 VP 24.181 GAP 11.19 AZP 89.02 TAL .85 TAP 124.32 RCA 151.18 APO 232.0 V2 26.365
 RC 86.843 GL -17.89 GP -.63 ZAL 95.17 ZAP 145.97 ETS 181.02 ZAE 175.85 ETE 15.06 ZAC 98.84 ETC 278.55 LVI -18.47

PLANETOCENTRIC CONIC
 C3 10.844 VHL 3.293 DLA -28.85 RAL 337.13 RAD 6638.5 VEL 11.443 PTH 6.49 VHP 4.704 DPA -16.52 RAP 325.22 ECC 1.1785
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 22 10 2398.45 -2.31 62.14 189.46 137.53 17 2 9 1398.4 15.96 46.13
 60.00 17 42 45 2184.08 2.78 47.72 194.35 130.22 18 19 9 1184.1 18.45 29.09
 70.00 19 29 58 1868.78 8.52 26.47 198.65 123.20 20 1 6 868.8 21.29 5.42
 80.00 21 55 28 1413.00 15.20 355.77 202.52 116.01 22 19 1 413.0 24.61 332.33
 84.06 23 32 41 1100.60 20.32 335.04 204.86 110.93 23 51 2 100.6 27.15 309.96
 100.00 0 42 16 6175.51 15.20 295.04 202.52 116.01 2 25 12 5175.5 24.61 271.60
 110.00 0 33 20 6203.64 8.52 293.29 198.65 123.20 2 16 43 5203.6 21.29 272.24

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2235 TRA -.5909 TC3 .5008 BAU .0772 SGT 1279.8 SGR 532.8 SG3 612.5 ST 26.2 SR 23.8 SS 25.4
 RDE -.2708 RRA .1100 RC3 .1812 FAU .10978 RRT -.0496 RRF .0670 RTF -.7383 CRT .6417 CRS -.2073 CST .6113
 FDE -.0524 FRA 2.0712 FC3-8.7641 BSP 2048 SGB 1386.2 R23 -.0227 R13 .7385 LSA 34.2 MSA 27.0 SSA 1.6
 BDE .3511 BRA .6011 BC3 .5326 FSP 972 SG1 1280.1 SG2 532.0 THA 178.57 EL1 32.1 EL2 14.9 ALF 40.64

LAUNCH DATE MAY 14 1971 FLIGHT TIME 152.00 ARRIVAL DATE OCT 13 1971

Heliocentric Conic: RL 151.18 LAL .00 LOL 232.57 VL 32.567 GAL .17 AZL 91.77 HCA 124.73 SMA 190.93 ECC .20820 INC 1.7745 V1 29.471
 RP 207.94 LAP -1.46 LOP 357.31 VP 24.112 GAP 10.89 AZP 88.99 TAL 1.00 TAP 125.73 RCA 151.18 APO 230.68 V2 26.349
 RC 88.618 GL -18.05 GP -.66 ZAL 94.99 ZAP 144.43 ETS 181.00 ZAE 176.87 ETE 17.13 ZAC 98.86 ETC 278.49 LVI -18.37

Distance 376.603 Earth to Mars

Planetary Conic: C3 10.598 VHL 3.255 DLA -29.06 RAL 337.01 RAD 6638.3 VEL 11.432 PTH 6.48 VHP 4.870 DPA -16.63 RAP 324.95 ECC 1.1744
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 16 22 53 2388.86 -1.83 61.74 189.20 137.55 17 2 42 1388.9 16.42 45.69
 80.00 17 44 1 2173.03 3.26 47.20 194.09 130.19 18 20 14 1173.0 16.80 28.50
 70.00 19 32 19 1854.48 9.05 25.70 198.42 123.07 20 3 13 854.5 21.74 4.55
 60.00 22 2 16 1384.73 16.03 394.09 202.43 115.53 22 25 20 384.7 25.17 330.42
 50.00 23 23 50 1122.95 20.58 336.79 204.48 110.98 23 42 33 123.0 27.40 311.65
 100.00 0 49 3 6147.24 16.03 293.36 202.43 115.53 2 31 31 5147.2 25.17 289.69
 110.00 0 35 41 6189.34 9.05 292.53 198.42 123.07 2 18 51 5189.3 21.74 271.37

Differential Corrections: TDE -.2184 TRA -.9708 TC3 .4789 BAU .0722 SGT 1250.9 SGR 526.2 S63 648.7 ST 25.8 SR 23.5 S8 26.1
 RDE -.2641 RRA .1079 RC3 .1791 FAU .11517 RRT -.0527 RRF .0737 RTF -.7280 CRT .6446 CRS -.2367 CST .5841
 FDE -.0786 FRA 2.1556 FC3-9.4081 B8P 1970 SGB 1357.1 R23 -.0271 R13 .7283 LSA 33.7 MSA 27.5 S8A 1.6
 BDE .3427 BRA .5809 BC3 .5094 F8P 1021 S61 1251.3 S62 525.3 THA 176.48 EL1 31.7 EL2 14.6 ALF 40.78

LAUNCH DATE MAY 14 1971 FLIGHT TIME 154.00 ARRIVAL DATE OCT 15 1971

Heliocentric Conic: RL 151.18 LAL .00 LOL 232.57 VL 32.532 GAL .19 AZL 91.77 HCA 125.98 SMA 190.31 ECC .20562 INC 1.7711 V1 29.471
 RP 208.08 LAP -1.43 LOP 358.56 VP 24.046 GAP 10.60 AZP 88.96 TAL 1.14 TAP 127.12 RCA 151.18 APO 229.44 V2 26.332
 RC 90.421 GL -18.19 GP -.69 ZAL 94.82 ZAP 142.85 ETS 180.97 ZAE 177.95 ETE 21.98 ZAC 98.86 ETC 278.43 LVI -18.26

Distance 380.639 Earth to Mars

Planetary Conic: C3 10.372 VHL 3.220 DLA -29.26 RAL 336.90 RAD 6638.2 VEL 11.422 PTH 6.47 VHP 4.441 DPA -16.77 RAP 324.64 ECC 1.1707
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 16 23 33 2379.94 -1.36 61.37 188.96 137.56 17 3 13 1379.9 16.85 45.29
 80.00 17 45 12 2162.72 3.71 46.70 193.85 130.16 18 21 15 1162.7 19.31 27.94
 70.00 19 34 34 1841.05 9.55 24.98 198.20 122.95 20 5 15 841.1 22.15 3.72
 60.00 22 9 29 1355.83 16.88 352.34 202.37 115.00 22 32 4 355.6 25.73 328.43
 50.00 23 16 40 1140.23 20.82 338.16 204.13 111.03 23 35 41 140.2 27.64 312.98
 100.00 0 56 16 6118.14 16.88 291.61 202.37 115.00 2 38 15 5118.1 25.73 267.71
 110.00 0 37 56 6175.91 9.55 291.81 198.20 122.95 2 20 52 5175.9 22.15 270.55

Differential Corrections: TDE -.2068 TRA -.5400 TC3 .4897 BAU .0722 SGT 1203.1 SGR 519.2 S63 688.2 ST 24.7 SR 23.1 S8 26.7
 RDE -.2576 RRA .1059 RC3 .1780 FAU .12152 RRT -.0535 RRF .0776 RTF -.7318 CRT .6432 CRS -.2585 CST .5672
 FDE -.0963 FRA 2.2324 FC-10.1432 B8P 1776 SGB 1310.3 R23 -.0296 R13 .7321 LSA 32.9 MSA 27.9 S8A 1.6
 BDE .3303 BRA .5503 BC3 .5204 F8P 1079 S61 1203.5 S62 518.3 THA 178.38 EL1 30.7 EL2 14.3 ALF 42.06

LAUNCH DATE MAY 14 1971 FLIGHT TIME 156.00 ARRIVAL DATE OCT 17 1971

Heliocentric Conic: RL 151.18 LAL .00 LOL 232.57 VL 32.499 GAL .21 AZL 91.77 HCA 127.23 SMA 189.74 ECC .20323 INC 1.7675 V1 29.471
 RP 208.24 LAP -1.41 LOP 359.81 VP 23.983 GAP 10.32 AZP 88.93 TAL 1.26 TAP 128.49 RCA 151.18 APO 228.30 V2 26.313
 RC 92.259 GL -18.33 GP -.72 ZAL 94.69 ZAP 141.24 ETS 180.95 ZAE 179.04 ETE 39.59 ZAC 98.90 ETC 278.36 LVI -18.14

Distance 384.689 Earth to Mars

Planetary Conic: C3 10.184 VHL 3.188 DLA -29.43 RAL 336.82 RAD 6638.1 VEL 11.413 PTH 6.46 VHP 4.318 DPA -16.91 RAP 324.28 ECC 1.1673
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 16 24 13 2371.84 -.97 61.03 188.75 137.57 17 3 44 1371.8 17.25 44.91
 80.00 17 46 20 2153.38 4.12 46.25 193.85 130.13 18 22 13 1153.4 19.68 27.43
 70.00 19 36 39 1828.85 10.00 24.33 198.02 122.83 20 7 8 828.8 22.52 2.97
 60.00 22 17 4 1326.05 17.72 390.55 202.35 114.43 22 39 10 326.0 26.25 326.39
 50.00 23 10 59 1153.44 21.04 339.23 203.83 111.07 23 30 12 115.4 27.85 313.99
 100.00 1 3 52 6088.56 17.72 299.82 202.35 114.43 2 45 21 5088.6 26.25 265.67
 110.00 0 40 2 6163.70 10.00 291.15 198.02 122.83 2 22 45 5163.7 22.52 269.79

Differential Corrections: TDE -.2126 TRA -.5365 TC3 .4087 BAU .0603 SGT 1199.8 SGR 512.2 S63 729.3 ST 25.3 SR 22.8 S8 27.8
 RDE -.2512 RRA .1043 RC3 .1727 FAU .12677 RRT -.0604 RRF .0877 RTF -.7534 CRT .6542 CRS -.2637 CST .5490
 FDE -.1070 FRA 2.3653 FC-10.7973 B8P 1818 SGB 1304.5 R23 -.0359 R13 .7040 LSA 33.6 MSA 28.3 S8A 1.6
 BDE .3291 BRA .5466 BC3 .4437 F8P 1160 S61 1200.3 S62 511.0 THA 178.20 EL1 31.0 EL2 14.1 ALF 40.46

LAUNCH DATE MAY 14 1971 FLIGHT TIME 158.00 ARRIVAL DATE OCT 19 1971

Heliocentric Conic: RL 151.18 LAL .00 LOL 232.57 VL 32.469 GAL .23 AZL 91.76 HCA 128.48 SMA 189.21 ECC .20101 INC 1.7639 V1 29.471
 RP 208.41 LAP -1.38 LOP 361.06 VP 23.921 GAP 10.05 AZP 88.90 TAL 1.36 TAP 129.84 RCA 151.18 APO 227.24 V2 26.294
 RC 94.128 GL -18.45 GP -.75 ZAL 94.57 ZAP 139.59 ETS 180.92 ZAE 179.33 ETE 136.92 ZAC 98.93 ETC 278.28 LVI -18.01

Distance 388.754 Earth to Mars

Planetary Conic: C3 9.974 VHL 3.158 DLA -29.59 RAL 336.76 RAD 6638.0 VEL 11.405 PTH 6.46 VHP 4.200 DPA -17.07 RAP 323.91 ECC 1.1641
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 16 24 50 2364.42 -.60 60.72 188.57 137.57 17 4 15 1364.4 17.60 44.57
 80.00 17 47 23 2144.82 4.50 45.84 193.46 130.09 18 23 7 1144.8 20.02 26.97
 70.00 19 38 36 1817.64 10.41 23.72 197.86 122.71 20 8 54 817.6 22.86 2.27
 60.00 22 25 28 1294.45 18.80 348.61 202.39 113.79 22 47 3 294.4 26.78 324.20
 50.00 23 6 15 1164.00 21.23 340.09 203.55 111.10 23 25 39 164.0 28.04 314.81
 100.00 1 12 16 6056.96 18.60 287.89 202.39 113.79 2 53 13 5057.0 26.78 263.47
 110.00 0 41 59 6152.50 10.41 290.54 197.86 122.71 2 24 31 5152.5 22.86 269.10

Differential Corrections: TDE -.2104 TRA -.5176 TC3 .3426 BAU .0509 SGT 1165.6 SGR 504.9 S63 770.5 ST 25.0 SR 22.5 S8 28.6
 RDE -.2451 RRA .1027 RC3 .1684 FAU .13272 RRT -.0637 RRF .0967 RTF -.6778 CRT .6620 CRS -.2882 CST .5202
 FDE -.1311 FRA 2.4684 FC-11.5201 B8P 1789 SGB 1270.2 R23 -.0420 R13 .6785 LSA 33.5 MSA 28.7 S8A 1.6
 BDE .3230 BRA .5277 BC3 .3818 F8P 1242 S61 1166.2 S62 503.5 THA 178.00 EL1 30.7 EL2 13.7 ALF 40.34

LAUNCH DATE MAY 14 1971

FLIGHT TIME 160.00

ARRIVAL DATE OCT 21 1971

HELIOCENTRIC CONIC
 RL 151.18 LAL .00 LOL 232.57 VL 32.442 GAL .24 AZL 91.76 HCA 129.73 SMA 188.72 ECC .19896 INC 1.7801 V1 29.471
 RP 208.58 LAP -1.35 LOP 2.31 VP 23.861 GAP 9.78 AZP 88.87 TAL 1.45 TAP 131.18 RCA 151.18 APO 226.27 V2 26.274
 RC 98.027 GL -18.56 GP -.78 ZAL 94.48 ZAP 137.90 ETS 180.89 ZAE 178.18 ETE 170.05 ZAC 98.98 ETC 278.19 LVI -17.86

DISTANCE 392.832 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.799 VHL 3.130 DLA -29.72 RAL 336.71 RAD 6637.9 VEL 11.397 PTH 6.45 VHP 4.088 DPA -17.25 RAP 323.48 ECC 1.1613
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 25 26 2387.70 -.26 60.44 188.41 137.58 17 4 44 1357.7 17.93 44.26
 60.00 17 48 21 2137.10 4.84 45.47 193.30 130.06 18 23 58 1137.1 20.33 26.94
 70.00 19 40 24 1807.50 10.79 23.17 197.71 122.60 20 10 31 807.5 23.16 1.64
 80.00 22 35 23 1258.57 19.57 346.39 202.91 113.01 22 56 22 258.6 27.34 321.67
 80.44 23 2 24 1172.24 21.42 340.78 203.31 111.12 23 21 56 172.2 28.21 315.46
 100.00 1 22 11 8021.08 19.57 285.67 202.91 113.01 3 2 32 5021.1 27.34 260.95
 110.00 0 43 46 6142.36 10.79 290.00 197.71 122.60 2 26 9 5142.4 23.16 268.47

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2087 TRA -.4984 TC3 .2851 BAW .0430 SGT 1132.0 SGR 497.3 SG3 816.3 ST 24.8 SR 22.1 SS 29.6
 RDE -.2390 RRA .1013 RC3 .1631 FAU .13946 RRT -.0691 RRF .1061 RTF -.6538 CRT .6711 CRS -.3066 CST .4930
 FDE -.1537 FRA 2.5849 FC-12.3212 BSP 1672 SGB 1236.4 R23 -.0503 R13 .6548 LSA 33.7 MSA 29.0 SSA 1.6
 BDE .3173 BRA .5086 BC3 .3285 F8P 1312 SG1 1132.6 SG2 495.9 THA 177.85 EL1 30.4 EL2 13.4 ALF 40.19

LAUNCH DATE MAY 14 1971

FLIGHT TIME 162.00

ARRIVAL DATE OCT 23 1971

HELIOCENTRIC CONIC
 RL 151.18 LAL .00 LOL 232.57 VL 32.416 GAL .25 AZL 91.76 HCA 130.98 SMA 188.28 ECC .19706 INC 1.7562 V1 29.471
 RP 208.76 LAP -1.33 LOP 3.56 VP 23.803 GAP 9.51 AZP 88.85 TAL 1.52 TAP 132.50 RCA 151.17 APO 225.38 V2 26.254
 RC 97.955 GL -18.66 GP -.81 ZAL 94.41 ZAP 136.17 ETS 180.86 ZAE 176.84 ETE 178.97 ZAC 98.99 ETC 278.09 LVI -17.70

DISTANCE 396.922 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.639 VHL 3.105 DLA -29.84 RAL 336.69 RAD 6637.9 VEL 11.390 PTH 6.44 VHP 3.981 DPA -17.43 RAP 323.01 ECC 1.1586
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 26 1 2351.69 .04 60.19 188.28 137.58 17 5 12 1351.7 18.21 43.98
 60.00 17 49 15 2130.21 5.14 43.14 193.17 130.03 18 24 46 1130.2 20.60 26.17
 70.00 19 42 1 1798.50 11.12 22.68 197.59 122.50 20 12 0 798.5 23.43 1.08
 80.00 22 50 59 1208.13 20.96 343.03 202.83 111.77 23 11 4 205.1 28.07 317.87
 80.05 22 59 19 1178.55 21.58 341.32 203.09 111.13 23 18 57 178.6 28.38 315.96
 100.00 1 37 47 5987.64 20.96 282.30 202.83 111.77 3 17 15 4967.6 28.07 257.15
 110.00 0 45 23 6133.36 11.12 289.51 197.59 122.50 2 27 37 5133.4 23.43 267.90

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2116 TRA -.4778 TC3 .2181 BAW .0348 SGT 1097.3 SGR 489.3 SG3 862.9 ST 24.8 SR 21.7 SS 30.3
 RDE -.2329 RRA .1000 RC3 .1570 FAU .14631 RRT -.0655 RRF .1116 RTF -.6247 CRT .6892 CRS -.2955 CST .4815
 FDE -.1477 FRA 2.7041 FC-13.1410 BSP 1576 SGB 1201.5 R23 -.0607 R13 .6258 LSA 34.1 MSA 29.0 SSA 1.6
 BDE .3147 BRA .4681 BC3 .2687 F8P 1393 SG1 1097.9 SG2 488.0 THA 177.91 EL1 30.3 EL2 12.9 ALF 39.59

LAUNCH DATE MAY 14 1971

FLIGHT TIME 164.00

ARRIVAL DATE OCT 25 1971

HELIOCENTRIC CONIC
 RL 151.18 LAL .00 LOL 232.57 VL 32.392 GAL .26 AZL 91.75 HCA 132.22 SMA 187.88 ECC .19530 INC 1.7521 V1 29.471
 RP 208.94 LAP -1.30 LOP 4.80 VP 23.747 GAP 9.26 AZP 88.82 TAL 1.58 TAP 133.80 RCA 151.17 APO 224.56 V2 26.232
 RC 99.910 GL -18.75 GP -.85 ZAL 94.37 ZAP 134.40 ETS 180.83 ZAE 175.41 ETE 179.71 ZAC 99.03 ETC 277.98 LVI -17.52

DISTANCE 401.025 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.492 VHL 3.081 DLA -29.94 RAL 336.69 RAD 6637.8 VEL 11.384 PTH 6.44 VHP 3.880 DPA -17.63 RAP 322.50 ECC 1.1562
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 26 33 2346.38 .30 59.97 188.17 137.58 17 5 40 1346.4 18.47 43.73
 60.00 17 50 5 2124.16 5.40 44.85 193.06 130.00 18 25 29 1124.2 20.84 25.83
 70.00 19 43 27 1790.64 11.40 22.26 197.49 122.41 20 13 18 790.6 23.66 .58
 79.73 22 56 52 1183.31 21.72 341.73 202.91 111.15 23 16 35 183.3 28.48 316.33
 79.73 22 56 52 1183.31 21.72 341.73 202.91 111.13 23 16 35 183.3 28.48 316.33
 79.73 22 56 52 1183.31 21.72 341.73 202.91 111.13 23 16 35 183.3 28.48 316.33
 110.00 0 46 50 6125.50 11.40 289.08 197.49 122.41 2 28 55 5125.5 23.66 267.41

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2093 TRA -.4544 TC3 .1466 BAW .0268 SGT 1053.9 SGR 481.4 SG3 911.8 ST 24.3 SR 21.3 SS 31.3
 RDE -.2270 RRA .0988 RC3 .1501 FAU .15330 RRT -.0674 RRF .1227 RTF -.5331 CRT .7008 CRS -.3060 CST .4573
 FDE -.1640 FRA 2.8385 FC-13.9815 BSP 1480 SGB 1158.6 R23 -.0724 R13 .5945 LSA 34.4 MSA 29.0 SSA 1.6
 BDE .3088 BRA .4650 BC3 .2098 F8P 1485 SG1 1054.5 SG2 480.1 THA 177.77 EL1 29.9 EL2 12.4 ALF 39.68

LAUNCH DATE MAY 14 1971

FLIGHT TIME 166.00

ARRIVAL DATE OCT 27 1971

HELIOCENTRIC CONIC
 RL 151.18 LAL .00 LOL 232.57 VL 32.370 GAL .26 AZL 91.75 HCA 133.46 SMA 187.49 ECC .19369 INC 1.7480 V1 29.471
 RP 209.14 LAP -1.27 LOP 6.04 VP 23.692 GAP 9.01 AZP 88.80 TAL 1.62 TAP 135.08 RCA 151.17 APO 223.80 V2 26.209
 RC 101.892 GL -18.83 GP -.89 ZAL 94.35 ZAP 132.60 ETS 180.79 ZAE 173.91 ETE 181.11 ZAC 99.07 ETC 277.86 LVI -17.33

DISTANCE 405.137 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.359 VHL 3.059 DLA -30.02 RAL 336.71 RAD 6637.7 VEL 11.378 PTH 6.43 VHP 3.784 DPA -17.85 RAP 321.95 ECC 1.1540
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 27 5 2341.79 .54 59.78 188.09 137.57 17 6 7 1341.8 18.69 43.51
 60.00 17 50 50 2118.99 5.63 44.60 192.97 129.97 18 26 9 1119.0 21.05 25.55
 70.00 19 44 41 1784.02 11.64 21.89 197.42 122.34 20 14 25 784.0 23.85 .17
 79.49 22 55 5 1186.45 21.84 342.01 202.77 111.12 23 14 52 186.5 28.59 316.59
 79.49 22 55 5 1186.45 21.84 342.01 202.77 111.12 23 14 52 186.5 28.59 316.59
 79.49 22 55 5 1186.45 21.84 342.01 202.77 111.12 23 14 52 186.5 28.59 316.59
 110.00 0 48 4 6118.88 11.64 288.72 197.42 122.34 2 30 2 5118.9 23.85 266.99

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2114 TRA -.4324 TC3 .0348 BAW .0184 SGT 1015.9 SGR 473.3 SG3 957.6 ST 24.3 SR 21.0 SS 32.2
 RDE -.2212 RRA .0978 RC3 .1428 FAU .15978 RRT -.0663 RRF .1340 RTF -.5367 CRT .7190 CRS -.3162 CST .4243
 FDE -.1801 FRA 2.9584 FC-14.7807 BSP 1391 SGB 1120.8 R23 -.0888 R13 .5384 LSA 34.8 MSA 29.1 SSA 1.6
 BDE .3060 BRA .4433 BC3 .1470 F8P 1585 SG1 1016.5 SG2 472.0 THA 177.74 EL1 29.8 EL2 11.9 ALF 39.22

LAUNCH DATE MAY 14 1971

FLIGHT TIME 168.00

ARRIVAL DATE OCT 29 1971

Heliocentric Conic: RL 151.18 LAL .00 LOL 232.57 VL 32.350 GAL .26 AZL 91.74 HCA 134.70 SMA 187.14 ECC .19221 INC 1.7436 V1 29.471
 RP 209.34 LAP -1.24 LOP 7.28 VP 23.639 GAP 8.78 AZP 88.77 TAL 1.64 TAP 136.34 RCA 151.17 APO 223.11 V2 26.186
 RC 103.900 GL -18.90 GP -.93 ZAL 94.36 ZAP 130.76 ETS 180.76 ZAE 172.35 ETE 181.91 ZAC 99.11 ETC 277.74 LVI -17.13

Distance 409.258 Earth to Mars

Planetary Conic: C3 9.237 VHL 3.039 DLA -30.08 RAL 336.75 RAD 6637.6 VEL 11.373 PTH 6.43 VHP 3.693 DPA -18.07 RAP 321.36 ECC 1.1520
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 27 35 2337.88 .73 59.61 188.04 137.57 17 6 33 1337.9 18.07 43.33
 60.00 17 31 29 2114.64 9.82 44.39 192.01 129.95 18 26 44 1114.6 21.22 25.30
 70.00 18 45 43 1778.57 11.84 21.60 197.35 122.27 20 15 22 778.6 24.01 359.82
 79.31 22 53 55 1188.16 21.94 342.18 202.65 111.10 23 13 43 188.2 28.67 316.73
 79.31 22 53 55 1188.16 21.94 342.18 202.65 111.10 23 13 43 188.2 28.67 316.73
 79.31 22 53 55 1188.16 21.94 342.18 202.65 111.10 23 13 43 188.2 28.67 316.73
 110.00 0 49 6 6113.43 11.84 288.42 197.35 122.27 2 30 59 5113.4 24.01 266.65

Differential Corrections: TDE -.2118 TRA -.4089 TC3 -.0747 BAU .0190 SGT 977.1 SGR 465.1 SCS 1007.0 ST 24.0 SR 20.6 SS 33.1
 RDE -.2155 RRA .0969 RC3 .1347 FAU .16671 RRT -.0653 RRF .1464 RTF -.4771 CRT .7351 CR8 -.3221 CST .3971
 FDE -.1925 FRA 3.0962 FC-15.6250 B8P 1234 SGB 1082.1 R23 -.1064 R13 .4792 LSA 35.3 MSA 29.1 SSA 1.6
 BDE .3020 BRA .4202 BC3 .1340 F8P 1664 SGI 977.7 SG2 463.8 THA 177.70 EL1 29.5 EL2 11.3 ALF 39.03

LAUNCH DATE MAY 14 1971

FLIGHT TIME 170.00

ARRIVAL DATE OCT 31 1971

Heliocentric Conic: RL 151.18 LAL .00 LOL 232.57 VL 32.332 GAL .26 AZL 91.74 HCA 135.93 SMA 186.83 ECC .19085 INC 1.7391 V1 29.471
 RP 209.55 LAP -1.21 LOP 8.51 VP 23.587 GAP 8.52 AZP 88.75 TAL 1.65 TAP 137.58 RCA 151.17 APO 222.48 V2 26.162
 RC 105.933 GL -18.95 GP -.97 ZAL 94.40 ZAP 128.88 ETS 180.72 ZAE 170.72 ETE 182.41 ZAC 99.15 ETC 277.60 LVI -16.91

Distance 413.369 Earth to Mars

Planetary Conic: C3 9.128 VHL 3.021 DLA -30.11 RAL 336.81 RAD 6637.6 VEL 11.368 PTH 6.42 VHP 3.607 DPA -18.31 RAP 320.74 ECC 1.1502
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 28 3 2334.66 .89 59.48 188.01 137.57 17 6 58 1334.7 19.03 43.18
 60.00 17 32 4 2111.13 9.97 44.22 192.87 129.93 18 27 15 1111.1 21.35 25.11
 70.00 19 46 33 1774.33 12.00 21.37 197.31 122.22 20 16 7 774.3 24.13 359.55
 79.19 22 53 19 1188.52 22.03 342.24 202.56 111.07 23 13 8 188.5 28.73 316.77
 79.19 22 53 19 1188.52 22.03 342.24 202.56 111.07 23 13 8 188.5 28.73 316.77
 79.19 22 53 19 1188.52 22.03 342.24 202.56 111.07 23 13 8 188.5 28.73 316.77
 110.00 0 49 55 6109.19 12.00 288.19 197.31 122.22 2 31 44 5109.2 24.13 266.38

Differential Corrections: TDE -.2127 TRA -.3837 TC3 -.1909 BAU .0279 SGT 940.2 SGR 458.7 SCS 1057.8 ST 23.8 SR 20.2 SS 34.0
 RDE -.2099 RRA .0961 RC3 .1257 FAU .17393 RRT -.0593 RRF .1592 RTF -.4055 CRT .7540 CR8 -.3243 CST .3684
 FDE -.2007 FRA 3.2370 FC-16.5000 B8P 1070 SGB 1045.2 R23 -.1280 R13 .4079 LSA 35.9 MSA 29.0 SSA 1.6
 BDE .2988 BRA .3956 BC3 .2288 F8P 1740 SGI 940.7 SG2 455.7 THA 177.84 EL1 29.3 EL2 10.8 ALF 38.75

LAUNCH DATE MAY 14 1971

FLIGHT TIME 172.00

ARRIVAL DATE NOV 2 1971

Heliocentric Conic: RL 151.18 LAL .00 LOL 232.57 VL 32.315 GAL .28 AZL 91.73 HCA 137.17 SMA 186.54 ECC .18980 INC 1.7343 V1 29.471
 RP 209.78 LAP -1.18 LOP 9.75 VP 23.536 GAP 8.29 AZP 88.73 TAL 1.64 TAP 138.81 RCA 151.17 APO 221.91 V2 26.137
 RC 107.990 GL -19.00 GP -1.01 ZAL 94.46 ZAP 126.97 ETS 180.68 ZAE 169.04 ETE 182.73 ZAC 99.20 ETC 277.46 LVI -16.68

Distance 417.527 Earth to Mars

Planetary Conic: C3 9.025 VHL 3.004 DLA -30.13 RAL 336.90 RAD 6637.5 VEL 11.364 PTH 6.42 VHP 3.526 DPA -18.56 RAP 320.07 ECC 1.1485
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 28 30 2332.11 1.02 59.37 188.00 137.57 17 7 22 1332.1 19.15 43.06
 60.00 17 32 34 2108.45 6.09 44.09 192.86 129.92 18 27 42 1108.4 21.46 24.98
 70.00 19 47 9 1771.32 12.11 21.20 197.29 122.18 20 16 41 771.3 24.22 359.36
 79.14 22 53 18 1187.64 22.09 342.21 202.51 111.03 23 13 4 187.6 28.78 316.71
 79.14 22 53 18 1187.64 22.09 342.21 202.51 111.03 23 13 4 187.6 28.78 316.71
 79.14 22 53 18 1187.64 22.09 342.21 202.51 111.03 23 13 4 187.6 28.78 316.71
 110.00 0 50 32 6106.18 12.11 288.02 197.29 122.18 2 32 18 5106.2 24.22 266.19

Differential Corrections: TDE -.2122 TRA -.3587 TC3 -.3288 BAU .0417 SGT 904.0 SGR 448.4 SCS 1106.1 ST 23.4 SR 19.7 SS 34.8
 RDE -.2044 RRA .0884 RC3 .1162 FAU .18073 RRT -.0516 RRF .1746 RTF -.1125 CRT .7729 CR8 -.3390 CST .3260
 FDE -.2243 FRA 3.3687 FC-17.3363 B8P 914 SGB 1009.1 R23 -.1534 R13 .3151 LSA 36.4 MSA 28.8 SSA 1.6
 BDE .2946 BRA .3683 BC3 .3459 F8P 1836 SGI 904.4 SG2 447.6 THA 178.06 EL1 28.9 EL2 10.1 ALF 38.76

LAUNCH DATE MAY 14 1971

FLIGHT TIME 174.00

ARRIVAL DATE NOV 4 1971

Heliocentric Conic: RL 151.18 LAL .00 LOL 232.57 VL 32.299 GAL .26 AZL 91.73 HCA 138.40 SMA 186.28 ECC .18847 INC 1.7293 V1 29.471
 RP 209.99 LAP -1.15 LOP 10.98 VP 23.486 GAP 8.06 AZP 88.71 TAL 1.61 TAP 140.01 RCA 151.17 APO 221.39 V2 26.111
 RC 110.071 GL -19.03 GP -1.06 ZAL 94.55 ZAP 125.03 ETS 180.63 ZAE 167.31 ETE 182.93 ZAC 99.25 ETC 277.31 LVI -16.44

Distance 421.673 Earth to Mars

Planetary Conic: C3 8.934 VHL 2.989 DLA -30.13 RAL 337.01 RAD 6637.5 VEL 11.360 PTH 6.41 VHP 3.450 DPA -18.81 RAP 319.37 ECC 1.1470
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 28 55 2330.23 1.12 59.29 188.02 137.57 17 7 45 1330.2 19.24 42.97
 60.00 17 32 58 2106.59 6.17 44.00 192.86 129.91 18 28 5 1106.6 21.53 24.86
 70.00 19 47 33 1769.51 12.17 21.10 197.28 122.16 20 17 2 769.5 24.27 359.25
 79.15 22 53 45 1185.58 22.14 342.07 202.48 110.98 23 13 30 185.6 28.79 316.56
 79.15 22 53 45 1185.58 22.14 342.07 202.48 110.98 23 13 30 185.6 28.79 316.56
 79.15 22 53 45 1185.58 22.14 342.07 202.48 110.98 23 13 30 185.6 28.79 316.56
 110.00 0 50 55 6104.37 12.17 287.93 197.28 122.16 2 32 40 5104.4 24.27 266.07

Differential Corrections: TDE -.2131 TRA -.3274 TC3 -.4598 BAU .0563 SGT 876.9 SGR 439.8 SCS 1160.0 ST 23.1 SR 19.3 SS 35.9
 RDE -.1988 RRA .0948 RC3 .1056 FAU .18846 RRT -.0368 RRF .1900 RTF -.2105 CRT .7937 CR8 -.3420 CST .2907
 FDE -.2339 FRA 3.5209 FC-18.2613 B8P 734 SGB 981.0 R23 -.1798 R13 .2128 LSA 37.1 MSA 28.6 SSA 1.6
 BDE .2915 BRA .3409 BC3 .4717 F8P 1928 SGI 877.1 SG2 439.4 THA 178.59 EL1 28.6 EL2 9.5 ALF 38.55

LAUNCH DATE MAY 14 1971

FLIGHT TIME 176.00

ARRIVAL DATE NOV 6 1971

Heliocentric Conic: RL 151.18 LAL .00 LOL 232.57 VL 32.265 GAL .25 AZL 91.72 HCA 139.63 SMA 186.05 ECC .18744 INC 1.7242 V1 29.471
 RP 210.22 LAP -1.12 LOP 12.21 VP 23.437 GAP 7.83 AZP 88.69 TAL 1.56 TAP 141.19 RCA 151.17 APO 220.92 V2 26.085
 RC 112.177 GL -19.06 GP -1.11 ZAL 94.86 ZAP 123.06 ETS 180.59 ZAE 165.52 ETE 183.06 ZAC 99.30 ETC 277.15 LVI -16.10

Planetocentric Conic: C3 8.853 VHL 2.975 DLA -30.11 RAL 337.14 RAD 6637.4 VEL 11.356 PTH 6.41 VHP 3.379 DPA -19.08 RAP 318.64 ECC 1.1457
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 29 18 2329.00 1.18 59.24 188.06 137.56 17 8 7 1329.0 19.30 42.91
 60.00 17 53 18 2105.54 6.22 43.95 192.89 129.90 18 28 23 1105.5 21.57 24.80
 70.00 19 47 44 1768.90 12.19 21.07 197.29 122.15 20 17 12 768.9 24.28 359.21
 79.22 22 54 48 1182.13 22.16 341.82 202.49 110.91 23 14 30 182.1 28.79 316.30
 79.22 22 54 48 1182.13 22.16 341.82 202.49 110.91 23 14 30 182.1 28.79 316.30
 79.22 22 54 48 1182.13 22.16 341.82 202.49 110.91 23 14 30 182.1 28.79 316.30
 110.00 0 51 8 6103.76 12.19 287.89 197.29 122.15 2 32 50 5103.8 24.28 266.03

Differential Corrections: TDE -.2140 TRA -.2943 TC3 -.5986 BAU .0717 SGT 852.0 SGR 431.0 SG3 1212.1 ST 22.8 SR 18.9 SS 36.5
 RDE -.1933 RRA .0942 RC3 .0941 FAU .19642 RRT -.0108 RRF .2038 RTF -.0889 CRT .8179 CRS -.3401 CST .2527
 FDE -.2350 FRA 3.6484 FC-19.2086 BSP 505 SGB 954.8 R23 .2025 R13 .0897 LSA 37.5 MSA 28.3 SSA 1.6
 BDE .2884 BRA .3090 BC3 .6059 FSP 1996 SG1 852.0 SG2 430.9 THA 179.58 EL1 28.3 EL2 8.8 ALF 38.41

LAUNCH DATE MAY 14 1971

FLIGHT TIME 178.00

ARRIVAL DATE NOV 8 1971

Heliocentric Conic: RL 151.18 LAL .00 LOL 232.57 VL 32.273 GAL .24 AZL 91.72 HCA 140.85 SMA 185.84 ECC .18652 INC 1.7187 V1 29.471
 RP 210.45 LAP -1.09 LOP 13.43 VP 23.390 GAP 7.61 AZP 88.67 TAL 1.50 TAP 142.36 RCA 151.18 APO 220.50 V2 26.058
 RC 114.307 GL -19.07 GP -1.16 ZAL 94.80 ZAP 121.06 ETS 180.54 ZAE 163.69 ETE 183.14 ZAC 99.34 ETC 276.98 LVI -15.91

Planetocentric Conic: C3 8.779 VHL 2.963 DLA -30.06 RAL 337.29 RAD 6637.4 VEL 11.353 PTH 6.41 VHP 3.313 DPA -19.36 RAP 317.87 ECC 1.1445
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 29 40 2328.40 1.21 59.22 188.12 137.56 17 8 28 1328.4 19.33 42.88
 60.00 17 53 32 2105.26 6.23 43.93 192.93 129.90 18 28 38 1105.3 21.58 24.78
 70.00 19 47 42 1769.43 12.17 21.10 197.31 122.16 20 17 11 769.4 24.27 359.24
 79.35 22 56 22 1177.44 22.17 341.48 202.52 110.84 23 16 0 177.4 28.77 315.95
 79.35 22 56 22 1177.44 22.17 341.48 202.52 110.84 23 16 0 177.4 28.77 315.95
 79.35 22 56 22 1177.44 22.17 341.48 202.52 110.84 23 16 0 177.4 28.77 315.95
 110.00 0 51 4 6104.29 12.17 287.92 197.31 122.16 2 32 48 5104.3 24.27 266.07

Differential Corrections: TDE -.2099 TRA -.2569 TC3 -.7445 BAU .0879 SGT 829.9 SGR 422.4 SG3 1261.1 ST 22.1 SR 18.4 SS 37.3
 RDE -.1880 RRA .0937 RC3 .0823 FAU .20372 RRT .0169 RRF .2217 RTF .0511 CRT .8402 CRS -.3551 CST .1974
 FDE -.2600 FRA 3.7729 FC-20.0894 BSP 265 SGB 931.2 R23 .2205 R13 .0524 LSA 38.1 MSA 27.6 SSA 1.5
 BDE .2818 BRA .2734 BC3 .7491 FSP 2070 SG1 830.0 SG2 422.3 THA .67 EL1 27.6 EL2 8.0 ALF 38.97

LAUNCH DATE MAY 14 1971

FLIGHT TIME 180.00

ARRIVAL DATE NOV 10 1971

Heliocentric Conic: RL 151.18 LAL .00 LOL 232.57 VL 32.262 GAL .22 AZL 91.71 HCA 142.07 SMA 185.85 ECC .18569 INC 1.7129 V1 29.471
 RP 210.70 LAP -1.05 LOP 14.65 VP 23.343 GAP 7.40 AZP 88.65 TAL 1.42 TAP 143.50 RCA 151.18 APO 220.12 V2 26.030
 RC 116.460 GL -19.07 GP -1.21 ZAL 94.97 ZAP 119.04 ETS 180.49 ZAE 161.82 ETE 183.18 ZAC 99.39 ETC 276.61 LVI -15.62

Planetocentric Conic: C3 8.715 VHL 2.952 DLA -30.00 RAL 337.47 RAD 6637.4 VEL 11.350 PTH 6.40 VHP 3.251 DPA -19.64 RAP 317.08 ECC 1.1434
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 30 1 2328.54 1.20 59.22 188.22 137.56 17 8 49 1328.5 19.32 42.89
 60.00 17 53 42 2105.90 6.20 43.97 193.01 129.90 18 28 48 1105.9 21.56 24.82
 70.00 19 47 26 1771.32 12.11 21.20 197.35 122.18 20 16 57 771.3 24.22 359.36
 79.55 22 58 38 1171.11 22.16 341.00 202.58 110.75 23 18 9 171.1 28.72 315.47
 79.55 22 58 38 1171.11 22.16 341.00 202.58 110.75 23 18 9 171.1 28.72 315.47
 79.55 22 58 38 1171.11 22.16 341.00 202.58 110.75 23 18 9 171.1 28.72 315.47
 110.00 0 50 48 6106.18 12.11 288.02 197.35 122.18 2 32 34 5106.2 24.22 266.19

Differential Corrections: TDE -.2218 TRA -.2322 TC3 -.9686 BAU .1132 SGT 885.0 SGR 415.5 SG3 1305.5 ST 22.9 SR 18.0 SS 38.1
 RDE -.1823 RRA .0936 RC3 .0717 FAU .20867 RRT .0518 RRF .2390 RTF .0532 CRT .8652 CRS -.3295 CST .1784
 FDE -.2258 FRA 3.9490 FC-20.7293 BSP 214 SGB 976.8 R23 .2265 R13 .1965 LSA 38.8 MSA 28.2 SSA 1.5
 BDE .2871 BRA .2503 BC3 .9713 FSP 2213 SG1 885.3 SG2 412.8 THA 1.77 EL1 28.2 EL2 7.3 ALF 37.08

LAUNCH DATE MAY 14 1971

FLIGHT TIME 182.00

ARRIVAL DATE NOV 12 1971

Heliocentric Conic: RL 151.18 LAL .00 LOL 232.57 VL 32.292 GAL .21 AZL 91.71 HCA 143.29 SMA 185.48 ECC .18495 INC 1.7069 V1 29.471
 RP 210.95 LAP -1.02 LOP 15.87 VP 23.297 GAP 7.19 AZP 88.63 TAL 1.32 TAP 144.62 RCA 151.18 APO 219.79 V2 26.001
 RC 118.637 GL -19.06 GP -1.26 ZAL 95.16 ZAP 117.00 ETS 180.43 ZAE 159.91 ETE 183.20 ZAC 99.44 ETC 276.63 LVI -15.33

Planetocentric Conic: C3 8.657 VHL 2.942 DLA -29.91 RAL 337.67 RAD 6637.3 VEL 11.348 PTH 6.40 VHP 3.195 DPA -19.93 RAP 316.26 ECC 1.1425
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 30 19 2329.26 1.16 59.25 188.33 137.57 17 9 8 1329.3 19.29 42.92
 60.00 17 53 46 2107.25 6.14 44.03 193.10 129.91 18 28 53 1107.2 21.50 24.89
 70.00 19 46 58 1774.24 12.00 21.36 197.41 122.22 20 16 32 774.2 24.13 359.55
 79.82 23 1 27 1163.41 22.13 340.42 202.67 110.66 23 20 50 163.4 28.65 314.89
 79.82 23 1 27 1163.41 22.13 340.42 202.67 110.66 23 20 50 163.4 28.65 314.89
 79.82 23 1 27 1163.41 22.13 340.42 202.67 110.66 23 20 50 163.4 28.65 314.89
 110.00 0 50 20 6109.10 12.00 288.18 197.41 122.22 2 32 9 5109.1 24.13 266.37

Differential Corrections: TDE -.2259 TRA -.1977 TC3-1.1598 BAU .1344 SGT 925.5 SGR 404.5 SG3 1354.3 ST 23.0 SR 17.5 SS 38.9
 RDE -.1768 RRA .0935 RC3 .0593 FAU .21527 RRT .0913 RRF .2563 RTF .3249 CRT .8881 CRS -.3079 CST .1507
 FDE -.1933 FRA 4.1060 FC-21.5263 BSP 207 SGB 1010.0 R23 .2206 R13 .3297 LSA 39.4 MSA 28.1 SSA 1.5
 BDE .2867 BRA .2187 BC3 1.1613 FSP 2304 SG1 926.4 SG2 402.4 THA 2.82 EL1 28.1 EL2 6.6 ALF 36.31

LAUNCH DATE MAY 14 1971

FLIGHT TIME 184.00

ARRIVAL DATE NOV 14 1971

HELIOCENTRIC CONIC DISTANCE 442.487 EARTH TO MARS
RL 151.18 LAL .00 LOL 232.57 VL 32.243 GAL .19 AZL 91.70 HCA 144.51 SMA 185.33 ECC .18429 INC 1.7005 V1 29.471

PLANETOCENTRIC CONIC
CS 8.607 VHL 2.934 DLA -29.81 RAL 337.89 RAD 6637.3 VEL 11.345 PTH 6.40 VHP 3.142 DPA -20.22 RAP 315.42 ECC 1.1417

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.2287 TRA -.1605 TC3-1.3535 BAU .1558 SGT 980.2 SGR 395.6 SG3 1401.3 ST 23.0 SR 17.0 SS 39.5

LAUNCH DATE MAY 14 1971

FLIGHT TIME 186.00

ARRIVAL DATE NOV 16 1971

HELIOCENTRIC CONIC DISTANCE 446.664 EARTH TO MARS
RL 151.18 LAL .00 LOL 232.57 VL 32.235 GAL .17 AZL 91.69 HCA 145.73 SMA 185.20 ECC .18371 INC 1.6937 V1 29.471

PLANETOCENTRIC CONIC
CS 8.564 VHL 2.926 DLA -29.68 RAL 338.13 RAD 6637.3 VEL 11.343 PTH 6.40 VHP 3.095 DPA -20.51 RAP 314.55 ECC 1.1409

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.2284 TRA -.1238 TC3-1.5588 BAU .1785 SGT 1053.7 SGR 387.7 SG3 1453.2 ST 22.8 SR 16.5 SS 40.7

LAUNCH DATE MAY 14 1971

FLIGHT TIME 188.00

ARRIVAL DATE NOV 18 1971

HELIOCENTRIC CONIC DISTANCE 450.844 EARTH TO MARS
RL 151.18 LAL .00 LOL 232.57 VL 32.228 GAL .15 AZL 91.69 HCA 146.94 SMA 185.09 ECC .18321 INC 1.6864 V1 29.471

PLANETOCENTRIC CONIC
CS 8.528 VHL 2.920 DLA -29.54 RAL 338.39 RAD 6637.3 VEL 11.342 PTH 6.39 VHP 3.051 DPA -20.81 RAP 313.68 ECC 1.1403

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.2280 TRA -.0792 TC3-1.7714 BAU .2020 SGT 1141.2 SGR 378.8 SG3 1488.2 ST 22.8 SR 16.1 SS 41.0

LAUNCH DATE MAY 14 1971

FLIGHT TIME 190.00

ARRIVAL DATE NOV 20 1971

HELIOCENTRIC CONIC DISTANCE 455.026 EARTH TO MARS
RL 151.18 LAL .00 LOL 232.57 VL 32.223 GAL .12 AZL 91.68 HCA 148.14 SMA 185.00 ECC .18279 INC 1.6788 V1 29.471

PLANETOCENTRIC CONIC
CS 8.497 VHL 2.918 DLA -29.37 RAL 338.67 RAD 6637.3 VEL 11.341 PTH 6.39 VHP 3.012 DPA -21.11 RAP 312.79 ECC 1.1398

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.2341 TRA -.0407 TC3-2.0098 BAU .2283 SGT 1262.0 SGR 369.8 SG3 1531.2 ST 23.1 SR 15.5 SS 41.8

LAUNCH DATE MAY 14 1971

FLIGHT TIME 192.00

ARRIVAL DATE NOV 22 1971

HELIOCENTRIC CONIC

DISTANCE 459.211

EARTH TO MARS

RL 151.18 LAL .00 LOL 232.57 VL 32.218 GAL .09 AZL 91.67 HCA 149.35 SMA 184.92 ECC .10243 INC 1.6707 V1 29.471
RP 212.29 LAP -.85 LOP 21.93 VP 23.079 GAP 6.19 AZP 88.56 TAL .60 TAP 149.95 RCA 151.18 APO 218.65 V2 25.848
RC 129.850 GL -18.85 GP -1.58 ZAL 96.48 ZAP 106.61 ETS 180.12 ZAE 149.90 ETE 183.08 ZAC 99.61 ETC 275.65 LVI -13.69

PLANETOCENTRIC CONIC

C3 8.473 VHL 2.911 DLA -29.19 RAL 338.96 RAD 6637.2 VEL 11.339 PTH 6.39 VHP 2.977 DPA -21.41 RAP 311.89 ECC 1.1394
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 31 23 2342.09 .52 59.79 189.18 137.57 17 10 25 1342.1 18.67 43.53
60.00 17 52 51 2125.37 5.35 44.91 193.82 130.00 18 28 16 1125.4 20.79 25.90
70.00 19 41 50 1804.81 10.88 23.03 197.92 122.57 20 11 55 804.8 23.24 1.47
80.00 22 14 53 1325.29 17.74 350.50 201.76 114.41 22 36 58 325.3 26.27 326.34
82.46 23 27 10 1093.45 21.71 335.07 203.48 110.00 23 45 24 93.4 28.01 309.59
100.00 1 1 41 6087.80 17.74 289.78 201.76 114.41 2 43 8 5087.8 26.27 265.62
110.00 0 45 12 6139.67 10.88 289.85 197.92 122.57 2 27 32 5139.7 23.24 268.30

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2352 TRA .0016 TC3-2.2434 BAU .2541 SGT 1385.7 SGR 361.9 S63 1572.0 ST 23.2 SR 15.0 S8 42.6
RDE -.1490 RRA .0940 RC3 -.0102 FAU .24454 RRT .2877 RRF .3733 RTF .7585 CRT .9743 CR8 -.2658 CST -.0709
FDE -.0965 FRA 4.8466 FC-24.9858 B8P 1459 SGB 1432.2 R23 .1467 R13 .7616 LSA 42.9 MSA 27.1 SSA 1.4
BDE .2785 BRA .0940 BC3 2.2434 F8P 2681 S61 1389.8 S62 345.5 THA 4.58 EL1 27.5 EL2 2.9 ALF 32.57

LAUNCH DATE MAY 14 1971

FLIGHT TIME 194.00

ARRIVAL DATE NOV 24 1971

HELIOCENTRIC CONIC

DISTANCE 463.398

EARTH TO MARS

RL 151.18 LAL .00 LOL 232.57 VL 32.214 GAL .08 AZL 91.66 HCA 150.55 SMA 184.85 ECC .10214 INC 1.6621 V1 29.471
RP 212.57 LAP -.82 LOP 23.13 VP 23.037 GAP 6.00 AZP 88.55 TAL .41 TAP 150.96 RCA 151.18 APO 218.52 V2 25.815
RC 132.153 GL -18.74 GP -1.65 ZAL 96.82 ZAP 104.53 ETS 180.05 ZAE 147.85 ETE 183.04 ZAC 99.63 ETC 275.45 LVI -13.33

PLANETOCENTRIC CONIC

C3 8.454 VHL 2.908 DLA -28.98 RAL 339.28 RAD 6637.2 VEL 11.339 PTH 6.39 VHP 2.946 DPA -21.71 RAP 310.99 ECC 1.1391
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 31 29 2346.47 .30 59.97 189.41 137.58 17 10 36 1346.5 18.46 43.73
60.00 17 52 25 2131.19 5.10 45.19 194.01 130.03 18 27 56 1131.2 20.57 26.22
70.00 19 40 18 1813.87 10.55 23.52 198.06 122.67 20 10 32 813.9 22.97 2.04
80.00 22 8 29 1349.65 17.05 351.98 201.73 114.89 22 30 59 349.7 25.84 328.02
83.39 23 38 52 1069.07 21.57 333.22 203.70 109.83 23 53 41 69.1 27.81 307.78
100.00 0 55 17 6112.18 17.05 291.25 201.73 114.89 2 37 9 5112.2 25.84 267.30
110.00 0 43 40 6148.73 10.55 290.34 198.06 122.67 2 26 9 5148.7 22.97 268.86

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2363 TRA .0485 TC3-2.4749 BAU .2797 SGT 1516.6 SGR 352.2 S63 1599.5 ST 23.4 SR 14.4 S8 42.4
RDE -.1430 RRA .0936 RC3 -.0260 FAU .24990 RRT .3294 RRF .3919 RTF .8062 CRT .9846 CR8 -.2272 CST -.0917
FDE -.0173 FRA 4.8862 FC-25.5902 B8P 1781 SGB 1557.0 R23 .1197 R13 .8084 LSA 42.7 MSA 27.1 SSA 1.3
BDE .2762 BRA .1054 BC3 2.4750 F8P 2696 S61 1521.3 S62 331.5 THA 4.59 EL1 27.4 EL2 2.2 ALF 31.45

LAUNCH DATE MAY 14 1971

FLIGHT TIME 196.00

ARRIVAL DATE NOV 26 1971

HELIOCENTRIC CONIC

DISTANCE 467.586

EARTH TO MARS

RL 151.18 LAL .00 LOL 232.57 VL 32.211 GAL .03 AZL 91.65 HCA 151.75 SMA 184.80 ECC .10192 INC 1.6527 V1 29.471
RP 212.86 LAP -.78 LOP 24.32 VP 22.996 GAP 5.82 AZP 88.54 TAL .20 TAP 151.95 RCA 151.18 APO 218.42 V2 25.782
RC 134.475 GL -18.85 GP -1.73 ZAL 97.18 ZAP 102.45 ETS 179.98 ZAE 145.79 ETE 183.00 ZAC 99.64 ETC 275.25 LVI -12.98

PLANETOCENTRIC CONIC

C3 8.441 VHL 2.905 DLA -28.75 RAL 339.61 RAD 6637.2 VEL 11.338 PTH 6.39 VHP 2.919 DPA -22.01 RAP 310.10 ECC 1.1389
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 31 33 2351.44 .05 60.18 189.65 137.58 17 10 44 1351.4 18.23 43.97
60.00 17 51 53 2137.73 4.81 45.50 194.22 130.06 18 27 31 1137.7 20.31 26.58
70.00 19 38 37 1823.83 10.19 24.05 198.22 122.78 20 9 1 823.8 22.67 2.66
80.00 22 2 23 1373.55 16.36 353.42 201.74 115.33 22 25 16 373.6 25.39 329.66
84.59 23 46 54 1037.48 21.42 330.83 203.95 109.65 24 4 11 37.5 27.60 305.40
100.00 0 49 10 6136.06 16.36 292.69 201.74 115.33 2 31 26 5136.1 25.39 269.93
110.00 0 41 59 6158.69 10.19 290.88 198.22 122.78 2 24 38 5158.7 22.67 269.48

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2390 TRA .0928 TC3-2.7000 BAU .3048 SGT 1651.4 SGR 343.6 S63 1671.3 ST 23.9 SR 13.8 S8 43.0
RDE -.1366 RRA .0939 RC3 -.0502 FAU .26397 RRT .3622 RRF .4197 RTF .536 CRT .9906 CR8 -.1768 CST -.0925
FDE .0891 FRA 5.0039 FC-27.0725 B8P 2089 SGB 1686.8 R23 .0920 R13 .8451 LSA 43.2 MSA 27.3 SSA 1.3
BDE .2753 BRA .1320 BC3 2.7005 F8P 2674 S61 1656.8 S62 316.5 THA 4.72 EL1 27.6 EL2 1.6 ALF 29.97

LAUNCH DATE MAY 14 1971

FLIGHT TIME 198.00

ARRIVAL DATE NOV 28 1971

HELIOCENTRIC CONIC

DISTANCE 471.767

EARTH TO MARS

RL 151.18 LAL .00 LOL 232.57 VL 32.209 GAL -.00 AZL 91.64 HCA 152.94 SMA 184.78 ECC .10175 INC 1.6425 V1 29.471
RP 213.16 LAP -.75 LOP 25.52 VP 22.953 GAP 5.64 AZP 88.54 TAL 359.99 TAP 152.93 RCA 151.18 APO 218.35 V2 25.749
RC 136.814 GL -18.54 GP -1.81 ZAL 97.56 ZAP 100.38 ETS 179.90 ZAE 143.72 ETE 182.95 ZAC 99.64 ETC 275.04 LVI -12.61

PLANETOCENTRIC CONIC

C3 8.433 VHL 2.904 DLA -28.50 RAL 339.95 RAD 6637.2 VEL 11.338 PTH 6.39 VHP 2.895 DPA -22.30 RAP 309.21 ECC 1.1388
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 31 34 2357.00 -.23 60.41 189.91 137.58 17 10 51 1357.0 17.96 44.22
60.00 17 51 16 2144.97 4.49 45.85 194.44 130.09 18 27 1 1145.0 20.02 26.98
70.00 19 36 46 1834.67 9.79 24.64 198.39 122.89 20 7 21 834.7 22.34 3.33
80.00 21 56 28 1397.22 15.67 354.83 201.77 115.75 22 19 45 397.2 24.93 331.26
86.30 0 6 17 6279.83 21.24 305.32 204.22 109.46 1 50 57 6279.8 27.36 279.91
100.00 0 43 16 6159.73 15.67 294.11 201.77 115.75 2 25 55 5159.7 24.93 270.54
110.00 0 40 9 6169.53 9.79 291.46 198.39 122.89 2 22 58 5169.5 22.34 270.15

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2454 TRA .1441 TC3-3.0214 BAU .3407 SGT 1849.0 SGR 331.9 S63 1583.1 ST 24.8 SR 12.9 S8 48.2
RDE -.1266 RRA .0970 RC3 -.0308 FAU .22870 RRT .3631 RRF .4300 RTF .8065 CRT .9929 CR8 .0446 CST .0906
FDE .5752 FRA 5.4281 FC-23.4775 B8P 2317 SGB 1878.5 R23 .1382 R13 .8081 LSA 48.2 MSA 27.8 SSA 1.3
BDE .2762 BRA .1737 BC3 3.0216 F8P 4112 S61 1853.0 S62 308.6 THA 3.84 EL1 28.0 EL2 1.4 ALF 27.37

LAUNCH DATE MAY 14 1971

FLIGHT TIME 200.00

ARRIVAL DATE NOV 30 1971

HELIOCENTRIC CONIC
 RL 151.18 LAL .00 LOL 232.57 VL 32.207 GAL -.04 AZL 91.63 HCA 154.13 SMA 184.74 ECC .18164 INC 1.6316 VI 29.471
 RP 213.46 LAP -.71 LOP 26.71 VP 22.918 GAP 5.46 AZP 86.53 TAL 359.75 TAP 153.89 RCA 151.18 APO 218.30 V2 25.714
 RC 139.171 GL -18.41 GP -1.90 ZAL 97.96 ZAP 98.33 ETS 179.82 ZAE 141.66 ETE 182.91 ZAC 99.63 ETC 274.84 LVI -12.24

PLANETOCENTRIC CONIC
 C3 8.431 VHL 2.904 DLA -29.23 RAL 340.31 RAD 6637.2 VEL 11.338 PTH 6.39 VHP 2.875 DPA -22.59 RAP 308.32 ECC 1.1387
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 31 31 2363.16 -.54 60.67 190.18 137.57 17 10 54 1363.2 17.66 44.51
 60.00 17 50 33 2192.92 4.14 46.23 194.68 130.12 18 26 28 1152.9 19.70 27.41
 70.00 19 34 48 1846.36 9.35 25.27 198.57 123.00 20 5 34 846.4 21.99 4.05
 80.00 21 50 42 1420.81 14.96 356.23 201.82 116.14 22 14 23 420.8 24.45 332.85
 90.00 0 23 51 827.51 19.97 301.00 204.08 110.45 2 7 39 5227.5 26.63 275.96
 100.00 0 37 30 6183.32 14.96 295.50 201.82 116.14 2 20 33 5183.3 24.45 272.13
 110.00 0 38 10 6181.22 9.35 292.09 198.57 123.00 2 21 11 5181.2 21.99 270.87

DIFFERENTIAL CORRECTIONS
 TDE -.2340 TRA .1922 TC3-3.2444 BAU .3658 SGT 1987.0 SGR 332.2 S63 1688.1 ST 24.1 SR 12.9 SS 45.7
 RDE -.1261 RRA .0968 RC3 -.0647 FAU .25125 RRT .4227 RRF .4944 RTF .8709 CRT .9935 CR8 -.2173 C8T -.2459
 FDE .0659 FRA 5.4366 FC-25.8013 B8P 2701 SGB 2014.6 R23 .1298 R13 .8724 LSA 46.4 MSA 26.1 S8A 1.3
 BDE .2658 BRA .2152 BC3 3.2451 F8P 3099 S61 1992.1 S62 300.3 THA 4.14 EL1 27.3 EL2 1.3 ALF 27.96

LAUNCH DATE MAY 14 1971

FLIGHT TIME 202.00

ARRIVAL DATE DEC 2 1971

HELIOCENTRIC CONIC
 RL 151.18 LAL .00 LOL 232.57 VL 32.208 GAL -.08 AZL 91.62 HCA 155.32 SMA 184.73 ECC .18159 INC 1.6196 VI 29.471
 RP 213.77 LAP -.68 LOP 27.90 VP 22.875 GAP 5.28 AZP 86.53 TAL 359.51 TAP 154.83 RCA 151.18 APO 218.27 V2 25.680
 RC 141.545 GL -18.27 GP -1.99 ZAL 98.39 ZAP 96.29 ETS 179.74 ZAE 139.60 ETE 182.87 ZAC 99.62 ETC 274.64 LVI -11.87

PLANETOCENTRIC CONIC
 C3 8.433 VHL 2.904 DLA -27.93 RAL 340.68 RAD 6637.2 VEL 11.338 PTH 6.39 VHP 2.859 DPA -22.89 RAP 307.46 ECC 1.1388
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 31 25 2369.93 -.88 60.95 190.47 137.57 17 10 55 1369.9 17.34 44.82
 60.00 17 49 45 2161.58 3.76 46.65 194.93 130.15 18 25 48 1161.6 19.38 27.88
 70.00 19 32 40 1858.90 8.89 25.94 198.76 123.11 20 3 39 858.9 21.60 4.81
 80.00 21 45 3 1444.45 14.25 357.62 201.89 116.52 22 9 7 444.4 23.95 334.43
 90.00 0 1 25 1017.34 18.04 327.99 203.68 112.15 0 18 22 17.3 25.61 303.52
 100.00 0 31 50 6206.96 14.25 296.90 201.89 116.52 2 15 17 5207.0 23.95 273.71
 110.00 0 36 2 6193.76 8.89 292.76 198.76 123.11 2 19 16 5193.8 21.60 271.64

DIFFERENTIAL CORRECTIONS
 TDE -.2319 TRA .2456 TC3-3.4910 BAU .3937 SGT 2149.6 SGR 325.1 S63 1712.3 ST 24.5 SR 12.2 SS 46.9
 RDE -.1191 RRA .0981 RC3 -.0855 FAU .25799 RRT .4699 RRF .5268 RTF .8880 CRT .9904 CR8 -.1926 C8T -.2357
 FDE .2274 FRA 5.5915 FC-26.4864 B8P 3014 SGB 2174.1 R23 .1156 R13 .8892 LSA 47.5 MSA 26.4 S8A 1.2
 BDE .2607 BRA .2645 BC3 3.4920 F8P 2996 S61 2155.2 S62 286.2 THA 4.14 EL1 27.3 EL2 1.5 ALF 26.33

LAUNCH DATE MAY 14 1971

FLIGHT TIME 204.00

ARRIVAL DATE DEC 4 1971

HELIOCENTRIC CONIC
 RL 151.18 LAL .00 LOL 232.57 VL 32.208 GAL -.12 AZL 91.61 HCA 156.51 SMA 184.72 ECC .18158 INC 1.6087 VI 29.471
 RP 214.08 LAP -.64 LOP 29.08 VP 22.835 GAP 5.11 AZP 86.53 TAL 359.25 TAP 155.75 RCA 151.18 APO 218.27 V2 25.645
 RC 143.936 GL -18.11 GP -2.09 ZAL 98.83 ZAP 94.29 ETS 179.65 ZAE 137.56 ETE 182.82 ZAC 99.59 ETC 274.45 LVI -11.50

PLANETOCENTRIC CONIC
 C3 8.439 VHL 2.905 DLA -27.62 RAL 341.08 RAD 6637.2 VEL 11.338 PTH 6.39 VHP 2.846 DPA -23.18 RAP 306.61 ECC 1.1389
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 31 15 2377.30 -1.25 61.26 190.77 137.56 17 10 52 1377.3 16.98 45.16
 60.00 17 48 50 2170.95 3.35 47.10 195.19 130.18 18 25 1 1170.9 18.98 28.39
 70.00 19 30 24 1872.26 8.39 26.65 198.96 123.23 20 1 36 872.3 21.18 5.63
 80.00 21 39 27 1468.23 13.52 359.01 201.98 116.88 22 3 56 468.2 23.43 336.01
 90.00 23 44 2 1066.50 16.75 331.02 203.54 113.12 24 1 48 66.5 24.84 306.91
 100.00 0 26 15 6230.74 13.52 298.29 201.98 116.88 2 10 6 5230.7 23.43 275.28
 110.00 0 33 46 6207.12 8.39 293.48 198.96 123.23 2 17 13 5207.1 21.18 272.43

DIFFERENTIAL CORRECTIONS
 TDE -.2269 TRA .2981 TC3-3.7423 BAU .4224 SGT 2316.9 SGR 318.2 S63 1718.5 ST 24.7 SR 11.6 SS 47.2
 RDE -.1129 RRA .0988 RC3 -.1016 FAU .25875 RRT .5069 RRF .5983 RTF .5226 CRT .9838 CR8 -.1313 C8T -.2713
 FDE .3000 FRA 5.6367 FC-26.5445 B8P 3345 SGB 2338.7 R23 .1094 R13 .9035 LSA 47.9 MSA 26.0 S8A 1.2
 BDE .2335 BRA .3140 BC3 3.7437 F8P 3008 S61 2322.6 S62 273.6 THA 4.04 EL1 27.2 EL2 1.9 ALF 24.93

LAUNCH DATE MAY 14 1971

FLIGHT TIME 206.00

ARRIVAL DATE DEC 6 1971

HELIOCENTRIC CONIC
 RL 151.18 LAL .00 LOL 232.37 VL 32.207 GAL -.16 AZL 91.59 HCA 157.69 SMA 184.73 ECC .18163 INC 1.5924 VI 29.471
 RP 214.39 LAP -.60 LOP 30.26 VP 22.795 GAP 4.94 AZP 88.33 TAL 358.97 TAP 156.66 RCA 151.18 APO 218.29 V2 25.609
 RC 146.344 GL -17.93 GP -2.20 ZAL 99.29 ZAP 92.30 ETS 179.55 ZAE 135.53 ETE 182.79 ZAC 99.55 ETC 274.26 LVI -11.12

PLANETOCENTRIC CONIC
 C3 8.450 VHL 2.907 DLA -27.27 RAL 341.45 RAD 6637.2 VEL 11.338 PTH 6.39 VHP 2.836 DPA -23.46 RAP 305.79 ECC 1.1391
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 31 0 2385.30 -1.65 61.59 191.07 137.55 17 10 46 1385.3 16.60 45.53
 60.00 17 47 48 2181.05 2.91 47.58 195.46 130.21 18 24 9 1181.0 18.57 28.93
 70.00 19 27 59 1886.46 7.86 27.41 199.17 123.34 19 59 25 886.5 20.74 6.49
 80.00 21 33 55 1492.24 12.78 .41 202.09 117.22 21 58 47 492.2 22.89 337.58
 90.00 23 33 9 1107.69 15.63 333.53 203.50 113.87 23 51 37 107.7 24.14 309.72
 100.00 0 20 42 6254.75 12.78 299.68 202.09 117.22 2 4 57 5254.8 22.89 276.86
 110.00 0 31 21 6221.32 7.86 294.23 199.17 123.34 2 15 2 5221.3 20.74 273.31

DIFFERENTIAL CORRECTIONS
 TDE -.2228 TRA .3529 TC3-4.0029 BAU .4524 SGT 2494.2 SGR 314.7 S63 1741.9 ST 25.1 SR 11.1 SS 47.5
 RDE -.1076 RRA .0988 RC3 -.1224 FAU .26275 RRT .5503 RRF .6000 RTF .9170 CRT .9743 CR8 -.1577 C8T -.3500
 FDE .2825 FRA 5.7257 FC-26.9195 B8P 3676 SGB 2514.0 R23 .1074 R13 .9179 LSA 48.7 MSA 25.4 S8A 1.1
 BDE .2474 BRA .3668 BC3 4.0047 F8P 3029 S61 2500.3 S62 262.1 THA 4.02 EL1 27.4 EL2 2.3 ALF 23.47

LAUNCH DATE MAY 14 1971

FLIGHT TIME 208.00

ARRIVAL DATE DEC 8 1971

Heliocentric Conic: RL 151.18 LAL .00 LOL 232.57 VL 32.208 GAL -.20 AZL 91.58 HCA 158.87 SMA 184.75 ECC .18173 INC 1.5767 V1 29.471
 RP 214.72 LAP -.57 LOP 31.44 VP 22.756 GAP 4.77 AZP 88.53 TAL 358.69 TAP 157.56 RCA 151.18 APO 218.33 V2 25.573
 RC 148.770 GL -17.74 GP -2.32 ZAL 99.78 ZAP 90.35 ETS 179.45 ZAE 133.52 ETE 182.75 ZAC 99.49 ETC 274.07 LVI -10.75

Planetocentric Conic: C3 8.465 VHL 2.910 DLA -26.90 RAL 341.88 RAD 6637.2 VEL 11.339 PTH 6.39 VHP 2.829 DPA -23.75 RAP 304.99 ECC 1.1393
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 30 41 2393.96 -2.09 81.96 191.39 137.54 17 10 34 1394.0 16.18 45.93
 60.00 17 46 38 2191.90 2.43 48.10 195.73 130.24 18 23 10 1191.9 18.13 29.51
 70.00 19 25 24 1901.51 7.30 28.21 199.39 123.46 19 57 5 901.5 20.26 7.39
 80.00 21 28 22 1516.60 12.02 1.81 202.21 117.54 21 53 38 516.6 22.32 339.17
 90.00 23 23 34 1145.06 14.59 335.78 203.50 114.50 23 42 40 145.1 23.45 312.25
 100.00 0 15 10 6279.11 12.02 301.09 202.21 117.54 1 59 49 5279.1 22.32 278.44
 110.00 0 28 46 6236.37 7.30 295.03 199.39 123.46 2 12 43 5236.4 20.26 274.21

Differential Corrections: TDE -.2182 TRA .409D TC3-4.2578 BAU .4821 SGT 2671.3 SGR 310.2 SG3 1746.1 ST 25.5 SR 10.5 SS 48.1
 RDE -.1011 RRA .1012 RC3 -.1403 FAU .26260 RRT .5900 RRF .6365 RTF .9258 CRT .9621 CRS -.1384 CST -.3821
 FDE .3675 FRA 5.7934 FC-26.8552 BSP 4016 SGB 2689.2 R23 .1061 R13 .9263 LSA 49.4 MSA 25.1 SSA 1.1
 BDE .2387 BRA .4213 BC3 4.2601 F8P 3062 SG1 2677.6 SG2 249.8 THA 3.95 EL1 27.5 EL2 2.7 ALF 21.83

LAUNCH DATE MAY 14 1971

FLIGHT TIME 210.00

ARRIVAL DATE DEC 10 1971

Heliocentric Conic: RL 151.18 LAL .00 LOL 232.57 VL 32.210 GAL -.25 AZL 91.56 HCA 160.04 SMA 184.78 ECC .18187 INC 1.5594 V1 29.471
 RP 215.04 LAP -.53 LOP 32.61 VP 22.718 GAP 4.60 AZP 88.53 TAL 358.39 TAP 158.44 RCA 151.17 APO 218.39 V2 25.536
 RC 151.211 GL -17.52 GP -2.45 ZAL 100.28 ZAP 88.43 ETS 179.35 ZAE 131.53 ETE 182.72 ZAC 99.42 ETC 273.89 LVI -10.37

Planetocentric Conic: C3 8.484 VHL 2.913 DLA -26.51 RAL 342.26 RAD 6637.3 VEL 11.340 PTH 6.39 VHP 2.825 DPA -24.04 RAP 304.22 ECC 1.1396
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 30 15 2403.29 -2.55 82.35 191.71 137.52 17 10 18 1403.3 15.72 46.35
 60.00 17 45 21 2203.54 1.92 48.66 196.01 130.26 18 22 4 1203.5 17.66 30.13
 70.00 19 22 39 1917.43 6.70 29.05 199.61 123.57 19 54 36 917.4 19.74 8.34
 80.00 21 22 47 1541.38 11.23 3.23 202.33 117.85 21 48 29 541.4 21.73 340.77
 90.00 23 14 45 1180.31 13.59 337.87 203.53 115.04 23 34 25 180.3 22.75 314.60
 100.00 0 9 35 1015.85 11.23 324.60 202.33 117.85 0 26 31 15.9 21.73 302.14
 110.00 0 26 1 6252.29 6.70 295.88 199.61 123.57 2 10 13 5252.3 19.74 275.16

Differential Corrections: TDE -.2073 TRA .4656 TC3-4.5061 BAU .5114 SGT 2846.8 SGR 306.5 SG3 1741.7 ST 25.8 SR 9.9 SS 48.6
 RDE -.0945 RRA .1027 RC3 -.1582 FAU .26103 RRT .6287 RRF .6735 RTF .9324 CRT .9473 CRS -.1229 CST -.4167
 FDE .4520 FRA 5.8403 FC-26.6350 BSP 4362 SGB 2863.3 R23 .1070 R13 .9330 LSA 50.1 MSA 24.7 SSA 1.0
 BDE .2278 BRA .4768 BC3 4.5089 F8P 3077 SG1 2853.4 SG2 237.8 THA 3.90 EL1 27.5 EL2 3.0 ALF 20.19

LAUNCH DATE MAY 14 1971

FLIGHT TIME 212.00

ARRIVAL DATE DEC 12 1971

Heliocentric Conic: RL 151.18 LAL .00 LOL 232.57 VL 32.212 GAL -.29 AZL 91.54 HCA 161.21 SMA 184.82 ECC .18206 INC 1.5398 V1 29.471
 RP 215.37 LAP -.50 LOP 33.78 VP 22.879 GAP 4.44 AZP 88.54 TAL 358.09 TAP 159.30 RCA 151.17 APO 218.47 V2 25.499
 RC 153.669 GL -17.27 GP -2.59 ZAL 100.80 ZAP 86.54 ETS 179.24 ZAE 129.56 ETE 182.69 ZAC 99.33 ETC 273.72 LVI -9.98

Planetocentric Conic: C3 8.507 VHL 2.917 DLA -26.08 RAL 342.67 RAD 6637.3 VEL 11.341 PTH 6.39 VHP 2.823 DPA -24.33 RAP 303.49 ECC 1.1400
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 29 42 2413.34 -3.06 82.77 192.03 137.50 17 9 55 1413.3 13.24 46.81
 60.00 17 43 53 2216.00 1.37 49.25 196.29 130.28 18 20 49 1216.0 17.15 30.79
 70.00 19 19 42 1934.28 6.06 29.95 199.83 123.68 19 51 57 934.3 19.19 9.34
 80.00 21 17 9 1566.69 10.42 4.68 202.47 118.14 21 43 16 566.7 21.10 342.39
 90.00 23 8 24 1214.38 12.60 339.89 203.59 115.53 23 26 38 214.4 22.05 316.84
 100.00 0 3 57 1041.16 10.42 326.05 202.47 118.14 0 21 18 41.2 21.10 303.76
 110.00 0 23 5 6269.14 6.06 296.77 199.83 123.68 2 7 34 5269.1 19.19 276.16

Differential Corrections: TDE -.1979 TRA .5245 TC3-4.7595 BAU .5417 SGT 3029.1 SGR 306.0 SG3 1747.3 ST 26.3 SR 9.3 SS 49.3
 RDE -.0880 RRA .1050 RC3 -.1797 FAU .26104 RRT .6708 RRF .7151 RTF .5.85 CRT .9316 CRS -.1250 CST -.4620
 FDE .5160 FRA 5.9236 FC-26.5643 BSP 4688 SGB 3044.5 R23 .1105 R13 .9391 LSA 51.2 MSA 24.2 SSA 1.0
 BDE .2166 BRA .5349 BC3 4.7628 F8P 3075 SG1 3036.1 SG2 226.4 THA 3.90 EL1 27.7 EL2 3.2 ALF 18.51

LAUNCH DATE MAY 14 1971

FLIGHT TIME 214.00

ARRIVAL DATE DEC 14 1971

Heliocentric Conic: RL 151.18 LAL .00 LOL 232.57 VL 32.215 GAL -.34 AZL 91.52 HCA 162.38 SMA 184.86 ECC .18229 INC 1.5178 V1 29.471
 RP 215.71 LAP -.46 LOP 34.95 VP 22.641 GAP 4.27 AZP 88.55 TAL 357.77 TAP 160.15 RCA 151.17 APO 218.56 V2 25.461
 RC 156.143 GL -16.99 GP -2.76 ZAL 101.33 ZAP 84.70 ETS 179.12 ZAE 127.62 ETE 182.67 ZAC 99.22 ETC 273.55 LVI -9.59

Planetocentric Conic: C3 8.534 VHL 2.921 DLA -25.62 RAL 343.07 RAD 6637.3 VEL 11.342 PTH 6.40 VHP 2.825 DPA -24.63 RAP 302.79 ECC 1.1404
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 29 1 2424.17 -3.60 83.22 192.36 137.47 17 9 25 1424.2 14.71 47.30
 60.00 17 42 15 2229.36 .78 49.89 196.58 130.29 18 19 25 1229.4 16.60 31.49
 70.00 19 16 33 1952.12 5.39 30.89 200.05 123.78 19 49 5 952.1 18.60 10.38
 80.00 21 11 23 1592.68 9.59 6.15 202.61 118.41 21 37 56 592.7 20.44 344.03
 90.00 22 58 18 1247.92 11.60 341.85 203.66 115.97 23 19 5 247.9 21.32 319.03
 100.00 23 54 15 1067.15 9.59 327.52 202.61 118.41 24 12 2 67.2 20.44 305.40
 110.00 0 19 55 6286.98 5.39 297.71 200.05 123.78 2 4 42 5287.0 18.60 277.21

Differential Corrections: TDE -.1865 TRA .5842 TC3-5.0049 BAU .5714 SGT 3209.2 SGR 306.8 SG3 1742.5 ST 26.8 SR 8.7 SS 50.0
 RDE -.0813 RRA .1077 RC3 -.2012 FAU .25921 RRT .7108 RRF .7550 RTF .9431 CRT .9152 CRS -.1287 CST -.5041
 FDE .5892 FRA 5.9831 FC-26.2972 BSP 5011 SGB 3223.8 R23 .1160 R13 .9436 LSA 52.3 MSA 23.7 SSA 1.0
 BDE .2034 BRA .5941 BC3 5.0089 F8P 3052 SG1 3216.6 SG2 215.3 THA 3.90 EL1 28.0 EL2 3.4 ALF 16.83

LAUNCH DATE MAY 14 1971

FLIGHT TIME 216.00

ARRIVAL DATE DEC 16 1971

HELIOCENTRIC CONIC
 RL 151.18 LAL .00 LOL 232.57 VL 32.218 GAL - .39 AZL 91.49 HCA 163.54 SMA 184.92 ECC .18256 INC 1.4931 V1 29.471
 RP 216.04 LAP -.42 LOP 36.11 VP 22.603 GAP 4.11 AZP 88.37 TAL 357.44 TAP 160.98 RCA 151.16 APO 216.68 V2 25.424
 RC 158.631 GL -16.68 GP -2.94 ZAL 101.89 ZAP 82.89 ETS 178.99 ZAE 125.71 ETE 182.65 ZAC 99.09 ETC 273.39 LVI -9.19

PLANETOCENTRIC CONIC
 C3 8.563 VHL 2.926 DLA -25.12 RAL 343.48 RAD 8637.3 VEL 11.343 PTH 6.40 VHP 2.828 DPA -24.94 RAP 302.14 ECC 1.1409
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 28 9 2435.65 -4.19 63.71 192.69 137.44 17 8 45 1435.8 14.14 47.82
 60.00 17 40 24 2243.69 .15 50.57 196.86 130.30 18 17 48 1243.7 16.01 32.24
 70.00 19 13 8 1971.04 4.67 31.88 200.27 123.87 19 45 59 971.0 17.97 11.49
 80.00 21 5 28 1619.48 8.71 7.66 202.75 118.67 21 32 27 619.5 19.74 345.72
 90.00 22 50 18 1281.36 10.60 343.79 203.74 116.37 23 11 40 281.4 20.56 321.19
 100.00 23 48 20 1093.95 8.71 329.03 202.75 118.67 24 6 34 94.0 19.74 307.08
 110.00 0 16 31 1017.66 4.67 320.80 200.27 123.87 0 33 28 17.9 17.97 300.41

DIFFERENTIAL CORRECTIONS
 TDE -.1726 TRA .6440 TC3-5.2530 BAU .6019 SGT 3391.9 SGR 310.2 SG3 1740.0 ORBIT DETERMINATION ACCURACY
 RDE -.0743 RRA .1107 RC3 -.2273 FAU .25888 RRT .7525 RRF .7947 RTF .9482 CRT .8990 CR8 -.1383 CST -.5463
 FDE .6647 FRA 6.0159 FC-26.1744 BSP 5331 SGB 3406.0 R23 .1194 R13 .9487 LSA 53.2 MSA 23.0 SBA .9
 BDE .1879 BRA .6534 BC3 5.2579 FSP 3018 SG1 3399.9 SG2 203.8 THA 3.95 EL1 28.2 EL2 3.4 ALF 15.21

LAUNCH DATE MAY 14 1971

FLIGHT TIME 218.00

ARRIVAL DATE DEC 18 1971

HELIOCENTRIC CONIC
 RL 151.18 LAL .00 LOL 232.57 VL 32.222 GAL -.45 AZL 91.47 HCA 164.70 SMA 184.98 ECC .18287 INC 1.4650 V1 29.471
 RP 216.39 LAP -.39 LOP 37.27 VP 22.565 GAP 3.95 AZP 88.59 TAL 357.10 TAP 161.81 RCA 151.15 APO 218.81 V2 25.385
 RC 161.134 GL -16.32 GP -3.14 ZAL 102.46 ZAP 81.12 ETS 178.84 ZAE 123.83 ETE 182.64 ZAC 98.93 ETC 273.24 LVI -8.79

PLANETOCENTRIC CONIC
 C3 8.595 VHL 2.932 DLA -24.57 RAL 343.88 RAD 8637.3 VEL 11.345 PTH 6.40 VHP 2.834 DPA -25.27 RAP 301.52 ECC 1.1414
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 27 6 2448.48 -4.82 64.24 193.00 137.39 17 7 54 1448.5 13.52 48.38
 60.00 17 38 18 2259.12 -.53 51.31 197.13 130.30 18 15 57 1259.1 15.37 33.04
 70.00 19 9 26 1991.20 3.90 32.94 200.49 123.96 19 42 37 991.2 17.29 12.65
 80.00 20 59 18 1847.31 7.80 9.22 202.88 118.91 21 26 46 647.3 18.99 347.45
 90.00 22 42 17 1315.17 9.57 345.74 203.82 116.74 23 4 12 315.2 19.77 323.35
 100.00 23 42 10 1121.78 7.80 330.59 202.88 118.91 24 0 52 121.8 18.99 308.81
 110.00 0 12 48 1038.02 3.90 321.86 200.49 123.96 0 30 6 38.0 17.29 301.57

DIFFERENTIAL CORRECTIONS
 TDE -.1560 TRA .7065 TC3-5.4889 BAU .6314 SGT 3571.8 SGR 316.4 SG3 1730.3 ORBIT DETERMINATION ACCURACY
 RDE -.0670 RRA .1148 RC3 -.2535 FAU .25632 RRT .7902 RRF .8324 RTF .9515 CRT .8845 CR8 -.1589 CST -.5905
 FDE .7485 FRA 6.0633 FC-25.8191 BSP 5683 SGB 3585.5 R23 .1277 R13 .9520 LSA 54.5 MSA 22.4 SBA .9
 BDE .1698 BRA .7158 BC3 5.4948 FSP 3028 SG1 3580.3 SG2 193.4 THA 4.02 EL1 28.6 EL2 3.4 ALF 13.64

LAUNCH DATE MAY 14 1971

FLIGHT TIME 220.00

ARRIVAL DATE DEC 20 1971

HELIOCENTRIC CONIC
 RL 151.18 LAL .00 LOL 232.57 VL 32.226 GAL -.50 AZL 91.43 HCA 165.86 SMA 185.05 ECC .18321 INC 1.4319 V1 29.471
 RP 216.73 LAP -.35 LOP 36.43 VP 22.528 GAP 3.80 AZP 88.61 TAL 356.76 TAP 162.62 RCA 151.13 APO 218.95 V2 25.347
 RC 163.849 GL -15.92 GP -3.38 ZAL 103.05 ZAP 79.40 ETS 178.89 ZAE 121.98 ETE 182.64 ZAC 98.73 ETC 273.10 LVI -8.38

PLANETOCENTRIC CONIC
 C3 8.629 VHL 2.937 DLA -23.98 RAL 344.27 RAD 8637.3 VEL 11.346 PTH 6.40 VHP 2.842 DPA -25.61 RAP 300.95 ECC 1.1420
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 25 47 2462.21 -5.51 64.82 193.31 137.33 17 8 50 1462.2 12.84 48.99
 60.00 17 35 53 2275.81 -1.26 52.11 197.39 130.28 18 13 40 1275.8 14.67 33.89
 70.00 19 5 21 2012.77 3.08 34.07 200.68 124.03 19 38 54 1012.8 16.55 13.89
 80.00 20 52 49 1876.42 6.84 10.85 203.00 119.13 21 20 48 676.4 18.19 349.24
 90.00 22 34 6 1349.74 8.51 347.72 203.90 117.07 22 56 36 349.7 18.92 325.53
 100.00 23 35 41 1150.89 6.84 332.22 203.00 119.13 23 54 52 150.9 18.19 310.61
 110.00 0 8 43 1059.59 3.08 322.99 200.68 124.03 0 26 23 59.6 16.55 302.81

DIFFERENTIAL CORRECTIONS
 TDE -.1385 TRA .7671 TC3-5.7360 BAU .6625 SGT 3756.4 SGR 326.7 SG3 1722.3 ORBIT DETERMINATION ACCURACY
 RDE -.0594 RRA .1198 RC3 -.2857 FAU .25514 RRT .8269 RRF .8678 RTF .9550 CRT .8769 CR8 -.1940 CST -.8318
 FDE .8239 FRA 6.0829 FC-25.5992 BSP 5987 SGB 3770.6 R23 .1356 R13 .9555 LSA 55.7 MSA 21.7 SBA .8
 BDE .1507 BRA .7764 BC3 5.7431 FSP 2990 SG1 3766.1 SG2 183.3 THA 4.12 EL1 29.1 EL2 3.3 ALF 12.23

LAUNCH DATE MAY 14 1971

FLIGHT TIME 222.00

ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC
 RL 151.18 LAL .00 LOL 232.57 VL 32.230 GAL -.56 AZL 91.39 HCA 167.01 SMA 185.13 ECC .18359 INC 1.3939 V1 29.471
 RP 217.08 LAP -.31 LOP 39.58 VP 22.491 GAP 3.64 AZP 88.84 TAL 356.40 TAP 163.41 RCA 151.14 APO 219.11 V2 25.308
 RC 166.178 GL -15.46 GP -3.65 ZAL 103.85 ZAP 77.72 ETS 178.51 ZAE 120.16 ETE 182.65 ZAC 98.49 ETC 272.97 LVI -7.91

PLANETOCENTRIC CONIC
 C3 8.684 VHL 2.943 DLA -23.32 RAL 344.85 RAD 8637.3 VEL 11.348 PTH 6.40 VHP 2.853 DPA -25.98 RAP 300.43 ECC 1.1428
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 24 10 2477.24 -6.26 65.45 193.60 137.26 17 5 28 1477.2 12.10 49.65
 60.00 17 33 4 2293.99 -2.06 52.98 197.63 130.26 18 11 18 1294.0 13.91 34.82
 70.00 19 0 49 2038.02 2.20 35.28 200.86 124.09 19 34 45 1036.0 15.75 15.21
 80.00 20 45 54 1707.15 5.82 12.56 203.10 119.34 21 14 22 707.1 17.33 351.11
 90.00 22 25 37 1385.56 7.39 349.76 203.96 117.37 22 48 42 385.6 18.02 327.77
 100.00 23 28 46 1181.82 5.82 333.93 203.10 119.34 23 48 28 181.8 17.33 312.48
 110.00 0 4 12 1082.84 2.20 324.20 200.86 124.09 0 22 14 82.8 15.75 304.13

DIFFERENTIAL CORRECTIONS
 TDE -.1147 TRA .8312 TC3-5.9587 BAU .6912 SGT 3931.8 SGR 340.8 SG3 1705.9 ORBIT DETERMINATION ACCURACY
 RDE -.0510 RRA .1258 RC3 -.3185 FAU .25131 RRT .8581 RRF .8990 RTF .9570 CRT .8737 CR8 -.2432 CST -.8748
 FDE .9307 FRA 6.1148 FC-25.1125 BSP 6334 SGB 3946.6 R23 .1484 R13 .9575 LSA 57.3 MSA 20.8 SBA .8
 BDE .1255 BRA .8407 BC3 5.9672 FSP 2982 SG1 3942.7 SG2 174.5 THA 4.26 EL1 29.7 EL2 3.0 ALF 10.94

LAUNCH DATE MAY 14 1971 FLIGHT TIME 224.00 ARRIVAL DATE DEC 24 1971

HELIOCENTRIC CONIC DISTANCE 526.199 EARTH TO MARS
 RL 151.18 LAL .00 LOL 232.57 VL 32.235 GAL -.62 AZL 91.35 HCA 166.16 SMA 185.21 ECC .18401 INC 1.3481 V1 29.471
 RP 217.43 LAP -.28 LOP 40.73 VP 22.454 GAP 3.49 AZP 88.68 TAL 356.04 TAP 164.19 RCA 151.13 APO 219.29 V2 25.269
 RC 169.717 GL -14.91 GP -3.98 ZAL 104.28 ZAP 76.08 ETS 178.30 ZAE 118.37 ZAE 182.68 ZAC 98.19 ETC 272.85 LVI -7.43

PLANETOCENTRIC CONIC
 C3 8.700 VHL 2.950 DLA -22.59 RAL 345.00 RAD 6637.4 VEL 11.349 PTH 6.40 VHP 2.865 DPA -26.40 RAP 299.96 ECC 1.1432
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 22 9 2493.83 -7.09 66.16 193.87 137.17 17 3 43 1493.8 11.29 50.38
 60.00 17 29 47 2313.98 -2.94 53.93 197.85 130.21 18 8 21 1314.0 13.06 35.84
 70.00 18 55 43 2061.35 1.23 36.61 201.01 124.13 19 30 4 1061.3 14.87 16.64
 80.00 20 38 24 1739.96 4.72 14.37 203.18 119.52 21 7 24 740.0 16.38 353.09
 90.00 22 16 37 1423.20 6.21 351.89 203.99 117.65 22 40 20 423.2 17.03 330.10
 100.00 23 21 16 1214.44 4.72 335.74 203.18 119.52 23 41 31 214.4 16.38 314.46
 110.00 23 55 9 1108.16 1.23 325.52 201.01 124.13 24 13 37 108.2 14.87 305.56

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.0899 TRA .8951 TC3-6.1910 BAU .7213 SGT 4112.8 SGR 361.6 SG3 1691.8 ST 30.1 SR 5.9 SS 54.1
 RDE -.0423 RRA .1338 RC3 -.3588 FAU .24838 RRT .8858 RRF .9264 RTF .9591 CRT .8841 CRS -.3242 CST -.7194
 FDE 1.0185 FRA 6.1401 FC-24.7169 BSP 6645 SGB 4128.6 R23 .1626 R13 .9596 LSA 58.9 MSA 19.9 SSA .7
 BDE .0993 BRA .9050 BC3 6.2014 FSP 2946 SG1 4125.3 SG2 167.3 THA 4.46 EL1 30.5 EL2 2.7 ALF 9.92

LAUNCH DATE MAY 14 1971 FLIGHT TIME 226.00 ARRIVAL DATE DEC 26 1971

HELIOCENTRIC CONIC DISTANCE 530.373 EARTH TO MARS
 RL 151.18 LAL .00 LOL 232.57 VL 32.241 GAL -.68 AZL 91.29 HCA 169.30 SMA 185.30 ECC .18446 INC 1.2936 V1 29.471
 RP 217.79 LAP -.24 LOP 41.87 VP 22.417 GAP 3.33 AZP 88.73 TAL 355.66 TAP 164.97 RCA 151.12 APO 219.48 V2 25.229
 RC 171.268 GL -14.27 GP -4.37 ZAL 104.92 ZAP 74.50 ETS 178.06 ZAE 116.62 ETE 182.71 ZAC 97.83 ETC 272.73 LVI -6.90

PLANETOCENTRIC CONIC
 C3 8.735 VHL 2.956 DLA -21.78 RAL 345.31 RAD 6637.4 VEL 11.351 PTH 6.40 VHP 2.880 DPA -26.86 RAP 299.54 ECC 1.1438
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 19 37 2512.40 -8.02 66.95 194.10 137.06 17 1 29 1512.4 10.37 51.18
 60.00 17 25 51 2336.24 -3.92 55.00 198.02 130.14 18 4 47 1336.2 12.12 36.96
 70.00 18 49 31 2089.28 .18 38.08 201.11 124.15 19 24 41 1089.3 13.88 16.20
 80.00 20 30 7 1775.52 3.52 16.34 203.21 119.67 20 59 42 775.5 15.34 355.21
 90.00 22 6 92 1463.41 4.93 354.16 203.98 117.88 22 31 16 463.4 15.95 332.55
 100.00 23 12 59 1249.99 3.52 337.70 203.21 119.67 23 33 49 250.0 15.34 316.58
 110.00 23 49 18 1136.10 .18 326.98 201.11 124.15 24 8 14 136.1 13.88 307.12

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.0590 TRA .9578 TC3-6.4128 BAU .7504 SGT 4287.1 SGR 388.7 SG3 1671.1 ST 31.1 SR 5.5 SS 55.2
 RDE -.0327 RRA .1434 RC3 -.4057 FAU .24489 RRT .9089 RRF .9486 RTF .9610 CRT .9054 CRS -.4309 CST -.7639
 FDE 1.1212 FRA 6.1331 FC-24.2311 BSP 6986 SGB 4304.7 R23 .1772 R13 .9615 LSA 60.7 MSA 18.8 SSA .7
 BDE .0674 BRA .9685 BC3 6.4256 FSP 2927 SG1 4301.6 SG2 161.5 THA 4.72 EL1 31.5 EL2 2.3 ALF 9.17

LAUNCH DATE MAY 14 1971 FLIGHT TIME 228.00 ARRIVAL DATE DEC 28 1971

HELIOCENTRIC CONIC DISTANCE 534.544 EARTH TO MARS
 RL 151.18 LAL .00 LOL 232.57 VL 32.246 GAL -.74 AZL 91.23 HCA 170.45 SMA 185.39 ECC .18495 INC 1.2260 V1 29.471
 RP 218.15 LAP -.20 LOP 43.01 VP 22.380 GAP 3.18 AZP 88.79 TAL 355.28 TAP 165.73 RCA 151.10 APO 219.68 V2 25.189
 RC 173.829 GL -13.49 GP -4.85 ZAL 105.58 ZAP 72.96 ETS 177.77 ZAE 114.90 ETE 182.77 ZAC 97.37 ETC 272.63 LVI -6.30

PLANETOCENTRIC CONIC
 C3 8.768 VHL 2.961 DLA -20.80 RAL 345.58 RAD 6637.4 VEL 11.352 PTH 6.41 VHP 2.896 DPA -27.41 RAP 299.19 ECC 1.1443
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 16 22 2533.54 -9.07 67.85 194.28 136.91 16 58 36 1533.5 9.32 52.09
 60.00 17 21 4 2361.48 -5.03 56.21 198.14 130.04 18 0 26 1361.5 11.04 36.22
 70.00 18 42 59 2120.65 -1.04 39.70 201.16 124.14 19 18 20 1120.6 12.75 19.94
 80.00 20 20 44 1814.76 2.20 18.50 203.18 119.78 20 50 58 814.8 14.16 357.52
 90.00 21 56 4 1507.25 3.53 356.62 203.92 118.08 22 21 11 507.3 14.73 335.19
 100.00 23 3 35 1289.23 2.20 339.86 203.18 119.78 23 25 5 289.2 14.16 316.89
 110.00 23 42 26 1167.47 -1.04 328.62 201.16 124.14 24 1 53 167.5 12.75 308.85

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.0247 TRA 1.0205 TC3-6.6405 BAU .7803 SGT 4464.3 SGR 426.3 SG3 1651.6 ST 32.3 SR 5.3 SS 56.1
 RDE -.0223 RRA .1560 RC3 -.4643 FAU .24142 RRT .9277 RRF .9862 RTF .529 CRT .9372 CRS -.5679 CST -.8096
 FDE 1.2110 FRA 6.1234 FC-23.8364 BSP 7293 SGB 4484.6 R23 .1921 R13 .9636 LSA 62.6 MSA 17.5 SSA .7
 BDE .0332 BRA 1.0324 BC3 6.6567 FSP 2878 SG1 4481.8 SG2 158.5 THA 5.07 EL1 32.7 EL2 1.8 ALF 8.79

LAUNCH DATE MAY 14 1971 FLIGHT TIME 230.00 ARRIVAL DATE DEC 30 1971

HELIOCENTRIC CONIC DISTANCE 538.715 EARTH TO MARS
 RL 151.18 LAL .00 LOL 232.57 VL 32.252 GAL -.80 AZL 91.14 HCA 171.50 SMA 185.49 ECC .18546 INC 1.1395 V1 29.471
 RP 218.51 LAP -.17 LOP 44.15 VP 22.344 GAP 3.03 AZP 88.87 TAL 354.89 TAP 166.48 RCA 151.09 APO 219.89 V2 25.149
 RC 176.400 GL -12.51 GP -5.46 ZAL 106.25 ZAP 71.47 ETS 177.41 ZAE 113.20 ETE 182.86 ZAC 96.79 ETC 272.53 LVI -5.60

PLANETOCENTRIC CONIC
 C3 8.798 VHL 2.966 DLA -19.67 RAL 345.77 RAD 6637.4 VEL 11.354 PTH 6.41 VHP 2.915 DPA -28.08 RAP 298.89 ECC 1.1448
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 12 8 2558.16 -10.29 68.91 194.39 136.71 16 54 47 1558.2 8.09 53.15
 60.00 17 15 6 2390.73 -6.30 57.62 198.18 129.89 17 54 57 1390.7 9.78 39.67
 70.00 18 34 43 2156.66 -2.41 41.58 201.12 124.08 19 10 40 1156.7 11.45 21.91
 80.00 20 9 48 1859.09 .70 20.93 203.06 119.85 20 40 47 859.1 12.79 .10
 90.00 21 43 42 1556.21 1.96 359.36 203.76 118.22 22 9 38 556.2 13.34 338.11
 100.00 22 52 40 1333.56 .70 342.30 203.06 119.85 23 14 53 333.6 12.79 321.47
 110.00 23 34 10 1203.47 -2.41 330.50 201.12 124.08 23 54 13 203.5 11.45 310.83

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .0101 TRA 1.0723 TC3-6.8965 BAU .8137 SGT 4645.0 SGR 476.8 SG3 1629.3 ST 33.6 SR 5.4 SS 55.7
 RDE -.0122 RRA .1701 RC3 -.5461 FAU .24111 RRT .9449 RRF .9791 RTF .9673 CRT .9649 CRS -.7024 CST -.8547
 FDE 1.2369 FRA 6.0063 FC-23.7269 BSP 7490 SGB 4669.4 R23 .1959 R13 .9679 LSA 63.3 MSA 15.7 SSA .6
 BDE .0159 BRA 1.0857 BC3 6.9181 FSP 2732 SG1 4666.8 SG2 155.4 THA 5.55 EL1 34.0 EL2 1.4 ALF 8.82

LAUNCH DATE MAY 14 1971 FLIGHT TIME 232.00 ARRIVAL DATE JAN 1 1972

Table with columns for Heliocentric Conic, Planeto-centric Conic, and Differential Corrections. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, and TDE, RDE, FDE, BDE.

LAUNCH DATE MAY 14 1971 FLIGHT TIME 234.00 ARRIVAL DATE JAN 3 1972

Table with columns for Heliocentric Conic, Planeto-centric Conic, and Differential Corrections. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, and TDE, RDE, FDE, BDE.

LAUNCH DATE MAY 14 1971 FLIGHT TIME 236.00 ARRIVAL DATE JAN 5 1972

Table with columns for Heliocentric Conic, Planeto-centric Conic, and Differential Corrections. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, and TDE, RDE, FDE, BDE.

LAUNCH DATE MAY 14 1971 FLIGHT TIME 238.00 ARRIVAL DATE JAN 7 1972

Table with columns for Heliocentric Conic, Planeto-centric Conic, and Differential Corrections. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, and TDE, RDE, FDE, BDE.

LAUNCH DATE MAY 14 1971 FLIGHT TIME 240.00 ARRIVAL DATE JAN 9 1972

HELIOCENTRIC CONIC DISTANCE 559.500 EARTH TO MARS
 RL 151.18 LAL .00 LOL 232.57 VL 32.286 GAL -1.13 AZL 89.70 HCA 177.21 SMA 186.06 ECC .18847 INC .1931 V1 29.471
 RP 220.36 LAP .01 LOP 49.78 VP 22.184 GAP 2.29 AZP 90.29 TAL 352.85 TAP 170.06 RCA 151.00 APO 221.13 V2 24.948
 RC 189.399 GL 3.18 GP -15.39 ZAL 109.89 ZAP 65.54 ETS 171.99 ZAE 104.85 ETE 184.69 ZAC 86.94 ETC 272.19 LVI 4.07

PLANETOCENTRIC CONIC
 C3 8.989 VHL 2.995 DLA -3.93 RAL 342.64 RAD 6637.5 VEL 11.361 PTH 6.41 VHP 3.123 DPA -38.05 RAP 299.74 ECC 1.1476
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 57 58 2882.03 -25.75 84.16 192.39 131.50 15 46 0 1882.0 -8.14 66.77
 60.00 15 41 43 2765.65 -21.95 76.94 195.65 124.69 16 27 49 1765.6 -6.64 57.72
 70.00 16 38 36 2598.37 -18.48 65.68 197.96 119.25 17 21 55 1598.4 -5.24 45.20
 80.00 17 51 8 2371.32 -15.94 49.83 199.34 115.59 18 30 39 1371.3 -4.20 28.62
 90.00 19 14 24 2102.61 -14.98 30.54 199.80 114.27 19 49 27 1102.6 -3.81 9.08
 100.00 20 34 0 1845.79 -15.94 11.20 199.34 115.59 21 4 45 845.8 -4.20 349.99
 110.00 21 38 3 1645.19 -18.48 354.80 197.96 119.25 22 5 28 645.2 -5.24 334.12

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .5867 TRA 1.2043 TC3-8.1662 BAU 1.0005 SGT 5524.4 SGR 1378.0 SCS 1400.6 ST 66.4 SR 21.0 SS 72.9
 RDE .1845 RRA .4432 RC3-1.7123 FAU .20781 RRT .9689 RRF .9997 RTF .9682 CRT .9966 CRS -.9991 CST -.9986
 FDE 2.3520 FRA 5.1672 FC-20.0579 BSP 8547 SGB 5693.6 R23 .2356 R13 .9716 LSA 100.9 MSA 2.8 SSA .7
 BDE .6150 BRA 1.2633 BC3 8.3438 FSP 2248 SGI 5684.0 SGI 331.5 THA 13.63 EL1 69.8 EL2 1.7 ALF 18.16

LAUNCH DATE MAY 14 1971 FLIGHT TIME 242.00 ARRIVAL DATE JAN 11 1972

HELIOCENTRIC CONIC DISTANCE 563.644 EARTH TO MARS
 RL 151.18 LAL .00 LOL 232.57 VL 32.294 GAL -1.20 AZL 88.28 HCA 178.32 SMA 186.19 ECC .18915 INC 1.7041 V1 29.471
 RP 220.74 LAP .05 LOP 50.89 VP 22.129 GAP 2.14 AZP 91.72 TAL 352.42 TAP 170.75 RCA 150.97 APO 221.41 V2 24.904
 RC 192.025 GL 17.94 GP -24.25 ZAL 109.64 ZAP 66.03 ETS 167.58 ZAE 102.72 ETE 186.36 ZAC 78.09 ETC 272.23 LVI 12.27

PLANETOCENTRIC CONIC
 C3 9.925 VHL 3.150 DLA 9.99 RAL 337.68 RAD 6638.0 VEL 11.403 PTH 6.45 VHP 3.354 DPA -46.70 RAP 302.33 ECC 1.1633
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 46 52 3179.82 -37.90 102.12 193.77 121.25 14 39 52 2179.8 -22.57 80.34
 60.00 14 15 35 3103.42 -33.39 98.13 196.68 114.02 15 7 18 2103.4 -20.80 75.02
 70.00 14 55 36 2985.67 -29.33 90.45 198.52 108.55 15 45 22 1985.7 -19.14 66.58
 80.00 15 52 38 2807.02 -26.37 77.89 199.51 104.54 16 39 25 1807.0 -17.90 53.68
 90.00 17 9 6 2560.22 -25.25 60.06 199.82 103.17 17 51 46 1560.2 -17.43 35.76
 100.00 18 35 29 2281.50 -26.37 39.26 199.51 104.54 19 13 31 1281.5 -17.90 15.05
 110.00 19 55 2 2032.49 -29.33 19.37 198.52 108.35 20 28 55 1032.5 -19.14 355.50

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.2075 TRA 1.0637 TC3-7.6838 BAU 1.0714 SGT 5687.5 SGR 2158.8 SCS 1188.2 ST 113.9 SR 47.7 SS 89.7
 RDE .4856 RRA .8490 RC3-2.4811 FAU .17886 RRT .9695 RRF .9999 RTF .9667 CRT .9922 CRS -1.0000 CST -.9925
 FDE 3.1509 FRA 4.1826 FC-15.6015 BSP 8949 SGB 6064.7 R23 .2261 R13 .9741 LSA 152.3 MSA 9.4 SSA .1
 BDE 1.3015 BRA 1.2461 BC3 8.0744 FSP 1873 SGI 6044.5 SGI 495.0 THA 20.41 EL1 123.4 EL2 5.5 ALF 22.82

LAUNCH DATE MAY 14 1971 FLIGHT TIME 244.00 ARRIVAL DATE JAN 13 1972

HELIOCENTRIC CONIC DISTANCE 567.775 EARTH TO MARS
 RL 151.18 LAL .00 LOL 232.57 VL 32.302 GAL -1.27 AZL 81.32 HCA 179.43 SMA 186.32 ECC .18985 INC 8.6487 V1 29.471
 RP 221.12 LAP .09 LOP 52.00 VP 22.093 GAP 2.00 AZP 88.54 TAL 352.00 TAP 171.43 RCA 150.95 APO 221.70 V2 24.863
 RC 194.659 GL 61.09 GP -50.10 ZAL 101.38 ZAP 74.21 ETS 159.09 ZAE 99.04 ETE 191.83 ZAC 52.17 ETC 273.36 LVI 38.22

PLANETOCENTRIC CONIC
 C3 31.019 VHL 5.589 DLA 49.35 RAL 318.23 RAD 6647.4 VEL 12.286 PTH 7.22 VHP 5.260 DPA -70.41 RAP 324.00 ECC 1.8105
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 47.70 6 51 33 4582.58 -21.91 212.64 206.04 44.60 8 7 56 3582.6 -38.13 191.73
 47.70 6 51 33 4582.58 -21.91 212.64 206.04 44.60 8 7 56 3582.6 -38.13 191.73
 47.70 6 51 33 4582.58 -21.91 212.64 206.04 44.60 8 7 56 3582.6 -38.13 191.73
 47.70 6 51 33 4582.58 -21.91 212.64 206.04 44.60 8 7 56 3582.6 -38.13 191.73
 47.70 6 51 33 4582.58 -21.91 212.64 206.04 44.60 8 7 56 3582.6 -38.13 191.73
 47.70 6 51 33 4582.58 -21.91 212.64 206.04 44.60 8 7 56 3582.6 -38.13 191.73
 47.70 6 51 33 4582.58 -21.91 212.64 206.04 44.60 8 7 56 3582.6 -38.13 191.73

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 3.9185 TRA -.8319 TC3-3.6274 BAU 1.8180 SGT 5794.2 SGR 3999.9 SCS 362.3 ST 202.2 SR 145.0 SS 68.9
 RDE 2.8162 RRA .2345 RC3-2.4534 FAU .09107 RRT .9844 RRF .9981 RTF .5.63 CRT .9937 CRS -.9997 CST -.9905
 FDE 2.9410 FRA .4083 FC3-2.9419 BSP 951 SGB 7040.7 R23 .2415 R13 .9704 LSA 257.8 MSA 14.8 SSA .0
 BDE 4.8255 BRA .6740 BC3 4.3792 FSP 76 SGI 6985.9 SGI 877.0 THA 34.27 EL1 248.5 EL2 13.2 ALF 35.59

LAUNCH DATE MAY 14 1971 FLIGHT TIME 246.00 ARRIVAL DATE JAN 17 1972

HELIOCENTRIC CONIC DISTANCE 576.063 EARTH TO MARS
 RL 151.18 LAL .00 LOL 232.57 VL 32.318 GAL -1.43 AZL 95.47 HCA 181.65 SMA 186.60 ECC .19135 INC 5.4325 V1 29.471
 RP 221.88 LAP .16 LOP 54.21 VP 22.023 GAP 1.71 AZP 84.54 TAL 351.09 TAP 172.75 RCA 150.89 APO 222.30 V2 24.780
 RC 199.945 GL -48.28 GP 23.96 ZAL 106.17 ZAP 62.84 ETS 192.33 ZAE 100.04 ETE 176.03 ZAC 126.23 ETC 272.86 LVI -32.23

PLANETOCENTRIC CONIC
 C3 18.129 VHL 4.258 DLA -46.72 RAL 11.59 RAD 6642.0 VEL 11.754 PTH 6.78 VHP 3.423 DPA .75 RAP 292.64 ECC 1.2984
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 42 36 1928.18 20.89 41.58 247.26 133.77 22 14 44 928.2 36.61 20.49
 51.12 22 41 59 1779.09 26.86 33.15 253.09 129.79 23 11 38 779.1 40.60 9.08
 51.12 22 41 59 1779.09 26.86 33.15 253.09 129.79 23 11 38 779.1 40.60 9.08
 51.12 22 41 59 1779.09 26.86 33.15 253.09 129.79 23 11 38 779.1 40.60 9.08
 51.12 22 41 59 1779.09 26.86 33.15 253.09 129.79 23 11 38 779.1 40.60 9.08
 51.12 22 41 59 1779.09 26.86 33.15 253.09 129.79 23 11 38 779.1 40.60 9.08
 51.12 22 41 59 1779.09 26.86 33.15 253.09 129.79 23 11 38 779.1 40.60 9.08

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.8160 TRA 2.1433 TC3-4.9400 BAU 1.2565 SGT 6050.0 SGR 2216.1 SCS 1093.6 ST 83.9 SR 26.6 SS 46.4
 RDE -.0324 RRA -.8992 RC3 1.5726 FAU .18581 RRT -.9705 RRF -.9992 RTF .9609 CRT -.6997 CRS .9879 CST -.5804
 FDE .5489 FRA 5.1592 FC3-8.8731 BSP 8232 SGB 6443.1 R23 .2494 R13 -.9683 LSA 91.6 MSA 38.8 SSA .1
 BDE .8166 BRA 2.3242 BC3 5.1842 FSP 1617 SGI 6423.5 SGI 503.1 THA 160.30 EL1 86.0 EL2 18.6 ALF 166.85

LAUNCH DATE MAY 14 1971 FLIGHT TIME 250.00 ARRIVAL DATE JAN 19 1972

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCM, and TDE.

LAUNCH DATE MAY 14 1971 FLIGHT TIME 252.00 ARRIVAL DATE JAN 21 1972

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCM, and TDE.

LAUNCH DATE MAY 14 1971 FLIGHT TIME 254.00 ARRIVAL DATE JAN 23 1972

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCM, and TDE.

LAUNCH DATE MAY 14 1971 FLIGHT TIME 256.00 ARRIVAL DATE JAN 25 1972

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCM, and TDE.

LAUNCH DATE MAY 14 1971 FLIGHT TIME 258.00 ARRIVAL DATE JAN 27 1972

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG, DPA, RAP, ECC, LVI, TDE, RDE, FDE, BDE, SGT, RRT, SGB, SGI, ST, CRT, LSA, EL1.

LAUNCH DATE MAY 14 1971 FLIGHT TIME 260.00 ARRIVAL DATE JAN 29 1972

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG, DPA, RAP, ECC, LVI, TDE, RDE, FDE, BDE, SGT, RRT, SGB, SGI, ST, CRT, LSA, EL1.

LAUNCH DATE MAY 14 1971 FLIGHT TIME 262.00 ARRIVAL DATE JAN 31 1972

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG, DPA, RAP, ECC, LVI, TDE, RDE, FDE, BDE, SGT, RRT, SGB, SGI, ST, CRT, LSA, EL1.

LAUNCH DATE MAY 14 1971 FLIGHT TIME 264.00 ARRIVAL DATE FEB 2 1972

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG, DPA, RAP, ECC, LVI, TDE, RDE, FDE, BDE, SGT, RRT, SGB, SGI, ST, CRT, LSA, EL1.

LAUNCH DATE MAY 14 1971

FLIGHT TIME 266.00

ARRIVAL DATE FEB 4 1972

HELIOCENTRIC CONIC

DISTANCE 613.039

EARTH TO MARS

RL 151.18 LAL .00 LOL 232.57 VL 32.398 GAL -2.16 AZL 92.36 HCA 191.41 SMA 187.97 ECC .19914 INC 2.3632 V1 29.471
RP 225.37 LAP .47 LOP 63.97 VP 21.718 GAP .41 AZP 87.68 TAL 346.94 TAP 178.35 RCA 150.53 APO 225.40 V2 24.403
RC 223.884 GL -22.07 GP 3.43 ZAL 116.77 ZAP 50.86 ETS 182.03 ZAE 89.16 ETE 180.50 ZAC 105.71 ETC 272.44 LVI -13.99

PLANETOCENTRIC CONIC

C3 12.633 VHL 3.554 DLA -23.47 RAL 1.62 RAD 6639.4 VEL 11.520 PTH 6.57 VHP 3.338 DPA -19.45 RAP 296.39 ECC 1.2079
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 32 34 2550.28 -9.90 68.57 214.17 136.78 18 15 4 1530.3 6.49 52.81
60.00 18 41 44 2366.34 -5.24 56.45 218.62 130.02 19 21 10 1366.3 10.83 38.46
70.00 20 9 51 2107.27 -.53 39.00 222.18 124.15 20 44 59 1107.3 13.23 19.20
80.00 21 55 27 1776.80 3.48 16.41 224.68 119.67 22 25 4 776.8 15.30 355.28
90.00 23 35 29 1454.15 5.23 353.64 225.64 117.83 23 59 43 454.2 16.20 331.99
100.00 0 42 15 1251.27 3.48 337.78 224.68 119.67 1 3 6 251.3 15.30 316.65
110.00 1 13 14 1154.09 -.53 327.92 222.18 124.15 1 32 28 154.1 13.23 308.12

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .1295 TRA 2.8081 TC3-7.6776 BAU 1.2976 SGT 7360.9 SGR 427.4 SG3 1168.6 ST 73.2 SR 6.4 SS 59.3
RDE .0398 RRA -.2090 RC3 .2938 FAU .16159 RRT -.9342 RRF -.9358 RTF .9671 CRT -.7855 CRS .3641 CST -.8609
FDE 1.5877 FRA 6.0868 FC-11.0733 BSP 12518 SGB 7373.3 R23 .0893 R13 -.9672 LSA 92.7 MSA 25.0 SSA .5
BDE .1355 BRA 2.8159 BC3 7.6832 FSP 2101 SG1 7371.7 SG2 152.2 THA 176.89 EL1 75.4 EL2 3.9 ALF 176.18

LAUNCH DATE MAY 14 1971

FLIGHT TIME 266.00

ARRIVAL DATE FEB 6 1972

HELIOCENTRIC CONIC

DISTANCE 617.121

EARTH TO MARS

RL 151.18 LAL .00 LOL 232.57 VL 32.407 GAL -2.25 AZL 92.32 HCA 192.47 SMA 188.13 ECC .20D10 INC 2.3176 V1 29.471
RP 225.76 LAP .50 LOP 65.03 VP 21.685 GAP .27 AZP 87.74 TAL 346.46 TAP 178.94 RCA 150.48 APO 225.77 V2 24.361
RC 226.550 GL -21.50 GP 3.11 ZAL 117.50 ZAP 50.01 ETS 181.85 ZAE 88.06 ETE 180.55 ZAC 105.38 ETC 272.50 LVI -13.38

PLANETOCENTRIC CONIC

C3 12.777 VHL 3.574 DLA -22.69 RAL 1.97 RAD 6639.4 VEL 11.526 PTH 6.57 VHP 3.365 DPA -19.73 RAP 296.68 ECC 1.2103
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 30 19 2569.60 -10.86 69.41 214.53 136.61 18 13 8 1569.6 7.52 53.64
60.00 18 38 6 2389.31 -6.24 57.55 218.91 129.90 19 17 56 1389.3 9.84 39.60
70.00 20 4 17 2135.99 -1.62 40.50 222.40 124.12 20 39 53 1136.0 12.20 20.78
80.00 21 47 16 1813.66 2.24 18.43 224.81 119.78 22 17 30 813.7 14.19 357.46
90.00 23 25 39 1496.30 3.88 356.00 225.72 118.03 23 50 36 496.3 15.04 334.54
100.00 0 34 4 1288.13 2.24 339.80 224.81 119.78 0 55 32 288.1 14.19 318.83
110.00 1 7 39 1182.81 -1.62 329.42 222.40 124.12 1 27 22 182.8 12.20 309.70

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .1768 TRA 2.9014 TC3-7.7486 BAU 1.3244 SGT 7495.0 SGR 405.2 SG3 1145.1 ST 77.4 SR 6.5 SS 59.7
RDE .0483 RRA -.2020 RC3 .2619 FAU .15785 RRT -.9167 RRF -.9152 RTF .9669 CRT -.6827 CRS .2426 CST -.8732
FDE 1.6340 FRA 6.0460 FC-10.6955 BSP 12723 SGB 7506.0 R23 .0711 R13 -.9670 LSA 94.8 MSA 24.4 SSA .6
BDE .1833 BRA 2.9084 BC3 7.7531 FSP 2035 SG1 7504.2 SG2 161.7 THA 177.16 EL1 77.5 EL2 4.8 ALF 176.69

LAUNCH DATE MAY 14 1971

FLIGHT TIME 270.00

ARRIVAL DATE FEB 8 1972

HELIOCENTRIC CONIC

DISTANCE 621.198

EARTH TO MARS

RL 151.18 LAL .00 LOL 232.57 VL 32.417 GAL -2.33 AZL 92.28 HCA 193.54 SMA 188.29 ECC .20109 INC 2.2797 V1 29.471
RP 226.15 LAP .53 LOP 66.09 VP 21.653 GAP .12 AZP 87.78 TAL 345.98 TAP 179.52 RCA 150.43 APO 226.16 V2 24.319
RC 229.216 GL -20.99 GP 2.85 ZAL 118.22 ZAP 49.19 ETS 181.70 ZAE 86.98 ETE 180.59 ZAC 105.10 ETC 272.55 LVI -13.22

PLANETOCENTRIC CONIC

C3 12.939 VHL 3.597 DLA -21.96 RAL 2.35 RAD 6639.5 VEL 11.533 PTH 6.58 VHP 3.392 DPA -19.95 RAP 296.98 ECC 1.2129
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 28 30 2987.86 -11.76 70.20 214.94 136.44 18 11 38 1587.9 6.61 54.41
60.00 18 35 4 2410.82 -7.18 58.60 219.29 129.76 19 15 15 1410.8 8.91 40.65
70.00 19 59 32 2182.52 -2.63 41.89 222.71 124.08 20 35 35 1162.5 11.23 22.23
80.00 21 40 22 1846.97 1.11 20.28 225.05 119.84 22 11 9 847.0 13.17 359.40
90.00 23 17 27 1533.80 2.68 358.10 225.92 118.16 23 43 1 533.8 13.98 336.78
100.00 0 27 9 1321.45 1.11 341.63 225.05 119.84 0 49 11 321.4 13.17 320.77
110.00 1 2 35 1209.33 -2.63 330.80 222.71 124.08 1 23 4 209.3 11.23 311.12

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .2295 TRA 3.0032 TC3-7.7884 BAU 1.3475 SGT 7623.4 SGR 388.4 SG3 1121.5 ST 79.9 SR 8.8 SS 60.2
RDE .0569 RRA -.1971 RC3 .2331 FAU .15339 RRT -.8980 RRF -.8915 RTF .9664 CRT -.5785 CRS .1325 CST -.8891
FDE 1.6891 FRA 6.0131 FC-10.2635 BSP 13013 SGB 7633.3 R23 .0565 R13 -.9665 LSA 97.5 MSA 23.8 SSA .6
BDE .2363 BRA 3.0097 BC3 7.7898 FSP 2028 SG1 7631.3 SG2 172.3 THA 177.39 EL1 80.0 EL2 5.5 ALF 177.18

LAUNCH DATE MAY 14 1971

FLIGHT TIME 272.00

ARRIVAL DATE FEB 10 1972

HELIOCENTRIC CONIC

DISTANCE 625.265

EARTH TO MARS

RL 151.18 LAL .00 LOL 232.57 VL 32.426 GAL -2.42 AZL 92.25 HCA 194.59 SMA 188.46 ECC .20209 INC 2.2472 V1 29.471
RP 226.55 LAP .57 LOP 67.13 VP 21.620 GAP -.02 AZP 87.82 TAL 345.50 TAP 180.10 RCA 150.37 APO 226.55 V2 24.278
RC 231.880 GL -20.54 GP 2.62 ZAL 118.93 ZAP 48.38 ETS 181.58 ZAE 85.92 ETE 180.62 ZAC 104.86 ETC 272.62 LVI -13.11

PLANETOCENTRIC CONIC

C3 13.116 VHL 3.622 DLA -21.28 RAL 2.75 RAD 6639.6 VEL 11.541 PTH 6.59 VHP 3.420 DPA -20.13 RAP 297.31 ECC 1.2159
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 17 27 2 2605.30 -12.62 70.97 215.41 136.27 18 10 27 1605.3 5.74 55.15
60.00 18 32 30 2431.21 -8.07 59.59 219.72 129.62 19 13 1 1431.2 8.03 41.65
70.00 19 55 27 2187.36 -3.58 43.19 223.09 123.99 20 31 54 1187.4 10.32 23.97
80.00 21 34 25 1877.63 .07 21.95 225.36 119.86 22 5 42 877.6 12.21 1.18
90.00 23 10 28 1567.91 1.58 .01 226.20 118.24 23 36 34 567.9 13.00 338.80
100.00 0 21 13 1352.10 -.07 343.31 225.36 119.86 0 43 45 352.1 12.21 322.54
110.00 0 58 49 1234.18 -3.58 332.10 223.09 123.99 1 19 23 234.2 10.32 312.49

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .2785 TRA 3.1056 TC3-7.8210 BAU 1.3719 SGT 7751.7 SGR 378.0 SG3 1098.1 ST 82.5 SR 7.1 SS 60.6
RDE .0648 RRA -.1937 RC3 .2083 FAU .14920 RRT -.8725 RRF -.8652 RTF .9660 CRT -.4749 CRS .0354 CST -.8953
FDE 1.7307 FRA 5.9813 FC3-9.8486 BSP 13250 SGB 7780.8 R23 .0447 R13 -.9660 LSA 100.0 MSA 23.3 SSA .7
BDE .2860 BRA 3.1117 BC3 7.8238 FSP 1988 SG1 7750.8 SG2 183.5 THA 177.58 EL1 82.6 EL2 6.3 ALF 177.64

LAUNCH DATE MAY 14 1971

FLIGHT TIME 274.00

ARRIVAL DATE FEB 12 1972

HELIOCENTRIC CONIC															DISTANCE 629.333															EARTH TO MARS														
RL 151.18 LAL .00 LOL 232.57 VL 32.436 GAL -2.51 AZL 92.22 HCA 195.65 SMA 188.83 ECC .20311 INC 2.2189 V1 29.471															RP 226.94 LAP .60 LOP 68.20 VP 21.588 GAP -.17 AZP 87.86 TAL 345.02 TAP 180.67 RCA 180.32 APO 226.94 V2 24.236															RC 234.543 GL -20.12 GP 2.42 ZAL 119.63 ZAP 47.62 ETS 181.47 ZAE 84.89 ETE 180.65 ZAC 104.64 ETC 272.66 LVI -13.03														
PLANETOCENTRIC CONIC																																												
C3 13.306 VHL 3.648 DLA -20.64 RAL 3.17 RAD 6639.7 VEL 11.549 PTH 6.59 VHP 3.448 DPA -20.28 RAP 297.65 ECC 1.2180															LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG																													
50.00 17 25 50 2622.09 -13.44 71.71 215.93 136.08 18 9 32 1622.1 4.90 55.86															60.00 18 30 17 2450.71 -8.91 80.94 220.20 129.47 19 11 8 1450.7 7.18 42.60																													
70.00 19 51 52 2210.88 -4.48 44.42 223.52 123.89 20 28 43 1210.9 9.45 24.84															80.00 21 29 12 1906.24 -.90 23.52 225.75 119.85 22 0 58 906.2 11.31 2.82																													
90.00 23 4 19 1599.44 .56 1.77 226.56 118.27 23 30 58 599.4 12.07 340.65															100.00 0 16 0 1380.72 -.90 344.88 225.75 119.85 0 39 1 380.7 11.31 324.19																													
110.00 0 55 14 1257.70 -4.48 333.34 223.52 123.89 1 16 12 257.7 9.45 313.76																																												
DIFFERENTIAL CORRECTIONS															MID-COURSE EXECUTION ACCURACY															ORBIT DETERMINATION ACCURACY														
TDE .3265 TRA 3.2081 TC3-7.8524 BAU 1.3973															SGT 7878.8 SGR 367.1 SG3 1074.8															ST 85.2 SR 7.5 SS 60.9														
RDE -.0732 RRA -.1912 RC3 .1867 FAU .14531															RRT -.8468 RRF -.8366 RTF .9656															CRT -.3807 CRS -.0498 CST -.9036														
FDE 1.7693 FRA 5.9416 FC3-9.4540 BSP 13488															SGB 7887.4 R23 .0346 R13 -.9656															LSA 102.5 MSA 22.9 SSA .7														
BDE .3347 BRA 3.2138 BC3 7.8547 FSP 1947															SG1 7885.0 SG2 195.1 THA 177.74															EL1 85.2 EL2 6.9 ALF 178.07														

LAUNCH DATE MAY 14 1971

FLIGHT TIME 276.00

ARRIVAL DATE FEB 14 1972

HELIOCENTRIC CONIC															DISTANCE 633.393															EARTH TO MARS														
RL 151.18 LAL .00 LOL 232.57 VL 32.446 GAL -2.61 AZL 92.18 HCA 196.70 SMA 188.80 ECC .20414 INC 2.1944 V1 29.471															RP 227.33 LAP .63 LOP 69.25 VP 21.556 GAP -.32 AZP 87.90 TAL 344.53 TAP 181.23 RCA 150.26 APO 227.34 V2 24.195															RC 237.203 GL -19.74 GP 2.25 ZAL 120.32 ZAP 46.87 ETS 181.38 ZAE 83.87 ETE 180.67 ZAC 104.46 ETC 272.76 LVI -12.98														
PLANETOCENTRIC CONIC																																												
C3 13.510 VHL 3.676 DLA -20.03 RAL 3.61 RAD 6639.8 VEL 11.557 PTH 6.60 VHP 3.477 DPA -20.39 RAP 298.00 ECC 1.2223															LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG																													
50.00 17 24 51 2638.36 -14.24 72.44 216.47 135.89 18 8 50 1638.4 4.08 56.54															60.00 18 28 21 2469.49 -9.72 61.47 220.72 129.31 19 9 31 1469.5 6.36 43.51																													
70.00 19 48 41 2233.33 -5.33 45.60 224.00 123.79 20 25 55 1233.3 8.02 26.04															80.00 21 24 35 1933.24 -1.81 25.00 226.18 119.81 21 56 48 933.2 10.44 4.36																													
90.00 22 58 54 1628.98 -.39 3.42 226.97 118.28 23 26 3 629.0 11.19 342.37															100.00 0 11 22 1407.71 -1.81 346.37 226.18 119.81 0 34 50 407.7 10.44 325.73																													
110.00 0 52 4 1280.15 -5.33 334.52 224.00 123.79 1 13 24 280.2 8.62 314.96																																												
DIFFERENTIAL CORRECTIONS															MID-COURSE EXECUTION ACCURACY															ORBIT DETERMINATION ACCURACY														
TDE .3774 TRA 3.3181 TC3-7.8677 BAU 1.4213															SGT 8004.2 SGR 361.3 SG3 1052.1															ST 88.0 SR 7.9 SS 61.3														
RDE .0815 RRA -.1899 RC3 .1669 FAU .14114															RRT -.8192 RRF -.8063 RTF .9650															CRT -.2939 CRS -.1231 CST -.9115														
FDE 1.8101 FRA 5.9093 FC3-9.0446 BSP 13744															SGB 8012.4 R23 .0266 R13 -.9650															LSA 105.2 MSA 22.5 SSA .8														
BDE .3861 BRA 3.3216 BC3 7.8695 FSP 1913															SG1 8009.7 SG2 -207.0 THA 177.88															EL1 88.1 EL2 7.6 ALF 178.47														

LAUNCH DATE MAY 14 1971

FLIGHT TIME 278.00

ARRIVAL DATE FEB 16 1972

HELIOCENTRIC CONIC															DISTANCE 637.446															EARTH TO MARS														
RL 151.18 LAL .00 LOL 232.57 VL 32.456 GAL -2.70 AZL 92.17 HCA 197.75 SMA 188.97 ECC .20520 INC 2.1725 V1 29.471															RP 227.72 LAP .66 LOP 70.30 VP 21.525 GAP -.46 AZP 87.93 TAL 344.04 TAP 181.79 RCA 150.19 APO 227.74 V2 24.153															RC 239.859 GL -19.38 GP 2.10 ZAL 121.01 ZAP 46.14 ETS 181.30 ZAE 82.87 ETE 180.68 ZAC 104.29 ETC 272.84 LVI -12.97														
PLANETOCENTRIC CONIC																																												
C3 13.725 VHL 3.705 DLA -19.44 RAL 4.05 RAD 6639.9 VEL 11.567 PTH 6.61 VHP 3.505 DPA -20.48 RAP 298.37 ECC 1.2259															LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG																													
50.00 17 24 3 2654.20 -15.01 73.15 217.05 135.70 18 8 17 1654.2 3.29 57.20															60.00 18 26 40 2487.68 -10.51 62.36 221.27 129.13 19 8 8 1487.7 5.57 44.39																													
70.00 19 45 51 2254.92 -6.14 46.74 224.52 123.66 20 23 26 1254.9 7.81 27.20															80.00 21 20 25 1958.92 -2.68 26.41 226.66 119.75 21 53 4 958.9 9.62 5.81																													
90.00 22 54 3 1656.90 -1.29 4.97 227.43 118.25 23 21 40 656.9 10.35 343.99															100.00 0 7 13 1433.39 -2.68 347.78 226.66 119.75 0 31 7 433.4 9.62 327.18																													
110.00 0 49 13 1301.73 -6.14 335.66 224.52 123.66 1 10 55 301.7 7.81 316.11																																												
DIFFERENTIAL CORRECTIONS															MID-COURSE EXECUTION ACCURACY															ORBIT DETERMINATION ACCURACY														
TDE .4248 TRA 3.4220 TC3-7.8851 BAU 1.4470															SGT 8127.8 SGR 357.7 SG3 1029.2															ST 90.8 SR 8.4 SS 61.4														
RDE .0900 RRA -.1892 RC3 .1498 FAU .13735															RRT -.7903 RRF -.7748 RTF .9644															CRT -.2169 CRS -.1863 CST -.9178														
FDE 1.8397 FRA 5.8670 FC3-8.6641 BSP 13955															SGB 8135.7 R23 .0197 R13 -.9645															LSA 107.7 MSA 22.2 SSA .8														
BDE .4340 BRA 3.4272 BC3 7.8865 FSP 1871															SG1 8132.7 SG2 219.1 THA 178.01															EL1 90.8 EL2 8.2 ALF 178.84														

LAUNCH DATE MAY 14 1971

FLIGHT TIME 280.00

ARRIVAL DATE FEB 18 1972

HELIOCENTRIC CONIC															DISTANCE 641.494															EARTH TO MARS														
RL 151.18 LAL .00 LOL 232.57 VL 32.465 GAL -2.79 AZL 92.15 HCA 198.79 SMA 189.14 ECC .20627 INC 2.1530 V1 29.471															RP 228.10 LAP .69 LOP 71.34 VP 21.493 GAP -.61 AZP 87.96 TAL 343.55 TAP 182.34 RCA 150.13 APO 228.15 V2 24.112															RC 242.511 GL -19.04 GP 1.97 ZAL 121.69 ZAP 45.44 ETS 181.23 ZAE 81.89 ETE 180.70 ZAC 104.13 ETC 272.92 LVI -12.97														
PLANETOCENTRIC CONIC																																												
C3 13.931 VHL 3.735 DLA -18.87 RAL 4.49 RAD 6640.0 VEL 11.576 PTH 6.62 VHP 3.534 DPA -20.55 RAP 298.76 ECC 1.2296															LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG																													
50.00 17 23 24 2669.68 -15.77 73.85 217.65 135.49 18 7 53 1669.7 2.51 57.85															60.00 18 25 11 2505.38 -11.27 63.24 221.85 128.95 19 6 56 1505.4 4.79 45.24																													
70.00 19 43 17 2275.77 -6.93 47.84 225.06 123.53 20 21 13 1275.8 7.03 28.30															80.00 21 16 40 1983.52 -3.51 27.76 227.17 119.87 21 49 43 983.5 8.82 7.20																													
90.00 22 49 40 1683.51 -2.15 6.46 227.93 118.21 23 17 43 683.5 9.54 345.52															100.00 0 3 27 1457.99 -3.51 349.13 227.17 119.87 0 27 45 458.0 8.82 328.57																													
110.00 0 46 39 1322.59 -6.93 336.76 225.06 123.53 1 8 42 322.6 7.03 317.22																																												
DIFFERENTIAL CORRECTIONS															MID-COURSE EXECUTION ACCURACY															ORBIT DETERMINATION ACCURACY														
TDE .4716 TRA 3.5304 TC3-7.8986 BAU 1.4733															SGT 8251.8 SGR 356.3 SG3 1007.2															ST 93.6 SR 8.9 SS 61.6														
RDE .0969 RRA -.1892 RC3 .1339 FAU .13371															RRT -.7606 RRF -.7427 RTF .9639															CRT -.1464 CRS -.2405 CST -.9234														
FDE 1.8678 FRA 5.8280 FC3-8.2979 BSP 14161															SGB 8259.5 R23 .0138 R13 -.9639															LSA 110.2 MSA 21.9 SSA .8														
BDE .4818 BRA 3.5354 BC3 7.8997 FSP 1832															SG1 8256.2 SG2 231.2 THA 178.12															EL1 93.6 EL2 8.8 ALF 179.19														

LAUNCH DATE MAY 15 1971

FLIGHT TIME 94.00

ARRIVAL DATE AUG 17 1971

HELIOCENTRIC CONIC

RL 151.22 LAL .00 LOL 233.53 VL 35.537 GAL -1.27 AZL 91.85 HCA 87.71 SMA 269.53 ECC .43941 INC 1.8503 V1 29.464

DISTANCE 278.742

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 39.252 VHL 6.265 DLA -19.68 RAL 340.38 RAD 6650.4 VEL 12.615 PTH 7.47 VHP 11.356 DPA -17.27 RAP 321.84 ECC 1.6460

DIFFERENTIAL CORRECTIONS

TDE -.4009 TRA -.9058 TC3 .0188 BAU .0363 RDE -.5790 RRA .2355 RC3 .0667 FAU .03238

MID-COURSE EXECUTION ACCURACY

SGT 953.3 SGR 582.8 SG3 95.6 RRT -.0091 RRF .0105 RTF -.5953

ORBIT DETERMINATION ACCURACY

ST 22.6 SR 26.7 SS 11.2 CRT .7298 CR3 .4217 CST .9224

LAUNCH DATE MAY 15 1971

FLIGHT TIME 96.00

ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC

RL 151.22 LAL .00 LOL 233.53 VL 35.324 GAL -1.21 AZL 91.85 HCA 88.97 SMA 261.50 ECC .42216 INC 1.8473 V1 29.464

DISTANCE 280.446

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 36.601 VHL 6.050 DLA -19.97 RAL 340.43 RAD 6649.5 VEL 12.510 PTH 7.39 VHP 10.980 DPA -17.16 RAP 322.21 ECC 1.6024

DIFFERENTIAL CORRECTIONS

TDE -.3946 TRA -.8957 TC3 .0312 BAU .0383 RDE -.5621 RRA .2286 RC3 .0717 FAU .03352

MID-COURSE EXECUTION ACCURACY

SGT 977.6 SGR 586.5 SG3 102.7 RRT -.0099 RRF .0111 RTF -.6080

ORBIT DETERMINATION ACCURACY

ST 23.1 SR 26.8 SS 11.6 CRT .7275 CR3 .4083 CST .9182

LAUNCH DATE MAY 15 1971

FLIGHT TIME 98.00

ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC

RL 151.22 LAL .00 LOL 233.53 VL 35.123 GAL -1.13 AZL 91.84 HCA 90.23 SMA 254.40 ECC .40601 INC 1.8443 V1 29.464

DISTANCE 282.425

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 34.187 VHL 5.847 DLA -20.28 RAL 340.47 RAD 6648.6 VEL 12.413 PTH 7.32 VHP 10.618 DPA -17.06 RAP 322.56 ECC 1.5626

DIFFERENTIAL CORRECTIONS

TDE -.3881 TRA -.8857 TC3 .0454 BAU .0408 RDE -.5456 RRA .2218 RC3 .0769 FAU .03464

MID-COURSE EXECUTION ACCURACY

SGT 1001.8 SGR 589.6 SG3 110.0 RRT -.0106 RRF .0118 RTF -.6207

ORBIT DETERMINATION ACCURACY

ST 23.5 SR 27.0 SS 12.0 CRT .7250 CR3 .3943 CST .9137

LAUNCH DATE MAY 15 1971

FLIGHT TIME 100.00

ARRIVAL DATE AUG 23 1971

HELIOCENTRIC CONIC

RL 151.22 LAL .00 LOL 233.53 VL 34.934 GAL -1.06 AZL 91.84 HCA 91.50 SMA 248.11 ECC .39089 INC 1.8413 V1 29.464

DISTANCE 284.640

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 31.986 VHL 5.656 DLA -20.61 RAL 340.47 RAD 6647.8 VEL 12.325 PTH 7.25 VHP 10.270 DPA -16.96 RAP 322.91 ECC 1.5264

DIFFERENTIAL CORRECTIONS

TDE -.3819 TRA -.8755 TC3 .0612 BAU .0438 RDE -.5297 RRA .2152 RC3 .0823 FAU .03591

MID-COURSE EXECUTION ACCURACY

SGT 1025.9 SGR 592.4 SG3 118.0 RRT -.0110 RRF .0124 RTF -.6327

ORBIT DETERMINATION ACCURACY

ST 24.0 SR 27.1 SS 12.3 CRT .7226 CR3 .3795 CST .9087

LAUNCH DATE MAY 15 1971

FLIGHT TIME 102.00

ARRIVAL DATE AUG 25 1971

HELIOCENTRIC CONIC

DISTANCE 287.060

EARTH TO MARS

RL 151.22 LAL .00 LOL 233.53 VL 34.756 GAL -.99 AZL 91.84 HCA 92.76 SMA 242.48 ECC .37672 INC 1.8383 V1 29.464
RP 206.90 LAP -1.84 LOP 326.30 VP 27.121 GAP 20.53 AZP 89.91 TAL 356.38 TAP 89.14 RCA 151.13 APO 333.83 V2 26.469
RC 37.930 GL -11.75 GP -.35 ZAL 100.27 ZAP 173.81 ETS 183.22 ZAE 172.04 ETE 33.55 ZAC 99.40 ETC 278.18 LVI -18.25

PLANETOCENTRIC CONIC

C3 29.978 VHL 5.475 DLA -20.94 RAL 340.48 RAD 6647.0 VEL 12.244 PTH 7.19 VHP 9.935 DPA -16.86 RAP 323.25 ECC 1.4934
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 52 38 2807.85 -22.35 80.39 203.00 133.16 16 39 25 1807.9 -4.43 63.63
60.00 16 57 33 2635.21 -16.72 69.87 208.03 127.22 17 41 28 1635.2 -.92 51.45
70.00 18 19 46 2393.52 -11.30 54.16 211.92 122.45 18 59 39 1393.5 2.57 34.50
80.00 19 57 51 2086.55 -6.96 33.47 214.54 119.11 20 32 37 1086.5 5.41 12.95
90.00 21 33 22 1778.41 -5.18 11.78 215.51 117.84 22 3 1 778.4 6.58 350.93
100.00 22 40 43 1561.02 -6.98 354.84 214.54 119.11 23 6 44 561.0 5.41 334.32
110.00 23 19 12 1440.34 -11.30 343.08 211.92 122.45 23 43 12 440.3 2.57 323.41

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3754 TRA -.8664 TC3 .0789 BAU .0473 SGT 1050.8 SGR 594.7 SG3 126.5 ST 24.4 SR 27.1 SS 12.7
RDE -.5144 RRA .2088 RC3 .0878 FAU .03719 RRT -.0119 RRF .0133 RTF -.6450 CRT .7196 CRS .3636 CST .9036
FDE .1359 FRA .7672 FC3-1.0741 BSP 1503 SGB 1207.4 R23 -.0020 R13 .6450 LSA 35.0 MSA 16.5 SSA 1.2
BDE .6368 BRA .8912 BC3 .1180 F8P 159 S61 1050.8 S62 594.7 THA 179.43 EL1 33.9 EL2 13.6 ALF 49.14

LAUNCH DATE MAY 15 1971

FLIGHT TIME 104.00

ARRIVAL DATE AUG 27 1971

HELIOCENTRIC CONIC

DISTANCE 289.859

EARTH TO MARS

RL 151.22 LAL .00 LOL 233.53 VL 34.588 GAL -.92 AZL 91.84 HCA 94.03 SMA 237.44 ECC .36345 INC 1.8353 V1 29.464
RP 206.85 LAP -1.83 LOP 327.56 VP 26.913 GAP 20.04 AZP 89.87 TAL 356.55 TAP 90.58 RCA 151.14 APO 323.74 V2 26.476
RC 58.496 GL -12.05 GP -.36 ZAL 100.09 ZAP 172.87 ETS 182.89 ZAE 171.50 ETE 30.49 ZAC 99.34 ETC 278.24 LVI -18.33

PLANETOCENTRIC CONIC

C3 28.145 VHL 5.305 DLA -21.28 RAL 340.42 RAD 6646.3 VEL 12.169 PTH 7.13 VHP 9.611 DPA -16.77 RAP 323.57 ECC 1.4632
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 54 0 2784.76 -21.27 79.25 202.11 133.62 16 40 25 1784.8 -3.27 62.66
60.00 16 59 28 2610.66 -15.71 68.59 207.13 127.60 17 42 59 1610.7 .16 50.28
70.00 18 22 25 2366.79 -10.32 52.71 211.03 122.74 19 1 52 1366.8 3.59 33.10
80.00 20 1 24 2097.05 -5.98 31.83 213.66 119.31 20 39 41 1057.0 6.39 11.32
90.00 21 37 25 1747.31 -4.19 10.03 214.64 117.99 22 6 32 747.3 7.56 349.17
100.00 22 44 16 1531.52 -5.98 393.20 213.66 119.31 23 9 47 531.5 6.39 332.68
110.00 23 21 52 1413.61 -10.32 341.63 211.03 122.74 23 45 25 413.6 3.59 322.01

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3699 TRA -.8553 TC3 .0987 BAU .0511 SGT 1074.0 SGR 596.6 SG3 135.6 ST 24.9 SR 27.2 SS 13.1
RDE -.4995 RRA .2026 RC3 .0934 FAU .03881 RRT -.0109 RRF .0143 RTF -.6563 CRT .7180 CRS .3454 CST .8963
FDE .1350 FRA .7970 FC3-1.1875 BSP 1564 SGB 1228.6 R23 -.0040 R13 .6563 LSA 35.3 MSA 16.8 SSA 1.2
BDE .6215 BRA .8790 BC3 .1359 F8P 173 S61 1074.0 S62 596.6 THA 179.50 EL1 34.2 EL2 13.8 ALF 48.51

LAUNCH DATE MAY 15 1971

FLIGHT TIME 106.00

ARRIVAL DATE AUG 29 1971

HELIOCENTRIC CONIC

DISTANCE 292.414

EARTH TO MARS

RL 151.22 LAL .00 LOL 233.53 VL 34.431 GAL -.85 AZL 91.83 HCA 95.30 SMA 232.91 ECC .35102 INC 1.8323 V1 29.464
RP 206.80 LAP -1.82 LOP 326.83 VP 26.716 GAP 19.56 AZP 89.83 TAL 356.74 TAP 92.04 RCA 151.15 APO 314.66 V2 26.482
RC 59.137 GL -12.35 GP -.37 ZAL 99.89 ZAP 171.92 ETS 182.63 ZAE 171.00 ETE 27.91 ZAC 99.29 ETC 278.31 LVI -18.40

PLANETOCENTRIC CONIC

C3 26.469 VHL 5.145 DLA -21.64 RAL 340.35 RAD 6645.6 VEL 12.101 PTH 7.08 VHP 9.300 DPA -16.68 RAP 323.88 ECC 1.4356
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 55 21 2761.97 -20.19 78.15 201.25 134.05 16 41 23 1762.0 -2.13 61.71
60.00 17 1 23 2586.35 -14.70 67.33 206.25 127.96 17 44 29 1586.3 1.23 49.12
70.00 18 25 7 2340.20 -9.33 51.28 210.16 123.00 19 4 7 1340.2 4.60 31.70
80.00 20 5 2 2027.49 -4.99 30.19 212.81 119.48 20 38 49 1027.5 7.37 9.67
90.00 21 41 36 1716.02 -3.19 8.28 213.81 118.11 22 10 12 716.0 8.53 347.39
100.00 22 47 54 1501.97 -4.99 351.56 212.81 119.48 23 12 56 502.0 7.37 331.04
110.00 23 24 33 1387.02 -9.33 340.19 210.16 123.00 23 47 40 387.0 4.60 320.62

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3622 TRA -.8454 TC3 .1191 BAU .0548 SGT 1097.0 SGR 598.1 SG3 145.3 ST 25.3 SR 27.2 SS 13.5
RDE -.4851 RRA .1966 RC3 .0991 FAU .04012 RRT -.0124 RRF .0148 RTF -.6667 CRT .7140 CRS .3283 CST .8909
FDE .1345 FRA .8276 FC3-1.3122 BSP 1622 SGB 1249.5 R23 -.0031 R13 .6667 LSA 35.6 MSA 17.2 SSA 1.2
BDE .6054 BRA .8679 BC3 .1550 F8P 189 S61 1097.1 S62 598.1 THA 179.45 EL1 34.4 EL2 14.0 ALF 48.04

LAUNCH DATE MAY 15 1971

FLIGHT TIME 108.00

ARRIVAL DATE AUG 31 1971

HELIOCENTRIC CONIC

DISTANCE 295.307

EARTH TO MARS

RL 151.22 LAL .00 LOL 233.53 VL 34.282 GAL -.77 AZL 91.83 HCA 96.57 SMA 228.81 ECC .33936 INC 1.8293 V1 29.464
RP 206.75 LAP -1.82 LOP 330.10 VP 26.529 GAP 19.08 AZP 89.79 TAL 356.94 TAP 93.51 RCA 151.16 APO 306.46 V2 26.487
RC 59.850 GL -12.66 GP -.38 ZAL 99.67 ZAP 170.95 ETS 182.44 ZAE 170.54 ETE 25.71 ZAC 99.23 ETC 278.36 LVI -18.47

PLANETOCENTRIC CONIC

C3 24.937 VHL 4.994 DLA -22.00 RAL 340.27 RAD 6645.0 VEL 12.038 PTH 7.03 VHP 8.999 DPA -16.59 RAP 324.18 ECC 1.4104
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 56 39 2739.52 -19.13 77.08 200.41 134.44 16 42 18 1739.5 -1.00 60.77
60.00 17 3 17 2562.32 -13.69 66.11 205.40 128.28 17 45 59 1562.3 2.29 47.97
70.00 18 27 50 2313.77 -8.35 49.86 209.31 123.24 19 6 23 1313.8 5.60 30.31
80.00 20 8 45 1997.91 -4.00 28.56 211.99 119.61 20 42 3 997.9 8.35 6.01
90.00 21 45 54 1684.55 -2.18 6.52 212.99 118.20 22 13 59 684.5 9.50 345.58
100.00 22 51 37 1472.38 -4.00 349.93 211.99 119.61 23 16 9 472.4 8.35 329.38
110.00 23 27 16 1360.59 -8.35 338.78 209.31 123.24 23 49 56 360.6 5.60 319.23

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3554 TRA -.8354 TC3 .1397 BAU .0583 SGT 1120.0 SGR 599.2 SG3 155.7 ST 25.6 SR 27.3 SS 13.8
RDE -.4713 RRA .1908 RC3 .1049 FAU .04169 RRT -.0132 RRF .0169 RTF -.6761 CRT .7106 CRS .3048 CST .8818
FDE .1317 FRA .8608 FC3-1.4474 BSP 1667 SGB 1270.2 R23 -.0044 R13 .6761 LSA 35.8 MSA 17.6 SSA 1.2
BDE .5903 BRA .8569 BC3 .1747 F8P 205 S61 1120.0 S62 599.2 THA 179.43 EL1 34.6 EL2 14.2 ALF 47.51

LAUNCH DATE MAY 15 1971

FLIGHT TIME 110.00

ARRIVAL DATE SEP 2 1971

HELIOCENTRIC CONIC DISTANCE 298.321 EARTH TO MARS

RL 151.22 LAL .00 LOL 233.53 VL 34.142 GAL -.70 AZL 91.83 HCA 97.83 SMA 225.10 ECC .32841 INC 1.8262 V1 29.464
 RP 206.72 LAP -1.81 LOP 331.37 VP 26.352 GAP 18.61 AZP 89.75 TAL 357.15 TAP 94.99 RCA 151.17 APO 299.02 V2 26.491
 RC 80.633 GL -12.96 GP -.39 ZAL 99.43 ZAP 169.96 ETS 182.28 ZAE 170.13 ETE 23.82 ZAC 99.18 ETC 278.42 LVI -18.53

PLANETOCENTRIC CONIC

C3 23.534 VHL 4.851 DLA -22.37 RAL 340.16 RAD 6644.4 VEL 11.980 PTH 6.98 VHP 8.709 DPA -16.51 RAP 324.46 ECC 1.3673

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	18 57 53	2717.41	-18.07	76.04	199.60	134.80	16 43 12	1717.4	.11	59.85
60.00	17 5 10	2538.57	-12.68	64.91	204.57	128.58	17 47 28	1538.6	3.34	46.83
70.00	18 30 34	2287.51	-7.37	48.46	208.49	123.44	19 8 41	1287.5	6.59	28.92
80.00	20 12 34	1968.26	-3.00	26.92	211.19	119.72	20 43 22	968.3	9.31	6.34
90.00	21 50 22	1652.83	-1.16	4.75	212.21	118.26	22 17 55	652.8	10.47	343.76
100.00	22 58 26	1442.73	-3.00	348.29	211.19	119.72	23 19 29	442.7	9.31	327.71
110.00	23 30 0	1334.32	-7.37	337.38	208.49	123.44	23 52 14	334.3	6.59	317.84

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.3385 TRA -.8152 TC3 .1812 BAW .0668 SGT 1129.1 SGR 599.9 SG3 166.7 ST 25.4 SR 27.3 SS 14.3
 RDE -.4579 RRA .1851 RC3 .1107 FAU .04334 RRT -.0163 RRF .0171 RTF -.6995 CRT .7013 CRS .2897 CST .8808
 FDE .1317 FRA .8949 FC3-1.5945 BSP 1601 SGB 1278.6 R23 -.0013 R13 .6995 LSA 35.6 MSA 18.0 SSA 1.2
 BDE .5694 BRA .8360 BC3 .2124 FSP 224 SG1 1129.2 SG2 599.8 THA 179.31 EL1 34.4 EL2 14.3 ALF 47.94

LAUNCH DATE MAY 15 1971

FLIGHT TIME 112.00

ARRIVAL DATE SEP 4 1971

HELIOCENTRIC CONIC DISTANCE 301.445 EARTH TO MARS

RL 151.22 LAL .00 LOL 233.53 VL 34.011 GAL -.63 AZL 91.82 HCA 99.10 SMA 221.72 ECC .31816 INC 1.8231 V1 29.464
 RP 206.70 LAP -1.80 LOP 332.64 VP 26.184 GAP 18.15 AZP 89.71 TAL 357.37 TAP 96.48 RCA 151.18 APO 292.27 V2 26.494
 RC 61.483 GL -13.26 GP -.40 ZAL 99.17 ZAP 168.96 ETS 182.14 ZAE 169.78 ETE 22.18 ZAC 99.13 ETC 278.47 LVI -18.58

PLANETOCENTRIC CONIC

C3 22.251 VHL 4.717 DLA -22.74 RAL 340.04 RAD 6643.8 VEL 11.927 PTH 6.93 VHP 8.429 DPA -16.44 RAP 324.73 ECC 1.3662

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	15 59 9	2695.77	-17.03	75.04	198.82	135.13	16 44 4	1695.0	1.20	58.94
60.00	17 7 2	2515.24	-11.69	63.74	203.77	128.85	17 48 57	1515.2	4.36	45.71
70.00	18 33 19	2261.95	-6.39	47.09	207.70	123.62	19 11 1	1261.6	7.56	27.55
80.00	20 16 28	1938.72	-2.00	25.30	210.42	119.80	20 48 47	938.7	10.27	4.67
90.00	21 54 58	1621.04	-.13	2.97	211.46	118.26	22 21 59	621.0	11.43	341.91
100.00	22 59 20	1413.19	-2.00	346.67	210.42	119.80	23 22 54	413.2	10.27	326.04
110.00	23 32 46	1308.37	-6.39	336.01	207.70	123.62	23 54 34	308.4	7.56	316.47

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.3361 TRA -.8081 TC3 .1988 BAW .0685 SGT 1155.2 SGR 600.2 SG3 178.4 ST 25.9 SR 27.3 SS 14.6
 RDE -.4450 RRA .1798 RC3 .1166 FAU .04516 RRT -.0152 RRF .0178 RTF -.7021 CRT .7008 CRS .2684 CST .8705
 FDE .1289 FRA .9276 FC3-1.7569 BSP 1695 SGB 1301.8 R23 -.0032 R13 .7021 LSA 35.9 MSA 18.3 SSA 1.3
 BDE .5577 BRA .8279 BC3 .2304 FSP 242 SG1 1155.3 SG2 600.1 THA 179.38 EL1 34.7 EL2 14.5 ALF 47.06

LAUNCH DATE MAY 15 1971

FLIGHT TIME 114.00

ARRIVAL DATE SEP 6 1971

HELIOCENTRIC CONIC DISTANCE 304.666 EARTH TO MARS

RL 151.22 LAL .00 LOL 233.53 VL 33.887 GAL -.57 AZL 91.82 HCA 100.37 SMA 218.65 ECC .30855 INC 1.8201 V1 29.464
 RP 206.68 LAP -1.79 LOP 333.91 VP 26.025 GAP 17.70 AZP 89.67 TAL 357.60 TAP 97.97 RCA 151.19 APO 286.12 V2 26.496
 RC 62.398 GL -13.56 GP -.42 ZAL 98.89 ZAP 167.94 ETS 182.04 ZAE 169.48 ETE 20.75 ZAC 99.08 ETC 278.52 LVI -18.63

PLANETOCENTRIC CONIC

C3 21.076 VHL 4.591 DLA -23.11 RAL 339.90 RAD 6643.3 VEL 11.878 PTH 6.89 VHP 8.159 DPA -16.37 RAP 324.98 ECC 1.3469

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	16 0 20	2674.58	-16.00	74.07	198.06	135.43	16 44 55	1674.6	2.27	58.08
60.00	17 8 53	2492.29	-10.70	62.59	203.00	129.09	17 50 25	1492.3	5.36	44.61
70.00	18 36 6	2235.87	-5.42	45.73	206.93	123.77	19 13 22	1235.9	8.52	26.18
80.00	20 20 29	1909.21	-1.00	23.68	209.68	119.84	20 52 18	909.2	11.21	2.99
90.00	21 59 44	1589.07	.90	1.19	210.73	118.27	22 26 13	589.1	12.38	340.04
100.00	23 3 20	1383.68	-1.00	345.05	209.68	119.84	23 26 24	383.7	11.21	324.36
110.00	23 35 32	1282.69	-5.42	334.85	206.93	123.77	23 56 55	282.7	8.52	315.10

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.3303 TRA -.7996 TC3 .2203 BAW .0710 SGT 1178.2 SGR 600.0 SG3 191.1 ST 26.3 SR 27.2 SS 15.0
 RDE -.4325 RRA .1744 RC3 .1224 FAU .04712 RRT -.0182 RRF .0187 RTF -.5770 CRT .6974 CRS .2464 CST .8816
 FDE .1258 FRA .9630 FC3-1.9356 BSP 1764 SGB 1322.2 R23 -.0032 R13 .7070 LSA 36.1 MSA 18.7 SSA 1.3
 BDE .5443 BRA .8184 BC3 .2520 FSP 261 SG1 1178.3 SG2 599.9 THA 179.38 EL1 34.9 EL2 14.7 ALF 46.47

LAUNCH DATE MAY 15 1971

FLIGHT TIME 116.00

ARRIVAL DATE SEP 8 1971

HELIOCENTRIC CONIC DISTANCE 307.973 EARTH TO MARS

RL 151.22 LAL .00 LOL 233.53 VL 33.770 GAL -.50 AZL 91.82 HCA 101.84 SMA 218.85 ECC .29953 INC 1.8169 V1 29.464
 RP 206.67 LAP -1.78 LOP 335.18 VP 25.873 GAP 17.26 AZP 89.63 TAL 357.84 TAP 99.48 RCA 151.19 APO 280.50 V2 26.496
 RC 63.376 GL -13.85 GP -.43 ZAL 98.81 ZAP 166.90 ETS 181.95 ZAE 169.25 ETE 19.49 ZAC 99.03 ETC 278.57 LVI -18.68

PLANETOCENTRIC CONIC

C3 19.998 VHL 4.472 DLA -23.49 RAL 339.75 RAD 6642.6 VEL 11.833 PTH 6.85 VHP 7.898 DPA -16.31 RAP 328.22 ECC 1.3291

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	16 1 30	2653.82	-14.99	73.13	197.32	135.70	16 45 44	1653.8	3.31	57.19
60.00	17 10 42	2469.76	-9.74	61.48	202.25	129.30	17 51 52	1469.8	6.35	43.52
70.00	18 38 54	2210.50	-4.46	44.40	206.19	123.90	19 15 44	1210.5	9.47	24.82
80.00	20 24 35	1879.76	-.00	22.06	208.97	119.86	20 55 54	879.8	12.14	1.30
90.00	22 4 40	1556.93	1.93	359.40	210.04	118.22	22 30 37	556.9	13.32	338.15
100.00	23 7 26	1354.23	-.00	343.43	208.97	119.86	23 30 1	354.2	12.14	322.67
110.00	23 38 20	1257.32	-4.46	333.32	206.19	123.90	23 59 17	257.3	9.47	313.74

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.3249 TRA -.7918 TC3 .2430 BAW .0734 SGT 1201.7 SGR 599.5 SG3 204.5 ST 26.6 SR 27.2 SS 15.4
 RDE -.4205 RRA .1693 RC3 .1281 FAU .04914 RRT -.0173 RRF .0209 RTF -.7123 CRT .6939 CRS .2196 CST .8900
 FDE .1209 FRA 1.0020 FC3-2.1275 BSP 1834 SGB 1342.9 R23 -.0045 R13 .7124 LSA 36.3 MSA 19.1 SSA 1.3
 BDE .5314 BRA .8097 BC3 .2747 FSP 284 SG1 1201.8 SG2 599.4 THA 179.34 EL1 35.0 EL2 14.9 ALF 45.85

LAUNCH DATE MAY 15 1971

FLIGHT TIME 118.00

ARRIVAL DATE SEP 10 1971

HELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 33.661 GAL -.43 AZL 91.81 HCA 102.91 SMA 213.28 ECC .29108 INC 1.8139 V1 29.464
 RP 206.68 LAP -1.77 LOP 336.45 VP 25.730 GAP 16.83 AZP 89.59 TAL 358.08 TAP 100.99 RCA 151.20 APO 275.36 V2 26.498
 RC 64.414 GL -14.14 GP -.45 ZAL 98.31 ZAP 165.85 ETS 181.87 ZAE 169.08 ETE 18.37 ZAC 98.98 ETC 278.61 LVI -18.72

PLANETOCENTRIC CONIC
 C3 19.010 VHL 4.360 DLA -23.87 RAL 339.58 RAD 6642.4 VEL 11.791 PTH 6.81 VHP 7.647 DPA -16.25 RAP 325.43 ECC 1.3129
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 2 38 2635.96 -14.01 72.22 196.61 135.95 16 46 31 1633.6 4.32 56.34
 60.00 17 12 31 2447.68 -8.78 60.39 201.53 129.49 17 53 19 1447.7 7.31 42.45
 70.00 18 41 43 2185.47 -3.51 43.09 205.48 123.99 19 18 8 1185.5 10.39 23.47
 80.00 20 28 47 1890.38 .99 20.45 208.29 119.84 20 59 37 850.4 13.06 359.60
 90.00 22 9 47 1524.59 2.97 357.59 209.39 118.14 22 35 12 524.6 14.24 336.23
 100.00 23 11 39 1324.85 .99 341.82 208.29 119.84 23 33 43 324.9 13.06 320.97
 110.00 23 41 9 1232.29 -3.51 332.01 205.48 123.99 24 1 41 232.3 10.39 312.39

DIFFERENTIAL CORRECTIONS
 TDE -.3180 TRA -.7813 TC3 .2728 BAU .0772 SGT 1221.4 SGR 598.6 SG3 219.0 ST 26.8 SR 27.1 SS 15.8
 RDE -.4090 RRA .1645 RC3 .1337 FAU .05136 RRT -.0178 RRF .0227 RTF -.7202 CRT .6898 CR8 .1928 CST .8365
 FDE .1155 FRA 1.0410 FC3-2.3390 BSP 1889 SGB 1360.2 R23 -.0058 R13 .7202 LSA 36.3 MSA 19.5 S8A 1.3
 BDE .5180 BRA .7984 BC3 .3038 FSP 308 SGT 1221.5 SGR 598.5 THA 179.34 EL1 35.1 EL2 15.0 ALF 45.41

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 15 1971

FLIGHT TIME 120.00

ARRIVAL DATE SEP 12 1971

HELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 33.557 GAL -.37 AZL 91.81 HCA 104.18 SMA 210.93 ECC .28315 INC 1.8107 V1 29.464
 RP 206.69 LAP -1.76 LOP 337.72 VP 25.593 GAP 16.41 AZP 89.56 TAL 358.32 TAP 102.50 RCA 151.20 APO 270.65 V2 26.495
 RC 65.512 GL -14.43 GP -.46 ZAL 98.00 ZAP 164.77 ETS 181.80 ZAE 168.97 ETE 17.38 ZAC 98.94 ETC 278.65 LVI -18.75

PLANETOCENTRIC CONIC
 C3 18.103 VHL 4.255 DLA -24.25 RAL 339.40 RAD 6642.0 VEL 11.753 PTH 6.78 VHP 7.404 DPA -16.20 RAP 325.63 ECC 1.2979
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 3 43 2613.83 -13.04 71.35 195.93 136.17 16 47 17 1613.8 5.31 55.81
 60.00 17 14 19 2426.08 -7.84 59.34 200.83 129.66 17 54 45 1426.1 8.25 41.40
 70.00 18 44 32 2160.82 -2.57 41.80 204.80 124.07 19 20 33 1160.8 11.30 22.14
 80.00 20 33 5 1821.11 1.98 18.84 207.64 119.80 21 3 26 821.1 13.96 357.89
 90.00 22 15 7 1492.04 4.02 355.77 208.76 118.02 22 39 59 492.0 15.16 334.28
 100.00 23 15 57 1295.58 1.98 340.21 207.64 119.80 23 37 32 295.6 13.96 319.26
 110.00 23 43 59 1207.64 -2.57 330.72 204.80 124.07 24 4 6 207.6 11.30 311.05

DIFFERENTIAL CORRECTIONS
 TDE -.3100 TRA -.7704 TC3 .3002 BAU .0801 SGT 1238.7 SGR 597.3 SG3 234.5 ST 27.0 SR 27.0 SS 16.2
 RDE -.3979 RRA .1598 RC3 .1391 FAU .05374 RRT -.0197 RRF .0248 RTF -.7260 CRT .6846 CR8 .1637 CST .8262
 FDE .1088 FRA 1.0832 FC3-2.5701 BSP 1927 SGB 1375.1 R23 -.0061 R13 .7261 LSA 36.3 MSA 20.0 S8A 1.4
 BDE .5044 BRA .7868 BC3 .3309 FSP 331 SGT 1238.7 SGR 597.1 THA 179.29 EL1 35.0 EL2 15.2 ALF 45.08

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 15 1971

FLIGHT TIME 122.00

ARRIVAL DATE SEP 14 1971

HELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 33.460 GAL -.31 AZL 91.81 HCA 105.45 SMA 208.77 ECC .27571 INC 1.8074 V1 29.464
 RP 206.71 LAP -1.74 LOP 338.99 VP 25.463 GAP 15.99 AZP 89.52 TAL 358.57 TAP 104.02 RCA 151.21 APO 266.33 V2 26.493
 RC 66.667 GL -14.71 GP -.48 ZAL 97.68 ZAP 163.67 ETS 181.74 ZAE 168.94 ETE 16.50 ZAC 98.90 ETC 278.68 LVI -18.78

PLANETOCENTRIC CONIC
 C3 17.271 VHL 4.156 DLA -24.63 RAL 339.20 RAD 6641.6 VEL 11.710 PTH 6.75 VHP 7.170 DPA -16.16 RAP 325.80 ECC 1.2842
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 4 47 2594.64 -12.09 70.50 195.27 136.38 16 48 1 1594.6 6.27 54.70
 60.00 17 16 5 2404.99 -6.93 58.31 200.16 129.80 17 56 10 1405.0 9.16 40.37
 70.00 18 47 23 2136.59 -1.65 40.53 204.14 124.12 19 22 59 1136.6 12.18 20.81
 80.00 20 37 30 1791.98 2.97 17.24 207.02 119.72 21 7 22 792.0 14.85 336.18
 90.00 22 20 39 1459.24 5.06 353.92 208.17 117.86 22 44 59 459.2 16.06 332.30
 100.00 23 20 22 1268.42 2.97 338.61 207.02 119.72 23 41 28 266.4 14.85 317.55
 110.00 23 46 49 1183.41 -1.65 329.45 204.14 124.12 24 6 32 183.4 12.18 309.73

DIFFERENTIAL CORRECTIONS
 TDE -.3045 TRA -.7800 TC3 .3269 BAU .0824 SGT 1256.4 SGR 595.6 SG3 250.4 ST 27.2 SR 26.9 SS 16.6
 RDE -.3871 RRA .1553 RC3 .1443 FAU .05611 RRT -.0199 RRF .0248 RTF -.7314 CRT .6817 CR8 .1478 CST .8193
 FDE .1069 FRA 1.1250 FC3-2.8126 BSP 1985 SGB 1390.4 R23 -.0060 R13 .7314 LSA 36.4 MSA 20.3 S8A 1.4
 BDE .4925 BRA .7757 BC3 .3369 FSP 359 SGT 1256.5 SGR 595.4 THA 179.30 EL1 35.1 EL2 15.3 ALF 44.56

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 15 1971

FLIGHT TIME 124.00

ARRIVAL DATE SEP 16 1971

HELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 33.369 GAL -.25 AZL 91.80 HCA 106.72 SMA 206.78 ECC .26874 INC 1.8042 V1 29.464
 RP 206.73 LAP -1.73 LOP 340.26 VP 25.340 GAP 15.59 AZP 89.48 TAL 358.82 TAP 105.54 RCA 151.21 APO 262.35 V2 26.489
 RC 67.877 GL -14.99 GP -.50 ZAL 97.36 ZAP 162.55 ETS 181.69 ZAE 168.98 ETE 15.71 ZAC 98.86 ETC 278.71 LVI -18.80

PLANETOCENTRIC CONIC
 C3 16.506 VHL 4.063 DLA -25.00 RAL 339.00 RAD 6641.2 VEL 11.685 PTH 6.72 VHP 6.944 DPA -16.13 RAP 325.95 ECC 1.2716
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 5 48 2576.02 -11.17 69.69 194.63 136.56 16 48 44 1576.0 7.20 53.91
 60.00 17 17 50 2384.45 -6.03 57.32 199.52 129.92 17 57 34 1384.5 10.05 39.36
 70.00 18 50 13 2112.81 -1.74 39.29 203.52 124.15 19 25 26 1112.8 13.04 19.51
 80.00 20 42 1 1762.92 3.95 15.64 206.43 119.62 21 11 24 762.9 15.71 354.46
 90.00 22 26 26 1426.14 6.11 352.06 207.62 117.66 22 50 13 426.1 16.95 330.28
 100.00 23 24 53 1237.39 3.95 337.01 206.43 119.62 23 45 30 237.4 15.71 315.83
 110.00 23 49 40 1159.63 -1.74 328.21 203.52 124.15 24 8 59 159.6 13.04 308.42

DIFFERENTIAL CORRECTIONS
 TDE -.2968 TRA -.7495 TC3 .3536 BAU .0847 SGT 1271.9 SGR 593.5 SG3 268.2 ST 27.3 SR 26.8 SS 17.1
 RDE -.3768 RRA .1510 RC3 .1493 FAU .05885 RRT -.0223 RRF .0280 RTF -.7359 CRT .6762 CR8 .1155 CST .8037
 FDE .0974 FRA 1.1724 FC3-3.0867 BSP 2025 SGB 1403.6 R23 -.0070 R13 .7359 LSA 36.3 MSA 20.8 S8A 1.4
 BDE .4796 BRA .7645 BC3 .3838 FSP 390 SGT 1272.0 SGR 593.3 THA 179.24 EL1 35.0 EL2 15.4 ALF 44.25

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 15 1971

FLIGHT TIME 126.00

ARRIVAL DATE SEP 18 1971

HELIOCENTRIC CONIC

RL 151.22 LAL .00 LOL 233.53 VL 33.283 GAL -.19 AZL 91.80 HCA 107.99 SMA 204.95 ECC .28221 INC 1.8009 V1 29.464
RP 206.77 LAP -1.71 LOP 341.53 VP 25.222 GAP 15.19 AZP 89.44 TAL 359.08 TAP 107.06 RCA 151.21 APO 258.69 V2 26.465
RC 69.140 GL -15.23 GP -.51 ZAL 97.04 ZAP 161.41 ETS 181.65 ZAE 169.09 ETE 15.00 ZAC 98.82 ETC 278.73 LVI -18.81

DISTANCE 325.547

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.804 VHL 3.975 DLA -25.37 RAL 338.80 RAD 6640.9 VEL 11.655 PTH 6.69 VHP 6.725 DPA -16.10 RAP 326.08 ECC 1.2601
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 6 48 2557.98 -10.28 68.90 194.02 136.72 16 49 26 1558.0 8.10 53.14
60.00 17 19 33 2384.48 -5.16 56.36 198.90 130.03 17 58 57 1364.5 10.91 38.37
70.00 18 53 4 2089.51 .15 38.08 202.92 124.15 19 27 54 1089.5 13.87 18.21
80.00 20 46 39 1734.03 4.92 14.05 205.88 119.49 21 15 33 734.0 16.56 352.73
90.00 22 32 30 1392.67 7.17 350.16 207.10 117.43 22 55 42 392.7 17.83 328.21
100.00 23 29 31 1208.50 4.92 335.41 205.88 119.49 23 49 40 208.5 16.56 314.10
110.00 23 52 31 1136.33 .15 326.99 202.92 124.15 24 11 27 136.3 13.87 307.13

DIFFERENTIAL CORRECTIONS

TDE -.2885 TRA -.7385 TC3 .3750 BAU .0856
RDE -.3668 RRA .1469 RC3 .1540 FAU .06137
FDE .0884 FRA 1.2202 FC3-3.3618 BSP 2038
BDE .4666 BRA .7529 BC3 .4054 FSP 418

MID-COURSE EXECUTION ACCURACY

SGT 1284.2 SGR 591.1 SG3 285.9
RRT -.0260 RRF .0314 RTF -.7396
SGB 1413.7 R23 -.0070 R13 .7396
SG1 1284.3 SG2 590.0 THA 179.13

ORBIT DETERMINATION ACCURACY

ST 27.3 SR 26.7 SS 17.5
CRT .6699 CRS .0828 CST .7903
LSA 36.2 MSA 21.2 SSA 1.4
EL1 34.9 EL2 15.5 ALF 44.02

LAUNCH DATE MAY 15 1971

FLIGHT TIME 126.00

ARRIVAL DATE SEP 20 1971

HELIOCENTRIC CONIC

RL 151.22 LAL .00 LOL 233.53 VL 33.202 GAL -.14 AZL 91.80 HCA 109.25 SMA 203.27 ECC .25609 INC 1.7976 V1 29.464
RP 206.81 LAP -1.70 LOP 342.79 VP 25.110 GAP 14.80 AZP 89.41 TAL 359.33 TAP 108.58 RCA 151.22 APO 255.32 V2 26.480
RC 70.455 GL -15.52 GP -.53 ZAL 96.71 ZAP 160.24 ETS 181.60 ZAE 169.27 ETE 14.37 ZAC 98.79 ETC 276.15 LVI -18.82

DISTANCE 329.226

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.158 VHL 3.893 DLA -25.73 RAL 338.58 RAD 6640.6 VEL 11.628 PTH 6.67 VHP 6.515 DPA -16.09 RAP 326.18 ECC 1.2495
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 7 45 2540.56 -9.42 68.15 193.44 136.86 16 50 6 1540.6 8.97 52.39
60.00 17 21 14 2345.11 -4.31 55.42 198.32 130.11 18 0 20 1345.1 11.74 37.40
70.00 18 55 55 2066.74 1.02 36.89 202.35 124.14 19 30 22 1066.7 14.68 16.94
80.00 20 51 24 1705.29 5.88 12.45 205.36 119.33 21 19 50 705.3 17.38 351.00
90.00 22 38 52 1358.73 8.23 348.23 206.63 117.15 23 1 30 358.7 18.70 326.10
100.00 23 34 16 1179.76 5.88 333.82 205.36 119.33 23 53 56 179.8 17.38 312.36
110.00 23 55 22 1113.55 1.02 325.81 202.35 124.14 24 13 55 113.6 14.68 305.86

DIFFERENTIAL CORRECTIONS

TDE -.2832 TRA -.7250 TC3 .4051 BAU .0881
RDE -.3572 RRA .1430 RC3 .1583 FAU .06441
FDE .0815 FRA 1.2693 FC3-3.6787 BSP 2130
BDE .4558 BRA .7390 BC3 .4349 FSP 458

MID-COURSE EXECUTION ACCURACY

SGT 1294.6 SGR 588.3 SG3 305.7
RRT -.0246 RRF .0328 RTF -.7443
SGB 1422.0 R23 -.0097 R13 .7444
SG1 1294.7 SG2 588.1 THA 179.19

ORBIT DETERMINATION ACCURACY

ST 27.4 SR 26.5 SS 18.0
CRT .6685 CRS .0583 CST .7762
LSA 36.2 MSA 21.6 SSA 1.5
EL1 34.8 EL2 15.5 ALF 43.62

LAUNCH DATE MAY 15 1971

FLIGHT TIME 130.00

ARRIVAL DATE SEP 22 1971

HELIOCENTRIC CONIC

RL 151.22 LAL .00 LOL 233.53 VL 33.126 GAL -.09 AZL 91.79 HCA 110.52 SMA 201.72 ECC .25035 INC 1.7942 V1 29.464
RP 206.87 LAP -1.68 LOP 344.06 VP 25.003 GAP 14.43 AZP 89.37 TAL 359.57 TAP 110.10 RCA 151.22 APO 232.22 V2 26.474
RC 71.818 GL -15.77 GP -.55 ZAL 96.39 ZAP 159.04 ETS 181.57 ZAE 169.53 ETE 13.80 ZAC 98.76 ETC 278.76 LVI -18.82

DISTANCE 332.950

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.565 VHL 3.816 DLA -26.09 RAL 338.37 RAD 6640.3 VEL 11.603 PTH 6.64 VHP 6.312 DPA -16.09 RAP 326.26 ECC 1.2397
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 8 41 2523.78 -8.58 67.43 192.88 136.98 16 50 45 1323.8 9.80 31.67
60.00 17 22 54 2328.36 -3.48 54.53 197.75 130.18 18 1 40 1326.4 12.54 38.46
70.00 18 58 46 2044.51 1.87 35.73 201.81 124.11 19 32 90 1044.5 15.45 15.69
80.00 20 56 18 1676.70 6.83 10.87 204.87 119.14 21 24 13 676.7 18.19 349.25
90.00 22 45 35 1324.18 9.29 348.26 206.19 116.83 23 7 39 324.2 19.55 323.92
100.00 23 39 8 1151.17 6.83 332.23 204.87 119.14 23 58 19 151.2 18.19 310.62
110.00 0 2 8 1091.33 1.87 324.65 201.81 124.11 0 20 19 91.3 15.45 304.61

DIFFERENTIAL CORRECTIONS

TDE -.2798 TRA -.7199 TC3 .4206 BAU .0978
RDE -.3479 RRA .1393 RC3 .1622 FAU .06735
FDE .0744 FRA 1.3286 FC3-4.0033 BSP 2189
BDE .4465 BRA .7332 BC3 .4508 FSP 508

MID-COURSE EXECUTION ACCURACY

SGT 1314.4 SGR 585.2 SG3 326.5
RRT -.0274 RRF .0364 RTF -.7450
SGB 1438.7 R23 -.0110 R13 .7450
SG1 1314.5 SG2 584.9 THA 179.13

ORBIT DETERMINATION ACCURACY

ST 27.7 SR 26.4 SS 18.6
CRT .6654 CRS .0338 CST .7634
LSA 36.3 MSA 22.1 SSA 1.5
EL1 34.9 EL2 15.6 ALF 42.85

LAUNCH DATE MAY 15 1971

FLIGHT TIME 132.00

ARRIVAL DATE SEP 24 1971

HELIOCENTRIC CONIC

RL 151.22 LAL .00 LOL 233.53 VL 33.055 GAL -.04 AZL 91.79 HCA 111.79 SMA 200.28 ECC .24498 INC 1.7907 V1 29.464
RP 206.93 LAP -1.66 LOP 345.33 VP 24.901 GAP 14.06 AZP 89.34 TAL 359.82 TAP 111.61 RCA 151.22 APO 249.35 V2 26.466
RC 73.228 GL -16.01 GP -.58 ZAL 96.07 ZAP 157.82 ETS 181.53 ZAE 169.87 ETE 13.30 ZAC 98.73 ETC 278.77 LVI -18.81

DISTANCE 336.714

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.019 VHL 3.744 DLA -26.44 RAL 338.15 RAD 6640.1 VEL 11.579 PTH 6.62 VHP 6.116 DPA -16.09 RAP 326.31 ECC 1.2307
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 9 35 2507.61 -7.78 66.74 192.35 137.09 16 51 22 1507.6 10.60 50.97
60.00 17 24 32 2308.26 -2.69 53.66 197.22 130.23 18 3 0 1308.3 13.30 35.55
70.00 19 1 35 2022.89 2.70 34.60 201.30 124.06 19 35 18 1022.9 16.21 14.47
80.00 21 1 16 1648.28 7.77 9.28 204.41 118.92 21 28 44 648.3 18.97 347.51
90.00 22 52 44 1288.80 10.37 344.22 205.80 116.46 23 14 13 288.8 20.39 321.67
100.00 23 44 8 1122.76 7.77 330.65 204.41 118.92 24 2 50 122.8 18.97 308.87
110.00 0 4 57 1069.70 2.70 323.52 201.30 124.06 0 22 47 69.7 16.21 303.39

DIFFERENTIAL CORRECTIONS

TDE -.2669 TRA -.7187 TC3 .4131 BAU .0834
RDE -.3390 RRA .1360 RC3 .1660 FAU .06967
FDE .0580 FRA 1.4161 FC3-4.3025 BSP 2329
BDE .4315 BRA .7315 BC3 .4452 FSP 552

MID-COURSE EXECUTION ACCURACY

SGT 1330.8 SGR 581.9 SG3 348.2
RRT -.0433 RRF .0494 RTF -.7467
SGB 1452.5 R23 -.0076 R13 .7468
SG1 1331.1 SG2 581.2 THA 178.60

ORBIT DETERMINATION ACCURACY

ST 27.5 SR 26.2 SS 19.5
CRT .6467 CRS -.0109 CST .7506
LSA 35.9 MSA 23.0 SSA 1.5
EL1 34.5 EL2 15.9 ALF 42.80

LAUNCH DATE MAY 15 1971

FLIGHT TIME 134.00

ARRIVAL DATE SEP 26 1971

Heliocentric Conic: RL 151.22 LAL .00 LOL 233.83 VL 32.988 GAL .01 AZL 91.79 HCA 113.05 SMA 198.96 ECC .23995 INC 1.7872 V1 29.464
 RP 207.00 LAP -1.64 LOP 346.59 VP 24.804 GAP 13.69 AZP 89.30 TAL .06 TAP 113.11 RCA 151.22 APO 246.70 V2 26.458
 RC 74.683 GL -16.25 GP -.60 ZAL 95.76 ZAP 156.57 ETS 181.50 ZAE 170.28 ETE 12.85 ZAC 98.70 ETC 278.78 LVI -18.79

Planetocentric Conic: C3 13.517 VHL 3.677 DLA -26.77 RAL 337.94 RAD 6639.8 VEL 11.558 PTH 6.60 VHP 5.927 DPA -16.11 RAP 326.33 ECC 1.2225
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 10 27 2492.12 -7.00 66.08 191.84 137.18 16 51 59 1492.1 11.37 50.30
 60.00 17 26 7 2290.83 -1.92 52.82 196.71 130.26 18 4 18 1290.8 14.04 34.66
 70.00 19 4 23 2001.89 3.50 33.50 200.81 124.00 19 37 45 1001.9 16.93 13.27
 80.00 21 6 23 1620.03 8.70 7.69 203.99 118.68 21 33 23 620.0 19.72 345.75
 90.00 23 0 25 1252.29 11.47 342.10 205.45 116.03 23 21 17 252.3 21.22 319.31
 100.00 23 49 15 1094.50 8.70 329.06 203.99 118.68 24 7 29 94.5 19.72 307.12
 110.00 0 7 46 1048.70 3.50 322.42 200.81 124.00 0 25 14 48.7 16.93 302.19

Differential Corrections: TDE -.1304 TRA -.7157 TC3 .7772 BAU .1436 SGT 1388.7 SGR 579.4 SG3 406.2 ST 21.3 SR 26.1 SS 20.9
 RDE -.3321 RRA .1322 RC3 .1643 FAU .08497 RRT -.1416 RRF .0943 RTF -.8073 CRT .3560 CRS -.5317 CST .5946
 FDE -.2191 FRA 1.4003 FC3-5.4422 BSP 1596 SGB 1504.7 R23 .0439 R13 .8064 LSA 29.6 MSA 26.4 SSA 1.6
 BDE .3588 BRA .7278 BC3 .7944 FSP 435 SG1 1391.6 SG2 572.4 THA 175.93 EL1 28.2 EL2 18.4 ALF 59.88

LAUNCH DATE MAY 15 1971

FLIGHT TIME 136.00

ARRIVAL DATE SEP 28 1971

Heliocentric Conic: RL 151.22 LAL .00 LOL 233.53 VL 32.926 GAL .06 AZL 91.78 HCA 114.32 SMA 197.73 ECC .23524 INC 1.7837 V1 29.464
 RP 207.08 LAP -1.63 LOP 347.86 VP 24.710 GAP 13.34 AZP 89.27 TAL .30 TAP 114.61 RCA 151.22 APO 244.25 V2 26.449
 RC 76.180 GL -18.48 GP -.62 ZAL 95.45 ZAP 155.28 ETS 181.47 ZAE 170.78 ETE 12.47 ZAC 98.68 ETC 278.77 LVI -18.78

Planetocentric Conic: C3 13.055 VHL 3.613 DLA -27.10 RAL 337.72 RAD 6639.6 VEL 11.538 PTH 6.58 VHP 5.744 DPA -16.13 RAP 326.32 ECC 1.2149
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 11 16 2477.25 -6.26 65.45 191.36 137.26 16 52 34 1477.2 12.10 49.85
 60.00 17 27 40 2274.04 -1.18 52.02 196.23 130.29 18 5 34 1274.0 14.74 33.80
 70.00 19 7 10 1981.47 4.27 32.43 200.35 123.92 19 40 12 981.5 17.62 12.09
 80.00 21 11 39 1591.82 9.61 6.10 203.60 118.40 21 38 11 591.8 20.46 343.98
 90.00 23 8 49 1213.95 12.61 339.86 205.16 115.52 23 29 3 214.0 22.06 316.81
 100.00 23 54 31 1066.29 9.61 327.47 203.60 118.40 24 12 17 66.3 20.46 305.35
 110.00 0 10 32 1028.29 4.27 321.35 200.35 123.92 0 27 41 28.3 17.62 301.01

Differential Corrections: TDE -.2324 TRA -.6440 TC3 .6041 BAU .1095 SGT 1281.6 SGR 573.4 SG3 402.6 ST 25.2 SR 25.8 SS 19.2
 RDE -.3222 RRA .1289 RC3 .1695 FAU .08134 RRT -.0293 RRF .0367 RTF -.7767 CRT .6331 CRS -.1046 CST .6975
 FDE .0130 FRA 1.4335 FC3-5.3942 BSP 1928 SGB 1404.0 R23 -.0083 R13 .7768 LSA 33.5 MSA 23.4 SSA 1.5
 BDE .3973 BRA .6568 BC3 .6275 FSP 594 SG1 1281.7 SG2 573.1 THA 179.06 EL1 32.6 EL2 15.4 ALF 45.99

LAUNCH DATE MAY 15 1971

FLIGHT TIME 138.00

ARRIVAL DATE SEP 30 1971

Heliocentric Conic: RL 151.22 LAL .00 LOL 233.53 VL 32.867 GAL .10 AZL 91.78 HCA 115.58 SMA 196.60 ECC .23085 INC 1.7800 V1 29.464
 RP 207.17 LAP -1.61 LOP 349.12 VP 24.621 GAP 12.99 AZP 89.23 TAL .52 TAP 116.10 RCA 151.22 APO 241.99 V2 26.439
 RC 77.718 GL -16.69 GP -.65 ZAL 95.15 ZAP 153.97 ETS 181.44 ZAE 171.32 ETE 12.14 ZAC 98.67 ETC 278.76 LVI -18.72

Planetocentric Conic: C3 12.630 VHL 3.554 DLA -27.41 RAL 337.52 RAD 6639.4 VEL 11.520 PTH 6.57 VHP 5.569 DPA -16.17 RAP 326.28 ECC 1.2079
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 12 5 2463.14 -5.56 64.86 190.90 137.33 16 53 8 1463.1 12.80 49.03
 60.00 17 29 11 2258.06 -.48 51.26 195.78 130.30 18 6 49 1258.1 15.41 32.98
 70.00 19 9 54 1961.88 5.02 31.40 199.93 123.83 19 42 36 961.9 18.28 10.95
 80.00 21 17 1 1563.94 10.51 4.52 203.25 118.11 21 43 5 563.9 21.17 342.21
 90.00 23 18 8 1173.39 13.79 337.46 204.92 114.94 23 37 41 173.4 22.89 314.14
 100.00 0 3 49 1038.41 10.51 325.89 203.25 118.11 0 21 7 38.4 21.17 303.58
 110.00 0 13 16 1008.70 5.02 320.32 199.93 123.83 0 30 5 8.7 18.28 299.87

Differential Corrections: TDE -.2327 TRA -.6454 TC3 .5417 BAU .0960 SGT 1289.4 SGR 569.3 SG3 423.2 ST 25.7 SR 25.6 SS 20.2
 RDE -.3143 RRA .1280 RC3 .1722 FAU .08290 RRT -.0424 RRF .0531 RTF -.7796 CRT .6311 CRS -.1507 CST .6659
 FDE -.0099 FRA 1.5262 FC3-5.6823 BSP 2017 SGB 1409.5 R23 -.0132 R13 .7597 LSA 33.6 MSA 24.3 SSA 1.5
 BDE .3910 BRA .6576 BC3 .5684 FSP 634 SG1 1289.7 SG2 568.7 THA 178.67 EL1 32.7 EL2 15.6 ALF 44.74

LAUNCH DATE MAY 15 1971

FLIGHT TIME 140.00

ARRIVAL DATE OCT 2 1971

Heliocentric Conic: RL 151.22 LAL .00 LOL 233.53 VL 32.812 GAL .14 AZL 91.78 HCA 116.85 SMA 195.55 ECC .22674 INC 1.7763 V1 29.464
 RP 207.26 LAP -1.58 LOP 350.39 VP 24.535 GAP 12.66 AZP 89.20 TAL .74 TAP 117.58 RCA 151.21 APO 239.89 V2 26.428
 RC 79.295 GL -16.90 GP -.67 ZAL 94.87 ZAP 152.63 ETS 181.42 ZAE 171.95 ETE 11.88 ZAC 98.65 ETC 278.75 LVI -18.68

Planetocentric Conic: C3 12.240 VHL 3.499 DLA -27.71 RAL 337.32 RAD 6639.2 VEL 11.503 PTH 6.55 VHP 5.400 DPA -16.22 RAP 326.22 ECC 1.2014
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 12 51 2449.72 -4.88 64.29 190.48 137.38 16 53 41 1449.7 13.46 48.44
 60.00 17 30 39 2242.80 .19 50.53 195.35 130.30 18 8 1 1242.8 16.04 32.19
 70.00 19 12 35 1943.01 5.73 30.41 199.53 123.73 19 44 58 943.0 18.90 9.85
 80.00 21 22 32 1536.19 11.40 2.94 202.94 117.78 21 48 8 536.2 21.85 340.43
 90.00 23 28 55 1128.61 15.05 334.79 204.77 114.23 23 47 44 128.6 23.76 311.14
 100.00 0 9 20 1010.66 11.40 324.31 202.94 117.78 0 26 11 10.7 21.85 301.80
 110.00 0 15 58 6277.87 5.73 297.23 199.53 123.73 2 0 35 5277.9 18.90 276.67

Differential Corrections: TDE -.2311 TRA -.6384 TC3 .5543 BAU .0950 SGT 1299.3 SGR 564.4 SG3 454.2 ST 25.9 SR 25.3 SS 21.0
 RDE -.3065 RRA .1233 RC3 .1730 FAU .08772 RRT -.0443 RRF .0549 RTF -.7578 CRT .6310 CRS -.1595 CST .6592
 FDE -.0149 FRA 1.6031 FC3-6.2043 BSP 2043 SGB 1416.6 R23 -.0136 R13 .7579 LSA 33.7 MSA 24.8 SSA 1.6
 BDE .3838 BRA .6502 BC3 .5806 FSP 685 SG1 1299.6 SG2 563.7 THA 178.64 EL1 32.7 EL2 15.6 ALF 43.94

LAUNCH DATE MAY 15 1971

FLIGHT TIME 142.00

ARRIVAL DATE OCT 4 1971

HELIOCENTRIC CONIC

RL 151.22 LAL .00 LOL 233.53 VL 32.761 GAL .17 AZL 91.77 HCA 118.11 SMA 194.59 ECC .22290 INC 1.7726 V1 29.464
RP 207.37 LAP -1.58 LOP 351.65 VP 24.453 GAP 12.33 AZP 89.16 TAL .95 TAP 119.05 RCA 151.21 APO 237.96 V2 26.415
RC 80.909 GL -17.10 GP -.70 ZAL 94.60 ZAP 151.26 ETS 181.39 ZAE 172.66 ETE 11.69 ZAC 98.64 ETC 278.72 LVI -18.62

PLANETOCENTRIC CONIC

C3 11.860 VHL 3.447 DLA -27.99 RAL 337.13 RAD 6639.0 VEL 11.487 PTH 6.54 VHP 5.238 DPA -16.29 RAP 326.11 ECC 1.1955
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 13 36 2437.00 -4.25 63.76 190.08 137.43 16 54 13 1437.0 14.08 47.87
60.00 17 32 3 2228.30 .83 49.84 194.95 130.29 18 9 12 1228.3 16.64 31.43
70.00 19 15 13 1924.92 6.41 29.45 199.16 123.62 19 47 10 924.9 19.50 8.78
80.00 21 28 12 1508.55 12.27 1.35 202.65 117.43 21 53 21 508.6 22.51 336.65
90.00 23 42 33 1075.31 16.52 331.56 204.73 113.29 24 0 20 75.3 24.70 307.52
100.00 0 15 0 6271.06 12.27 300.62 202.65 117.43 1 59 31 5271.1 22.51 277.92
110.00 0 18 35 6259.78 6.41 296.27 199.16 123.62 2 2 55 5259.6 19.50 275.61

DIFFERENTIAL CORRECTIONS

TDE -.2329 TRA -.6356 TC3 .5583 BAU .0928
RDE -.2988 RRA .1208 RC3 .1734 FAU .09212
FDE -.0160 FRA 1.7006 FC3-6.7130 BSP 2087
BDE .3789 BRA .6470 BC3 .5846 F8P 745

MID-COURSE EXECUTION ACCURACY

SGT 1315.2 SGR 559.3 SG3 486.2
RRR -.0459 RRF .0598 RTF -.7568
SGB 1429.2 R23 -.0174 R13 .7571
SG1 1315.5 SG2 558.6 THA 178.64

ORBIT DETERMINATION ACCURACY

ST 26.4 SR 25.1 S8 22.0
CRT .6340 CRS -.1608 CST .6555
LSA 34.2 MSA 25.3 S8A 1.6
EL1 32.9 EL2 15.6 ALF 42.66

LAUNCH DATE MAY 15 1971

FLIGHT TIME 144.00

ARRIVAL DATE OCT 6 1971

HELIOCENTRIC CONIC

RL 151.22 LAL .00 LOL 233.53 VL 32.712 GAL .21 AZL 91.77 HCA 119.37 SMA 193.69 ECC .21932 INC 1.7687 V1 29.464
RP 207.48 LAP -1.54 LOP 352.91 VP 24.375 GAP 12.00 AZP 89.13 TAL 1.15 TAP 120.51 RCA 151.21 APO 236.17 V2 26.402
RC 82.560 GL -17.28 GP -.73 ZAL 94.35 ZAP 149.85 ETS 181.36 ZAE 173.43 ETE 11.60 ZAC 98.64 ETC 278.69 LVI -18.56

PLANETOCENTRIC CONIC

C3 11.548 VHL 3.398 DLA -28.26 RAL 336.95 RAD 6638.8 VEL 11.473 PTH 6.52 VHP 5.082 DPA -16.37 RAP 325.98 ECC 1.1901
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 14 19 2424.98 -3.64 63.25 189.70 137.47 16 54 44 1425.0 14.67 47.33
60.00 17 33 25 2214.56 1.43 49.18 194.58 130.28 18 10 20 1214.6 17.21 30.71
70.00 19 17 47 1907.65 7.06 28.54 198.81 123.50 19 49 34 907.6 20.06 7.76
80.00 21 34 2 1481.01 13.13 359.76 202.41 117.06 21 58 43 481.0 23.15 336.85
90.00 0 11 7 6275.00 18.81 304.00 205.07 111.51 1 55 42 5275.0 26.04 279.30
100.00 0 20 50 6243.52 13.13 299.03 202.41 117.06 2 4 53 5243.5 23.15 276.12
110.00 0 21 9 6242.51 7.06 295.36 198.81 123.50 2 5 11 5242.5 20.06 274.58

DIFFERENTIAL CORRECTIONS

TDE -.2264 TRA -.6195 TC3 .5420 BAU .0879
RDE -.2916 RRA .1183 RC3 .1733 FAU .09627
FDE -.0418 FRA 1.7700 FC3-7.2169 BSP 2056
BDE .3692 BRA .6307 BC3 .5691 F8P 799

MID-COURSE EXECUTION ACCURACY

SGT 1299.0 SGR 554.0 SG3 515.1
RRR -.0520 RRF .0678 RTF -.7486
SGB 1412.2 R23 -.0203 R13 .7489
SG1 1299.4 SG2 553.1 THA 178.45

ORBIT DETERMINATION ACCURACY

ST 26.1 SR 24.8 S8 22.6
CRT .6314 CRS -.2019 CST .6280
LSA 33.7 MSA 25.9 S3A 1.6
EL1 32.5 EL2 15.4 ALF 42.73

LAUNCH DATE MAY 15 1971

FLIGHT TIME 146.00

ARRIVAL DATE OCT 8 1971

HELIOCENTRIC CONIC

RL 151.22 LAL .00 LOL 233.53 VL 32.687 GAL .24 AZL 91.76 HCA 120.63 SMA 192.86 ECC .21597 INC 1.7647 V1 29.464
RP 207.60 LAP -1.52 LOP 354.17 VP 24.299 GAP 11.69 AZP 89.10 TAL 1.33 TAP 121.96 RCA 151.21 APO 234.52 V2 26.388
RC 84.247 GL -17.46 GP -.76 ZAL 94.11 ZAP 148.40 ETS 181.34 ZAE 174.28 ETE 11.64 ZAC 98.63 ETC 278.68 LVI -18.48

PLANETOCENTRIC CONIC

C3 11.244 VHL 3.353 DLA -29.51 RAL 336.78 RAD 6638.7 VEL 11.460 PTH 6.51 VHP 4.932 DPA -16.46 RAP 325.80 ECC 1.1850
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 15 0 2413.69 -3.08 62.78 189.35 137.50 16 55 14 1413.7 15.22 46.82
60.00 17 34 43 2201.61 2.00 48.56 194.23 130.26 18 11 25 1201.6 17.74 30.02
70.00 19 20 15 1891.24 7.68 27.67 198.49 123.38 19 51 47 891.2 20.58 6.77
80.00 21 40 2 1453.52 13.97 358.15 202.19 116.66 22 4 15 453.5 23.76 335.03
86.26 23 45 24 1049.80 19.91 331.14 204.92 110.83 24 2 53 49.8 26.74 306.15
100.00 0 26 50 6216.03 13.97 297.43 202.19 116.66 2 10 26 5216.0 23.76 274.31
110.00 0 23 38 6226.10 7.68 294.49 198.49 123.38 2 7 24 5226.1 20.58 273.60

DIFFERENTIAL CORRECTIONS

TDE -.2230 TRA -.8039 TC3 .5383 BAU .0849
RDE -.2845 RRA .1160 RC3 .1722 FAU .10119
FDE -.0531 FRA 1.8438 FC3-7.7912 BSP 2051
BDE .3615 BRA .6149 BC3 .5651 F8P 855

MID-COURSE EXECUTION ACCURACY

SGT 1286.2 SGR 548.3 SG3 547.6
RRR -.0537 RRF .0717 RTF -.1136
SGB 1398.2 R23 -.0230 R13 .7439
SG1 1286.6 SG2 547.3 THA 178.40

ORBIT DETERMINATION ACCURACY

ST 26.0 SR 24.3 S8 23.2
CRT .6338 CRS -.2173 CST .6111
LSA 33.5 MSA 26.3 S8A 1.6
EL1 32.3 EL2 15.3 ALF 42.48

LAUNCH DATE MAY 15 1971

FLIGHT TIME 148.00

ARRIVAL DATE OCT 10 1971

HELIOCENTRIC CONIC

RL 151.22 LAL .00 LOL 233.53 VL 32.625 GAL .26 AZL 91.76 HCA 121.88 SMA 192.10 ECC .21286 INC 1.7606 V1 29.464
RP 207.73 LAP -1.50 LOP 355.43 VP 24.226 GAP 11.38 AZP 89.07 TAL 1.51 TAP 123.39 RCA 151.21 APO 232.99 V2 26.373
RC 85.969 GL -17.62 GP -.79 ZAL 93.89 ZAP 146.92 ETS 181.31 ZAE 175.21 ETE 11.88 ZAC 98.64 ETC 278.61 LVI -18.40

PLANETOCENTRIC CONIC

C3 10.963 VHL 3.311 DLA -28.74 RAL 336.82 RAD 6638.5 VEL 11.448 PTH 6.50 VHP 4.788 DPA -16.56 RAP 325.59 ECC 1.1804
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 15 39 2403.11 -2.95 62.34 189.03 137.52 16 55 43 1403.1 15.73 46.34
60.00 17 35 58 2189.47 2.94 47.98 193.91 130.23 18 12 28 1189.5 18.23 29.38
70.00 19 22 39 1875.73 8.26 26.84 198.20 123.26 19 53 54 875.7 21.07 5.84
80.00 21 46 13 1426.04 14.81 356.54 202.02 116.23 22 9 59 426.0 24.34 333.20
84.65 23 31 33 1087.33 20.20 334.01 204.48 110.89 23 49 40 87.3 27.02 308.96
100.00 0 33 1 6188.55 14.81 295.81 202.02 116.23 2 16 10 5188.6 24.34 272.48
110.00 0 26 1 6210.59 8.26 293.66 198.20 123.26 2 9 31 5210.6 21.07 272.66

DIFFERENTIAL CORRECTIONS

TDE -.2217 TRA -.5882 TC3 .5292 BAU .0815
RDE -.2778 RRA .1139 RC3 .1702 FAU .10661
FDE -.0650 FRA 1.9275 FC3-8.4187 BSP 2004
BDE .3553 BRA .5992 BC3 .5559 F8P 914

MID-COURSE EXECUTION ACCURACY

SGT 1271.9 SGR 542.3 SG3 583.2
RRR -.0538 RRF .0767 RTF -.7369
SGB 1382.7 R23 -.0283 R13 .7373
SG1 1272.3 SG2 541.3 THA 178.40

ORBIT DETERMINATION ACCURACY

ST 25.9 SR 24.3 S8 24.0
CRT .6398 CRS -.2320 CST .5928
LSA 33.4 MSA 26.7 S8A 1.6
EL1 32.2 EL2 15.0 ALF 42.05

LAUNCH DATE MAY 15 1971

FLIGHT TIME 150.00

ARRIVAL DATE OCT 12 1971

MELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 32.586 GAL .29 AZL 91.76 HCA 123.14 SMA 191.39 ECC .20996 INC 1.7585 V1 29.464
 RP 207.86 LAP -1.47 LOP 356.88 VP 24.156 GAP 11.08 AZP 89.04 TAL 1.67 TAP 124.81 RCA 151.21 APO 231.57 V2 26.337
 RC 87.725 GL -17.78 GP -.82 ZAL 93.69 ZAP 145.40 ETS 181.20 ZAE 176.20 ETE 12.49 ZAC 98.64 ETC 278.56 LVI -18.30

PLANETOCENTRIC CONIC
 C3 10.705 VHL 3.272 DLA -28.96 RAL 336.48 RAD 6638.4 VEL 11.437 PTH 6.49 VHP 4.650 DPA -16.60 RAP 325.36 ECC 1.1782
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 16 17 2393.26 -2.05 61.93 188.73 137.54 16 56 11 1393.3 16.21 49.90
 60.00 17 37 9 2178.14 3.04 47.44 193.62 130.21 18 13 27 1178.1 18.69 28.77
 70.00 19 24 55 1861.17 8.80 26.06 197.93 123.13 19 55 56 861.2 21.53 4.95
 80.00 21 52 38 1398.46 15.63 354.91 201.87 115.77 22 15 56 398.5 24.90 331.35
 83.50 23 21 40 1112.55 20.46 339.97 204.07 110.95 23 40 12 112.5 27.28 310.86
 100.00 0 39 26 6160.99 15.63 294.18 201.87 115.77 2 22 6 5161.0 24.90 270.62
 110.00 0 28 18 6196.03 8.80 292.89 197.93 123.13 2 11 34 5196.0 21.53 271.78

DIFFERENTIAL CORRECTIONS
 TDE -.2172 TRA -.5734 TC3 .5030 BAU .0759 SGT 1253.1 SGR 536.1 SG3 619.1 ORBIT DETERMINATION ACCURACY
 RDE -.2716 RRA .1119 RC3 .1676 FAU .11179 RRT -.0603 RRF .0853 RTF -.7270 CRT .6400 CRS -.2574 CST .5713
 FDE -.0859 FRA 2.0191 FC3-9.0406 BSP 1990 SGB 1362.9 R23 -.0318 R13 .7275 LSA 33.1 MSA 27.4 SSA 1.6
 BDE .3473 BRA .5843 BC3 .5302 FSP 981 SGI 1253.6 SG2 534.9 THA 178.19 EL1 31.8 EL2 14.9 ALF 41.96

LAUNCH DATE MAY 15 1971

FLIGHT TIME 152.00

ARRIVAL DATE OCT 14 1971

MELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 32.550 GAL .31 AZL 91.75 HCA 124.39 SMA 190.74 ECC .20726 INC 1.7522 V1 29.464
 RP 208.01 LAP -1.45 LOP 357.94 VP 24.088 GAP 10.79 AZP 89.01 TAL 1.82 TAP 126.21 RCA 151.20 APO 230.27 V2 26.340
 RC 89.514 GL -17.92 GP -.86 ZAL 93.51 ZAP 143.85 ETS 181.25 ZAE 177.26 ETE 13.89 ZAC 98.65 ETC 278.50 LVI -18.19

PLANETOCENTRIC CONIC
 C3 10.467 VHL 3.235 DLA -29.15 RAL 336.36 RAD 6638.3 VEL 11.426 PTH 6.48 VHP 4.517 DPA -16.81 RAP 325.06 ECC 1.1723
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 16 53 2384.14 -1.59 61.54 188.47 137.56 16 56 37 1384.1 16.65 45.48
 60.00 17 38 16 2167.64 3.50 46.94 193.36 130.17 18 14 24 1167.6 19.11 28.21
 70.00 19 27 5 1847.60 9.31 25.33 197.69 123.01 19 57 52 847.6 21.95 4.12
 80.00 21 59 18 1370.69 16.44 353.25 201.77 115.28 22 22 9 370.7 25.44 329.46
 82.60 23 13 58 1131.17 20.71 337.45 203.69 111.00 23 32 49 131.2 27.52 312.28
 100.00 0 46 6 6133.20 16.44 292.52 201.77 115.28 2 28 19 5133.2 25.44 268.74
 110.00 0 30 27 6182.46 9.31 292.16 197.69 123.01 2 13 29 5182.5 21.95 270.95

DIFFERENTIAL CORRECTIONS
 TDE -.2142 TRA -.5572 TC3 .4754 BAU .0704 SGT 1231.0 SGR 529.6 SG3 657.3 ORBIT DETERMINATION ACCURACY
 RDE -.2645 RRA .1101 RC3 .1641 FAU .11747 RRT -.0645 RRF .0922 RTF -.7157 CRT .6438 CRS -.2720 CST .5547
 FDE -.1002 FRA 2.1101 FC3-9.7163 BSP 1909 SGB 1340.1 R23 -.0357 R13 .7163 LSA 32.9 MSA 27.8 SSA 1.7
 BDE .3403 BRA .5680 BC3 .5030 FSP 1037 SGI 1231.6 SG2 528.3 THA 178.05 EL1 31.5 EL2 14.6 ALF 41.78

LAUNCH DATE MAY 15 1971

FLIGHT TIME 154.00

ARRIVAL DATE OCT 16 1971

MELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 32.516 GAL .33 AZL 91.75 HCA 125.64 SMA 190.13 ECC .20474 INC 1.7478 V1 29.464
 RP 208.16 LAP -1.42 LOP 359.19 VP 24.023 GAP 10.50 AZP 88.98 TAL 1.95 TAP 127.60 RCA 151.20 APO 229.06 V2 26.323
 RC 91.337 GL -18.05 GP -.90 ZAL 93.35 ZAP 142.25 ETS 181.22 ZAE 178.39 ETE 17.89 ZAC 98.66 ETC 278.43 LVI -18.07

PLANETOCENTRIC CONIC
 C3 10.248 VHL 3.201 DLA -29.34 RAL 336.25 RAD 6638.2 VEL 11.417 PTH 6.47 VHP 4.390 DPA -16.96 RAP 324.74 ECC 1.1687
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 17 28 2375.69 -1.17 61.19 188.22 137.57 16 57 3 1375.7 17.06 45.09
 60.00 17 39 19 2157.92 3.92 46.47 193.11 130.14 18 15 17 1157.9 19.50 27.68
 70.00 19 29 7 1834.97 9.77 24.65 197.47 122.89 19 59 42 835.0 22.34 3.35
 80.00 22 6 21 1342.19 17.26 351.53 201.70 114.74 22 28 44 342.2 25.97 327.51
 81.86 23 7 38 1145.86 20.93 338.62 203.34 111.04 23 26 44 145.9 27.74 313.41
 100.00 0 53 9 6104.70 17.26 290.80 201.70 114.74 2 34 54 5104.7 25.97 266.78
 110.00 0 32 29 6169.83 9.77 291.48 197.47 122.89 2 15 19 5169.8 22.34 270.17

DIFFERENTIAL CORRECTIONS
 TDE -.2003 TRA -.5295 TC3 .4798 BAU .0692 SGT 1185.1 SGR 523.1 SG3 698.5 ORBIT DETERMINATION ACCURACY
 RDE -.2583 RRA .1084 RC3 .1593 FAU .12395 RRT -.0724 RRF .1023 RTF -.7176 CRT .6360 CRS -.3115 CST .5284
 FDE -.1359 FRA 2.1971 FC-10.4711 BSP 1695 SGB 1295.4 R23 -.0380 R13 .7183 LSA 31.8 MSA 28.5 SSA 1.6
 BDE .3269 BRA .5404 BC3 .5034 FSP 1086 SGI 1185.9 SG2 521.4 THA 177.73 EL1 30.4 EL2 14.3 ALF 43.32

LAUNCH DATE MAY 15 1971

FLIGHT TIME 156.00

ARRIVAL DATE OCT 18 1971

MELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 32.484 GAL .35 AZL 91.74 HCA 126.89 SMA 189.57 ECC .20242 INC 1.7432 V1 29.464
 RP 208.32 LAP -1.39 LOP .44 VP 23.980 GAP 10.22 AZP 88.95 TAL 2.07 TAP 128.98 RCA 151.20 APO 227.95 V2 26.304
 RC 93.190 GL -18.16 GP -.93 ZAL 93.22 ZAP 140.63 ETS 181.19 ZAE 179.52 ETE 44.26 ZAC 98.68 ETC 278.35 LVI -17.93

PLANETOCENTRIC CONIC
 C3 10.048 VHL 3.170 DLA -29.49 RAL 336.17 RAD 6638.1 VEL 11.408 PTH 6.46 VHP 4.269 DPA -17.12 RAP 324.38 ECC 1.1684
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 18 1 2368.07 -1.79 60.87 188.01 137.57 16 57 29 1368.1 17.43 44.74
 60.00 17 40 18 2149.15 4.31 46.05 192.90 130.11 18 16 7 1149.2 19.85 27.20
 70.00 19 30 59 1823.57 10.20 24.04 197.28 122.77 20 1 22 823.6 22.68 2.64
 80.00 22 13 45 1313.32 18.08 349.77 201.68 114.17 22 35 39 313.3 26.47 325.51
 81.26 23 2 37 1156.93 21.14 339.53 203.03 111.06 23 21 54 156.9 27.93 314.27
 100.00 1 0 33 6075.83 18.08 289.05 201.68 114.17 2 41 49 5075.8 26.47 264.79
 110.00 0 34 21 6158.43 10.20 290.86 197.28 122.77 2 17 0 5158.4 22.68 269.47

DIFFERENTIAL CORRECTIONS
 TDE -.2083 TRA -.5195 TC3 .3950 BAU .0570 SGT 1169.8 SGR 516.1 SG3 737.8 ORBIT DETERMINATION ACCURACY
 RDE -.2519 RRA .1070 RC3 .1545 FAU .12938 RRT -.0725 RRF .1097 RTF -.6850 CRT .6559 CRS -.3051 CST .5117
 FDE -.1356 FRA 2.3034 FC-11.1476 BSP 1779 SGB 1278.6 R23 -.0483 R13 .6859 LSA 32.5 MSA 28.7 SSA 1.7
 BDE .3269 BRA .5304 BC3 .4242 FSP 1186 SGI 1170.6 SG2 514.4 THA 177.73 EL1 30.8 EL2 14.0 ALF 41.69

LAUNCH DATE MAY 15 1971

FLIGHT TIME 158.00

ARRIVAL DATE OCT 20 1971

Heliocentric Conic: RL 151.22 LAL .00 LOL 233.53 VL 32.455 GAL .36 AZL 91.74 HCA 128.14 SMA 189.08 ECC .20026 INC 1.7308 V1 29.464
 RP 208.49 LAP -1.37 LOP 1.69 VP 23.899 GAP 9.95 AZP 88.93 TAL 2.17 TAP 130.31 RCA 151.20 APO 226.92 V2 26.284
 RC 95.074 GL -18.27 GP -.97 ZAL 93.11 ZAP 138.96 ETS 181.16 ZAE 179.07 ETE 169.13 ZAC 98.70 ETC 278.27 LVI -17.78

Planetocentric Conic: C3 9.863 VHL 3.141 DLA -29.63 RAL 336.10 RAD 6638.0 VEL 11.400 PTH 6.45 VHP 4.154 DPA -17.29 RAP 323.98 ECC 1.1623
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 18 32 2361.13 -.44 60.58 187.82 137.57 16 57 53 1361.1 17.76 44.42
 60.00 17 41 12 2141.20 4.66 45.67 192.71 130.08 18 16 53 1141.2 20.17 26.77
 70.00 19 32 42 1813.22 10.58 23.48 197.10 122.67 20 2 55 813.2 22.99 2.00
 80.00 22 21 54 1282.61 18.92 347.88 201.71 113.53 22 43 17 282.6 26.97 323.37
 80.76 22 58 27 1165.75 21.32 340.26 202.75 111.08 23 17 52 165.7 28.11 314.96
 100.00 1 8 42 6045.13 18.92 287.16 201.71 113.53 2 49 27 9045.1 26.97 262.64
 110.00 0 36 4 6148.08 10.58 290.30 197.10 122.67 2 18 32 5148.1 22.99 268.82

Differential Corrections: TDE -.2071 TRA -.5046 TC3 .3293 BAU .0476 SGT 1143.2 SGR 509.2 SG3 781.0 ST 24.7 SR 22.7 SS 28.2
 RDE -.2459 RRA .1037 RC3 .1485 FAU .13548 RRT -.0794 RRF .1227 RTF -.6594 CRT .6626 CRS -.3293 CST .4818
 FDE -.1632 FRA 2.4215 FC-11.6919 BSP 1719 SGB 1251.5 R23 -.0577 R13 .6607 LSA 32.6 MSA 29.2 SSA 1.7
 BDE .3215 BRA .5155 BC3 .3612 FSP 1263 SG1 1144.1 SG2 507.2 THA 177.48 EL1 30.6 EL2 13.7 ALF 41.38

LAUNCH DATE MAY 15 1971

FLIGHT TIME 160.00

ARRIVAL DATE OCT 22 1971

Heliocentric Conic: RL 151.22 LAL .00 LOL 233.53 VL 32.428 GAL .37 AZL 91.73 HCA 129.39 SMA 188.59 ECC .19827 INC 1.7337 V1 29.464
 RP 208.67 LAP -1.34 LOP 2.93 VP 23.839 GAP 9.68 AZP 88.90 TAL 2.25 TAP 131.64 RCA 151.20 APO 225.98 V2 26.264
 RC 96.988 GL -18.37 GP -1.02 ZAL 93.03 ZAP 137.25 ETS 181.13 ZAE 177.75 ETE 179.50 ZAC 98.72 ETC 278.18 LVI -17.62

Planetocentric Conic: C3 9.694 VHL 3.113 DLA -29.75 RAL 336.05 RAD 6637.9 VEL 11.393 PTH 6.44 VHP 4.044 DPA -17.48 RAP 323.53 ECC 1.1595
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 19 1 2354.89 -.12 60.32 187.66 137.58 16 58 16 1354.9 18.06 44.13
 60.00 17 42 1 2134.07 4.97 45.33 192.54 130.05 18 17 35 1134.1 20.45 26.38
 70.00 19 34 14 1803.96 10.92 22.98 196.95 122.56 20 4 18 804.0 23.27 1.42
 80.00 22 31 32 1247.71 19.86 345.71 201.80 112.77 22 52 20 247.7 27.50 320.91
 80.34 22 55 5 1172.45 21.49 340.83 202.51 111.09 23 14 38 172.5 28.26 315.48
 100.00 1 18 20 6010.22 19.86 284.99 201.80 112.77 2 58 30 5010.2 27.50 260.18
 110.00 0 37 37 6138.82 10.92 289.80 196.95 122.56 2 19 56 5138.8 23.27 268.25

Differential Corrections: TDE -.2048 TRA -.4814 TC3 .2790 BAU .0405 SGT 1101.6 SGR 501.8 SG3 826.5 ST 24.3 SR 22.3 SS 28.9
 RDE -.2400 RRA .1045 RC3 .1412 FAU .14252 RRT -.0802 RRF .1315 RTF -.6367 CRT .6737 CRS -.3381 CST .4602
 FDE -.1769 FRA 2.5219 FC-12.7280 BSP 1605 SGB 1210.5 R23 -.0674 R13 .6383 LSA 32.6 MSA 29.3 SSA 1.7
 BDE .3155 BRA .4926 BC3 .3127 FSP 1341 SG1 1102.5 SG2 499.8 THA 177.37 EL1 30.2 EL2 13.3 ALF 41.46

LAUNCH DATE MAY 15 1971

FLIGHT TIME 162.00

ARRIVAL DATE OCT 24 1971

Heliocentric Conic: RL 151.22 LAL .00 LOL 233.53 VL 32.403 GAL .38 AZL 91.73 HCA 130.63 SMA 188.16 ECC .19642 INC 1.7287 V1 29.464
 RP 208.85 LAP -1.31 LOP 4.18 VP 23.782 GAP 9.42 AZP 88.87 TAL 2.32 TAP 132.95 RCA 151.20 APO 225.11 V2 26.243
 RC 98.929 GL -18.45 GP -1.06 ZAL 92.97 ZAP 135.51 ETS 181.09 ZAE 176.35 ETE 182.12 ZAC 98.75 ETC 278.07 LVI -17.45

Planetocentric Conic: C3 9.539 VHL 3.088 DLA -29.85 RAL 336.03 RAD 6637.8 VEL 11.386 PTH 6.44 VHP 3.939 DPA -17.68 RAP 323.05 ECC 1.1570
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 19 30 2349.39 .15 60.09 187.52 137.58 16 58 39 1349.4 18.32 43.87
 60.00 17 42 46 2127.83 5.24 45.02 192.40 130.02 18 18 14 1127.8 20.70 26.04
 70.00 19 35 36 1795.92 11.21 22.54 196.82 122.47 20 5 32 795.9 23.50 .92
 80.00 22 47 59 1191.84 21.29 342.17 202.15 111.44 23 7 51 191.6 28.23 316.90
 80.02 22 52 27 1177.38 21.63 341.25 202.29 111.09 23 12 5 177.4 28.39 319.87
 100.00 1 34 47 5954.14 21.29 281.44 202.15 111.44 3 14 1 4954.1 28.23 286.18
 110.00 0 38 58 6130.79 11.21 289.37 196.82 122.47 2 21 9 5130.8 23.50 287.74

Differential Corrections: TDE -.2049 TRA -.4833 TC3 .1899 BAU .0296 SGT 1087.9 SGR 494.5 SG3 871.7 ST 24.1 SR 22.0 SS 29.8
 RDE -.2342 RRA .1035 RC3 .1335 FAU .14891 RRT -.0845 RRF .1451 RTF -.5578 CRT .6855 CRS -.3540 CST .4308
 FDE -.1996 FRA 2.6428 FC-13.5152 BSP 1520 SGB 1176.9 R23 -.0812 R13 .5998 LSA 32.9 MSA 29.5 SSA 1.7
 BDE .3112 BRA .4748 BC3 .2322 FSP 1419 SG1 1069.0 SG2 492.3 THA 177.16 EL1 30.0 EL2 12.9 ALF 41.11

LAUNCH DATE MAY 15 1971

FLIGHT TIME 164.00

ARRIVAL DATE OCT 26 1971

Heliocentric Conic: RL 151.22 LAL .00 LOL 233.53 VL 32.380 GAL .39 AZL 91.72 HCA 131.88 SMA 187.78 ECC .19472 INC 1.7234 V1 29.464
 RP 209.04 LAP -1.28 LOP 5.42 VP 23.726 GAP 9.17 AZP 88.85 TAL 2.37 TAP 134.25 RCA 151.20 APO 224.32 V2 26.221
 RC 100.898 GL -18.52 GP -1.11 ZAL 92.93 ZAP 133.72 ETS 181.05 ZAE 174.88 ETE 183.21 ZAC 98.78 ETC 277.96 LVI -17.86

Planetocentric Conic: C3 9.396 VHL 3.065 DLA -29.93 RAL 336.02 RAD 6637.7 VEL 11.380 PTH 6.43 VHP 3.840 DPA -17.90 RAP 322.53 ECC 1.1546
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 19 56 2344.57 .40 59.89 187.41 137.57 16 59 1 1344.6 18.55 43.64
 60.00 17 43 26 2122.41 5.48 44.76 192.29 129.89 18 18 49 1122.4 20.91 25.74
 70.00 19 36 46 1789.03 11.46 22.17 196.71 122.40 20 6 35 789.0 23.70 .48
 79.76 22 50 28 1180.72 21.76 341.55 202.11 111.08 23 10 9 180.7 28.50 316.14
 79.76 22 50 28 1180.72 21.76 341.55 202.11 111.08 23 10 9 180.7 28.50 316.14
 79.76 22 50 28 1180.72 21.76 341.55 202.11 111.08 23 10 9 180.7 28.50 316.14
 110.00 0 40 8 6123.89 11.46 288.99 196.71 122.40 2 22 12 5123.9 23.70 267.31

Differential Corrections: TDE -.2009 TRA -.4382 TC3 .1204 BAU .0217 SGT 1019.8 SGR 487.1 SG3 920.6 ST 23.5 SR 21.6 SS 30.7
 RDE -.2286 RRA .1026 RC3 .1244 FAU .15634 RRT -.0867 RRF .1587 RTF -.5625 CRT .6961 CRS -.3743 CST .3972
 FDE -.2280 FRA 2.7567 FC-14.4048 BSP 1352 SGB 1130.1 R23 -.0961 R13 .5651 LSA 33.2 MSA 29.3 SSA 1.7
 BDE .3043 BRA .4501 BC3 .1731 FSP 1490 SG1 1020.9 SG2 484.7 THA 176.94 EL1 29.4 EL2 12.4 ALF 41.52

LAUNCH DATE MAY 15 1971

FLIGHT TIME 166.00

ARRIVAL DATE OCT 28 1971

HELIOCENTRIC CONIC DISTANCE 404.942 EARTH TO MARS
 RL 151.22 LAL .00 LOL 233.53 VL 32.358 GAL .39 AZL 91.72 HCA 133.11 SMA 187.38 ECC .19316 INC 1.7181 V1 29.464
 RP 209.24 LAP -1.25 LOP 6.66 VP 23.671 GAP 8.92 AZP 88.83 TAL 2.41 TAP 135.52 RCA 151.20 APO 223.59 V2 26.190
 RC 102.893 GL -18.58 GP -1.16 ZAL 92.93 ZAP 131.90 ETS 181.01 ZAE 173.35 ETE 183.76 ZAC 98.81 ETC 277.84 LVI -17.05

PLANETOCENTRIC CONIC
 C3 9.266 VHL 3.044 DLA -29.99 RAL 336.04 RAD 6637.7 VEL 11.374 PTH 6.43 VHP 3.748 DPA -18.12 RAP 321.97 ECC 1.1525
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 20 21 2340.48 .60 59.72 187.33 137.57 16 59 22 1340.5 18.75 43.45
 60.00 17 44 1 2117.88 5.68 44.54 192.20 129.97 18 19 19 1117.9 21.09 25.48
 70.00 19 37 43 1783.41 11.67 21.86 196.62 122.33 20 7 26 783.4 23.87 .13
 79.57 22 49 9 1182.49 21.87 341.73 201.96 111.05 23 8 51 182.5 28.59 316.29
 79.57 22 49 9 1182.49 21.87 341.73 201.96 111.05 23 8 51 182.5 28.59 316.29
 79.57 22 49 9 1182.49 21.87 341.73 201.96 111.05 23 8 51 182.5 28.59 316.29
 110.00 0 41 5 6118.27 11.67 288.69 196.62 122.33 2 23 3 5118.3 23.87 266.95

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2069 TRA -.4195 TC3 .0047 BAU .0143 SGT 991.3 SGR 479.3 SG3 967.9 ST 23.8 SR 21.2 SS 31.5
 RDE -.2227 RRA .1019 RC3 .1152 FAU .16293 RRT -.0809 RRF .1707 RTF -.5032 CRT .7182 CRS -.3627 CST .3793
 FDE -.2226 FRA 2.8893 FC-15.2222 BSP 1287 SGB 1101.1 R23 -.1180 R13 .5062 LSA 33.8 MSA 29.4 SSA 1.7
 BDE .3040 BRA .4317 BC3 .1153 FSP 1591 SG1 992.3 SG2 477.2 THA 177.08 EL1 29.6 EL2 11.9 ALF 40.47

LAUNCH DATE MAY 15 1971

FLIGHT TIME 168.00

ARRIVAL DATE OCT 30 1971

HELIOCENTRIC CONIC DISTANCE 408.668 EARTH TO MARS
 RL 151.22 LAL .00 LOL 233.53 VL 32.339 GAL .39 AZL 91.71 HCA 134.35 SMA 187.06 ECC .19172 INC 1.7125 V1 29.464
 RP 209.44 LAP -1.22 LOP 7.90 VP 23.618 GAP 8.68 AZP 88.80 TAL 2.42 TAP 136.78 RCA 151.20 APO 222.92 V2 26.174
 RC 104.913 GL -18.63 GP -1.21 ZAL 92.94 ZAP 130.05 ETS 180.97 ZAE 171.76 ETE 184.05 ZAC 98.84 ETC 277.71 LVI -18.84

PLANETOCENTRIC CONIC
 C3 9.148 VHL 3.025 DLA -30.03 RAL 336.09 RAD 6637.6 VEL 11.369 PTH 6.42 VHP 3.657 DPA -18.36 RAP 321.37 ECC 1.1509
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 20 44 2337.08 .77 59.58 187.27 137.57 16 59 42 1337.1 18.91 43.29
 60.00 17 44 31 2114.18 5.84 44.37 192.13 129.95 18 19 45 1114.2 21.23 25.28
 70.00 19 38 28 1778.98 11.83 21.62 196.54 122.28 20 8 7 779.0 23.99 359.85
 79.45 22 48 24 1182.89 21.96 341.80 201.84 111.02 23 8 7 182.9 28.65 316.33
 79.45 22 48 24 1182.89 21.96 341.80 201.84 111.02 23 8 7 182.9 28.65 316.33
 79.45 22 48 24 1182.89 21.96 341.80 201.84 111.02 23 8 7 182.9 28.65 316.33
 110.00 0 41 50 6113.84 11.83 288.44 196.54 122.28 2 23 44 5113.8 23.99 266.67

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2064 TRA -.3963 TC3 -.1110 BAU .0187 SGT 953.5 SGR 471.7 SG3 1016.5 ST 23.5 SR 20.8 SS 32.5
 RDE -.2172 RRA .1013 RC3 .1050 FAU .16975 RRT -.0792 RRF .1876 RTF -.4368 CRT .7335 CRS -.3767 CST .3446
 FDE -.2461 FRA 3.0228 FC-18.0652 BSP 1139 SGB 1063.8 R23 -.1424 R13 .4406 LSA 34.5 MSA 29.2 SSA 1.7
 BDE .2996 BRA .4090 BC3 .1528 FSP 1676 SG1 954.5 SG2 469.8 THA 177.04 EL1 29.3 EL2 11.4 ALF 40.37

LAUNCH DATE MAY 15 1971

FLIGHT TIME 170.00

ARRIVAL DATE NOV 1 1971

HELIOCENTRIC CONIC DISTANCE 412.802 EARTH TO MARS
 RL 151.22 LAL .00 LOL 233.53 VL 32.321 GAL .39 AZL 91.71 HCA 135.59 SMA 186.76 ECC .19041 INC 1.7067 V1 29.464
 RP 209.66 LAP -1.19 LOP 9.13 VP 23.587 GAP 8.44 AZP 88.78 TAL 2.42 TAP 138.01 RCA 151.20 APO 222.32 V2 26.150
 RC 106.958 GL -18.67 GP -1.26 ZAL 92.99 ZAP 128.16 ETS 180.93 ZAE 170.11 ETE 184.21 ZAC 98.88 ETC 277.58 LVI -16.61

PLANETOCENTRIC CONIC
 C3 9.040 VHL 3.007 DLA -30.05 RAL 336.15 RAD 6637.5 VEL 11.364 PTH 6.42 VHP 3.573 DPA -18.62 RAP 320.73 ECC 1.1488
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 21 6 2334.36 .91 59.47 187.24 137.57 17 0 1 1334.4 19.04 43.16
 60.00 17 44 56 2111.33 5.97 44.23 192.08 129.93 18 20 7 1111.3 21.35 25.12
 70.00 19 38 59 1775.79 11.94 21.44 196.49 122.24 20 8 35 775.8 24.09 359.65
 79.39 22 48 14 1181.98 22.02 341.76 201.76 110.97 23 7 56 182.0 28.69 316.27
 79.39 22 48 14 1181.98 22.02 341.76 201.76 110.97 23 7 56 182.0 28.69 316.27
 79.39 22 48 14 1181.98 22.02 341.76 201.76 110.97 23 7 56 182.0 28.69 316.27
 110.00 0 42 22 6110.84 11.94 288.27 196.49 122.24 2 24 12 5110.6 24.09 266.47

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2098 TRA -.3715 TC3 -.2390 BAU .0310 SGT 921.6 SGR 463.8 SG3 1065.5 ST 23.5 SR 20.4 SS 33.3
 RDE -.2116 RRA .1009 RC3 .0940 FAU .17688 RRT -.0688 RRF .2023 RTF -.5032 CRT .7556 CRS -.3700 CST .3198
 FDE -.2447 FRA 3.1581 FC-16.9209 BSP 990 SGB 1031.7 R23 -.1710 R13 .3592 LSA 35.0 MSA 29.2 SSA 1.6
 BDE .2980 BRA .3849 BC3 .2568 FSP 1767 SG1 922.3 SG2 462.4 THA 177.43 EL1 29.2 EL2 10.8 ALF 39.81

LAUNCH DATE MAY 15 1971

FLIGHT TIME 172.00

ARRIVAL DATE NOV 3 1971

HELIOCENTRIC CONIC DISTANCE 416.944 EARTH TO MARS
 RL 151.22 LAL .00 LOL 233.53 VL 32.305 GAL .39 AZL 91.70 HCA 136.82 SMA 186.48 ECC .18921 INC 1.7006 V1 29.464
 RP 209.87 LAP -1.16 LOP 10.38 VP 23.516 GAP 8.21 AZP 88.76 TAL 2.41 TAP 139.22 RCA 151.20 APO 221.76 V2 26.124
 RC 109.028 GL -18.70 GP -1.32 ZAL 93.06 ZAP 126.24 ETS 180.88 ZAE 168.40 ETE 184.28 ZAC 98.91 ETC 277.43 LVI -16.36

PLANETOCENTRIC CONIC
 C3 8.941 VHL 2.990 DLA -30.05 RAL 336.24 RAD 6637.5 VEL 11.360 PTH 6.41 VHP 3.494 DPA -18.88 RAP 320.05 ECC 1.1472
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 21 26 2332.32 1.01 59.38 187.23 137.57 17 0 19 1332.3 19.14 43.07
 60.00 17 45 16 2109.31 6.05 44.13 192.06 129.92 18 20 25 1109.3 21.42 25.01
 70.00 19 39 18 1773.82 12.02 21.34 196.45 122.21 20 8 52 773.8 24.14 359.52
 79.40 22 48 39 1179.64 22.08 341.60 201.70 110.92 23 8 19 179.6 28.71 316.10
 79.40 22 48 39 1179.64 22.08 341.60 201.70 110.92 23 8 19 179.6 28.71 316.10
 79.40 22 48 39 1179.64 22.08 341.60 201.70 110.92 23 8 19 179.6 28.71 316.10
 110.00 0 42 40 6108.67 12.02 288.16 196.45 122.21 2 24 29 5108.7 24.14 266.35

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2101 TRA -.3449 TC3 -.3721 BAU .0455 SGT 891.2 SGR 456.1 SG3 1117.0 ST 23.2 SR 20.0 SS 34.2
 RDE -.2062 RRA .1006 RC3 .0818 FAU .18414 RRT -.0535 RRF .2205 RTF -.2598 CRT .7745 CRS -.3789 CST .2822
 FDE -.2625 FRA 3.2951 FC-17.8287 BSP 834 SGB 1001.1 R23 -.2020 R13 .2636 LSA 35.7 MSA 28.9 SSA 1.6
 BDE .2944 BRA .3592 BC3 .3809 FSP 1866 SG1 891.7 SG2 455.2 THA 177.88 EL1 28.9 EL2 10.2 ALF 39.67

LAUNCH DATE MAY 15 1971

FLIGHT TIME 174.00

ARRIVAL DATE NOV 5 1971

HELIOCENTRIC CONIC

RL 151.22 LAL .00 LOL 233.53 VL 32.290 GAL .38 AZL 91.69 HCA 138.05 SMA 186.23 ECC .18812 INC 1.6943 V1 29.464
RP 210.10 LAP -1.13 LOP 11.58 VP 23.467 GAP 7.98 AZP 88.74 TAL 2.37 TAP 140.42 RCA 151.20 APO 221.26 V2 26.098
RC 111.121 GL -18.72 GP -1.38 ZAL 93.16 ZAP 124.29 ETS 180.83 ZAE 166.64 ETE 184.30 ZAC 98.95 ETC 277.28 LVI -16.10

PLANETOCENTRIC CONIC

C3 8.853 VHL 2.975 DLA -30.02 RAL 336.35 RAD 6637.4 VEL 11.356 PTH 6.41 VHP 3.420 DPA -19.16 RAP 319.34 ECC 1.1457
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 21 48 2330.95 1.00 59.32 187.24 137.57 17 0 36 1331.0 19.20 43.00
60.00 17 45 30 2108.12 6.11 44.07 192.06 129.91 18 20 39 1108.1 21.47 24.94
70.00 19 39 24 1773.07 12.04 21.30 196.43 122.20 20 8 57 773.1 24.17 359.47
79.48 22 49 40 1175.94 22.11 341.34 201.67 110.85 23 9 15 175.9 28.71 315.83
79.48 22 49 40 1175.94 22.11 341.34 201.67 110.85 23 9 15 175.9 28.71 315.83
79.48 22 49 40 1175.94 22.11 341.34 201.67 110.85 23 9 15 175.9 28.71 315.83
110.00 0 42 46 6107.92 12.04 288.12 196.43 122.20 2 24 34 5107.9 24.17 266.30

DIFFERENTIAL CORRECTIONS

TDE -.2127 TRA -.3160 TC3 -.5167 BAU .0617
RDE -.2008 RRA .1003 RC3 .0690 FAU .19148
FDE -.2614 FRA 3.4305 FC-18.7254 BSP 647
BDE .2924 BRA .3315 BC3 .5213 FSP 1947

MID-COURSE EXECUTION ACCURACY

SGT 869.6 SGR 448.1 SG3 1167.6
RRT -.0286 RRF .2377 RTF -.1472
SGB 978.2 R23 -.2320 R13 .1496
SG1 869.7 SG2 447.8 THA 178.85

ORBIT DETERMINATION ACCURACY

ST 23.0 SR 19.6 SS 35.0
CRT .7978 CRS -.3741 CST .2505
LSA 36.2 MSA 28.7 SSA 1.6
EL1 28.7 EL2 9.5 ALF 39.26

LAUNCH DATE MAY 15 1971

FLIGHT TIME 176.00

ARRIVAL DATE NOV 7 1971

HELIOCENTRIC CONIC

RL 151.22 LAL .00 LOL 233.53 VL 32.277 GAL .37 AZL 91.69 HCA 139.28 SMA 186.00 ECC .18713 INC 1.6876 V1 29.464
RP 210.33 LAP -1.10 LOP 12.82 VP 23.419 GAP 7.76 AZP 88.72 TAL 2.32 TAP 141.59 RCA 151.20 APO 220.81 V2 26.071
RC 113.239 GL -18.72 GP -1.44 ZAL 93.28 ZAP 122.31 ETS 180.77 ZAE 164.84 ETE 184.29 ZAC 98.99 ETC 277.11 LVI -15.82

PLANETOCENTRIC CONIC

C3 8.772 VHL 2.962 DLA -29.98 RAL 336.48 RAD 6637.4 VEL 11.353 PTH 6.41 VHP 3.351 DPA -19.44 RAP 318.80 ECC 1.1444
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 22 2 2330.24 1.12 59.29 187.28 137.57 17 0 52 1330.2 19.24 42.97
60.00 17 45 40 2107.73 6.12 44.05 192.08 129.91 18 20 48 1107.7 21.49 24.92
70.00 19 39 17 1773.50 12.03 21.32 196.43 122.21 20 8 50 773.5 24.15 359.50
79.61 22 51 12 1170.99 22.12 340.97 201.67 110.77 23 10 43 171.0 28.69 315.46
79.61 22 51 12 1170.99 22.12 340.97 201.67 110.77 23 10 43 171.0 28.69 315.46
79.61 22 51 12 1170.99 22.12 340.97 201.67 110.77 23 10 43 171.0 28.69 315.46
110.00 0 42 39 6108.36 12.03 288.14 196.43 122.21 2 24 27 5108.4 24.15 266.33

DIFFERENTIAL CORRECTIONS

TDE -.2127 TRA -.2841 TC3 -.6692 BAU .0788
RDE -.1953 RRA .1001 RC3 .0556 FAU .19862
FDE -.2737 FRA 3.5595 FC-19.6018 BSP 449
BDE .2888 BRA .3012 BC3 .6715 FSP 2033

MID-COURSE EXECUTION ACCURACY

SGT 853.8 SGR 440.2 SG3 1216.7
RRT .0015 RRF .2573 RTF -.0185
SGB 960.6 R23 .2573 R13 -.0184
SG1 853.8 SG2 440.2 THA .06

ORBIT DETERMINATION ACCURACY

ST 22.7 SR 19.2 SS 35.7
CRT .8199 CRS -.3799 CST .2072
LSA 36.8 MSA 28.3 SSA 1.6
EL1 28.4 EL2 8.8 ALF 39.21

LAUNCH DATE MAY 15 1971

FLIGHT TIME 178.00

ARRIVAL DATE NOV 9 1971

HELIOCENTRIC CONIC

RL 151.22 LAL .00 LOL 233.53 VL 32.265 GAL .35 AZL 91.68 HCA 140.50 SMA 185.80 ECC .18623 INC 1.6807 V1 29.464
RP 210.57 LAP -1.07 LOP 14.04 VP 23.371 GAP 7.54 AZP 88.70 TAL 2.25 TAP 142.75 RCA 151.20 APO 220.40 V2 26.044
RC 115.380 GL -18.71 GP -1.50 ZAL 93.43 ZAP 120.30 ETS 180.71 ZAE 162.98 ETE 184.26 ZAC 99.02 ETC 276.94 LVI -15.54

PLANETOCENTRIC CONIC

C3 8.700 VHL 2.950 DLA -29.92 RAL 336.84 RAD 6637.4 VEL 11.349 PTH 6.40 VHP 3.286 DPA -19.73 RAP 317.83 ECC 1.1432
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 22 17 2330.15 1.12 59.29 187.34 137.57 17 1 7 1330.1 19.24 42.96
60.00 17 45 44 2108.12 6.11 44.07 192.11 129.91 18 20 52 1108.1 21.47 24.94
70.00 19 38 57 1775.08 11.97 21.41 196.44 122.23 20 8 32 775.1 24.11 359.60
79.81 22 53 21 1164.50 22.11 340.49 201.70 110.68 23 12 46 164.5 28.65 314.97
79.81 22 53 21 1164.50 22.11 340.49 201.70 110.68 23 12 46 164.5 28.65 314.97
79.81 22 53 21 1164.50 22.11 340.49 201.70 110.68 23 12 46 164.5 28.65 314.97
110.00 0 42 19 6109.94 11.97 288.23 196.44 122.23 2 24 9 5109.9 24.11 266.43

DIFFERENTIAL CORRECTIONS

TDE -.2079 TRA -.2463 TC3 -.8107 BAU .0944
RDE -.1902 RRA .0998 RC3 .0405 FAU .20669
FDE -.3115 FRA 3.6674 FC-20.5670 BSP 221
BDE .2818 BRA .2657 BC3 .8117 FSP 2071

MID-COURSE EXECUTION ACCURACY

SGT 834.5 SGR 432.6 SG3 1267.2
RRT .0397 RRF .2793 RTF .1334
SGB 940.0 R23 .2728 R13 .1274
SG1 834.7 SG2 432.2 THA 1.61

ORBIT DETERMINATION ACCURACY

ST 21.8 SR 18.8 SS 36.4
CRT .8421 CRS -.4036 CST .1417
LSA 37.4 MSA 27.5 SSA 1.6
EL1 27.7 EL2 8.0 ALF 39.51

LAUNCH DATE MAY 15 1971

FLIGHT TIME 180.00

ARRIVAL DATE NOV 11 1971

HELIOCENTRIC CONIC

RL 151.22 LAL .00 LOL 233.53 VL 32.254 GAL .34 AZL 91.67 HCA 141.72 SMA 185.62 ECC .18544 INC 1.6734 V1 29.464
RP 210.82 LAP -1.04 LOP 15.26 VP 23.325 GAP 7.33 AZP 88.69 TAL 2.16 TAP 143.88 RCA 151.20 APO 220.04 V2 26.015
RC 117.845 GL -18.69 GP -1.57 ZAL 93.61 ZAP 118.27 ETS 180.66 ZAE 161.10 ETE 184.21 ZAC 99.05 ETC 276.77 LVI -15.24

PLANETOCENTRIC CONIC

C3 8.636 VHL 2.939 DLA -29.83 RAL 336.82 RAD 6637.3 VEL 11.347 PTH 6.40 VHP 3.227 DPA -20.03 RAP 317.03 ECC 1.1421
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 22 31 2330.81 1.09 59.32 187.43 137.57 17 1 22 1330.8 19.21 43.00
60.00 17 45 43 2109.44 6.05 44.14 192.18 129.92 18 20 53 1109.4 21.42 25.02
70.00 19 38 23 1778.01 11.86 21.57 196.47 122.26 20 8 1 778.0 24.02 359.79
80.00 22 44 16 1194.45 21.22 342.35 201.41 111.51 23 4 11 194.4 28.20 317.11
80.10 22 56 15 1156.19 22.08 339.86 201.76 110.58 23 15 31 156.2 28.58 314.34
100.00 1 31 4 5956.96 21.22 281.62 201.41 111.51 3 10 21 4957.0 28.20 256.38
110.00 0 41 45 6112.87 11.86 288.39 196.47 122.26 2 23 38 5112.9 24.02 266.61

DIFFERENTIAL CORRECTIONS

TDE -.2210 TRA -.2251 TC3-1.0370 BAU .1198
RDE -.1844 RRA .1005 RC3 .0272 FAU .21207
FDE -.2986 FRA 3.8691 FC-21.2579 BSP 220
BDE .2878 BRA .2465 BC3 1.0373 FSP 2222

MID-COURSE EXECUTION ACCURACY

SGT 901.7 SGR 424.8 SG3 1315.9
RRT .0804 RRF .3006 RTF .2500
SGB 996.7 R23 .2757 R13 .2564
SG1 902.5 SG2 423.0 THA 2.78

ORBIT DETERMINATION ACCURACY

ST 22.9 SR 18.3 SS 37.4
CRT .8645 CRS -.3646 CST .1401
LSA 38.2 MSA 28.2 SSA 1.6
EL1 28.3 EL2 7.4 ALF 37.71

LAUNCH DATE MAY 15 1971

FLIGHT TIME 182.00

ARRIVAL DATE NOV 13 1971

HELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 32.244 GAL .32 AZL 91.67 HCA 142.94 SMA 185.46 ECC .18473 INC 1.6657 V1 29.464
 RP 211.07 LAP -1.00 LOP 16.48 VP 23.280 GAP 7.12 AZP 88.67 TAL 2.06 TAP 145.00 RCA 151.20 APO 219.72 V2 25.966
 RC 119.734 GL -18.66 GP -1.64 ZAL 93.81 ZAP 116.22 ETS 180.59 ZAE 159.17 ETE 184.16 ZAC 99.08 ETC 276.59 LVI -14.92

DISTANCE 437.745 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 8.580 VHL 2.929 DLA -29.72 RAL 337.02 RAD 6637.3 VEL 11.344 PTH 6.40 VHP 3.172 DPA -20.33 RAP 316.20 ECC 1.1412
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 22 43 2332.05 1.02 59.37 187.53 137.57 17 1 35 1332.1 19.15 43.05
 60.00 17 45 37 2111.48 5.96 44.24 192.26 129.93 18 20 49 1111.5 21.34 25.13
 70.00 19 37 38 1781.96 11.72 21.78 196.51 122.31 20 7 20 782.0 23.91 .04
 80.00 22 32 20 1233.97 20.22 344.85 201.08 112.45 22 52 54 234.0 27.69 319.93
 80.46 22 59 48 1146.16 22.04 339.10 201.85 110.46 23 18 54 146.2 28.49 313.57
 100.00 1 19 7 5996.48 20.22 284.13 201.08 112.45 2 59 4 4996.5 27.69 259.20
 110.00 0 41 0 6116.82 11.72 288.61 196.51 122.31 2 22 57 5116.8 23.91 266.86

DIFFERENTIAL CORRECTIONS
 TDE -.2247 TRA -.1912 TC3-1.2375 BAU .1420 SGT 950.9 SGR 417.0 SG3 1360.9 ST 22.9 SR 17.8 SS 38.1
 RDE -.1788 RRA .1008 RC3 .0126 FAU .21802 RRT .1276 RRF .3229 RTF .3775 CRT .8868 CRS -.3518 CST .1069
 FDE -.2394 FRA 4.0153 FC-21.9994 BSP 329 SGB 1038.3 R23 .2657 R13 .3856 LSA 38.7 MSA 28.1 S8A 1.5
 BDE .2871 BRA .2161 BC3 1.2376 FSP 2298 SG1 952.7 SG2 412.8 THA 3.94 EL1 28.3 EL2 6.7 ALF 38.98

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 15 1971

FLIGHT TIME 184.00

ARRIVAL DATE NOV 15 1971

HELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 32.236 GAL .30 AZL 91.66 HCA 144.15 SMA 185.32 ECC .18410 INC 1.6575 V1 29.464
 RP 211.33 LAP -.97 LOP 17.70 VP 23.235 GAP 6.91 AZP 88.66 TAL 1.94 TAP 146.09 RCA 151.20 APO 219.44 V2 25.957
 RC 121.945 GL -18.62 GP -1.71 ZAL 94.04 ZAP 114.16 ETS 180.53 ZAE 157.21 ETE 184.09 ZAC 99.11 ETC 276.40 LVI -14.60

DISTANCE 441.920 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 8.530 VHL 2.921 DLA -29.59 RAL 337.24 RAD 6637.3 VEL 11.342 PTH 6.39 VHP 3.122 DPA -20.64 RAP 315.36 ECC 1.1404
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 22 52 2333.92 .93 59.45 187.66 137.57 17 1 46 1333.9 19.06 43.14
 60.00 17 45 26 2114.29 5.84 44.37 192.36 129.95 18 20 40 1114.3 21.23 25.29
 70.00 19 36 42 1787.00 11.54 22.06 196.57 122.37 20 6 29 787.0 23.76 .36
 80.00 22 23 50 1262.91 19.45 346.66 200.89 113.11 22 44 53 262.9 27.27 321.98
 80.90 23 4 5 1134.15 21.97 338.18 201.96 110.34 23 23 0 134.2 28.38 312.66
 100.00 1 10 38 6025.43 19.45 285.94 200.89 113.11 2 51 4 5025.4 27.27 261.26
 110.00 0 40 4 6121.86 11.54 288.88 196.57 122.37 2 22 6 5121.9 23.76 267.18

DIFFERENTIAL CORRECTIONS
 TDE -.2262 TRA -.1546 TC3-1.4344 BAU .1638 SGT 1010.2 SGR 409.7 SG3 1409.2 ST 22.8 SR 17.4 SS 38.8
 RDE -.1735 RRA .1010 RC3 -.0040 FAU .22529 RRT .1777 RRF .3481 RTF .4943 CRT .9077 CRS -.3568 CST .0527
 FDE -.2460 FRA 4.1437 FC-22.8667 BSP 530 SGB 1090.2 R23 .2475 R13 .5030 LSA 39.4 MSA 27.8 S8A 1.5
 BDE .2851 BRA .1847 BC3 1.4344 FSP 2394 SG1 1013.4 SG2 402.0 THA 4.89 EL1 28.1 EL2 5.9 ALF 38.51

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 15 1971

FLIGHT TIME 186.00

ARRIVAL DATE NOV 17 1971

HELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 32.229 GAL .28 AZL 91.65 HCA 145.37 SMA 185.20 ECC .18356 INC 1.6488 V1 29.464
 RP 211.60 LAP -.94 LOP 18.91 VP 23.191 GAP 6.71 AZP 88.64 TAL 1.80 TAP 147.17 RCA 151.21 APO 219.19 V2 25.926
 RC 124.177 GL -18.56 GP -1.78 ZAL 94.29 ZAP 112.09 ETS 180.45 ZAE 155.22 ETE 184.02 ZAC 99.13 ETC 276.21 LVI -14.26

DISTANCE 446.098 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 8.486 VHL 2.913 DLA -29.44 RAL 337.49 RAD 6637.3 VEL 11.340 PTH 6.39 VHP 3.075 DPA -20.95 RAP 314.49 ECC 1.1397
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 23 0 2336.42 .81 59.55 187.81 137.57 17 1 57 1336.4 18.94 43.26
 60.00 17 45 9 2117.86 5.68 44.54 192.48 129.97 18 20 27 1117.9 21.09 25.48
 70.00 19 35 34 1793.21 11.31 22.39 196.65 122.44 20 5 27 793.2 23.58 .74
 80.00 22 16 28 1288.76 18.76 348.26 200.75 113.67 22 37 57 288.8 26.88 323.80
 81.44 23 9 17 1119.66 21.89 337.07 202.09 110.20 23 27 56 119.7 28.25 311.57
 100.00 1 3 16 6051.27 18.76 287.54 200.75 113.67 2 44 7 5051.3 26.88 263.07
 110.00 0 38 56 6127.96 11.31 289.21 196.65 122.44 2 21 4 5128.0 23.58 267.56

DIFFERENTIAL CORRECTIONS
 TDE -.2290 TRA -.1172 TC3-1.6542 BAU .1877 SGT 1098.2 SGR 402.4 SG3 1449.6 ST 22.9 SR 16.9 SS 39.4
 RDE -.1880 RRA .1015 RC3 -.0194 FAU .23043 RRT .2246 RRF .3734 RTF .5092 CRT .9270 CRS -.3458 CST .0143
 FDE -.2252 FRA 4.2865 FC-23.5074 BSP 787 SGB 1167.8 R23 .2275 R13 .5971 LSA 40.0 MSA 27.7 S8A 1.5
 BDE .2840 BRA .1550 BC3 1.6543 FSP 2450 SG1 1100.5 SG2 390.6 THA 5.40 EL1 28.0 EL2 5.2 ALF 38.74

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 15 1971

FLIGHT TIME 188.00

ARRIVAL DATE NOV 19 1971

HELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 32.222 GAL .26 AZL 91.64 HCA 146.58 SMA 185.10 ECC .18308 INC 1.6397 V1 29.464
 RP 211.87 LAP -.90 LOP 20.12 VP 23.147 GAP 6.51 AZP 88.63 TAL 1.65 TAP 148.23 RCA 151.21 APO 218.98 V2 25.896
 RC 126.431 GL -18.49 GP -1.86 ZAL 94.57 ZAP 110.00 ETS 180.38 ZAE 153.20 ETE 183.95 ZAC 99.15 ETC 276.01 LVI -13.92

DISTANCE 450.280 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 8.449 VHL 2.907 DLA -29.27 RAL 337.75 RAD 6637.2 VEL 11.338 PTH 6.39 VHP 3.034 DPA -21.27 RAP 313.62 ECC 1.1390
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 23 6 2339.52 .65 59.68 187.97 137.57 17 2 5 1339.5 18.80 43.41
 60.00 17 44 48 2122.17 5.49 44.75 192.61 129.99 18 20 10 1122.2 20.92 25.72
 70.00 19 34 15 1800.20 11.05 22.78 196.73 122.52 20 4 16 800.2 23.38 1.19
 80.00 22 9 42 1315.10 18.08 349.76 200.65 114.17 22 31 35 313.1 26.48 325.50
 82.10 23 15 31 1102.17 21.79 335.74 202.25 110.05 23 33 53 102.2 28.09 310.25
 100.00 0 56 30 6075.61 18.08 289.03 200.65 114.17 2 37 45 5075.6 26.48 264.77
 110.00 0 37 38 6135.06 11.05 289.60 196.73 122.52 2 19 53 5135.1 23.38 268.01

DIFFERENTIAL CORRECTIONS
 TDE -.2277 TRA -.0746 TC3-1.8657 BAU .2108 SGT 1185.8 SGR 395.4 SG3 1490.6 ST 22.6 SR 16.4 SS 39.9
 RDE -.1628 RRA .1018 RC3 -.0368 FAU .23670 RRT .2741 RRF .4006 RTF .6758 CRT .9457 CRS -.3538 CST -.0505
 FDE -.2335 FRA 4.3943 FC-24.2544 BSP 1081 SGB 1250.0 R23 .2020 R13 .6826 LSA 40.5 MSA 27.0 S8A 1.5
 BDE .2799 BRA .1262 BC3 1.8660 FSP 2502 SG1 1191.3 SG2 378.5 THA 5.81 EL1 27.6 EL2 4.4 ALF 35.46

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 15 1971

FLIGHT TIME 190.00

ARRIVAL DATE NOV 21 1971

Heliocentric Conic: RL 151.22 LAL .00 LOL 233.53 VL 32.217 GAL .23 AZL 91.63 HCA 147.78 SMA 185.01 ECC .18268 INC 1.6300 V1 29.464
 RP 212.14 LAP -.07 LOP 21.32 VP 23.105 GAP 6.32 AZP 88.62 TAL 1.48 TAP 149.27 RCA 151.21 APO 218.80 V2 25.864
 RC 128.706 GL -18.41 GP -1.95 ZAL 94.88 ZAP 107.92 ETS 180.30 ZAE 151.17 ETE 183.88 ZAC 99.17 ETC 275.81 LVI -13.56

Planetocentric Conic: C3 8.418 VHL 2.901 DLA -29.08 RAL 336.03 RAD 6637.2 VEL 11.337 PTH 6.39 VHP 2.996 DPA -21.58 RAP 312.73 ECC 1.1385
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 23 9 2343.28 .46 59.84 188.16 137.57 17 2 12 1343.3 18.62 43.58
 60.00 17 44 21 2127.29 5.27 45.00 192.77 130.01 18 19 48 1127.3 20.72 26.01
 70.00 19 32 46 1808.38 10.75 23.22 196.84 122.61 20 2 55 808.4 23.13 1.70
 80.00 22 3 15 1336.96 17.41 351.21 200.58 114.64 22 25 32 337.0 26.06 327.15
 82.92 23 23 8 1080.61 21.66 334.10 202.43 109.89 23 41 8 80.6 27.92 308.63
 100.00 0 50 2 6099.47 17.41 290.49 200.58 114.64 2 31 42 5099.5 26.06 266.42
 110.00 0 36 8 6143.24 10.75 290.04 196.84 122.61 2 18 32 5143.2 23.13 268.52

Differential Corrections: TDE -.2340 TRA -.0383 TC3-2.1145 BAU .2380 SGT 1313.9 SGR 388.4 SG3 1529.3 ST 23.2 SR 15.9 SS 40.7
 RDE -.1568 RRA .1029 RC3 -.0528 FAU .24082 RRT .3145 RRF .4275 RTF .7260 CRT .9589 CRS -.3153 CST -.0561
 FDE -.1605 FRA 4.5703 FC-24.7674 BSP 1308 SGB 1370.1 R23 .1894 R13 .7316 LSA 41.2 MSA 27.4 SSA 1.5
 BDE .2816 BRA .1098 BC3 2.1151 F8P 2617 SG1 1320.1 SG2 366.9 THA 5.76 EL1 27.9 EL2 3.8 ALF 33.95

LAUNCH DATE MAY 15 1971

FLIGHT TIME 192.00

ARRIVAL DATE NOV 23 1971

Heliocentric Conic: RL 151.22 LAL .00 LOL 233.53 VL 32.213 GAL .20 AZL 91.62 HCA 148.99 SMA 184.93 ECC .18235 INC 1.6197 V1 29.464
 RP 212.43 LAP -.03 LOP 22.53 VP 23.062 GAP 6.13 AZP 88.61 TAL 1.30 TAP 150.29 RCA 151.21 APO 218.66 V2 25.832
 RC 130.999 GL -18.32 GP -2.03 ZAL 95.20 ZAP 105.83 ETS 180.22 ZAE 149.12 ETE 183.81 ZAC 99.17 ETC 275.61 LVI -13.20

Planetocentric Conic: C3 8.392 VHL 2.897 DLA -28.87 RAL 338.33 RAD 6637.2 VEL 11.336 PTH 6.39 VHP 2.963 DPA -21.90 RAP 311.84 ECC 1.1381
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 23 10 2347.63 .24 60.02 188.36 137.58 17 2 18 1347.6 18.41 43.79
 60.00 17 43 48 2133.11 5.01 45.28 192.94 130.04 18 19 21 1133.1 20.49 26.33
 70.00 19 31 8 1817.46 10.42 23.71 196.96 122.71 20 1 25 817.5 22.86 2.26
 80.00 21 57 5 1360.30 16.74 352.62 200.55 115.09 22 19 45 360.3 25.64 328.75
 83.94 23 32 35 1053.45 21.52 332.05 202.63 109.72 23 50 8 53.4 27.72 306.59
 100.00 0 43 52 6122.81 16.74 291.90 200.55 115.09 2 25 55 5122.8 25.64 268.03
 110.00 0 34 30 6152.32 10.42 290.53 196.96 122.71 2 17 2 5152.3 22.86 269.09

Differential Corrections: TDE -.2354 TRA .0038 TC3-2.3447 BAU .2632 SGT 1436.1 SGR 382.0 SG3 1572.3 ST 23.4 SR 15.4 SS 41.3
 RDE -.1511 RRA .1037 RC3 -.0721 FAU .24719 RRT .3608 RRF .4572 RTF .7759 CRT .9714 CRS -.3014 CST -.0941
 FDE -.1255 FRA 4.7030 FC-25.4997 BSP 1599 SGB 1486.1 R23 .1705 R13 .7804 LSA 41.8 MSA 27.2 SSA 1.4
 BDE .2798 BRA .1037 BC3 2.3458 F8P 2669 SG1 1443.2 SG2 354.5 THA 5.84 EL1 27.8 EL2 3.1 ALF 32.99

LAUNCH DATE MAY 15 1971

FLIGHT TIME 194.00

ARRIVAL DATE NOV 25 1971

Heliocentric Conic: RL 151.22 LAL .00 LOL 233.53 VL 32.209 GAL .17 AZL 91.61 HCA 150.19 SMA 184.88 ECC .18208 INC 1.6085 V1 29.464
 RP 212.72 LAP -.80 LOP 23.73 VP 23.021 GAP 5.94 AZP 88.60 TAL 1.10 TAP 151.29 RCA 151.21 APO 218.54 V2 25.799
 RC 133.312 GL -18.21 GP -2.13 ZAL 95.55 ZAP 103.75 ETS 180.14 ZAE 147.06 ETE 183.73 ZAC 99.17 ETC 275.40 LVI -12.83

Planetocentric Conic: C3 8.372 VHL 2.893 DLA -28.63 RAL 338.64 RAD 6637.2 VEL 11.335 PTH 6.39 VHP 2.933 DPA -22.21 RAP 310.94 ECC 1.1378
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 23 8 2352.59 -.01 60.23 188.58 137.58 17 2 21 1352.6 18.17 44.02
 60.00 17 43 10 2139.67 4.73 45.59 193.12 130.07 18 18 50 1139.7 20.23 26.69
 70.00 19 29 19 1827.48 10.05 24.25 197.09 122.81 19 59 47 827.5 22.56 2.88
 80.00 21 51 6 1383.49 16.07 354.01 200.53 115.51 22 14 9 383.5 25.20 330.33
 83.32 23 45 4 1016.73 21.37 329.29 202.85 109.53 24 2 1 16.7 27.50 303.86
 100.00 0 37 53 6146.00 16.07 293.29 200.53 115.51 2 20 19 5146.0 25.20 269.61
 110.00 0 32 42 6182.34 10.05 291.08 197.09 122.81 2 15 24 5162.3 22.56 269.71

Differential Corrections: TDE -.2366 TRA .0479 TC3-2.5983 BAU .2910 SGT 1578.6 SGR 378.1 SG3 1600.2 ST 23.6 SR 14.8 SS 42.0
 RDE -.1454 RRA .1048 RC3 -.0882 FAU .24973 RRT .3996 RRF .4881 RTF .8.18 CRT .9811 CRS -.2889 CST -.1337
 FDE -.0891 FRA 4.8487 FC-25.8231 BSP 1895 SGB 1622.8 R23 .1611 R13 .8154 LSA 42.6 MSA 27.0 SSA 1.4
 BDE .2777 BRA .1152 BC3 2.5998 F8P 2747 SG1 1586.1 SG2 343.1 THA 5.71 EL1 27.8 EL2 2.4 ALF 31.94

LAUNCH DATE MAY 15 1971

FLIGHT TIME 196.00

ARRIVAL DATE NOV 27 1971

Heliocentric Conic: RL 151.22 LAL .00 LOL 233.53 VL 32.206 GAL .14 AZL 91.60 HCA 151.38 SMA 184.83 ECC .18188 INC 1.5966 V1 29.464
 RP 213.01 LAP -.78 LOP 24.92 VP 22.980 GAP 5.76 AZP 88.60 TAL .89 TAP 152.27 RCA 151.21 APO 218.45 V2 25.766
 RC 135.843 GL -18.09 GP -2.22 ZAL 95.92 ZAP 101.68 ETS 180.05 ZAE 144.99 ETE 183.66 ZAC 99.16 ETC 275.20 LVI -12.45

Planetocentric Conic: C3 8.357 VHL 2.891 DLA -28.38 RAL 338.98 RAD 6637.2 VEL 11.334 PTH 6.39 VHP 2.907 DPA -22.53 RAP 310.05 ECC 1.1375
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 23 3 2358.17 -.29 60.46 188.82 137.58 17 2 21 1358.2 17.90 44.28
 60.00 17 42 27 2146.96 4.41 45.94 193.32 130.10 18 18 14 1147.0 19.94 27.08
 70.00 19 27 22 1838.41 9.65 24.84 197.23 122.92 19 58 0 838.4 22.23 3.56
 80.00 21 45 15 1406.66 15.39 355.39 200.54 115.91 22 8 41 406.7 24.74 331.90
 87.57 0 9 2 6243.90 21.19 302.67 203.09 109.33 1 53 5 5243.9 27.26 277.20
 100.00 0 32 2 6169.17 15.39 294.67 200.54 115.91 2 14 52 5169.2 24.74 271.18
 110.00 0 30 44 6173.26 9.65 291.66 197.23 122.92 2 13 38 5173.3 22.23 270.38

Differential Corrections: TDE -.2365 TRA .0932 TC3-2.8449 BAU .3181 SGT 1723.2 SGR 370.7 SG3 1628.9 ST 23.8 SR 14.3 SS 42.2
 RDE -.1403 RRA .1053 RC3 -.1082 FAU .25478 RRT .4430 RRF .5199 RTF .8469 CRT .9885 CRS -.3021 CST -.2021
 FDE -.0979 FRA 4.9147 FC-26.3923 BSP 2189 SGB 1762.6 R23 .1454 R13 .8498 LSA 43.0 MSA 26.5 SSA 1.4
 BDE .2750 BRA .1406 BC3 2.8469 F8P 2801 SG1 1731.3 SG2 330.8 THA 5.65 EL1 27.7 EL2 1.9 ALF 30.97

LAUNCH DATE MAY 15 1971

FLIGHT TIME 198.00

ARRIVAL DATE NOV 29 1971

HELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 32.203 GAL .10 AZL 91.58 HCA 152.88 SMA 184.00 ECC .18173 INC 1.5839 V1 29.464
 RP 213.31 LAP -.73 LOP 26.12 VP 22.939 GAP 5.58 AZP 88.59 TAL .66 TAP 153.24 RCA 151.22 APO 218.38 V2 25.732
 RC 137.991 GL -17.95 GP -2.33 ZAL 96.32 ZAP 99.62 ETS 179.96 ZAE 142.93 ETE 183.59 ZAC 99.14 ETC 275.00 LVI -12.07

PLANETOCENTRIC CONIC
 C3 8.347 VHL 2.889 DLA -28.09 RAL 339.32 RAD 6637.2 VEL 11.334 PTH 6.39 VHP 2.885 DPA -22.84 RAP 309.17 ECC 1.1374
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 22 55 2364.36 -.60 60.72 189.07 137.57 17 2 19 1364.4 17.61 44.57
 60.00 17 41 38 2154.98 4.05 46.33 193.54 130.13 18 17 33 1155.0 19.62 27.32
 70.00 19 25 16 1830.21 9.21 25.47 197.39 123.03 19 56 6 850.2 21.87 4.28
 80.00 21 39 30 1429.91 14.89 356.77 200.57 116.29 22 3 20 429.9 24.26 333.46
 90.00 0 2 28 6269.52 18.95 303.66 202.54 111.39 1 46 58 5269.5 26.11 278.92
 100.00 0 26 18 6192.42 14.69 296.04 200.57 116.29 2 9 30 5192.4 24.26 272.74
 110.00 0 28 38 6185.07 9.21 292.30 197.39 123.03 2 11 43 5185.1 21.87 271.11

DIFFERENTIAL CORRECTIONS
 TDE -.2363 TRA .1406 TC3-3.1002 BAU .3463 SGT 1878.4 SCR 365.2 SG3 1665.1 ST 24.1 SR 13.7 SS 42.9
 RDE -.1336 RRA .1067 RC3 -.1293 FAU .25982 RRT .4867 RRF .5513 RTF .8692 CRT .9925 CRS -.2523 CST -.2019
 FDE .0150 FRA 5.0518 FC-26.9466 BSP 2499 SGB 1913.6 R23 .1325 R13 .8715 LSA 43.5 MSA 26.6 SSA 1.3
 BDE .2715 BRA .1765 BC3 3.1029 FSP 2835 SG1 1887.1 SG2 317.5 THA 5.56 EL1 27.7 EL2 1.5 ALF 29.62

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 15 1971

FLIGHT TIME 200.00

ARRIVAL DATE DEC 1 1971

HELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 32.203 GAL .07 AZL 91.57 HCA 153.77 SMA 184.78 ECC .18164 INC 1.5702 V1 29.464
 RP 213.61 LAP -.69 LOP 27.30 VP 22.899 GAP 5.40 AZP 88.59 TAL .42 TAP 154.19 RCA 151.22 APO 218.34 V2 25.697
 RC 140.356 GL -17.79 GP -2.44 ZAL 96.74 ZAP 97.98 ETS 179.86 ZAE 140.87 ETE 183.53 ZAC 99.11 ETC 274.60 LVI -11.69

PLANETOCENTRIC CONIC
 C3 8.342 VHL 2.888 DLA -27.79 RAL 339.68 RAD 6637.2 VEL 11.334 PTH 6.39 VHP 2.867 DPA -23.15 RAP 308.30 ECC 1.1373
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 22 43 2371.18 -.94 61.00 189.33 137.57 17 2 14 1371.2 17.28 44.88
 60.00 17 40 42 2163.73 3.67 46.75 193.76 130.16 18 16 46 1163.7 19.27 28.00
 70.00 19 23 1 1862.89 8.74 26.15 197.55 123.15 19 54 3 862.9 21.48 5.06
 80.00 21 33 50 1453.33 13.98 358.14 200.63 116.65 21 58 3 453.3 23.76 335.02
 90.00 23 42 10 1039.45 17.47 329.36 202.29 112.60 23 59 29 39.5 25.28 305.05
 100.00 0 20 37 6215.84 13.98 297.42 200.63 116.65 2 4 13 5215.8 23.76 274.30
 110.00 0 26 23 6197.75 8.74 292.90 197.55 123.15 2 9 41 5197.7 21.48 271.88

DIFFERENTIAL CORRECTIONS
 TDE -.2337 TRA .1888 TC3-3.3579 BAU .3749 SGT 2038.8 SGR 359.5 SG3 1678.8 ST 24.2 SR 13.2 SS 42.8
 RDE -.1278 RRA .1069 RC3 -.1496 FAU .26296 RRT .5276 RRF .5807 RTF .8919 CRT .9938 CRS -.2385 CST -.2432
 FDE .0598 FRA 5.0653 FC-27.2901 BSP 2820 SGB 2070.2 R23 .1171 R13 .8936 LSA 43.5 MSA 26.2 SSA 1.3
 BDE .2664 BRA .2170 BC3 3.3612 FSP 2816 SG1 2047.8 SG2 304.0 THA 5.43 EL1 27.5 EL2 1.3 ALF 28.47

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 15 1971

FLIGHT TIME 202.00

ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 32.203 GAL .03 AZL 91.56 HCA 154.95 SMA 184.77 ECC .18160 INC 1.5552 V1 29.464
 RP 213.92 LAP -.66 LOP 28.49 VP 22.859 GAP 5.23 AZP 88.59 TAL .17 TAP 155.12 RCA 151.22 APO 218.33 V2 25.662
 RC 142.739 GL -17.61 GP -2.55 ZAL 97.17 ZAP 95.58 ETS 179.76 ZAE 136.82 ETE 183.47 ZAC 99.07 ETC 274.60 LVI -11.30

PLANETOCENTRIC CONIC
 C3 8.341 VHL 2.888 DLA -27.48 RAL 340.05 RAD 6637.2 VEL 11.334 PTH 6.39 VHP 2.852 DPA -23.47 RAP 307.45 ECC 1.1373
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 22 27 2378.63 -1.32 61.31 189.61 137.56 17 2 6 1378.6 16.92 45.23
 60.00 17 39 40 2173.23 3.25 47.21 194.00 130.19 18 15 53 1173.2 18.89 28.51
 70.00 19 20 36 1876.42 8.23 26.88 197.73 123.26 19 51 53 876.4 21.05 5.88
 80.00 21 28 12 1476.99 13.25 359.52 200.69 117.00 21 52 49 477.0 23.24 336.58
 90.00 23 30 6 1083.88 18.29 332.08 202.17 113.44 23 48 10 83.9 24.53 308.10
 100.00 0 15 0 6239.51 13.25 298.80 200.69 117.00 1 58 59 5239.5 23.24 275.86
 110.00 0 23 59 6211.28 8.23 293.70 197.73 123.26 2 7 30 5211.3 21.05 272.70

DIFFERENTIAL CORRECTIONS
 TDE -.2321 TRA .2416 TC3-3.6268 BAU .4049 SGT 2211.8 SGR 358.1 SG3 1895.5 ST 24.6 SR 12.8 SS 42.7
 RDE -.1238 RRA .1078 RC3 -.1708 FAU .26588 RRT .5684 RRF .6200 RTF .5.27 CRT .9919 CRS -.3076 CST -.3692
 FDE .0479 FRA 5.1196 FC-27.5955 BSP 3108 SGB 2240.6 R23 .1118 R13 .9142 LSA 44.4 MSA 24.9 SSA 1.2
 BDE .2631 BRA .2646 BC3 3.6307 FSP 2643 SG1 2221.3 SG2 293.4 THA 5.35 EL1 27.7 EL2 1.4 ALF 27.58

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 15 1971

FLIGHT TIME 204.00

ARRIVAL DATE DEC 5 1971

HELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 32.203 GAL -.01 AZL 91.54 HCA 156.13 SMA 184.77 ECC .18161 INC 1.5388 V1 29.464
 RP 214.24 LAP -.62 LOP 29.67 VP 22.819 GAP 5.05 AZP 88.59 TAL 359.91 TAP 156.04 RCA 151.22 APO 218.33 V2 25.627
 RC 145.138 GL -17.42 GP -2.68 ZAL 97.63 ZAP 93.56 ETS 179.85 ZAE 136.78 ETE 183.41 ZAC 99.02 ETC 274.41 LVI -10.90

PLANETOCENTRIC CONIC
 C3 8.345 VHL 2.889 DLA -27.10 RAL 340.43 RAD 6637.2 VEL 11.334 PTH 6.39 VHP 2.840 DPA -23.78 RAP 306.62 ECC 1.1373
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 22 6 2386.73 -1.72 61.65 189.89 137.55 17 1 53 1386.7 16.53 45.60
 60.00 17 38 31 2183.48 2.80 47.70 194.24 130.22 18 14 55 1183.5 18.47 29.08
 70.00 19 18 3 1890.83 7.70 27.64 197.92 123.38 19 49 34 890.8 20.60 6.75
 80.00 21 22 35 1500.98 12.51 .91 200.78 117.33 21 47 36 501.0 22.69 338.15
 90.00 23 19 50 1122.86 15.21 334.44 202.12 114.13 23 38 33 122.9 23.86 310.75
 100.00 0 9 23 6263.50 12.51 300.19 200.78 117.33 1 53 46 5263.5 22.69 277.43
 110.00 0 21 25 6225.68 7.70 294.47 197.92 123.38 2 5 11 5225.7 20.60 273.57

DIFFERENTIAL CORRECTIONS
 TDE -.2246 TRA .2979 TC3-3.8829 BAU .4336 SGT 2381.5 SGR 354.9 SG3 1682.8 ST 24.6 SR 11.9 SS 47.1
 RDE -.1140 RRA .1149 RC3 -.1662 FAU .24800 RRT .5752 RRF .6536 RTF .8933 CRT .9879 CRS -.1760 CST -.2779
 FDE .2988 FRA 5.6425 FC-25.7281 BSP 3545 SGB 2407.8 R23 .1614 R13 .8950 LSA 47.9 MSA 26.0 SSA 1.2
 BDE .2519 BRA .3193 BC3 3.8864 FSP 3316 SG1 2390.3 SG2 289.2 THA 4.97 EL1 27.3 EL2 1.7 ALF 25.70

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 15 1971 FLIGHT TIME 206.00 ARRIVAL DATE DEC 7 1971

Heliocentric Conic DISTANCE 487.978 EARTH TO MARS

RL 151.22 LAL .00 LOL 233.53 VL 32.204 GAL -.06 AZL 91.52 HCA 157.31 SMA 184.79 ECC .18168 INC 1.5210 V1 29.464
 RP 214.53 LAP -.59 LOP 30.85 VP 22.780 GAP 4.88 AZP 88.60 TAL 359.63 TAP 156.94 RCA 151.22 APO 218.36 V2 25.591
 RC 147.555 GL -17.20 GP -2.01 ZAL 98.11 ZAP 91.59 ETS 179.54 ZAE 134.75 ETE 183.33 ZAC 98.95 ETC 274.22 LVI -10.51

Planetocentric Conic

C3 8.353 VHL 2.890 DLA -26.72 RAL 340.82 RAD 6637.2 VEL 11.334 PTH 6.39 VHP 2.831 DPA -24.09 RAP 305.81 ECC 1.1375
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 21 40 2395.51 -2.16 62.02 190.19 137.54 17 1 36 1395.5 16.10 46.00
 60.00 17 37 14 2194.51 2.32 48.22 194.50 130.25 18 13 49 1194.5 18.03 29.65
 70.00 19 15 19 1906.10 7.12 26.45 198.11 123.49 19 47 6 906.1 20.11 7.66
 80.00 21 16 58 1525.37 11.74 2.32 200.87 117.65 21 42 23 525.4 22.11 339.74
 90.00 23 10 35 1158.96 14.20 336.61 202.11 114.72 23 29 54 159.0 23.18 313.17
 100.00 0 3 45 6287.88 11.74 301.59 200.87 117.65 1 48 33 5287.9 22.11 279.01
 110.00 0 18 42 6240.96 7.12 295.28 198.11 123.49 2 2 43 5241.0 20.11 274.49

Differential Corrections MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2172 TRA .3455 TC3-4.1468 BAU .4636 SGT 2553.1 SGR 353.4 SG3 1734.4 ST 24.7 SR 11.3 SS 46.8
 RDE -.1072 RRA .1152 RC3 -.2072 FAU .26340 RRT .6369 RRF .6897 RTF .9168 CRT .9813 CRS -.1419 CST -.2947
 FDE .3896 FRA 5.5788 FC-27.3012 BSP 3843 SGB 2577.5 R23 .1285 R13 .9181 LSA 47.6 MSA 25.6 SSA 1.2
 BDE .2422 BRA .3642 BC3 4.1519 FSP 3119 SG1 2563.2 SG2 271.3 THA 5.09 EL1 27.1 EL2 2.0 ALF 24.33

LAUNCH DATE MAY 15 1971 FLIGHT TIME 208.00 ARRIVAL DATE DEC 9 1971

Heliocentric Conic DISTANCE 492.169 EARTH TO MARS

RL 151.22 LAL .00 LOL 233.53 VL 32.205 GAL -.10 AZL 91.50 HCA 158.49 SMA 184.81 ECC .18179 INC 1.5014 V1 29.464
 RP 214.88 LAP -.55 LOP 32.03 VP 22.741 GAP 4.72 AZP 88.60 TAL 359.34 TAP 157.83 RCA 151.22 APO 218.41 V2 25.554
 RC 149.988 GL -16.96 GP -2.96 ZAL 98.60 ZAP 89.65 ETS 179.42 ZAE 132.75 ETE 183.30 ZAC 98.86 ETC 274.04 LVI -10.11

Planetocentric Conic

C3 8.364 VHL 2.892 DLA -26.31 RAL 341.21 RAD 6637.2 VEL 11.335 PTH 6.39 VHP 2.825 DPA -24.40 RAP 305.03 ECC 1.1377
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 21 8 2404.99 -2.64 62.42 190.49 137.52 17 1 13 1405.0 15.64 46.43
 60.00 17 35 49 2206.35 1.80 48.79 194.75 130.27 18 12 35 1206.4 17.54 30.28
 70.00 19 12 26 1922.29 6.51 29.31 198.31 123.60 19 44 28 922.3 19.58 8.63
 80.00 21 11 17 1550.24 10.95 3.74 200.98 117.95 21 37 8 550.2 21.51 341.34
 90.00 23 1 56 1193.45 13.21 338.65 202.14 115.23 23 21 49 193.4 22.49 315.47
 100.00 23 54 9 1024.71 10.95 325.11 200.98 117.95 24 11 14 24.7 21.51 302.71
 110.00 0 15 48 6257.14 6.51 296.14 198.31 123.60 2 0 5 5257.1 19.58 275.45

Differential Corrections MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2138 TRA .3992 TC3-4.3948 BAU .4921 SGT 2723.9 SGR 353.4 SG3 1716.0 ST 25.3 SR 10.9 SS 46.3
 RDE -.1028 RRA .1169 RC3 -.2232 FAU .25908 RRT .7667 RRF .7237 RTF .9261 CRT .9724 CRS -.1997 CST -.3961
 FDE .3093 FRA 5.6055 FC-26.8165 BSP 4187 SGB 2466.7 R23 .1341 R13 .9272 LSA 47.9 MSA 24.7 SSA 1.2
 BDE .2372 BRA .4159 BC3 4.4005 FSP 3133 SG1 2734.2 SG2 262.2 THA 4.99 EL1 27.4 EL2 2.3 ALF 22.93

LAUNCH DATE MAY 15 1971 FLIGHT TIME 210.00 ARRIVAL DATE DEC 11 1971

Heliocentric Conic DISTANCE 496.358 EARTH TO MARS

RL 151.22 LAL .00 LOL 233.53 VL 32.207 GAL -.15 AZL 91.48 HCA 159.66 SMA 184.84 ECC .18194 INC 1.4794 V1 29.464
 RP 215.21 LAP -.51 LOP 33.20 VP 22.702 GAP 4.55 AZP 88.61 TAL 359.04 TAP 158.70 RCA 151.21 APO 218.46 V2 25.518
 RC 152.438 GL -16.70 GP -3.12 ZAL 99.12 ZAP 87.75 ETS 179.29 ZAE 130.77 ETE 183.26 ZAC 98.76 ETC 273.86 LVI -9.70

Planetocentric Conic

C3 8.379 VHL 2.895 DLA -25.87 RAL 341.61 RAD 6637.2 VEL 11.335 PTH 6.39 VHP 2.822 DPA -24.72 RAP 304.28 ECC 1.1379
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 20 29 2415.21 -3.15 62.84 190.80 137.50 17 0 44 1415.2 15.14 46.89
 60.00 17 34 14 2219.05 1.24 49.40 195.02 130.29 18 11 13 1219.0 17.02 30.95
 70.00 19 9 20 1939.42 5.87 30.22 198.51 123.71 19 41 40 939.4 19.02 9.64
 80.00 21 5 33 1575.70 10.13 5.19 201.09 118.24 21 31 48 575.7 20.87 342.96
 90.00 22 53 39 1227.06 12.22 340.63 202.18 115.70 23 14 6 227.1 21.78 317.67
 100.00 23 48 25 1050.17 10.13 326.56 201.09 118.24 24 5 55 50.2 20.87 304.33
 110.00 0 12 42 6274.28 5.87 297.04 198.51 123.71 1 57 17 5274.3 19.02 276.46

Differential Corrections MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2024 TRA .4547 TC3-4.6573 BAU .5225 SGT 2903.6 SGR 354.7 SG3 1730.7 ST 25.4 SR 10.2 SS 47.3
 RDE -.0948 RRA .1200 RC3 -.2500 FAU .26092 RRT .7082 RRF .7587 RTF .525 CRT .9612 CRS -.1592 CST -.4029
 FDE .4657 FRA 5.6928 FC-26.9580 BSP 4486 SGB 2925.2 R23 .1322 R13 .9335 LSA 49.0 MSA 24.5 SSA 1.1
 BDE .2235 BRA .4703 BC3 4.6640 FSP 3061 SG1 2914.6 SG2 249.5 THA 4.98 EL1 27.2 EL2 2.6 ALF 21.33

LAUNCH DATE MAY 15 1971 FLIGHT TIME 212.00 ARRIVAL DATE DEC 13 1971

Heliocentric Conic DISTANCE 500.547 EARTH TO MARS

RL 151.22 LAL .00 LOL 233.53 VL 32.210 GAL -.20 AZL 91.46 HCA 160.83 SMA 184.89 ECC .18214 INC 1.4555 V1 29.464
 RP 215.54 LAP -.48 LOP 34.37 VP 22.664 GAP 4.39 AZP 88.63 TAL 358.72 TAP 159.55 RCA 151.21 APO 218.56 V2 25.480
 RC 194.904 GL -16.40 GP -3.30 ZAL 99.65 ZAP 85.88 ETS 179.15 ZAE 128.81 ETE 183.22 ZAC 98.63 ETC 273.69 LVI -9.29

Planetocentric Conic

C3 8.398 VHL 2.898 DLA -25.39 RAL 342.01 RAD 6637.2 VEL 11.336 PTH 6.39 VHP 2.822 DPA -25.04 RAP 303.57 ECC 1.1382
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 19 41 2426.23 -3.71 63.31 191.10 137.47 17 0 7 1426.2 14.61 47.39
 60.00 17 32 28 2232.65 .84 50.05 195.28 130.30 18 9 41 1232.7 16.46 31.66
 70.00 19 6 2 1957.56 5.18 31.17 198.71 123.81 19 38 39 957.6 18.42 10.70
 80.00 20 59 41 1601.85 9.29 6.67 201.21 118.50 21 26 23 601.8 20.20 344.61
 90.00 22 45 35 1260.30 11.23 342.57 202.24 116.12 23 6 35 260.3 21.04 319.83
 100.00 23 42 33 1076.32 9.29 328.04 201.21 118.50 24 0 29 76.3 20.20 305.98
 110.00 0 9 24 1004.37 5.18 320.09 198.71 123.81 0 26 9 4.4 18.42 299.62

Differential Corrections MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.1921 TRA .5103 TC3-4.9088 BAU .5520 SGT 3079.9 SGR 357.9 SG3 1725.1 ST 25.7 SR 9.6 SS 47.8
 RDE -.0884 RRA .1228 RC3 -.2745 FAU .25965 RRT .7432 RRF .7919 RTF .9391 CRT .9485 CRS -.1711 CST -.4554
 FDE .5094 FRA 5.7246 FC-26.7678 BSP 4813 SGB 3100.6 R23 .1343 R13 .9400 LSA 49.6 MSA 23.8 SSA 1.1
 BDE .2114 BRA .5249 BC3 4.9165 FSP 3038 SG1 3091.4 SG2 238.6 THA 4.97 EL1 27.3 EL2 2.9 ALF 19.81

LAUNCH DATE MAY 15 1971

FLIGHT TIME 214.00

ARRIVAL DATE DEC 15 1971

Heliocentric Conic: RL 151.22 LAL .00 LOL 233.53 VL 32.213 GAL -.25 AZL 91.43 HCA 162.00 SMA 184.94 ECC .18238 INC 1.4281 V1 29.464
 RP 215.87 LAP -.44 LOP 35.53 VP 22.626 GAP 4.23 AZP 88.64 TAL 358.40 TAP 180.40 RCA 151.21 APO 218.67 V2 25.443
 RC 197.385 GL -16.06 GP -3.50 ZAL 100.21 ZAP 84.06 ETS 179.01 ZAE 126.88 ETE 183.19 ZAC 98.48 ETC 273.53 LVI -8.87

Distance 504.733

Planetocentric Conic: C3 8.419 VHL 2.902 DLA -24.87 RAL 342.41 RAD 6637.2 VEL 11.337 PTH 6.39 VHP 2.824 DPA -25.38 RAP 302.90 ECC 1.1306
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 18 43 2438.12 -4.30 63.81 191.41 137.43 16 59 21 1438.1 14.03 47.92
 60.00 17 30 29 2247.26 -1.00 50.74 195.54 130.30 18 7 56 1247.3 15.86 32.42
 70.00 19 2 29 1976.80 4.45 32.18 198.91 123.90 19 35 25 976.8 17.78 11.82
 80.00 20 53 39 1628.84 8.41 8.19 201.34 118.76 21 20 48 628.8 19.49 346.30
 90.00 22 37 36 1293.59 10.23 344.50 202.30 116.51 22 59 10 293.6 20.28 321.97
 100.00 23 36 31 1103.31 8.41 329.56 201.34 118.76 23 54 54 103.3 19.49 307.67
 110.00 0 5 51 1023.61 4.45 321.10 198.91 123.90 0 22 55 23.6 17.78 300.74

Differential Corrections: TDE -.1797 TRA .5669 TC3-5.1713 BAU .5831 SGT 3264.2 SGR 364.6 SG3 1729.1
 RDE -.0813 RRA .1265 RC3 -.3051 FAU .26041 RRT .7798 RRF .8255 RTF .9448 CRT .9359 CRS -.1789 CST -.4973
 FDE .5844 FRA 5.7699 FC-26.7771 BSP 5129 SGB 3284.5 R23 .1359 R13 .9457 LSA 50.6 MSA 23.2 SSA 1.0
 BDE .1972 BRA .5809 BC3 5.1803 FSP 3012 SG1 3276.6 SG2 227.4 THA 5.00 EL1 27.4 EL2 3.0 ALF 18.23

Orbit Determination Accuracy: ST 26.0 SR 9.0 SS 48.4
 CRT .9359 CRS -.1789 CST -.4973
 LSA 50.6 MSA 23.2 SSA 1.0
 EL1 27.4 EL2 3.0 ALF 18.23

LAUNCH DATE MAY 15 1971

FLIGHT TIME 216.00

ARRIVAL DATE DEC 17 1971

Heliocentric Conic: RL 151.22 LAL .00 LOL 233.53 VL 32.216 GAL -.30 AZL 91.40 HCA 163.16 SMA 184.99 ECC .18268 INC 1.3972 V1 29.464
 RP 216.21 LAP -.41 LOP 36.69 VP 22.588 GAP 4.07 AZP 88.66 TAL 358.07 TAP 161.23 RCA 151.20 APO 218.79 V2 25.405
 RC 159.881 GL -15.69 GP -3.72 ZAL 100.78 ZAP 82.27 ETS 178.85 ZAE 124.98 ETE 183.16 ZAC 98.31 ETC 273.37 LVI -8.44

Distance 508.918

Planetocentric Conic: C3 8.444 VHL 2.906 DLA -24.31 RAL 342.80 RAD 6637.2 VEL 11.338 PTH 6.39 VHP 2.828 DPA -25.72 RAP 302.26 ECC 1.1300
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 17 34 2450.98 -4.95 64.35 191.72 137.38 16 58 25 1451.0 13.40 48.49
 60.00 17 28 18 2262.96 -1.70 51.49 195.80 130.30 18 5 58 1263.0 15.21 33.23
 70.00 18 58 38 1997.26 3.67 33.26 199.11 123.98 19 31 55 997.3 17.09 13.00
 80.00 20 47 24 1656.85 7.49 9.76 201.45 118.99 21 15 1 656.9 18.73 348.04
 90.00 22 29 35 1327.28 9.20 346.44 202.37 116.86 22 51 42 327.3 19.47 324.12
 100.00 23 30 16 1131.32 7.49 331.13 201.45 118.99 23 49 7 131.3 18.73 309.40
 110.00 0 2 0 1044.07 3.67 322.17 199.11 123.98 0 19 24 44.1 17.09 301.92

Differential Corrections: TDE -.1643 TRA .6261 TC3-5.4209 BAU .6131 SGT 3444.6 SGR 373.8 SG3 1724.2
 RDE -.0738 RRA .1313 RC3 -.3348 FAU .25844 RRT .8113 RRF .8564 RTF .9483 CRT .9237 CRS -.1945 CST -.5405
 FDE .6727 FRA 5.8343 FC-26.4980 BSP 5477 SGB 3464.8 R23 .1436 R13 .9491 LSA 51.9 MSA 22.6 SSA 1.0
 BDE .1801 BRA .6397 BC3 5.4312 FSP 3030 SG1 3458.0 SG2 217.7 THA 5.05 EL1 27.5 EL2 3.1 ALF 16.86

Orbit Determination Accuracy: ST 26.4 SR 8.4 SS 49.3
 CRT .9237 CRS -.1945 CST -.5405
 LSA 51.9 MSA 22.6 SSA 1.0
 EL1 27.5 EL2 3.1 ALF 16.86

LAUNCH DATE MAY 15 1971

FLIGHT TIME 218.00

ARRIVAL DATE DEC 19 1971

Heliocentric Conic: RL 151.22 LAL .00 LOL 233.53 VL 32.220 GAL -.35 AZL 91.36 HCA 164.32 SMA 185.06 ECC .18298 INC 1.3626 V1 29.464
 RP 216.56 LAP -.37 LOP 37.85 VP 22.551 GAP 3.91 AZP 88.69 TAL 357.72 TAP 182.04 RCA 151.20 APO 218.92 V2 25.368
 RC 162.390 GL -15.27 GP -3.98 ZAL 101.36 ZAP 80.52 ETS 178.67 ZAE 123.11 ETE 183.14 ZAC 98.10 ETC 273.23 LVI -8.00

Distance 513.101

Planetocentric Conic: C3 8.470 VHL 2.910 DLA -23.69 RAL 343.19 RAD 6637.2 VEL 11.339 PTH 6.39 VHP 2.835 DPA -26.09 RAP 301.67 ECC 1.1394
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 18 10 2464.92 -5.64 64.93 192.01 137.32 16 57 15 1464.9 12.71 49.11
 60.00 17 25 44 2279.90 -1.44 52.30 196.05 130.28 18 3 44 1279.9 14.50 34.10
 70.00 18 54 27 2019.10 2.84 34.40 199.29 124.05 19 28 6 1019.1 16.34 14.25
 80.00 20 40 51 1686.10 6.52 11.39 201.56 119.20 21 8 57 686.1 17.92 349.83
 90.00 22 21 25 1361.74 8.13 348.41 202.44 117.18 22 44 6 361.7 18.62 326.29
 100.00 23 23 43 1160.57 6.52 332.76 201.56 119.20 23 43 3 160.6 17.92 311.20
 110.00 23 53 53 1065.92 2.84 323.32 199.29 124.05 24 11 39 65.9 16.34 303.17

Differential Corrections: TDE -.1443 TRA .6880 TC3-5.6593 BAU .6422 SGT 3820.4 SGR 385.3 SG3 1711.9
 RDE -.0856 RRA .1367 RC3 -.3662 FAU .25555 RRT .8403 RRF .8841 RTF .5.15 CRT .9115 CRS -.2185 CST -.9881
 FDE .7758 FRA 5.8674 FC-26.1193 BSP 5803 SGB 3640.9 R23 .1511 R13 .9922 LSA 53.2 MSA 21.8 SSA .9
 BDE .1586 BRA .6993 BC3 5.6711 FSP 2997 SG1 3634.9 SG2 208.1 THA 5.13 EL1 27.7 EL2 3.1 ALF 15.13

Orbit Determination Accuracy: ST 26.8 SR 7.8 SS 50.3
 CRT .9115 CRS -.2185 CST -.9881
 LSA 53.2 MSA 21.8 SSA .9
 EL1 27.7 EL2 3.1 ALF 15.13

LAUNCH DATE MAY 15 1971

FLIGHT TIME 220.00

ARRIVAL DATE DEC 21 1971

Heliocentric Conic: RL 151.22 LAL .00 LOL 233.53 VL 32.225 GAL -.41 AZL 91.32 HCA 165.47 SMA 185.13 ECC .18333 INC 1.3223 V1 29.464
 RP 216.91 LAP -.33 LOP 39.01 VP 22.513 GAP 3.75 AZP 88.72 TAL 357.37 TAP 182.84 RCA 151.19 APO 219.07 V2 25.327
 RC 164.912 GL -14.78 GP -4.27 ZAL 101.97 ZAP 78.82 ETS 178.47 ZAE 121.27 ETE 183.14 ZAC 97.85 ETC 273.09 LVI -7.53

Distance 517.283

Planetocentric Conic: C3 8.499 VHL 2.915 DLA -23.02 RAL 343.56 RAD 6637.3 VEL 11.341 PTH 6.39 VHP 2.844 DPA -26.48 RAP 301.13 ECC 1.1399
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 14 29 2480.12 -6.41 65.58 192.29 137.25 16 55 49 1480.1 11.96 49.78
 60.00 17 22 51 2298.29 -2.25 53.18 196.28 130.25 18 1 9 1298.3 13.72 35.04
 70.00 18 49 50 2042.56 1.95 35.63 199.46 124.10 19 23 53 1042.6 15.52 15.58
 80.00 20 33 54 1716.87 5.49 13.10 201.66 119.39 21 2 31 716.9 17.05 351.70
 90.00 22 12 57 1397.37 7.02 350.43 202.49 117.46 22 36 15 397.4 17.71 328.50
 100.00 23 18 46 1191.34 5.49 334.47 201.66 119.39 23 36 37 191.3 17.05 313.07
 110.00 23 49 16 1089.38 1.95 324.54 199.46 124.10 24 7 26 89.4 15.52 304.50

Differential Corrections: TDE -.1238 TRA .7450 TC3-5.9049 BAU .6725 SGT 3800.5 SGR 402.0 SG3 1701.0
 RDE -.0578 RRA .1430 RC3 -.4043 FAU .25364 RRT .8672 RRF .9094 RTF .9549 CRT .9052 CRS -.2623 CST -.8349
 FDE .8534 FRA 5.8835 FC-25.8389 BSP 6128 SGB 3821.7 R23 .1589 R13 .9556 LSA 54.4 MSA 20.9 SSA .9
 BDE .1365 BRA .7586 BC3 5.9188 FSP 2973 SG1 3816.5 SG2 199.3 THA 5.25 EL1 28.1 EL2 3.0 ALF 13.75

Orbit Determination Accuracy: ST 27.3 SR 7.3 SS 51.0
 CRT .9052 CRS -.2623 CST -.8349
 LSA 54.4 MSA 20.9 SSA .9
 EL1 28.1 EL2 3.0 ALF 13.75

LAUNCH DATE MAY 15 1971

FLIGHT TIME 222.00

ARRIVAL DATE DEC 23 1971

HELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 32.229 GAL -.46 AZL 91.28 HCA 166.82 SMA 185.21 ECC .18372 INC 1.2751 V1 29.464
 RP 217.26 LAP -.30 LOP 40.16 VP 22.476 GAP 3.60 AZP 88.76 TAL 357.01 TAP 163.63 RCA 151.19 APO 219.24 V2 25.288
 RC 167.446 GL -14.22 GP -4.60 ZAL 102.59 ZAP 77.16 ETS 178.25 ZAE 119.47 ETE 183.14 ZAC 97.54 ETC 272.96 LVI -7.03

PLANETOCENTRIC CONIC
 C3 8.528 VHL 2.920 DLA -22.28 RAL 343.91 RAD 6637.3 VEL 11.342 PTH 6.39 VHP 2.856 DPA -26.91 RAP 300.64 ECC 1.1404
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 12 25 2496.83 -7.24 66.28 192.56 137.15 16 54 2 1496.8 11.14 50.51
 60.00 17 19 31 2318.39 -3.13 54.14 196.49 130.20 17 58 9 1318.4 12.87 36.06
 70.00 18 44 42 2067.96 .98 36.95 199.61 124.14 19 19 10 1068.0 14.63 17.01
 80.00 20 26 26 1749.56 4.40 14.91 201.73 119.56 20 55 36 749.6 16.10 353.66
 90.00 22 4 4 1434.66 5.84 352.54 202.53 117.72 22 27 59 434.7 16.73 330.80
 100.00 23 9 18 1224.04 4.40 336.27 201.73 119.56 23 29 42 224.0 16.10 315.03
 110.00 23 44 8 1114.78 .98 325.87 199.61 124.14 24 2 43 114.8 14.63 305.93

DIFFERENTIAL CORRECTIONS
 TDE -.0993 TRA .8040 TC3-6.1450 BAU .7025 SGT 3978.1 SGR 423.0 SG3 1684.6 ST 27.9 SR 6.8 SS 51.9
 RDE -.0486 RRA .1507 RC3 -.4457 FAU .25049 RRT .8900 RRF .9312 RTF .9571 CRT .9062 CRS -.3243 CST -.6818
 FDE .9510 FRA 5.8928 FC-25.4277 BSP 6447 SGB 4000.5 R23 .1698 R13 .9579 LSA 55.9 MSA 19.9 SSA .9
 BDE .1106 BRA .8810 BC3 6.1612 FSP 2948 SG1 3995.9 SG2 192.0 THA 5.42 EL1 28.6 EL2 2.8 ALF 12.53

LAUNCH DATE MAY 15 1971

FLIGHT TIME 224.00

ARRIVAL DATE DEC 25 1971

HELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 32.235 GAL -.52 AZL 91.22 HCA 167.77 SMA 185.30 ECC .18414 INC 1.2202 V1 29.464
 RP 217.61 LAP -.26 LOP 41.30 VP 22.439 GAP 3.44 AZP 88.81 TAL 356.64 TAP 164.41 RCA 151.18 APO 219.42 V2 25.249
 RC 169.992 GL -13.57 GP -4.99 ZAL 103.23 ZAP 75.55 ETS 178.00 ZAE 117.69 ETE 183.16 ZAC 97.18 ETC 272.84 LVI -6.49

PLANETOCENTRIC CONIC
 C3 8.558 VHL 2.925 DLA -21.44 RAL 344.23 RAD 6637.3 VEL 11.343 PTH 6.40 VHP 2.869 DPA -27.39 RAP 300.20 ECC 1.1409
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 9 54 2515.36 -8.16 67.07 192.79 137.04 16 51 49 1515.4 10.22 51.31
 60.00 17 15 37 2340.59 -4.11 55.21 196.67 130.13 17 54 37 1340.6 11.93 37.18
 70.00 18 38 55 2095.72 -.08 38.40 199.72 124.15 19 13 50 1095.7 13.65 18.56
 80.00 20 18 17 1784.70 3.21 16.84 201.77 119.70 20 48 2 784.7 15.06 355.75
 90.00 21 54 33 1474.20 4.59 354.77 202.53 117.94 22 19 7 474.2 15.65 333.20
 100.00 23 1 9 1259.16 3.21 338.21 201.77 119.70 23 22 9 259.2 15.06 317.12
 110.00 23 38 21 1142.54 -.08 327.32 199.72 124.15 23 57 23 142.5 13.65 307.48

DIFFERENTIAL CORRECTIONS
 TDE -.0686 TRA .8664 TC3-6.3717 BAU .7312 SGT 4152.1 SGR 450.7 SG3 1667.2 ST 28.7 SR 6.3 SS 53.2
 RDE -.0386 RRA .1607 RC3 -.4928 FAU .24660 RRT .9091 RRF .9497 RTF .9589 CRT .9146 CRS -.4138 CST -.7349
 FDE 1.0604 FRA 5.9169 FC-24.9453 BSP 6793 SGB 4176.5 R23 .1829 R13 .9598 LSA 57.9 MSA 18.7 SSA .8
 BDE .0787 BRA .8812 BC3 6.3908 FSP 2932 SG1 4172.3 SG2 186.8 THA 5.65 EL1 29.3 EL2 2.5 ALF 11.51

LAUNCH DATE MAY 15 1971

FLIGHT TIME 226.00

ARRIVAL DATE DEC 27 1971

HELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 32.240 GAL -.58 AZL 91.15 HCA 168.91 SMA 185.39 ECC .18460 INC 1.1536 V1 29.464
 RP 217.97 LAP -.22 LOP 42.44 VP 22.402 GAP 3.29 AZP 88.87 TAL 356.26 TAP 165.17 RCA 151.17 APO 219.61 V2 25.209
 RC 172.547 GL -12.80 GP -5.46 ZAL 103.88 ZAP 73.99 ETS 177.70 ZAE 115.95 ETE 183.19 ZAC 96.74 ETC 272.73 LVI -5.90

PLANETOCENTRIC CONIC
 C3 8.588 VHL 2.931 DLA -20.49 RAL 344.51 RAD 6637.3 VEL 11.345 PTH 6.40 VHP 2.885 DPA -27.93 RAP 299.81 ECC 1.1413
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 6 47 2536.18 -9.20 67.97 192.99 136.89 16 49 3 1536.2 9.19 52.21
 60.00 17 10 59 2365.42 -5.20 56.40 196.81 130.02 17 50 25 1365.4 10.87 38.41
 70.00 18 32 16 2126.49 -1.26 40.00 199.79 124.13 19 7 42 1126.5 12.54 20.26
 80.00 20 9 14 1822.98 1.92 18.95 201.77 119.80 20 39 37 823.0 13.90 358.00
 90.00 21 44 9 1516.81 3.22 357.15 202.49 118.11 22 9 26 516.8 14.46 335.77
 100.00 22 52 6 1297.45 1.92 340.32 201.77 119.80 23 13 44 297.5 13.90 319.37
 110.00 23 31 42 1173.31 -1.26 328.92 199.79 124.13 23 51 16 173.3 12.54 309.18

DIFFERENTIAL CORRECTIONS
 TDE -.0361 TRA .9231 TC3-6.6070 BAU .7612 SGT 4327.7 SGR 486.5 SG3 1647.2 ST 29.7 SR 6.1 SS 54.2
 RDE -.0282 RRA .1724 RC3 -.5505 FAU .24323 RRT .9233 RRF .9847 RTF .9510 CRT .9334 CRS -.9277 CST -.7859
 FDE 1.1303 FRA 5.9045 FC-24.5195 BSP 7098 SGB 4354.9 R23 .1949 R13 .9619 LSA 59.6 MSA 17.4 SSA .8
 BDE .0458 BRA .9410 BC3 6.6299 FSP 2885 SG1 4351.1 SG2 183.5 THA 5.98 EL1 30.3 EL2 2.1 ALF 10.86

LAUNCH DATE MAY 15 1971

FLIGHT TIME 228.00

ARRIVAL DATE DEC 29 1971

HELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 32.246 GAL -.64 AZL 91.07 HCA 170.05 SMA 185.49 ECC .18509 INC 1.0717 V1 29.464
 RP 218.33 LAP -.19 LOP 43.58 VP 22.368 GAP 3.14 AZP 88.94 TAL 355.88 TAP 165.93 RCA 151.16 APO 219.82 V2 25.169
 RC 175.114 GL -11.87 GP -6.04 ZAL 104.56 ZAP 72.48 ETS 177.35 ZAE 114.24 ETE 183.25 ZAC 96.19 ETC 272.63 LVI -5.22

PLANETOCENTRIC CONIC
 C3 8.616 VHL 2.935 DLA -19.39 RAL 344.73 RAD 6637.3 VEL 11.346 PTH 6.40 VHP 2.903 DPA -28.57 RAP 299.50 ECC 1.1418
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 2 51 2560.01 -10.38 68.99 193.13 136.70 16 45 31 1560.0 8.00 53.23
 60.00 17 5 24 2393.68 -6.43 57.77 196.89 129.87 17 45 18 1393.7 9.65 39.81
 70.00 18 24 29 2161.18 -2.58 41.82 199.79 124.07 19 0 30 1161.2 11.28 22.15
 80.00 19 58 58 1865.50 .48 21.28 201.71 119.85 20 30 3 865.5 12.59 .48
 90.00 21 32 32 1563.65 1.72 359.77 202.39 118.23 21 58 36 563.6 13.12 338.55
 100.00 22 41 50 1339.97 .48 342.65 201.71 119.85 23 4 10 340.0 12.59 321.84
 110.00 23 23 55 1207.99 -2.58 330.73 199.79 124.07 23 44 4 208.0 11.28 311.07

DIFFERENTIAL CORRECTIONS
 TDE .0042 TRA .9835 TC3-6.8419 BAU .7914 SGT 4502.9 SGR 532.9 SG3 1625.7 ST 31.1 SR 6.1 SS 55.7
 RDE -.0158 RRA .1876 RC3 -.6194 FAU .23930 RRT .9380 RRF .9765 RTF .9623 CRT .9585 CRS -.6595 CST -.8343
 FDE 1.2693 FRA 5.8920 FC-24.0442 BSP 7388 SGB 4534.3 R23 .2087 R13 .9632 LSA 62.0 MSA 15.9 SSA .8
 BDE .0164 BRA 1.0012 BC3 6.8699 FSP 2832 SG1 4530.6 SG2 183.6 THA 6.34 EL1 31.7 EL2 1.7 ALF 10.59

LAUNCH DATE MAY 15 1971 FLIGHT TIME 230.00 ARRIVAL DATE DEC 31 1971

HELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 32.292 GAL -.71 AZL 90.97 HCA 171.19 SMA 185.59 ECC .18561 INC .9699 V1 29.464
 RP 219.06 LAP -.15 LOP 44.72 VP 22.330 GAP 2.99 AZP 89.04 TAL 355.48 TAP 166.67 RCA 151.14 APO 220.04 V2 25.129
 RC 177.690 GL -10.72 GP -6.75 ZAL 105.25 ZAP 71.03 ETS 176.91 ZAE 112.55 ETE 183.33 ZAC 95.50 ETC 272.54 LVI -4.43

PLANETOCENTRIC CONIC
 C3 8.642 VHL 2.940 DLA -18.08 RAL 344.87 RAD 6637.3 VEL 11.347 PTH 6.40 VHP 2.924 DPA -29.33 RAP 299.25 ECC 1.1422
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 57 50 2587.90 -11.76 70.21 193.20 136.44 16 40 58 1587.9 6.61 54.41
 60.00 16 58 29 2426.80 -7.87 59.36 196.89 129.65 17 38 56 1426.6 8.23 41.42
 70.00 18 15 10 2201.19 -4.11 43.91 199.72 123.94 18 51 51 1201.2 9.81 24.32
 80.00 19 46 59 1913.83 -1.16 23.93 201.56 119.84 20 18 53 913.8 11.07 3.29
 90.00 21 19 11 1616.39 .02 2.71 202.21 118.28 21 46 7 816.4 11.57 341.64
 100.00 22 29 51 1386.30 -1.16 345.30 201.56 119.84 22 52 59 386.3 11.07 324.62
 110.00 23 14 36 1248.01 -4.11 332.83 199.72 123.94 23 35 24 248.0 9.81 313.24

DIFFERENTIAL CORRECTIONS
 TDE .0523 TRA 1.0393 TC3-7.0768 BAU .8217
 RDE -.0017 RRA .2067 RC3 -.7050 FAU .23533
 FDE 1.3842 FRA 5.8505 FC-23.5749 BSP 7703
 BDE .0523 BRA 1.0596 BC3 7.1119 FSP 2790

MID-COURSE EXECUTION ACCURACY
 SGT 4675.8 SGR 593.1 SG3 1600.8
 RRT .9481 RRF .9852 RTF .9639
 SGB 4713.3 R23 .2196 R13 .9650
 SGI 4709.5 SG2 187.3 THA 6.87

ORBIT DETERMINATION ACCURACY
 ST 33.0 SR 6.4 SS 57.0
 CRT .9792 CRS -.7863 CST -.0823
 LSA 64.7 MSA 14.1 SSA .7
 EL1 33.6 EL2 1.3 ALF 10.76

LAUNCH DATE MAY 15 1971 FLIGHT TIME 232.00 ARRIVAL DATE JAN 2 1972

HELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 32.259 GAL -.77 AZL 90.84 HCA 172.32 SMA 185.70 ECC .18616 INC .8384 V1 29.464
 RP 219.06 LAP -.11 LOP 45.85 VP 22.293 GAP 2.84 AZP 89.17 TAL 355.08 TAP 167.40 RCA 151.13 APO 220.27 V2 25.089
 RC 180.275 GL -9.26 GP -7.67 ZAL 105.96 ZAP 69.64 ETS 176.37 ZAE 110.89 ETE 183.46 ZAC 94.60 ETC 272.45 LVI -3.46

PLANETOCENTRIC CONIC
 C3 8.684 VHL 2.944 DLA -16.49 RAL 344.89 RAD 6637.3 VEL 11.348 PTH 6.40 VHP 2.948 DPA -30.29 RAP 299.09 ECC 1.1426
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 51 15 2621.56 -13.42 71.69 193.17 136.09 16 34 56 1621.6 4.93 55.83
 60.00 16 49 42 2466.10 -9.58 61.30 196.79 129.34 17 30 48 1466.1 6.51 43.38
 70.00 18 3 39 2248.74 -5.91 46.41 199.53 123.70 18 41 7 1248.7 8.04 26.87
 80.00 19 32 34 1970.44 -3.07 27.04 201.29 119.71 20 5 24 970.4 9.24 6.47
 90.00 21 3 19 1677.64 -1.96 6.13 201.91 118.22 21 31 17 677.6 9.72 345.19
 100.00 22 15 25 1444.91 -3.07 348.41 201.29 119.71 22 39 30 444.9 9.24 327.83
 110.00 23 3 5 1295.55 -5.91 335.33 199.53 123.70 23 24 41 295.6 8.04 315.78

DIFFERENTIAL CORRECTIONS
 TDE .1080 TRA 1.0868 TC3-7.3264 BAU .8540
 RDE .0137 RRA .2294 RC3 -.8238 FAU .23297
 FDE 1.4632 FRA 5.7312 FC-23.2776 BSP 7928
 BDE .1089 BRA 1.1108 BC3 7.3726 FSP 2661

MID-COURSE EXECUTION ACCURACY
 SGT 4849.2 SGR 672.9 SG3 1572.5
 RRT .9576 RRF .9913 RTF .9673
 SGB 4895.6 R23 .2204 R13 .9685
 SGI 4891.9 SG2 192.1 THA 7.58

ORBIT DETERMINATION ACCURACY
 ST 35.3 SR 7.1 SS 57.6
 CRT .9898 CRS -.6808 CST -.9269
 LSA 66.9 MSA 11.8 SSA .7
 EL1 36.0 EL2 1.0 ALF 11.34

LAUNCH DATE MAY 15 1971 FLIGHT TIME 234.00 ARRIVAL DATE JAN 4 1972

HELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 32.265 GAL -.84 AZL 90.67 HCA 173.44 SMA 185.81 ECC .18673 INC .6613 V1 29.464
 RP 219.43 LAP -.08 LOP 46.98 VP 22.257 GAP 2.69 AZP 89.34 TAL 354.68 TAP 168.12 RCA 151.11 APO 220.51 V2 25.048
 RC 182.871 GL -7.32 GP -8.89 ZAL 106.70 ZAP 68.32 ETS 175.66 ZAE 109.25 ETE 183.64 ZAC 93.39 ETC 272.38 LVI -2.22

PLANETOCENTRIC CONIC
 C3 8.685 VHL 2.947 DLA -14.45 RAL 344.73 RAD 6637.4 VEL 11.349 PTH 6.40 VHP 2.977 DPA -31.54 RAP 299.04 ECC 1.1429
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 42 20 2664.00 -15.49 73.59 193.02 135.57 16 26 44 1664.0 2.80 57.61
 60.00 16 38 8 2515.61 -11.70 63.75 196.55 128.84 17 20 4 1515.6 4.34 45.73
 70.00 17 48 51 2307.71 -8.13 49.54 199.20 123.29 18 27 19 1307.7 5.83 29.89
 80.00 19 14 29 2039.69 -5.40 30.87 200.87 119.41 19 48 29 1039.7 6.97 10.35
 90.00 20 43 41 1751.95 -4.34 10.29 201.45 117.97 21 12 53 752.0 7.42 349.43
 100.00 21 57 21 1514.16 -5.40 352.23 200.87 119.41 22 22 35 514.2 6.97 331.72
 110.00 22 48 18 1354.53 -8.13 338.46 199.20 123.29 23 10 52 354.5 5.83 318.91

DIFFERENTIAL CORRECTIONS
 TDE .1878 TRA 1.1367 TC3-7.5598 BAU .8849
 RDE .0377 RRA .2642 RC3 -.9666 FAU .22695
 FDE 1.6501 FRA 5.6759 FC-22.6229 BSP 8248
 BDE .1915 BRA 1.1670 BC3 7.6214 FSP 2623

MID-COURSE EXECUTION ACCURACY
 SGT 5019.5 SGR 781.8 SG3 1340.6
 RRT .9821 RRF .9953 RTF .5.75
 SGB 5080.0 R23 .2306 R13 .9689
 SGI 5075.6 SG2 210.9 THA 8.54

ORBIT DETERMINATION ACCURACY
 ST 39.4 SR 8.8 SS 60.8
 CRT .9956 CRS -.9489 CST -.9824
 LSA 72.1 MSA 9.2 SSA .7
 EL1 40.3 EL2 .8 ALF 12.59

LAUNCH DATE MAY 15 1971 FLIGHT TIME 236.00 ARRIVAL DATE JAN 6 1972

HELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 32.272 GAL -.90 AZL 90.42 HCA 174.57 SMA 185.93 ECC .18734 INC .4191 V1 29.464
 RP 219.80 LAP -.04 LOP 48.10 VP 22.222 GAP 2.55 AZP 89.58 TAL 354.26 TAP 168.83 RCA 151.10 APO 220.76 V2 25.007
 RC 185.475 GL -4.61 GP -10.59 ZAL 107.45 ZAP 67.12 ETS 174.69 ZAE 107.61 ETE 183.91 ZAC 91.71 ETC 272.32 LVI -1.58

PLANETOCENTRIC CONIC
 C3 8.709 VHL 2.951 DLA -11.69 RAL 344.29 RAD 6637.4 VEL 11.350 PTH 6.40 VHP 3.014 DPA -33.26 RAP 299.16 ECC 1.1433
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 29 43 2720.67 -18.23 76.20 192.70 134.75 16 15 4 1720.7 -.05 59.98
 60.00 16 22 9 2581.24 -14.48 67.07 196.14 128.03 17 5 10 1581.2 1.46 48.88
 70.00 17 28 53 2365.03 -10.99 53.70 198.67 122.54 18 8 38 1385.0 2.89 34.05
 80.00 18 50 37 2129.20 -8.36 35.85 200.25 118.77 19 26 6 1129.2 3.98 15.31
 90.00 20 18 0 1847.29 -7.36 15.67 200.79 117.38 20 48 47 847.3 4.40 354.81
 100.00 21 33 29 1603.67 -8.36 357.22 200.25 118.77 22 0 13 603.7 3.98 336.68
 110.00 22 28 20 1431.85 -10.99 342.61 198.67 122.54 22 52 12 431.8 2.89 322.97

DIFFERENTIAL CORRECTIONS
 TDE .3070 TRA 1.1850 TC3-7.7395 BAU .9111
 RDE .0735 RRA .3131 RC3-1.1542 FAU .21811
 FDE 1.9044 FRA 5.5794 FC-21.6809 BSP 8676
 BDE .3157 BRA 1.2257 BC3 7.8251 FSP 2581

MID-COURSE EXECUTION ACCURACY
 SGT 5171.3 SGR 932.6 SG3 1496.0
 RRT .9653 RRF .9978 RTF .9677
 SGB 5254.7 R23 .2359 R13 .9696
 SGI 5249.2 SG2 240.1 THA 9.90

ORBIT DETERMINATION ACCURACY
 ST 46.7 SR 11.8 SS 64.9
 CRT .9970 CRS -.9829 CST -.9882
 LSA 80.6 MSA 6.0 SSA .9
 EL1 48.1 EL2 .9 ALF 14.13

LAUNCH DATE MAY 15 1971 FLIGHT TIME 238.00 ARRIVAL DATE JAN 8 1972

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG, DPA, RAP, ECC, V1, V2, LVI, TDE, RDE, FDE, BDE, SGT, RRT, SGB, SGI, ST, CRT, LSA, EL1, EL2, ALF.

LAUNCH DATE MAY 15 1971 FLIGHT TIME 240.00 ARRIVAL DATE JAN 10 1972

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG, DPA, RAP, ECC, V1, V2, LVI, TDE, RDE, FDE, BDE, SGT, RRT, SGB, SGI, ST, CRT, LSA, EL1, EL2, ALF.

LAUNCH DATE MAY 15 1971 FLIGHT TIME 242.00 ARRIVAL DATE JAN 12 1972

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG, DPA, RAP, ECC, V1, V2, LVI, TDE, RDE, FDE, BDE, SGT, RRT, SGB, SGI, ST, CRT, LSA, EL1, EL2, ALF.

LAUNCH DATE MAY 15 1971 FLIGHT TIME 244.00 ARRIVAL DATE JAN 14 1972

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG, DPA, RAP, ECC, V1, V2, LVI, TDE, RDE, FDE, BDE, SGT, RRT, SGB, SGI, ST, CRT, LSA, EL1, EL2, ALF.

LAUNCH DATE MAY 15 1971

FLIGHT TIME 248.00

ARRIVAL DATE JAN 18 1972

HELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 32.319 GAL -1.34 AZL 98.10 HCA 181.24 SMA 186.72 ECC .19192 INC 8.0870 V1 29.464
 RP 222.07 LAP .17 LOP 54.76 VP 22.010 GAP 1.68 AZP 81.90 TAL 331.64 TAP 172.88 RCA 150.96 APO 222.48 V2 24.759
 RC 201.270 GL -58.89 GP 36.80 ZAL 102.26 ZAP 86.76 ETS 197.81 ZAE 99.37 ETE 173.58 ZAC 138.97 ETC 273.95 LVI -43.99

DISTANCE 575.496 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 28.378 VHL 5.327 DLA -55.90 RAL 25.11 RAD 6646.4 VEL 12.179 PTH 7.14 VHP 4.001 DPA 13.57 RAP 291.48 ECC 1.4670
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 39.55 22 55 48 1971.42 25.22 51.30 276.50 141.70 23 28 40 971.4 43.33 31.45
 39.55 22 55 48 1971.42 25.22 51.30 276.50 141.70 23 28 40 971.4 43.33 31.45
 39.55 22 55 48 1971.42 25.22 51.30 276.50 141.70 23 28 40 971.4 43.33 31.45
 39.55 22 55 48 1971.42 25.22 51.30 276.50 141.70 23 28 40 971.4 43.33 31.45
 39.55 22 55 48 1971.42 25.22 51.30 276.50 141.70 23 28 40 971.4 43.33 31.45
 39.55 22 55 48 1971.42 25.22 51.30 276.50 141.70 23 28 40 971.4 43.33 31.45
 39.55 22 55 48 1971.42 25.22 51.30 276.50 141.70 23 28 40 971.4 43.33 31.45

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.6715 TRA 2.3899 TC3-3.3576 BAU 1.4135 SGT 5859.6 SGR 3172.8 SG3 732.3 ST 77.9 SR 44.0 SS 44.2
 RDE -.3538 RRA-1.3757 RC3 1.6143 FAU .13899 RRT -.9669 RRF -.9987 RTF .9520 CRT -.5982 CRS .9864 CST -.4695
 FDE 1.3426 FRA 3.6621 FC3-4.2400 BSP 8283 SGB 6663.5 R23 .2482 R13 -.9686 LSA 88.2 MSA 46.5 SSA .0
 BDE .7590 BRA 2.7576 BC3 3.7255 F8P 1052 SG1 6624.9 SG2 716.3 THA 152.01 EL1 83.1 EL2 33.0 ALF 157.60

LAUNCH DATE MAY 15 1971

FLIGHT TIME 250.00

ARRIVAL DATE JAN 20 1972

HELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 32.327 GAL -1.42 AZL 95.16 HCA 182.34 SMA 186.86 ECC .19229 INC 5.1606 V1 29.464
 RP 222.46 LAP .21 LOP 55.86 VP 21.976 GAP 1.53 AZP 84.84 TAL 351.20 TAP 173.53 RCA 150.93 APO 222.80 V2 24.717
 RC 203.922 GL -44.43 GP 22.02 ZAL 106.42 ZAP 61.06 ETS 192.09 ZAE 98.46 ETE 177.09 ZAC 124.29 ETC 272.82 LVI -30.53

DISTANCE 579.618 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 17.263 VHL 4.155 DLA -44.98 RAL 10.55 RAD 6641.6 VEL 11.717 PTH 6.75 VHP 3.395 DPA -1.15 RAP 293.07 ECC 1.2841
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 54 12 2023.23 16.35 46.05 240.98 135.33 21 27 55 1023.2 32.92 26.57
 53.43 22 42 24 1745.91 26.50 29.72 250.61 127.78 23 11 30 745.9 39.50 5.32
 53.43 22 42 24 1745.91 26.50 29.72 250.61 127.78 23 11 30 745.9 39.50 5.32
 53.43 22 42 24 1745.91 26.50 29.72 250.61 127.78 23 11 30 745.9 39.50 5.32
 53.43 22 42 24 1745.91 26.50 29.72 250.61 127.78 23 11 30 745.9 39.50 5.32
 53.43 22 42 24 1745.91 26.50 29.72 250.61 127.78 23 11 30 745.9 39.50 5.32
 53.43 22 42 24 1745.91 26.50 29.72 250.61 127.78 23 11 30 745.9 39.50 5.32

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.6812 TRA 2.3425 TC3-4.9791 BAU 1.1930 SGT 6233.7 SGR 2049.2 SG3 1114.0 ST 83.3 SR 25.7 SS 49.4
 RDE -.0568 RRA -.8676 RC3 1.3887 FAU .17243 RRT -.9728 RRF -.9990 RTF .9630 CRT -.7302 CRS .9866 CST -.6088
 FDE .7616 FRA 5.4642 FC3-8.6473 BSP 10491 SGB 6561.9 R23 .2472 R13 -.9687 LSA 92.4 MSA 38.8 SSA .1
 BDE .6836 BRA 2.4980 BC3 5.1691 F8P 1944 SG1 6546.3 SG2 452.1 THA 162.18 EL1 85.5 EL2 17.1 ALF 166.75

LAUNCH DATE MAY 15 1971

FLIGHT TIME 252.00

ARRIVAL DATE JAN 22 1972

HELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 32.336 GAL -1.49 AZL 94.10 HCA 183.43 SMA 187.01 ECC .19309 INC 4.0987 V1 29.464
 RP 222.84 LAP .25 LOP 56.95 VP 21.942 GAP 1.39 AZP 85.90 TAL 350.75 TAP 174.18 RCA 150.90 APO 223.12 V2 24.675
 RC 206.578 GL -37.31 GP 15.35 ZAL 108.61 ZAP 58.59 ETS 188.84 ZAE 97.22 ETE 178.51 ZAC 117.64 ETC 272.56 LVI -24.39

DISTANCE 583.741 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 14.568 VHL 3.817 DLA -38.78 RAL 5.85 RAD 6640.3 VEL 11.603 PTH 6.64 VHP 3.273 DPA -7.78 RAP 293.94 ECC 1.2397
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 20 41 2208.39 7.22 54.17 226.43 137.16 19 57 29 1208.4 24.92 36.95
 60.00 21 36 16 1846.21 17.23 30.93 235.67 127.00 22 7 2 846.2 30.78 9.05
 62.28 23 1 27 1603.54 24.65 15.92 241.00 120.93 23 28 10 603.5 35.13 350.86
 62.28 23 1 27 1603.54 24.65 15.92 241.00 120.93 23 28 10 603.5 35.13 350.86
 62.28 23 1 27 1603.54 24.65 15.92 241.00 120.93 23 28 10 603.5 35.13 350.86
 62.28 23 1 27 1603.54 24.65 15.92 241.00 120.93 23 28 10 603.5 35.13 350.86
 62.28 23 1 27 1603.54 24.65 15.92 241.00 120.93 23 28 10 603.5 35.13 350.86

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.5797 TRA 2.2879 TC3-6.0500 BAU 1.2000 SGT 6415.3 SGR 1466.0 SG3 1213.0 ST 78.9 SR 17.5 SS 49.3
 RDE -.0159 RRA -.6041 RC3 1.1685 FAU .18790 RRT -.9759 RRF -.9985 RTF .5663 CRT -.7945 CRS .9763 CST -.6444
 FDE .6559 FRA 5.7706 FC-11.1669 BSP 10096 SGB 6580.7 R23 .2440 R13 -.9690 LSA 87.9 MSA 35.2 SSA .1
 BDE .5799 BRA 2.3470 BC3 6.1618 F8P 2009 SG1 6573.2 SG2 312.3 THA 167.40 EL1 80.2 EL2 10.5 ALF 169.81

LAUNCH DATE MAY 15 1971

FLIGHT TIME 254.00

ARRIVAL DATE JAN 24 1972

HELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 32.348 GAL -1.57 AZL 93.56 HCA 184.52 SMA 187.16 ECC .19392 INC 3.5589 V1 29.464
 RP 223.23 LAP .28 LOP 58.04 VP 21.907 GAP 1.25 AZP 86.45 TAL 350.29 TAP 174.81 RCA 150.87 APO 223.45 V2 24.633
 RC 209.236 GL -33.09 GP 11.68 ZAL 110.10 ZAP 56.98 ETS 186.93 ZAE 95.95 ETE 179.25 ZAC 113.98 ETC 272.47 LVI -21.02

DISTANCE 587.856 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 13.508 VHL 3.675 DLA -34.86 RAL 3.78 RAD 6639.8 VEL 11.557 PTH 6.60 VHP 3.243 DPA -11.39 RAP 294.50 ECC 1.2223
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 41 44 2298.95 2.69 57.99 220.86 137.52 19 20 3 1299.0 20.72 41.47
 60.00 20 23 53 2026.94 9.63 40.12 227.46 129.33 20 57 40 1026.9 24.56 20.30
 68.71 23 27 10 1486.70 22.89 5.42 236.45 117.04 23 51 57 486.7 31.97 340.33
 68.71 23 27 10 1486.70 22.89 5.42 236.45 117.04 23 51 57 486.7 31.97 340.33
 68.71 23 27 10 1486.70 22.89 5.42 236.45 117.04 23 51 57 486.7 31.97 340.33
 68.71 23 27 10 1486.70 22.89 5.42 236.45 117.04 23 51 57 486.7 31.97 340.33
 68.71 23 27 10 1486.70 22.89 5.42 236.45 117.04 23 51 57 486.7 31.97 340.33

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3940 TRA 2.3558 TC3-6.4443 BAU 1.1756 SGT 6545.8 SGR 1142.2 SG3 1242.0 ST 74.2 SR 13.9 SS 52.4
 RDE -.0211 RRA -.4844 RC3 .9194 FAU .18139 RRT -.9763 RRF -.9974 RTF .9662 CRT -.8547 CRS .9611 CST -.6784
 FDE .9300 FRA 6.0365 FC-11.6250 BSP 11107 SGB 6644.8 R23 .2438 R13 -.9677 LSA 85.3 MSA 34.2 SSA .2
 BDE .3945 BRA 2.4050 BC3 6.5096 F8P 2219 SG1 6640.3 SG2 243.5 THA 170.32 EL1 75.1 EL2 7.1 ALF 170.79

LAUNCH DATE MAY 15 1971 FLIGHT TIME 256.00 ARRIVAL DATE JAN 26 1972

HELIOCENTRIC CONIC DISTANCE 591.963 EARTH TO MARS
RL 151.22 LAL .00 LOL 233.53 VL 32.354 GAL -1.65 AZL 93.22 HCA 185.60 SMA 187.31 ECC .19476 INC 3.2229 V1 29.464
RP 223.62 LAP .31 LOP 59.13 VP 21.673 GAP 1.10 AZP 86.79 TAL 349.82 TAP 175.43 RCA 150.83 APO 223.79 V2 24.581
RC 211.896 GL -30.28 GP 9.39 ZAL 111.28 ZAP 55.69 ETS 185.69 ZAE 94.70 ETE 179.70 ZAC 111.69 ETC 272.43 LVI -18.93

PLANETOCENTRIC CONIC
C3 13.015 VHL 3.608 DLA -32.13 RAL 2.77 RAD 6639.6 VEL 11.536 PTH 6.58 VHP 3.242 DPA -13.64 RAP 294.92 ECC 1.2142
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 19 42 2359.23 -.34 60.50 218.11 137.58 18 59 2 1359.2 17.85 44.33
60.00 19 50 8 2118.56 5.65 44.58 223.85 129.97 20 25 27 1118.6 21.06 25.52
70.00 22 2 9 1729.86 13.60 18.92 229.65 121.64 22 30 58 729.9 25.38 356.70
74.08 0 0 32 1375.84 21.44 356.09 234.04 114.52 0 23 28 375.8 29.64 331.08
74.08 0 0 32 1375.84 21.44 356.09 234.04 114.52 0 23 28 375.8 29.64 331.08
74.08 0 0 32 1375.84 21.44 356.09 234.04 114.52 0 23 28 375.8 29.64 331.08
110.00 3 5 31 6064.72 13.60 285.74 229.65 121.64 4 46 36 5064.7 25.38 263.53

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.2812 TRA 2.4201 TC3-6.7754 BAU 1.1861 SGT 6685.5 SGR 938.0 SG3 1244.7 ST 72.0 SR 11.6 SS 54.9
RDE -.0175 RRA -.4082 RC3 .7502 FAU .17528 RRT -.9741 RRF -.9952 RTF .9630 CRT -.9062 CRS .9352 CST -.6982
FDE 1.1444 FRA 6.1602 FC-11.6594 BSP 11522 SGB 6751.0 R23 .2488 R13 -.9640 LSA 84.9 MSA 33.7 SSA .2
BDE .2817 BRA 2.4542 BC3 6.8168 FSP 2320 SG1 6747.7 SG2 210.3 THA 172.21 EL1 72.8 EL2 4.9 ALF 171.66

LAUNCH DATE MAY 15 1971 FLIGHT TIME 258.00 ARRIVAL DATE JAN 28 1972

HELIOCENTRIC CONIC DISTANCE 596.074 EARTH TO MARS
RL 151.22 LAL .00 LOL 233.53 VL 32.363 GAL -1.73 AZL 93.00 HCA 186.69 SMA 187.46 ECC .19562 INC 3.0009 V1 29.464
RP 224.01 LAP .35 LOP 60.21 VP 21.840 GAP .96 AZP 87.02 TAL 349.36 TAP 176.05 RCA 150.79 APO 224.14 V2 24.550
RC 214.558 GL -28.27 GP 7.82 ZAL 112.28 ZAP 54.55 ETS 184.83 ZAE 93.47 ETE 179.99 ZAC 110.12 ETC 272.43 LVI -17.52

PLANETOCENTRIC CONIC
C3 12.776 VHL 3.574 DLA -30.08 RAL 2.29 RAD 6639.4 VEL 11.526 PTH 6.57 VHP 3.254 DPA -15.18 RAP 295.26 ECC 1.2103
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 5 33 2404.16 -2.60 62.38 216.63 137.52 18 45 37 1404.2 15.68 46.39
60.00 19 29 28 2180.91 2.92 47.57 221.92 130.21 20 5 49 1180.9 18.58 28.92
70.00 21 23 43 1844.80 9.41 25.18 226.77 122.98 21 54 27 844.8 22.03 3.95
79.30 0 35 47 1254.59 20.26 346.40 232.68 112.72 0 56 41 254.6 27.84 321.50
79.30 0 35 47 1254.59 20.26 346.40 232.68 112.72 0 56 41 254.6 27.84 321.50
79.30 0 35 47 1254.59 20.26 346.40 232.68 112.72 0 56 41 254.6 27.84 321.50
110.00 2 27 5 6179.66 9.41 292.01 226.77 122.98 4 10 5 5179.7 22.03 270.78

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.1882 TRA 2.4946 TC3-7.0035 BAU 1.2012 SGT 6819.9 SGR 797.3 SG3 1231.6 ST 71.3 SR 9.8 SS 55.3
RDE -.0067 RRA -.3526 RC3 .6394 FAU .17369 RRT -.9754 RRF -.9920 RTF .9663 CRT -.9636 CRS .8940 CST -.7430
FDE 1.2169 FRA 6.1219 FC-11.7700 BSP 11896 SGB 6866.3 R23 .2215 R13 -.9669 LSA 85.3 MSA 31.2 SSA .3
BDE .1883 BRA 2.5194 BC3 7.0326 FSP 2265 SG1 6864.1 SG2 174.8 THA 173.49 EL1 72.0 EL2 2.6 ALF 172.42

LAUNCH DATE MAY 15 1971 FLIGHT TIME 260.00 ARRIVAL DATE JAN 30 1972

HELIOCENTRIC CONIC DISTANCE 600.175 EARTH TO MARS
RL 151.22 LAL .00 LOL 233.53 VL 32.372 GAL -1.82 AZL 92.84 HCA 187.76 SMA 187.62 ECC .19651 INC 2.8369 V1 29.464
RP 224.40 LAP .38 LOP 61.29 VP 21.806 GAP .82 AZP 87.19 TAL 348.89 TAP 176.68 RCA 150.75 APO 224.49 V2 24.508
RC 217.222 GL -26.74 GP 6.69 ZAL 113.19 ZAP 53.51 ETS 184.20 ZAE 92.27 ETE 180.20 ZAC 108.98 ETC 272.44 LVI -16.52

PLANETOCENTRIC CONIC
C3 12.676 VHL 3.560 DLA -28.44 RAL 2.11 RAD 6639.4 VEL 11.522 PTH 6.57 VHP 3.272 DPA -16.28 RAP 295.58 ECC 1.2086
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 55 43 2440.36 -4.41 63.90 215.83 137.42 18 36 24 1440.4 13.92 48.02
60.00 19 15 17 2228.70 .81 49.86 220.85 130.29 19 52 26 1228.7 16.63 31.45
70.00 21 0 32 1919.21 6.63 29.15 225.23 123.58 21 32 31 919.2 19.68 8.44
80.00 23 19 22 1484.42 13.02 359.95 229.03 117.11 23 44 7 484.4 23.07 337.07
86.82 1 35 4 1059.89 19.25 331.81 231.94 111.35 1 52 44 59.9 26.37 306.81
100.00 2 6 10 6246.93 13.02 299.23 229.03 117.11 3 50 17 5246.9 23.07 278.35
110.00 2 3 34 6254.07 6.63 295.97 225.23 123.58 3 48 8 5254.1 19.68 275.27

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.1298 TRA 2.5548 TC3-7.2443 BAU 1.2313 SGT 6965.4 SGR 697.4 SG3 1215.8 ST 71.3 SR 8.7 SS 56.0
RDE .0027 RRA -.3148 RC3 .5518 FAU .17055 RRT -.9720 RRF -.9870 RTF .9549 CRT -.9918 CRS .8337 CST -.7801
FDE 1.3078 FRA 6.1034 FC-11.6478 BSP 11968 SGB 7000.2 R23 .2066 R13 -.9654 LSA 85.9 MSA 30.4 SSA .3
BDE .1298 BRA 2.5741 BC3 7.2653 FSP 2231 SG1 6998.3 SG2 163.0 THA 174.44 EL1 71.8 EL2 1.1 ALF 173.13

LAUNCH DATE MAY 15 1971 FLIGHT TIME 262.00 ARRIVAL DATE FEB 1 1972

HELIOCENTRIC CONIC DISTANCE 604.274 EARTH TO MARS
RL 151.22 LAL .00 LOL 233.53 VL 32.381 GAL -1.90 AZL 92.72 HCA 188.84 SMA 187.78 ECC .19741 INC 2.7150 V1 29.464
RP 224.79 LAP .42 LOP 62.38 VP 21.773 GAP .67 AZP 87.32 TAL 348.42 TAP 177.26 RCA 150.71 APO 224.85 V2 24.466
RC 219.886 GL -25.52 GP 5.83 ZAL 114.04 ZAP 52.53 ETS 183.72 ZAE 91.09 ETE 180.35 ZAC 108.11 ETC 272.46 LVI -15.78

PLANETOCENTRIC CONIC
C3 12.660 VHL 3.558 DLA -27.09 RAL 2.12 RAD 6639.4 VEL 11.521 PTH 6.57 VHP 3.294 DPA -17.10 RAP 295.89 ECC 1.2083
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 48 33 2470.84 -5.94 65.18 215.45 137.29 18 29 44 1470.8 12.42 49.37
60.00 19 4 56 2267.68 -.90 51.72 220.28 130.29 19 42 43 1267.7 15.01 33.48
70.00 20 44 24 1975.21 4.51 32.10 224.37 123.89 21 17 19 975.2 17.83 11.73
80.00 22 48 48 1585.77 9.81 5.76 227.59 118.34 23 15 14 585.8 20.62 343.60
90.00 0 49 49 1208.21 12.78 339.52 229.13 115.44 1 9 57 208.2 22.18 316.44
100.00 1 35 36 1060.24 9.81 327.13 227.59 118.34 1 53 16 60.2 20.62 304.97
110.00 1 47 46 1022.03 4.51 321.02 224.37 123.89 2 4 48 22.0 17.83 300.65

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.0721 TRA 2.6286 TC3-7.4161 BAU 1.2578 SGT 7104.1 SGR 622.6 SG3 1195.3 ST 72.0 SR 7.9 SS 56.0
RDE .0131 RRA -.2864 RC3 .4844 FAU .16855 RRT -.9687 RRF -.9801 RTF .9665 CRT -.9976 CRS .7531 CST -.7868
FDE 1.3477 FRA 6.0411 FC-11.5261 BSP 12134 SGB 7131.3 R23 .1752 R13 -.9668 LSA 86.9 MSA 28.8 SSA .4
BDE .0733 BRA 2.6441 BC3 7.4319 FSP 2156 SG1 7129.6 SG2 154.0 THA 175.15 EL1 72.4 EL2 .5 ALF 173.78

LAUNCH DATE MAY 15 1971

FLIGHT TIME 264.00

ARRIVAL DATE FEB 3 1972

HELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 32.390 GAL -1.99 AZL 92.62 HCA 189.91 SMA 187.94 ECC .19834 INC 2.6193 V1 29.464
 RP 225.18 LAP .45 LOP 63.43 VP 21.740 GAP .53 AZP 87.42 TAL 347.95 TAP 177.86 RCA 150.67 APO 225.22 V2 24.424
 RC 222.951 GL -24.53 GP 3.16 ZAL 114.86 ZAP 51.60 ETS 183.34 ZAE 89.95 ETE 180.46 ZAC 107.43 ETC 272.50 LVI -18.23

PLANETOCENTRIC CONIC
 C3 12.699 VHL 3.864 DLA -25.92 RAL 2.25 RAD 6639.4 VEL 11.923 PTH 6.57 VHP 3.317 DPA -17.73 RAP 296.19 ECC 1.2090
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 43 8 2497.53 -7.27 66.31 215.33 137.15 18 24 45 1497.5 11.10 50.94
 60.00 18 57 0 2301.04 -2.37 53.31 220.02 130.24 19 38 21 1301.0 13.61 38.18
 70.00 20 32 18 2020.63 2.78 34.49 223.92 124.05 21 5 59 1020.6 16.28 14.35
 80.00 22 28 51 1686.04 7.51 9.71 226.84 118.98 22 56 27 656.0 18.75 347.99
 90.00 0 21 12 1306.42 9.84 345.24 228.08 116.65 0 42 58 306.4 19.98 322.79
 100.00 1 15 39 1130.51 7.51 331.08 226.84 118.98 1 34 29 130.5 18.75 309.39
 110.00 1 35 41 1067.64 2.78 323.41 223.92 124.05 1 53 28 67.6 16.28 303.27

DIFFERENTIAL CORRECTIONS
 TDE -.0141 TRA 2.7126 TC3-7.5414 BAU 1.2824 SGT 7239.2 SGR 965.8 SG3 1174.2 ST 73.2 SR 7.4 SS 56.7
 RDE .0218 RRA -.2665 RC3 .4254 FAU .16470 RRT -.9621 RRF -.9709 RTF .9663 CRT -.9738 CRS .6570 CST -.0061
 FDE 1.4160 FRA 6.0109 FC-11.2277 BSP 12365 SGB 7261.3 R23 .1496 R13 -.9666 LSA 88.6 MSA 27.0 SSA .4
 BDE .0260 BRA 2.7257 BC3 7.5534 FSP 2118 SG1 7259.6 SG2 153.9 THA 175.70 EL1 73.5 EL2 1.7 ALF 174.40

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 15 1971

FLIGHT TIME 266.00

ARRIVAL DATE FEB 5 1972

HELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 32.400 GAL -2.07 AZL 92.54 HCA 190.98 SMA 188.10 ECC .19928 INC 2.5423 V1 29.464
 RP 225.57 LAP .48 LOP 64.50 VP 21.707 GAP .39 AZP 87.50 TAL 347.47 TAP 178.45 RCA 150.62 APO 225.59 V2 24.382
 RC 225.217 GL -23.69 GP 4.62 ZAL 115.64 ZAP 50.70 ETS 183.03 ZAE 88.83 ETE 180.55 ZAC 106.88 ETC 272.54 LVI -14.81

PLANETOCENTRIC CONIC
 C3 12.778 VHL 3.575 DLA -24.90 RAL 2.47 RAD 6639.4 VEL 11.526 PTH 6.57 VHP 3.342 DPA -18.23 RAP 296.50 ECC 1.2103
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 38 54 2521.51 -8.47 67.34 215.39 137.00 18 20 56 1521.5 9.92 51.57
 60.00 18 50 44 2330.48 -3.67 54.72 219.99 130.16 19 29 34 1330.5 12.36 36.67
 70.00 20 22 49 2059.74 1.29 36.52 223.74 124.13 20 57 9 1059.7 14.92 16.55
 80.00 22 14 8 1711.35 5.68 12.79 226.46 119.36 22 42 39 711.3 17.21 351.36
 90.00 0 2 7 1375.75 7.70 349.20 227.55 117.30 0 25 3 375.7 18.27 327.16
 100.00 1 0 56 1185.82 5.68 334.16 226.46 119.36 1 20 42 185.8 17.21 312.73
 110.00 1 26 11 1106.56 1.29 325.44 223.74 124.13 1 44 38 106.6 14.92 305.47

DIFFERENTIAL CORRECTIONS
 TDE .0414 TRA 2.8004 TC3-7.6452 BAU 1.3077 SGT 7373.4 SGR 521.8 SG3 1152.6 ST 74.8 SR 7.1 SS 57.3
 RDE .0304 RRA -.2515 RC3 .3765 FAU .16095 RRT -.9531 RRF -.9591 RTF .9662 CRT -.9223 CRS .5479 CST -.0285
 FDE 1.4804 FRA 5.9775 FC-10.9041 BSP 12590 SGB 7391.9 R23 .1251 R13 -.9663 LSA 90.5 MSA 27.0 SSA .5
 BDE .0514 BRA 2.8117 BC3 7.6544 FSP 2077 SG1 7390.2 SG2 157.6 THA 176.14 EL1 75.0 EL2 2.7 ALF 174.98

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 15 1971

FLIGHT TIME 268.00

ARRIVAL DATE FEB 7 1972

HELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 32.409 GAL -2.16 AZL 92.48 HCA 192.04 SMA 188.27 ECC .20024 INC 2.4790 V1 29.464
 RP 225.96 LAP .52 LOP 65.58 VP 21.674 GAP .24 AZP 87.58 TAL 346.99 TAP 179.03 RCA 150.57 APO 225.97 V2 24.340
 RC 227.883 GL -22.97 GP 4.18 ZAL 116.41 ZAP 49.85 ETS 182.78 ZAE 87.73 ETE 180.61 ZAC 106.43 ETC 272.59 LVI -14.48

PLANETOCENTRIC CONIC
 C3 12.888 VHL 3.590 DLA -23.98 RAL 2.75 RAD 6639.5 VEL 11.531 PTH 6.58 VHP 3.368 DPA -18.63 RAP 296.81 ECC 1.2121
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 35 34 2543.49 -9.56 68.28 215.59 136.83 18 17 57 1543.5 8.82 52.52
 60.00 18 45 39 2357.10 -4.83 56.00 220.10 130.06 19 24 56 1357.1 11.22 38.00
 70.00 20 15 7 2094.06 -.02 38.31 223.74 124.15 20 50 1 1094.1 13.71 18.47
 80.00 22 2 35 1757.72 4.12 15.36 226.32 119.60 22 31 53 757.7 15.86 354.15
 90.00 23 43 52 1431.05 5.96 392.34 227.33 117.70 24 7 43 431.0 16.82 330.98
 100.00 0 49 23 1232.19 4.12 336.72 226.32 119.60 1 9 55 232.2 15.86 315.52
 110.00 1 18 29 1140.88 -.02 327.23 223.74 124.15 1 37 30 140.9 13.71 307.39

DIFFERENTIAL CORRECTIONS
 TDE .0945 TRA 2.8915 TC3-7.7276 BAU 1.3327 SGT 7504.5 SGR 487.3 SG3 1130.1 ST 76.8 SR 7.0 SS 57.8
 RDE .0388 RRA -.2401 RC3 .3347 FAU .15696 RRT -.9412 RRF -.9445 RTF .9658 CRT -.8482 CRS .4324 CST -.0426
 FDE 1.5382 FRA 5.9424 FC-10.8437 B8P 12827 SGB 7501.9 R23 .1036 R13 -.9659 LSA 92.6 MSA 26.2 SSA .5
 BDE .1022 BRA 2.9015 BC3 7.7349 F8P 2042 SG1 7518.5 SG2 164.3 THA 176.50 EL1 76.8 EL2 3.7 ALF 175.54

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 15 1971

FLIGHT TIME 270.00

ARRIVAL DATE FEB 9 1972

HELIOCENTRIC CONIC
 RL 151.22 LAL .00 LOL 233.53 VL 32.419 GAL -2.25 AZL 92.43 HCA 193.10 SMA 188.43 ECC .20122 INC 2.4262 V1 29.464
 RP 226.35 LAP .55 LOP 66.62 VP 21.641 GAP .10 AZP 87.64 TAL 346.51 TAP 179.61 RCA 150.52 APO 226.35 V2 24.299
 RC 230.548 GL -22.34 GP 3.81 ZAL 117.16 ZAP 49.02 ETS 182.57 ZAE 86.66 ETE 180.66 ZAC 106.04 ETC 272.65 LVI -14.23

PLANETOCENTRIC CONIC
 C3 13.021 VHL 3.608 DLA -23.14 RAL 3.07 RAD 6639.6 VEL 11.536 PTH 6.58 VHP 3.394 DPA -18.95 RAP 297.14 ECC 1.2143
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 32 52 2563.98 -10.38 69.16 215.88 136.66 18 15 36 1564.0 7.80 53.40
 60.00 18 41 26 2381.61 -5.91 57.18 220.33 129.94 19 21 8 1381.6 10.17 39.22
 70.00 20 8 42 2125.04 -1.20 39.93 223.88 124.14 20 44 7 1125.0 12.59 20.18
 80.00 21 53 9 1798.15 2.76 17.58 226.35 119.74 22 23 7 798.1 14.66 396.55
 90.00 23 32 27 1477.87 4.47 354.97 227.30 117.95 23 57 5 477.9 15.55 333.43
 100.00 0 39 57 1272.62 2.76 338.95 226.35 119.74 1 1 10 272.6 14.66 317.91
 110.00 1 12 5 1171.86 -1.20 328.85 223.88 124.14 1 31 37 171.9 12.59 309.10

DIFFERENTIAL CORRECTIONS
 TDE .1488 TRA 2.9880 TC3-7.7878 BAU 1.3567 SGT 7633.1 SGR 460.1 SG3 1107.6 ST 78.7 SR 7.1 SS 58.3
 RDE .0472 RRA -.2315 RC3 .2984 FAU .15285 RRT -.9267 RRF -.9270 RTF .9654 CRT -.7583 CRS .3177 CST -.0576
 FDE 1.5948 FRA 5.9095 FC-10.1626 B8P 13077 SGB 7646.9 R23 .0850 R13 -.9655 LSA 94.9 MSA 25.5 SSA .6
 BDE .1561 BRA 2.9970 BC3 7.7936 F8P 2005 SG1 7645.0 SG2 172.7 THA 176.80 EL1 78.9 EL2 4.6 ALF 176.09

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 15 1971 FLIGHT TIME 272.00 ARRIVAL DATE FEB 11 1972

HELIOCENTRIC CONIC
RL 151.22 LAL .00 LOL 233.53 VL 32.429 GAL -2.34 AZL 92.30 HCA 194.16 SMA 100.60 ECC .20221 INC 2.3016 V1 29.464
RP 226.74 LAP .50 LOP 67.68 VP 21.609 GAP -.05 AZP 87.69 TAL 346.03 TAP 180.18 RCA 150.46 APO 226.74 V2 24.257
RC 233.212 GL -21.77 GP 3.50 ZAL 117.89 ZAP 46.23 ETS 182.39 ZAE 85.81 ETE 180.71 ZAC 105.72 ETC 272.71 LVI -14.04
DISTANCE 624.675 EARTH TO MARS
PLANETOCENTRIC CONIC
C3 13.173 VHL 3.630 DLA -22.38 RAL 3.43 RAD 6639.6 VEL 11.543 PTH 6.59 VHP 3.421 DPA -19.21 RAP 297.49 ECC 1.2160
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 30 40 2583.30 -11.53 70.01 216.25 136.49 18 13 43 1583.3 6.84 54.22
60.00 18 37 53 2404.51 -8.91 58.29 220.64 129.80 19 17 58 1404.5 9.18 40.34
70.00 20 3 16 2153.52 -2.29 41.42 224.12 124.09 20 39 9 1153.5 11.56 21.74
80.00 21 45 14 1834.37 1.54 19.57 226.51 119.82 22 15 49 834.4 13.56 358.67
90.00 23 23 1 1519.00 3.15 357.28 227.41 118.12 23 48 20 519.0 14.40 335.90
100.00 0 32 2 1308.84 1.54 340.94 226.51 119.82 0 53 51 308.8 13.56 320.04
110.00 1 6 38 1200.33 -2.29 330.33 224.12 124.09 1 26 39 200.3 11.56 310.66
DIFFERENTIAL CORRECTIONS
TDE .2030 TRA 3.0898 TC3-7.8292 BAU 1.3796 SGT 7759.9 SGR 439.0 SG3 1085.2 ST 81.2 SR 7.2 SS 58.9
RDE .0555 RRA -.2251 RC3 .2664 FAU .14859 RRT -.9093 RRF -.9069 RTF .9650 CRT -.6604 CRS .2094 CST -.8712
FDE 1.6462 FRA 5.8807 FC3-9.7655 BSP 13351 SGB 7772.3 R23 .0694 R13 -.9651 LSA 97.4 MSA 24.9 SSA .6
BDE .2104 BRA 3.0960 BC3 7.8337 FSP 1972 SG1 7770.2 SG2 182.4 THA 177.05 EL1 81.3 EL2 5.4 ALF 176.61
MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 15 1971 FLIGHT TIME 274.00 ARRIVAL DATE FEB 13 1972

HELIOCENTRIC CONIC
RL 151.22 LAL .00 LOL 233.53 VL 32.438 GAL -2.43 AZL 92.34 HCA 195.21 SMA 188.77 ECC .20323 INC 2.3424 V1 29.464
RP 227.13 LAP .61 LOP 68.73 VP 21.577 GAP -.19 AZP 87.74 TAL 345.54 TAP 180.75 RCA 150.41 APO 227.14 V2 24.215
RC 235.874 GL -21.26 GP 3.23 ZAL 118.62 ZAP 47.46 ETS 182.24 ZAE 84.58 ETE 180.74 ZAC 105.43 ETC 272.78 LVI -13.91
DISTANCE 628.740 EARTH TO MARS
PLANETOCENTRIC CONIC
C3 13.343 VHL 3.653 DLA -21.63 RAL 3.81 RAD 6639.7 VEL 11.550 PTH 6.60 VHP 3.449 DPA -19.42 RAP 297.84 ECC 1.2196
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 28 51 2601.71 -12.44 70.81 216.68 136.30 18 12 12 1601.7 5.92 55.00
60.00 18 34 52 2426.14 -7.85 59.34 221.03 129.66 19 15 18 1426.1 8.25 41.40
70.00 19 58 34 2180.06 -3.30 42.80 224.44 124.01 20 34 54 1180.1 10.59 23.18
80.00 21 38 27 1867.46 .41 21.39 226.76 119.86 22 9 35 867.5 12.53 .59
90.00 23 15 0 1556.04 1.96 359.35 227.62 118.22 23 40 56 556.0 13.34 338.10
100.00 0 25 15 1341.93 .41 342.76 226.76 119.86 0 47 37 341.9 12.53 321.96
110.00 1 1 56 1226.88 -3.30 331.72 224.44 124.01 1 22 23 226.9 10.59 312.10
DIFFERENTIAL CORRECTIONS
TDE .2489 TRA 3.1857 TC3-7.8865 BAU 1.4075 SGT 7889.3 SGR 422.6 SG3 1063.1 ST 83.4 SR 7.5 SS 59.1
RDE .0642 RRA -.2199 RC3 .2399 FAU .14526 RRT -.8895 RRF -.8841 RTF .9647 CRT -.5634 CRS .1086 CST -.8813
FDE 1.6812 FRA 5.8802 FC3-9.4251 BSP 13524 SGB 7900.6 R23 .0558 R13 -.9648 LSA 99.6 MSA 24.4 SSA .7
BDE .2571 BRA 3.1933 BC3 7.8901 FSP 1925 SG1 7898.3 SG2 192.9 THA 177.27 EL1 83.5 EL2 6.2 ALF 177.08
MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 15 1971 FLIGHT TIME 276.00 ARRIVAL DATE FEB 15 1972

HELIOCENTRIC CONIC
RL 151.22 LAL .00 LOL 233.53 VL 32.448 GAL -2.52 AZL 92.31 HCA 196.26 SMA 188.94 ECC .20426 INC 2.3089 V1 29.464
RP 227.52 LAP .65 LOP 69.78 VP 21.546 GAP -.34 AZP 87.78 TAL 345.05 TAP 181.31 RCA 150.35 APO 227.54 V2 24.174
RC 238.532 GL -20.80 GP 3.00 ZAL 119.33 ZAP 46.71 ETS 182.11 ZAE 83.56 ETE 180.77 ZAC 105.18 ETC 272.85 LVI -13.81
DISTANCE 632.798 EARTH TO MARS
PLANETOCENTRIC CONIC
C3 13.528 VHL 3.678 DLA -20.94 RAL 4.21 RAD 6639.8 VEL 11.558 PTH 6.60 VHP 3.476 DPA -19.60 RAP 298.21 ECC 1.2226
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 27 20 2619.37 -13.31 71.59 217.16 136.11 18 11 0 1619.4 5.03 55.74
60.00 18 32 15 2446.75 -8.74 60.35 221.47 129.50 19 13 2 1446.7 7.35 42.41
70.00 19 54 28 2205.08 -4.26 44.12 224.83 123.92 20 31 13 1205.1 9.67 24.53
80.00 21 32 32 1898.14 -.62 23.07 227.09 119.85 22 4 10 898.1 11.56 2.35
90.00 23 8 3 1590.03 .87 1.24 227.92 118.27 23 34 33 590.0 12.35 340.10
100.00 0 19 20 1372.61 -.62 344.44 227.09 119.85 0 42 12 372.6 11.56 323.72
110.00 0 57 50 1251.90 -4.26 333.03 224.83 123.92 1 18 42 251.9 9.67 313.45
DIFFERENTIAL CORRECTIONS
TDE .3019 TRA 3.2914 TC3-7.9100 BAU 1.4311 SGT 8013.4 SGR 410.0 SG3 1041.0 ST 86.1 SR 7.8 SS 59.5
RDE .0725 RRA -.2185 RC3 .2130 FAU .14111 RRT -.8671 RRF -.8590 RTF .9641 CRT -.4679 CRS .0193 CST -.8916
FDE 1.7265 FRA 5.8072 FC3-9.0308 BSP 13783 SGB 8023.9 R23 .0451 R13 -.9642 LSA 102.2 MSA 23.9 SSA .7
BDE .3105 BRA 3.2985 BC3 7.9129 FSP 1893 SG1 8021.3 SG2 204.0 THA 177.46 EL1 86.2 EL2 6.9 ALF 177.55
MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 15 1971 FLIGHT TIME 278.00 ARRIVAL DATE FEB 17 1972

HELIOCENTRIC CONIC
RL 151.22 LAL .00 LOL 233.53 VL 32.458 GAL -2.61 AZL 92.28 HCA 197.31 SMA 189.11 ECC .20531 INC 2.2792 V1 29.464
RP 227.91 LAP .68 LOP 70.82 VP 21.514 GAP -.48 AZP 87.82 TAL 344.56 TAP 181.87 RCA 150.29 APO 227.94 V2 24.133
RC 241.188 GL -20.37 GP 2.79 ZAL 120.04 ZAP 45.99 ETS 181.99 ZAE 82.57 ETE 180.79 ZAC 104.96 ETC 272.93 LVI -13.74
DISTANCE 636.850 EARTH TO MARS
PLANETOCENTRIC CONIC
C3 13.726 VHL 3.705 DLA -20.28 RAL 4.62 RAD 6639.9 VEL 11.567 PTH 6.61 VHP 3.504 DPA -19.74 RAP 298.60 ECC 1.2259
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 26 5 2638.44 -14.15 72.35 217.67 135.92 18 10 2 1636.4 4.18 56.46
60.00 18 29 59 2466.54 -9.80 61.32 221.95 129.33 19 11 5 1466.5 6.49 43.37
70.00 19 50 49 2228.87 -5.16 45.37 225.27 123.81 20 27 58 1228.9 8.79 25.81
80.00 21 27 18 1926.92 -1.60 24.65 227.48 119.82 21 59 25 926.9 10.65 4.00
90.00 23 1 57 1621.63 -.15 3.01 228.28 118.28 23 28 58 621.6 11.41 341.95
100.00 0 14 6 1401.39 -1.60 346.02 227.48 119.82 0 37 27 401.4 10.65 325.37
110.00 0 54 12 1275.68 -5.16 334.28 225.27 123.81 1 15 27 275.7 8.79 314.72
DIFFERENTIAL CORRECTIONS
TDE .3322 TRA 3.3968 TC3-7.9326 BAU 1.4561 SGT 8136.7 SGR 400.7 SG3 1019.1 ST 88.7 SR 8.2 SS 59.8
RDE .0810 RRA -.2139 RC3 .1930 FAU .13721 RRT -.8427 RRF -.8320 RTF .9635 CRT -.3789 CRS -.0597 CST -.9001
FDE 1.7638 FRA 5.7718 FC3-8.6545 BSP 14009 SGB 8146.6 R23 .0361 R13 -.9635 LSA 104.8 MSA 23.5 SSA .8
BDE .3614 BRA 3.4033 BC3 7.9350 FSP 1856 SG1 8143.7 SG2 215.5 THA 177.62 EL1 88.8 EL2 7.6 ALF 177.98
MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 18 1971

FLIGHT TIME 200.00

ARRIVAL DATE FEB 19 1972

HELIOCENTRIC CONIC

DISTANCE 640.896

EARTH TO MARS

RL 151.22 LAL .00 LOL 233.83 VL 32.460 GAL -2.71 AZL 92.25 HCA 190.35 SMA 189.29 ECC .20637 INC 2.2930 V1 20.404
 RP 228.30 LAP .71 LOP 71.86 VP 21.483 GAP -.63 AZP 87.86 TAL 344.07 TAP 182.42 RCA 150.22 APO 228.39 VE 24.092
 RC 243.834 GL -19.87 GP 2.61 ZAL 120.74 ZAP 48.29 ET8 181.89 ZAE 81.60 ETE 180.80 ZAC 104.76 ETC 273.02 LVI -13.70

PLANETOCENTRIC CONIC

C3 13.937 VHL 3.733 DLA -19.65 RAL 5.05 RAD 8640.0 VEL 11.876 PTH 6.62 VMP 3.532 DPA -19.85 RAP 299.00 ECC 1.2294
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 25 3 2653.01 -14.95 73.09 218.22 135.71 18 9 16 1653.0 3.35 57.19
 60.00 18 27 39 2485.63 -10.42 62.26 222.47 129.15 19 9 24 1485.6 5.66 44.29
 70.00 19 47 35 2251.63 -6.02 46.56 225.75 123.68 20 25 6 1251.6 7.94 27.02
 80.00 21 22 38 1954.15 -2.52 26.15 227.92 119.76 21 55 12 954.2 9.77 5.55
 90.00 22 56 30 1651.33 -1.11 4.66 228.70 118.26 23 24 2 651.3 10.52 343.67
 100.00 0 9 25 1428.63 -2.52 347.52 227.92 119.76 0 33 14 428.6 9.77 328.91
 110.00 0 50 57 1298.45 -6.02 335.48 225.75 123.68 1 12 35 298.4 7.94 318.94

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .4026 TRA 3.5044 TC3-7.9484 BAU 1.4813 SGT 8259.4 SGR 394.1 SG3 997.7 ST 91.5 SR 8.6 SS 60.1
 RDE .0895 RRA -.2123 RC3 .1733 FAU .13350 RRT -.8168 RRF -.8034 RTF .9629 CRT -.2969 CRS -.1269 C8T -.9077
 FDE 1.7980 FRA 5.7359 FC3-8.2927 BSP 14235 SGB 8268.8 R23 .0281 R13 -.9630 LSA 107.4 MSA 23.1 SSA .8
 BDE .4124 BRA 3.5108 BC3 7.9503 F8P 1820 SGI 8265.7 SG2 227.2 THA 177.77 EL1 91.5 EL2 8.2 ALF 178.39

LAUNCH DATE MAY 16 1971

FLIGHT TIME 94.00

ARRIVAL DATE AUG 18 1971

HELIOCENTRIC CONIC

RL 151.25 LAL .00 LOL 234.49 VL 35.468 GAL -1.06 AZL 91.85 HCA 87.37 SMA 287.08 ECC .43401 INC 1.8499 V1 29.498
 RP 207.18 LAP -1.85 LOP 321.87 VP 28.005 GAP 22.41 AZP 90.08 TAL 356.50 TAP 83.87 RCA 151.17 APO 383.00 V2 26.438
 RC 56.868 GL -10.67 GP -.38 ZAL 99.55 ZAP 177.20 ETS 187.87 ZAE 173.89 ETE 48.22 ZAC 99.50 ETC 277.97 LVI -17.94

PLANETOCENTRIC CONIC

C3 38.220 VHL 6.182 DLA -19.88 RAL 340.20 RAD 6650.D VEL 12.574 PTH 7.44 VHP 11.226 DPA -17.22 RAP 322.25 ECC 1.6290
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 42 58 2891.61 -26.18 84.67 206.19 131.26 16 31 10 1891.6 -8.61 67.18
 60.00 16 46 14 2723.35 -20.29 74.59 211.27 125.60 17 31 38 1723.4 -4.79 55.67
 70.00 18 6 16 2488.07 -14.69 59.38 215.14 121.18 18 47 44 1488.1 -1.04 39.43
 80.00 19 41 49 2189.04 -10.31 39.23 217.70 118.18 20 18 18 1189.0 1.96 18.60
 90.00 21 15 58 1885.36 -8.54 17.84 218.63 117.06 21 47 23 885.4 3.18 356.95
 100.00 22 24 41 1663.51 -10.31 .60 217.70 118.18 22 52 24 663.5 1.96 339.97
 110.00 23 5 43 1534.89 -14.69 348.29 215.14 121.18 23 31 18 534.9 -1.04 328.35

DIFFERENTIAL CORRECTIONS

TDE -.3903 TRA -.8882 TC3 .0265 BAU .0371
 RDE -.5720 RRA .2329 RC3 .0676 FAU .03272
 FDE .1253 FRA .6472 FC3 -.7412 BSP 1289
 BDE .6925 BRA .9182 BC3 .0726 FSP 115

MID-COURSE EXECUTION ACCURACY

SGT 947.6 SGR 583.7 SG3 97.0
 RRT -.0115 RRF .0126 RTF -.5924
 SGB 1113.0 R23 -.0016 R13 .5924
 SG1 947.7 SG2 583.6 THA 179.35

ORBIT DETERMINATION ACCURACY

ST 22.4 SR 26.7 SS 10.9
 CRT .7269 CRS .4020 CST .9154
 LSA 33.3 MSA 15.0 SSA 1.1
 EL1 32.5 EL2 12.6 ALF 51.95

LAUNCH DATE MAY 16 1971

FLIGHT TIME 96.00

ARRIVAL DATE AUG 20 1971

HELIOCENTRIC CONIC

RL 151.25 LAL .00 LOL 234.49 VL 35.258 GAL -.99 AZL 91.85 HCA 88.64 SMA 259.32 ECC .41704 INC 1.8462 V1 29.458
 RP 207.09 LAP -1.85 LOP 323.13 VP 27.748 GAP 21.89 AZP 90.04 TAL 356.63 TAP 85.26 RCA 151.17 APO 367.47 V2 26.448
 RC 56.856 GL -10.97 GP -.39 ZAL 99.45 ZAP 176.30 ETS 186.12 ZAE 173.34 ETE 42.55 ZAC 99.44 ETC 278.04 LVI -18.03

PLANETOCENTRIC CONIC

C3 35.647 VHL 5.971 DLA -20.18 RAL 340.24 RAD 6649.1 VEL 12.472 PTH 7.37 VHP 10.854 DPA -17.12 RAP 322.61 ECC 1.5867
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 44 27 2867.57 -25.10 83.41 205.20 131.85 16 32 14 1867.6 -7.42 66.15
 60.00 16 48 11 2698.08 -19.28 73.22 210.28 126.10 17 33 9 1698.1 -3.68 54.46
 70.00 18 8 50 2461.00 -13.73 57.87 214.16 121.58 18 49 51 1461.0 -.01 38.02
 80.00 19 45 4 2159.79 -9.36 37.58 216.73 118.48 20 21 4 1159.8 2.95 16.99
 90.00 21 19 35 1854.91 -7.60 16.10 217.68 117.32 21 50 30 854.9 4.16 355.24
 100.00 22 27 56 1634.26 -9.36 358.95 216.73 118.48 22 55 10 634.3 2.95 338.36
 110.00 23 8 16 1507.82 -13.73 346.78 214.16 121.58 23 33 24 507.8 -.01 326.94

DIFFERENTIAL CORRECTIONS

TDE -.3843 TRA -.8786 TC3 .0408 BAU .0396
 RDE -.5554 RRA .2261 RC3 .0726 FAU .03388
 FDE .1253 FRA .6726 FC3 -.8222 BSP 1344
 BDE .6753 BRA .9072 BC3 .0831 FSP 125

MID-COURSE EXECUTION ACCURACY

SGT 972.2 SGR 587.3 SG3 104.1
 RRT -.0121 RRF .0139 RTF -.6059
 SGB 1135.9 R23 -.0023 R13 .6059
 SG1 972.3 SG2 587.3 THA 179.34

ORBIT DETERMINATION ACCURACY

ST 22.8 SR 26.9 SS 11.3
 CRT .7245 CRS .3855 CST .9098
 LSA 33.7 MSA 15.3 SSA 1.1
 EL1 32.8 EL2 12.9 ALF 51.36

LAUNCH DATE MAY 16 1971

FLIGHT TIME 98.00

ARRIVAL DATE AUG 22 1971

HELIOCENTRIC CONIC

RL 151.25 LAL .00 LOL 234.49 VL 35.060 GAL -.92 AZL 91.84 HCA 89.90 SMA 252.46 ECC .40117 INC 1.8426 V1 29.458
 RP 207.01 LAP -1.84 LOP 324.40 VP 27.505 GAP 21.37 AZP 90.00 TAL 356.77 TAP 86.67 RCA 151.18 APO 353.74 V2 26.457
 RC 57.225 GL -11.26 GP -.41 ZAL 99.33 ZAP 175.39 ETS 185.05 ZAE 172.77 ETE 37.89 ZAC 99.38 ETC 278.11 LVI -18.11

PLANETOCENTRIC CONIC

C3 33.305 VHL 5.771 DLA -20.50 RAL 340.25 RAD 6648.3 VEL 12.378 PTH 7.30 VHP 10.496 DPA -17.02 RAP 322.96 ECC 1.5481
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 45 53 2843.70 -24.01 82.18 204.24 132.40 16 33 17 1843.7 -6.22 65.14
 60.00 16 50 7 2672.91 -18.27 71.86 209.30 126.57 17 34 40 1672.9 -2.58 53.25
 70.00 18 11 24 2433.93 -12.76 56.37 213.19 121.95 18 51 50 1433.9 1.03 36.61
 80.00 19 48 24 2130.37 -8.40 35.92 215.79 118.76 20 23 54 1130.4 3.94 15.37
 90.00 21 23 19 1824.17 -6.63 14.36 216.74 117.55 21 53 43 824.2 5.14 353.51
 100.00 22 31 16 1604.84 -8.40 357.29 215.79 118.76 22 58 0 604.8 3.94 336.74
 110.00 23 10 50 1480.75 -12.76 345.29 213.19 121.95 23 35 31 480.7 1.03 325.92

DIFFERENTIAL CORRECTIONS

TDE -.3788 TRA -.8688 TC3 .0552 BAU .0425
 RDE -.5392 RRA .2195 RC3 .0778 FAU .03302
 FDE .1259 FRA .6882 FC3 -.9103 BSP 1398
 BDE .6590 BRA .8961 BC3 .0954 FSP 137

MID-COURSE EXECUTION ACCURACY

SGT 996.8 SGR 590.6 SG3 111.6
 RRT -.0122 RRF .0144 RTF -.1.81
 SGB 1158.6 R23 -.0028 R13 .6181
 SG1 996.8 SG2 590.5 THA 179.36

ORBIT DETERMINATION ACCURACY

ST 23.3 SR 27.0 SS 11.6
 CRT .7226 CRS .3718 CST .9048
 LSA 34.1 MSA 15.7 SSA 1.1
 EL1 33.2 EL2 13.1 ALF 50.72

LAUNCH DATE MAY 16 1971

FLIGHT TIME 100.00

ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC

RL 151.25 LAL .00 LOL 234.49 VL 34.874 GAL -.86 AZL 91.84 HCA 91.17 SMA 246.36 ECC .38630 INC 1.8389 V1 29.458
 RP 206.94 LAP -1.84 LOP 325.66 VP 27.276 GAP 20.87 AZP 89.96 TAL 356.93 TAP 88.09 RCA 151.19 APO 341.53 V2 26.466
 RC 57.675 GL -11.56 GP -.42 ZAL 99.18 ZAP 174.47 ETS 184.34 ZAE 172.20 ETE 34.04 ZAC 99.32 ETC 278.18 LVI -18.19

PLANETOCENTRIC CONIC

C3 31.170 VHL 5.583 DLA -20.83 RAL 340.23 RAD 6647.5 VEL 12.292 PTH 7.23 VHP 10.151 DPA -16.92 RAP 323.30 ECC 1.5130
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 47 17 2820.05 -22.91 80.99 203.30 132.91 16 34 17 1820.0 -5.04 64.14
 60.00 16 52 1 2647.88 -17.25 70.53 208.35 127.01 17 36 9 1647.9 -1.48 52.06
 70.00 18 14 0 2406.90 -11.79 54.89 212.25 122.29 18 54 7 1406.9 2.06 35.19
 80.00 19 51 48 2100.81 -7.43 34.27 214.86 119.00 20 26 49 1100.8 4.93 13.74
 90.00 21 27 10 1793.21 -5.65 12.61 215.83 117.76 21 57 3 793.2 6.12 351.77
 100.00 22 34 40 1575.20 -7.43 355.63 214.86 119.00 23 0 55 575.3 4.93 335.11
 110.00 23 13 26 1453.71 -11.79 343.80 212.25 122.29 23 37 40 453.7 2.06 324.11

DIFFERENTIAL CORRECTIONS

TDE -.3717 TRA -.8579 TC3 .0721 BAU .0458
 RDE -.5237 RRA .2130 RC3 .0831 FAU .03629
 FDE .1262 FRA .7260 FC3 -1.0080 BSP 1451
 BDE .6422 BRA .8840 BC3 .1100 FSP 148

MID-COURSE EXECUTION ACCURACY

SGT 1019.5 SGR 593.4 SG3 119.7
 RRT -.0130 RRF .0152 RTF -.6308
 SGB 1179.6 R23 -.0028 R13 .6309
 SG1 1019.5 SG2 593.3 THA 179.35

ORBIT DETERMINATION ACCURACY

ST 23.7 SR 27.1 SS 12.0
 CRT .7197 CRS .3561 CST .8997
 LSA 34.4 MSA 16.1 SSA 1.2
 EL1 33.5 EL2 13.3 ALF 50.23

LAUNCH DATE MAY 16 1971 FLIGHT TIME 102.00 ARRIVAL DATE AUG 26 1971

HELIOCENTRIC CONIC DISTANCE 285.840 EARTH TO MARS
 RL 131.25 LAL .00 LOL 234.49 VL 34.899 GAL -.79 AZL 91.84 HCA 92.43 SMA 240.91 ECC .37239 INC 1.8392 V1 29.458
 RP 206.87 LAP -1.83 LOP 326.93 VP 27.058 GAP 20.37 AZP 89.92 TAL 357.10 TAP 89.53 RCA 151.20 APO 330.62 V2 26.473
 RC 58.203 GL -11.86 GP -.43 ZAL 99.01 ZAP 173.53 ETS 183.83 ZAE 171.64 ETE 30.82 ZAC 99.26 ETC 278.25 LVI -18.27

PLANETOCENTRIC CONIC
 C3 29.223 VHL 5.406 DLA -21.17 RAL 340.19 RAD 6646.7 VEL 12.213 PTH 7.17 VHP 9.819 DPA -16.83 RAP 323.63 ECC 1.4809
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 48 38 2798.65 -21.83 79.83 202.38 133.39 16 35 15 1796.7 -3.87 63.16
 60.00 16 53 55 2823.06 -16.22 69.23 207.42 127.41 17 37 38 1623.1 -.38 50.87
 70.00 18 16 37 2379.94 -10.80 53.42 211.32 122.60 18 56 17 1379.9 3.09 33.78
 80.00 19 55 17 2071.15 -6.45 32.61 213.96 119.22 20 29 48 1071.2 5.92 12.10
 90.00 21 31 8 1781.98 -4.66 10.85 214.94 117.92 22 0 30 782.0 7.10 350.00
 100.00 22 38 9 1543.63 -6.45 353.98 213.96 119.22 23 3 54 545.6 5.92 333.47
 110.00 23 16 3 1426.76 -10.80 342.34 211.32 122.60 23 39 50 426.8 3.09 322.70

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3645 TRA -.8478 TC3 .0870 BAU .0485 SGT 1042.4 SGR 595.8 SG3 128.3 ST 24.1 SR 27.2 SS 12.4
 RDE -.5086 RRA .2068 RC3 .0885 FAU .03764 RRT -.0148 RRF .0166 RTF -.6397 CRT .7162 CR8 .3364 CST .8928
 FDE .1248 FRA .7540 FC3-1.1151 B8P 1503 SGB 1200.7 R23 -.0025 R13 .6397 LSA 34.7 MSA 16.3 S8A 1.2
 BDE .6257 BRA .8727 BC3 .1241 F8P 162 SGI 1042.5 SG2 595.7 THA 179.28 EL1 33.7 EL2 13.6 ALF 49.74

LAUNCH DATE MAY 16 1971 FLIGHT TIME 104.00 ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC DISTANCE 288.498 EARTH TO MARS
 RL 131.25 LAL .00 LOL 234.49 VL 34.534 GAL -.72 AZL 91.83 HCA 93.70 SMA 236.02 ECC .35935 INC 1.8315 V1 29.488
 RP 206.82 LAP -1.83 LOP 328.20 VP 26.853 GAP 19.88 AZP 89.88 TAL 357.29 TAP 90.99 RCA 151.21 APO 320.83 V2 26.479
 RC 58.807 GL -12.16 GP -.44 ZAL 98.81 ZAP 172.58 ETS 183.45 ZAE 171.12 ETE 28.11 ZAC 99.21 ETC 278.31 LVI -18.34

PLANETOCENTRIC CONIC
 C3 27.446 VHL 5.239 DLA -21.52 RAL 340.13 RAD 6646.0 VEL 12.141 PTH 7.11 VHP 9.499 DPA -16.74 RAP 323.94 ECC 1.4517
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 49 57 2773.56 -20.74 78.71 201.49 133.83 16 36 11 1773.6 -2.71 62.19
 60.00 16 55 48 2598.46 -15.20 67.96 206.51 127.79 17 39 6 1598.5 .70 49.70
 70.00 18 19 16 2353.10 -9.81 51.97 210.42 122.88 18 58 29 1353.1 4.11 32.38
 80.00 19 58 51 2041.43 -5.46 30.96 213.08 119.40 20 32 52 1041.4 6.91 10.45
 90.00 21 35 13 1730.57 -3.66 9.09 214.07 118.06 22 4 4 730.6 8.08 348.22
 100.00 22 41 43 1515.90 -5.46 352.33 213.08 119.40 23 6 59 515.9 6.91 331.81
 110.00 23 18 42 1399.92 -9.81 340.89 210.42 122.88 23 42 2 399.9 4.11 321.30

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3577 TRA -.8385 TC3 .1097 BAU .0530 SGT 1066.7 SGR 597.8 SG3 137.5 ST 24.5 SR 27.2 SS 12.7
 RDE -.4940 RRA .2007 RC3 .0941 FAU .03910 RRT -.0154 RRF .0172 RTF -.6526 CRT .7126 CR8 .3187 CST .8888
 FDE .1239 FRA .7823 FC3-1.2333 B8P 1547 SGB 1222.8 R23 -.0025 R13 .6526 LSA 34.9 MSA 16.8 S8A 1.2
 BDE .6099 BRA .8621 BC3 .1445 F8P 176 SGI 1066.7 SG2 597.7 THA 179.28 EL1 34.0 EL2 13.8 ALF 49.22

LAUNCH DATE MAY 16 1971 FLIGHT TIME 106.00 ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC DISTANCE 291.306 EARTH TO MARS
 RL 131.25 LAL .00 LOL 234.49 VL 34.379 GAL -.65 AZL 91.83 HCA 94.97 SMA 231.61 ECC .34713 INC 1.8278 V1 29.458
 RP 206.77 LAP -1.82 LOP 329.47 VP 26.658 GAP 19.39 AZP 89.84 TAL 357.48 TAP 92.45 RCA 151.21 APO 312.01 V2 26.485
 RC 59.485 GL -12.46 GP -.46 ZAL 98.59 ZAP 171.82 ETS 183.16 ZAE 170.64 ETE 25.81 ZAC 99.15 ETC 278.37 LVI -18.40

PLANETOCENTRIC CONIC
 C3 25.823 VHL 5.082 DLA -21.87 RAL 340.04 RAD 6645.3 VEL 12.074 PTH 7.06 VHP 9.190 DPA -16.65 RAP 324.25 ECC 1.4250
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 51 14 2750.79 -19.66 77.62 200.62 134.24 16 37 5 1750.8 -1.56 61.24
 60.00 16 57 40 2574.14 -14.18 66.71 205.63 128.13 17 40 34 1574.1 1.77 48.54
 70.00 18 21 55 2326.43 -8.82 50.54 209.55 123.13 19 0 42 1326.4 5.12 30.98
 80.00 20 2 30 2011.67 -4.46 29.32 212.22 119.55 20 36 1 1011.7 7.90 8.78
 90.00 21 39 26 1698.97 -2.64 7.32 213.23 118.17 22 7 45 699.0 9.06 346.41
 100.00 22 45 22 1486.14 -4.46 350.68 212.22 119.55 23 10 8 486.1 7.90 330.15
 110.00 23 21 22 1373.25 -8.82 339.46 209.55 123.13 23 44 15 373.2 5.12 319.90

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3518 TRA -.8274 TC3 .1312 BAU .0589 SGT 1088.9 SGR 599.3 SG3 147.3 ST 24.9 SR 27.3 SS 13.1
 RDE -.4800 RRA .1948 RC3 .0997 FAU .04060 RRT -.0149 RRF .0185 RTF -.6332 CRT .7106 CR8 .2986 CST .8789
 FDE .1222 FRA .8124 FC3-1.3613 B8P 1606 SGB 1243.0 R23 -.0043 R13 .6633 LSA 35.2 MSA 17.2 S8A 1.2
 BDE .5951 BRA .8500 BC3 .1646 F8P 193 SGI 1089.0 SG2 599.2 THA 179.33 EL1 34.2 EL2 14.0 ALF 48.66

LAUNCH DATE MAY 16 1971 FLIGHT TIME 108.00 ARRIVAL DATE SEP 1 1971

HELIOCENTRIC CONIC DISTANCE 294.246 EARTH TO MARS
 RL 131.25 LAL .00 LOL 234.49 VL 34.233 GAL -.58 AZL 91.82 HCA 96.24 SMA 227.63 ECC .33568 INC 1.8241 V1 29.458
 RP 206.74 LAP -1.81 LOP 330.73 VP 26.474 GAP 18.92 AZP 89.80 TAL 357.69 TAP 93.93 RCA 151.22 APO 304.04 V2 26.489
 RC 60.233 GL -12.76 GP -.47 ZAL 98.35 ZAP 170.64 ETS 182.92 ZAE 170.20 ETE 23.83 ZAC 99.09 ETC 278.43 LVI -18.46

PLANETOCENTRIC CONIC
 C3 24.339 VHL 4.933 DLA -22.24 RAL 339.93 RAD 6644.7 VEL 12.013 PTH 7.00 VHP 8.892 DPA -16.57 RAP 324.54 ECC 1.4008
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 52 28 2728.40 -18.60 76.56 199.78 134.62 16 37 57 1728.4 -4.4 60.30
 60.00 16 59 30 2550.13 -13.17 65.49 204.77 128.44 17 42 0 1550.1 2.83 47.39
 70.00 18 24 36 2299.95 -7.84 49.13 208.70 123.35 19 2 56 1300.0 6.12 29.58
 80.00 20 6 14 1981.90 -3.46 27.67 211.39 119.68 20 39 16 981.9 8.87 7.11
 90.00 21 43 48 1667.20 -1.62 5.55 212.41 118.24 22 11 35 667.2 10.03 344.59
 100.00 22 49 6 1456.37 -3.46 349.04 211.39 119.68 23 13 22 456.4 8.87 328.48
 110.00 23 24 3 1346.77 -7.84 338.04 208.70 123.35 23 46 30 346.8 6.12 318.50

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3433 TRA -.8168 TC3 .1557 BAU .0612 SGT 1110.4 SGR 600.5 SG3 157.8 ST 25.2 SR 27.3 SS 13.4
 RDE -.4665 RRA .1891 RC3 .1053 FAU .04225 RRT -.0168 RRF .0202 RTF -.6737 CRT .7055 CR8 .2737 CST .8694
 FDE .1185 FRA .8426 FC3-1.5028 B8P 1641 SGB 1262.3 R23 -.0042 R13 .6738 LSA 35.3 MSA 17.6 S8A 1.3
 BDE .5791 BRA .8384 BC3 .1880 F8P 207 SGI 1110.4 SG2 600.3 THA 179.26 EL1 34.3 EL2 14.2 ALF 48.31

LAUNCH DATE MAY 16 1971 FLIGHT TIME 110.00 ARRIVAL DATE SEP 3 1971

Table with columns for heliocentric conic parameters (RL, RP, RC), planetocentric conic parameters (C3, LNCH AZMTH, LNCH TIME, L-1 TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG), differential corrections (TDE, RDE, FDE, BDE), mid-course execution accuracy (SGT, RRT, SGB, SG1), and orbit determination accuracy (ST, CRT, LSA, EL1, EL2).

LAUNCH DATE MAY 16 1971 FLIGHT TIME 112.00 ARRIVAL DATE SEP 5 1971

Table with columns for heliocentric conic parameters (RL, RP, RC), planetocentric conic parameters (C3, LNCH AZMTH, LNCH TIME, L-1 TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG), differential corrections (TDE, RDE, FDE, BDE), mid-course execution accuracy (SGT, RRT, SGB, SG1), and orbit determination accuracy (ST, CRT, LSA, EL1, EL2).

LAUNCH DATE MAY 16 1971 FLIGHT TIME 114.00 ARRIVAL DATE SEP 7 1971

Table with columns for heliocentric conic parameters (RL, RP, RC), planetocentric conic parameters (C3, LNCH AZMTH, LNCH TIME, L-1 TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG), differential corrections (TDE, RDE, FDE, BDE), mid-course execution accuracy (SGT, RRT, SGB, SG1), and orbit determination accuracy (ST, CRT, LSA, EL1, EL2).

LAUNCH DATE MAY 16 1971 FLIGHT TIME 116.00 ARRIVAL DATE SEP 9 1971

Table with columns for heliocentric conic parameters (RL, RP, RC), planetocentric conic parameters (C3, LNCH AZMTH, LNCH TIME, L-1 TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG), differential corrections (TDE, RDE, FDE, BDE), mid-course execution accuracy (SGT, RRT, SGB, SG1), and orbit determination accuracy (ST, CRT, LSA, EL1, EL2).

LAUNCH DATE MAY 16 1971 FLIGHT TIME 116.00 ARRIVAL DATE SEP 11 1971

Heliocentric Conic
 RL 151.25 LAL .00 LOL 234.49 VL 33.621 GAL -.25 AZL 91.81 HCA 102.98 SMA 212.51 ECC .28830 INC 1.9052 V1 29.498
 RP 206.68 LAP -1.76 LOP 337.08 VP 25.686 GAP 16.88 AZP 89.61 TAL 358.87 TAP 101.49 RCA 151.24 APO 273.78 V2 26.496
 RC 64.936 GL -14.21 GP -.55 ZAL 96.90 ZAP 165.49 ETS 182.25 ZAE 168.87 ETE 17.11 ZAC 98.83 ETC 276.66 LVI -18.68

Planetocentric Conic
 C3 18.603 VHL 4.313 DLA -24.12 RAL 339.13 RAD 6642.2 VEL 11.774 PTH 6.80 VHP 7.555 DPA -16.26 RAP 325.74 ECC 1.3062
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 58 5 2623.09 -13.49 71.76 195.95 136.07 16 41 49 1623.1 4.85 55.90
 60.00 17 8 26 2436.00 -8.27 59.82 200.87 129.58 17 49 2 1436.0 7.82 41.88
 70.00 18 38 18 2171.82 -2.99 42.37 204.84 124.04 19 14 30 1171.8 10.89 22.73
 80.00 20 26 19 1833.75 1.56 19.54 207.67 119.82 20 56 53 833.8 13.57 358.63
 90.00 22 7 59 1905.86 3.57 356.54 208.79 118.07 22 33 5 503.9 14.77 335.11
 100.00 23 9 11 1308.22 1.56 340.91 207.67 119.82 23 30 59 308.2 13.57 320.00
 110.00 23 37 44 1218.64 -2.99 331.29 204.84 124.04 23 58 3 218.6 10.89 311.65

Differential Corrections
 TDE -.3063 TRA -.7654 TC3 .2871 BAW .0787 SGT 1211.6 SGR 600.2 SG3 222.3 ST 26.3 SR 27.2 SS 15.3
 RDE -.4057 RRA 1.625 RC3 .1328 FAU .05221 RRT -.0241 RRF .0296 RTF -.7143 CRT .6827 CR8 .1432 CST .8156
 FDE .0931 FRA 1.0664 FC3-2.4299 BSP 1865 SGB 1352.1 R23 -.0068 R13 .7144 LSA 35.7 MSA 19.7 SBA 1.4
 BDE .5083 BRA .7827 BC3 .3163 FSP 311 SG1 1211.7 SG2 600.0 THA 179.09 EL1 34.7 EL2 15.1 ALF 46.34

LAUNCH DATE MAY 16 1971 FLIGHT TIME 120.00 ARRIVAL DATE SEP 13 1971

Heliocentric Conic
 RL 151.25 LAL .00 LOL 234.49 VL 33.520 GAL -.19 AZL 91.80 HCA 103.85 SMA 210.22 ECC .28053 INC 1.8013 V1 29.450
 RP 206.70 LAP -1.75 LOP 338.35 VP 25.551 GAP 16.26 AZP 89.57 TAL 359.12 TAP 102.98 RCA 151.25 APO 269.19 V2 26.494
 RC 66.082 GL -14.49 GP -.57 ZAL 96.57 ZAP 164.40 ETS 182.17 ZAE 168.80 ETE 16.17 ZAC 98.79 ETC 276.70 LVI -18.71

Planetocentric Conic
 C3 17.726 VHL 4.210 DLA -24.50 RAL 338.93 RAD 6641.8 VEL 11.737 PTH 6.77 VHP 7.315 DPA -16.22 RAP 325.93 ECC 1.2817
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 59 6 2603.56 -12.53 70.89 195.26 136.28 16 42 30 1603.6 5.83 55.07
 60.00 17 10 10 2414.59 -7.34 58.78 200.17 129.74 17 50 24 1414.6 8.75 40.84
 70.00 18 41 4 2147.30 -2.05 41.09 204.15 124.10 19 16 52 1147.3 11.79 21.40
 80.00 20 30 38 1804.41 2.55 17.93 207.02 119.76 21 0 42 804.4 14.47 336.91
 90.00 22 13 23 1473.03 4.62 354.70 208.17 117.93 22 37 56 473.0 15.69 333.13
 100.00 23 13 30 1278.89 2.55 339.29 207.02 119.76 23 34 49 278.9 14.47 318.28
 110.00 23 40 31 1194.12 -2.05 330.01 204.15 124.10 24 0 25 194.1 11.79 310.32

Differential Corrections
 TDE -.3001 TRA -.7577 TC3 .3124 BAW .0809 SGT 1232.9 SGR 599.0 SG3 237.8 ST 26.6 SR 27.1 SS 15.8
 RDE -.3948 RRA 1.590 RC3 .1379 FAU .05444 RRT -.0265 RRF .0321 RTF -.7212 CRT .6776 CR8 .1205 CST .8063
 FDE .0909 FRA 1.0664 FC3-2.6590 BSP 1929 SGB 1370.7 R23 -.0071 R13 .7213 LSA 35.8 MSA 20.1 SBA 1.4
 BDE .4959 BRA .7742 BC3 .3415 FSP 340 SG1 1233.0 SG2 598.7 THA 179.04 EL1 34.8 EL2 15.2 ALF 45.84

LAUNCH DATE MAY 16 1971 FLIGHT TIME 122.00 ARRIVAL DATE SEP 15 1971

Heliocentric Conic
 RL 151.25 LAL .00 LOL 234.49 VL 33.425 GAL -.13 AZL 91.80 HCA 105.12 SMA 208.11 ECC .27324 INC 1.7973 V1 29.458
 RP 206.72 LAP -1.74 LOP 339.62 VP 25.423 GAP 15.85 AZP 89.53 TAL 359.38 TAP 104.50 RCA 151.25 APO 264.98 V2 26.491
 RC 67.265 GL -14.77 GP -.59 ZAL 96.25 ZAP 163.29 ETS 182.10 ZAE 168.81 ETE 15.33 ZAC 98.74 ETC 278.73 LVI -18.73

Planetocentric Conic
 C3 16.922 VHL 4.114 DLA -24.87 RAL 338.72 RAD 6641.4 VEL 11.703 PTH 6.74 VHP 7.083 DPA -16.18 RAP 326.09 ECC 1.2788
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 0 5 2584.60 -11.60 70.86 194.59 136.47 16 43 9 1584.6 6.77 54.27
 60.00 17 11 51 2393.72 -6.43 57.77 199.49 129.87 17 51 45 1393.7 9.65 39.81
 70.00 18 43 51 2123.22 -1.13 39.83 203.49 124.14 19 19 15 1123.2 12.66 20.08
 80.00 20 35 3 1775.22 3.53 16.32 206.40 119.67 21 4 38 775.2 15.35 355.19
 90.00 22 19 1 1439.92 5.68 352.84 207.58 117.75 22 43 1 439.9 16.59 331.12
 100.00 23 17 55 1249.69 3.53 337.69 206.40 119.67 23 38 44 249.7 15.35 316.56
 110.00 23 43 18 1170.04 -1.13 328.75 203.49 124.14 24 2 48 170.0 12.66 309.00

Differential Corrections
 TDE -.2934 TRA -.7439 TC3 .3362 BAW .0826 SGT 1244.2 SGR 597.3 SG3 253.1 ST 26.7 SR 27.0 SS 16.2
 RDE -.3844 RRA 1.547 RC3 .1428 FAU .05662 RRT -.0269 RRF .0342 RTF -.7169 CRT .6749 CR8 .0971 CST .7947
 FDE .0856 FRA 1.1074 FC3-2.8966 BSP 1937 SGB 1380.2 R23 -.0089 R13 .7270 LSA 35.8 MSA 20.5 SBA 1.4
 BDE .4836 BRA .7599 BC3 .3653 FSP 364 SG1 1244.3 SG2 597.1 THA 179.04 EL1 34.7 EL2 15.3 ALF 45.53

LAUNCH DATE MAY 16 1971 FLIGHT TIME 124.00 ARRIVAL DATE SEP 17 1971

Heliocentric Conic
 RL 151.25 LAL .00 LOL 234.49 VL 33.335 GAL -.08 AZL 91.79 HCA 106.39 SMA 206.18 ECC .26641 INC 1.7934 V1 29.458
 RP 206.75 LAP -1.72 LOP 340.89 VP 25.301 GAP 15.45 AZP 89.49 TAL 359.64 TAP 106.03 RCA 151.25 APO 261.11 V2 26.487
 RC 68.502 GL -15.03 GP -.62 ZAL 95.91 ZAP 162.16 ETS 182.03 ZAE 168.88 ETE 14.57 ZAC 98.70 ETC 278.75 LVI -18.74

Planetocentric Conic
 C3 16.183 VHL 4.023 DLA -25.24 RAL 338.50 RAD 6641.1 VEL 11.672 PTH 6.71 VHP 6.859 DPA -16.16 RAP 326.23 ECC 1.2663
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 1 1 2566.23 -10.89 69.26 193.95 136.84 16 43 48 1566.2 7.69 53.49
 60.00 17 13 31 2373.42 -5.55 56.79 198.85 129.98 17 53 5 1373.4 10.52 38.81
 70.00 18 46 38 2099.63 -.23 38.60 202.86 124.15 19 21 38 1099.6 13.51 18.78
 80.00 20 39 35 1746.16 4.51 14.72 205.81 119.55 21 8 41 746.2 16.20 353.46
 90.00 22 24 54 1406.49 6.73 350.95 207.02 117.53 22 48 20 406.5 17.47 320.07
 100.00 23 22 26 1220.63 4.51 336.09 205.81 119.55 23 42 47 220.6 16.20 314.83
 110.00 23 46 5 1146.45 -.23 327.52 202.86 124.15 24 5 11 146.4 13.51 307.69

Differential Corrections
 TDE -.2848 TRA -.7311 TC3 .3594 BAW .0840 SGT 1254.4 SGR 595.4 SG3 271.0 ST 26.8 SR 26.9 SS 16.5
 RDE -.3743 RRA 1.505 RC3 .1473 FAU .05952 RRT -.0300 RRF .0368 RTF -.7278 CRT .6690 CR8 .0594 CST .7762
 FDE .0739 FRA 1.1475 FC3-3.1842 BSP 2050 SGB 1388.5 R23 -.0086 R13 .7279 LSA 35.6 MSA 20.9 SBA 1.4
 BDE .4703 BRA .7464 BC3 .3884 FSP 407 SG1 1254.5 SG2 595.0 THA 178.95 EL1 34.6 EL2 15.4 ALF 45.41

LAUNCH DATE MAY 16 1971 FLIGHT TIME 126.00 ARRIVAL DATE SEP 19 1971

Heliocentric Conic DISTANCE 324.755 EARTH TO MARS

RL 151.25 LAL .00 LOL 234.49 VL 33.251 GAL -.02 AZL 91.79 HCA 107.66 SMA 204.40 ECC .26002 INC 1.7893 V1 29.458
 RP 206.79 LAP -1.71 LOP 342.16 VP 25.185 GAP 15.06 AZP 89.46 TAL 359.89 TAP 107.55 RCA 151.25 APO 257.54 V2 26.483
 RC 69.791 GL -15.29 GP -.64 ZAL 95.58 ZAP 161.00 ETS 181.98 ZAE 169.03 ETE 15.88 ZAC 98.66 ETC 278.77 LVI -18.75

PLANETOCENTRIC CONIC

C3 15.904 VHL 3.938 DLA -25.61 RAL 338.27 RAD 6640.8 VEL 11.643 PTH 6.68 VHP 6.644 DPA -16.14 RAP 326.35 ECC 1.2552

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	16 1 56	2548.47	-9.81	68.49	193.34	136.79	16 44 24	1548.5	8.58	52.73
60.00	17 15 9	2353.71	-4.69	55.84	198.22	130.07	17 54 23	1353.7	11.37	37.83
70.00	18 49 25	2076.56	.65	37.40	202.26	124.15	19 24 2	1076.6	14.33	17.49
80.00	20 44 13	1717.28	5.48	13.12	205.25	119.40	21 12 50	717.3	17.04	351.72
90.00	22 31 4	1372.65	7.79	349.03	206.51	117.27	22 53 57	372.6	18.35	326.97
100.00	23 27 5	1191.75	5.48	334.49	205.25	119.40	23 46 56	191.7	17.04	313.09
110.00	23 48 51	1123.38	.65	326.32	202.26	124.15	24 7 35	123.4	14.33	306.41

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.3051 TRA -.7247 TC3 .4007 BAU .0888 SGT 1290.0 SGR 592.6 SG3 291.6 ST 28.3 SR 26.7 SS 17.3
 RDE -.3643 RRA .1466 RC3 .1511 FAU .06298 RRT -.0049 RRF .0223 RTF -.7327 CRT .6954 CRS .1242 CST .7941
 FDE .1046 FRA 1.1918 FC3-3.5169 BSP 2132 SGB 1419.6 R23 -.0178 R13 .7328 LSA 37.2 MSA 20.6 SSA 1.5
 BDE .4752 BRA .7394 BC3 .4283 FSP 451 SG1 1290.0 SG2 592.6 THA 179.84 EL1 35.9 EL2 15.2 ALF 42.68

LAUNCH DATE MAY 16 1971 FLIGHT TIME 128.00 ARRIVAL DATE SEP 21 1971

Heliocentric Conic DISTANCE 328.454 EARTH TO MARS

RL 151.25 LAL .00 LOL 234.49 VL 33.171 GAL .03 AZL 91.79 HCA 108.92 SMA 202.75 ECC .25402 INC 1.7852 V1 29.458
 RP 206.84 LAP -1.69 LOP 343.43 VP 25.074 GAP 14.67 AZP 89.42 TAL .15 TAP 109.07 RCA 151.25 APO 254.26 V2 26.477
 RC 71.130 GL -15.54 GP -.86 ZAL 95.24 ZAP 159.82 ETS 181.93 ZAE 169.25 ETE 13.25 ZAC 98.63 ETC 278.79 LVI -18.75

PLANETOCENTRIC CONIC

C3 14.881 VHL 3.858 DLA -25.96 RAL 338.04 RAD 6640.5 VEL 11.616 PTH 6.66 VHP 6.435 DPA -16.14 RAP 326.44 ECC 1.2449

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	16 2 48	2531.34	-8.96	67.76	192.75	136.93	16 44 59	1531.3	9.43	52.00
60.00	17 16 45	2334.64	-3.85	54.92	197.63	130.15	17 55 40	1334.6	12.18	36.88
70.00	18 52 11	2054.04	1.51	36.23	201.68	124.12	19 26 25	1054.0	15.12	16.23
80.00	20 48 58	1688.56	6.44	11.53	204.73	119.22	21 17 6	688.6	17.85	349.98
90.00	22 37 35	1339.27	8.86	347.07	206.04	116.97	22 59 53	338.3	19.20	324.81
100.00	23 31 49	1163.03	6.44	332.89	204.73	119.22	23 51 13	163.0	17.85	311.35
110.00	23 51 38	1100.86	1.51	325.14	201.68	124.12	24 9 59	100.9	15.12	305.15

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2535 TRA -.6731 TC3 .4362 BAU .0921 SGT 1221.2 SGR 590.4 SG3 308.4 ST 25.2 SR 26.6 SS 17.0
 RDE -.3559 RRA .1427 RC3 .1549 FAU .06572 RRT -.0320 RRF .0459 RTF -.7444 CRT .6538 CRS -.0550 CST .7137
 FDE .0311 FRA 1.2167 FC3-3.8235 BSP 1975 SGB 1356.5 R23 -.0148 R13 .7446 LSA 34.0 MSA 21.8 SSA 1.5
 BDE .4366 BRA .6880 BC3 .4629 FSP 449 SG1 1221.4 SG2 590.0 THA 178.84 EL1 33.3 EL2 15.2 ALF 47.50

LAUNCH DATE MAY 16 1971 FLIGHT TIME 130.00 ARRIVAL DATE SEP 23 1971

Heliocentric Conic DISTANCE 332.195 EARTH TO MARS

RL 151.25 LAL .00 LOL 234.49 VL 33.097 GAL .08 AZL 91.78 HCA 110.19 SMA 201.24 ECC .24841 INC 1.7811 V1 29.458
 RP 206.90 LAP -1.67 LOP 344.70 VP 24.968 GAP 14.29 AZP 89.39 TAL .40 TAP 110.59 RCA 151.25 APO 251.23 V2 26.470
 RC 72.517 GL -15.78 GP -.69 ZAL 94.91 ZAP 158.61 ETS 181.88 ZAE 169.54 ETE 12.67 ZAC 98.59 ETC 278.80 LVI -18.74

PLANETOCENTRIC CONIC

C3 14.308 VHL 3.783 DLA -26.31 RAL 337.81 RAD 6640.2 VEL 11.592 PTH 6.63 VHP 6.235 DPA -16.14 RAP 326.51 ECC 1.2355

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	16 3 38	2514.86	-8.14	67.05	192.18	137.04	16 45 33	1514.9	10.25	51.29
60.00	17 18 19	2316.21	-3.04	54.04	197.06	130.21	17 56 56	1316.2	12.97	35.95
70.00	18 54 57	2032.12	2.35	35.08	201.14	124.08	19 28 49	1032.1	15.89	14.99
80.00	20 53 49	1660.02	7.38	9.94	204.24	119.01	21 21 30	660.0	18.65	348.23
90.00	22 44 29	1303.18	9.94	345.05	205.60	116.61	23 6 12	303.2	20.05	322.59
100.00	23 38 41	1134.49	7.38	331.30	204.24	119.01	23 55 36	134.5	18.65	309.60
110.00	23 54 23	1076.94	2.35	324.00	201.14	124.08	24 12 22	78.9	15.89	303.91

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2611 TRA -.6879 TC3 .4891 BAU .0983 SGT 1282.5 SGR 587.1 SG3 335.2 ST 26.4 SR 26.5 SS 17.7
 RDE -.3463 RRA .1392 RC3 .1575 FAU .07042 RRT -.0280 RRF .0407 RTF -.7388 CRT .6552 CRS -.0408 CST .7221
 FDE .0392 FRA 1.2777 FC3-4.2608 BSP 2009 SGB 1410.5 R23 -.0132 R13 .7489 LSA 34.9 MSA 22.2 SSA 1.5
 BDE .4338 BRA .7019 BC3 .5139 FSP 488 SG1 1282.6 SG2 586.8 THA 179.04 EL1 34.0 EL2 15.5 ALF 45.16

LAUNCH DATE MAY 16 1971 FLIGHT TIME 132.00 ARRIVAL DATE SEP 25 1971

Heliocentric Conic DISTANCE 335.974 EARTH TO MARS

RL 151.25 LAL .00 LOL 234.49 VL 33.027 GAL .13 AZL 91.78 HCA 111.46 SMA 199.84 ECC .24316 INC 1.7769 V1 29.458
 RP 206.96 LAP -1.65 LOP 345.96 VP 24.888 GAP 13.93 AZP 89.35 TAL .65 TAP 112.11 RCA 151.25 APO 248.43 V2 26.462
 RC 73.950 GL -16.01 GP -.71 ZAL 94.58 ZAP 157.37 ETS 181.84 ZAE 169.91 ETE 12.15 ZAC 98.56 ETC 278.81 LVI -18.72

PLANETOCENTRIC CONIC

C3 13.781 VHL 3.712 DLA -26.65 RAL 337.58 RAD 6639.9 VEL 11.569 PTH 6.61 VHP 6.041 DPA -16.16 RAP 326.55 ECC 1.2268

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	16 4 27	2499.05	-7.35	66.38	191.65	137.14	16 46 6	1499.0	11.03	50.60
60.00	17 19 51	2298.47	-2.26	53.19	196.52	130.25	17 58 10	1298.5	13.72	35.05
70.00	18 57 41	2010.83	3.16	33.97	200.62	124.03	19 31 12	1010.8	16.62	13.78
80.00	20 58 48	1631.68	8.31	8.35	203.78	118.78	21 26 0	631.7	19.41	346.48
90.00	22 51 51	1267.12	11.03	342.97	205.22	116.21	23 12 58	267.1	20.89	320.27
100.00	23 41 40	1106.15	8.31	329.72	203.78	118.78	24 0 6	106.1	19.41	307.84
110.00	0 1 3	1057.65	3.16	322.88	200.62	124.03	0 18 41	57.6	16.62	302.70

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2491 TRA -.6790 TC3 .4821 BAU .0936 SGT 1284.9 SGR 584.0 SG3 355.0 ST 26.1 SR 26.3 SS 18.3
 RDE -.3378 RRA .1359 RC3 .1605 FAU .07292 RRT -.0426 RRF .0515 RTF -.7442 CRT .6408 CRS -.0995 CST .6940
 FDE .0146 FRA 1.3349 FC3-4.5812 BSP 2053 SGB 1411.4 R23 -.0116 R13 .7444 LSA 34.3 MSA 22.9 SSA 1.5
 BDE .4197 BRA .6925 BC3 .5082 FSP 526 SG1 1285.2 SG2 583.3 THA 178.60 EL1 33.5 EL2 15.7 ALF 45.41

LAUNCH DATE MAY 16 1971

FLIGHT TIME 134.00

ARRIVAL DATE SEP 27 1971

HELIOCENTRIC CONIC
 RL 151.25 LAL .00 LOL 234.49 VL 32.902 GAL .17 AZL 91.77 HCA 112.72 SMA 190.55 ECC .23024 INC 1.7726 V1 29.450
 RP 207.04 LAP -1.64 LOP 347.23 VP 24.771 GAP 13.57 AZP 89.32 TAL .89 TAP 113.61 RCA 151.25 APO 245.85 V2 26.454
 RC 75.426 GL -16.24 GP -.74 ZAL 94.27 ZAP 136.11 ETS 181.80 ZAE 170.36 ETE 11.67 ZAC 98.53 ETC 278.81 LVI -18.60

PLANETOCENTRIC CONIC
 C3 13.296 VHL 3.646 DLA -26.98 RAL 337.35 RAD 6639.7 VEL 11.548 PTH 6.59 VHP 5.855 DPA -16.18 RAP 326.56 ECC 1.2180
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 5 13 2483.91 -6.59 65.74 191.13 137.23 16 46 37 1483.9 11.78 49.94
 60.00 17 21 21 2281.42 -1.51 52.37 196.01 130.28 17 59 22 1281.4 14.43 34.18
 70.00 19 0 23 1990.20 3.94 32.89 200.13 123.95 19 33 33 990.2 17.32 12.60
 80.00 21 3 55 1603.52 9.23 6.76 203.36 118.52 21 30 38 603.5 20.16 344.72
 90.00 22 59 50 1229.69 12.15 340.78 204.88 115.74 23 20 20 229.7 21.72 317.85
 100.00 23 46 46 1077.99 9.23 328.13 203.36 118.52 24 4 44 78.0 20.16 306.08
 110.00 0 3 45 1037.02 3.94 321.80 200.13 123.95 0 21 2 37.0 17.32 301.51

DIFFERENTIAL CORRECTIONS
 TDE -.2452 TRA -.6649 TC3 .5189 BAU .0966
 RDE -.3294 RRA .1326 RC3 .1624 FAU .07700
 FDE .0055 FRA 1.3861 FC3-5.0136 BSP 2091
 BDE .4106 BRA .6780 BC3 .5437 FSP 577

MID-COURSE EXECUTION ACCURACY
 SGT 1290.8 SGR 580.1 SG3 380.0
 RRT -.0400 RRF .0525 RTF -.7490
 SGB 1415.2 R23 -.0150 R13 .7492
 SG1 1291.1 SG2 579.6 THA 178.71

ORBIT DETERMINATION ACCURACY
 ST 26.1 SR 26.1 SS 18.8
 CRT .6412 CR3 -.1203 CST .6785
 LSA 34.2 MSA 25.3 SSA 1.6
 EL1 33.4 EL2 15.6 ALF 45.04

LAUNCH DATE MAY 16 1971

FLIGHT TIME 136.00

ARRIVAL DATE SEP 29 1971

HELIOCENTRIC CONIC
 RL 151.25 LAL .00 LOL 234.49 VL 32.900 GAL .21 AZL 91.77 HCA 113.99 SMA 197.35 ECC .23364 INC 1.7683 V1 29.450
 RP 207.12 LAP -1.62 LOP 348.49 VP 24.679 GAP 13.22 AZP 89.28 TAL 1.13 TAP 115.12 RCA 151.24 APO 243.46 V2 26.444
 RC 76.944 GL -16.45 GP -.77 ZAL 93.95 ZAP 154.81 ETS 181.77 ZAE 170.88 ETE 11.23 ZAC 98.51 ETC 278.80 LVI -18.66

PLANETOCENTRIC CONIC
 C3 12.849 VHL 3.585 DLA -27.29 RAL 337.12 RAD 6639.5 VEL 11.529 PTH 6.58 VHP 5.675 DPA -16.22 RAP 326.53 ECC 1.2115
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 5 57 2469.42 -5.87 65.12 190.64 137.30 16 47 6 1469.4 12.49 49.31
 60.00 17 22 47 2285.03 -.79 51.59 195.52 130.29 18 0 32 1265.0 15.12 33.34
 70.00 19 3 3 1970.20 4.70 31.84 199.67 123.87 19 35 53 970.2 18.00 11.44
 80.00 21 9 9 1575.43 10.14 5.17 202.97 118.23 21 35 25 575.4 20.88 342.94
 90.00 23 8 40 1190.02 13.31 338.45 204.60 115.19 23 28 30 190.0 22.56 315.24
 100.00 23 52 1 1049.91 10.14 326.54 202.97 118.23 24 9 31 49.9 20.88 304.31
 110.00 0 6 25 1017.02 4.70 320.75 199.67 123.87 0 23 22 17.0 18.00 300.36

DIFFERENTIAL CORRECTIONS
 TDE -.2297 TRA -.6449 TC3 .5623 BAU .1006
 RDE -.3213 RRA .1297 RC3 .1639 FAU .08080
 FDE -.0084 FRA 1.4512 FC3-5.4439 BSP 1924
 BDE .3949 BRA .6578 BC3 .5857 FSP 603

MID-COURSE EXECUTION ACCURACY
 SGT 1281.7 SGR 576.1 SG3 405.7
 RRT -.0469 RRF .0581 RTF -.7638
 SGB 1405.2 R23 -.0132 R13 .7640
 SG1 1282.0 SG2 575.3 THA 178.49

ORBIT DETERMINATION ACCURACY
 ST 25.3 SR 25.9 SS 19.4
 CRT .6262 CR3 -.1493 CST .6714
 LSA 33.4 MSA 23.9 SSA 1.5
 EL1 32.7 EL2 15.7 ALF 46.10

LAUNCH DATE MAY 16 1971

FLIGHT TIME 138.00

ARRIVAL DATE OCT 1 1971

HELIOCENTRIC CONIC
 RL 151.25 LAL .00 LOL 234.49 VL 32.843 GAL .25 AZL 91.76 HCA 115.25 SMA 196.25 ECC .22935 INC 1.7638 V1 29.450
 RP 207.21 LAP -1.60 LOP 349.76 VP 24.591 GAP 12.87 AZP 89.25 TAL 1.36 TAP 116.61 RCA 151.24 APO 241.26 V2 26.433
 RC 78.502 GL -16.66 GP -.80 ZAL 93.65 ZAP 153.49 ETS 181.73 ZAE 171.47 ETE 10.83 ZAC 98.49 ETC 278.79 LVI -18.61

PLANETOCENTRIC CONIC
 C3 12.439 VHL 3.527 DLA -27.59 RAL 336.90 RAD 6639.3 VEL 11.511 PTH 6.56 VHP 5.502 DPA -16.27 RAP 326.48 ECC 1.2047
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 6 40 2455.69 -5.18 64.54 190.19 137.36 16 47 35 1455.7 13.16 48.70
 60.00 17 24 11 2249.48 -.10 50.85 195.06 130.30 18 1 41 1249.5 15.77 32.54
 70.00 19 5 40 1951.06 5.43 30.83 199.24 123.77 19 38 11 951.1 18.64 10.32
 80.00 21 14 30 1547.71 11.03 3.60 202.62 117.92 21 40 18 547.7 21.57 341.17
 90.00 23 18 40 1147.32 14.53 335.91 204.38 114.53 23 37 47 147.3 23.40 312.40
 100.00 0 1 18 1022.18 11.03 324.98 202.62 117.92 0 18 20 22.2 21.57 302.54
 110.00 0 9 2 6285.92 5.43 297.65 199.24 123.77 1 53 48 5285.9 18.64 277.15

DIFFERENTIAL CORRECTIONS
 TDE -.2275 TRA -.6383 TC3 .5604 BAU .0971
 RDE -.3135 RRA .1289 RC3 .1647 FAU .08485
 FDE -.0248 FRA 1.5177 FC3-5.9049 BSP 1987
 BDE .3874 BRA .6508 BC3 .5841 FSP 655

MID-COURSE EXECUTION ACCURACY
 SGT 1289.1 SGR 571.8 SG3 432.8
 RRT -.0515 RRF .0641 RTF -.7668
 SGB 1410.3 R23 -.0157 R13 .7570
 SG1 1289.6 SG2 570.9 THA 178.37

ORBIT DETERMINATION ACCURACY
 ST 25.5 SR 25.7 SS 20.1
 CRT .6249 CR3 -.1803 CST .6490
 LSA 33.3 MSA 24.5 SSA 1.6
 EL1 32.6 EL2 15.7 ALF 45.36

LAUNCH DATE MAY 16 1971

FLIGHT TIME 140.00

ARRIVAL DATE OCT 3 1971

HELIOCENTRIC CONIC
 RL 151.25 LAL .00 LOL 234.49 VL 32.789 GAL .29 AZL 91.76 HCA 116.51 SMA 195.23 ECC .22533 INC 1.7593 V1 29.450
 RP 207.31 LAP -1.57 LOP 351.02 VP 24.508 GAP 12.54 AZP 89.21 TAL 1.57 TAP 118.09 RCA 151.24 APO 239.22 V2 26.422
 RC 80.088 GL -16.85 GP -.83 ZAL 93.37 ZAP 152.13 ETS 181.70 ZAE 172.14 ETE 10.47 ZAC 98.47 ETC 278.77 LVI -18.56

PLANETOCENTRIC CONIC
 C3 12.062 VHL 3.473 DLA -27.88 RAL 336.69 RAD 6639.1 VEL 11.495 PTH 6.54 VHP 5.335 DPA -16.33 RAP 326.40 ECC 1.1985
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 7 20 2442.88 -4.53 64.00 189.75 137.41 16 48 5 1442.7 13.80 48.12
 60.00 17 25 32 2234.67 .55 50.14 194.63 130.30 18 2 47 1234.7 16.38 31.78
 70.00 19 8 13 1932.69 6.12 29.86 198.83 123.67 19 40 26 932.7 19.24 9.24
 80.00 21 19 59 1520.14 11.90 2.02 202.30 117.58 21 45 20 520.1 22.24 339.40
 90.00 23 30 44 1098.51 15.89 332.97 204.27 113.71 23 49 3 98.5 24.30 309.10
 100.00 0 6 47 6282.65 11.90 301.29 202.30 117.58 1 51 30 5282.6 22.24 278.67
 110.00 0 11 35 6267.55 6.12 296.69 198.83 123.67 1 56 3 5267.6 19.24 278.07

DIFFERENTIAL CORRECTIONS
 TDE -.2282 TRA -.6266 TC3 .5553 BAU .0934
 RDE -.3059 RRA .1243 RC3 .1648 FAU .08900
 FDE -.0331 FRA 1.5825 FC3-6.3878 BSP 1991
 BDE .3817 BRA .6388 BC3 .5792 FSP 697

MID-COURSE EXECUTION ACCURACY
 SGT 1287.7 SGR 567.1 SG3 460.5
 RRT -.0507 RRF .0677 RTF -.7495
 SGB 1407.0 R23 -.0208 R13 .7498
 SG1 1288.1 SG2 566.2 THA 178.41

ORBIT DETERMINATION ACCURACY
 ST 25.7 SR 25.5 SS 20.7
 CRT .6317 CR3 -.1942 CST .6315
 LSA 33.4 MSA 24.9 SSA 1.6
 EL1 32.7 EL2 15.5 ALF 44.53

LAUNCH DATE MAY 16 1971

FLIGHT TIME 142.00

ARRIVAL DATE OCT 5 1971

HELIOCENTRIC CONIC
 RL 151.25 LAL .00 LOL 234.49 VL 32.739 GAL .32 AZL 91.75 HCA 117.77 SMA 194.29 ECC .22139 INC 1.7547 V1 29.458
 RP 207.42 LAP -1.55 LOP 352.28 VP 24.423 GAP 12.21 AZP 89.18 TAL 1.78 TAP 119.56 RCA 151.24 APO 237.34 V2 26.409
 RC 81.730 GL -17.03 GP -.87 ZAL 93.10 ZAP 130.74 ETS 181.87 ZAE 172.88 ETE 10.14 ZAC 98.46 ETC 278.74 LVI -18.49

PLANETOCENTRIC CONIC
 C3 11.715 VHL 3.423 DLA -28.15 RAL 336.49 RAD 6638.9 VEL 11.480 PTH 6.53 VHP 5.175 DPA -16.41 RAP 326.28 ECC 1.1928
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 7 59 2430.37 -3.91 63.48 189.35 137.45 16 48 29 1430.4 14.40 47.57
 60.00 17 26 50 2220.64 1.17 49.47 194.23 130.29 18 3 50 1220.6 16.96 31.03
 70.00 19 10 42 1915.14 6.78 28.93 198.45 123.55 19 42 38 915.1 19.82 8.20
 80.00 21 25 37 1492.72 12.76 .43 202.01 117.22 21 50 30 492.7 22.88 337.62
 90.00 23 47 55 1033.76 17.62 329.01 204.34 112.49 24 5 9 33.8 25.36 304.66
 100.00 0 12 25 6255.23 12.76 299.71 202.01 117.22 1 56 40 5255.2 22.88 276.89
 110.00 0 14 5 6250.00 6.78 295.76 198.45 123.55 1 58 15 5250.0 19.82 275.03

DIFFERENTIAL CORRECTIONS
 TDE -.2241 TRA -.6152 TC3 .5546 BAU .0906
 RDE -.2986 RRA .1218 RC3 .1642 FAU .09350
 FDE -.0489 FRA 1.6511 FC3-6.9096 BSP 2007
 BDE .3734 BRA .6272 BC3 .5784 FSP 748

MID-COURSE EXECUTION ACCURACY
 SGT 1284.3 SGR 562.1 S63 490.3
 RRT -.0553 RRF .0735 RTF -.7446
 SGB 1401.9 R23 -.0226 R13 .7450
 SG1 1284.7 S62 561.1 THA 178.29

ORBIT DETERMINATION ACCURACY
 ST 25.7 SR 25.2 SS 21.3
 CRT .6300 CRS -.2195 CST .6129
 LSA 33.2 MSA 25.4 S5A 1.6
 EL1 32.5 EL2 15.5 ALF 44.21

LAUNCH DATE MAY 16 1971

FLIGHT TIME 144.00

ARRIVAL DATE OCT 7 1971

HELIOCENTRIC CONIC
 RL 151.25 LAL .00 LOL 234.49 VL 32.692 GAL .35 AZL 91.75 HCA 119.03 SMA 193.42 ECC .21809 INC 1.7500 V1 29.458
 RP 207.54 LAP -1.53 LOP 353.54 VP 24.347 GAP 11.89 AZP 89.15 TAL 1.98 TAP 121.01 RCA 151.23 APO 235.60 V2 26.395
 RC 83.399 GL -17.20 GP -.90 ZAL 92.84 ZAP 149.31 ETS 181.63 ZAE 173.69 ETE 9.86 ZAC 98.45 ETC 278.71 LVI -18.42

PLANETOCENTRIC CONIC
 C3 11.395 VHL 3.376 DLA -28.40 RAL 336.30 RAD 6638.8 VEL 11.466 PTH 6.52 VHP 5.021 DPA -16.50 RAP 326.13 ECC 1.1875
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 8 36 2418.79 -3.33 62.99 188.97 137.49 16 48 55 1418.8 14.97 47.05
 60.00 17 28 4 2207.39 1.75 48.84 193.85 130.27 18 4 51 1207.4 17.50 30.33
 70.00 19 13 7 1898.45 7.41 28.05 198.10 123.44 19 44 45 898.4 20.35 7.21
 80.00 21 31 24 1465.43 13.61 358.85 201.76 116.83 21 55 49 465.4 23.49 335.82
 87.23 23 47 39 1026.33 19.78 329.37 204.60 110.81 24 4 45 26.3 26.61 304.40
 100.00 0 18 11 6227.95 13.61 298.12 201.76 116.83 2 1 59 5227.9 23.49 275.10
 110.00 0 16 29 6233.30 7.41 294.87 198.10 123.44 2 0 22 5233.3 20.35 274.03

DIFFERENTIAL CORRECTIONS
 TDE -.2184 TRA -.6019 TC3 .5484 BAU .0871
 RDE -.2916 RRA .1195 RC3 .1627 FAU .09813
 FDE -.0728 FRA 1.7247 FC3-7.4553 BSP 2008
 BDE .3643 BRA .6137 BC3 .5720 FSP 808

MID-COURSE EXECUTION ACCURACY
 SGT 1274.2 SGR 557.0 S63 521.5
 RRT -.0617 RRF .0821 RTF -.7390
 SGB 1390.7 R23 -.0258 R13 .7395
 SG1 1274.8 S62 555.7 THA 178.09

ORBIT DETERMINATION ACCURACY
 ST 25.4 SR 25.0 SS 22.1
 CRT .6268 CRS -.2553 CST .5867
 LSA 32.8 MSA 26.1 S5A 1.6
 EL1 32.2 EL2 15.4 ALF 44.17

LAUNCH DATE MAY 16 1971

FLIGHT TIME 146.00

ARRIVAL DATE OCT 9 1971

HELIOCENTRIC CONIC
 RL 151.25 LAL .00 LOL 234.49 VL 32.648 GAL .38 AZL 91.75 HCA 120.29 SMA 192.61 ECC .21483 INC 1.7451 V1 29.458
 RP 207.66 LAP -1.51 LOP 354.80 VP 24.272 GAP 11.58 AZP 89.12 TAL 2.17 TAP 122.46 RCA 151.23 APO 233.99 V2 26.381
 RC 85.104 GL -17.36 GP -.94 ZAL 92.61 ZAP 147.85 ETS 181.60 ZAE 174.58 ETE 9.63 ZAC 98.44 ETC 278.67 LVI -18.33

PLANETOCENTRIC CONIC
 C3 11.100 VHL 3.332 DLA -28.64 RAL 336.12 RAD 6638.6 VEL 11.454 PTH 6.50 VHP 4.873 DPA -16.60 RAP 325.95 ECC 1.1827
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 9 11 2407.94 -2.79 62.54 188.61 137.51 16 49 19 1407.9 15.50 46.56
 60.00 17 29 14 2194.96 2.30 48.25 193.50 130.25 18 5 49 1195.0 18.01 29.67
 70.00 19 15 26 1882.66 8.00 27.21 197.78 123.31 19 46 48 882.7 20.86 6.26
 80.00 21 37 20 1438.26 14.44 357.26 201.54 116.42 22 1 18 438.3 24.08 334.02
 85.26 23 30 38 1073.69 20.07 332.96 204.12 110.88 23 48 31 73.7 26.90 307.93
 100.00 0 24 7 6200.77 14.44 296.53 201.54 116.42 2 7 28 5200.8 24.08 273.29
 110.00 0 18 48 6217.52 8.00 294.03 197.78 123.31 2 2 25 5217.5 20.86 273.08

DIFFERENTIAL CORRECTIONS
 TDE -.2137 TRA -.5892 TC3 .5399 BAU .0836
 RDE -.2847 RRA .1175 RC3 .1603 FAU .10330
 FDE -.0870 FRA 1.8088 FC3-8.0564 BSP 1983
 BDE .3572 BRA .6006 BC3 .5632 FSP 863

MID-COURSE EXECUTION ACCURACY
 SGT 1264.9 SGR 551.5 S63 555.9
 RRT -.0656 RRF .0890 RTF -.7332
 SGB 1379.9 R23 -.0297 R13 .7337
 SG1 1265.5 S62 550.0 THA 177.98

ORBIT DETERMINATION ACCURACY
 ST 25.4 SR 24.7 SS 22.9
 CRT .6284 CRS -.2723 CST .5708
 LSA 32.6 MSA 26.6 S5A 1.7
 EL1 32.0 EL2 15.3 ALF 43.80

LAUNCH DATE MAY 16 1971

FLIGHT TIME 148.00

ARRIVAL DATE OCT 11 1971

HELIOCENTRIC CONIC
 RL 151.25 LAL .00 LOL 234.49 VL 32.607 GAL .41 AZL 91.74 HCA 121.55 SMA 191.86 ECC .21180 INC 1.7401 V1 29.458
 RP 207.80 LAP -1.48 LOP 356.05 VP 24.200 GAP 11.27 AZP 89.09 TAL 2.34 TAP 123.89 RCA 151.23 APO 232.50 V2 26.365
 RC 86.843 GL -17.31 GP -.98 ZAL 92.39 ZAP 146.35 ETS 181.57 ZAE 175.54 ETE 9.46 ZAC 98.44 ETC 278.62 LVI -18.23

PLANETOCENTRIC CONIC
 C3 10.829 VHL 3.291 DLA -28.86 RAL 335.96 RAD 6638.5 VEL 11.442 PTH 6.49 VHP 4.732 DPA -16.72 RAP 325.72 ECC 1.1782
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 9 44 2397.82 -2.28 62.12 188.29 137.53 16 49 42 1397.8 15.99 46.10
 60.00 17 30 21 2183.35 2.81 47.69 193.17 130.22 18 6 45 1183.4 18.48 29.05
 70.00 19 17 38 1867.82 8.56 26.42 197.48 123.19 19 48 46 867.8 21.32 5.36
 80.00 21 43 26 1411.14 15.25 355.66 201.36 115.98 22 6 57 411.1 24.65 332.20
 83.98 23 19 32 1102.37 20.34 335.18 203.68 110.93 23 37 54 102.4 27.16 310.09
 100.00 0 30 14 6173.66 15.25 294.93 201.36 115.98 2 13 7 5173.7 27.16 271.48
 110.00 0 21 0 6202.68 8.56 293.24 197.48 123.19 2 4 23 5202.7 21.32 272.18

DIFFERENTIAL CORRECTIONS
 TDE -.2117 TRA -.5735 TC3 .5203 BAU .0787
 RDE -.2781 RRA .1155 RC3 .1572 FAU .10844
 FDE -.1066 FRA 1.8858 FC3-8.8693 BSP 1952
 BDE .3495 BRA .5850 BC3 .5436 FSP 925

MID-COURSE EXECUTION ACCURACY
 SGT 1246.3 SGR 545.8 S63 590.1
 RRT -.0706 RRF .0968 RTF -.7237
 SGB 1360.5 R23 -.0337 R13 .7244
 SG1 1247.0 S62 544.1 THA 177.81

ORBIT DETERMINATION ACCURACY
 ST 25.1 SR 24.5 SS 23.6
 CRT .6298 CRS -.2960 CST .5486
 LSA 32.3 MSA 27.2 S5A 1.7
 EL1 31.7 EL2 15.1 ALF 43.72

LAUNCH DATE MAY 16 1971

FLIGHT TIME 150.00

ARRIVAL DATE OCT 13 1971

Heliocentric Conic: RL 151.25 LAL .00 LOL 234.49 VL 32.568 GAL .43 AZL 91.74 HCA 122.80 SMA 191.18 ECC .20897 INC 1.7350 V1 29.459
 RP 207.94 LAP -1.46 LOP 357.31 VP 24.131 GAP 10.98 AZP 89.06 TAL 2.50 TAP 125.30 RCA 151.23 APO 231.13 V2 26.349
 RC 88.616 GL -17.85 GP -1.02 ZAL 92.19 ZAP 144.82 ETS 181.54 ZAE 176.56 ETE 9.42 ZAC 98.44 ETC 278.56 LVI -18.12

Planetocentric Conic: C3 10.579 VHL 3.253 DLA -29.08 RAL 335.81 RAD 6636.3 VEL 11.431 PTH 6.48 VHP 4.598 DPA -16.85 RAP 325.46 ECC 1.1741
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 10 16 2388.43 -1.01 61.72 187.99 137.55 16 50 4 1388.4 16.44 45.68
 60.00 17 31 24 2172.58 3.28 47.17 192.88 130.19 18 7 37 1172.6 18.91 28.47
 70.00 19 19 43 1853.98 9.07 25.68 197.20 123.07 19 50 37 854.0 21.75 4.51
 80.00 21 49 44 1384.02 16.05 384.04 201.21 115.52 22 12 48 384.0 25.19 330.37
 93.01 23 11 5 1122.93 20.59 336.79 203.26 110.98 23 29 48 122.9 27.41 311.85
 100.00 0 36 32 6146.53 16.05 293.32 201.21 115.52 2 18 58 5146.5 25.19 289.84
 110.00 0 23 6 6188.84 9.07 292.50 197.20 123.07 2 6 14 5188.8 21.75 271.34

Differential Corrections: TDE -.2073 TRA -.5581 TC3 .5011 BAU .0741 SGT 1226.7 SGR 539.8 SG3 627.0 ST 24.9 SR 24.2 SS 24.4
 RDE -.2716 RRA .1138 RC3 .1531 FAU .11401 RRT -.0767 RRF .1062 RTF -.7148 CRT .6304 CRS -.3216 CST .9253
 FDE -.1297 FRA 1.9712 FC-9.3296 B8P 1909 SGB 1340.3 R23 -.0384 R13 .7156 LSA 31.9 MSA 27.8 S8A 1.7
 BDE .3417 BRA .5696 BC3 .5240 F8P 990 SG1 1227.6 SG2 537.9 THA 177.61 EL1 31.3 EL2 14.9 ALF 43.71

LAUNCH DATE MAY 16 1971

FLIGHT TIME 152.00

ARRIVAL DATE OCT 15 1971

Heliocentric Conic: RL 151.25 LAL .00 LOL 234.49 VL 32.533 GAL .45 AZL 91.73 HCA 124.05 SMA 190.54 ECC .20634 INC 1.7298 V1 29.458
 RP 208.08 LAP -1.43 LOP 358.96 VP 24.064 GAP 10.69 AZP 89.03 TAL 2.64 TAP 126.70 RCA 151.22 APO 229.86 V2 26.332
 RC 90.421 GL -17.77 GP -1.06 ZAL 92.02 ZAP 143.25 ETS 181.50 ZAE 177.68 ETE 9.64 ZAC 98.44 ETC 278.50 LVI -18.00

Planetocentric Conic: C3 10.349 VHL 3.217 DLA -29.24 RAL 335.88 RAD 6638.2 VEL 11.421 PTH 6.47 VHP 4.485 DPA -16.99 RAP 325.17 ECC 1.1703
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 10 46 2379.78 -1.37 61.36 187.72 137.56 16 50 28 1379.8 16.86 45.28
 60.00 17 32 23 2162.65 3.72 46.70 192.60 130.16 18 8 25 1162.6 19.31 27.94
 70.00 19 21 41 1841.17 9.55 24.99 196.95 122.95 19 52 22 841.2 22.15 3.73
 80.00 21 56 16 1356.77 16.85 352.41 201.10 115.02 22 18 53 356.8 25.70 328.51
 82.22 23 4 20 1138.58 20.82 338.04 202.88 111.01 23 23 18 138.6 27.63 312.85
 100.00 0 43 4 6119.28 16.85 291.68 201.10 115.02 2 25 3 5119.3 25.70 267.78
 110.00 0 25 3 6176.02 9.55 291.81 196.95 122.95 2 7 59 5176.0 22.15 270.55

Differential Corrections: TDE -.2054 TRA -.5422 TC3 .4721 BAU .0685 SGT 1204.6 SGR 533.6 SG3 666.4 ST 24.7 SR 23.9 SS 25.2
 RDE -.2653 RRA .1122 RC3 .1479 FAU .11993 RRT -.0805 RRF .1154 RTF -.7026 CRT .6361 CRS -.3377 CST .5043
 FDE -.1475 FRA 2.0641 FC-10.0320 B8P 1858 SGB 1317.5 R23 -.0453 R13 .7036 LSA 31.7 MSA 28.4 S8A 1.7
 BDE .3355 BRA .5537 BC3 .4947 F8P 1058 SG1 1205.5 SG2 531.5 THA 177.46 EL1 31.1 EL2 14.6 ALF 43.45

LAUNCH DATE MAY 16 1971

FLIGHT TIME 154.00

ARRIVAL DATE OCT 17 1971

Heliocentric Conic: RL 151.25 LAL .00 LOL 234.49 VL 32.500 GAL .47 AZL 91.72 HCA 125.31 SMA 189.95 ECC .20390 INC 1.7245 V1 29.458
 RP 208.24 LAP -1.41 LOP 359.81 VP 23.999 GAP 10.40 AZP 89.00 TAL 2.77 TAP 128.08 RCA 151.22 APO 228.68 V2 26.313
 RC 92.259 GL -17.89 GP -1.11 ZAL 91.86 ZAP 141.64 ETS 181.47 ZAE 178.83 ETE 10.96 ZAC 98.45 ETC 278.43 LVI -17.86

Planetocentric Conic: C3 10.138 VHL 3.184 DLA -29.41 RAL 335.57 RAD 6638.1 VEL 11.412 PTH 6.46 VHP 4.341 DPA -17.15 RAP 324.83 ECC 1.1668
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 11 14 2371.81 -.97 61.03 187.47 137.57 16 50 46 1371.8 17.25 44.91
 60.00 17 33 17 2153.51 4.12 46.26 192.35 130.13 18 9 11 1153.5 19.68 27.44
 70.00 19 23 30 1829.34 9.98 24.35 196.72 122.83 19 53 59 829.3 22.51 3.00
 80.00 22 3 9 1328.96 17.64 350.72 201.02 114.49 22 25 10 329.0 26.20 326.60
 81.57 22 58 48 1150.83 21.03 339.04 202.53 111.04 23 17 57 150.8 27.83 313.80
 100.00 0 49 57 6091.47 17.64 290.00 201.02 114.49 2 31 28 5091.5 26.20 265.87
 110.00 0 26 52 6164.20 9.98 291.18 196.72 122.83 2 9 36 5164.2 22.51 289.82

Differential Corrections: TDE -.1935 TRA -.5149 TC3 .4650 BAU .0659 SGT 1157.7 SGR 527.3 SG3 706.1 ST 23.6 SR 23.6 SS 25.9
 RDE -.2592 RRA .1106 RC3 .1417 FAU .12628 RRT -.0883 RRF .1257 RTF -.5.98 CRT .6312 CRS -.3711 CST .4788
 FDE -.1801 FRA 2.1395 FC-10.7844 B8P 1685 SGB 1272.2 R23 -.0481 R13 .7011 LSA 30.6 MSA 29.1 S8A 1.7
 BDE .3235 BRA .5267 BC3 .4861 F8P 1117 SG1 1158.9 SG2 524.7 THA 177.10 EL1 30.1 EL2 14.3 ALF 44.91

LAUNCH DATE MAY 16 1971

FLIGHT TIME 156.00

ARRIVAL DATE OCT 19 1971

Heliocentric Conic: RL 151.25 LAL .00 LOL 234.49 VL 32.469 GAL .48 AZL 91.72 HCA 126.56 SMA 189.41 ECC .20164 INC 1.7189 V1 29.458
 RP 208.41 LAP -1.38 LOP 1.06 VP 23.936 GAP 10.13 AZP 88.98 TAL 2.88 TAP 129.44 RCA 151.22 APO 227.60 V2 26.294
 RC 94.128 GL -17.99 GP -1.16 ZAL 91.74 ZAP 139.99 ETS 181.43 ZAE 179.91 ETE 143.98 ZAC 98.46 ETC 278.35 LVI -17.72

Planetocentric Conic: C3 9.944 VHL 3.153 DLA -29.55 RAL 335.48 RAD 6638.0 VEL 11.404 PTH 6.46 VHP 4.222 DPA -17.32 RAP 324.45 ECC 1.1636
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 11 41 2364.66 -.61 60.73 187.25 137.57 16 51 5 1364.7 17.59 44.58
 60.00 17 34 7 2145.34 4.48 45.87 192.14 130.09 18 9 52 1145.3 20.00 27.00
 70.00 19 25 8 1818.78 10.37 23.78 196.52 122.72 19 55 27 818.8 22.82 2.35
 80.00 22 10 18 1300.95 18.42 349.01 200.99 113.92 22 31 59 300.9 26.68 324.65
 81.05 22 54 20 1180.09 21.25 339.80 202.22 111.06 23 13 40 160.1 28.01 314.52
 100.00 0 57 6 6063.46 18.42 288.29 200.99 113.92 2 38 9 5063.5 26.68 263.92
 110.00 0 28 30 6153.64 10.37 290.61 196.52 122.72 2 11 4 5153.6 22.82 269.17

Differential Corrections: TDE -.1994 TRA -.5081 TC3 .3824 BAU .0539 SGT 1143.1 SGR 520.7 SG3 747.6 ST 24.1 SR 23.3 SS 26.8
 RDE -.2532 RRA .1095 RC3 .1351 FAU .13211 RRT -.0917 RRF .1374 RTF -.6667 CRT .6471 CRS -.3762 CST .4553
 FDE -.1925 FRA 2.2520 FC-11.5018 B8P 1712 SGB 1256.2 R23 -.0607 R13 .6684 LSA 31.1 MSA 29.5 S8A 1.7
 BDE .3223 BRA .5178 BC3 .4056 F8P 1200 SG1 1144.4 SG2 518.0 THA 176.99 EL1 30.4 EL2 14.1 ALF 43.46

LAUNCH DATE MAY 16 1971 FLIGHT TIME 158.00 ARRIVAL DATE OCT 21 1971

Heliocentric Conic: RL 151.25 LAL .00 LOL 234.49 VL 32.441 GAL .50 AZL 91.71 HCA 127.00 SMA 188.91 ECC .19954 INC 1.7132 V1 29.458
 RP 208.58 LAP -1.35 LOP 2.31 VP 23.876 GAP 9.86 AZP 88.95 TAL 2.98 TAP 130.78 RCA 131.22 APO 226.61 V2 26.274
 RC 96.027 GL -18.08 GP -1.20 ZAL 91.84 ZAP 138.31 ETS 181.39 ZAE 178.63 ETE 184.66 ZAC 98.48 ETC 278.26 LVI -17.98

Planetocentric Conic: C3 9.765 VHL 3.125 DLA -29.67 RAL 335.41 RAD 6637.9 VEL 11.396 PTH 6.45 VHP 4.109 DPA -17.51 RAP 324.04 ECC 1.1807
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 12 6 2358.21 -.29 60.46 187.06 137.58 16 51 24 1358.2 17.90 44.28
 60.00 17 34 52 2137.99 4.80 45.51 191.94 130.06 18 10 30 1138.0 20.30 26.59
 70.00 19 26 36 1809.30 10.72 23.27 196.33 122.62 19 56 46 809.3 23.11 1.76
 80.00 22 18 7 1271.38 19.23 347.19 201.00 113.29 22 39 19 271.4 27.15 322.58
 80.82 22 50 43 1167.16 21.40 340.40 201.94 111.06 23 10 10 167.2 28.17 315.07
 100.00 1 4 55 6033.89 19.23 286.46 201.00 113.29 2 45 29 5033.9 27.15 261.85
 110.00 0 29 59 6144.16 10.72 290.09 196.33 122.62 2 12 23 5144.2 23.11 268.58

Differential Corrections: TDE -.2007 TRA -.4891 TC3 .3191 BAU .0448 SGT 1113.7 SGR 513.9 SG3 791.0 ST 24.1 SR 22.9 SS 27.6
 RDE -.2472 RRA .1085 RC3 .1272 FAU .13855 RRT -.0935 RRF .1484 RTF -.6400 CRT .6602 CRS -.3818 CST .4342
 FDE -.2051 FRA 2.3572 FC-12.2840 BSP 1638 SGB 1226.6 R23 -.0729 R13 .6421 LSA 31.2 MSA 29.8 SSA 1.7
 BDE .3184 BRA .5009 BC3 .3435 FSP 1273 SG1 1115.0 SG2 511.1 THA 176.87 EL1 30.3 EL2 13.7 ALF 42.92

LAUNCH DATE MAY 16 1971 FLIGHT TIME 160.00 ARRIVAL DATE OCT 23 1971

Heliocentric Conic: RL 151.25 LAL .00 LOL 234.49 VL 32.414 GAL .51 AZL 91.71 HCA 129.05 SMA 188.45 ECC .19760 INC 1.7074 V1 29.458
 RP 208.76 LAP -1.33 LOP 3.56 VP 23.817 GAP 9.59 AZP 88.92 TAL 3.06 TAP 132.11 RCA 151.21 APO 225.69 V2 26.254
 RC 97.955 GL -18.16 GP -1.26 ZAL 91.55 ZAP 136.59 ETS 181.35 ZAE 177.25 ETE 185.76 ZAC 98.49 ETC 278.16 LVI -17.38

Planetocentric Conic: C3 9.600 VHL 3.098 DLA -29.78 RAL 335.36 RAD 6637.8 VEL 11.389 PTH 6.44 VHP 4.001 DPA -17.72 RAP 323.58 ECC 1.1580
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 12 29 2352.43 .00 60.22 186.89 137.58 16 51 41 1352.4 18.10 44.01
 60.00 17 35 33 2131.44 5.09 45.20 191.77 130.05 18 11 4 1131.4 20.56 26.23
 70.00 19 27 54 1800.91 11.03 22.81 196.17 122.53 19 57 55 800.9 23.36 1.23
 80.00 22 27 24 1237.68 20.12 345.08 201.08 112.54 22 48 2 237.7 27.64 320.19
 80.27 22 47 47 1172.54 21.55 340.86 201.69 111.06 23 7 20 172.5 28.31 315.50
 100.00 1 14 12 6000.19 20.12 284.36 201.08 112.54 2 54 12 5000.2 27.64 259.47
 110.00 0 31 17 6135.77 11.03 289.64 196.17 122.53 2 13 32 5135.8 23.36 268.05

Differential Corrections: TDE -.1907 TRA -.4621 TC3 .2840 BAU .0395 SGT 1060.4 SGR 507.3 SG3 837.7 ST 23.0 SR 22.6 SS 28.5
 RDE -.2416 RRA .1074 RC3 .1178 FAU .14589 RRT -.1021 RRF .1634 RTF -.8246 CRT .6602 CRS -.4146 CST .4016
 FDE -.2448 FRA 2.4541 FC-13.1562 BSP 1446 SGB 1175.5 R23 -.0814 R13 .6273 LSA 31.4 MSA 29.4 SSA 1.7
 BDE .3078 BRA .4744 BC3 .3074 FSP 1341 SG1 1062.0 SG2 503.8 THA 176.39 EL1 29.4 EL2 13.3 ALF 44.24

LAUNCH DATE MAY 16 1971 FLIGHT TIME 162.00 ARRIVAL DATE OCT 25 1971

Heliocentric Conic: RL 151.25 LAL .00 LOL 234.49 VL 32.390 GAL .51 AZL 91.70 HCA 130.29 SMA 188.03 ECC .19582 INC 1.7012 V1 29.458
 RP 208.94 LAP -1.30 LOP 4.80 VP 23.760 GAP 9.33 AZP 88.90 TAL 3.12 TAP 133.41 RCA 151.21 APO 224.85 V2 26.232
 RC 99.910 GL -18.23 GP -1.31 ZAL 91.51 ZAP 134.83 ETS 181.31 ZAE 175.82 ETE 186.01 ZAC 98.51 ETC 278.06 LVI -17.19

Planetocentric Conic: C3 9.450 VHL 3.074 DLA -29.86 RAL 335.34 RAD 6637.8 VEL 11.382 PTH 6.43 VHP 3.898 DPA -17.93 RAP 323.08 ECC 1.1555
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 12 51 2347.45 .25 60.01 186.75 137.58 16 51 59 1347.5 18.42 43.78
 60.00 17 36 9 2125.86 5.33 44.93 191.82 130.01 18 11 34 1125.9 20.78 25.93
 70.00 19 29 0 1793.85 11.29 22.43 196.03 122.45 19 58 54 793.8 23.56 .79
 80.00 22 45 39 1175.97 21.68 341.17 201.48 111.05 23 5 15 176.0 28.42 315.77
 80.00 22 45 39 1175.97 21.68 341.17 201.48 111.05 23 5 15 176.0 28.42 315.77
 80.00 22 45 39 1175.97 21.68 341.17 201.48 111.05 23 5 15 176.0 28.42 315.77
 110.00 0 32 22 6120.73 11.29 289.26 196.03 122.45 2 14 31 5128.7 23.56 267.61

Differential Corrections: TDE -.1991 TRA -.4506 TC3 .1639 BAU .0249 SGT 1042.0 SGR 500.3 SG3 881.0 ST 23.8 SR 22.2 SS 29.4
 RDE -.2358 RRA .1068 RC3 .1089 FAU .15170 RRT -.1008 RRF .1775 RTF -.5.02 CRT .6825 CRS -.4103 CST .3782
 FDE -.2499 FRA 2.5804 FC-13.8970 BSP 1443 SGB 1155.8 R23 -.1037 R13 .5736 LSA 32.1 MSA 29.7 SSA 1.7
 BDE .3086 BRA .4631 BC3 .1967 FSP 1436 SG1 1043.5 SG2 497.0 THA 176.42 EL1 29.7 EL2 12.9 ALF 42.58

LAUNCH DATE MAY 16 1971 FLIGHT TIME 164.00 ARRIVAL DATE OCT 27 1971

Heliocentric Conic: RL 151.25 LAL .00 LOL 234.49 VL 32.387 GAL .52 AZL 91.70 HCA 131.53 SMA 187.65 ECC .19417 INC 1.6949 V1 29.458
 RP 209.14 LAP -1.27 LOP 6.04 VP 23.705 GAP 9.08 AZP 88.88 TAL 3.17 TAP 134.70 RCA 151.21 APO 224.08 V2 26.209
 RC 101.892 GL -18.28 GP -1.37 ZAL 91.48 ZAP 133.03 ETS 181.27 ZAE 174.32 ETE 186.04 ZAC 98.53 ETC 277.94 LVI -16.99

Planetocentric Conic: C3 9.312 VHL 3.052 DLA -29.92 RAL 335.34 RAD 6637.7 VEL 11.376 PTH 6.43 VHP 3.801 DPA -18.16 RAP 322.55 ECC 1.1532
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 13 11 2343.12 .47 59.83 186.64 137.57 16 52 14 1343.1 18.62 43.58
 60.00 17 36 39 2121.06 5.54 44.70 191.50 129.98 18 12 0 1121.1 20.96 25.68
 70.00 19 29 54 1787.94 11.50 22.11 195.91 122.38 19 59 42 787.9 23.74 .41
 79.80 22 44 8 1177.88 21.80 341.36 201.30 111.02 23 3 46 177.9 28.51 315.93
 79.80 22 44 8 1177.88 21.80 341.36 201.30 111.02 23 3 46 177.9 28.51 315.93
 79.80 22 44 8 1177.88 21.80 341.36 201.30 111.02 23 3 46 177.9 28.51 315.93
 110.00 0 33 16 6122.79 11.50 288.93 195.91 122.38 2 15 19 5122.8 23.74 267.24

Differential Corrections: TDE -.1975 TRA -.4266 TC3 .0894 BAU .0165 SGT 997.3 SGR 493.2 SG3 930.3 ST 23.1 SR 21.9 SS 30.2
 RDE -.2302 RRA .1061 RC3 .0976 FAU .15922 RRT -.0997 RRF .1918 RTF -.5312 CRT .6964 CRS -.4158 CST .3544
 FDE -.2644 FRA 2.6948 FC-14.8028 BSP 1289 SGB 1112.6 R23 -.1226 R13 .5354 LSA 32.6 MSA 29.3 SSA 1.7
 BDE .3033 BRA .4396 BC3 .1324 FSP 1517 SG1 998.9 SG2 489.9 THA 176.28 EL1 29.3 EL2 12.4 ALF 42.69

LAUNCH DATE MAY 16 1971

FLIGHT TIME 182.00

ARRIVAL DATE NOV 14 1971

Heliocentric Conic: RL 151.25 LAL .00 LOL 234.49 VL 32.237 GAL .44 AZL 91.62 MCA 142.58 SMA 185.44 ECC .18493 INC 1.6248 V1 29.450
 RP 211.20 LAP -.99 LOP 17.09 VP 23.282 GAP 7.09 AZP 88.71 TAL 2.60 TAP 143.38 RCA 151.22 APO 219.66 V2 25.972
 RC 120.836 GL -18.26 GP -2.01 ZAL 92.45 ZAP 115.44 ETS 180.73 ZAE 158.41 ETE 185.03 ZAC 98.74 ETC 276.54 LVI -14.52

Planetary Conic: C3 8.512 VHL 2.918 DLA -29.52 RAL 336.36 RAD 6637.3 VEL 11.341 PTH 6.39 VHP 3.150 DPA -20.74 RAP 316.14 ECC 1.1401
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 15 2 2335.11 .07 59.50 186.73 137.57 16 53 57 1335.1 19.01 43.20
 60.00 17 37 24 2115.97 5.76 44.45 191.42 129.96 18 12 40 1116.0 21.16 25.38
 70.00 19 28 16 1789.86 11.43 22.21 195.61 122.40 19 58 6 789.9 23.68 .54
 80.00 22 12 20 1275.52 19.12 347.44 199.82 113.38 22 33 36 275.5 27.08 322.87
 81.14 22 58 32 1127.68 21.93 337.69 201.03 110.28 23 17 20 127.7 28.32 312.17
 100.00 0 59 8 6038.03 19.12 286.72 199.82 113.38 2 39 46 5038.0 27.08 262.14
 110.00 0 31 39 6124.71 11.43 289.04 195.61 122.40 2 13 43 5124.7 23.68 267.36

Differential Corrections: TDE -.2233 TRA -.1842 TC3-1.3110 BAU .1493 SGT 975.2 SGR 431.3 S63 1368.9 ST 22.8 SR 18.2 S8 37.2
 RDE -.1814 RRA .1073 RC3 -.0363 FAU .22182 RRT .1707 RRF .3830 RTF .4323 CRT .8668 CRS -.4039 CST .0500
 FDE -.2991 FRA 3.8970 FC-22.5613 BSP 437 SGB 1066.3 R23 .2962 R13 .4446 LSA 38.1 MSA 27.9 S8A 1.6
 BDE .2877 BRA .2131 BC3 1.3123 F8P 2322 SG1 978.6 S62 423.5 THA 5.32 EL1 28.4 EL2 6.8 ALF 37.78

Orbit Determination Accuracy: ST 22.8 SR 18.2 S8 37.2 CRT .8668 CRS -.4039 CST .0500 LSA 38.1 MSA 27.9 S8A 1.6 EL1 28.4 EL2 6.8 ALF 37.78

LAUNCH DATE MAY 16 1971

FLIGHT TIME 184.00

ARRIVAL DATE NOV 16 1971

Heliocentric Conic: RL 151.25 LAL .00 LOL 234.49 VL 32.229 GAL .41 AZL 91.62 MCA 143.80 SMA 185.31 ECC .18394 INC 1.6150 V1 29.458
 RP 211.48 LAP -.95 LOP 18.30 VP 23.217 GAP 6.84 AZP 88.70 TAL 2.67 TAP 146.47 RCA 151.22 APO 219.40 V2 25.942
 RC 123.058 GL -18.20 GP -2.09 ZAL 92.69 ZAP 113.37 ETS 180.66 ZAE 156.43 ETE 184.91 ZAC 98.75 ETC 276.35 LVI -14.18

Planetary Conic: C3 8.462 VHL 2.909 DLA -29.37 RAL 336.59 RAD 6637.2 VEL 11.339 PTH 6.39 VHP 3.102 DPA -21.06 RAP 315.29 ECC 1.1393
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 15 5 2337.50 .75 59.60 186.86 137.57 16 54 3 1337.5 18.89 43.31
 60.00 17 37 3 2119.44 5.61 44.62 191.52 129.97 18 12 23 1119.4 21.03 25.57
 70.00 19 27 4 1795.83 11.21 22.54 195.66 122.47 19 57 0 795.8 23.50 .91
 80.00 22 5 34 1299.10 18.47 348.90 199.68 113.88 22 27 13 299.1 26.71 324.52
 81.71 23 3 51 1112.41 21.85 336.52 201.14 110.13 23 22 23 112.4 28.19 311.02
 100.00 0 52 22 6061.61 18.47 288.17 199.68 113.88 2 33 23 5061.6 26.71 263.79
 110.00 0 30 26 6130.70 11.21 289.36 195.66 122.47 2 12 37 5130.7 23.50 267.74

Differential Corrections: TDE -.2269 TRA -.1489 TC3-1.5253 BAU .1727 SGT 1049.0 SGR 425.0 S63 1410.1 ST 22.9 SR 17.7 S8 37.7
 RDE -.1759 RRA .1080 RC3 -.0541 FAU .22747 RRT .2258 RRF .4086 RTF .5373 CRT .9074 CRS -.3905 CST .0164
 FDE -.2766 FRA 4.0242 FC-23.2727 BSP 660 SGB 1131.8 R23 .2720 R13 .5492 LSA 38.5 MSA 27.8 S8A 1.6
 BDE .2871 BRA .1839 BC3 1.5262 F8P 2394 SG1 1054.2 S62 412.0 THA 6.17 EL1 28.4 EL2 6.0 ALF 36.94

Orbit Determination Accuracy: ST 22.9 SR 17.7 S8 37.7 CRT .9074 CRS -.3905 CST .0164 LSA 38.5 MSA 27.8 S8A 1.6 EL1 28.4 EL2 6.0 ALF 36.94

LAUNCH DATE MAY 16 1971

FLIGHT TIME 186.00

ARRIVAL DATE NOV 18 1971

Heliocentric Conic: RL 151.25 LAL .00 LOL 234.49 VL 32.222 GAL .39 AZL 91.60 MCA 145.01 SMA 185.20 ECC .18342 INC 1.6046 V1 29.458
 RP 211.73 LAP -.92 LOP 19.51 VP 23.173 GAP 6.64 AZP 88.69 TAL 2.53 TAP 147.54 RCA 151.23 APO 219.16 V2 25.911
 RC 125.302 GL -18.12 GP -2.18 ZAL 92.96 ZAP 111.29 ETS 180.58 ZAE 154.43 ETE 184.80 ZAC 98.76 ETC 276.16 LVI -13.82

Planetary Conic: C3 8.418 VHL 2.901 DLA -29.20 RAL 336.83 RAD 6637.2 VEL 11.337 PTH 6.39 VHP 3.057 DPA -21.39 RAP 314.42 ECC 1.1385
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 15 6 2340.51 .60 59.72 187.00 137.57 16 54 7 1340.5 18.75 43.45
 60.00 17 36 37 2123.68 5.43 44.82 191.63 130.00 18 12 1 1123.7 20.86 25.81
 70.00 19 25 41 1802.87 10.96 22.92 195.73 122.55 19 55 44 802.9 23.30 1.35
 80.00 21 59 8 1322.06 17.83 350.30 199.57 114.35 22 21 10 322.1 26.32 326.12
 82.40 23 10 17 1093.90 21.75 335.12 201.27 109.98 23 28 31 93.9 28.03 309.63
 100.00 0 45 56 6084.57 17.83 289.50 199.57 114.35 2 27 21 5084.6 26.32 265.39
 110.00 0 29 3 6137.73 10.96 289.74 195.73 122.55 2 11 21 5137.7 23.30 268.18

Differential Corrections: TDE -.2291 TRA -.1123 TC3-1.7418 BAU .1982 SGT 1136.2 SGR 419.4 S63 1454.7 ST 23.0 SR 17.2 S8 38.3
 RDE -.1705 RRA .1089 RC3 -.0736 FAU .23378 RRT .2789 RRF .4374 RTF .5444 CRT .9259 CRS -.3839 CST -.0243
 FDE -.2629 FRA 4.1604 FC-24.0421 BSP 909 SGB 1211.1 R23 .2482 R13 .6351 LSA 39.1 MSA 27.6 S8A 1.6
 BDE .2856 BRA .1564 BC3 1.7433 F8P 2466 SG1 1143.0 S62 400.3 THA 6.70 EL1 28.2 EL2 5.3 ALF 36.24

Orbit Determination Accuracy: ST 23.0 SR 17.2 S8 38.3 CRT .9259 CRS -.3839 CST -.0243 LSA 39.1 MSA 27.6 S8A 1.6 EL1 28.2 EL2 5.3 ALF 36.24

LAUNCH DATE MAY 16 1971

FLIGHT TIME 188.00

ARRIVAL DATE NOV 20 1971

Heliocentric Conic: RL 151.25 LAL .00 LOL 234.49 VL 32.217 GAL .37 AZL 91.59 MCA 146.22 SMA 185.10 ECC .18297 INC 1.5935 V1 29.458
 RP 212.01 LAP -.89 LOP 20.72 VP 23.130 GAP 6.45 AZP 88.68 TAL 2.37 TAP 148.59 RCA 151.23 APO 218.97 V2 25.880
 RC 127.566 GL -18.03 GP -2.28 ZAL 93.24 ZAP 109.21 ETS 180.49 ZAE 152.41 ETE 184.68 ZAC 98.76 ETC 275.96 LVI -13.46

Planetary Conic: C3 8.380 VHL 2.895 DLA -29.01 RAL 337.10 RAD 6637.2 VEL 11.335 PTH 6.39 VHP 3.017 DPA -21.72 RAP 313.54 ECC 1.1379
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 15 5 2344.14 .42 59.87 187.16 137.57 16 54 9 1344.1 18.58 43.62
 60.00 17 36 5 2128.86 5.21 45.06 191.76 130.02 18 11 34 1128.7 20.67 26.08
 70.00 19 24 8 1810.88 10.66 23.35 195.80 122.64 19 54 19 810.9 23.08 1.85
 80.00 21 52 57 1344.68 17.19 351.68 199.49 114.79 22 15 22 344.7 25.93 327.68
 83.25 23 18 11 1071.06 21.63 333.39 201.42 109.81 23 36 2 71.1 27.86 307.91
 100.00 0 39 45 6107.19 17.19 290.95 199.49 114.79 2 21 32 5107.2 25.93 266.95
 110.00 0 27 30 6145.74 10.66 290.18 195.80 122.64 2 9 56 5145.7 23.06 268.68

Differential Corrections: TDE -.2288 TRA -.0724 TC3-1.9611 BAU .2200 SGT 1233.3 SGR 414.3 S63 1495.1 ST 22.8 SR 16.8 S8 38.8
 RDE -.1654 RRA .1096 RC3 -.0938 FAU .23982 RRT .3313 RRF .4674 RTF .7002 CRT .9432 CRS -.3902 CST -.0826
 FDE -.2680 FRA 4.2707 FC-24.7741 BSP 1201 SGB 1301.0 R23 .2223 R13 .7093 LSA 39.7 MSA 27.0 S8A 1.5
 BDE .2823 BRA .1314 BC3 1.9633 F8P 2519 SG1 1241.8 S62 388.2 THA 7.04 EL1 28.0 EL2 4.6 ALF 35.82

Orbit Determination Accuracy: ST 22.8 SR 16.8 S8 38.8 CRT .9432 CRS -.3902 CST -.0826 LSA 39.7 MSA 27.0 S8A 1.5 EL1 28.0 EL2 4.6 ALF 35.82

LAUNCH DATE MAY 16 1971 FLIGHT TIME 190.00 ARRIVAL DATE NOV 22 1971

HELIOCENTRIC CONIC DISTANCE 453.897 EARTH TO MARS

RL 151.25 LAL .00 LOL 234.49 VL 32.212 GAL .34 AZL 91.96 HCA 147.42 SMA 185.02 ECC .18259 INC 1.9818 V1 29.488
 RP 212.29 LAP -.85 LOP 21.93 VP 23.087 GAP 6.26 AZP 88.67 TAL 2.19 TAP 149.61 RCA 151.23 APO 218.80 V2 25.848
 RC 129.850 GL -17.93 GP -2.38 ZAL 93.56 ZAP 107.13 ETS 180.40 ZAE 150.37 ETE 184.57 ZAC 98.76 ETC 275.76 LVI -13.09

PLANETOCENTRIC CONIC

C3 8.348 VHL 2.889 DLA -28.79 RAL 337.38 RAD 6637.2 VEL 11.334 PTH 6.39 VHP 2.981 DPA -22.05 RAP 312.66 ECC 1.1374
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 15 2 2348.43 .20 60.05 187.35 137.58 16 54 10 1348.4 18.37 43.82
 60.00 17 35 28 2134.44 4.95 45.34 191.91 130.05 18 11 3 1134.4 20.44 26.40
 70.00 19 22 24 1819.95 10.33 23.85 195.90 122.74 19 52 44 820.0 22.79 2.42
 80.00 21 46 53 1367.39 16.54 353.05 199.43 115.22 22 9 41 367.4 25.51 329.24
 84.36 23 28 16 1041.52 21.49 331.16 201.59 109.63 23 45 37 41.5 27.66 305.71
 100.00 0 33 41 6129.90 16.54 292.32 199.43 115.22 2 15 51 5129.9 25.51 268.51
 110.00 0 25 46 6154.81 10.33 290.67 195.90 122.74 2 8 21 5154.8 22.79 269.24

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2344 TRA -.0362 TC3-2.2138 BAU .2474 SGT 1363.6 SGR 409.1 SG3 1532.5 ST 23.4 SR 16.2 SS 39.5
 RDE -.1593 RRA .1112 RC3 -.1127 FAU .24402 RRT .3757 RRF .4968 RTF .7473 CRT .9562 CRS -.3580 CST -.0924
 FDE -.2056 FRA 4.4328 FC-25.3052 BSP 1435 SGB 1423.7 R23 .2079 R13 .7547 LSA 40.3 MSA 27.3 SSA 1.5
 BDE .2835 BRA .1169 BC3 2.2167 FSP 2623 SG1 1373.0 SG2 376.6 THA 6.96 EL1 28.2 EL2 3.9 ALF 34.39

LAUNCH DATE MAY 16 1971 FLIGHT TIME 192.00 ARRIVAL DATE NOV 24 1971

HELIOCENTRIC CONIC DISTANCE 458.084 EARTH TO MARS

RL 151.25 LAL .00 LOL 234.49 VL 32.208 GAL .31 AZL 91.57 HCA 148.62 SMA 184.95 ECC .18228 INC 1.5695 V1 29.458
 RP 212.57 LAP -.82 LOP 23.13 VP 23.045 GAP 6.07 AZP 88.66 TAL 2.00 TAP 150.63 RCA 151.24 APO 218.66 V2 25.815
 RC 132.153 GL -17.81 GP -2.48 ZAL 93.90 ZAP 105.04 ETS 180.31 ZAE 148.31 ETE 184.47 ZAC 98.74 ETC 275.56 LVI -12.71

PLANETOCENTRIC CONIC

C3 8.322 VHL 2.885 DLA -28.55 RAL 337.68 RAD 6637.2 VEL 11.333 PTH 6.39 VHP 2.949 DPA -22.38 RAP 311.77 ECC 1.1370
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 14 56 2353.33 -.04 60.26 187.54 137.58 16 54 9 1353.3 18.14 44.05
 60.00 17 34 46 2140.95 4.67 45.66 192.07 130.08 18 10 27 1141.0 20.18 26.76
 70.00 19 20 31 1829.93 9.96 24.38 196.01 122.84 19 51 1 829.9 22.49 3.04
 80.00 21 40 59 1390.02 15.88 354.40 199.40 115.62 22 4 9 390.0 25.07 330.78
 85.89 23 42 5 1000.12 21.34 328.06 201.79 109.44 23 58 46 .1 27.43 302.83
 100.00 0 27 47 6152.53 15.88 293.68 199.40 115.62 2 10 19 5152.5 25.07 270.05
 110.00 0 23 53 6164.79 9.96 291.21 196.01 122.84 2 6 38 5164.8 22.49 269.86

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2360 TRA .0049 TC3-2.4575 BAU .2738 SGT 1493.3 SGR 404.6 SG3 1566.7 ST 23.5 SR 15.7 SS 40.0
 RDE -.1536 RRA .1125 RC3 -.1331 FAU .24845 RRT .4214 RRF .5274 RTF .7907 CRT .9685 CRS -.3425 CST -.1252
 FDE -.1676 FRA 4.5604 FC-25.8471 BSP 1731 SGB 1547.2 R23 .1908 R13 .7967 LSA 40.8 MSA 27.1 SSA 1.5
 BDE .2816 BRA .1126 BC3 2.4611 FSP 2661 SG1 1503.6 SG2 364.4 THA 6.92 EL1 28.1 EL2 3.3 ALF 33.43

LAUNCH DATE MAY 16 1971 FLIGHT TIME 194.00 ARRIVAL DATE NOV 26 1971

HELIOCENTRIC CONIC DISTANCE 462.273 EARTH TO MARS

RL 151.25 LAL .00 LOL 234.49 VL 32.205 GAL .28 AZL 91.56 HCA 149.82 SMA 184.90 ECC .18204 INC 1.5562 V1 29.458
 RP 212.86 LAP -.78 LOP 24.32 VP 23.004 GAP 5.88 AZP 88.65 TAL 1.80 TAP 151.62 RCA 151.24 APO 218.56 V2 25.782
 RC 134.475 GL -17.67 GP -2.59 ZAL 94.26 ZAP 102.97 ETS 180.21 ZAE 146.25 ETE 184.37 ZAC 98.72 ETC 275.35 LVI -12.33

PLANETOCENTRIC CONIC

C3 8.300 VHL 2.881 DLA -28.29 RAL 338.00 RAD 6637.2 VEL 11.332 PTH 6.39 VHP 2.921 DPA -22.71 RAP 310.89 ECC 1.1366
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 14 46 2358.85 -.32 60.49 187.76 137.58 16 54 5 1358.8 17.87 44.31
 60.00 17 33 57 2148.20 4.35 46.00 192.25 130.11 18 9 46 1148.2 19.89 27.15
 70.00 19 18 29 1840.82 9.56 24.97 196.13 122.95 19 49 9 840.8 22.16 3.71
 80.00 21 35 11 1412.76 15.20 355.75 199.39 116.01 21 58 44 412.8 24.62 332.31
 89.22 0 15 6 6197.60 21.16 299.27 202.00 109.23 1 58 23 5197.6 27.19 273.87
 100.00 0 21 59 6175.27 15.20 295.03 199.39 116.01 2 4 54 5175.3 24.62 271.59
 110.00 0 21 51 6175.68 9.56 291.79 196.13 122.95 2 4 46 5175.7 22.16 270.53

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2363 TRA .0472 TC3-2.7090 BAU .3011 SGT 1633.6 SGR 401.0 SG3 1598.7 ST 23.7 SR 13.2 SS 40.7
 RDE -.1479 RRA .1141 RC3 -.1538 FAU .25233 RRT .4642 RRF .5993 RTF .8245 CRT .9782 CRS -.3292 CST -.1598
 FDE -.1292 FRA 4.6931 FC-26.3186 BSP 2025 SGB 1682.1 R23 .1784 R13 .8293 LSA 41.5 MSA 26.9 SSA 1.4
 BDE .2788 BRA .1235 BC3 2.7133 FSP 2721 SG1 1644.7 SG2 352.8 THA 6.82 EL1 28.0 EL2 2.7 ALF 32.48

LAUNCH DATE MAY 16 1971 FLIGHT TIME 196.00 ARRIVAL DATE NOV 28 1971

HELIOCENTRIC CONIC DISTANCE 466.463 EARTH TO MARS

RL 151.25 LAL .00 LOL 234.49 VL 32.202 GAL .24 AZL 91.54 HCA 151.02 SMA 184.86 ECC .18185 INC 1.5418 V1 29.458
 RP 213.16 LAP -.75 LOP 25.52 VP 22.963 GAP 5.70 AZP 88.65 TAL 1.58 TAP 152.60 RCA 151.24 APO 218.48 V2 25.749
 RC 136.814 GL -17.52 GP -2.71 ZAL 94.65 ZAP 100.90 ETS 180.11 ZAE 144.19 ETE 184.27 ZAC 98.69 ETC 275.15 LVI -11.94

PLANETOCENTRIC CONIC

C3 8.284 VHL 2.878 DLA -28.00 RAL 338.33 RAD 6637.1 VEL 11.331 PTH 6.38 VHP 2.897 DPA -23.04 RAP 310.00 ECC 1.1363
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 14 34 2365.00 -.63 60.75 187.99 137.57 16 53 59 1365.0 17.57 44.60
 60.00 17 33 3 2156.20 4.00 46.39 192.44 130.14 18 9 0 1156.2 19.57 27.59
 70.00 19 16 17 1852.83 9.12 25.60 196.26 123.06 19 47 10 852.6 21.79 4.43
 80.00 21 29 27 1435.70 14.51 357.11 199.41 116.38 21 53 23 435.7 24.14 333.85
 90.00 23 44 23 1000.55 18.47 326.94 201.25 111.80 24 1 3 .6 25.85 302.35
 100.00 0 16 15 6198.21 14.51 296.38 199.41 116.38 1 59 33 5198.2 24.14 273.12
 110.00 0 19 39 6187.49 9.12 292.43 196.26 123.06 2 2 47 5187.5 21.79 271.26

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2367 TRA .0912 TC3-2.9662 BAU .3291 SGT 1783.1 SGR 397.0 SG3 1621.6 ST 23.9 SR 14.7 SS 41.0
 RDE -.1419 RRA .1154 RC3 -.1745 FAU .25523 RRT .5059 RRF .5893 RTF .8517 CRT .9856 CRS -.3067 CST -.1855
 FDE -.0713 FRA 4.7858 FC-26.6765 BSP 2324 SGB 1826.8 R23 .1647 R13 .8556 LSA 41.8 MSA 26.8 SSA 1.4
 BDE .2759 BRA .1471 BC3 2.9713 FSP 2779 SG1 1794.8 SG2 340.2 THA 6.67 EL1 28.0 EL2 2.1 ALF 31.35

LAUNCH DATE MAY 16 1971 FLIGHT TIME 198.00 ARRIVAL DATE NOV 30 1971

Table with columns: HELIOCENTRIC CONIC (RL, RP, RC), DISTANCE 470.654, EARTH TO MARS, PLANETOCENTRIC CONIC (C3, LNCH AZMTH), DIFFERENTIAL CORRECTIONS (TDE, RDE, FDE, BDE), MID-COURSE EXECUTION ACCURACY (SGT, RRT, SGB, SGI), and ORBIT DETERMINATION ACCURACY (ST, CRT, LSA, EL1).

LAUNCH DATE MAY 16 1971 FLIGHT TIME 200.00 ARRIVAL DATE DEC 2 1971

Table with columns: HELIOCENTRIC CONIC (RL, RP, RC), DISTANCE 474.845, EARTH TO MARS, PLANETOCENTRIC CONIC (C3, LNCH AZMTH), DIFFERENTIAL CORRECTIONS (TDE, RDE, FDE, BDE), MID-COURSE EXECUTION ACCURACY (SGT, RRT, SGB, SGI), and ORBIT DETERMINATION ACCURACY (ST, CRT, LSA, EL1).

LAUNCH DATE MAY 16 1971 FLIGHT TIME 202.00 ARRIVAL DATE DEC 4 1971

Table with columns: HELIOCENTRIC CONIC (RL, RP, RC), DISTANCE 479.036, EARTH TO MARS, PLANETOCENTRIC CONIC (C3, LNCH AZMTH), DIFFERENTIAL CORRECTIONS (TDE, RDE, FDE, BDE), MID-COURSE EXECUTION ACCURACY (SGT, RRT, SGB, SGI), and ORBIT DETERMINATION ACCURACY (ST, CRT, LSA, EL1).

LAUNCH DATE MAY 16 1971 FLIGHT TIME 204.00 ARRIVAL DATE DEC 6 1971

Table with columns: HELIOCENTRIC CONIC (RL, RP, RC), DISTANCE 483.228, EARTH TO MARS, PLANETOCENTRIC CONIC (C3, LNCH AZMTH), DIFFERENTIAL CORRECTIONS (TDE, RDE, FDE, BDE), MID-COURSE EXECUTION ACCURACY (SGT, RRT, SGB, SGI), and ORBIT DETERMINATION ACCURACY (ST, CRT, LSA, EL1).

LAUNCH DATE MAY 16 1971

FLIGHT TIME 206.00

ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC
 RL 151.25 LAL .00 LOL 234.49 VL 32.201 GAL .04 AZL 91.45 HCA 156.94 SMA 184.84 ECC .18173 INC 1.4514 V1 29.458
 RP 214.72 LAP -.57 LOP 31.44 VP 22.784 GAP 4.83 AZP 88.66 TAL .28 TAP 157.22 RCA 151.25 APO 218.43 V2 25.573
 RC 148.770 GL -16.48 GP -3.41 ZAL 96.90 ZAP 90.88 ETS 179.51 ZAE 133.97 ETE 183.87 ZAC 98.36 ETC 274.16 LVI -9.91

PLANETOCENTRIC CONIC
 C3 8.266 VHL 2.875 DLA -26.18 RAL 340.18 RAD 6637.1 VEL 11.330 PTH 6.38 VHP 2.827 DPA -24.70 RAP 305.83 ECC 1.1360
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 12 25 2405.62 -2.67 82.44 189.32 137.52 16 52 31 1405.6 15.61 46.46
 60.00 17 26 50 2207.71 1.74 48.85 193.56 130.27 18 3 38 1207.7 17.49 30.35
 70.00 19 3 0 1924.94 6.41 29.45 197.08 123.62 19 35 5 924.9 19.50 8.78
 80.00 21 1 5 1555.38 10.79 4.03 199.72 118.01 21 27 0 555.4 21.38 341.67
 90.00 22 50 55 1201.12 12.98 339.10 200.85 115.34 23 10 57 201.1 22.53 315.97
 100.00 23 43 56 1029.85 10.79 325.40 199.72 118.01 24 1 6 29.8 21.38 303.03
 110.00 0 6 23 6259.79 6.41 296.28 197.08 123.62 1 50 42 5259.8 19.50 275.61

MID-COURSE EXECUTION ACCURACY
 SGT 2620.5 SGR 402.3 SG3 1735.8
 RRT .7014 RRF .7607 RTF .9280
 SGB 2651.2 R23 .1423 R13 .9306
 SGI 2635.8 SG2 285.1 THA 6.22

ORBIT DETERMINATION ACCURACY
 ST 25.3 SR 12.1 S8 43.7
 CRT .9870 CRS -.3368 CST -.4418
 LSA 45.9 MSA 24.1 S8A 1.3
 EL1 28.0 EL2 1.8 ALF 25.47

LAUNCH DATE MAY 16 1971

FLIGHT TIME 208.00

ARRIVAL DATE DEC 10 1971

HELIOCENTRIC CONIC
 RL 151.25 LAL .00 LOL 234.49 VL 32.203 GAL -.00 AZL 91.43 HCA 158.11 SMA 184.87 ECC .18186 INC 1.4281 V1 29.458
 RP 215.04 LAP -.53 LOP 32.61 VP 22.725 GAP 4.66 AZP 88.67 TAL 359.99 TAP 158.10 RCA 151.25 APO 218.49 V2 25.536
 RC 151.211 GL -16.20 GP -3.58 ZAL 97.41 ZAP 88.96 ETS 179.37 ZAE 131.98 ETE 183.80 ZAC 98.25 ETC 274.00 LVI -9.49

PLANETOCENTRIC CONIC
 C3 8.275 VHL 2.877 DLA -25.73 RAL 340.57 RAD 6637.1 VEL 11.331 PTH 6.38 VHP 2.822 DPA -25.03 RAP 305.06 ECC 1.1362
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 11 42 2415.88 -3.19 62.87 189.61 137.49 16 51 58 1415.9 15.11 46.92
 60.00 17 25 10 2220.46 1.18 49.46 193.81 130.29 18 2 11 1220.5 16.97 31.02
 70.00 18 59 50 1942.15 5.76 30.36 197.27 123.72 19 32 12 942.1 18.93 9.60
 80.00 20 55 17 1580.80 9.97 5.48 199.82 118.29 21 21 38 580.8 20.74 343.28
 90.00 22 42 43 1234.33 12.01 341.06 200.88 115.80 23 3 17 234.3 21.62 318.15
 100.00 23 38 9 1055.27 9.97 326.85 199.82 118.29 23 55 44 55.3 20.74 304.65
 110.00 0 3 12 6277.00 5.76 297.18 197.27 123.72 1 47 49 5277.0 18.93 276.62

MID-COURSE EXECUTION ACCURACY
 SGT 2712.7 SGR 370.9 SG3 1525.8
 RRT .6597 RRF .7438 RTF .8913
 SGB 2737.9 R23 .1990 R13 .8932
 SGI 2723.8 SG2 277.6 THA 5.21

ORBIT DETERMINATION ACCURACY
 ST 23.9 SR 10.6 S8 46.8
 CRT .9791 CRS -.0383 CST -.1977
 LSA 47.1 MSA 25.5 S8A 1.2
 EL1 26.1 EL2 2.0 ALF 23.50

LAUNCH DATE MAY 16 1971

FLIGHT TIME 210.00

ARRIVAL DATE DEC 12 1971

HELIOCENTRIC CONIC
 RL 151.25 LAL .00 LOL 234.49 VL 32.205 GAL -.05 AZL 91.40 HCA 159.28 SMA 184.91 ECC .18202 INC 1.4021 V1 29.458
 RP 215.37 LAP -.50 LOP 33.78 VP 22.687 GAP 4.50 AZP 88.69 TAL 359.68 TAP 158.96 RCA 151.25 APO 218.57 V2 25.499
 RC 153.669 GL -15.89 GP -3.77 ZAL 97.94 ZAP 87.07 ETS 179.22 ZAE 130.01 ETE 183.74 ZAC 98.12 ETC 273.83 LVI -9.06

PLANETOCENTRIC CONIC
 C3 8.286 VHL 2.879 DLA -25.24 RAL 340.96 RAD 6637.1 VEL 11.331 PTH 6.38 VHP 2.820 DPA -25.37 RAP 304.34 ECC 1.1364
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 10 31 2426.94 -3.74 63.34 189.91 137.46 16 51 18 1426.9 14.57 47.42
 60.00 17 23 20 2234.13 .57 50.12 194.05 130.30 18 0 34 1234.1 16.40 31.74
 70.00 18 56 27 1960.36 5.08 31.32 197.46 123.82 19 29 8 960.4 18.33 10.87
 80.00 20 49 23 1606.92 9.12 6.96 199.92 118.55 21 16 10 606.9 20.07 344.93
 90.00 22 34 42 1267.27 11.02 342.97 200.92 116.21 22 55 49 267.3 20.89 320.28
 100.00 23 32 15 1081.39 9.12 328.32 199.92 118.55 23 50 16 81.4 20.07 306.30
 110.00 23 55 54 1007.18 5.08 320.24 197.46 123.82 24 12 41 7.2 18.33 299.78

MID-COURSE EXECUTION ACCURACY
 SGT 2960.0 SGR 404.0 SG3 1715.9
 RRT .7585 RRF .8122 RTF .5339
 SGB 2987.4 R23 .1511 R13 .9350
 SGI 2975.9 SG2 281.9 THA 5.98

ORBIT DETERMINATION ACCURACY
 ST 24.9 SR 10.5 S8 46.0
 CRT .9711 CRS -.1980 CST -.3993
 LSA 47.5 MSA 24.3 S8A 1.2
 EL1 26.9 EL2 2.3 ALF 22.48

LAUNCH DATE MAY 16 1971

FLIGHT TIME 212.00

ARRIVAL DATE DEC 14 1971

HELIOCENTRIC CONIC
 RL 151.25 LAL .00 LOL 234.49 VL 32.208 GAL -.10 AZL 91.37 HCA 160.45 SMA 184.95 ECC .18223 INC 1.3737 V1 29.458
 RP 215.71 LAP -.46 LOP 34.95 VP 22.649 GAP 4.34 AZP 88.71 TAL 359.36 TAP 159.81 RCA 151.25 APO 218.66 V2 25.461
 RC 156.143 GL -15.55 GP -3.98 ZAL 98.49 ZAP 85.23 ETS 179.06 ZAE 128.06 ETE 183.69 ZAC 97.96 ETC 273.66 LVI -8.63

PLANETOCENTRIC CONIC
 C3 8.301 VHL 2.881 DLA -24.71 RAL 341.35 RAD 6637.2 VEL 11.332 PTH 6.39 VHP 2.821 DPA -25.72 RAP 303.84 ECC 1.1368
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 9 50 2438.86 -4.34 63.84 190.20 137.43 16 50 29 1438.9 13.99 47.95
 60.00 17 21 18 2248.79 -.07 50.82 194.30 130.30 17 58 47 1248.8 15.80 32.50
 70.00 18 52 50 1979.66 4.34 32.33 197.64 123.91 19 25 50 979.7 17.68 11.99
 80.00 20 43 19 1633.87 8.24 8.47 200.03 118.80 21 10 33 633.9 19.35 346.61
 90.00 22 26 45 1300.29 10.03 344.88 200.98 116.58 22 48 25 300.3 20.12 322.40
 100.00 23 26 11 1108.34 8.24 329.84 200.03 118.80 23 44 39 108.3 19.35 307.98
 110.00 23 52 16 1026.48 4.34 321.25 197.64 123.91 24 9 23 26.5 17.68 300.90

MID-COURSE EXECUTION ACCURACY
 SGT 3129.6 SGR 408.9 SG3 1699.1
 RRT .7862 RRF .8380 RTF .9383
 SGB 3156.2 R23 .1546 R13 .9396
 SGI 3146.1 SG2 251.4 THA 5.90

ORBIT DETERMINATION ACCURACY
 ST 25.0 SR 9.9 S8 46.4
 CRT .9612 CRS -.1958 CST -.4340
 LSA 48.2 MSA 23.7 S8A 1.1
 EL1 26.8 EL2 2.6 ALF 21.03

LAUNCH DATE MAY 16 1971

FLIGHT TIME 214.00

ARRIVAL DATE DEC 18 1971

HELIOCENTRIC CONIC DISTANCE 504.172 EARTH TO MARS
 RL 191.25 LAL .00 LOL 234.49 VL 32.211 GAL -.15 AZL 91.34 HCA 161.61 SMA 185.01 ECC .18248 INC 1.3416 V1 29.458
 RP 216.04 LAP -.42 LOP 36.11 VP 22.611 GAP 4.18 AZP 88.73 TAL 359.03 TAP 160.65 RCA 151.25 APO 218.77 V2 25.424
 RC 198.831 GL -15.16 GP -4.22 ZAL 99.05 ZAP 83.42 ETS 178.88 ZAE 126.14 ETE 183.65 ZAC 97.78 ETC 273.50 LVI -8.16

PLANETOCENTRIC CONIC
 C3 8.319 VHL 2.884 DLA -24.14 RAL 341.74 RAD 6637.2 VEL 11.333 PTH 6.39 VHP 2.824 DPA -26.09 RAP 302.99 ECC 1.1369
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 8 30 2451.73 -4.98 64.38 190.50 137.38 16 49 29 1451.7 13.36 48.53
 60.00 17 19 1 2264.53 -.77 51.57 194.55 130.29 17 56 46 1264.5 15.14 33.31
 70.00 18 48 57 2000.16 3.56 33.41 197.83 123.99 19 22 17 1000.2 16.99 13.17
 80.00 20 37 3 1661.80 7.32 10.03 200.14 119.03 21 4 45 661.8 18.60 348.34
 90.00 22 18 47 1333.70 9.00 346.80 201.04 116.92 22 41 1 333.7 19.32 324.52
 100.00 23 19 55 1136.27 7.32 331.40 200.14 119.03 23 38 51 136.3 18.60 309.71
 110.00 23 48 23 1046.97 3.56 322.33 197.83 123.99 24 5 50 47.0 16.99 302.09

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1727 TRA .5502 TC3-5.3234 BAU .5937 SGT 3313.9 SGR 421.2 SG3 1706.8 ST 25.3 SR 9.3 SS 47.2
 RDE -.0811 RRA .1436 RC3 -.4017 FAU .25841 RRT .8177 RRF .8662 RTF .9441 CRT .9507 CRS -.2120 CST -.4031
 FDE .6020 FRA 5.5917 FC-26.8924 BSP 5296 SGB 3340.6 R23 .1566 R13 .9453 LSA 49.3 HSA 22.9 SSA 1.1
 BDE .1908 BRA .5686 BC3 5.3385 FSP 3052 SG1 3331.9 SG2 241.2 THA 5.96 EL1 26.8 EL2 2.7 ALF 19.56

LAUNCH DATE MAY 16 1971

FLIGHT TIME 216.00

ARRIVAL DATE DEC 18 1971

HELIOCENTRIC CONIC DISTANCE 506.356 EARTH TO MARS
 RL 191.25 LAL .00 LOL 234.49 VL 32.215 GAL -.20 AZL 91.31 HCA 162.77 SMA 185.07 ECC .18277 INC 1.3054 V1 29.458
 RP 216.39 LAP -.39 LOP 37.27 VP 22.573 GAP 4.02 AZP 88.75 TAL 358.69 TAP 161.47 RCA 151.24 APO 218.90 V2 25.385
 RC 161.134 GL -14.73 GP -4.47 ZAL 99.63 ZAP 81.65 ETS 178.69 ZAE 124.26 ETE 183.61 ZAC 97.56 ETC 273.35 LVI -7.72

PLANETOCENTRIC CONIC
 C3 8.339 VHL 2.888 DLA -23.52 RAL 342.13 RAD 6637.2 VEL 11.334 PTH 6.39 VHP 2.829 DPA -26.47 RAP 302.38 ECC 1.1372
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 7 12 2465.67 -5.68 64.97 190.79 137.32 16 48 18 1485.7 12.67 49.14
 60.00 17 18 28 2281.47 -1.51 52.38 194.79 130.28 17 54 29 1281.5 14.43 34.18
 70.00 18 44 44 2021.98 2.73 34.55 198.01 124.06 19 18 26 1022.0 16.24 14.42
 80.00 20 30 31 1690.90 6.36 11.66 200.25 119.23 20 58 42 690.9 17.79 350.12
 90.00 22 10 41 1367.84 7.94 348.75 201.10 117.23 22 33 29 367.8 18.47 326.67
 100.00 23 13 23 1165.37 6.36 333.02 200.25 119.23 23 32 48 165.4 17.79 311.49
 110.00 23 44 10 1068.80 2.73 323.47 198.01 124.06 24 1 59 68.8 16.24 303.33

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1565 TRA .6078 TC3-5.5819 BAU .6242 SGT 3495.6 SGR 436.3 SG3 1705.9 ST 25.6 SR 8.8 SS 40.1
 RDE -.0736 RRA .1497 RC3 -.4382 FAU .25741 RRT .8441 RRF .8913 RTF .9482 CRT .9404 CRS -.2407 CST -.5373
 FDE .6705 FRA 5.6569 FC-26.7235 BSP 5581 SGB 3522.8 R23 .1629 R13 .9494 LSA 50.5 HSA 22.1 SSA 1.1
 BDE .1729 BRA .6260 BC3 5.5991 FSP 2985 SG1 3515.1 SG2 232.6 THA 6.04 EL1 26.9 EL2 2.8 ALF 18.10

LAUNCH DATE MAY 16 1971

FLIGHT TIME 218.00

ARRIVAL DATE DEC 20 1971

HELIOCENTRIC CONIC DISTANCE 512.539 EARTH TO MARS
 RL 191.25 LAL .00 LOL 234.49 VL 32.219 GAL -.26 AZL 91.26 HCA 163.93 SMA 185.14 ECC .18310 INC 1.2645 V1 29.458
 RP 216.73 LAP -.35 LOP 38.43 VP 22.536 GAP 3.86 AZP 88.78 TAL 358.35 TAP 162.28 RCA 151.24 APO 219.04 V2 25.347
 RC 163.649 GL -14.24 GP -4.77 ZAL 100.24 ZAP 79.93 ETS 178.48 ZAE 122.40 ETE 183.59 ZAC 97.31 ETC 273.21 LVI -7.25

PLANETOCENTRIC CONIC
 C3 8.362 VHL 2.892 DLA -22.85 RAL 342.50 RAD 6637.2 VEL 11.335 PTH 6.39 VHP 2.837 DPA -26.87 RAP 301.82 ECC 1.1376
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 5 31 2480.81 -6.44 65.61 191.06 137.24 16 46 52 1480.8 11.93 49.81
 60.00 17 13 35 2299.79 -2.32 53.25 195.02 130.25 17 51 55 1299.8 13.66 35.12
 70.00 18 40 8 2045.32 1.84 35.77 198.17 124.11 19 14 14 1045.3 15.43 15.74
 80.00 20 23 38 1721.41 5.34 13.35 200.34 119.42 20 52 20 721.4 16.92 351.97
 90.00 22 2 20 1403.05 6.84 350.75 201.16 117.51 22 25 43 403.0 17.56 328.85
 100.00 23 6 30 1195.88 5.34 334.72 200.34 119.42 23 26 26 193.9 16.92 313.34
 110.00 23 39 35 1092.14 1.84 324.69 198.17 124.11 23 57 47 92.1 15.43 304.66

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1360 TRA .6613 TC3-5.8312 BAU .6540 SGT 3669.8 SGR 451.6 SG3 1689.8 ST 25.7 SR 8.2 SS 40.6
 RDE -.0651 RRA .1552 RC3 -.4765 FAU .25508 RRT .8681 RRF .9123 RTF .9521 CRT .9307 CRS -.2668 CST -.5819
 FDE .7869 FRA 5.6376 FC-26.4100 BSP 5908 SGB 3697.4 R23 .1868 R13 .9532 LSA 51.4 HSA 21.2 SSA 1.0
 BDE .1508 BRA .6793 BC3 5.6507 FSP 2959 SG1 3690.7 SG2 222.9 THA 6.12 EL1 26.8 EL2 2.9 ALF 16.67

LAUNCH DATE MAY 16 1971

FLIGHT TIME 220.00

ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC DISTANCE 516.719 EARTH TO MARS
 RL 191.25 LAL .00 LOL 234.49 VL 32.224 GAL -.31 AZL 91.22 HCA 165.08 SMA 185.22 ECC .18346 INC 1.2167 V1 29.458
 RP 217.08 LAP -.31 LOP 39.58 VP 22.498 GAP 3.71 AZP 88.82 TAL 357.99 TAP 163.07 RCA 151.24 APO 219.20 V2 25.308
 RC 166.178 GL -13.68 GP -5.10 ZAL 100.85 ZAP 78.25 ETS 178.25 ZAE 120.57 ETE 183.57 ZAC 97.01 ETC 273.08 LVI -6.74

PLANETOCENTRIC CONIC
 C3 8.386 VHL 2.896 DLA -22.10 RAL 342.85 RAD 6637.2 VEL 11.336 PTH 6.39 VHP 2.847 DPA -27.30 RAP 301.30 ECC 1.1380
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 3 29 2497.36 -7.27 66.31 191.33 137.15 16 45 7 1497.4 11.11 50.83
 60.00 17 10 18 2319.70 -3.19 54.21 195.23 130.20 17 48 57 1319.7 12.82 36.13
 70.00 18 35 5 2070.45 .88 37.08 198.32 124.14 19 9 35 1070.5 14.94 17.15
 80.00 20 16 18 1753.65 4.26 15.13 200.42 119.58 20 45 32 753.7 15.98 353.91
 90.00 21 53 38 1439.72 5.68 352.82 201.20 117.75 22 17 38 439.7 16.59 331.11
 100.00 22 59 10 1228.12 4.26 336.50 200.42 119.58 23 19 38 228.1 15.98 315.28
 110.00 23 34 31 1117.27 .88 326.00 198.32 124.14 23 53 8 117.3 14.94 306.07

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1138 TRA .7180 TC3-6.0853 BAU .6847 SGT 3850.1 SGR 473.6 SG3 1679.0 ST 26.1 SR 7.6 SS 48.7
 RDE -.0562 RRA .1631 RC3 -.5197 FAU .25258 RRT .8884 RRF .9317 RTF .9545 CRT .9265 CRS -.3154 CST -.6320
 FDE .8599 FRA 5.6708 FC-26.0765 BSP 6223 SGB 3879.1 R23 .1766 R13 .9556 LSA 52.9 HSA 20.2 SSA 1.0
 BDE .1289 BRA .7364 BC3 6.1074 FSP 2942 SG1 3873.1 SG2 216.2 THA 6.26 EL1 27.1 EL2 2.8 ALF 15.32

LAUNCH DATE MAY 16 1971 FLIGHT TIME 222.00 ARRIVAL DATE DEC 24 1971

Heliocentric Conic: RL 151.25 LAL .00 LOL 234.49 VL 32.229 GAL -1.37 AZL 91.16 HCA 186.23 SMA 185.30 ECC .18386 INC 1.1627 V1 29.488
 RP 217.43 LAP -.28 LOP 40.73 VP 22.461 GAP 3.55 AZP 88.87 TAL 357.62 TAP 163.85 RCA 151.23 APO 219.37 V2 25.269
 RC 168.717 GL -13.04 GP -5.49 ZAL 101.49 ZAP 76.62 ETS 177.99 ZAE 118.77 ETE 183.57 ZAC 96.66 ETC 272.98 LVI -6.21

Planetocentric Conic: C3 8.411 VHL 2.900 DLA -21.28 RAL 343.18 RAD 6637.2 VEL 11.337 PTH 6.39 VHP 2.860 DPA -27.78 RAP 300.84 ECC 1.1384
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 1 4 2515.58 -8.17 67.08 191.57 137.04 16 42 59 1515.6 10.21 51.32
 60.00 17 6 31 2341.52 -4.15 55.25 195.42 130.12 17 45 32 1341.5 11.89 37.22
 70.00 18 29 27 2097.71 -1.16 38.50 198.44 124.15 19 4 25 1097.7 13.58 18.67
 80.00 20 8 24 1788.04 3.10 17.03 200.48 119.71 20 38 12 788.0 14.96 355.95
 90.00 21 44 25 1478.34 4.45 355.00 201.22 117.96 22 9 3 478.3 15.54 333.45
 100.00 22 51 16 1262.51 3.10 338.39 200.48 119.71 23 12 18 262.5 14.96 317.32
 110.00 23 28 53 1144.53 -1.16 327.42 198.45 124.15 23 47 58 144.5 13.58 307.59

Differential Corrections: TDE -.0854 TRA .7772 TC3 -6.3254 BAU .7142 SGT 4025.5 SGR 901.1 SG3 1665.2 ST 26.7 SR 7.2 SS 50.8
 RDE -.0465 RRA .1726 RC3 -.5685 FAU .24960 RRT .9064 RRF .9483 RTF .9570 CRT .9252 CRS -.3857 CST -.6917
 FDE .9614 FRA 5.6949 FC-25.6907 BSP 6560 SGB 4056.6 R23 .1858 R13 .9581 LSA 54.6 MSA 19.0 SSA 1.0
 BDE .0972 BRA .7861 BC3 6.3509 FSP 2915 SG1 4051.1 SG2 210.4 THA 6.45 EL1 27.5 EL2 2.6 ALF 14.10

LAUNCH DATE MAY 16 1971 FLIGHT TIME 224.00 ARRIVAL DATE DEC 26 1971

Heliocentric Conic: RL 151.25 LAL .00 LOL 234.49 VL 32.234 GAL -.43 AZL 91.10 HCA 167.38 SMA 185.39 ECC .18429 INC 1.0989 V1 29.458
 RP 217.79 LAP -.24 LOP 41.87 VP 22.425 GAP 3.40 AZP 88.93 TAL 357.25 TAP 164.62 RCA 151.22 APO 219.55 V2 25.229
 RC 171.268 GL -12.30 GP -5.94 ZAL 102.14 ZAP 75.03 ETS 177.69 ZAE 117.01 ETE 183.58 ZAC 96.24 ETC 272.84 LVI -5.62

Planetocentric Conic: C3 8.437 VHL 2.905 DLA -20.35 RAL 343.48 RAD 6637.2 VEL 11.338 PTH 6.39 VHP 2.874 DPA -28.31 RAP 300.43 ECC 1.1389
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 58 7 2535.84 -9.18 67.95 191.79 136.89 16 40 23 1535.8 9.20 52.19
 60.00 17 2 7 2365.66 -5.21 56.41 195.58 130.02 17 41 33 1365.7 10.86 38.43
 70.00 18 23 6 2127.58 -1.30 40.06 198.54 124.13 18 58 34 1127.6 12.50 20.32
 80.00 19 59 44 1825.14 1.85 19.07 200.50 119.81 20 30 9 825.1 13.84 358.13
 90.00 21 34 28 1519.57 3.14 357.31 201.22 118.12 21 59 48 519.6 14.39 335.93
 100.00 22 42 36 1299.61 1.85 340.43 200.50 119.81 23 4 16 299.6 13.84 319.50
 110.00 23 22 32 1174.40 -1.30 328.98 198.54 124.13 23 42 7 174.4 12.50 309.24

Differential Corrections: TDE -.0529 TRA .8349 TC3 -6.5591 BAU .7432 SGT 4197.1 SGR 534.0 SG3 1644.3 ST 27.5 SR 6.8 SS 52.0
 RDE -.0359 RRA .1837 RC3 -.6224 FAU .24548 RRT .9210 RRF .9618 RTF .9589 CRT .9317 CRS -.4780 CST -.7499
 FDE 1.0666 FRA 5.6965 FC-25.1879 BSP 6886 SGB 4230.9 R23 .1966 R13 .9600 LSA 56.5 MSA 17.6 SSA .9
 BDE .0639 BRA .8549 BC3 6.5886 FSP 2885 SG1 4225.9 SG2 206.7 THA 6.70 EL1 28.2 EL2 2.4 ALF 13.11

LAUNCH DATE MAY 16 1971 FLIGHT TIME 226.00 ARRIVAL DATE DEC 28 1971

Heliocentric Conic: RL 151.25 LAL .00 LOL 234.49 VL 32.240 GAL -.49 AZL 91.02 HCA 168.52 SMA 185.48 ECC .18475 INC 1.0207 V1 29.458
 RP 218.15 LAP -.20 LOP 43.01 VP 22.388 GAP 3.25 AZP 89.00 TAL 356.86 TAP 165.38 RCA 151.22 APO 219.75 V2 25.189
 RC 173.829 GL -11.42 GP -6.47 ZAL 102.81 ZAP 73.50 ETS 177.35 ZAE 115.28 ETE 183.60 ZAC 95.73 ETC 272.73 LVI -4.97

Planetocentric Conic: C3 8.464 VHL 2.909 DLA -19.29 RAL 343.73 RAD 6637.2 VEL 11.339 PTH 6.39 VHP 2.891 DPA -28.91 RAP 300.08 ECC 1.1393
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 54 31 2558.67 -10.32 68.93 191.96 136.71 16 37 10 1558.7 8.07 53.17
 60.00 16 56 55 2392.72 -6.39 57.72 195.70 129.88 17 36 48 1392.7 9.69 39.76
 70.00 18 15 50 2160.76 -2.57 41.79 198.58 124.07 18 51 50 1160.8 11.30 22.13
 80.00 19 50 6 1865.74 .47 21.29 200.48 119.85 20 21 11 865.7 12.58 .49
 90.00 21 23 34 1564.24 1.70 359.80 201.16 118.23 21 49 38 564.2 13.10 338.56
 100.00 22 32 57 1340.21 .47 342.66 200.48 119.85 22 55 18 340.2 12.58 321.86
 110.00 23 15 16 1207.58 -2.57 330.71 198.58 124.07 23 35 24 207.6 11.30 311.05

Differential Corrections: TDE -.0177 TRA .8867 TC3 -6.8167 BAU .7753 SGT 4378.7 SGR 978.4 SG3 1625.0 ST 28.4 SR 6.6 SS 53.2
 RDE -.0239 RRA .1967 RC3 -.6908 FAU .24265 RRT .9336 RRF .9730 RTF .9506 CRT .9486 CRS -.5896 CST -.8002
 FDE 1.1787 FRA 5.6680 FC-24.8200 BSP 7153 SGB 4414.5 R23 .2071 R13 .9618 LSA 58.5 MSA 16.3 SSA .9
 BDE .0298 BRA .9082 BC3 6.8316 FSP 2831 SG1 4409.8 SG2 205.0 THA 7.02 EL1 29.1 EL2 2.0 ALF 12.51

LAUNCH DATE MAY 16 1971 FLIGHT TIME 228.00 ARRIVAL DATE DEC 30 1971

Heliocentric Conic: RL 151.25 LAL .00 LOL 234.49 VL 32.246 GAL -.55 AZL 90.93 HCA 169.85 SMA 185.58 ECC .18524 INC .9303 V1 29.458
 RP 218.51 LAP -.17 LOP 44.15 VP 22.352 GAP 3.10 AZP 89.08 TAL 356.47 TAP 166.13 RCA 151.21 APO 219.96 V2 25.149
 RC 178.400 GL -10.36 GP -7.12 ZAL 103.50 ZAP 72.02 ETS 176.94 ZAE 113.58 ETE 183.65 ZAC 95.10 ETC 272.64 LVI -4.23

Planetocentric Conic: C3 8.490 VHL 2.914 DLA -18.07 RAL 343.92 RAD 6637.3 VEL 11.340 PTH 6.39 VHP 2.911 DPA -29.62 RAP 299.79 ECC 1.1397
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 50 3 2384.81 -11.81 70.07 192.09 136.47 16 33 8 1584.8 6.76 54.28
 60.00 16 50 41 2423.56 -7.73 59.22 195.76 129.68 17 31 5 1423.6 8.36 41.28
 70.00 18 7 21 2198.22 -3.99 43.76 198.57 123.95 18 43 59 1198.2 9.92 24.16
 80.00 19 39 8 1910.94 -1.06 23.77 200.40 119.84 20 10 59 910.9 11.16 3.09
 90.00 21 11 19 1613.54 .11 2.55 201.05 118.28 21 38 13 613.5 11.65 341.47
 100.00 22 22 0 1385.41 -1.06 345.14 200.40 119.84 22 45 5 385.4 11.16 324.46
 110.00 23 6 47 1245.04 -3.99 332.67 198.57 123.95 23 27 32 245.0 9.92 313.08

Differential Corrections: TDE .0330 TRA .9468 TC3 -7.0307 BAU .8027 SGT 4541.5 SGR 629.1 SG3 1600.9 ST 30.2 SR 6.7 SS 55.2
 RDE -.0094 RRA .2139 RC3 -.7668 FAU .23774 RRT .9436 RRF .9817 RTF .9622 CRT .9646 CRS -.7164 CST -.8613
 FDE 1.3237 FRA 5.6571 FC-24.2443 BSP 7512 SGB 4584.9 R23 .2169 R13 .9635 LSA 61.6 MSA 14.4 SSA .9
 BDE .0344 BRA .9706 BC3 7.0724 FSP 2793 SG1 4580.2 SG2 206.4 THA 7.46 EL1 30.9 EL2 1.7 ALF 12.18

LAUNCH DATE MAY 16 1971

FLIGHT TIME 230.00

ARRIVAL DATE JAN 1 1972

Heliocentric Conic: RL 151.25 LAL .00 LOL 234.49 VL 32.292 GAL -.61 AZL 90.82 HCA 170.79 SNA 185.69 ECC .18577 INC .8143 V1 29.450
 RP 219.08 LAP -.13 LOP 45.28 VP 22.319 GAP 2.95 AZP 89.19 TAL 388.07 TAP 188.86 RCA 151.19 APO 220.18 V2 25.100
 RC 178.981 GL -9.06 GP -7.92 ZAL 104.20 ZAP 70.60 ETS 176.44 ZAE 111.90 ETE 183.73 ZAC 90.33 ETC 272.55 LVI -3.37

Distance 537.581

Planetocentric Conic: C3 8.518 VHL 2.918 DLA -18.82 RAL 344.02 RAD 8637.3 VEL 11.341 PTH 6.39 VHP 2.933 DPA -30.47 RAP 299.59 ECC 1.1401
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 15 44 25 2615.44 -13.12 71.42 192.15 136.16 16 20 0 1615.4 5.23 55.50
 60.00 16 43 3 2489.49 -9.29 60.97 195.75 129.39 17 24 3 1459.5 6.60 43.03
 70.00 17 57 13 2241.47 -5.63 46.03 198.49 123.74 18 34 34 1241.5 8.32 28.48
 80.00 19 28 22 1962.43 -2.80 26.60 200.25 119.74 19 59 4 962.4 9.50 6.01
 90.00 20 57 15 1669.26 -1.69 5.66 200.86 118.23 21 25 4 689.3 9.97 344.70
 100.00 22 9 14 1436.91 -2.60 347.97 200.25 119.74 22 33 11 436.9 9.50 327.38
 110.00 22 56 39 1288.28 -5.63 334.95 198.49 123.74 23 18 8 288.3 8.32 315.40

Differential Corrections: TDE .0688 TRA .9990 TC3-7.2681 BAU .8332 SGT 4713.0 SGR 696.7 SCS 1574.3 ST 32.5 SR 7.3 SS 57.1
 RDE .0071 RRA .2350 RC3 -.8623 FAU .23309 RRT .9811 RRF .9882 RTF .9633 CRT .9807 CRS -.8292 CBT -.9094
 FDE 1.4566 FRA 5.6180 FC-23.6987 B8P 7802 SGB 4764.2 R23 .2270 R13 .9647 LSA 64.9 NSA 12.4 SSA .9
 BDE .0672 BRA 1.0262 BC3 7.3191 F8P 2730 SGI 4759.4 SGT 213.2 THA 8.02 EL1 33.3 EL2 1.4 ALF 12.44

Mid-course Execution Accuracy: SGT 4713.0 SGR 696.7 SCS 1574.3
 RRT .9811 RRF .9882 RTF .9633
 SGB 4764.2 R23 .2270 R13 .9647
 SGI 4759.4 SGT 213.2 THA 8.02

Orbit Determination Accuracy: ST 32.5 SR 7.3 SS 57.1
 CRT .9807 CRS -.8292 CBT -.9094
 LSA 64.9 NSA 12.4 SSA .9
 EL1 33.3 EL2 1.4 ALF 12.44

LAUNCH DATE MAY 16 1971

FLIGHT TIME 232.00

ARRIVAL DATE JAN 3 1972

Heliocentric Conic: RL 151.25 LAL .00 LOL 234.49 VL 32.259 GAL -.68 AZL 90.67 HCA 171.92 SNA 185.80 ECC .18632 INC .8653 V1 29.450
 RP 219.25 LAP -.09 LOP 46.41 VP 22.279 GAP 2.80 AZP 89.34 TAL 385.67 TAP 187.59 RCA 151.18 APO 220.42 V2 25.060
 RC 181.572 GL -7.43 GP -8.93 ZAL 104.92 ZAP 69.24 ETS 175.82 ZAE 110.25 ETE 183.84 ZAC 93.33 ETC 272.47 LVI -2.32

Distance 541.745

Planetocentric Conic: C3 8.541 VHL 2.922 DLA -14.86 RAL 343.99 RAD 8637.3 VEL 11.342 PTH 6.40 VHP 2.980 DPA -31.52 RAP 299.47 ECC 1.1406
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 15 37 7 2652.32 -14.92 73.06 192.12 135.72 16 21 19 1652.3 3.38 57.13
 60.00 16 33 26 2502.53 -11.14 63.10 195.65 129.98 17 15 9 1502.5 4.92 45.10
 70.00 17 44 47 2292.77 -7.57 48.74 198.30 123.40 18 23 0 1292.8 6.39 29.20
 80.00 19 11 4 2022.75 -4.83 29.93 199.99 119.50 19 44 46 1022.8 7.53 9.40
 90.00 20 40 33 1734.05 -3.77 9.29 200.57 118.05 21 9 27 734.0 7.97 348.41
 100.00 21 53 55 1497.22 -4.83 351.30 199.99 119.50 22 18 53 497.2 7.53 330.77
 110.00 22 44 14 1339.59 -7.57 337.66 198.30 123.40 23 6 33 339.6 6.39 318.12

Differential Corrections: TDE .1412 TRA 1.0347 TC3-7.5532 BAU .8700 SGT 4896.2 SGR 786.2 SCS 1546.7 ST 35.0 SR 8.2 SS 57.1
 RDE .0230 RRA .2581 RC3-1.0005 FAU .23196 RRT .9594 RRF .9928 RTF .9670 CRT .9877 CRS -.9028 CBT -.9480
 FDE 1.5065 FRA 5.4645 FC-23.5126 B8P 7932 SGB 4958.9 R23 .2242 R13 .9686 LSA 66.7 NSA 10.0 SSA .9
 BDE .1430 BRA 1.0665 BC3 7.6192 F8P 2593 SGI 4954.0 SGT 219.2 THA 8.77 EL1 36.0 EL2 1.2 ALF 13.07

Mid-course Execution Accuracy: SGT 4896.2 SGR 786.2 SCS 1546.7
 RRT .9594 RRF .9928 RTF .9670
 SGB 4958.9 R23 .2242 R13 .9686
 SGI 4954.0 SGT 219.2 THA 8.77

Orbit Determination Accuracy: ST 35.0 SR 8.2 SS 57.1
 CRT .9877 CRS -.9028 CBT -.9480
 LSA 66.7 NSA 10.0 SSA .9
 EL1 36.0 EL2 1.2 ALF 13.07

LAUNCH DATE MAY 16 1971

FLIGHT TIME 234.00

ARRIVAL DATE JAN 5 1972

Heliocentric Conic: RL 151.25 LAL .00 LOL 234.49 VL 32.288 GAL -.75 AZL 90.48 HCA 173.04 SNA 185.92 ECC .18690 INC .4708 V1 29.450
 RP 219.62 LAP -.08 LOP 47.54 VP 22.243 GAP 2.66 AZP 89.52 TAL 355.26 TAP 188.30 RCA 151.17 APO 220.66 V2 25.028
 RC 184.172 GL -5.29 GP -10.26 ZAL 105.65 ZAP 67.98 ETS 175.03 ZAE 108.61 ETE 184.01 ZAC 92.03 ETC 272.40 LVI -.99

Distance 545.904

Planetocentric Conic: C3 8.571 VHL 2.928 DLA -12.83 RAL 343.78 RAD 8637.3 VEL 11.344 PTH 6.40 VHP 2.992 DPA -32.86 RAP 299.47 ECC 1.1411
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 15 27 25 2698.58 -17.16 75.17 191.99 135.08 16 12 24 1698.6 1.06 59.06
 60.00 16 20 58 2556.16 -13.43 65.80 195.44 128.36 17 3 34 1556.2 2.56 47.68
 70.00 17 29 2 2356.09 -9.92 52.13 198.00 122.85 18 8 18 1356.1 3.99 32.54
 80.00 18 52 2 2096.28 -7.28 34.01 199.61 119.04 19 26 50 1096.3 5.09 13.49
 90.00 20 19 59 1812.49 -6.26 13.70 200.16 117.63 20 50 12 812.5 5.51 392.86
 100.00 21 34 53 1570.75 -7.28 355.38 199.61 119.04 22 1 4 570.8 5.09 334.86
 110.00 22 28 28 1402.91 -9.92 341.05 198.00 122.85 22 51 51 402.9 3.99 321.45

Differential Corrections: TDE .2365 TRA 1.0848 TC3-7.7553 BAU .8884 SGT 5058.5 SGR 902.5 SCS 1510.4 ST 40.6 SR 10.3 SS 61.0
 RDE .0519 RRA .2930 RC3-1.1509 FAU .22460 RRT .9630 RRF .9960 RTF .571 CRT .9930 CRS -.8897 CBT -.8790
 FDE 1.7325 FRA 5.4884 FC-22.6866 B8P 8330 SGB 5136.4 R23 .2321 R13 .9690 LSA 75.8 NSA 7.2 SSA 1.0
 BDE .2421 BRA 1.1242 BC3 7.8403 F8P 2559 SGI 5130.8 SGT 239.8 THA 9.77 EL1 41.8 EL2 1.2 ALF 14.12

Mid-course Execution Accuracy: SGT 5058.5 SGR 902.5 SCS 1510.4
 RRT .9630 RRF .9960 RTF .571
 SGB 5136.4 R23 .2321 R13 .9690
 SGI 5130.8 SGT 239.8 THA 9.77

Orbit Determination Accuracy: ST 40.6 SR 10.3 SS 61.0
 CRT .9930 CRS -.8897 CBT -.8790
 LSA 75.8 NSA 7.2 SSA 1.0
 EL1 41.8 EL2 1.2 ALF 14.12

LAUNCH DATE MAY 16 1971

FLIGHT TIME 236.00

ARRIVAL DATE JAN 7 1972

Heliocentric Conic: RL 151.25 LAL .00 LOL 234.49 VL 32.273 GAL -.81 AZL 90.21 HCA 174.17 SNA 186.04 ECC .18751 INC .1740 V1 29.450
 RP 219.99 LAP -.02 LOP 48.66 VP 22.208 GAP 2.51 AZP 89.79 TAL 354.84 TAP 189.01 RCA 151.15 APO 220.92 V2 24.987
 RC 188.781 GL -2.38 GP -12.06 ZAL 106.39 ZAP 66.83 ETS 173.97 ZAE 108.99 ETE 184.26 ZAC 90.24 ETC 272.35 LVI .76

Distance 550.058

Planetocentric Conic: C3 8.617 VHL 2.936 DLA -9.66 RAL 343.28 RAD 8637.3 VEL 11.346 PTH 6.40 VHP 3.033 DPA -34.67 RAP 299.65 ECC 1.1418
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 15 14 0 2759.60 -20.08 78.04 191.75 134.09 15 59 59 1759.6 -2.01 61.61
 60.00 16 4 4 2626.44 -16.36 69.41 195.11 127.36 16 47 50 1626.4 -.53 51.03
 70.00 17 8 5 2438.22 -12.92 56.61 197.57 121.89 17 48 43 1438.2 .86 36.83
 80.00 18 27 13 2190.51 -10.35 39.32 199.09 118.16 19 3 43 1190.5 1.91 18.68
 90.00 19 53 25 1912.39 -9.38 19.38 199.60 116.80 20 25 17 912.4 2.31 388.46
 100.00 21 10 5 1684.98 -10.35 .69 199.09 118.16 21 37 50 685.0 1.91 340.05
 110.00 22 7 31 1485.04 -12.92 345.52 197.57 121.89 22 32 16 485.0 .86 325.75

Differential Corrections: TDE .3486 TRA 1.1116 TC3-7.9913 BAU .9339 SGT 3227.0 SGR 1062.3 SCS 1464.9 ST 48.0 SR 13.5 SS 64.7
 RDE .0900 RRA .3422 RC3-1.3610 FAU .21754 RRT .9653 RRF .9980 RTF .9671 CRT .9944 CRS -.9856 CBT -.9944
 FDE 1.9484 FRA 5.2576 FC-21.8530 B8P 8559 SGB 5333.8 R23 .2370 R13 .9695 LSA 81.5 NSA 4.3 SSA 1.3
 BDE .3610 BRA 1.1630 BC3 8.1063 F8P 2468 SGI 5326.9 SGT 272.1 THA 11.13 EL1 49.8 EL2 1.4 ALF 15.63

Mid-course Execution Accuracy: SGT 3227.0 SGR 1062.3 SCS 1464.9
 RRT .9653 RRF .9980 RTF .9671
 SGB 5333.8 R23 .2370 R13 .9695
 SGI 5326.9 SGT 272.1 THA 11.13

Orbit Determination Accuracy: ST 48.0 SR 13.5 SS 64.7
 CRT .9944 CRS -.9856 CBT -.9944
 LSA 81.5 NSA 4.3 SSA 1.3
 EL1 49.8 EL2 1.4 ALF 15.63

LAUNCH DATE MAY 16 1971

FLIGHT TIME 238.00

ARRIVAL DATE JAN 9 1972

Heliocentric Conic: RL 151.25 LAL .00 LOL 234.49 VL 32.280 GAL -1.88 AZL 89.83 HCA 175.20 SMA 186.16 ECC .18814 INC .1418 V1 29.458
 RP 220.36 LAP .01 LOP 49.78 VP 22.172 GAP 2.36 AZP 90.17 TAL 354.42 TAP 169.70 RCA 151.14 APO 221.19 V2 24.946
 RC 189.399 GL 1.90 GP -14.66 ZAL 107.08 ZAP 65.87 ETS 172.47 ZAE 105.34 ETE 184.63 ZAC 87.65 ETC 272.30 LVI 3.23

Planeto-centric Conic: C3 8.717 VHL 2.933 DLA -5.46 RAL 342.29 RAD 6637.4 VEL 11.350 PTH 6.40 VHP 3.091 DPA -37.25 RAP 300.08 ECC 1.1435
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 54 20 2846.05 -24.11 82.30 191.44 132.34 15 41 46 1846.1 -6.34 65.24
 60.00 15 39 44 2725.29 -20.37 74.70 184.72 125.56 16 25 9 1725.3 -4.88 55.77
 70.00 16 36 28 2552.60 -16.93 63.03 197.05 120.11 17 21 0 1552.6 -3.51 42.80
 80.00 17 52 41 2320.25 -14.41 46.81 198.46 116.44 18 31 21 1320.3 -2.46 28.81
 90.00 19 16 42 2049.16 -13.46 27.35 198.94 115.11 19 50 51 1049.2 -2.09 6.09
 100.00 20 35 33 1794.73 -14.41 8.18 198.46 116.44 21 5 27 794.7 -2.48 347.17
 110.00 21 37 54 1599.42 -16.93 351.95 197.05 120.11 22 4 34 599.4 -3.51 331.72

Differential Corrections: TDE .5353 TRA 1.1383 TC3-8.0993 BAU .9629 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE .1550 RRA .4123 RC3-1.6326 FAU .20593 SGT 5373.7 SGR 1290.7 SG3 1401.5 ST 62.1 SR 19.3 SS 71.3
 FDE 2.2626 FRA 5.0692 FC-20.4515 BSP 9044 RRT .9670 RRF .9991 RTF .9670 CRT .9936 CRS -.9963 CST -.9987
 BDE .5573 BRA 1.2107 BC3 8.2622 FSP 2406 SGB 5526.6 R23 .2383 R13 .9703 LSA 96.5 MSA 2.7 SSA 1.4
 SG1 5517.3 SG2 320.4 THA 13.12 EL1 65.0 EL2 2.1 ALF 17.21

LAUNCH DATE MAY 16 1971

FLIGHT TIME 240.00

ARRIVAL DATE JAN 11 1972

Heliocentric Conic: RL 151.25 LAL .00 LOL 234.49 VL 32.288 GAL -1.95 AZL 89.20 HCA 176.40 SMA 186.29 ECC .18880 INC .7954 V1 29.458
 RP 220.74 LAP .05 LOP 50.89 VP 22.137 GAP 2.22 AZP 90.80 TAL 353.99 TAP 170.39 RCA 151.12 APO 221.46 V2 24.904
 RC 192.025 GL 8.64 GP -18.69 ZAL 107.59 ZAP 65.30 ETS 170.23 ZAE 103.62 ETE 185.23 ZAC 83.63 ETC 272.28 LVI 7.01

Planeto-centric Conic: C3 9.004 VHL 3.001 DLA 1.04 RAL 340.39 RAD 6637.5 VEL 11.363 PTH 6.42 VHP 3.189 DPA -41.21 RAP 301.04 ECC 1.1482
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 22 57 2981.81 -30.13 89.63 191.47 128.74 15 12 39 1981.8 -13.07 71.10
 60.00 15 1 26 2879.45 -26.20 83.56 194.62 121.79 15 49 25 1879.5 -11.56 63.30
 70.00 15 52 26 2729.44 -22.64 73.57 196.79 116.28 16 37 56 1729.4 -10.15 52.18
 80.00 16 59 37 2519.10 -20.05 58.87 198.05 112.60 17 41 36 1519.1 -9.10 36.85
 90.00 18 20 33 2257.90 -19.08 40.09 198.47 111.27 18 58 11 1257.9 -8.71 17.86
 100.00 19 42 29 1993.57 -20.05 20.24 198.05 112.60 20 15 42 993.6 -9.10 358.22
 110.00 20 51 53 1776.26 -22.64 2.49 196.79 116.28 21 21 29 776.3 -10.15 341.10

Differential Corrections: TDE .8285 TRA 1.1250 TC3-8.0626 BAU 1.0005 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE .2749 RRA .5128 RC3-2.0211 FAU .19115 SGT 5525.4 SGR 1644.9 SG3 1306.4 ST 85.7 SR 30.1 SS 80.7
 FDE 2.7197 FRA 4.6840 FC-18.3789 BSP 9509 RRT .9686 RRF .9997 RTF .9671 CRT .9921 CRS -.9994 CST -.9956
 BDE .8729 BRA 1.2363 BC3 8.3121 FSP 2248 SGB 5765.1 R23 .2339 R13 .9719 LSA 121.3 MSA 6.0 SSA .4
 SG1 5751.6 SG2 393.1 THA 16.16 EL1 90.8 EL2 3.6 ALF 19.26

LAUNCH DATE MAY 16 1971

FLIGHT TIME 242.00

ARRIVAL DATE JAN 13 1972

Heliocentric Conic: RL 151.25 LAL .00 LOL 234.49 VL 32.296 GAL -1.02 AZL 88.02 HCA 177.51 SMA 186.42 ECC .18948 INC 1.9628 V1 29.458
 RP 221.12 LAP .09 LOP 52.00 VP 22.102 GAP 2.07 AZP 91.98 TAL 353.56 TAP 171.07 RCA 151.10 APO 221.75 V2 24.863
 RC 194.659 GL 20.57 GP -25.87 ZAL 107.37 ZAP 65.68 ETS 166.59 ZAE 101.71 ETE 186.27 ZAC 76.65 ETC 272.33 LVI 13.47

Planeto-centric Conic: C3 10.070 VHL 3.173 DLA 12.36 RAL 336.49 RAD 6638.1 VEL 11.409 PTH 6.46 VHP 3.401 DPA -48.01 RAP 303.31 ECC 1.1657
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 25 8 3230.60 -39.63 103.75 194.13 118.84 14 18 58 2230.6 -24.90 82.91
 60.00 13 51 4 3161.59 -34.92 102.32 196.92 111.55 14 43 45 2161.6 -23.05 78.29
 70.00 14 27 51 3053.31 -30.68 95.25 198.62 105.80 15 18 45 2053.3 -21.31 70.63
 80.00 15 21 48 2884.32 -27.57 83.32 199.50 101.94 16 9 52 1884.3 -20.00 58.47
 90.00 16 36 52 2642.04 -26.40 65.77 199.76 100.53 17 20 54 1642.0 -19.50 40.87
 100.00 18 4 40 2358.79 -27.57 44.68 199.50 101.94 18 43 58 1358.8 -20.00 19.83
 110.00 19 27 18 2100.13 -30.68 24.17 198.62 105.80 20 2 18 1100.1 -21.31 359.55

Differential Corrections: TDE 1.3128 TRA .9430 TC3-7.7461 BAU 1.1001 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE .9332 RRA .6347 RC3-2.6026 FAU .17318 SGT 5729.3 SGR 2243.1 SG3 1127.2 ST 121.6 SR 51.3 SS 90.0
 FDE 3.1861 FRA 3.7414 FC-14.8884 BSP 9052 RRT .9685 RRF .9998 RTF .5352 CRT .9911 CRS -1.0000 CST -.9916
 BDE 1.4170 BRA 1.1367 BC3 8.1716 FSP 1773 SGB 6152.8 R23 .2298 R13 .9732 LSA 159.4 MSA 10.3 SSA .1
 SG1 6130.6 SG2 521.7 THA 20.93 EL1 131.8 EL2 6.3 ALF 22.75

LAUNCH DATE MAY 16 1971

FLIGHT TIME 244.00

ARRIVAL DATE JAN 15 1972

Heliocentric Conic: RL 151.25 LAL .00 LOL 234.49 VL 32.304 GAL -1.10 AZL 84.98 HCA 178.61 SMA 186.56 ECC .19019 INC 5.0101 V1 29.458
 RP 221.50 LAP .12 LOP 53.11 VP 22.087 GAP 1.93 AZP 95.02 TAL 353.13 TAP 171.74 RCA 151.08 APO 222.04 V2 24.821
 RC 197.299 GL 44.34 GP -39.62 ZAL 104.14 ZAP 69.21 ETS 160.69 ZAE 99.30 ETE 188.46 ZAC 62.68 ETC 272.71 LVI 26.06

Planeto-centric Conic: C3 16.358 VHL 4.044 DLA 34.40 RAL 326.63 RAD 6641.2 VEL 11.679 PTH 6.71 VHP 4.134 DPA -61.21 RAP 311.30 ECC 1.2692
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 10 57 21 3820.69 -46.64 158.67 212.48 79.29 12 1 1 2820.7 -45.47 123.62
 60.00 10 36 40 3875.95 -37.18 160.51 209.36 73.18 11 41 16 2875.9 -40.18 129.80
 69.54 9 2 1 4158.30 -21.30 175.65 201.95 62.32 10 11 19 3158.3 -30.80 151.07
 69.54 9 2 1 4158.30 -21.30 175.65 201.95 62.32 10 11 19 3158.3 -30.80 151.07
 69.54 9 2 1 4158.30 -21.30 175.65 201.95 62.32 10 11 19 3158.3 -30.80 151.07
 69.54 9 2 1 4158.30 -21.30 175.65 201.95 62.32 10 11 19 3158.3 -30.80 151.07
 69.54 9 2 1 4158.30 -21.30 175.65 201.95 62.32 10 11 19 3158.3 -30.80 151.07

Differential Corrections: TDE 2.7945 TRA .4720 TC3-5.1749 BAU 1.2669 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE 1.5368 RRA .7389 RC3-2.6043 FAU .11706 SGT 5818.2 SGR 3284.4 SG3 692.1 ST 198.4 SR 110.5 SS 96.2
 FDE 3.7369 FRA 1.9334 FC3-6.1933 BSP 9026 RRT .9663 RRF .9995 RTF .9576 CRT .9938 CRS -.9999 CST -.9922
 BDE 3.1892 BRA .8768 BC3 5.7933 FSP 1022 SGB 6681.2 R23 .2285 R13 .9735 LSA 246.3 MSA 13.8 SSA .0
 SG1 6640.0 SG2 740.9 THA 29.01 EL1 226.9 EL2 10.8 ALF 29.04

LAUNCH DATE MAY 16 1971

FLIGHT TIME 250.00

ARRIVAL DATE JAN 21 1972

HELIOCENTRIC CONIC

RL 151.25 LAL .00 LOL 234.49 VL 32.329 GAL -1.33 AZL 96.80 HCA 181.92 SMA 186.99 ECC .19247 INC 6.7957 V1 29.458
RP 222.65 LAP .23 LOP 56.41 VP 21.963 GAP 1.50 AZP 83.20 TAL 351.75 TAP 173.67 RCA 151.00 APO 222.97 V2 24.696
RC 205.250 GL -53.18 GP 30.79 ZAL 103.85 ZAP 63.48 ETS 196.45 ZAE 98.04 ETE 179.78 ZAC 133.00 ETC 275.45 LVI -38.65

PLANETOCENTRIC CONIC

C3 22.859 VHL 4.781 DLA -51.82 RAL 18.83 RAD 6644.1 VEL 11.952 PTH 6.93 VHP 3.710 DPA 7.61 RAP 292.29 ECC 1.3768
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
44.58 22 41 25 1886.32 26.51 43.50 265.72 136.31 23 12 51 886.3 42.68 21.35
44.58 22 41 25 1886.32 26.51 43.50 265.72 136.31 23 12 51 886.3 42.68 21.35
44.58 22 41 25 1886.32 26.51 43.50 265.72 136.31 23 12 51 886.3 42.68 21.35
44.58 22 41 25 1886.32 26.51 43.50 265.72 136.31 23 12 51 886.3 42.68 21.35
44.58 22 41 25 1886.32 26.51 43.50 265.72 136.31 23 12 51 886.3 42.68 21.35
44.58 22 41 25 1886.32 26.51 43.50 265.72 136.31 23 12 51 886.3 42.68 21.35

DIFFERENTIAL CORRECTIONS

TDE -.7771 TRA 2.4644 TC3-3.9823 BAU 1.3040
RDE -.1574 RRA-1.1860 RC3 1.5317 FAU .14971
FDE .9982 FRA 4.4433 FC3-5.6697 B8P 10117
BDE .7929 BRA 2.7349 BC3 4.2667 F8P 1468

MID-COURSE EXECUTION ACCURACY

SGT 6180.0 SGR 2732.5 SG3 885.7
RRT -.9703 RRF -.9988 RTF .9502
SGB 6757.2 R23 .2480 R13 -.9686
SG1 8729.9 SG2 606.9 THA 156.58

ORBIT DETERMINATION ACCURACY

ST 85.7 SR 35.8 SS 45.7
CRT -.6665 CRS .9863 CST -.5346
LSA 94.2 MSA 42.8 SSA .1
EL1 89.2 EL2 25.6 ALF 162.98

LAUNCH DATE MAY 16 1971

FLIGHT TIME 252.00

ARRIVAL DATE JAN 23 1972

HELIOCENTRIC CONIC

RL 151.25 LAL .00 LOL 234.49 VL 32.337 GAL -1.41 AZL 95.00 HCA 183.01 SMA 187.13 ECC .19326 INC 5.0013 V1 29.458
RP 223.04 LAP .26 LOP 57.50 VP 21.929 GAP 1.36 AZP 85.00 TAL 351.30 TAP 174.31 RCA 150.97 APO 223.30 V2 24.654
RC 207.907 GL -43.37 GP 20.90 ZAL 106.46 ZAP 59.94 ETS 192.16 ZAE 96.87 ETE 177.89 ZAC 123.16 ETC 272.85 LVI -29.61

PLANETOCENTRIC CONIC

C3 16.864 VHL 4.107 DLA -43.86 RAL 10.24 RAD 6641.4 VEL 11.700 PTH 6.73 VHP 3.394 DPA -2.22 RAP 293.46 ECC 1.2775
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 30 55 2068.20 14.16 48.08 238.35 135.91 21 5 23 1068.2 31.07 29.26
54.96 22 43 5 1725.08 26.15 27.52 249.49 126.56 23 11 50 725.1 38.71 2.99
54.96 22 43 5 1725.08 26.15 27.52 249.49 126.56 23 11 50 725.1 38.71 2.99
54.96 22 43 5 1725.08 26.15 27.52 249.49 126.56 23 11 50 725.1 38.71 2.99
54.96 22 43 5 1725.08 26.15 27.52 249.49 126.56 23 11 50 725.1 38.71 2.99
54.96 22 43 5 1725.08 26.15 27.52 249.49 126.56 23 11 50 725.1 38.71 2.99

DIFFERENTIAL CORRECTIONS

TDE -.7097 TRA 2.3870 TC3-5.2647 BAU 1.2255
RDE -.0331 RRA -.8129 RC3 1.3536 FAU .17322
FDE .6814 FRA 5.3634 FC3-8.8926 B8P 10617
BDE .7105 BRA 2.5217 BC3 5.4360 F8P 1869

MID-COURSE EXECUTION ACCURACY

SGT 6404.2 SGR 1926.8 SG3 1099.4
RRT -.9747 RRF -.9988 RTF .9646
SGB 6687.8 R23 .2445 R13 -.9692
SG1 8675.0 SG2 413.2 THA 163.59

ORBIT DETERMINATION ACCURACY

ST 85.4 SR 23.8 SS 47.7
CRT -.7544 CRS .9820 CST -.6168
LSA 93.6 MSA 37.2 SSA .1
EL1 87.3 EL2 15.3 ALF 167.76

LAUNCH DATE MAY 16 1971

FLIGHT TIME 254.00

ARRIVAL DATE JAN 25 1972

HELIOCENTRIC CONIC

RL 151.25 LAL .00 LOL 234.49 VL 32.346 GAL -1.49 AZL 94.16 HCA 184.10 SMA 187.29 ECC .19408 INC 4.1593 V1 29.458
RP 223.42 LAP .30 LOP 58.58 VP 21.895 GAP 1.22 AZP 85.85 TAL 350.84 TAP 174.94 RCA 150.94 APO 223.63 V2 24.812
RC 210.966 GL -37.63 GP 15.60 ZAL 108.32 ZAP 57.38 ETS 189.50 ZAE 95.61 ETE 178.93 ZAC 117.87 ETC 272.65 LVI -24.74

PLANETOCENTRIC CONIC

C3 14.783 VHL 3.845 DLA -38.78 RAL 6.66 RAD 6640.4 VEL 11.612 PTH 6.65 VHP 3.305 DPA -7.46 RAP 294.20 ECC 1.2433
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 20 3 2211.48 7.07 54.30 227.40 137.17 19 56 54 1211.5 24.78 37.11
60.00 21 35 43 1849.08 17.14 31.08 236.68 127.05 22 6 32 849.1 30.69 9.24
62.27 23 0 42 1606.97 24.54 16.13 242.02 121.03 23 27 29 607.0 35.07 351.12
62.27 23 0 42 1606.97 24.54 16.13 242.02 121.03 23 27 29 607.0 35.07 351.12
62.27 23 0 42 1606.97 24.54 16.13 242.02 121.03 23 27 29 607.0 35.07 351.12
62.27 23 0 42 1606.97 24.54 16.13 242.02 121.03 23 27 29 607.0 35.07 351.12

DIFFERENTIAL CORRECTIONS

TDE -.5913 TRA 2.3865 TC3-6.0905 BAU 1.2245
RDE -.0171 RRA -.6191 RC3 1.1373 FAU .17913
FDE .7115 FRA 5.6863 FC-10.4905 B8P 10679
BDE .5915 BRA 2.4461 BC3 6.1958 F8P 2019

MID-COURSE EXECUTION ACCURACY

SGT 6570.9 SGR 1471.8 SG3 1173.1
RRT -.9748 RRF -.9981 RTF .5442
SGB 6733.7 R23 .2512 R13 -.9668
SG1 8726.1 SG2 320.7 THA 167.65

ORBIT DETERMINATION ACCURACY

ST 81.2 SR 17.8 SS 49.1
CRT -.7988 CRS .9709 CST -.6315
LSA 89.6 MSA 35.9 SSA .1
EL1 82.5 EL2 10.6 ALF 169.88

LAUNCH DATE MAY 16 1971

FLIGHT TIME 256.00

ARRIVAL DATE JAN 27 1972

HELIOCENTRIC CONIC

RL 151.25 LAL .00 LOL 234.49 VL 32.355 GAL -1.57 AZL 93.68 HCA 185.18 SMA 187.44 ECC .19492 INC 3.6746 V1 29.458
RP 223.81 LAP .33 LOP 59.67 VP 21.861 GAP 1.07 AZP 86.34 TAL 350.38 TAP 175.56 RCA 150.90 APO 223.90 V2 24.571
RC 213.227 GL -33.89 GP 12.37 ZAL 109.70 ZAP 55.84 ETS 187.77 ZAE 94.36 ETE 179.53 ZAC 114.64 ETC 272.58 LVI -21.78

PLANETOCENTRIC CONIC

C3 13.832 VHL 3.719 DLA -35.29 RAL 4.88 RAD 6640.0 VEL 11.571 PTH 6.62 VHP 3.280 DPA -10.66 RAP 294.74 ECC 1.2276
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 45 13 2293.11 2.98 57.74 222.45 137.51 19 23 26 1293.1 21.00 41.19
60.00 20 29 40 2014.92 10.15 39.52 229.25 129.21 21 3 15 1014.9 25.01 19.60
67.96 23 23 20 1504.82 22.98 6.90 238.04 117.54 23 48 25 504.8 32.26 341.85
67.96 23 23 20 1504.82 22.98 6.90 238.04 117.54 23 48 25 504.8 32.26 341.85
67.96 23 23 20 1504.82 22.98 6.90 238.04 117.54 23 48 25 504.8 32.26 341.85
67.96 23 23 20 1504.82 22.98 6.90 238.04 117.54 23 48 25 504.8 32.26 341.85

DIFFERENTIAL CORRECTIONS

TDE -.4607 TRA 2.4118 TC3-6.5662 BAU 1.2272
RDE -.0096 RRA -.5024 RC3 .9611 FAU .18074
FDE .8027 FRA 5.7729 FC-11.3120 B8P 11083
BDE .4608 BRA 2.4636 BC3 6.6362 F8P 2035

MID-COURSE EXECUTION ACCURACY

SGT 6714.0 SGR 1187.6 SG3 1194.2
RRT -.9779 RRF -.9970 RTF .9678
SGB 6818.2 R23 .2356 R13 -.9693
SG1 8813.8 SG2 244.7 THA 170.17

ORBIT DETERMINATION ACCURACY

ST 77.3 SR 14.3 SS 49.6
CRT -.8629 CRS .9527 CST -.6688
LSA 86.7 MSA 35.6 SSA .2
EL1 78.3 EL2 7.1 ALF 170.86

LAUNCH DATE MAY 16 1971

FLIGHT TIME 258.00

ARRIVAL DATE JAN 29 1972

HELIOCENTRIC CONIC
 RL 151.25 LAL .00 LOL 234.49 VL 32.364 GAL -1.65 AZL 93.36 HCA 186.26 SMA 187.60 ECC .19579 INC 3.3565 V1 29.458
 RP 224.20 LAP .37 LOP 60.75 VP 21.827 GAP .93 AZP 86.66 TAL 349.91 TAP 176.17 RCA 150.67 APO 224.32 VE 24.520
 RC 215.890 GL -31.24 GP 10.20 ZAL 110.85 ZAP 54.58 ETS 186.57 ZAE 93.14 ETE 179.91 ZAC 112.48 ETC 272.55 LVI -18.82

PLANETOCENTRIC CONIC
 C3 13.348 VHL 3.653 DLA -32.70 RAL 3.96 RAD 6639.7 VEL 11.551 PTH 6.60 VHP 3.279 DPA -12.78 RAP 295.17 ECC 1.2197
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 24 3 2350.83 .08 60.15 219.80 137.58 19 3 14 1350.8 18.26 43.94
 60.00 19 56 34 2104.57 6.26 43.90 225.71 129.89 20 31 39 1104.6 21.61 24.74
 70.00 22 16 16 1693.03 14.90 16.86 231.97 121.09 22 44 29 693.0 26.36 354.29
 72.86 23 49 23 1406.15 21.64 358.50 235.76 115.13 24 12 49 406.2 30.07 333.51
 72.86 23 49 23 1406.15 21.64 358.50 235.76 115.13 24 12 49 406.2 30.07 333.51
 72.86 23 49 23 1406.15 21.64 358.50 235.76 115.13 24 12 49 406.2 30.07 333.51
 110.00 3 19 38 6027.89 14.90 283.69 231.97 121.09 5 0 6 5027.9 26.36 261.12

DIFFERENTIAL CORRECTIONS
 TDE -.3441 TRA 2.4849 TC3-6.8669 BAU 1.2337 SGT 6849.2 SGR 998.1 SG3 1197.1 ST 74.9 SR 12.2 SS 52.1
 RDE -.0097 RRA -.4344 RC3 .7969 FAU .17423 RRT -.9756 RRF -.9948 RTF .9648 CRT -.9080 CRS .9263 CST -.6858
 FDE 1.0167 FRA 5.9087 FC-11.3006 BSP 11591 SGB 6921.6 R23 .2394 R13 -.9659 LSA 85.7 MSA 33.6 SSA .2
 BDE .3443 BRA 2.5226 BC3 6.9132 FSP 2147 SG1 6918.2 SG2 217.1 THA 171.90 EL1 75.7 EL2 5.1 ALF 171.55

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 16 1971

FLIGHT TIME 260.00

ARRIVAL DATE JAN 31 1972

HELIOCENTRIC CONIC
 RL 151.25 LAL .00 LOL 234.49 VL 32.374 GAL -1.73 AZL 93.13 HCA 187.34 SMA 187.75 ECC .19667 INC 3.1330 V1 29.458
 RP 224.59 LAP .40 LOP 61.82 VP 21.794 GAP .79 AZP 86.89 TAL 349.43 TAP 176.77 RCA 150.83 APO 224.68 V2 24.487
 RC 218.554 GL -29.26 GP 8.66 ZAL 111.86 ZAP 53.46 ETS 185.70 ZAE 91.94 ETE 180.18 ZAC 110.93 ETC 272.55 LVI -18.45

PLANETOCENTRIC CONIC
 C3 13.096 VHL 3.619 DLA -30.67 RAL 3.48 RAD 6639.6 VEL 11.540 PTH 6.59 VHP 3.289 DPA -14.29 RAP 295.56 ECC 1.2155
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 9 50 2395.46 -2.16 62.02 218.28 137.54 18 49 45 1395.5 16.10 46.00
 60.00 19 35 30 2167.52 3.50 46.93 223.72 130.17 20 11 37 1167.5 19.12 28.20
 70.00 21 33 53 1819.16 10.36 23.80 228.82 122.73 22 4 12 819.2 22.81 2.37
 77.60 0 23 57 1300.09 20.49 349.91 234.40 113.34 0 45 37 300.1 28.30 325.01
 77.60 0 23 57 1300.09 20.49 349.91 234.40 113.34 0 45 37 300.1 28.30 325.01
 77.60 0 23 57 1300.09 20.49 349.91 234.40 113.34 0 45 37 300.1 28.30 325.01
 110.00 2 37 15 6154.02 10.36 290.63 228.82 122.73 4 19 49 5154.0 22.81 269.19

DIFFERENTIAL CORRECTIONS
 TDE -.2521 TRA 2.5589 TC3-7.1002 BAU 1.2489 SGT 6982.5 SGR 862.0 SG3 1187.4 ST 73.8 SR 10.6 SS 53.3
 RDE -.0032 RRA -.3836 RC3 .6832 FAU .17013 RRT -.9744 RRF -.9916 RTF .9646 CRT -.9553 CRS .8874 CST -.7126
 FDE 1.1424 FRA 5.9347 FC-11.2464 BSP 11948 SGB 7035.5 R23 .2268 R13 -.9654 LSA 85.7 MSA 32.5 SSA .3
 BDE .2521 BRA 2.5874 BC3 7.1330 FSP 2155 SG1 7032.9 SG2 192.4 THA 173.14 EL1 74.5 EL2 3.1 ALF 172.16

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 16 1971

FLIGHT TIME 262.00

ARRIVAL DATE FEB 2 1972

HELIOCENTRIC CONIC
 RL 151.25 LAL .00 LOL 234.49 VL 32.383 GAL -1.81 AZL 92.97 HCA 188.41 SMA 187.91 ECC .19757 INC 2.9866 V1 29.458
 RP 224.98 LAP .43 LOP 62.90 VP 21.761 GAP .65 AZP 87.06 TAL 348.96 TAP 177.37 RCA 150.79 APO 225.04 V2 24.445
 RC 221.219 GL -27.71 GP 7.50 ZAL 112.79 ZAP 52.44 ETS 185.05 ZAE 90.77 ETE 180.37 ZAC 109.77 ETC 272.57 LVI -17.44

PLANETOCENTRIC CONIC
 C3 12.978 VHL 3.602 DLA -29.02 RAL 3.29 RAD 6639.5 VEL 11.535 PTH 6.58 VHP 3.306 DPA -15.40 RAP 295.91 ECC 1.2136
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 59 39 2432.07 -4.00 63.55 217.42 137.45 18 40 11 1432.1 14.32 47.65
 60.00 19 20 41 2216.48 1.35 49.27 222.56 130.28 19 57 38 1216.5 17.13 30.81
 70.00 21 8 48 1898.48 7.41 28.05 227.11 123.44 21 40 27 898.5 20.35 7.21
 80.00 23 37 57 1431.24 14.65 356.85 231.34 116.31 24 1 49 431.2 24.23 333.55
 83.18 1 6 3 1161.09 19.50 339.15 233.61 111.93 1 25 24 161.1 26.83 314.34
 100.00 2 24 45 6193.75 14.65 296.12 231.34 116.31 4 7 59 5193.8 24.23 272.83
 110.00 2 12 11 6233.34 7.41 294.87 227.11 123.44 3 56 4 5233.3 20.35 274.03

DIFFERENTIAL CORRECTIONS
 TDE -.1833 TRA 2.8265 TC3-7.3130 BAU 1.2734 SGT 7119.3 SGR 760.7 SG3 1171.8 ST 73.6 SR 9.4 SS 53.6
 RDE .0061 RRA -.3446 RC3 .5981 FAU .16795 RRT -.9728 RRF -.9871 RTF .5558 CRT -.9883 CRS .8314 CST -.7399
 FDE 1.2089 FRA 5.8961 FC-11.2039 BSP 12133 SGB 7159.9 R23 .2036 R13 -.9661 LSA 86.1 MSA 31.0 SSA .3
 BDE .1836 BRA 2.8490 BC3 7.3394 FSP 2104 SG1 7157.7 SG2 175.3 THA 174.06 EL1 74.1 EL2 1.4 ALF 172.77

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 16 1971

FLIGHT TIME 264.00

ARRIVAL DATE FEB 4 1972

HELIOCENTRIC CONIC
 RL 151.25 LAL .00 LOL 234.49 VL 32.392 GAL -1.90 AZL 92.84 HCA 189.48 SMA 188.08 ECC .19849 INC 2.8371 V1 29.458
 RP 225.37 LAP .47 LOP 63.97 VP 21.728 GAP .50 AZP 87.20 TAL 348.49 TAP 177.97 RCA 150.75 APO 225.41 V2 24.403
 RC 223.884 GL -26.48 GP 8.81 ZAL 113.86 ZAP 51.48 ETS 184.53 ZAE 89.63 ETE 180.50 ZAC 108.86 ETC 272.60 LVI -16.88

PLANETOCENTRIC CONIC
 C3 12.945 VHL 3.598 DLA -27.63 RAL 3.27 RAD 6639.5 VEL 11.533 PTH 6.58 VHP 3.326 DPA -16.25 RAP 296.25 ECC 1.2130
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 52 3 2463.41 -5.57 64.87 216.96 137.33 18 33 6 1463.4 12.79 49.04
 60.00 19 9 39 2256.97 -.43 51.21 221.89 130.30 19 47 16 1257.0 15.46 32.92
 70.00 20 51 17 1958.12 5.16 31.20 226.11 123.81 21 23 55 958.1 18.40 10.73
 80.00 23 0 28 1593.67 10.84 3.94 229.54 117.99 23 26 22 553.7 21.42 341.56
 90.00 1 9 14 1151.10 14.42 336.14 231.36 114.59 1 28 25 151.1 23.33 312.65
 100.00 1 47 16 1028.14 10.84 325.30 229.54 117.99 2 4 24 28.1 21.42 302.92
 110.00 1 54 39 1004.93 5.16 320.12 226.11 123.81 2 11 24 4.9 18.40 299.65

DIFFERENTIAL CORRECTIONS
 TDE -.1245 TRA 2.6985 TC3-7.4953 BAU 1.3003 SGT 7256.4 SGR 683.7 SG3 1153.8 ST 73.9 SR 8.6 SS 54.2
 RDE .0149 RRA -.3163 RC3 .5267 FAU .16484 RRT -.9688 RRF -.9808 RTF .9653 CRT -.9990 CRS .7592 CST -.7609
 FDE 1.2788 FRA 5.8668 FC-11.0247 BSP 12279 SGB 7288.5 R23 .1818 R13 -.9657 LSA 87.0 MSA 30.1 SSA .4
 BDE .1254 BRA 2.7170 BC3 7.5137 FSP 2062 SG1 7286.5 SG2 168.7 THA 174.78 EL1 74.4 EL2 .4 ALF 173.34

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 16 1971

FLIGHT TIME 266.00

ARRIVAL DATE FEB 8 1972

HELIOCENTRIC CONIC
 RL 151.25 LAL .00 LOL 234.49 VL 32.402 GAL -1.99 AZL 92.74 HCA 190.55 SMA 188.24 ECC .19942 INC 2.7348 V1 29.458
 RP 225.78 LAP .50 LOP 65.03 VP 21.695 GAP .36 AZP 87.31 TAL 348.01 TAP 178.55 RCA 150.70 APO 225.78 V2 24.361
 RC 226.850 GL -23.42 GP 5.90 ZAL 114.49 ZAP 50.56 ETS 184.12 ZAE 88.51 ETE 180.61 ZAC 108.14 ETC 272.64 LVI -16.10

DISTANCE 611.862 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 12.969 VHL 3.601 DLA -26.42 RAL 3.38 RAD 6639.5 VEL 11.534 PTH 6.58 VHP 3.349 DPA -16.92 RAP 296.59 ECC 1.2134
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 46 11 2491.04 -8.95 66.04 216.78 137.19 18 27 42 1491.0 11.42 50.25
 60.00 19 1 5 2291.78 -1.96 92.87 221.55 130.26 19 39 17 1291.8 14.00 34.71
 70.00 20 38 5 2006.58 3.32 33.74 225.55 124.01 21 11 32 1006.6 16.77 13.54
 80.00 22 37 39 1632.33 8.29 6.38 228.60 118.79 23 4 52 632.3 19.40 346.52
 90.00 0 32 56 1273.21 10.85 343.32 229.95 116.28 0 54 10 273.2 20.75 320.67
 100.00 1 24 27 1106.80 8.29 329.75 228.60 118.79 1 42 54 106.8 19.40 307.88
 110.00 1 41 27 1053.40 3.32 322.66 225.55 124.01 1 59 1 53.4 16.77 302.45

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.0610 TRA 2.7858 TC3-7.6159 BAU 1.3229 SGT 7388.6 SGR 623.9 SG3 1134.5 ST 74.8 SR 8.1 SS 54.9
 RDE .0230 RRA -.2955 RC3 .4851 FAU .16093 RRT -.9631 RRF -.9726 RTF .9652 CRT -.9856 CRS .6740 CST -.7846
 FDE 1.3525 FRA 5.8475 FC-10.7426 BSP 12547 SGB 7414.9 R23 .1578 R13 -.9655 LSA 68.5 MSA 29.0 SSA .4
 BDE .0652 BRA 2.8014 BC3 7.6301 FSP 2032 SG1 7413.0 SG2 167.3 THA 175.35 EL1 75.3 EL2 1.4 ALF 173.91

LAUNCH DATE MAY 16 1971

FLIGHT TIME 266.00

ARRIVAL DATE FEB 8 1972

HELIOCENTRIC CONIC
 RL 151.25 LAL .00 LOL 234.49 VL 32.411 GAL -2.07 AZL 92.65 HCA 191.61 SMA 188.41 ECC .20038 INC 2.6516 V1 29.458
 RP 226.15 LAP .53 LOP 66.09 VP 21.663 GAP .22 AZP 87.40 TAL 347.52 TAP 179.13 RCA 150.65 APO 226.16 V2 24.319
 RC 229.216 GL -24.53 GP 5.32 ZAL 115.29 ZAP 49.71 ETS 183.78 ZAE 87.42 ETE 180.69 ZAC 107.54 ETC 272.69 LVI -15.65

DISTANCE 615.941 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 13.035 VHL 3.610 DLA -25.35 RAL 3.57 RAD 6639.6 VEL 11.537 PTH 6.58 VHP 3.373 DPA -17.45 RAP 296.94 ECC 1.2145
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 41 33 2519.98 -8.19 67.10 216.78 137.03 18 23 29 1516.0 10.19 51.34
 60.00 18 54 15 2342.92 -3.32 54.35 221.44 130.19 19 32 57 1322.6 12.69 36.27
 70.00 20 27 41 2047.90 1.74 35.90 225.28 124.11 21 1 49 1047.9 15.34 15.88
 80.00 22 21 8 1692.84 6.29 11.76 228.09 119.25 22 49 21 692.8 17.73 350.24
 90.00 0 10 47 1351.84 8.44 347.84 229.25 117.09 0 33 19 351.8 18.87 325.67
 100.00 1 7 55 1167.31 6.29 333.13 228.09 119.25 1 27 23 167.3 17.73 311.61
 110.00 1 31 3 1094.72 1.74 324.82 225.28 124.11 1 49 18 94.7 15.34 304.80

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .0023 TRA 2.8780 TC3-7.7056 BAU 1.3448 SGT 7516.6 SGR 576.2 SG3 1113.9 ST 76.3 SR 7.8 SS 55.7
 RDE .0308 RRA -.2796 RC3 .4121 FAU .19662 RRT -.9552 RRF -.9621 RTF .9648 CRT -.9473 CRS .5772 CST -.8058
 FDE 1.4298 FRA 5.8258 FC-10.4019 BSP 12846 SGB 7536.7 R23 .1578 R13 -.9631 LSA 90.5 MSA 28.2 SSA .5
 BDE .0309 BRA 2.8916 BC3 7.7166 FSP 2010 SG1 7536.7 SG2 170.2 THA 175.81 EL1 76.6 EL2 2.5 ALF 174.48

LAUNCH DATE MAY 16 1971

FLIGHT TIME 270.00

ARRIVAL DATE FEB 10 1972

HELIOCENTRIC CONIC
 RL 151.25 LAL .00 LOL 234.49 VL 32.421 GAL -2.16 AZL 92.58 HCA 192.67 SMA 188.58 ECC .20135 INC 2.5819 V1 29.458
 RP 226.55 LAP .57 LOP 67.15 VP 21.630 GAP .07 AZP 87.48 TAL 347.04 TAP 179.71 RCA 150.60 APO 226.55 V2 24.278
 RC 231.880 GL -23.75 GP 4.83 ZAL 116.07 ZAP 48.88 ETS 183.50 ZAE 86.35 ETE 180.76 ZAC 107.05 ETC 272.75 LVI -15.20

DISTANCE 620.015 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 13.133 VHL 3.624 DLA -24.38 RAL 3.82 RAD 6639.6 VEL 11.541 PTH 6.59 VHP 3.398 DPA -17.88 RAP 297.29 ECC 1.2161
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 37 49 2538.89 -9.33 68.08 216.92 136.87 18 20 8 1536.9 9.05 52.32
 60.00 18 48 39 2350.53 -4.55 55.69 221.49 130.09 19 27 49 1350.5 11.51 37.67
 70.00 20 19 13 2084.26 .35 37.80 225.20 124.15 20 53 57 1084.3 14.06 17.92
 80.00 22 8 16 1742.97 4.62 14.54 227.85 119.53 22 37 19 743.0 16.30 353.27
 90.00 23 50 39 1412.75 6.54 351.30 228.90 117.58 24 14 12 412.7 17.31 329.45
 100.00 0 55 3 1217.44 4.62 335.91 227.85 119.53 1 15 21 217.4 16.30 314.64
 110.00 1 22 35 1131.07 .35 326.72 225.20 124.15 1 41 26 131.1 14.06 306.84

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .0567 TRA 2.9677 TC3-7.7950 BAU 1.3702 SGT 7648.1 SGR 538.2 SG3 1092.8 ST 77.9 SR 7.6 SS 56.2
 RDE .0393 RRA -.2668 RC3 .3683 FAU .15295 RRT -.9450 RRF -.9492 RTF .546 CRT -.8870 CRS .4712 CST -.8233
 FDE 1.4852 FRA 5.7913 FC-10.0825 BSP 13049 SGB 7665.0 R23 .1578 R13 -.9647 LSA 92.4 MSA 27.4 SSA .5
 BDE .0690 BRA 2.9797 BC3 7.8037 FSP 1967 SG1 7663.0 SG2 175.7 THA 176.19 EL1 78.2 EL2 3.5 ALF 175.03

LAUNCH DATE MAY 16 1971

FLIGHT TIME 272.00

ARRIVAL DATE FEB 12 1972

HELIOCENTRIC CONIC
 RL 151.25 LAL .00 LOL 234.49 VL 32.431 GAL -2.25 AZL 92.52 HCA 193.72 SMA 188.74 ECC .20235 INC 2.5234 V1 29.458
 RP 226.94 LAP .60 LOP 68.20 VP 21.598 GAP -.07 AZP 87.55 TAL 346.56 TAP 180.28 RCA 150.55 APO 226.94 V2 24.256
 RC 234.543 GL -23.07 GP 4.43 ZAL 116.84 ZAP 48.09 ETS 183.26 ZAE 85.30 ETE 180.81 ZAC 106.62 ETC 272.81 LVI -15.03

DISTANCE 624.081 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 13.257 VHL 3.641 DLA -23.49 RAL 4.12 RAD 6639.7 VEL 11.547 PTH 6.59 VHP 3.424 DPA -18.24 RAP 297.66 ECC 1.2182
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 34 47 2560.26 -10.39 69.00 217.17 136.70 18 17 27 1560.3 7.99 53.24
 60.00 18 43 58 2376.23 -5.67 56.92 221.67 129.97 19 23 35 1376.2 10.40 38.95
 70.00 20 12 9 2117.02 -.90 39.51 225.28 124.14 20 47 26 1117.0 12.88 19.74
 80.00 21 57 48 1786.34 3.16 16.93 227.80 119.71 22 27 35 786.3 15.01 355.85
 90.00 23 37 53 1463.55 4.93 354.17 228.78 117.88 24 2 16 463.6 15.95 332.58
 100.00 0 44 36 1280.81 3.16 338.30 227.80 119.71 1 5 37 260.8 15.01 317.22
 110.00 1 15 31 1163.84 -.90 328.43 225.28 124.14 1 34 55 163.8 12.88 308.65

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .1152 TRA 3.0675 TC3-7.8497 BAU 1.3925 SGT 7772.3 SGR 507.8 SG3 1071.8 ST 79.9 SR 7.6 SS 56.9
 RDE .0474 RRA -.2573 RC3 .3290 FAU .14871 RRT -.9323 RRF -.9338 RTF .9641 CRT -.8093 CRS .3649 CST -.8406
 FDE 1.5458 FRA 5.7669 FC3-9.7114 BSP 13337 SGB 7786.8 R23 .0954 R13 -.9642 LSA 94.7 MSA 26.6 SSA .6
 BDE .1246 BRA 3.0782 BC3 7.8566 FSP 1941 SG1 7786.7 SG2 183.4 THA 176.51 EL1 80.2 EL2 4.5 ALF 175.58

LAUNCH DATE MAY 16 1971

FLIGHT TIME 274.00

ARRIVAL DATE FEB 14 1972

HELIOCENTRIC CONIC
 RL 151.25 LAL .00 LOL 234.49 VL 32.441 GAL -2.34 AZL 92.47 HCA 194.77 SMA 188.82 ECC .20335 INC 2.4730 V1 29.458
 RP 227.33 LAP .63 LOP 69.25 VP 21.566 GAP -.21 AZP 87.61 TAL 346.07 TAP 180.84 RCA 150.50 APO 227.33 V2 24.193
 RC 237.203 GL -22.46 GP 4.08 ZAL 117.59 ZAP 47.32 ETS 183.05 ZAE 84.27 ETE 180.85 ZAC 106.26 ETC 272.88 LVI -14.88

PLANETOCENTRIC CONIC
 C3 13.402 VHL 3.661 DLA -22.66 RAL 4.46 RAD 6639.8 VEL 11.553 PTH 6.60 VHP 3.450 DPA -18.53 RAP 298.03 ECC 1.2206
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 32 16 2580.41 -11.39 69.88 217.50 136.51 18 15 16 1580.4 6.98 54.09
 60.00 18 40 1 2400.22 -6.72 58.08 221.94 129.83 19 20 1 1400.2 9.37 40.13
 70.00 20 6 8 2147.06 -2.05 41.08 225.46 124.10 20 41 55 1147.1 11.60 21.99
 80.00 21 49 3 1824.96 1.85 19.06 227.90 119.81 22 19 28 825.0 13.84 356.12
 90.00 23 27 24 1507.75 3.31 356.65 226.81 118.08 23 52 32 507.7 14.72 335.22
 100.00 0 35 51 1299.43 1.85 340.42 227.90 119.81 0 57 30 299.4 13.84 319.49
 110.00 1 9 30 1193.88 -2.05 330.00 225.46 124.10 1 29 24 193.9 11.60 310.30

DIFFERENTIAL CORRECTIONS
 TDE .1695 TRA 3.1660 TC3-7.9002 BAU 1.4165 SGT 7897.0 SGR 483.3 SG3 1050.3 ST 82.1 SR 7.7 88 57.4
 RDE .0557 RRA -.2497 RC3 .2949 FAU .14464 RRT -.9170 RRF -.9159 RTF .9635 CRT -.7214 CR8 .2600 CST -.8548
 FDE 1.5976 FRA 5.7388 FC3-9.3432 B8P 13573 SGB 7911.7 R23 .0798 R13 -.9636 LSA 97.0 MSA 26.0 88A .6
 BDE .1784 BRA 3.1758 BC3 7.9057 F8P 1905 SGI 7909.4 SG2 192.4 THA 176.79 EL1 82.3 EL2 5.3 ALF 176.11

LAUNCH DATE MAY 16 1971

FLIGHT TIME 276.00

ARRIVAL DATE FEB 16 1972

HELIOCENTRIC CONIC
 RL 151.25 LAL .00 LOL 234.49 VL 32.451 GAL -2.43 AZL 92.43 HCA 195.82 SMA 189.09 ECC .20438 INC 2.4290 V1 29.458
 RP 227.72 LAP .66 LOP 70.30 VP 21.535 GAP -.36 AZP 87.66 TAL 345.58 TAP 181.40 RCA 150.44 APO 227.73 V2 24.193
 RC 239.859 GL -21.91 GP 3.78 ZAL 118.32 ZAP 46.57 ETS 182.88 ZAE 83.26 ETE 180.88 ZAC 105.94 ETC 272.95 LVI -14.66

PLANETOCENTRIC CONIC
 C3 13.566 VHL 3.683 DLA -21.89 RAL 4.82 RAD 6639.8 VEL 11.560 PTH 6.60 VHP 3.477 DPA -18.77 RAP 298.42 ECC 1.2233
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 30 11 2599.58 -12.34 70.72 217.90 136.33 18 13 30 1599.6 6.03 54.91
 60.00 18 36 38 2422.84 -7.70 59.18 222.28 129.68 19 17 1 1422.8 8.39 41.24
 70.00 20 0 56 2174.99 -3.11 42.54 225.74 124.03 20 37 11 1175.0 10.78 22.90
 80.00 21 41 34 1860.06 .67 20.98 228.09 119.85 22 12 34 860.1 12.76 .18
 90.00 23 18 33 1547.25 2.25 358.86 228.97 118.20 23 44 20 547.3 13.59 337.58
 100.00 0 28 22 1334.53 .67 342.35 228.09 119.85 0 50 37 334.5 12.76 321.53
 110.00 1 4 19 1221.81 -3.11 331.48 225.74 124.03 1 24 41 221.8 10.78 311.82

DIFFERENTIAL CORRECTIONS
 TDE .2188 TRA 3.2824 TC3-7.9549 BAU 1.4435 SGT 8023.1 SGR 463.7 SG3 1029.1 ST 84.2 SR 7.9 88 57.6
 RDE .0644 RRA -.2434 RC3 .2660 FAU .14132 RRT -.8996 RRF -.8956 RTF .9632 CRT -.6295 CR8 .1603 CST -.8666
 FDE 1.6354 FRA 5.6979 FC3-9.0186 B8P 13760 SGB 8036.5 R23 .0853 R13 -.9633 LSA 99.2 MSA 25.4 88A .7
 BDE .2280 BRA 3.2715 BC3 7.9594 F8P 1863 SGI 8033.9 SG2 202.2 THA 177.02 EL1 84.4 EL2 6.1 ALF 176.80

LAUNCH DATE MAY 16 1971

FLIGHT TIME 278.00

ARRIVAL DATE FEB 18 1972

HELIOCENTRIC CONIC
 RL 151.25 LAL .00 LOL 234.49 VL 32.460 GAL -2.53 AZL 92.39 HCA 196.86 SMA 189.26 ECC .20542 INC 2.3907 V1 29.458
 RP 228.10 LAP .69 LOP 71.34 VP 21.504 GAP -.50 AZP 87.71 TAL 345.09 TAP 181.95 RCA 150.38 APO 228.14 V2 24.112
 RC 242.511 GL -21.40 GP 3.52 ZAL 119.05 ZAP 45.85 ETS 182.72 ZAE 82.27 ETE 180.90 ZAC 105.66 ETC 273.03 LVI -14.54

PLANETOCENTRIC CONIC
 C3 13.745 VHL 3.707 DLA -21.17 RAL 5.20 RAD 6639.9 VEL 11.568 PTH 6.61 VHP 3.504 DPA -18.96 RAP 298.82 ECC 1.2262
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 28 25 2617.95 -13.24 71.53 218.34 136.13 18 12 3 1618.0 5.11 55.68
 60.00 18 33 42 2444.35 -8.64 60.23 222.69 129.52 19 14 26 1444.4 7.46 42.29
 70.00 19 56 24 2201.24 -4.11 43.91 226.08 123.94 20 33 5 1201.2 9.81 24.32
 80.00 21 35 4 1892.46 -.43 22.76 228.37 119.85 22 6 36 892.5 11.74 2.03
 90.00 23 10 55 1583.28 1.09 .87 229.22 118.28 23 37 18 583.3 12.55 339.70
 100.00 0 21 51 1368.93 -.43 344.13 228.37 119.85 0 44 38 366.9 11.74 323.40
 110.00 0 59 46 1248.06 -4.11 332.83 226.08 123.94 1 20 34 248.1 9.81 313.24

DIFFERENTIAL CORRECTIONS
 TDE .2715 TRA 3.3866 TC3-7.9858 BAU 1.4681 SGT 8148.6 SGR 448.3 SG3 1008.2 ST 86.7 SR 8.2 88 58.0
 RDE .0728 RRA -.2389 RC3 .2393 FAU .13750 RRT -.8798 RRF -.8730 RTF .9626 CRT -.5372 CR8 .0701 CST -.8779
 FDE 1.6776 FRA 5.6672 FC3-8.6604 B8P 13992 SGB 8159.9 R23 .0537 R13 -.9627 LSA 101.7 MSA 24.9 88A .7
 BDE .2811 BRA 3.3750 BC3 7.9894 F8P 1828 SGI 8156.1 SG2 212.9 THA 177.23 EL1 86.8 EL2 6.9 ALF 177.08

LAUNCH DATE MAY 16 1971

FLIGHT TIME 280.00

ARRIVAL DATE FEB 20 1972

HELIOCENTRIC CONIC
 RL 151.25 LAL .00 LOL 234.49 VL 32.470 GAL -2.62 AZL 92.36 HCA 197.90 SMA 189.44 ECC .20648 INC 2.3570 V1 29.458
 RP 228.49 LAP .72 LOP 72.38 VP 21.473 GAP -.65 AZP 87.76 TAL 344.59 TAP 182.50 RCA 150.32 APO 228.55 V2 24.071
 RC 249.157 GL -20.94 GP 3.29 ZAL 119.77 ZAP 45.16 ETS 182.59 ZAE 81.30 ETE 180.92 ZAC 105.41 ETC 273.11 LVI -14.46

PLANETOCENTRIC CONIC
 C3 13.939 VHL 3.733 DLA -20.48 RAL 5.60 RAD 6640.0 VEL 11.576 PTH 6.62 VHP 3.532 DPA -19.12 RAP 299.23 ECC 1.2294
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 26 57 2635.67 -14.11 72.32 218.84 135.93 18 10 52 1635.7 4.22 56.43
 60.00 18 31 8 2464.97 -9.53 61.24 223.14 129.35 19 12 13 1465.0 6.56 43.29
 70.00 19 52 23 2226.12 -5.05 45.22 226.49 123.82 20 29 29 1226.1 8.89 25.66
 80.00 21 29 19 1922.72 -1.46 24.42 228.72 119.83 22 1 22 922.7 10.78 3.76
 90.00 23 4 13 1616.62 .01 2.73 229.54 118.28 23 31 10 616.6 11.56 341.65
 100.00 0 16 7 1397.19 -1.46 345.79 228.72 119.83 0 39 24 397.2 10.78 325.13
 110.00 0 55 45 1272.94 -5.05 334.14 226.49 123.82 1 16 58 272.9 8.89 314.58

DIFFERENTIAL CORRECTIONS
 TDE .3242 TRA 3.4725 TC3-8.0080 BAU 1.4928 SGT 8268.1 SGR 436.2 SG3 987.3 ST 89.3 SR 8.5 88 58.4
 RDE .0813 RRA -.2355 RC3 .2154 FAU .13373 RRT -.8579 RRF -.8485 RTF .9621 CRT -.4480 CR8 -.0113 CST -.8878
 FDE 1.7181 FRA 5.6335 FC3-8.3064 B8P 14223 SGB 8279.6 R23 .0438 R13 -.9621 LSA 104.2 MSA 24.4 88A .8
 BDE .3342 BRA 3.4805 BC3 8.0109 F8P 1794 SGI 8276.5 SG2 223.9 THA 177.41 EL1 89.4 EL2 7.6 ALF 177.54

LAUNCH DATE MAY 17 1971

FLIGHT TIME 92.00

ARRIVAL DATE AUG 17 1971

HELIOCENTRIC CONIC

DISTANCE 274.060

EARTH TO MARS

RL 151.28 LAL .00 LOL 235.46 VL 35.620 GAL -.90 AZL 91.85 HCA 85.78 SMA 273.21 ECC .44849 INC 1.8530 V1 29.481
 RP 207.22 LAP -1.85 LOP 321.23 VP 20.188 GAP 22.77 AZP 90.14 TAL 357.07 TAP 82.85 RCA 151.22 APO 395.19 V2 26.432
 RC 56.455 GL -10.50 GP -.45 ZAL 98.42 ZAP 177.83 ETS 191.89 ZAE 174.07 ETE 49.58 ZAC 99.44 ETC 277.97 LVI -17.89

PLANETOCENTRIC CONIC

C3 39.978 VHL 6.323 DLA -19.79 RAL 339.95 RAD 6650.7 VEL 12.643 PTH 7.49 VHP 11.480 DPA -17.28 RAP 322.28 ECC 1.6579
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 37 39 2904.87 -26.77 85.37 206.61 130.92 16 26 4 1904.9 -9.27 67.75
 60.00 16 40 47 2736.97 -20.83 75.34 211.70 125.32 17 28 24 1737.0 -5.39 56.33
 70.00 18 0 39 2502.21 -15.19 60.17 215.57 120.96 18 42 21 1502.2 -1.58 40.17
 80.00 19 35 59 2203.82 -10.78 40.07 218.13 118.01 20 12 43 1203.8 1.46 19.41
 90.00 21 10 1 1900.49 -9.01 18.70 219.06 116.92 21 41 42 900.5 2.70 357.79
 100.00 22 18 51 1678.29 -10.78 1.44 218.13 118.01 22 46 49 678.3 1.46 340.78
 110.00 23 0 5 1549.03 -15.19 349.09 215.57 120.96 23 25 54 549.0 -1.58 329.09

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3863 TRA -.8813 TC3 .0225 BAU .0360 SGT 918.6 SGR 580.4 S63 91.7 ST 21.6 SR 26.6 S8 10.3
 RDE -.5821 RRA .2371 RC3 .0636 FAU .03198 RRT -.0129 RRF .0140 RTF -.5773 CRT .7262 CRS .3949 CST .9124
 FDE .1166 FRA .6130 FC3 -.6926 B8P 1220 SGB 1086.5 R23 -.0016 R13 .5774 LSA 32.7 MSA 14.6 S8A 1.1
 BDE .6986 BRA .9127 BC3 .0674 F8P 107 S61 918.6 S62 580.3 THA 179.22 EL1 32.0 EL2 12.4 ALF 52.87

LAUNCH DATE MAY 17 1971

FLIGHT TIME 94.00

ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC

DISTANCE 275.668

EARTH TO MARS

RL 151.28 LAL .00 LOL 235.46 VL 35.400 GAL -.84 AZL 91.85 HCA 87.04 SMA 264.69 ECC .42865 INC 1.8494 V1 29.451
 RP 207.13 LAP -1.85 LOP 322.50 VP 27.930 GAP 22.24 AZP 90.10 TAL 357.19 TAP 84.23 RCA 151.23 APO 378.15 V2 26.443
 RC 56.701 GL -10.79 GP -.46 ZAL 98.34 ZAP 176.94 ETS 188.63 ZAE 173.52 ETE 43.59 ZAC 99.38 ETC 278.04 LVI -17.97

PLANETOCENTRIC CONIC

C3 37.230 VHL 6.102 DLA -20.08 RAL 339.99 RAD 6649.7 VEL 12.535 PTH 7.41 VHP 11.097 DPA -17.18 RAP 322.65 ECC 1.6127
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 39 7 2890.58 -25.68 84.09 205.59 131.53 16 27 8 1880.6 -8.06 66.71
 60.00 16 42 43 2711.48 -19.82 73.94 210.68 125.84 17 27 54 1711.5 -4.27 55.10
 70.00 18 3 10 2474.97 -14.23 58.64 214.56 121.38 18 44 25 1475.0 -1.54 38.75
 80.00 19 39 11 2174.45 -9.84 38.41 217.14 118.33 20 15 26 1174.5 2.45 17.80
 90.00 21 13 35 1869.95 -8.07 16.96 218.08 117.20 21 44 45 870.0 3.67 356.08
 100.00 22 22 3 1648.93 -9.84 359.77 217.14 118.33 22 49 32 648.9 2.45 339.17
 110.00 23 2 36 1521.79 -14.23 347.56 214.56 121.38 23 27 58 521.8 -1.54 327.66

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3809 TRA -.8718 TC3 .0360 BAU .0385 SGT 943.2 SGR 584.5 S63 98.3 ST 22.2 SR 26.8 S8 10.6
 RDE -.5632 RRA .2302 RC3 .0684 FAU .03303 RRT -.0130 RRF .0153 RTF -.5910 CRT .7244 CRS .3782 CST .9062
 FDE .1162 FRA .6357 FC3 -.7681 B8P 1278 SGB 1109.6 R23 -.0028 R13 .5910 LSA 33.1 MSA 14.9 S8A 1.1
 BDE .6816 BRA .9017 BC3 .0773 F8P 117 S61 943.2 S62 584.4 THA 179.25 EL1 32.4 EL2 12.6 ALF 52.35

LAUNCH DATE MAY 17 1971

FLIGHT TIME 96.00

ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC

DISTANCE 277.567

EARTH TO MARS

RL 151.28 LAL .00 LOL 235.46 VL 35.193 GAL -.78 AZL 91.85 HCA 88.31 SMA 257.19 ECC .41198 INC 1.8451 V1 29.451
 RP 207.05 LAP -1.84 LOP 323.76 VP 27.676 GAP 21.72 AZP 90.05 TAL 357.33 TAP 85.63 RCA 151.24 APO 363.15 V2 26.453
 RC 57.030 GL -11.08 GP -.47 ZAL 98.22 ZAP 176.03 ETS 186.85 ZAE 172.95 ETE 38.66 ZAC 99.31 ETC 278.12 LVI -18.05

PLANETOCENTRIC CONIC

C3 34.733 VHL 5.893 DLA -20.40 RAL 340.01 RAD 6648.8 VEL 12.435 PTH 7.34 VHP 10.728 DPA -17.08 RAP 323.00 ECC 1.5716
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 40 33 2856.45 -24.59 82.84 204.59 132.11 16 28 9 1856.4 -6.86 65.88
 60.00 16 44 37 2686.07 -18.80 72.57 209.67 126.33 17 29 23 1686.1 -3.15 53.88
 70.00 18 5 42 2447.70 -13.26 57.13 213.56 121.77 18 46 30 1447.7 .50 37.32
 80.00 19 42 29 2144.90 -8.88 36.73 216.16 118.62 20 18 14 1144.9 3.45 16.17
 90.00 21 17 15 1839.13 -7.10 15.21 217.12 117.45 21 47 54 839.1 4.66 354.39
 100.00 22 25 19 1619.37 -8.88 358.11 216.16 118.62 22 52 18 619.4 3.45 337.54
 110.00 23 5 8 1494.52 -13.26 346.05 213.56 121.77 23 30 3 494.5 .50 326.24

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3751 TRA -.8618 TC3 .0497 BAU .0412 SGT 967.2 SGR 588.2 S63 105.5 ST 22.6 SR 26.9 S8 11.0
 RDE -.5489 RRA .2236 RC3 .0734 FAU .03420 RRT -.0134 RRF .0158 RTF -.5734 CRT .7223 CRS .3643 CST .9014
 FDE .1169 FRA .6607 FC3 -.8525 B8P 1339 SGB 1132.0 R23 -.0029 R13 .6034 LSA 33.5 MSA 15.3 S8A 1.1
 BDE .6848 BRA .8903 BC3 .0886 F8P 127 S61 967.2 S62 588.1 THA 179.26 EL1 32.7 EL2 12.9 ALF 51.77

LAUNCH DATE MAY 17 1971

FLIGHT TIME 98.00

ARRIVAL DATE AUG 23 1971

HELIOCENTRIC CONIC

DISTANCE 279.717

EARTH TO MARS

RL 151.28 LAL .00 LOL 235.46 VL 34.998 GAL -.71 AZL 91.84 HCA 89.57 SMA 250.55 ECC .39637 INC 1.8407 V1 29.451
 RP 206.97 LAP -1.84 LOP 325.03 VP 27.437 GAP 21.20 AZP 90.01 TAL 357.48 TAP 87.05 RCA 151.24 APO 349.87 V2 26.462
 RC 57.440 GL -11.38 GP -.49 ZAL 98.08 ZAP 175.11 ETS 185.72 ZAE 172.37 ETE 34.59 ZAC 99.25 ETC 278.18 LVI -18.13

PLANETOCENTRIC CONIC

C3 32.461 VHL 5.697 DLA -20.72 RAL 339.99 RAD 6647.9 VEL 12.344 PTH 7.27 VHP 10.374 DPA -16.98 RAP 323.34 ECC 1.5342
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 41 56 2832.51 -23.49 81.82 203.62 132.64 16 29 8 1832.5 -5.66 64.67
 60.00 16 46 30 2680.79 -17.77 71.22 208.69 126.79 17 30 51 1660.8 -2.04 52.67
 70.00 18 8 16 2420.45 -12.28 55.63 212.59 122.12 18 48 36 1420.5 1.54 35.90
 80.00 19 45 48 2115.19 -7.90 39.07 215.21 118.89 20 21 3 1115.2 4.45 14.54
 90.00 21 21 1 1808.04 -6.12 13.45 216.17 117.66 21 51 9 808.0 5.65 352.61
 100.00 22 28 40 1589.67 -7.90 356.44 215.21 118.89 22 55 9 589.7 4.45 335.90
 110.00 23 7 42 1467.27 -12.28 344.55 212.59 122.12 23 32 9 467.3 1.54 324.82

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3685 TRA -.8521 TC3 .0649 BAU .0442 SGT 991.1 SGR 591.5 S63 113.2 ST 23.1 SR 27.0 S8 11.3
 RDE -.9331 RRA .2171 RC3 .0785 FAU .03541 RRT -.0146 RRF .0172 RTF -.6155 CRT .7193 CRS .3463 CST .8950
 FDE .1163 FRA .6864 FC3 -.9444 B8P 1391 SGB 1154.2 R23 -.0032 R13 .6155 LSA 33.8 MSA 15.7 S8A 1.1
 BDE .6481 BRA .8793 BC3 .1019 F8P 139 S61 991.1 S62 591.4 THA 179.23 EL1 33.0 EL2 13.1 ALF 51.24

LAUNCH DATE MAY 17 1971

FLIGHT TIME 100.00

ARRIVAL DATE AUG 25 1971

HELIOCENTRIC CONIC
 RL 151.28 LAL .00 LOL 235.46 VL 34.814 GAL -.63 AZL 91.84 HCA 90.84 SMA 244.64 ECC .38176 INC 1.8364 V1 29.451
 RP 206.90 LAP -1.84 LOP 326.30 VP 27.210 GAP 20.70 AZP 89.97 TAL 357.65 TAP 88.49 RCA 151.25 APO 338.04 V2 26.469
 RC 57.930 GL -11.68 GP -.50 ZAL 97.91 ZAP 174.18 ETS 184.95 ZAE 171.80 ETE 31.21 ZAC 99.19 ETC 278.25 LVI -18.20

PLANETOCENTRIC CONIC
 C3 30.391 VHL 5.513 DLA -21.06 RAL 339.95 RAD 6647.2 VEL 12.261 PTH 7.20 VHP 10.032 DPA -16.89 RAP 323.68 ECC 1.5002
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 43 16 2608.82 -22.39 80.43 202.67 133.14 16 30 5 1808.8 -4.48 63.67
 60.00 16 48 22 2635.69 -16.74 69.89 207.73 127.21 17 32 18 1635.7 -.94 51.48
 70.00 18 10 50 2393.27 -11.29 54.14 211.64 122.45 18 50 43 1393.3 2.58 34.48
 80.00 19 49 13 2085.38 -6.92 33.40 214.28 119.12 20 23 58 1085.4 5.45 12.89
 90.00 21 24 54 1776.71 -5.13 11.68 215.25 117.85 21 54 31 776.7 6.64 350.84
 100.00 22 32 5 1559.85 -6.92 354.77 214.28 119.12 22 58 5 559.8 5.45 334.26
 110.00 23 10 16 1440.09 -11.29 343.06 211.64 122.45 23 34 17 440.1 2.58 323.40

DIFFERENTIAL CORRECTIONS
 TDE -.3612 TRA -.8409 TC3 .0831 BAU .0479
 RDE -.5178 RRA .2108 RC3 .0838 FAU .03676
 FDE .1156 FRA .7131 FC3-1.0472 BSP 1433
 BDE .6313 BRA .8669 BC3 .1180 FSP 153

MID-COURSE EXECUTION ACCURACY
 SGT 1013.1 SGR 594.4 SG3 121.5
 RRT -.0155 RRF .0181 RTF -.6279
 SGB 1174.5 R23 -.0033 R13 .6279
 SGI 1013.1 SGI 594.3 THA 179.20

ORBIT DETERMINATION ACCURACY
 ST 23.4 SR 27.1 SS 11.7
 CRT .7161 CR8 .3284 CST .8887
 LSA 34.1 MSA 16.1 SSA 1.2
 EL1 33.3 EL2 13.3 ALF 50.80

LAUNCH DATE MAY 17 1971

FLIGHT TIME 102.00

ARRIVAL DATE AUG 27 1971

HELIOCENTRIC CONIC
 RL 151.28 LAL .00 LOL 235.46 VL 34.642 GAL -.58 AZL 91.83 HCA 92.10 SMA 239.36 ECC .36809 INC 1.8320 V1 29.451
 RP 206.85 LAP -1.83 LOP 327.56 VP 26.996 GAP 20.20 AZP 89.93 TAL 357.83 TAP 89.94 RCA 151.25 APO 327.47 V2 26.476
 RC 58.496 GL -11.97 GP -.52 ZAL 97.71 ZAP 173.24 ETS 184.40 ZAE 171.25 ETE 28.37 ZAC 99.13 ETC 278.32 LVI -18.27

PLANETOCENTRIC CONIC
 C3 28.503 VHL 5.339 DLA -21.40 RAL 339.89 RAD 6646.4 VEL 12.184 PTH 7.14 VHP 9.703 DPA -16.80 RAP 324.00 ECC 1.4691
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 44 34 2785.42 -21.30 79.28 201.75 133.61 16 30 59 1785.4 -3.30 62.69
 60.00 16 50 13 2610.81 -15.72 68.60 206.79 127.60 17 33 44 1610.8 .16 50.29
 70.00 18 13 26 2366.20 -10.30 52.68 210.71 122.75 18 52 52 1366.2 3.61 33.07
 80.00 19 52 43 2055.48 -5.92 31.74 213.36 119.32 20 26 58 1055.5 6.45 11.23
 90.00 21 28 55 1745.18 -4.12 9.91 214.35 118.00 21 58 0 745.2 7.63 349.05
 100.00 22 35 35 1529.95 -5.92 353.11 213.36 119.32 23 1 5 530.0 6.45 332.60
 110.00 23 12 52 1413.01 -10.30 341.59 210.71 122.75 23 36 25 413.0 3.61 321.98

DIFFERENTIAL CORRECTIONS
 TDE -.3569 TRA -.8329 TC3 .1050 BAU .0525
 RDE -.5031 RRA .2047 RC3 .0891 FAU .03818
 FDE .1141 FRA .7397 FC3-1.1597 BSP 1483
 BDE .6168 BRA .8577 BC3 .1378 FSP 185

MID-COURSE EXECUTION ACCURACY
 SGT 1039.7 SGR 596.8 SG3 130.3
 RRT -.0146 RRF .0191 RTF -.6404
 SGB 1198.8 R23 -.0052 R13 .6404
 SGI 1039.7 SGI 596.7 THA 179.29

ORBIT DETERMINATION ACCURACY
 ST 24.0 SR 27.2 SS 12.0
 CRT .7143 CR8 .3089 CST .8806
 LSA 34.5 MSA 16.5 SSA 1.2
 EL1 33.6 EL2 13.6 ALF 50.08

LAUNCH DATE MAY 17 1971

FLIGHT TIME 104.00

ARRIVAL DATE AUG 29 1971

HELIOCENTRIC CONIC
 RL 151.28 LAL .00 LOL 235.46 VL 34.480 GAL -.52 AZL 91.83 HCA 93.37 SMA 234.61 ECC .35528 INC 1.8276 V1 29.451
 RP 206.80 LAP -1.82 LOP 328.83 VP 26.793 GAP 19.71 AZP 89.89 TAL 358.03 TAP 91.40 RCA 151.26 APO 317.97 V2 26.482
 RC 59.137 GL -12.27 GP -.53 ZAL 97.49 ZAP 172.28 ETS 183.97 ZAE 170.74 ETE 25.97 ZAC 99.07 ETC 278.38 LVI -18.34

PLANETOCENTRIC CONIC
 C3 26.781 VHL 5.175 DLA -21.76 RAL 339.80 RAD 6645.7 VEL 12.114 PTH 7.09 VHP 9.387 DPA -16.71 RAP 324.31 ECC 1.4407
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 45 49 2782.34 -20.21 78.17 200.85 134.04 16 31 52 1762.3 -2.14 61.72
 60.00 16 52 3 2586.20 -14.69 67.33 205.88 127.96 17 35 9 1586.2 1.24 49.11
 70.00 18 16 3 2339.27 -9.30 51.23 209.80 123.01 18 55 2 1339.3 4.63 31.65
 80.00 19 56 18 2025.54 -4.92 30.08 212.48 119.49 20 30 3 1025.5 7.44 9.56
 90.00 21 33 3 1713.46 -3.11 8.13 213.48 118.12 22 1 36 713.5 8.61 347.24
 100.00 22 39 9 1500.01 -4.92 351.45 212.48 119.49 23 4 9 500.0 7.44 330.93
 110.00 23 15 29 1386.09 -9.30 340.14 209.80 123.01 23 38 35 386.1 4.63 320.57

DIFFERENTIAL CORRECTIONS
 TDE -.3478 TRA -.8203 TC3 .1239 BAU .0558
 RDE -.4889 RRA .1987 RC3 .0948 FAU .03963
 FDE .1114 FRA .7668 FC3-1.2811 BSP 1534
 BDE .5999 BRA .8441 BC3 .1358 FSP 179

MID-COURSE EXECUTION ACCURACY
 SGT 1058.7 SGR 598.9 SG3 139.6
 RRT -.0170 RRF .0208 RTF -.6.99
 SGB 1216.3 R23 -.0044 R13 .6500
 SGI 1058.8 SGI 598.7 THA 179.19

ORBIT DETERMINATION ACCURACY
 ST 24.2 SR 27.3 SS 12.3
 CRT .7096 CR8 .2863 CST .8726
 LSA 34.6 MSA 16.8 SSA 1.2
 EL1 33.8 EL2 13.8 ALF 49.83

LAUNCH DATE MAY 17 1971

FLIGHT TIME 106.00

ARRIVAL DATE AUG 31 1971

HELIOCENTRIC CONIC
 RL 151.28 LAL .00 LOL 235.46 VL 34.327 GAL -.45 AZL 91.82 HCA 94.64 SMA 230.34 ECC .34328 INC 1.8232 V1 29.451
 RP 206.75 LAP -1.82 LOP 330.10 VP 26.601 GAP 19.23 AZP 89.85 TAL 358.24 TAP 92.88 RCA 151.26 APO 309.41 V2 26.487
 RC 59.850 GL -12.56 GP -.55 ZAL 97.25 ZAP 171.31 ETS 183.65 ZAE 170.28 ETE 23.90 ZAC 99.01 ETC 278.43 LVI -18.40

PLANETOCENTRIC CONIC
 C3 25.208 VHL 5.021 DLA -22.12 RAL 339.89 RAD 6645.1 VEL 12.049 PTH 7.03 VHP 9.081 DPA -16.63 RAP 324.60 ECC 1.4149
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 47 2 2739.62 -19.13 77.09 199.98 134.43 16 32 41 1739.6 -1.00 60.77
 60.00 16 53 52 2561.89 -13.67 66.09 204.99 128.29 17 36 34 1561.9 2.31 47.95
 70.00 18 18 41 2312.53 -8.31 49.80 208.92 123.25 18 57 14 1312.5 5.65 30.25
 80.00 19 59 57 1995.58 -3.92 28.43 211.62 119.62 20 33 13 995.6 8.42 7.88
 90.00 21 37 19 1681.56 -2.08 6.35 212.63 118.21 22 5 20 681.6 9.60 345.41
 100.00 22 42 48 1470.05 -3.92 349.80 211.62 119.62 23 7 19 470.1 8.42 329.25
 110.00 23 18 7 1359.35 -8.31 338.71 208.92 123.25 23 40 47 359.3 5.65 319.18

DIFFERENTIAL CORRECTIONS
 TDE -.3417 TRA -.8107 TC3 .1447 BAU .0593
 RDE -.4751 RRA .1930 RC3 .1001 FAU .04117
 FDE .1114 FRA .7975 FC3-1.4138 BSP 1590
 BDE .5852 BRA .8334 BC3 .1759 FSP 196

MID-COURSE EXECUTION ACCURACY
 SGT 1081.9 SGR 600.5 SG3 149.6
 RRT -.0175 RRF .0211 RTF -.6604
 SGB 1237.3 R23 -.0044 R13 .6605
 SGI 1081.9 SGI 600.3 THA 179.20

ORBIT DETERMINATION ACCURACY
 ST 24.6 SR 27.3 SS 12.7
 CRT .7067 CR8 .2713 CST .8671
 LSA 34.9 MSA 17.2 SSA 1.2
 EL1 34.0 EL2 14.0 ALF 49.28

LAUNCH DATE MAY 17 1971

FLIGHT TIME 108.00

ARRIVAL DATE SEP 2 1971

Heliocentric Conic

DISTANCE 293.199

EARTH TO MARS

RL 151.28 LAL .00 LOL 235.46 VL 34.103 GAL -.38 AZL 91.82 HCA 95.91 SMA 226.47 ECC .33204 INC 1.8100 V1 29.481
RP 206.72 LAP -1.81 LOP 331.37 VP 26.419 GAP 18.78 AZP 89.81 TAL 358.46 TAP 94.37 RCA 151.27 APO 301.66 V2 26.491
RC 60.633 GL -12.88 GP -.58 ZAL 96.99 ZAP 170.32 ETS 183.39 ZAE 169.96 ETE 22.12 ZAC 98.95 ETC 278.49 LVI -18.45

Planetocentric Conic

C3 23.771 VHL 4.878 DLA -22.49 RAL 339.56 RAD 6644.5 VEL 11.990 PTH 6.99 VHP 8.787 DPA -16.56 RAP 324.89 ECC 1.3912
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 48 12 2717.30 -18.06 76.04 199.13 134.80 16 33 29 1717.3 .12 59.84
60.00 16 55 39 2537.92 -12.65 64.87 204.13 128.59 17 37 57 1537.9 3.36 46.80
70.00 18 21 20 2286.02 -7.31 48.38 208.06 123.45 18 59 26 1286.0 6.65 28.85
80.00 20 3 42 1965.63 -2.91 26.76 210.78 119.73 20 36 28 965.6 9.40 6.19
90.00 21 41 43 1649.50 -1.05 4.56 211.81 118.26 22 9 13 649.5 10.57 343.56
100.00 22 46 34 1440.11 -2.91 348.15 210.78 119.73 23 10 34 440.1 9.40 327.56
110.00 23 20 47 1332.83 -7.31 337.30 208.06 123.45 23 42 59 332.8 6.65 317.76

Differential Corrections

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3348 TRA -.8017 TC3 .1694 BAU .0634 SGT 1105.4 SGR 601.7 SG3 160.5 ST 24.9 SR 27.4 SS 13.1
RDE -.4619 RRA .1874 RC3 .1055 FAU .04293 RRT -.0188 RRF .0224 RTF -.6705 CRT .7026 CRS .2491 CST .8586
FDE .1088 FRA .8289 FC3-1.5634 BSP 1630 SGB 1258.5 R23 -.0045 R13 .6706 LSA 35.1 MSA 17.6 SSA 1.3
BDE .5705 BRA .8234 BC3 .1995 FSP 212 SG1 1105.5 SG2 601.5 THA 179.17 EL1 34.2 EL2 14.2 ALF 48.81

LAUNCH DATE MAY 17 1971

FLIGHT TIME 110.00

ARRIVAL DATE SEP 4 1971

Heliocentric Conic

DISTANCE 296.294

EARTH TO MARS

RL 151.28 LAL .00 LOL 235.46 VL 34.048 GAL -.32 AZL 91.81 HCA 97.18 SMA 222.95 ECC .32150 INC 1.8144 V1 29.451
RP 206.70 LAP -1.80 LOP 332.64 VP 26.247 GAP 18.30 AZP 89.77 TAL 358.69 TAP 95.86 RCA 151.27 APO 294.63 V2 26.494
RC 61.483 GL -13.15 GP -.58 ZAL 96.71 ZAP 169.32 ETS 183.17 ZAE 169.50 ETE 20.56 ZAC 98.90 ETC 278.54 LVI -18.50

Planetocentric Conic

C3 22.456 VHL 4.739 DLA -22.86 RAL 339.41 RAD 6643.9 VEL 11.935 PTH 6.94 VHP 8.502 DPA -16.49 RAP 325.15 ECC 1.3686
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 49 20 2695.38 -17.01 75.02 198.31 135.13 16 34 15 1695.4 1.22 58.93
60.00 16 57 25 2514.29 -11.65 63.69 203.28 128.86 17 39 19 1514.3 4.40 45.67
70.00 18 24 14 2259.73 -6.32 46.99 207.23 123.63 19 1 40 1259.7 7.63 27.45
80.00 20 7 33 1935.67 -1.90 25.13 209.97 119.80 20 39 49 935.7 10.37 4.90
90.00 21 46 17 1617.22 -.01 2.76 211.02 118.28 22 13 14 617.2 11.54 341.69
100.00 22 50 25 1410.14 -1.90 346.50 209.97 119.80 23 13 55 410.1 10.37 325.86
110.00 23 23 27 1306.54 -6.32 335.91 207.23 123.63 23 45 13 306.5 7.63 316.37

Differential Corrections

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3193 TRA -.7822 TC3 .2076 BAU .0707 SGT 1114.0 SGR 602.5 SG3 171.1 ST 24.7 SR 27.4 SS 13.4
RDE -.4491 RRA .1820 RC3 .1110 FAU .04446 RRT -.0220 RRF .0248 RTF -.6908 CRT .6936 CRS .2227 CST .8512
FDE .1043 FRA .8586 FC3-1.7140 BSP 1606 SGB 1266.5 R23 -.0034 R13 .6909 LSA 34.8 MSA 18.0 SSA 1.3
BDE .5511 BRA .8031 BC3 .2355 FSP 234 SG1 1114.2 SG2 602.3 THA 179.04 EL1 34.0 EL2 14.3 ALF 49.25

LAUNCH DATE MAY 17 1971

FLIGHT TIME 112.00

ARRIVAL DATE SEP 6 1971

Heliocentric Conic

DISTANCE 299.494

EARTH TO MARS

RL 151.28 LAL .00 LOL 235.46 VL 33.921 GAL -.26 AZL 91.81 HCA 98.45 SMA 219.78 ECC .31163 INC 1.8100 V1 29.451
RP 206.68 LAP -1.79 LOP 333.91 VP 26.083 GAP 17.84 AZP 89.73 TAL 358.93 TAP 97.37 RCA 151.28 APO 288.24 V2 26.496
RC 62.398 GL -13.44 GP -.60 ZAL 96.42 ZAP 168.29 ETS 183.00 ZAE 169.20 ETE 19.19 ZAC 98.84 ETC 278.59 LVI -18.55

Planetocentric Conic

C3 21.254 VHL 4.610 DLA -23.24 RAL 339.24 RAD 6643.4 VEL 11.885 PTH 6.90 VHP 8.229 DPA -16.42 RAP 325.40 ECC 1.3498
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 50 25 2873.96 -15.97 74.04 197.51 135.44 16 34 59 1674.0 2.30 58.03
60.00 16 59 10 2491.12 -10.65 62.54 202.47 129.10 17 40 41 1491.1 5.42 44.55
70.00 18 26 42 2233.80 -5.34 45.62 206.43 123.78 19 3 55 1233.8 8.60 26.07
80.00 20 11 29 1905.85 -.89 23.49 209.20 119.85 20 43 15 905.8 11.32 2.80
90.00 21 51 0 1584.88 1.03 .96 210.26 118.26 22 17 25 584.9 12.50 339.80
100.00 22 54 21 1380.32 -.89 344.86 209.20 119.85 23 17 21 380.3 11.32 324.16
110.00 23 26 8 1280.62 -5.34 334.54 206.43 123.78 23 47 29 280.6 8.60 314.99

Differential Corrections

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3156 TRA -.7781 TC3 .2304 BAU .0733 SGT 1143.1 SGR 602.9 SG3 184.8 ST 25.2 SR 27.4 SS 13.8
RDE -.4368 RRA .1789 RC3 .1163 FAU .04670 RRT -.0233 RRF .0261 RTF -.5757 CRT .6901 CRS .2000 CST .8415
FDE .1016 FRA .8970 FC3-1.9023 BSP 1676 SGB 1292.3 R23 -.0036 R13 .6958 LSA 35.1 MSA 18.4 SSA 1.3
BDE .5389 BRA .7980 BC3 .2581 FSP 252 SG1 1143.2 SG2 602.7 THA 179.02 EL1 34.2 EL2 14.6 ALF 48.47

LAUNCH DATE MAY 17 1971

FLIGHT TIME 114.00

ARRIVAL DATE SEP 8 1971

Heliocentric Conic

DISTANCE 302.783

EARTH TO MARS

RL 151.28 LAL .00 LOL 235.46 VL 33.801 GAL -.19 AZL 91.81 HCA 99.71 SMA 216.85 ECC .30237 INC 1.8055 V1 29.451
RP 206.67 LAP -1.78 LOP 335.18 VP 25.928 GAP 17.40 AZP 89.70 TAL 359.17 TAP 98.89 RCA 151.28 APO 282.42 V2 26.496
RC 63.376 GL -13.72 GP -.62 ZAL 96.11 ZAP 167.26 ETS 182.85 ZAE 168.97 ETE 17.97 ZAC 98.79 ETC 278.64 LVI -18.59

Planetocentric Conic

C3 20.153 VHL 4.489 DLA -23.61 RAL 339.06 RAD 6642.9 VEL 11.839 PTH 6.86 VHP 7.964 DPA -16.37 RAP 325.64 ECC 1.3317
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 51 28 2653.03 -14.96 73.09 196.74 135.71 16 35 41 1653.0 3.55 57.15
60.00 17 0 53 2488.39 -9.68 61.41 201.69 129.32 17 42 2 1468.4 6.41 43.46
70.00 18 29 23 2208.20 -4.37 44.28 205.65 123.91 19 6 12 1208.2 9.55 24.70
80.00 20 15 30 1876.10 .12 21.86 208.45 119.86 20 46 46 876.1 12.26 1.09
90.00 21 53 53 1552.36 2.08 359.14 209.54 118.21 22 21 45 552.4 13.45 337.88
100.00 22 58 22 1350.57 .12 343.23 208.45 119.86 23 20 55 350.6 12.26 322.46
110.00 23 28 50 1255.02 -4.37 333.20 205.65 123.91 23 49 45 255.0 9.55 313.62

Differential Corrections

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3097 TRA -.7673 TC3 .2549 BAU .0761 SGT 1162.2 SGR 602.9 SG3 196.8 ST 25.4 SR 27.4 SS 14.0
RDE -.4250 RRA .1719 RC3 .1217 FAU .04858 RRT -.0236 RRF .0294 RTF -.7003 CRT .6872 CRS .1622 CST .8226
FDE .0922 FRA .9260 FC3-2.0867 BSP 1754 SGB 1309.3 R23 -.0068 R13 .7004 LSA 35.2 MSA 18.0 SSA 1.3
BDE .5259 BRA .7863 BC3 .2825 FSP 271 SG1 1162.4 SG2 602.7 THA 179.04 EL1 34.3 EL2 14.7 ALF 48.01

LAUNCH DATE MAY 17 1971

FLIGHT TIME 116.00

ARRIVAL DATE SEP 10 1971

Heliocentric Conic: RL 151.28 LAL .00 LOL 235.46 VL 33.688 GAL -.13 AZL 91.80 HCA 100.98 SMA 214.19 ECC .29370 INC 1.8010 V1 29.451
 RP 206.68 LAP -1.77 LOP 336.45 VP 25.781 GAP 16.96 AZP 89.66 TAL 359.42 TAP 100.41 RCA 151.28 APO 277.10 V2 26.496
 RC 84.414 GL -14.00 GP -.64 ZAL 95.79 ZAP 166.20 ETS 182.72 ZAE 168.79 EYE 16.88 ZAC 98.73 ETC 278.68 LVI -18.62

Planetary Conic: C3 19.145 VHL 4.378 DLA -23.99 RAL 338.86 RAD 6642.5 VEL 11.797 PTH 6.82 VHP 7.709 DPA -16.32 RAP 325.85 ECC 1.3151
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 52 28 2632.61 -13.96 72.18 195.99 135.96 16 36 21 1632.8 4.37 56.30
 60.00 17 2 35 2446.14 -8.71 80.32 200.93 129.51 17 43 21 1446.1 7.38 42.38
 70.00 18 32 6 2182.98 -3.41 42.96 204.90 124.00 19 8 29 1183.0 10.48 23.34
 80.00 20 19 38 1846.45 1.13 20.24 207.73 119.84 20 50 24 846.5 13.18 359.37
 90.00 22 0 57 1519.66 3.13 357.31 208.64 118.12 22 26 17 519.7 14.38 335.94
 100.00 23 2 29 1320.92 1.13 341.60 207.73 119.84 23 24 30 320.9 13.18 320.74
 110.00 23 31 32 1229.80 -3.41 331.87 204.90 124.00 23 52 2 229.8 10.48 312.25

Differential Corrections: TDE -.3050 TRA -.7592 TC3 .2812 BAU .0789 SGT 1185.0 SGR 602.5 SG3 211.3 ORBIT DETERMINATION ACCURACY ST 25.8 SR 27.3 SS 14.4
 RDE -.4136 RRA .1671 RC3 .1267 FAU .05100 RRT -.0239 RRF .0299 RTF -.7042 CRT .6843 CRS .1378 CST .8107
 FDE .0875 FRA .9607 FC3-2.3060 BSP 1827 SGB 1329.4 R23 -.0072 R13 .7042 LSA 35.3 MSA 19.2 SSA 1.4
 BDE .5139 BRA .7774 BC3 .3084 FSP 301 SG1 1185.1 SG2 602.3 THA 179.06 EL1 34.5 EL2 14.9 ALF 47.40

LAUNCH DATE MAY 17 1971

FLIGHT TIME 118.00

ARRIVAL DATE SEP 12 1971

Heliocentric Conic: RL 151.28 LAL .00 LOL 235.46 VL 33.582 GAL -.07 AZL 91.80 HCA 102.25 SMA 211.75 ECC .28557 INC 1.7964 V1 29.451
 RP 206.69 LAP -1.76 LOP 337.72 VP 25.641 GAP 16.54 AZP 89.62 TAL 359.68 TAP 101.93 RCA 151.28 APO 272.22 V2 26.493
 RC 65.512 GL -14.28 GP -.66 ZAL 95.46 ZAP 165.12 ETS 182.61 ZAE 168.69 ETE 15.90 ZAC 98.68 ETC 278.71 LVI -18.65

Planetary Conic: C3 18.221 VHL 4.269 DLA -24.37 RAL 338.65 RAD 6642.0 VEL 11.758 PTH 6.79 VHP 7.463 DPA -16.27 RAP 326.05 ECC 1.2999
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 53 26 2612.74 -12.90 71.30 195.27 136.19 16 36 59 1612.7 5.37 55.46
 60.00 17 4 15 2424.40 -7.77 59.26 200.19 129.67 17 44 40 1424.4 8.32 41.32
 70.00 18 34 49 2158.16 -2.47 41.66 204.18 124.08 19 10 47 1158.2 11.39 21.99
 80.00 20 23 51 1816.93 2.13 18.61 207.05 119.79 20 54 8 816.9 14.09 357.65
 90.00 22 6 13 1486.75 4.19 355.47 208.18 117.99 22 31 0 486.8 15.31 333.96
 100.00 23 6 43 1291.40 2.13 339.98 207.05 119.79 23 28 14 291.4 14.09 319.02
 110.00 23 34 15 1204.98 -2.47 330.58 204.18 124.08 23 54 20 205.0 11.39 310.91

Differential Corrections: TDE -.3000 TRA -.7837 TC3 .2914 BAU .0779 SGT 1207.2 SGR 601.8 SG3 226.1 ORBIT DETERMINATION ACCURACY ST 26.1 SR 27.3 SS 15.1
 RDE -.4026 RRA .1627 RC3 .1318 FAU .05281 RRT -.0285 RRF .0343 RTF -.7103 CRT .6797 CRS .1249 CST .8071
 FDE .0883 FRA 1.0162 FC3-2.5093 BSP 1933 SGB 1348.9 R23 -.0074 R13 .7104 LSA 35.5 MSA 19.7 SSA 1.4
 BDE .5021 BRA .7710 BC3 .3198 FSP 323 SG1 1207.4 SG2 601.4 THA 178.92 EL1 34.6 EL2 15.1 ALF 46.77

LAUNCH DATE MAY 17 1971

FLIGHT TIME 120.00

ARRIVAL DATE SEP 14 1971

Heliocentric Conic: RL 151.28 LAL .00 LOL 235.46 VL 33.483 GAL -.01 AZL 91.79 HCA 103.52 SMA 209.52 ECC .27795 INC 1.7818 V1 29.451
 RP 206.71 LAP -1.74 LOP 338.99 VP 25.508 GAP 16.12 AZP 89.58 TAL 359.94 TAP 103.46 RCA 151.28 APO 267.76 V2 26.493
 RC 66.667 GL -14.55 GP -.69 ZAL 95.12 ZAP 164.02 ETS 182.52 ZAE 168.65 ETE 15.02 ZAC 98.64 ETC 278.75 LVI -18.66

Planetary Conic: C3 17.373 VHL 4.168 DLA -24.75 RAL 338.42 RAD 6641.6 VEL 11.722 PTH 6.75 VHP 7.226 DPA -16.24 RAP 326.22 ECC 1.2859
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 54 22 2593.43 -12.03 70.45 194.57 136.39 16 37 36 1593.4 6.33 54.65
 60.00 17 5 54 2403.19 -6.85 58.23 199.49 129.81 17 45 57 1403.2 9.24 40.28
 70.00 18 37 32 2133.79 -1.54 40.39 203.49 124.12 19 13 6 1133.8 12.28 20.66
 80.00 20 28 10 1787.54 3.12 17.00 206.39 119.71 20 57 58 787.5 14.98 355.92
 90.00 22 11 42 1453.61 5.24 353.61 207.56 117.83 22 35 56 453.6 16.22 331.95
 100.00 23 11 2 1262.01 3.12 338.37 206.39 119.71 23 32 4 262.0 14.98 317.29
 110.00 23 36 58 1180.61 -1.54 329.30 203.49 124.12 23 56 39 180.6 12.28 309.58

Differential Corrections: TDE -.2961 TRA -.7504 TC3 .2568 BAU .0678 SGT 1225.5 SGR 600.7 SG3 241.5 ORBIT DETERMINATION ACCURACY ST 26.3 SR 27.2 SS 15.9
 RDE -.3919 RRA .1583 RC3 .1368 FAU .05449 RRT -.0393 RRF .0409 RTF -.6882 CRT .6750 CRS .1105 CST .8023
 FDE .0867 FRA 1.0804 FC3-2.7156 BSP 2258 SGB 1364.8 R23 -.0048 R13 .6983 LSA 35.8 MSA 20.3 SSA 1.4
 BDE .4912 BRA .7670 BC3 .2910 FSP 416 SG1 1225.8 SG2 600.1 THA 178.55 EL1 34.8 EL2 15.3 ALF 46.00

LAUNCH DATE MAY 17 1971

FLIGHT TIME 122.00

ARRIVAL DATE SEP 16 1971

Heliocentric Conic: RL 151.28 LAL .00 LOL 235.46 VL 33.389 GAL .04 AZL 91.79 HCA 104.79 SMA 207.47 ECC .27081 INC 1.7871 V1 29.451
 RP 206.73 LAP -1.73 LOP 340.26 VP 25.382 GAP 15.71 AZP 89.54 TAL 359.94 TAP 104.99 RCA 151.28 APO 263.65 V2 26.489
 RC 87.877 GL -14.81 GP -.71 ZAL 94.78 ZAP 162.90 ETS 182.44 ZAE 168.69 ETE 14.21 ZAC 98.59 ETC 278.77 LVI -18.68

Planetary Conic: C3 16.595 VHL 4.074 DLA -25.12 RAL 338.19 RAD 6641.3 VEL 11.689 PTH 6.72 VHP 6.997 DPA -16.21 RAP 326.38 ECC 1.2731
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 55 16 2574.72 -11.11 69.63 193.90 136.57 16 38 11 1574.7 7.27 53.85
 60.00 17 7 31 2382.56 -5.95 57.23 198.81 129.93 17 47 13 1382.6 10.13 39.26
 70.00 18 40 15 2109.90 -.63 39.14 202.83 124.15 19 15 25 1109.9 13.14 19.34
 80.00 20 32 35 1758.31 4.10 15.39 205.77 119.60 21 1 54 758.3 15.85 354.18
 90.00 22 17 26 1420.17 6.30 351.72 206.97 117.63 22 41 6 420.2 17.11 329.91
 100.00 23 15 27 1232.78 4.10 336.76 205.77 119.60 23 36 0 232.8 15.85 315.55
 110.00 23 39 42 1156.71 -.63 328.06 202.83 124.15 23 58 58 156.7 13.14 308.26

Differential Corrections: TDE -.2707 TRA -.6855 TC3 .3792 BAU .0897 SGT 1172.3 SGR 598.9 SG3 255.7 ORBIT DETERMINATION ACCURACY ST 24.9 SR 27.1 SS 14.6
 RDE -.3821 RRA .1535 RC3 .1402 FAU .05889 RRT -.0198 RRF .0341 RTF -.7136 CRT .6746 CRS -.0135 CST .7222
 FDE .0398 FRA 1.0167 FC3-3.0720 BSP 1759 SGB 1316.4 R23 -.0149 R13 .7138 LSA 34.1 MSA 19.9 SSA 1.5
 BDE .4683 BRA .7025 BC3 .4043 FSP 351 SG1 1172.4 SG2 598.8 THA 179.21 EL1 33.7 EL2 14.8 ALF 48.68

LAUNCH DATE MAY 17 1971

FLIGHT TIME 124.00

ARRIVAL DATE SEP 18 1971

HELIOCENTRIC CONIC

DISTANCE 320.295

EARTH TO MARS

RL 151.28 LAL .00 LOL 235.46 VL 33.301 GAL .10 AZL 91.78 HCA 106.08 SMA 205.58 ECC .26412 INC 1.7825 V1 29.451
RP 206.77 LAP -1.71 LOP 341.53 VP 25.261 GAP 15.31 AZP 89.51 TAL .46 TAP 106.52 RCA 151.28 APO 259.88 V2 26.465
RC 89.140 GL -15.07 GP -.74 ZAL 94.43 ZAP 161.76 ETS 182.37 ZAE 168.80 ETE 13.47 ZAC 98.55 ETC 278.80 LVI -18.68

PLANETOCENTRIC CONIC

C3 15.881 VHL 3.985 DLA -25.48 RAL 337.95 RAD 6640.9 VEL 11.659 PTH 6.70 VHP 6.776 DPA -16.20 RAP 326.51 ECC 1.2614
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 56 7 2556.62 -10.21 68.85 193.25 136.73 16 38 44 1556.6 8.17 53.08
60.00 17 9 6 2362.53 -5.07 58.26 198.15 130.03 17 48 28 1362.5 10.99 38.27
70.00 18 42 58 2086.52 .27 37.92 202.19 124.15 19 17 45 1086.5 13.97 18.05
80.00 20 37 7 1729.25 5.08 13.78 205.17 119.46 21 5 56 729.3 16.70 352.44
90.00 22 23 26 1386.38 7.36 349.81 206.42 117.38 22 46 32 386.4 17.99 327.82
100.00 23 19 59 1203.72 5.08 335.15 205.17 119.46 23 40 3 203.7 16.70 313.81
110.00 23 42 25 1133.34 .27 326.84 202.19 124.15 24 1 18 133.3 13.97 306.97

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2639 TRA -.7069 TC3 .4205 BAU .0944 SGT 1234.5 SGR 597.2 SCS 277.7 ST 25.4 SR 27.0 SS 15.8
RDE -.3723 RRA .1499 RC3 .1441 FAU .06175 RRT -.0370 RRF .0438 RTF -.7340 CRT .6521 CRS -.0261 CST .7346
FDE .0392 FRA 1.1107 FC3-3.3661 B8P 1856 SGB 1371.4 R23 -.0084 R13 .7341 LSA 34.3 MSA 21.1 S8A 1.5
BDE .4563 BRA .7226 BC3 .4445 F8P 389 SG1 1234.7 S62 596.7 THA 178.66 EL1 33.7 EL2 15.4 ALF 47.67

LAUNCH DATE MAY 17 1971

FLIGHT TIME 126.00

ARRIVAL DATE SEP 20 1971

HELIOCENTRIC CONIC

DISTANCE 323.967

EARTH TO MARS

RL 151.28 LAL .00 LOL 235.46 VL 33.218 GAL .15 AZL 91.78 HCA 107.33 SMA 203.84 ECC .25786 INC 1.7777 V1 29.451
RP 206.81 LAP -1.70 LOP 342.79 VP 25.147 GAP 14.92 AZP 89.47 TAL .72 TAP 108.05 RCA 151.28 APO 256.41 V2 26.480
RC 70.455 GL -15.31 GP -.78 ZAL 94.09 ZAP 160.59 ETS 182.30 ZAE 168.98 ETE 12.78 ZAC 98.50 ETC 278.81 LVI -18.68

PLANETOCENTRIC CONIC

C3 15.226 VHL 3.902 DLA -25.84 RAL 337.71 RAD 6640.6 VEL 11.631 PTH 6.67 VHP 6.562 DPA -16.19 RAP 326.61 ECC 1.2506
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 56 56 2539.16 -9.35 68.09 192.63 136.87 16 39 15 1539.2 9.04 52.33
60.00 17 10 39 2343.12 -4.22 55.33 197.53 130.12 17 49 42 1343.1 11.82 37.30
70.00 18 45 40 2063.71 1.14 36.73 201.58 124.14 19 20 4 1063.7 14.78 16.77
80.00 20 41 45 1700.38 6.04 12.18 204.62 119.30 21 10 6 700.4 17.52 350.70
90.00 22 29 45 1352.11 8.43 347.86 205.91 117.09 22 52 17 352.1 18.86 325.68
100.00 23 24 37 1174.85 6.04 333.55 204.62 119.30 23 44 12 174.9 17.52 312.07
110.00 23 45 7 1110.52 1.14 325.65 201.58 124.14 24 3 37 110.5 14.78 305.69

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2581 TRA -.6932 TC3 .4197 BAU .0906 SGT 1236.9 SGR 595.1 SCS 294.0 ST 25.4 SR 26.9 SS 16.2
RDE -.3629 RRA .1461 RC3 .1480 FAU .06396 RRT -.0406 RRF .0505 RTF -.7283 CRT .6496 CRS -.0729 CST .7044
FDE .0225 FRA 1.1509 FC3-3.6367 B8P 1931 SGB 1372.6 R23 -.0121 R13 .7285 LSA 34.1 MSA 21.5 S8A 1.5
BDE .4453 BRA .7084 BC3 .4450 F8P 424 SG1 1237.3 S62 594.4 THA 178.55 EL1 33.8 EL2 15.5 ALF 47.43

LAUNCH DATE MAY 17 1971

FLIGHT TIME 128.00

ARRIVAL DATE SEP 22 1971

HELIOCENTRIC CONIC

DISTANCE 327.683

EARTH TO MARS

RL 151.28 LAL .00 LOL 235.46 VL 33.141 GAL .20 AZL 91.77 HCA 108.59 SMA 202.24 ECC .25200 INC 1.7729 V1 29.451
RP 206.87 LAP -1.68 LOP 344.06 VP 25.037 GAP 14.54 AZP 89.43 TAL .98 TAP 109.58 RCA 151.28 APO 253.21 V2 26.474
RC 71.818 GL -15.55 GP -.79 ZAL 93.75 ZAP 159.39 ETS 182.24 ZAE 169.24 ETE 12.15 ZAC 98.47 ETC 278.83 LVI -18.67

PLANETOCENTRIC CONIC

C3 14.623 VHL 3.824 DLA -26.19 RAL 337.48 RAD 6640.3 VEL 11.605 PTH 6.65 VHP 6.357 DPA -16.19 RAP 326.69 ECC 1.2407
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 57 43 2522.34 -8.51 67.37 192.04 136.99 16 39 45 1522.3 9.87 51.61
60.00 17 12 9 2324.38 -3.40 54.43 196.93 130.18 17 50 54 1324.4 12.62 36.36
70.00 18 48 22 2041.46 1.99 35.57 201.00 124.10 19 22 23 1041.5 15.56 15.52
80.00 20 46 30 1671.70 7.00 10.59 204.09 119.10 21 14 22 671.7 18.32 348.95
90.00 22 36 25 1317.23 9.51 345.86 205.44 116.76 22 58 22 317.2 19.72 323.48
100.00 23 29 22 1146.17 7.00 331.96 204.09 119.10 23 48 28 146.2 18.32 310.32
110.00 23 47 48 1088.30 1.99 324.49 201.00 124.10 24 5 56 88.3 15.56 304.44

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2554 TRA -.6883 TC3 .4580 BAU .0943 SGT 1281.0 SGR 592.4 SCS 316.1 ST 25.8 SR 26.7 SS 16.8
RDE -.3538 RRA .1426 RC3 .1508 FAU .06741 RRT -.0407 RRF .0518 RTF -.7267 CRT .6468 CRS -.0823 CST .7004
FDE .0201 FRA 1.2080 FC3-3.9909 B8P 1939 SGB 1393.3 R23 -.0133 R13 .7369 LSA 34.3 MSA 22.0 S8A 1.5
BDE .4363 BRA .7030 BC3 .4822 F8P 457 SG1 1261.3 S62 591.8 THA 178.59 EL1 33.7 EL2 15.6 ALF 46.65

LAUNCH DATE MAY 17 1971

FLIGHT TIME 130.00

ARRIVAL DATE SEP 24 1971

HELIOCENTRIC CONIC

DISTANCE 331.440

EARTH TO MARS

RL 151.28 LAL .00 LOL 235.46 VL 33.068 GAL .24 AZL 91.77 HCA 109.86 SMA 200.77 ECC .24651 INC 1.7679 V1 29.451
RP 206.93 LAP -1.68 LOP 345.33 VP 24.933 GAP 14.16 AZP 89.40 TAL 1.24 TAP 111.10 RCA 151.28 APO 250.26 V2 26.466
RC 73.228 GL -15.78 GP -.82 ZAL 93.41 ZAP 158.17 ETS 182.19 ZAE 169.37 ETE 11.58 ZAC 98.43 ETC 278.84 LVI -18.63

PLANETOCENTRIC CONIC

C3 14.070 VHL 3.751 DLA -26.53 RAL 337.21 RAD 6640.1 VEL 11.581 PTH 6.62 VHP 6.159 DPA -16.20 RAP 326.75 ECC 1.2316
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 58 28 2506.20 -7.71 66.68 191.47 137.10 16 40 14 1506.2 10.67 50.91
60.00 17 13 37 2306.29 -2.60 53.56 196.35 130.23 17 52 4 1306.3 13.39 35.45
70.00 18 51 2 2019.88 2.81 34.44 200.45 124.05 19 24 42 1019.9 16.31 14.30
80.00 20 51 22 1643.23 7.93 9.00 203.60 118.88 21 18 45 643.2 19.10 347.19
90.00 22 43 32 1281.50 10.60 343.80 205.01 116.37 23 4 53 281.5 20.56 321.20
100.00 23 34 14 1117.70 7.93 330.36 203.60 118.88 23 52 51 117.7 19.10 308.96
110.00 23 50 28 1066.70 2.81 323.36 200.45 124.05 24 8 15 66.7 16.31 303.21

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2487 TRA -.6759 TC3 .4776 BAU .0943 SGT 1266.6 SGR 589.5 SCS 337.8 ST 25.7 SR 26.6 SS 17.3
RDE -.3450 RRA .1392 RC3 .1533 FAU .07076 RRT -.0440 RRF .0557 RTF -.7379 CRT .6421 CRS -.1125 CST .6830
FDE .0082 FRA 1.2581 FC3-4.3538 B8P 1960 SGB 1397.0 R23 -.0143 R13 .7381 LSA 34.1 MSA 22.5 S8A 1.5
BDE .4253 BRA .6901 BC3 .5016 F8P 491 SG1 1266.0 S62 588.7 THA 178.50 EL1 33.5 EL2 15.6 ALF 46.51

LAUNCH DATE MAY 17 1971

FLIGHT TIME 140.00

ARRIVAL DATE OCT 4 1971

HELIOCENTRIC CONIC		DISTANCE 350.738												EARTH TO MARS		
RL	151.28 LAL .00 LQL 235.46 VL 32.788 GAL .44 AZL 91.74 HCA 118.18 SMA 194.91 ECC .22386 INC 1.7423 V1 29.451															
RP	207.37 LAP -1.58 LOP 351.65 VP 24.477 GAP 12.42 AZP 89.23 TAL 2.42 TAP 118.60 RCA 151.26 APO 238.56 V2 26.415															
RC	80.909 GL -16.78 GP -1.00 ZAL 91.84 ZAP 151.61 ETS 181.97 ZAE 172.35 ETE 9.00 ZAC 98.29 ETC 278.79 LVI -18.43															
PLANETOCENTRIC CONIC																
C3	11.901 VHL 3.450 DLA -28.05 RAL 336.03 RAD 8639.0 VEL 11.488 PTH 6.54 VHP 5.271 DPA -16.45 RAP 326.58 ECC 1.1959															
LNCH	AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG															
50.00	16 1 41 2435.96 -4.19 63.71 189.01 137.44 16 42 17 1436.0 14.13 47.92															
60.00	17 20 17 2228.87 .89 49.77 193.90 130.29 17 57 24 1226.9 16.70 31.38															
70.00	19 3 43 1922.69 6.50 29.33 198.12 123.60 19 35 46 922.7 19.57 8.65															
80.00	21 17 25 1504.06 12.41 1.09 201.64 117.38 21 42 29 504.1 22.62 338.33															
90.00	23 34 18 1062.62 18.88 330.78 203.81 113.05 23 52 0 62.6 24.91 306.65															
100.00	0 4 13 6266.57 12.41 300.36 201.64 117.38 1 48 40 5266.6 22.62 277.63															
110.00	0 7 5 6257.54 6.50 296.16 198.12 123.60 1 51 23 5257.5 19.57 275.47															
DIFFERENTIAL CORRECTIONS		MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY		
TDE	-.2167 TRA -.6124 TC3 .5653 BAU .0933 SGT 1268.9 SGR 570.0 SG3 467.2 ST 25.0 SR 25.6 SS 20.3															
RDE	-.3098 RRA 1.251 RC3 .1557 FAU .09071 RRT -.0644 RRF .0827 RTF -.7425 CRT .6189 CR8 -.2606 CST .5900															
FDE	-.0687 FRA 1.5490 FC3-6.5989 BSP 1976 SGB 1391.0 R23 -.0230 R13 .7430 LSA 32.5 MSA 25.1 SSA 1.6															
BDE	.3748 BRA .6251 BC3 .5864 FSP 714 SG1 1269.5 SG2 568.5 THA 177.93 EL1 32.2 EL2 15.6 ALF 46.24															

LAUNCH DATE MAY 17 1971

FLIGHT TIME 142.00

ARRIVAL DATE OCT 6 1971

HELIOCENTRIC CONIC		DISTANCE 354.678												EARTH TO MARS		
RL	151.28 LAL .00 LQL 235.46 VL 32.717 GAL .47 AZL 91.74 HCA 117.44 SMA 193.99 ECC .22031 INC 1.7368 V1 29.451															
RP	207.48 LAP -1.54 LOP 352.91 VP 24.398 GAP 12.10 AZP 89.20 TAL 2.63 TAP 120.07 RCA 151.25 APO 238.73 V2 26.402															
RC	82.580 GL -18.95 GP -1.04 ZAL 91.57 ZAP 150.21 ETS 181.93 ZAE 173.12 ETE 8.50 ZAC 98.28 ETC 276.76 LVI -18.38															
PLANETOCENTRIC CONIC																
C3	11.965 VHL 3.401 DLA -28.31 RAL 335.82 RAD 8638.8 VEL 11.474 PTH 6.52 VHP 5.113 DPA -16.53 RAP 326.45 ECC 1.1903															
LNCH	AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG															
50.00	16 2 13 2424.09 -3.60 63.22 188.80 137.47 16 42 37 1424.1 14.71 47.29															
60.00	17 21 27 2213.32 1.49 49.12 193.49 130.28 17 58 21 1213.3 17.26 30.64															
70.00	19 6 3 1905.70 7.14 28.43 197.73 123.49 19 37 49 905.7 20.12 7.64															
80.00	21 23 0 1476.88 13.26 389.52 201.36 117.00 21 47 37 476.9 23.24 336.88															
88.69	23 34 2 6277.79 19.64 304.54 204.30 110.81 23 58 40 5277.8 26.49 279.60															
100.00	0 9 48 6239.39 13.26 298.79 201.36 117.00 1 53 47 5239.4 23.24 275.85															
110.00	0 9 26 6240.56 7.14 295.26 197.73 123.49 1 53 26 5240.6 20.12 274.46															
DIFFERENTIAL CORRECTIONS		MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY		
TDE	-.2135 TRA -.6007 TC3 .5612 BAU .0900 SGT 1263.6 SGR 563.2 SG3 497.9 ST 24.9 SR 25.4 SS 21.0															
RDE	-.2987 RRA 1.228 RC3 .1538 FAU .09541 RRT -.0688 RRF .0897 RTF -.7364 CRT .6189 CR8 -.2846 CST .5697															
FDE	-.0856 FRA 1.6182 FC3-7.1423 BSP 1981 SGB 1384.2 R23 -.0264 R13 .7370 LSA 32.3 MSA 25.7 SSA 1.7															
BDE	.3672 BRA .6131 BC3 .5819 FSP 767 SG1 1264.3 SG2 563.5 THA 177.80 EL1 32.0 EL2 15.5 ALF 49.89															

LAUNCH DATE MAY 17 1971

FLIGHT TIME 144.00

ARRIVAL DATE OCT 8 1971

HELIOCENTRIC CONIC		DISTANCE 358.644												EARTH TO MARS		
RL	151.28 LAL .00 LQL 235.46 VL 32.671 GAL .50 AZL 91.73 HCA 118.70 SMA 193.14 ECC .21690 INC 1.7312 V1 29.451															
RP	207.60 LAP -1.52 LOP 354.17 VP 24.319 GAP 11.78 AZP 89.17 TAL 2.83 TAP 121.52 RCA 151.25 APO 235.04 V2 26.388															
RC	84.247 GL -17.11 GP -1.08 ZAL 91.32 ZAP 148.76 ETS 181.90 ZAE 173.97 ETE 7.98 ZAC 98.26 ETC 278.72 LVI -18.27															
PLANETOCENTRIC CONIC																
C3	11.258 VHL 3.355 DLA -28.55 RAL 335.82 RAD 8638.7 VEL 11.460 PTH 6.51 VHP 4.982 DPA -16.63 RAP 326.28 ECC 1.1892															
LNCH	AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG															
50.00	16 2 44 2412.95 -3.04 62.75 188.22 137.50 16 42 57 1412.9 15.25 46.79															
60.00	17 22 34 2200.60 2.05 48.51 193.10 130.26 17 59 14 1200.6 17.78 29.97															
70.00	19 6 18 1889.62 7.74 27.58 197.38 123.37 19 39 48 889.6 20.63 6.68															
80.00	21 28 43 1449.88 14.08 357.94 201.10 116.80 21 52 53 449.9 23.83 334.79															
85.92	23 30 7 1059.01 19.94 331.83 203.79 110.87 23 47 46 59.0 26.78 306.83															
100.00	0 15 31 6212.39 14.08 297.21 201.10 116.60 1 59 3 5212.4 23.83 274.07															
110.00	0 11 40 6224.48 7.74 294.40 197.38 123.37 1 55 25 5224.5 20.63 273.50															
DIFFERENTIAL CORRECTIONS		MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY		
TDE	-.2096 TRA -.5880 TC3 .5555 BAU .0886 SGT 1254.5 SGR 560.2 SG3 530.1 ST 24.8 SR 25.2 SS 21.8															
RDE	-.2919 RRA 1.207 RC3 .1511 FAU .10031 RRT -.0742 RRF .0983 RTF -.7304 CRT .6181 CR8 -.3139 CST .3450															
FDE	-.1074 FRA 1.6905 FC3-7.7155 BSP 1972 SGB 1373.9 R23 -.0309 R13 .7311 LSA 32.0 MSA 26.3 SSA 1.7															
BDE	.3593 BRA .6003 BC3 .5757 FSP 825 SG1 1255.4 SG2 558.3 THA 177.64 EL1 31.8 EL2 15.4 ALF 45.70															

LAUNCH DATE MAY 17 1971

FLIGHT TIME 146.00

ARRIVAL DATE OCT 10 1971

HELIOCENTRIC CONIC		DISTANCE 362.630												EARTH TO MARS		
RL	151.28 LAL .00 LQL 235.46 VL 32.628 GAL .53 AZL 91.73 HCA 119.96 SMA 192.36 ECC .21372 INC 1.7256 V1 29.451															
RP	207.73 LAP -1.50 LOP 355.43 VP 24.245 GAP 11.47 AZP 89.14 TAL 3.01 TAP 122.96 RCA 151.25 APO 233.47 V2 26.373															
RC	85.989 GL -17.25 GP -1.12 ZAL 91.08 ZAP 147.29 ETS 181.86 ZAE 174.89 ETE 7.39 ZAC 98.25 ETC 278.68 LVI -18.27															
PLANETOCENTRIC CONIC																
C3	10.971 VHL 3.312 DLA -28.77 RAL 335.43 RAD 8638.5 VEL 11.448 PTH 6.50 VHP 4.816 DPA -16.75 RAP 326.08 ECC 1.1806															
LNCH	AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG															
50.00	16 3 13 2402.55 -2.52 62.31 187.86 137.53 16 43 16 1402.5 15.76 46.32															
60.00	17 23 37 2188.69 2.57 47.95 192.75 130.23 18 0 5 1188.7 18.26 29.34															
70.00	19 10 27 1874.49 8.31 26.77 197.04 123.25 19 41 41 874.5 21.11 5.76															
80.00	21 34 35 1423.04 14.90 356.36 200.88 116.18 21 58 18 423.0 24.40 333.00															
84.47	23 17 28 1092.26 20.21 334.38 203.31 110.92 23 55 40 523.3 27.05 309.32															
100.00	0 21 23 6185.56 14.90 295.64 200.88 116.18 2 4 28 5185.6 24.40 272.28															
110.00	0 13 49 6209.35 8.31 293.60 197.04 123.25 1 57 18 5209.4 21.11 272.59															
DIFFERENTIAL CORRECTIONS		MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY		
TDE	-.2060 TRA -.5729 TC3 .5450 BAU .0828 SGT 1239.1 SGR 554.9 SG3 563.5 ST 24.6 SR 24.9 SS 22.4															
RDE	-.2852 RRA 1.188 RC3 .1474 FAU .10551 RRT -.0784 RRF .1061 RTF -.7228 CRT .6197 CR8 -.3372 CST .5224															
FDE	-.1269 FRA 1.7805 FC3-8.3254 BSP 1940 SGB 1357.6 R23 -.0354 R13 .7236 LSA 31.7 MSA 26.8 SSA 1.7															
BDE	.3518 BRA .5850 BC3 .5646 FSP 883 SG1 1240.0 SG2 552.8 THA 177.49 EL1 31.5 EL2 15.3 ALF 45.60															

LAUNCH DATE MAY 17 1971

FLIGHT TIME 148.00

ARRIVAL DATE OCT 12 1971

Heliocentric Conic: RL 151.28 LAL .00 LOL 235.46 VL 32.988 GAL .55 AZL 91.72 HCA 121.21 SMA 191.63 ECC .21076 INC 1.7197 V1 28.451
 RP 207.86 LAP -1.47 LOP 336.88 VP 24.174 GAP 11.17 AZP 89.11 TAL 3.18 TAP 124.39 RCA 151.24 APO 232.02 V2 26.357
 RC 87.725 GL -17.39 GP -1.17 ZAL 90.87 ZAP 145.77 ETS 181.82 ZAE 175.88 ETE 6.67 ZAC 98.24 ETC 278.83 LVI -18.96

Distance 366.636 Earth to Mars

Planeto-centric Conic: C3 10.709 VHL 3.272 DLA -28.98 RAL 335.27 RAD 6638.4 VEL 11.437 PTH 6.49 VHP 4.676 DPA -16.88 RAP 325.84 ECC 1.1782
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 3 41 2392.89 -2.03 61.91 187.53 137.54 16 43 34 1392.9 16.23 45.88
 60.00 17 24 36 2177.63 3.06 47.42 192.42 130.20 18 0 53 1177.6 18.71 28.74
 70.00 19 12 28 1860.36 8.83 26.02 196.74 123.13 19 43 28 860.4 21.55 4.90
 80.00 21 40 36 1396.34 15.69 354.78 200.69 115.73 22 3 52 396.3 24.95 331.20
 83.41 23 8 11 1115.09 20.47 336.17 202.86 110.97 23 26 46 115.1 27.30 311.05
 100.00 0 27 23 6158.85 15.69 294.05 200.69 115.73 2 10 2 5158.9 24.95 270.48
 110.00 0 15 50 6195.22 8.83 292.84 196.74 123.13 1 59 5 5195.2 21.55 271.75

Differential Corrections: TDE -.2030 TRA -.5378 TC3 .5269 BAU .0782 SGT 1221.3 SGR 549.4 SG3 599.0 ST 24.4 SR 24.7 SS 23.2
 RDE -.2788 RRA .1170 RC3 .1428 FAU .11096 RRT -.0832 RRF .1149 RTF -.7134 CRT .6225 CR8 -.3570 CST .5011
 FDE -.1460 FRA 1.8381 FC3-8.9701 BSP 1897 SGB 1339.2 R23 -.0408 R13 .7145 LSA 31.4 MSA 27.4 SSA 1.7
 BDE .3448 BRA .5700 BC3 .5459 FSP 940 SG1 1222.4 SG2 547.0 THA 177.32 EL1 31.3 EL2 15.1 ALF 45.44

LAUNCH DATE MAY 17 1971

FLIGHT TIME 150.00

ARRIVAL DATE OCT 14 1971

Heliocentric Conic: RL 151.28 LAL .00 LOL 235.46 VL 32.551 GAL .57 AZL 91.71 HCA 122.47 SMA 190.96 ECC .20801 INC 1.7137 V1 29.451
 RP 208.01 LAP -1.45 LOP 357.94 VP 24.105 GAP 10.87 AZP 89.08 TAL 3.33 TAP 125.80 RCA 151.24 APO 230.68 V2 26.340
 RC 89.514 GL -17.51 GP -1.22 ZAL 90.67 ZAP 144.22 ETS 181.78 ZAE 176.94 ETE 5.64 ZAC 98.24 ETC 278.57 LVI -17.94

Distance 370.660 Earth to Mars

Planeto-centric Conic: C3 10.468 VHL 3.235 DLA -29.16 RAL 335.11 RAD 6638.2 VEL 11.426 PTH 6.48 VHP 4.543 DPA -17.02 RAP 325.57 ECC 1.1723
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 4 6 2383.97 -1.58 61.54 187.22 137.56 16 43 50 1384.0 16.66 45.47
 60.00 17 25 30 2167.42 3.51 46.93 192.11 130.17 18 1 38 1167.4 19.12 28.20
 70.00 19 14 21 1847.25 9.32 25.32 196.45 123.01 19 45 9 847.3 21.96 4.10
 80.00 21 46 46 1369.71 16.47 353.19 200.54 115.26 22 9 36 369.7 25.46 329.40
 82.57 23 0 51 1132.13 20.71 337.52 202.45 111.00 23 19 43 132.1 27.53 312.36
 100.00 0 33 34 6132.23 16.47 292.46 200.54 115.26 2 15 46 5132.2 25.46 268.67
 110.00 0 17 44 6182.11 9.32 292.14 196.45 123.01 2 0 46 5182.1 21.96 270.93

Differential Corrections: TDE -.2001 TRA -.5431 TC3 .4992 BAU .0725 SGT 1201.2 SGR 543.7 SG3 635.8 ST 24.2 SR 24.4 SS 24.0
 RDE -.2725 RRA .1155 RC3 .1374 FAU .11648 RRT -.0891 RRF .1256 RTF -.7016 CRT .6255 CR8 -.3785 CST .4776
 FDE -.1682 FRA 1.9222 FC3-9.6337 BSP 1867 SGB 1318.5 R23 -.0473 R13 .7029 LSA 31.1 MSA 28.0 SSA 1.7
 BDE .3381 BRA .5552 BC3 .5177 FSP 1010 SG1 1202.4 SG2 541.0 THA 177.10 EL1 31.0 EL2 14.9 ALF 45.29

LAUNCH DATE MAY 17 1971

FLIGHT TIME 152.00

ARRIVAL DATE OCT 16 1971

Heliocentric Conic: RL 151.28 LAL .00 LOL 235.46 VL 32.516 GAL .59 AZL 91.71 HCA 123.72 SMA 190.34 ECC .20546 INC 1.7076 V1 29.451
 RP 208.16 LAP -1.42 LOP 359.19 VP 24.039 GAP 10.59 AZP 89.05 TAL 3.48 TAP 127.19 RCA 151.24 APO 229.45 V2 26.323
 RC 91.337 GL -17.62 GP -1.27 ZAL 90.50 ZAP 142.64 ETS 181.74 ZAE 178.07 ETE 3.67 ZAC 98.24 ETC 278.50 LVI -17.80

Distance 374.700 Earth to Mars

Planeto-centric Conic: C3 10.245 VHL 3.201 DLA -29.33 RAL 334.98 RAD 6638.2 VEL 11.417 PTH 6.47 VHP 4.415 DPA -17.18 RAP 325.26 ECC 1.1686
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 4 30 2375.80 -1.17 61.20 186.95 137.57 16 44 6 1375.8 17.05 45.10
 60.00 17 26 21 2158.07 3.92 46.48 191.84 130.14 18 2 19 1158.1 19.50 27.69
 70.00 19 16 6 1835.22 9.77 24.67 196.19 122.89 19 46 41 835.2 22.33 3.36
 80.00 21 53 9 1343.09 17.24 351.58 200.42 114.76 22 15 32 343.1 25.95 327.57
 81.89 22 54 56 1145.12 20.93 338.57 202.07 111.03 23 14 1 145.1 27.73 313.36
 100.00 0 39 36 6103.60 17.24 290.86 200.42 114.76 2 21 42 5105.6 25.95 266.84
 110.00 0 19 28 6170.08 9.77 291.49 196.19 122.89 2 2 18 5170.1 22.33 270.19

Differential Corrections: TDE -.1978 TRA -.5283 TC3 .4810 BAU .0656 SGT 1178.5 SGR 537.8 SG3 674.7 ST 24.0 SR 24.1 SS 24.8
 RDE -.2464 RRA .1141 RC3 .1309 FAU .12228 RRT -.0958 RRF .1375 RTF -.1.65 CRT .6296 CR8 -.3989 CST .4553
 FDE -.1901 FRA 2.0144 FC3-10.3325 BSP 1796 SGB 1295.4 R23 -.0549 R13 .6881 LSA 30.8 MSA 28.7 SSA 1.7
 BDE .3317 BRA .5405 BC3 .4792 FSP 1073 SG1 1179.9 SG2 534.7 THA 176.85 EL1 30.7 EL2 14.7 ALF 45.10

LAUNCH DATE MAY 17 1971

FLIGHT TIME 154.00

ARRIVAL DATE OCT 18 1971

Heliocentric Conic: RL 151.28 LAL .00 LOL 235.46 VL 32.484 GAL .61 AZL 91.70 HCA 124.97 SMA 189.77 ECC .20308 INC 1.7013 V1 29.451
 RP 208.32 LAP -1.39 LOP .44 VP 23.975 GAP 10.30 AZP 89.02 TAL 3.60 TAP 128.57 RCA 151.23 APO 228.31 V2 26.304
 RC 93.190 GL -17.72 GP -1.32 ZAL 90.35 ZAP 141.01 ETS 181.70 ZAE 179.26 ETE 355.92 ZAC 98.24 ETC 278.42 LVI -17.68

Distance 378.756 Earth to Mars

Planeto-centric Conic: C3 10.041 VHL 3.169 DLA -29.48 RAL 334.87 RAD 6638.1 VEL 11.408 PTH 6.46 VHP 4.292 DPA -17.35 RAP 324.90 ECC 1.1652
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 4 52 2368.32 -.80 60.88 186.70 137.57 16 44 20 1368.3 17.41 44.75
 60.00 17 27 6 2149.53 4.29 46.07 191.58 130.11 18 2 58 1149.5 19.84 27.22
 70.00 19 17 42 1824.24 10.17 24.08 195.96 122.78 19 48 6 824.2 22.66 2.68
 80.00 21 59 48 1316.09 18.00 349.94 200.33 114.23 22 21 44 316.1 26.43 325.70
 81.32 22 50 2 1155.31 21.13 339.40 201.72 111.05 23 9 17 155.3 27.92 314.15
 100.00 0 46 36 6078.60 18.00 289.21 200.33 114.23 2 27 55 5078.6 26.43 264.98
 110.00 0 21 4 6159.09 10.17 290.90 195.96 122.78 2 3 43 5159.1 22.66 269.51

Differential Corrections: TDE -.1879 TRA -.5034 TC3 .4525 BAU .0629 SGT 1136.2 SGR 531.8 SG3 716.3 ST 23.1 SR 23.8 SS 25.6
 RDE -.2605 RRA .1128 RC3 .1228 FAU .12897 RRT -.1036 RRF .1497 RTF -.6826 CRT .6266 CR8 -.4270 CST .4291
 FDE -.2228 FRA 2.0933 FC3-11.1204 BSP 1636 SGB 1254.5 R23 -.0598 R13 .6846 LSA 30.0 MSA 29.2 SSA 1.7
 BDE .3212 BRA .5159 BC3 .4688 FSP 1133 SG1 1137.9 SG2 528.2 THA 176.46 EL1 29.9 EL2 14.3 ALF 46.34

LAUNCH DATE MAY 17 1971

FLIGHT TIME 156.00

ARRIVAL DATE OCT 20 1971

Heliocentric Conic: RL 151.28 LAL .00 LOL 235.46 VL 32.454 GAL .82 AZL 91.69 HCA 126.22 SMA 189.25 ECC .20089 INC 1.6947 V1 29.451
 RP 208.49 LAP -1.37 LOP 1.69 VP 23.913 GAP 10.03 AZP 89.00 TAL 3.71 TAP 129.93 RCA 151.23 APO 227.26 V2 26.294
 RC 95.074 GL -17.80 GP -1.38 ZAL 90.23 ZAP 139.35 ETS 181.66 ZAE 179.44 ETE 203.73 ZAC 98.24 ETC 278.34 LVI -17.50

Distance 302.026 Earth to Mars

Planeto-centric Conic: C3 9.832 VHL 3.139 DLA -29.60 RAL 334.78 RAD 6630.0 VEL 11.400 PTH 6.45 VHP 4.175 DPA -17.54 RAP 324.81 ECC 1.1621
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 5 13 2361.65 -.46 60.61 186.48 137.57 16 44 34 1361.7 17.74 44.44
 60.00 17 27 46 2141.95 4.63 45.70 191.36 130.08 18 3 30 1142.0 20.14 26.81
 70.00 19 19 6 1814.52 10.53 23.59 195.74 122.68 19 49 21 814.5 22.95 2.08
 80.00 22 6 40 1289.13 18.75 348.28 200.29 113.67 22 28 9 289.1 26.87 323.82
 90.87 22 46 9 1162.61 21.30 340.03 201.41 111.05 23 5 32 162.8 28.08 314.73
 100.00 0 53 28 6051.64 18.75 287.56 200.29 113.67 2 34 19 5051.6 26.87 263.10
 110.00 0 22 29 6149.38 10.53 290.38 195.74 122.68 2 4 58 5149.4 22.95 268.90

Differential Corrections: TDE -.1937 TRA -.4928 TC3 .3708 BAU .0811 SGT 1117.9 SGR 525.5 SCS 757.1 ST 23.5 SR 23.5 SS 26.4
 RDE -.2545 RRA .1118 RC3 .1146 FAU .13486 RRT -.1054 RRF .1618 RTF -.6485 CRT .6441 CRS -.4277 CST .4076
 FDE -.2327 FRA 2.1966 FC-11.8505 BSP 1647 LSA 30.2 MSA 29.8 SSA 1.7
 BDE .3198 BRA .9054 BC3 .3881 FSP 1217 SC1 1119.6 SG2 521.8 THA 176.37 EL1 30.1 EL2 14.0 ALF 44.95

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 17 1971

FLIGHT TIME 156.00

ARRIVAL DATE OCT 22 1971

Heliocentric Conic: RL 151.28 LAL .00 LOL 235.46 VL 32.426 GAL .63 AZL 91.69 HCA 127.46 SMA 188.78 ECC .19885 INC 1.6880 V1 29.451
 RP 208.67 LAP -1.34 LOP 2.93 VP 23.833 GAP 9.76 AZP 88.97 TAL 3.80 TAP 131.26 RCA 151.23 APO 226.30 V2 26.264
 RC 96.988 GL -17.88 GP -1.44 ZAL 90.14 ZAP 137.45 ETS 181.62 ZAE 178.11 ETE 192.27 ZAC 98.25 ETC 278.25 LVI -17.32

Distance 386.908 Earth to Mars

Planeto-centric Conic: C3 9.679 VHL 3.111 DLA -29.71 RAL 334.71 RAD 6637.9 VEL 11.392 PTH 6.44 VHP 4.084 DPA -17.74 RAP 324.08 ECC 1.1593
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 5 32 2355.68 -.16 60.36 186.28 137.58 16 44 48 1355.7 18.02 44.16
 60.00 17 28 24 2135.21 4.92 45.38 191.16 130.05 18 3 59 1135.2 20.41 26.44
 70.00 19 20 20 1805.94 10.84 23.09 195.55 122.59 19 50 26 805.9 23.21 1.94
 80.00 22 14 3 1281.06 19.50 348.59 200.28 113.07 22 35 4 261.1 27.30 321.85
 90.50 22 43 3 1168.32 21.46 340.51 201.13 111.05 23 2 32 168.3 28.22 315.17
 100.00 1 0 50 6023.58 19.50 285.82 200.28 113.07 2 41 14 5023.6 27.30 261.12
 110.00 0 23 42 6140.79 10.84 289.91 195.55 122.59 2 6 3 5140.8 23.21 268.37

Differential Corrections: TDE -.1942 TRA -.4758 TC3 .3018 BAU .0413 SGT 1086.7 SGR 519.2 SCS 800.5 ST 23.4 SR 23.2 SS 27.2
 RDE -.2488 RRA .1110 RC3 .1050 FAU .14135 RRT -.1086 RRF .1758 RTF -.6184 CRT .6561 CRS -.4387 CST .3817
 FDE -.2522 FRA 2.2977 FC-12.6423 BSP 1589 LSA 30.6 MSA 29.8 SSA 1.8
 BDE .3156 BRA .4886 BC3 .3195 FSP 1302 SC1 1088.6 SG2 515.2 THA 176.17 EL1 30.0 EL2 13.7 ALF 44.53

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 17 1971

FLIGHT TIME 160.00

ARRIVAL DATE OCT 24 1971

Heliocentric Conic: RL 151.28 LAL .00 LOL 235.46 VL 32.401 GAL .64 AZL 91.68 HCA 128.71 SMA 188.32 ECC .19697 INC 1.6811 V1 29.451
 RP 208.85 LAP -1.31 LOP 4.18 VP 23.795 GAP 9.50 AZP 88.95 TAL 3.88 TAP 132.58 RCA 151.23 APO 225.41 V2 26.243
 RC 98.929 GL -17.94 GP -1.50 ZAL 90.07 ZAP 135.91 ETS 181.57 ZAE 176.72 ETE 190.04 ZAC 98.26 ETC 278.15 LVI -17.14

Distance 391.003 Earth to Mars

Planeto-centric Conic: C3 9.520 VHL 3.085 DLA -29.79 RAL 334.66 RAD 6637.8 VEL 11.385 PTH 6.44 VHP 3.958 DPA -17.96 RAP 323.61 ECC 1.1567
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 5 49 2350.44 .10 60.14 186.11 137.58 16 45 0 1350.4 18.27 43.92
 60.00 17 28 56 2129.34 5.18 45.10 190.98 130.02 18 4 25 1129.3 20.64 26.12
 70.00 19 21 23 1798.54 11.11 22.69 195.38 122.50 19 51 21 798.5 23.43 1.08
 80.00 22 22 25 1230.40 20.31 344.63 200.33 112.37 22 42 55 230.4 27.74 319.68
 90.22 22 40 41 1172.03 21.60 340.84 200.88 111.03 23 0 13 172.0 28.34 315.47
 100.00 1 9 13 5992.91 20.31 283.90 200.33 112.37 2 49 6 4992.9 27.74 258.95
 110.00 0 24 45 6133.40 11.11 289.51 195.38 122.50 2 6 58 5133.4 23.43 267.91

Differential Corrections: TDE -.1947 TRA -.4582 TC3 .2247 BAU .0310 SGT 1054.1 SGR 512.9 SCS 845.8 ST 23.3 SR 22.9 SS 28.1
 RDE -.2432 RRA .1104 RC3 .0944 FAU .14800 RRT -.1114 RRF .1915 RTF -.5337 CRT .6685 CRS -.4484 CST .3982
 FDE -.2720 FRA 2.4084 FC-13.4587 BSP 1489 LSA 31.2 MSA 29.6 SSA 1.8
 BDE .3115 BRA .4713 BC3 .2437 FSP 1380 SC1 1056.1 SG2 508.7 THA 175.96 EL1 29.8 EL2 13.3 ALF 44.16

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 17 1971

FLIGHT TIME 162.00

ARRIVAL DATE OCT 26 1971

Heliocentric Conic: RL 151.28 LAL .00 LOL 235.46 VL 32.377 GAL .64 AZL 91.67 HCA 129.95 SMA 187.91 ECC .19524 INC 1.6739 V1 29.451
 RP 209.04 LAP -1.28 LOP 5.42 VP 23.738 GAP 9.24 AZP 88.92 TAL 3.93 TAP 133.88 RCA 151.22 APO 224.60 V2 26.221
 RC 100.898 GL -17.99 GP -1.56 ZAL 90.02 ZAP 134.13 ETS 181.52 ZAE 175.25 ETE 188.99 ZAC 98.27 ETC 278.04 LVI -16.93

Distance 395.109 Earth to Mars

Planeto-centric Conic: C3 9.374 VHL 3.062 DLA -29.86 RAL 334.63 RAD 6637.7 VEL 11.379 PTH 6.43 VHP 3.858 DPA -18.19 RAP 323.10 ECC 1.1543
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 6 5 2345.90 .33 59.95 185.97 137.58 16 45 11 1345.9 18.49 43.71
 60.00 17 29 22 2124.32 5.40 44.86 190.83 130.00 18 4 47 1124.3 20.84 25.84
 70.00 19 22 13 1792.38 11.34 22.35 195.23 122.43 19 52 5 792.4 23.61 .69
 80.00 22 36 24 1182.39 21.52 341.58 200.59 111.21 22 56 6 182.4 28.34 316.24
 90.01 22 38 57 1174.21 21.72 341.05 200.67 111.00 22 58 31 174.2 28.43 315.65
 100.00 1 23 11 5944.89 21.52 280.85 200.59 111.21 3 2 16 4944.9 28.34 255.51
 110.00 0 25 35 6127.23 11.34 289.17 195.23 122.43 2 7 42 5127.2 23.61 267.52

Differential Corrections: TDE -.1949 TRA -.4376 TC3 .1405 BAU .0204 SGT 1016.0 SGR 506.4 SCS 891.3 ST 23.1 SR 22.5 SS 28.9
 RDE -.2376 RRA .1098 RC3 .0827 FAU .15488 RRT -.1111 RRF .2074 RTF -.5415 CRT .6831 CRS -.4577 CST .3276
 FDE -.2914 FRA 2.5128 FC-14.3043 BSP 1369 LSA 31.8 MSA 29.3 SSA 1.8
 BDE .3073 BRA .4512 BC3 .1630 FSP 1456 SC1 1018.0 SG2 502.2 THA 175.81 EL1 29.6 EL2 12.8 ALF 43.94

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 17 1971 FLIGHT TIME 164.00 ARRIVAL DATE OCT 28 1971

Table containing Heliocentric Conic, Earth to Mars, Planetocentric Conic, and Differential Corrections data for Mission 164.00.

LAUNCH DATE MAY 17 1971 FLIGHT TIME 166.00 ARRIVAL DATE OCT 30 1971

Table containing Heliocentric Conic, Earth to Mars, Planetocentric Conic, and Differential Corrections data for Mission 166.00.

LAUNCH DATE MAY 17 1971 FLIGHT TIME 168.00 ARRIVAL DATE NOV 1 1971

Table containing Heliocentric Conic, Earth to Mars, Planetocentric Conic, and Differential Corrections data for Mission 168.00.

LAUNCH DATE MAY 17 1971 FLIGHT TIME 170.00 ARRIVAL DATE NOV 3 1971

Table containing Heliocentric Conic, Earth to Mars, Planetocentric Conic, and Differential Corrections data for Mission 170.00.

LAUNCH DATE MAY 17 1971

FLIGHT TIME 172.00

ARRIVAL DATE NOV 5 1971

HELIOCENTRIC CONIC

DISTANCE 415.774

EARTH TO MARS

RL 151.28 LAL .00 LOL 235.46 VL 32.285 GAL .63 AZL 91.63 HCA 136.12 SMA 186.38 ECC .18849 INC 1.6340 V1 29.451
 RP 210.10 LAP -1.13 LOP 11.59 VP 23.477 GAP 8.05 AZP 88.82 TAL 3.96 TAP 140.08 RCA 151.23 APO 221.48 V2 26.098
 RC 111.121 GL -18.07 GP -1.93 ZAL 90.21 ZAP 124.75 ETS 181.24 ZAE 167.04 ETE 186.87 ZAC 98.34 ETC 277.36 LVI -15.70

PLANETOCENTRIC CONIC

C3 8.807 VHL 2.968 DLA -29.86 RAL 334.86 RAD 6637.4 VEL 11.354 PTH 6.41 VHP 3.433 DPA -19.54 RAP 319.88 ECC 1.1449
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 7 2 2333.77 .94 59.44 185.65 137.57 16 45 96 1333.8 19.07 43.14
 60.00 17 30 20 2112.17 5.93 44.27 190.43 129.94 18 5 32 1112.2 21.31 25.17
 70.00 19 23 11 1780.15 11.79 21.68 194.76 122.29 19 52 52 780.1 23.96 359.82
 79.99 22 39 47 1162.44 22.01 340.30 200.07 110.70 22 59 10 162.4 28.57 314.80
 79.99 22 39 47 1162.44 22.01 340.30 200.07 110.70 22 59 10 162.4 28.57 314.80
 79.99 22 39 47 1162.44 22.01 340.30 200.07 110.70 22 59 10 162.4 28.57 314.80
 110.00 0 26 34 6115.00 11.79 288.51 194.76 122.29 2 8 29 5115.0 23.96 266.75

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2053 TRA -.3246 TC3 -.4740 BAU .0558 SGT 870.9 SGR 474.6 SG3 1134.9 ST 22.6 SR 20.7 S8 32.9
 RDE -.2108 RRA .1096 RC3 .0094 FAU .19070 RRT -.0403 RRF .3074 RTF -.1413 CRT .7783 CRS -.4731 CST .1737
 FDE -.3590 FRA 3.1207 FC-10.7472 BSP 669 SGB 991.8 R23 -.2995 R13 .1464 LSA 34.9 MSA 28.3 S8A 1.7
 BDE .2942 BRA .3426 BC3 .4741 FSP 1896 SG1 871.2 SG2 474.0 THA 178.21 EL1 28.9 EL2 10.2 ALF 41.74

LAUNCH DATE MAY 17 1971

FLIGHT TIME 174.00

ARRIVAL DATE NOV 7 1971

HELIOCENTRIC CONIC

DISTANCE 419.929

EARTH TO MARS

RL 151.28 LAL .00 LOL 235.46 VL 32.272 GAL .62 AZL 91.63 HCA 137.35 SMA 186.12 ECC .18747 INC 1.6251 V1 29.451
 RP 210.33 LAP -1.10 LOP 12.82 VP 23.428 GAP 7.82 AZP 88.80 TAL 3.91 TAP 141.28 RCA 151.23 APO 221.01 V2 26.071
 RC 113.239 GL -18.05 GP -2.01 ZAL 90.33 ZAP 122.76 ETS 181.17 ZAE 165.24 ETE 186.63 ZAC 98.38 ETC 277.20 LVI -15.41

PLANETOCENTRIC CONIC

C3 8.721 VHL 2.953 DLA -29.80 RAL 334.98 RAD 6637.4 VEL 11.350 PTH 6.40 VHP 3.363 DPA -19.85 RAP 319.25 ECC 1.1439
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 7 8 2333.39 .96 59.43 185.68 137.57 16 46 2 1333.4 19.09 43.12
 60.00 17 30 15 2112.25 5.93 44.27 190.42 129.94 18 5 28 1112.3 21.31 25.17
 70.00 19 22 44 1781.38 11.74 21.75 194.71 122.30 19 52 25 781.4 23.93 .00
 80.00 22 24 18 1211.59 20.79 343.44 199.53 111.92 22 44 29 211.6 27.99 318.33
 80.20 22 41 50 1155.54 22.01 339.78 200.04 110.60 23 1 6 155.5 28.53 314.20
 100.00 1 11 5 5974.10 20.79 282.71 199.53 111.92 2 50 39 4974.1 27.99 257.81
 110.00 0 26 6 6116.24 11.74 288.57 194.71 122.30 2 8 3 5116.2 23.93 266.82

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2075 TRA -.2970 TC3 -.8344 BAU .0740 SGT 862.2 SGR 468.5 SG3 1181.7 ST 22.5 SR 20.3 S8 33.6
 RDE -.2058 RRA .1100 RC3 -.0075 FAU .19740 RRT -.0027 RRF .3307 RTF -.0164 CRT .8004 CRS -.4733 CST .1374
 FDE -.3669 FRA 3.2444 FC-19.5957 BSP 499 SGB 981.3 R23 -.3306 R13 .0167 LSA 35.5 MSA 28.1 S8A 1.7
 BDE .2921 BRA .3167 BC3 .6345 FSP 1983 SG1 862.2 SG2 468.5 THA 179.88 EL1 28.7 EL2 9.5 ALF 41.34

LAUNCH DATE MAY 17 1971

FLIGHT TIME 176.00

ARRIVAL DATE NOV 9 1971

HELIOCENTRIC CONIC

DISTANCE 424.090

EARTH TO MARS

RL 151.28 LAL .00 LOL 235.46 VL 32.259 GAL .60 AZL 91.62 HCA 138.57 SMA 185.91 ECC .18656 INC 1.6157 V1 29.451
 RP 210.57 LAP -1.07 LOP 14.04 VP 23.381 GAP 7.61 AZP 88.79 TAL 3.84 TAP 142.42 RCA 151.23 APO 220.60 V2 26.044
 RC 115.380 GL -18.02 GP -2.10 ZAL 90.47 ZAP 120.76 ETS 181.10 ZAE 163.40 ETE 186.40 ZAC 98.37 ETC 277.03 LVI -15.10

PLANETOCENTRIC CONIC

C3 8.644 VHL 2.940 DLA -29.71 RAL 335.12 RAD 6637.3 VEL 11.347 PTH 6.40 VHP 3.297 DPA -20.16 RAP 318.49 ECC 1.1423
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 7 13 2333.66 .94 59.44 185.69 137.57 16 46 7 1333.7 19.08 43.13
 60.00 17 30 6 2113.15 5.89 44.32 190.43 129.94 18 5 19 1113.2 21.27 25.22
 70.00 19 22 4 1783.79 11.65 21.88 194.69 122.33 19 51 48 783.8 23.86 .15
 80.00 22 16 8 1237.78 20.12 345.09 199.25 112.54 22 36 46 237.8 27.64 320.20
 80.49 22 44 35 1146.85 22.00 339.13 200.04 110.49 23 3 42 146.8 28.47 313.62
 100.00 1 2 56 6000.29 20.12 284.36 199.25 112.54 2 42 56 5000.3 27.64 259.48
 110.00 0 25 27 6118.64 11.65 288.71 194.69 122.33 2 7 25 5118.6 23.86 266.98

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2087 TRA -.2667 TC3 -.7932 BAU .0917 SGT 860.8 SGR 462.7 SG3 1232.3 ST 22.2 SR 19.9 S8 34.3
 RDE -.2003 RRA .1104 RC3 -.0268 FAU .20512 RRT .0449 RRF .3553 RTF .154 CRT .8229 CRS -.4753 CST .0982
 FDE -.3763 FRA 3.3630 FC-20.5447 BSP 334 SGB 977.3 R23 .3484 R13 .1218 LSA 36.0 MSA 27.7 S8A 1.7
 BDE .2893 BRA .2886 BC3 .7936 FSP 2053 SG1 861.2 SG2 462.0 THA 1.94 EL1 28.5 EL2 8.8 ALF 41.10

LAUNCH DATE MAY 17 1971

FLIGHT TIME 178.00

ARRIVAL DATE NOV 11 1971

HELIOCENTRIC CONIC

DISTANCE 428.257

EARTH TO MARS

RL 151.28 LAL .00 LOL 235.46 VL 32.248 GAL .59 AZL 91.61 HCA 139.79 SMA 185.73 ECC .18574 INC 1.6058 V1 29.451
 RP 210.82 LAP -1.04 LOP 15.26 VP 23.334 GAP 7.39 AZP 88.77 TAL 3.76 TAP 143.55 RCA 151.23 APO 220.23 V2 26.015
 RC 117.545 GL -17.98 GP -2.18 ZAL 90.64 ZAP 118.73 ETS 181.03 ZAE 161.51 ETE 186.19 ZAC 98.38 ETC 276.86 LVI -14.78

PLANETOCENTRIC CONIC

C3 8.573 VHL 2.928 DLA -29.61 RAL 335.28 RAD 6637.3 VEL 11.344 PTH 6.40 VHP 3.237 DPA -20.48 RAP 317.70 ECC 1.1411
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 7 16 2334.57 .90 59.47 185.75 137.57 16 46 11 1334.6 19.03 43.17
 60.00 17 29 52 2114.83 5.81 44.40 190.46 129.95 18 5 7 1114.8 21.21 25.32
 70.00 19 21 12 1787.31 11.53 22.07 194.68 122.37 19 51 0 787.3 23.75 .37
 80.00 22 9 3 1261.02 19.51 346.54 199.02 113.06 22 30 4 261.0 27.30 321.85
 80.85 22 48 2 1136.34 21.96 338.34 200.07 110.38 23 6 58 136.3 28.38 312.83
 100.00 0 55 51 6023.53 19.51 285.82 199.02 113.06 2 36 14 5023.5 27.30 261.12
 110.00 0 24 35 6122.16 11.53 288.90 194.68 122.37 2 6 37 5122.2 23.75 267.20

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2056 TRA -.2303 TC3 -.9453 BAU .1085 SGT 858.7 SGR 457.4 SG3 1283.1 ST 21.6 SR 19.5 S8 34.9
 RDE -.1955 RRA .1107 RC3 -.0475 FAU .21343 RRT .1021 RRF .3822 RTF .2564 CRT .8456 CRS -.4938 CST .0330
 FDE -.4086 FRA 3.4590 FC-21.5521 BSP 314 SGB 972.9 R23 .3474 R13 .2704 LSA 36.7 MSA 26.7 S8A 1.7
 BDE .2837 BRA .2557 BC3 .9463 FSP 2097 SG1 860.5 SG2 454.0 THA 4.32 EL1 27.9 EL2 8.0 ALF 41.56

LAUNCH DATE MAY 17 1971 FLIGHT TIME 180.00 ARRIVAL DATE NOV 13 1971

Heliocentric Conic: RL 151.28 LAL .00 LOL 235.46 VL 32.239 GAL .57 AZL 91.60 HCA 141.01 SMA 185.57 ECC .18501 INC 1.5956 V1 29.451
 RP 211.07 LAP -1.00 LOP 16.48 VP 23.288 GAP 7.18 AZP 88.74 TAP 3.66 TAP 144.67 RCA 151.24 APO 219.90 V2 25.086
 RC 119.734 GL -17.92 GP -2.28 ZAL 90.84 ZAP 116.89 ETS 180.95 ZAE 159.59 ETE 186.01 ZAC 98.39 ETC 276.68 LVI -14.45

Planetocentric Conic: C3 8.911 VHL 2.917 DLA -29.48 RAL 339.48 RAD 6637.3 VEL 11.341 PTH 6.39 VHP 3.181 DPA -20.81 RAP 316.89 ECC 1.1401
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 7 18 2336.22 .82 59.54 185.83 137.57 16 46 14 1336.2 18.95 43.25
 60.00 17 29 32 2117.43 5.70 44.52 190.51 129.96 18 4 50 1117.4 21.11 25.46
 70.00 19 20 8 1792.15 11.35 22.34 194.69 122.43 19 50 0 792.2 23.61 .68
 80.00 22 2 14 1203.99 18.89 347.97 198.84 113.56 22 23 38 284.0 26.95 323.46
 81.32 22 52 26 1123.16 21.90 337.34 200.13 110.24 23 11 12 123.2 28.27 311.83
 100.00 0 49 2 6046.50 18.89 287.24 198.84 113.56 2 29 48 5046.5 26.95 262.74
 110.00 0 23 30 6126.99 11.35 289.16 194.69 122.43 2 5 37 5127.0 23.61 267.50

Differential Corrections: TDE -.2208 TRA -.2112 TC3-1.1925 BAU .1359 SGT 948.3 SGR 451.6 SG3 1325.1 ST 22.9 SR 19.0 SS 35.6
 RDE -.1893 RRA .1124 RC3 -.0638 FAU .21747 RRT .1548 RRF .4071 RTF .3667 CRT .8669 CRS -.4412 CST .0507
 FDE -.3358 FRA 3.6597 FC-22.1222 BSP 381 SGB 1050.3 R23 .3381 R13 .3820 LSA 36.9 MSA 28.0 SSA 1.7
 BDE .2908 BRA .2393 BC3 1.1942 FSP 2249 SG1 951.6 SG2 444.6 THA 5.40 EL1 28.7 EL2 7.5 ALF 38.91

LAUNCH DATE MAY 17 1971 FLIGHT TIME 182.00 ARRIVAL DATE NOV 15 1971

Heliocentric Conic: RL 151.28 LAL .00 LOL 235.46 VL 32.230 GAL .55 AZL 91.58 HCA 142.23 SMA 185.42 ECC .18436 INC 1.5846 V1 29.451
 RP 211.33 LAP -.97 LOP 17.70 VP 23.243 GAP 6.98 AZP 88.75 TAL 3.54 TAP 145.77 RCA 151.24 APO 219.61 V2 25.957
 RC 121.945 GL -17.85 GP -2.37 ZAL 91.07 ZAP 114.64 ETS 180.86 ZAE 157.63 ETE 185.83 ZAC 98.39 ETC 276.49 LVI -14.11

Planetocentric Conic: C3 8.454 VHL 2.908 DLA -29.33 RAL 335.68 RAD 6637.2 VEL 11.339 PTH 6.39 VHP 3.129 DPA -21.14 RAP 316.06 ECC 1.1391
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 7 17 2338.45 .70 59.64 185.93 137.57 16 46 16 1338.5 18.85 43.36
 60.00 17 29 8 2120.74 5.55 44.68 190.58 129.98 18 4 28 1120.7 20.98 25.64
 70.00 19 18 52 1797.94 11.14 22.65 194.72 122.50 19 48 50 797.9 23.44 1.04
 80.00 21 55 50 1306.05 18.28 349.33 198.68 114.03 22 17 36 306.0 26.59 325.01
 81.90 22 57 49 1107.47 21.82 336.15 200.21 110.09 23 16 16 107.5 28.14 310.65
 100.00 0 42 38 6068.56 18.28 288.60 198.68 114.03 2 23 46 5068.6 26.59 264.28
 110.00 0 22 14 6132.80 11.14 289.48 194.72 122.50 2 4 27 5132.8 23.44 267.87

Differential Corrections: TDE -.2231 TRA -.1780 TC3-1.3971 BAU .1582 SGT 1007.6 SGR 446.7 SG3 1369.2 ST 22.8 SR 18.5 SS 36.2
 RDE -.1841 RRA .1132 RC3 -.0843 FAU .22399 RRT .2143 RRF .4351 RTF .4821 CRT .8876 CRS -.4438 CST .0035
 FDE -.3404 FRA 3.7744 FC-22.9364 BSP 560 SGB 1102.2 R23 .3152 R13 .4985 LSA 37.5 MSA 27.7 SSA 1.7
 BDE .2893 BRA .2110 BC3 1.3996 FSP 2326 SG1 1013.2 SG2 433.9 THA 6.65 EL1 28.6 EL2 6.8 ALF 38.36

LAUNCH DATE MAY 17 1971 FLIGHT TIME 184.00 ARRIVAL DATE NOV 17 1971

Heliocentric Conic: RL 151.28 LAL .00 LOL 235.46 VL 32.223 GAL .53 AZL 91.57 HCA 143.44 SMA 185.30 ECC .18379 INC 1.5732 V1 29.451
 RP 211.60 LAP -.94 LOP 18.91 VP 23.199 GAP 6.77 AZP 88.74 TAL 3.41 TAP 146.85 RCA 151.24 APO 219.35 V2 25.928
 RC 124.177 GL -17.77 GP -2.48 ZAL 91.32 ZAP 112.57 ETS 180.78 ZAE 155.64 ETE 185.66 ZAC 98.39 ETC 276.30 LVI -13.75

Planetocentric Conic: C3 8.404 VHL 2.899 DLA -29.15 RAL 335.91 RAD 6637.2 VEL 11.336 PTH 6.39 VHP 3.082 DPA -21.48 RAP 315.21 ECC 1.1383
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 7 15 2341.33 .56 59.76 186.05 137.57 16 46 16 1341.3 18.71 43.49
 60.00 17 28 37 2124.84 5.37 44.88 190.67 130.00 18 4 2 1124.8 20.82 25.87
 70.00 19 17 26 1804.81 10.88 23.03 194.76 122.57 19 47 31 804.8 23.24 1.47
 80.00 21 49 38 1327.97 17.67 350.66 198.56 114.47 22 11 45 328.0 26.22 326.53
 82.61 23 4 20 1088.33 21.72 334.69 200.31 109.94 23 22 28 88.3 27.99 309.21
 100.00 0 36 25 6090.48 17.67 289.94 198.56 114.47 2 17 56 5090.5 26.22 265.80
 110.00 0 20 48 6139.67 10.88 289.85 194.76 122.57 2 3 8 5139.7 23.24 268.30

Differential Corrections: TDE -.2269 TRA -.1449 TC3-1.6131 BAU .1816 SGT 1087.8 SGR 442.1 SG3 1413.4 ST 23.0 SR 18.1 SS 38.8
 RDE -.1786 RRA .1144 RC3 -.1053 FAU .23001 RRT .2712 RRF .4839 RTF .5.45 CRT .9063 CRS -.4296 CST -.0248
 FDE -.3177 FRA 3.9150 FC-23.6937 BSP 784 SGB 1174.2 R23 .2909 R13 .5898 LSA 38.0 MSA 27.6 SSA 1.8
 BDE .2888 BRA .1847 BC3 1.6165 FSP 2413 SG1 1095.6 SG2 422.5 THA 7.40 EL1 28.6 EL2 6.1 ALF 37.50

LAUNCH DATE MAY 17 1971 FLIGHT TIME 186.00 ARRIVAL DATE NOV 19 1971

Heliocentric Conic: RL 151.28 LAL .00 LOL 235.46 VL 32.216 GAL .50 AZL 91.56 HCA 144.65 SMA 185.19 ECC .18330 INC 1.5611 V1 29.451
 RP 211.87 LAP -.90 LOP 20.12 VP 23.155 GAP 6.58 AZP 88.73 TAL 3.26 TAP 147.90 RCA 151.25 APO 219.14 V2 25.896
 RC 126.431 GL -17.67 GP -2.58 ZAL 91.60 ZAP 110.49 ETS 180.68 ZAE 153.63 ETE 185.50 ZAC 98.39 ETC 276.11 LVI -13.39

Planetocentric Conic: C3 8.360 VHL 2.891 DLA -28.98 RAL 336.18 RAD 6637.2 VEL 11.335 PTH 6.39 VHP 3.040 DPA -21.82 RAP 314.34 ECC 1.1376
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 7 10 2344.84 .38 59.90 186.19 137.57 16 46 15 1344.8 18.54 43.66
 60.00 17 28 2 2129.71 5.16 45.12 190.78 130.02 18 3 32 1129.7 20.62 28.14
 70.00 19 15 49 1812.70 10.60 23.45 194.81 122.66 19 46 2 812.7 23.01 1.97
 80.00 21 43 34 1349.86 17.05 351.99 198.46 114.89 22 6 4 349.9 25.83 328.04
 83.49 23 12 27 1064.42 21.61 332.89 200.44 109.76 23 30 12 64.4 27.81 307.42
 100.00 0 30 22 6112.37 17.05 291.27 198.46 114.89 2 12 14 5112.4 25.83 267.31
 110.00 0 19 11 6147.56 10.60 290.28 194.81 122.66 2 1 39 5147.6 23.01 268.79

Differential Corrections: TDE -.2299 TRA -.1093 TC3-1.8374 BAU .2059 SGT 1182.3 SGR 437.9 SG3 1454.6 ST 23.1 SR 17.6 SS 37.3
 RDE -.1731 RRA .1157 RC3 -.1268 FAU .23570 RRT .3271 RRF .4930 RTF .6529 CRT .9243 CRS -.4164 CST -.0564
 FDE -.2930 FRA 4.0438 FC-24.4072 BSP 1041 SGB 1260.8 R23 .2644 R13 .6662 LSA 38.4 MSA 27.5 SSA 1.6
 BDE .2878 BRA .1592 BC3 1.8418 FSP 2470 SG1 1192.1 SG2 410.4 THA 7.84 EL1 28.6 EL2 5.4 ALF 36.66

LAUNCH DATE MAY 17 1971

FLIGHT TIME 188.00

ARRIVAL DATE NOV 21 1971

HELIOCENTRIC CONIC

DISTANCE 449.144

EARTH TO MARS

RL 151.28 LAL .00 LOL 238.46 VL 32.211 GAL .48 AZL 91.55 HCA 145.86 SMA 185.10 ECC .18288 INC 1.5485 V1 29.451
RP 212.14 LAP -.87 LOP 21.32 VP 23.112 GAP 8.38 AZP 88.72 TAL 3.09 TAP 148.95 RCA 151.25 APO 218.95 V2 25.864
RC 128.706 GL -17.58 GP -2.69 ZAL 91.90 ZAP 108.41 ETS 180.59 ZAE 151.60 ETE 185.35 ZAC 98.37 ETC 275.91 LVI -13.01

PLANETOCENTRIC CONIC

C3 8.322 VHL 2.885 DLA -28.74 RAL 336.43 RAD 6637.2 VEL 11.333 PTH 6.39 VHP 3.001 DPA -22.16 RAP 313.46 ECC 1.1370
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 7 3 2348.97 .17 60.08 186.55 137.58 16 46 11 1349.0 18.34 43.85
60.00 17 27 21 2135.32 4.92 45.39 190.90 130.05 18 2 57 1135.3 20.40 26.45
70.00 19 14 2 1821.56 10.27 23.93 194.88 122.75 19 44 24 821.6 22.74 2.52
80.00 21 37 39 1371.79 16.41 353.31 198.38 115.30 22 0 30 371.8 25.42 329.54
84.64 23 22 51 1033.49 21.47 330.56 200.59 109.58 23 40 4 33.5 27.61 305.11
100.00 0 24 26 6134.30 16.41 292.59 198.38 115.30 2 6 41 5134.3 25.42 268.81
110.00 0 17 24 6156.42 10.27 290.76 194.88 122.75 2 0 1 5156.4 22.74 269.34

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2295 TRA -.0703 TC3-2.0577 BAU .2295 SGT 1281.6 SGR 434.8 SG3 1498.1 ST 23.0 SR 17.2 SS 37.8
RDE -.1680 RRA .1169 RC3 -.1512 FAU .24249 RRT .3831 RRF .5247 RTF .7222 CRT .9411 CRS -.4209 CST -.1104
FDE -.2951 FRA 4.1519 FC-25.2263 BSP 1333 SGB 1353.3 R23 .2363 R13 .7334 LSA 39.0 MSA 26.9 SSA 1.6
BDE .2844 BRA .1364 BC3 2.0632 FSP 2521 SG1 1293.5 SG2 397.9 THA 8.19 EL1 28.3 EL2 4.7 ALF 36.25

LAUNCH DATE MAY 17 1971

FLIGHT TIME 190.00

ARRIVAL DATE NOV 23 1971

HELIOCENTRIC CONIC

DISTANCE 453.330

EARTH TO MARS

RL 151.28 LAL .00 LOL 235.46 VL 32.206 GAL .45 AZL 91.53 HCA 147.06 SMA 185.02 ECC .18252 INC 1.5348 V1 29.451
RP 212.43 LAP -.83 LOP 22.53 VP 23.070 GAP 6.19 AZP 88.71 TAL 2.91 TAP 149.97 RCA 151.25 APO 218.80 V2 25.832
RC 130.999 GL -17.43 GP -2.80 ZAL 92.23 ZAP 106.33 ETS 180.49 ZAE 149.55 ETE 185.21 ZAC 98.35 ETC 275.71 LVI -12.63

PLANETOCENTRIC CONIC

C3 8.289 VHL 2.879 DLA -28.50 RAL 336.72 RAD 6637.1 VEL 11.331 PTH 6.38 VHP 2.967 DPA -22.51 RAP 312.58 ECC 1.1364
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 6 53 2353.78 -.07 60.28 186.53 137.58 16 46 7 1353.8 18.11 44.07
60.00 17 26 35 2141.75 4.63 45.69 191.05 130.08 18 2 17 1141.7 20.15 26.80
70.00 19 12 6 1831.46 9.90 24.47 194.97 122.85 19 42 37 831.5 22.44 3.13
80.00 21 31 46 1394.04 15.76 354.64 198.33 115.69 21 55 0 394.0 24.99 331.05
86.31 23 37 44 6276.43 21.31 305.10 200.76 109.38 25 22 20 5276.4 27.39 279.67
100.00 0 18 34 6156.55 15.76 293.92 198.33 115.69 2 1 11 5156.6 24.99 270.32
110.00 0 15 28 6166.32 9.90 291.29 194.97 122.85 1 58 14 5166.3 22.44 269.95

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2349 TRA -.0353 TC3-2.3175 BAU .2575 SGT 1416.2 SGR 431.6 SG3 1532.4 ST 23.5 SR 16.6 SS 38.4
RDE -.1620 RRA .1190 RC3 -.1721 FAU .24611 RRT .4275 RRF .5548 RTF .7640 CRT .9535 CRS -.3905 CST -.1183
FDE -.2356 FRA 4.3107 FC-25.7050 BSP 1572 SGB 1480.5 R23 .2232 R13 .7730 LSA 39.5 MSA 27.2 SSA 1.6
BDE .2853 BRA .1241 BC3 2.3239 FSP 2629 SG1 1429.1 SG2 386.6 THA 8.01 EL1 28.5 EL2 4.1 ALF 34.04

LAUNCH DATE MAY 17 1971

FLIGHT TIME 192.00

ARRIVAL DATE NOV 25 1971

HELIOCENTRIC CONIC

DISTANCE 457.518

EARTH TO MARS

RL 151.28 LAL .00 LOL 235.46 VL 32.203 GAL .42 AZL 91.52 HCA 148.26 SMA 184.96 ECC .18224 INC 1.5202 V1 29.451
RP 212.72 LAP -.80 LOP 23.73 VP 23.028 GAP 6.01 AZP 88.71 TAL 2.71 TAP 150.97 RCA 151.26 APO 218.67 V2 25.799
RC 133.312 GL -17.29 GP -2.93 ZAL 92.58 ZAP 104.25 ETS 180.38 ZAE 147.50 ETE 185.08 ZAC 98.32 ETC 275.51 LVI -12.24

PLANETOCENTRIC CONIC

C3 8.261 VHL 2.874 DLA -28.24 RAL 337.03 RAD 6637.1 VEL 11.330 PTH 6.38 VHP 2.937 DPA -22.85 RAP 311.70 ECC 1.1360
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 6 40 2359.19 -.34 60.50 186.73 137.58 16 45 59 1359.2 17.85 44.33
60.00 17 25 43 2148.90 4.32 46.04 191.20 130.11 18 1 32 1148.9 19.86 27.19
70.00 19 10 0 1842.25 9.51 25.05 195.07 122.96 19 40 42 842.2 22.11 3.80
80.00 21 26 0 1416.40 15.10 355.97 198.31 116.07 21 49 36 416.4 24.54 332.56
90.00 0 0 4 6220.12 20.14 300.53 200.57 110.28 1 43 44 5220.1 26.72 275.43
100.00 0 12 47 6178.91 15.10 295.24 198.31 116.07 1 53 46 5178.9 24.54 271.83
110.00 0 13 22 6177.10 9.51 291.67 195.07 122.96 1 56 19 5177.1 22.11 270.62

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2366 TRA .0046 TC3-2.5675 BAU .2844 SGT 1549.5 SGR 428.6 SG3 1582.3 ST 23.7 SR 16.1 SS 38.7
RDE -.1562 RRA .1204 RC3 -.1951 FAU .25033 RRT .4747 RRF .5844 RTF .8547 CRT .9656 CRS -.3751 CST -.1488
FDE -.1974 FRA 4.4084 FC-26.2338 BSP 1857 SGB 1607.7 R23 .2030 R13 .8119 LSA 39.8 MSA 27.1 SSA 1.5
BDE .2836 BRA .1204 BC3 2.5749 FSP 2678 SG1 1563.6 SG2 373.9 THA 7.94 EL1 28.4 EL2 3.5 ALF 33.85

LAUNCH DATE MAY 17 1971

FLIGHT TIME 194.00

ARRIVAL DATE NOV 27 1971

HELIOCENTRIC CONIC

DISTANCE 461.707

EARTH TO MARS

RL 151.28 LAL .00 LOL 235.46 VL 32.200 GAL .38 AZL 91.50 HCA 149.46 SMA 184.92 ECC .18201 INC 1.5048 V1 29.451
RP 213.01 LAP -.76 LOP 24.92 VP 22.987 GAP 5.82 AZP 88.70 TAL 2.50 TAP 151.95 RCA 151.26 APO 218.50 V2 25.786
RC 135.843 GL -17.14 GP -3.05 ZAL 92.96 ZAP 102.18 ETS 180.27 ZAE 145.43 ETE 184.93 ZAC 98.29 ETC 275.31 LVI -11.84

PLANETOCENTRIC CONIC

C3 8.238 VHL 2.870 DLA -27.95 RAL 337.35 RAD 6637.1 VEL 11.329 PTH 6.38 VHP 2.910 DPA -23.20 RAP 310.82 ECC 1.1356
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 6 24 2365.24 -.64 60.76 186.94 137.57 16 45 49 1365.2 17.56 44.61
60.00 17 24 46 2156.80 3.97 46.42 191.37 130.14 18 0 42 1156.8 19.55 27.62
70.00 19 7 45 1853.95 9.07 25.67 195.18 123.07 19 38 39 854.0 21.75 4.51
80.00 21 20 16 1439.02 14.41 357.30 198.30 116.43 21 44 15 439.0 24.07 334.07
90.00 23 33 10 1010.44 18.22 327.56 200.08 112.01 23 50 1 10.4 25.71 303.04
100.00 0 7 4 6201.53 14.41 296.58 198.30 116.43 1 50 26 5201.5 24.07 273.34
110.00 0 11 7 6188.81 9.07 292.50 195.18 123.07 1 54 16 5188.8 21.75 271.34

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2373 TRA .0459 TC3-2.8228 BAU .3118 SGT 1691.4 SGR 427.3 SG3 1593.8 ST 23.9 SR 15.6 SS 39.3
RDE -.1505 RRA .1224 RC3 -.2191 FAU .25432 RRT .5187 RRF .6164 RTF .8357 CRT .9754 CRS -.3632 CST -.1817
FDE -.1616 FRA 4.5304 FC-26.7257 BSP 2153 SGB 1744.6 R23 .1895 R13 .8415 LSA 40.4 MSA 26.8 SSA 1.5
BDE .2810 BRA .1307 BC3 2.8313 FSP 2723 SG1 1706.6 SG2 362.1 THA 7.82 EL1 28.4 EL2 2.9 ALF 32.89

LAUNCH DATE MAY 17 1971 FLIGHT TIME 198.00 ARRIVAL DATE NOV 29 1971

DISTANCE 465.898 EARTH TO MARS

HELIOCENTRIC CONIC
 RL 151.28 LAL .00 LOL 235.46 VL 32.198 GAL .35 AZL 91.49 HCA 150.65 SMA 184.80 ECC .18184 INC 1.4884 V1 29.481
 RP 213.31 LAP -.73 LOP 26.12 VP 22.946 GAP 5.64 AZP 88.70 TAL 2.27 TAP 152.92 RCA 151.26 APO 218.51 V2 25.732
 RC 137.991 GL -16.96 GP -3.18 ZAL 93.35 ZAP 100.13 ETS 180.15 ZAE 143.37 ETE 184.83 ZAC 98.24 ETC 275.10 LVI -11.43

PLANETOCENTRIC CONIC
 C3 8.220 VHL 2.867 DLA -27.63 RAL 337.68 RAD 6637.1 VEL 11.328 PTH 6.38 VHP 2.887 DPA -23.55 RAP 309.95 ECC 1.1353
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 6 4 2371.94 -.98 61.04 187.17 137.57 16 45 36 1371.9 17.24 44.92
 60.00 17 23 42 2185.47 3.59 46.83 191.56 130.17 17 59 47 1165.5 19.20 28.09
 70.00 19 5 21 1866.56 8.60 26.35 195.31 123.18 19 36 27 866.6 21.36 5.28
 80.00 21 14 35 1461.95 13.72 358.65 198.31 116.78 21 38 57 461.9 23.57 335.59
 90.00 23 19 31 1059.06 16.95 330.57 199.87 112.98 23 37 10 59.1 24.97 306.40
 100.00 0 1 23 6224.46 13.72 297.92 198.31 116.78 1 45 7 5224.5 23.57 274.87
 110.00 0 8 43 6201.41 8.60 293.17 195.31 123.18 1 52 4 5201.4 21.36 272.11

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2371 TRA .0884 TC3-3.0838 BAU .3399 SGT 1841.5 SGR 425.7 SG3 1617.7 ST 24.0 SR 15.0 SS 39.7
 RDE -.1442 RRA .1245 RC3 -.2425 FAU .25698 RRT .5592 RRF .6462 RTF .8589 CRT .9828 CRS -.3327 CST -.1941
 FDE -.0887 FRA 4.6431 FC-27.0651 B8P 2457 SGB 1890.1 R23 .1783 R13 .8637 LSA 40.7 MSA 26.8 SSA 1.5
 BDE .2775 BRA .1527 BC3 3.0933 F8P 2766 SG1 1857.4 SG2 349.9 THA 7.64 EL1 28.2 EL2 2.4 ALF 31.80

LAUNCH DATE MAY 17 1971 FLIGHT TIME 198.00 ARRIVAL DATE DEC 1 1971

DISTANCE 470.089 EARTH TO MARS

HELIOCENTRIC CONIC
 RL 151.28 LAL .00 LOL 235.46 VL 32.197 GAL .31 AZL 91.47 HCA 151.84 SMA 184.86 ECC .18173 INC 1.4707 V1 29.451
 RP 213.61 LAP -.69 LOP 27.30 VP 22.906 GAP 5.46 AZP 88.70 TAL 2.03 TAP 153.87 RCA 151.27 APO 218.46 V2 25.697
 RC 140.356 GL -16.77 GP -3.32 ZAL 93.77 ZAP 98.09 ETS 180.03 ZAE 141.31 ETE 184.72 ZAC 98.18 ETC 274.91 LVI -11.02

PLANETOCENTRIC CONIC
 C3 8.208 VHL 2.865 DLA -27.30 RAL 338.03 RAD 6637.1 VEL 11.328 PTH 6.38 VHP 2.868 DPA -23.89 RAP 309.08 ECC 1.1351
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 5 41 2379.30 -1.35 61.34 187.41 137.56 16 45 20 1379.3 16.89 45.28
 60.00 17 22 31 2174.91 3.18 47.29 191.76 130.20 17 58 46 1174.9 18.42 28.60
 70.00 19 2 48 1880.05 8.10 27.07 195.45 123.29 19 34 8 880.1 20.94 6.10
 80.00 21 8 55 1485.23 13.00 .00 198.35 117.12 21 33 40 485.2 23.05 337.12
 90.00 23 8 28 1099.73 15.85 333.05 199.75 113.73 23 26 47 99.7 24.28 309.18
 100.00 23 51 47 6247.74 13.00 299.28 198.35 117.12 23 35 55 5247.7 23.05 276.40
 110.00 0 6 10 6214.91 8.10 293.89 195.45 123.29 1 49 45 5214.9 20.94 272.92

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2359 TRA .1326 TC3-3.3487 BAU .3665 SGT 1998.1 SGR 426.1 SG3 1638.7 ST 24.2 SR 14.5 SS 40.3
 RDE -.1383 RRA .1271 RC3 -.2659 FAU .25883 RRT .5969 RRF .6778 RTF .8776 CRT .9883 CRS -.3238 CST -.2293
 FDE -.0486 FRA 4.7641 FC-27.3065 B8P 2771 SGB 2043.0 R23 .1724 R13 .8816 LSA 41.4 MSA 26.5 SSA 1.4
 BDE .2735 BRA .1836 BC3 3.3592 F8P 2831 SG1 2014.7 SG2 339.0 THA 7.47 EL1 28.1 EL2 1.9 ALF 30.77

LAUNCH DATE MAY 17 1971 FLIGHT TIME 200.00 ARRIVAL DATE DEC 3 1971

DISTANCE 474.281 EARTH TO MARS

HELIOCENTRIC CONIC
 RL 151.28 LAL .00 LOL 235.46 VL 32.196 GAL .27 AZL 91.45 HCA 153.02 SMA 184.86 ECC .18160 INC 1.4515 V1 29.451
 RP 213.92 LAP -.66 LOP 28.49 VP 22.866 GAP 5.29 AZP 88.71 TAL 1.78 TAP 154.80 RCA 151.27 APO 218.44 V2 25.662
 RC 142.739 GL -16.55 GP -3.47 ZAL 94.21 ZAP 96.07 ETS 179.90 ZAE 139.26 ETE 184.61 ZAC 98.11 ETC 274.71 LVI -10.60

PLANETOCENTRIC CONIC
 C3 8.196 VHL 2.883 DLA -26.93 RAL 338.39 RAD 6637.1 VEL 11.327 PTH 6.38 VHP 2.852 DPA -24.24 RAP 308.24 ECC 1.1349
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 5 13 2387.33 -1.75 61.68 187.66 137.55 16 45 0 1387.3 16.50 45.62
 60.00 17 21 14 2185.12 2.73 47.77 191.97 130.22 17 57 39 1185.1 18.41 29.15
 70.00 19 0 6 1894.44 7.56 27.84 195.59 123.41 19 31 40 894.4 20.48 6.97
 80.00 21 3 15 1508.92 12.26 1.37 198.39 117.44 21 28 24 508.9 22.50 338.67
 90.00 22 58 42 1136.60 14.83 335.27 199.68 114.36 23 17 39 136.6 23.61 311.68
 100.00 23 48 7 6271.43 12.26 300.64 198.39 117.44 23 30 38 5271.4 22.50 277.95
 110.00 0 3 28 6229.30 7.56 294.66 195.59 123.41 1 47 17 5229.3 20.48 273.79

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2337 TRA .1771 TC3-3.6188 BAU .3976 SGT 2160.0 SGR 426.6 SG3 1656.3 ST 24.3 SR 13.9 SS 40.6
 RDE -.1322 RRA .1292 RC3 -.2919 FAU .26121 RRT .6350 RRF .7076 RTF .8743 CRT .9917 CRS -.3096 CST -.2590
 FDE .0034 FRA 4.8375 FC-27.5898 B8P 3084 SGB 2201.7 R23 .1636 R13 .8976 LSA 41.8 MSA 26.2 SSA 1.4
 BDE .2685 BRA .2192 BC3 3.6285 F8P 2864 SG1 2177.3 SG2 327.0 THA 7.31 EL1 28.0 EL2 1.6 ALF 29.69

LAUNCH DATE MAY 17 1971 FLIGHT TIME 202.00 ARRIVAL DATE DEC 5 1971

DISTANCE 478.473 EARTH TO MARS

HELIOCENTRIC CONIC
 RL 151.28 LAL .00 LOL 235.46 VL 32.196 GAL .23 AZL 91.43 HCA 154.21 SMA 184.86 ECC .18167 INC 1.4309 V1 29.451
 RP 214.24 LAP -.62 LOP 29.67 VP 22.826 GAP 5.12 AZP 88.71 TAL 1.51 TAP 155.72 RCA 151.28 APO 218.44 V2 25.627
 RC 145.138 GL -16.32 GP -3.63 ZAL 94.68 ZAP 94.07 ETS 179.76 ZAE 137.22 ETE 184.51 ZAC 98.02 ETC 274.52 LVI -10.18

PLANETOCENTRIC CONIC
 C3 8.191 VHL 2.882 DLA -26.53 RAL 338.77 RAD 6637.1 VEL 11.327 PTH 6.38 VHP 2.839 DPA -24.59 RAP 307.41 ECC 1.1348
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 4 40 2396.04 -2.19 62.04 187.92 137.54 16 44 36 1396.0 16.08 46.02
 60.00 17 19 49 2196.13 2.25 48.30 192.19 130.25 17 56 26 1196.1 17.96 29.73
 70.00 18 57 14 1909.72 6.99 28.65 195.75 123.52 19 29 4 909.7 19.99 7.88
 80.00 20 57 34 1533.06 11.50 2.76 198.46 117.75 21 23 7 533.1 21.93 340.23
 90.00 22 49 44 1171.33 13.84 337.34 199.65 114.91 23 9 15 171.3 22.94 314.00
 100.00 23 40 26 1007.53 11.50 324.13 198.46 117.75 23 57 13 7.5 21.93 301.60
 110.00 0 0 36 6244.58 6.99 295.47 195.75 123.52 1 44 41 5244.6 19.99 274.70

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2300 TRA .2238 TC3-3.8855 BAU .4269 SGT 2325.8 SGR 429.1 SG3 1673.3 ST 24.4 SR 13.4 SS 41.2
 RDE -.1258 RRA .1322 RC3 -.3181 FAU .26267 RRT .6705 RRF .7382 RTF .9063 CRT .9930 CRS -.2935 CST -.2852
 FDE .0678 FRA 4.9470 FC-27.7625 B8P 3405 SGB 2365.1 R23 .1605 R13 .9092 LSA 42.4 MSA 25.9 SSA 1.4
 BDE .2622 BRA .2600 BC3 3.8985 F8P 2917 SG1 2343.9 SG2 315.9 THA 7.18 EL1 27.8 EL2 1.4 ALF 28.53

LAUNCH DATE MAY 17 1971 FLIGHT TIME 204.00 ARRIVAL DATE DEC 7 1971

Heliocentric Conic: RL 151.28 LAL .00 LOL 235.46 VL 32.197 GAL .19 AZL 91.41 MCA 155.39 SMA 184.87 ECC .18172 INC 1.4085 V1 29.451
 RP 214.55 LAP -.59 LOP 30.83 VP 22.787 GAP 4.95 AZP 88.72 TAL 1.24 TAP 156.62 RCA 151.28 APO 218.47 V2 25.591
 RC 147.555 GL -18.06 GP -3.80 ZAL 95.16 ZAP 92.11 ETS 179.62 ZAE 135.19 ETE 184.42 ZAC 97.92 ETC 274.33 LVI -0.75

PLANETOCENTRIC CONIC: C3 8.189 VHL 2.862 DLA -26.11 RAL 339.14 RAD 6637.1 VEL 11.327 PTH 6.38 VHP 2.830 DPA -24.93 RAP 306.61 ECC 1.1348
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 4 1 2405.48 -2.66 62.44 188.19 137.52 16 44 6 1405.5 15.62 46.45
 60.00 17 18 17 2207.96 1.73 48.87 192.41 130.27 17 55 4 1208.0 17.48 30.36
 70.00 18 54 12 1925.92 6.38 29.50 195.92 123.62 19 26 18 925.9 19.47 6.84
 80.00 20 51 50 1557.73 10.71 4.17 198.53 118.04 21 17 48 557.7 21.32 341.82
 90.00 22 41 16 1204.83 12.88 339.32 199.65 115.40 23 1 20 204.8 22.25 316.22
 100.00 23 34 42 1032.20 10.71 325.54 198.53 118.04 23 51 54 32.2 21.32 303.18
 110.00 23 53 38 8260.70 6.38 296.33 195.92 123.62 25 37 59 5260.8 19.47 275.67

Differential Corrections: TDE -.2249 TRA .2717 TC3-4.1566 BAU .4566 SGT 2495.8 SGR 432.7 S63 1685.8 ST 24.5 SR 12.8 S8 41.6
 RDE -.1195 RRA .1351 RC3 -.3463 FAU .26413 RRT .7054 RRF .7674 RTF .9176 CRT .9922 CRS -.2832 CST -.3184
 FDE .1251 FRA 5.0190 FC-27.9231 B8P 3721 SGB 2533.1 R23 .1557 R13 .9200 LSA 43.0 MSA 25.4 SSA 1.4
 BDE .2547 BRA .3034 BC3 4.1710 FSP 2918 S61 2514.7 S62 304.4 THA 7.08 EL1 27.6 EL2 1.4 ALF 27.41

LAUNCH DATE MAY 17 1971 FLIGHT TIME 206.00 ARRIVAL DATE DEC 9 1971

Heliocentric Conic: RL 151.28 LAL .00 LOL 235.46 VL 32.198 GAL .15 AZL 91.38 MCA 156.56 SMA 184.90 ECC .18181 INC 1.3839 V1 29.451
 RP 214.86 LAP -.55 LOP 32.03 VP 22.748 GAP 4.78 AZP 88.73 TAL .94 TAP 157.51 RCA 151.28 APO 218.51 V2 25.554
 RC 149.988 GL -15.77 GP -3.99 ZAL 95.67 ZAP 90.17 ETS 179.46 ZAE 133.19 ETE 184.33 ZAC 97.80 ETC 274.14 LVI -9.32

PLANETOCENTRIC CONIC: C3 8.191 VHL 2.862 DLA -25.65 RAL 339.53 RAD 6637.1 VEL 11.327 PTH 6.38 VHP 2.823 DPA -25.28 RAP 305.83 ECC 1.1348
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 3 15 2415.86 -3.18 62.86 188.47 137.50 16 43 31 1415.7 15.12 46.91
 60.00 17 16 34 2220.66 1.17 49.47 192.65 130.29 17 53 35 1220.7 16.96 31.03
 70.00 18 50 59 1943.06 5.73 30.41 196.09 123.73 19 23 22 943.1 18.90 9.85
 80.00 20 46 2 1583.00 9.90 5.60 198.62 118.31 21 12 25 583.0 20.69 343.42
 90.00 22 33 6 1237.69 11.91 341.25 199.66 115.84 22 53 44 237.7 21.55 318.37
 100.00 23 28 54 1057.47 9.90 326.97 198.62 118.31 23 46 31 57.5 20.69 304.79
 110.00 23 50 26 8277.92 5.73 297.23 196.09 123.73 25 35 4 5277.9 18.90 276.68

Differential Corrections: TDE -.2193 TRA .3222 TC3-4.4262 BAU .4864 SGT 2669.0 SGR 439.6 S63 1699.5 ST 24.7 SR 12.2 S8 42.5
 RDE -.1132 RRA .1395 RC3 -.3745 FAU .26441 RRT .7366 RRF .7973 RTF .9250 CRT .9897 CRS -.2848 CST -.3599
 FDE .1745 FRA 5.1518 FC-27.9458 B8P 4032 SGB 2705.0 R23 .1591 R13 .9272 LSA 44.1 MSA 24.9 SSA 1.3
 BDE .2467 BRA .3511 BC3 4.4420 FSP 2898 S61 2688.8 S62 295.1 THA 7.00 EL1 27.5 EL2 1.6 ALF 26.21

LAUNCH DATE MAY 17 1971 FLIGHT TIME 208.00 ARRIVAL DATE DEC 11 1971

Heliocentric Conic: RL 151.28 LAL .00 LOL 235.46 VL 32.200 GAL .10 AZL 91.36 MCA 157.74 SMA 184.93 ECC .18194 INC 1.3572 V1 29.451
 RP 215.21 LAP -.51 LOP 33.20 VP 22.709 GAP 4.61 AZP 88.74 TAL .64 TAP 158.38 RCA 151.28 APO 218.57 V2 25.518
 RC 152.438 GL -15.45 GP -4.18 ZAL 96.19 ZAP 88.27 ETS 179.30 ZAE 131.20 ETE 184.26 ZAC 97.66 ETC 273.97 LVI -8.88

PLANETOCENTRIC CONIC: C3 8.197 VHL 2.863 DLA -25.16 RAL 339.92 RAD 6637.1 VEL 11.327 PTH 6.38 VHP 2.820 DPA -25.64 RAP 305.09 ECC 1.1349
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 2 22 2426.65 -3.73 63.32 188.75 137.46 16 42 49 1426.6 14.59 47.41
 60.00 17 14 42 2234.26 .57 50.12 192.80 130.30 17 51 57 1234.3 16.40 31.74
 70.00 18 47 35 1961.20 5.04 31.36 196.27 123.82 19 20 16 961.2 18.30 10.91
 80.00 20 40 7 1608.96 9.06 7.07 198.71 118.57 21 6 56 609.0 20.01 345.06
 90.00 22 25 8 1270.30 10.93 343.15 199.70 116.24 22 46 18 270.3 20.82 320.48
 100.00 23 22 59 1083.43 9.06 328.44 198.71 118.57 23 41 3 83.4 20.01 306.43
 110.00 23 47 1 1008.02 5.04 320.28 196.27 123.82 24 3 49 8.0 18.30 299.83

Differential Corrections: TDE -.2133 TRA .3729 TC3-4.7012 BAU .5171 SGT 2847.5 SGR 447.7 S63 1708.2 ST 25.0 SR 11.7 S8 42.7
 RDE -.1073 RRA .1430 RC3 -.4075 FAU .26582 RRT .7690 RRF .8249 RTF .5.41 CRT .9834 CRS -.2986 CST -.4131
 FDE .1971 FRA 5.2021 FC-28.0761 B8P 4346 SGB 2882.5 R23 .1554 R13 .9361 LSA 44.7 MSA 24.2 SSA 1.3
 BDE .2387 BRA .3994 BC3 4.7188 FSP 2891 S61 2868.4 S62 284.1 THA 6.96 EL1 27.6 EL2 1.8 ALF 24.96

LAUNCH DATE MAY 17 1971 FLIGHT TIME 210.00 ARRIVAL DATE DEC 13 1971

Heliocentric Conic: RL 151.28 LAL .00 LOL 235.46 VL 32.203 GAL .05 AZL 91.33 MCA 158.90 SMA 184.97 ECC .18212 INC 1.3275 V1 29.451
 RP 215.54 LAP -.48 LOP 34.37 VP 22.671 GAP 4.45 AZP 88.76 TAL .33 TAP 159.23 RCA 151.28 APO 218.66 V2 25.480
 RC 154.904 GL -15.10 GP -4.40 ZAL 96.73 ZAP 86.40 ETS 179.13 ZAE 129.24 ETE 184.18 ZAC 97.50 ETC 273.80 LVI -8.44

PLANETOCENTRIC CONIC: C3 8.205 VHL 2.864 DLA -24.63 RAL 340.31 RAD 6637.1 VEL 11.328 PTH 6.38 VHP 2.819 DPA -26.00 RAP 304.38 ECC 1.1350
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 1 20 2438.48 -4.32 63.82 189.04 137.43 16 41 59 1438.5 14.01 47.94
 60.00 17 12 39 2248.82 -.07 50.82 193.12 130.30 17 50 7 1248.8 15.79 32.50
 70.00 18 43 57 1980.40 4.31 32.37 196.44 123.91 19 18 57 980.4 17.66 12.03
 80.00 20 34 5 1635.72 8.18 8.57 198.81 118.81 21 1 20 635.7 19.31 346.73
 90.00 22 17 15 1302.98 9.94 345.04 199.75 116.61 22 38 58 303.0 20.06 322.57
 100.00 23 18 56 1110.19 8.18 329.94 198.81 118.81 23 35 27 110.2 19.31 308.10
 110.00 23 43 23 1027.22 4.31 321.29 196.44 123.91 24 0 30 27.2 17.66 300.95

Differential Corrections: TDE -.1991 TRA .4207 TC3-4.9633 BAU .5465 SGT 3016.8 SGR 452.2 S63 1695.3 ST 24.6 SR 11.0 S8 43.1
 RDE -.0987 RRA .1461 RC3 -.4352 FAU .26333 RRT .7955 RRF .8468 RTF .9391 CRT .9785 CRS -.2549 CST -.4126
 FDE .3460 FRA 5.2045 FC-27.7835 B8P 4649 SGB 3050.5 R23 .1546 R13 .9408 LSA 44.9 MSA 23.8 SSA 1.3
 BDE .2222 BRA .4453 BC3 4.9824 FSP 2874 S61 3038.3 S62 272.0 THA 6.85 EL1 26.9 EL2 2.1 ALF 23.73

LAUNCH DATE MAY 17 1971 FLIGHT TIME 212.00 ARRIVAL DATE DEC 15 1971

HELIOCENTRIC CONIC
 RL 151.28 LAL .00 LOL 235.46 VL 32.206 GAL .00 AZL 91.30 HCA 160.07 SMA 185.02 ECC .18234 INC 1.2950 V1 29.451
 RP 215.87 LAP -.44 LOP 35.53 VP 22.633 GAP 4.29 AZP 88.78 TAL .00 TAP 160.07 RCA 151.28 APO 218.76 V2 29.443
 RC 157.385 GL -14.71 GP -4.64 ZAL 97.29 ZAP 84.57 ETS 178.94 ZAE 127.31 ETE 184.12 ZAC 97.32 ETC 273.64 LVI -7.99

PLANETOCENTRIC CONIC
 C3 8.217 VHL 2.867 DLA -24.06 RAL 340.70 RAD 6637.1 VEL 11.328 PTH 6.38 VHP 2.820 DPA -26.38 RAP 303.71 ECC 1.1352
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 0 8 2431.24 -4.96 84.36 189.33 137.38 16 40 59 1451.2 13.38 48.50
 60.00 17 10 22 2264.44 -7.76 51.56 193.36 130.29 17 48 6 1264.4 15.14 33.31
 70.00 18 40 4 2000.74 3.54 33.44 196.82 123.99 19 13 24 1000.7 16.97 13.20
 80.00 20 27 51 1663.41 7.27 10.12 198.92 119.04 20 55 34 663.4 18.55 348.44
 90.00 22 9 21 1336.04 8.93 346.94 199.81 116.94 22 31 37 336.0 19.26 324.67
 100.00 23 10 43 1137.88 7.27 331.49 198.92 119.04 23 29 40 137.9 18.55 309.81
 110.00 23 39 30 1047.56 3.54 322.36 196.62 123.99 23 56 57 47.6 16.97 302.12

DIFFERENTIAL CORRECTIONS
 TDE -.1887 TRA .4824 TC3-4.8968 BAU .5390 SGT 3022.9 SGR 422.4 SG3 1439.1 ST 25.0 SR 10.3 SS 45.5
 RDE -.0897 RRA .1551 RC3 -.3071 FAU .19160 RRT .7208 RRF .8405 RTF .8883 CRT .9734 CRS -.2468 CST -.4252
 FDE .4925 FRA 5.4537 FC-20.1876 BSP 3952 SGB 3052.3 R23 .2802 R13 .8911 LSA 47.2 HSA 23.8 SSA 1.3
 BDE .2089 BRA .5068 BC3 4.9062 FSP 1298 SG1 3038.3 SG2 291.3 THA 5.80 EL1 26.9 EL2 2.2 ALF 22.05

LAUNCH DATE MAY 17 1971 FLIGHT TIME 214.00 ARRIVAL DATE DEC 17 1971

HELIOCENTRIC CONIC
 RL 151.28 LAL .00 LOL 235.46 VL 32.209 GAL -.05 AZL 91.26 HCA 161.23 SMA 185.08 ECC .18260 INC 1.2584 V1 29.451
 RP 216.21 LAP -.41 LOP 36.69 VP 22.595 GAP 4.13 AZP 88.81 TAL 359.67 TAP 160.90 RCA 151.28 APO 218.87 V2 25.405
 RC 159.881 GL -14.28 GP -4.90 ZAL 97.87 ZAP 82.78 ETS 178.74 ZAE 125.40 ETE 184.06 ZAC 97.10 ETC 273.48 LVI -7.52

PLANETOCENTRIC CONIC
 C3 8.231 VHL 2.869 DLA -23.44 RAL 341.08 RAD 6637.1 VEL 11.329 PTH 6.38 VHP 2.825 DPA -26.77 RAP 303.08 ECC 1.1355
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 58 43 2465.03 -5.65 84.94 189.61 137.32 16 39 48 1465.0 12.71 49.11
 60.00 17 7 50 2281.22 -1.50 52.37 193.60 130.28 17 45 51 1281.2 14.44 34.17
 70.00 18 35 53 2022.36 2.72 34.57 196.79 124.06 19 9 35 1022.4 16.22 14.44
 80.00 20 21 23 1692.19 6.32 11.73 199.02 119.24 20 49 35 692.2 17.75 350.20
 90.00 22 1 21 1369.75 7.88 348.86 199.87 117.25 22 24 10 369.8 18.42 326.79
 100.00 23 4 14 1166.67 6.32 333.10 199.02 119.24 23 23 41 166.7 17.75 311.57
 110.00 23 35 19 1069.18 2.72 323.49 196.79 124.06 23 53 8 69.2 16.22 303.36

DIFFERENTIAL CORRECTIONS
 TDE -.1637 TRA .5347 TC3-5.4788 BAU .6054 SGT 3368.2 SGR 477.4 SG3 1692.4 ST 24.4 SR 9.6 SS 46.6
 RDE -.0802 RRA .1598 RC3 -.4968 FAU .25720 RRT .8417 RRF .8927 RTF .9427 CRT .9606 CRS -.2289 CST -.4627
 FDE .6520 FRA 5.4560 FC-27.0517 BSP 5343 SGB 3401.8 R23 .1753 R13 .9443 LSA 48.4 HSA 22.7 SSA 1.2
 BDE .1823 BRA .5581 BC3 5.5012 FSP 2927 SG1 3392.2 SG2 256.0 THA 6.84 EL1 26.1 EL2 2.5 ALF 20.85

LAUNCH DATE MAY 17 1971 FLIGHT TIME 216.00 ARRIVAL DATE DEC 19 1971

HELIOCENTRIC CONIC
 RL 151.28 LAL .00 LOL 235.46 VL 32.213 GAL -.10 AZL 91.22 HCA 162.39 SMA 185.14 ECC .18290 INC 1.2173 V1 29.451
 RP 216.56 LAP -.37 LOP 37.85 VP 22.558 GAP 3.97 AZP 88.84 TAL 359.32 TAP 161.71 RCA 151.28 APO 219.01 V2 25.366
 RC 162.390 GL -13.79 GP -5.19 ZAL 98.47 ZAP 81.04 ETS 178.53 ZAE 123.52 ETE 184.02 ZAC 96.85 ETC 273.33 LVI -7.04

PLANETOCENTRIC CONIC
 C3 8.248 VHL 2.872 DLA -22.77 RAL 341.46 RAD 6637.1 VEL 11.330 PTH 6.38 VHP 2.831 DPA -27.18 RAP 302.50 ECC 1.1357
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 57 4 2479.96 -6.40 65.57 189.89 137.25 16 38 24 1480.0 11.97 49.77
 60.00 17 5 0 2299.30 -2.30 53.23 193.83 130.25 17 43 19 1299.3 13.68 33.09
 70.00 18 31 21 2045.40 1.84 35.77 196.96 124.11 19 5 27 1045.4 15.42 15.74
 80.00 20 14 36 1722.28 5.31 13.40 199.12 119.42 20 43 18 722.3 16.90 352.02
 90.00 21 53 9 1404.41 6.80 350.83 199.93 117.52 22 16 33 404.4 17.55 328.94
 100.00 22 37 28 1196.75 5.31 334.76 199.12 119.42 23 17 25 196.7 16.90 313.39
 110.00 23 30 48 1092.22 1.84 324.69 196.96 124.11 23 49 0 92.2 15.42 304.66

DIFFERENTIAL CORRECTIONS
 TDE -.1439 TRA .5921 TC3-5.7384 BAU .6356 SGT 3540.1 SGR 492.1 SG3 1678.9 ST 24.2 SR 8.9 SS 46.9
 RDE -.0715 RRA .1640 RC3 -.5390 FAU .25642 RRT .8658 RRF .9116 RTF .5.83 CRT .9501 CRS -.2397 CST -.8057
 FDE .7492 FRA 5.3975 FC-26.9140 BSP 5677 SGB 3574.2 R23 .1732 R13 .9497 LSA 49.0 HSA 21.7 SSA 1.1
 BDE .1807 BRA .6048 BC3 5.7636 FSP 2932 SG1 3565.8 SG2 244.5 THA 6.90 EL1 25.7 EL2 2.6 ALF 19.48

LAUNCH DATE MAY 17 1971 FLIGHT TIME 218.00 ARRIVAL DATE DEC 21 1971

HELIOCENTRIC CONIC
 RL 151.28 LAL .00 LOL 235.46 VL 32.218 GAL -.16 AZL 91.17 HCA 163.54 SMA 185.22 ECC .18323 INC 1.1709 V1 29.481
 RP 216.91 LAP -.33 LOP 39.01 VP 22.521 GAP 3.82 AZP 88.88 TAL 358.97 TAP 162.51 RCA 151.28 APO 219.15 V2 28.327
 RC 164.912 GL -13.24 GP -5.52 ZAL 99.08 ZAP 79.34 ETS 178.29 ZAE 121.68 ETE 183.98 ZAC 96.56 ETC 273.20 LVI -6.53

PLANETOCENTRIC CONIC
 C3 8.267 VHL 2.875 DLA -22.03 RAL 341.82 RAD 6637.1 VEL 11.330 PTH 6.38 VHP 2.840 DPA -27.61 RAP 301.98 ECC 1.1361
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 55 7 2496.20 -7.21 66.26 190.16 137.16 16 36 43 1496.2 11.17 50.48
 60.00 17 1 48 2318.85 -3.16 54.17 194.04 130.20 17 40 27 1318.9 12.85 36.08
 70.00 18 26 25 2070.08 .90 37.06 197.12 124.14 19 0 55 1070.1 14.56 17.13
 80.00 20 7 27 1753.92 4.25 15.15 199.20 119.58 20 36 41 753.9 15.98 353.92
 90.00 21 44 39 1440.37 5.66 352.86 199.98 117.75 22 8 40 440.4 16.37 331.15
 100.00 22 50 19 1228.39 4.25 336.51 199.20 119.58 23 10 47 228.4 15.98 315.29
 110.00 23 25 52 1116.90 .90 325.98 197.12 124.14 23 44 29 116.9 14.56 306.05

DIFFERENTIAL CORRECTIONS
 TDE -.1263 TRA .6391 TC3-5.9944 BAU .6657 SGT 3719.3 SGR 515.3 SG3 1671.0 ST 24.7 SR 8.5 SS 47.5
 RDE -.0642 RRA .1722 RC3 -.5824 FAU .25409 RRT .8844 RRF .9297 RTF .9518 CRT .9426 CRS -.2987 CST -.5783
 FDE .7799 FRA 5.4550 FC-26.6084 BSP 6049 SGB 3754.8 R23 .1818 R13 .9532 LSA 50.1 HSA 20.6 SSA 1.1
 BDE .1417 BRA .6619 BC3 6.0226 FSP 2957 SG1 3747.2 SG2 238.7 THA 7.01 EL1 26.0 EL2 2.7 ALF 18.15

LAUNCH DATE MAY 17 1971

FLIGHT TIME 228.00

ARRIVAL DATE DEC 31 1971

HELIOCENTRIC CONIC

RL 151.28 LAL .00 LOL 235.46 VL 32.245 GAL -.48 AZL 90.80 HCA 169.26 SMA 185.68 ECC .18541 INC .7980 V1 29.451
RP 218.69 LAP -.19 LOP 44.72 VP 22.337 GAP 3.06 AZP 89.21 TAL 357.07 TAP 166.33 RCA 151.25 APO 220.10 V2 25.129
RC 177.690 GL -8.94 GP -8.11 ZAL 102.40 ZAP 71.56 ETS 176.53 ZAE 112.92 ETE 183.99 ZAC 94.11 ETC 272.64 LVI -3.33

PLANETOCENTRIC CONIC

C3 8.385 VHL 2.898 DLA -16.84 RAL 343.14 RAD 6637.2 VEL 11.336 PTH 6.39 VHP 2.919 DPA -30.58 RAP 300.08 ECC 1.1380
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 15 37 53 2608.08 -12.76 71.09 191.14 136.24 16 21 21 1608.1 5.60 55.27
60.00 16 36 49 2451.36 -8.94 60.58 194.74 129.46 17 17 40 1451.4 7.15 42.63
70.00 17 51 20 2232.28 -5.29 45.54 197.48 123.79 18 28 32 1232.3 8.66 25.99
80.00 19 20 51 1952.08 -2.45 26.03 199.24 119.77 19 53 24 952.1 9.84 5.43
90.00 20 51 55 1658.31 -1.33 5.05 199.86 118.25 21 19 34 658.3 10.30 344.07
100.00 22 3 43 1426.55 -2.45 347.40 199.24 119.77 22 27 30 426.6 9.84 326.80
110.00 22 50 46 1279.10 -5.29 334.46 197.48 123.79 23 12 5 279.1 8.66 314.91

DIFFERENTIAL CORRECTIONS

TDE .0584 TRA .9069 TC3-7.2108 BAU .8146 SGT 4579.0 SGR 714.2 SG3 1572.8 ST 29.4 SR 7.3 SS 54.6
RDE -.0033 RRA .2352 RC3-.9033 FAU .23571 RRT .9465 RRF .9845 RTF .9618 CRT .9645 CR8 -.7527 C8T -.8856
FDE 1.3653 FRA 5.4171 FC-24.3373 B8P 7628 SGB 4634.4 R23 .2231 R13 .9634 LSA 61.1 MSA 12.9 S8A 1.0
BDE .0585 BRA .9369 BC3 7.2672 F8P 2762 SG1 4628.7 SG2 228.1 THA 8.42 EL1 30.2 EL2 1.9 ALF 13.61

LAUNCH DATE MAY 17 1971

FLIGHT TIME 230.00

ARRIVAL DATE JAN 2 1972

HELIOCENTRIC CONIC

RL 151.28 LAL .00 LOL 235.46 VL 32.252 GAL -.52 AZL 90.67 HCA 170.39 SMA 185.79 ECC .18593 INC .6695 V1 28.451
RP 219.06 LAP -.11 LOP 45.85 VP 22.301 GAP 2.91 AZP 89.34 TAL 356.67 TAP 167.06 RCA 151.24 APO 220.33 V2 25.089
RC 180.275 GL -7.52 GP -8.98 ZAL 103.11 ZAP 70.18 ETS 175.98 ZAE 111.26 ETE 184.05 ZAC 93.27 ETC 272.56 LVI -2.41

PLANETOCENTRIC CONIC

C3 8.412 VHL 2.900 DLA -15.27 RAL 343.22 RAD 6637.2 VEL 11.337 PTH 6.39 VHP 2.943 DPA -31.49 RAP 299.91 ECC 1.1384
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 31 45 2641.01 -14.37 72.56 191.21 135.86 16 15 46 1641.0 3.95 56.65
60.00 16 28 36 2489.80 -10.60 62.47 194.74 129.11 17 10 6 1489.8 5.47 44.49
70.00 17 40 36 2278.17 -7.02 47.97 197.40 123.51 18 18 34 1278.2 6.94 28.43
80.00 19 7 31 2006.13 -4.27 29.01 199.10 119.58 19 40 57 1006.1 8.08 8.47
90.00 20 37 19 1716.43 -3.20 8.30 199.69 118.11 21 5 55 716.4 8.52 347.41
100.00 21 50 22 1480.60 -4.27 350.38 199.10 119.58 22 15 3 480.6 8.08 329.84
110.00 22 40 2 1324.98 -7.02 336.89 197.40 123.51 23 2 7 325.0 6.94 317.35

DIFFERENTIAL CORRECTIONS

TDE .1145 TRA .9543 TC3-7.4629 BAU .8470 SGT 4755.1 SGR 788.8 SG3 1547.9 ST 32.1 SR 8.1 S8 56.5
RDE .0144 RRA .2574 RC3-1.0104 FAU .23167 RRT .9528 RRF .9899 RTF .9629 CRT .9779 CR8 -.8532 C8T -.9312
FDE 1.4921 FRA 5.3724 FC-23.8413 B8P 7869 SGB 4820.1 R23 .2308 R13 .9648 LSA 64.6 MSA 10.9 S8A 1.1
BDE .1154 BRA .9884 BC3 7.5310 F8P 2682 SG1 4814.3 SG2 236.5 THA 9.00 EL1 33.0 EL2 1.6 ALF 13.87

LAUNCH DATE MAY 17 1971

FLIGHT TIME 232.00

ARRIVAL DATE JAN 4 1972

HELIOCENTRIC CONIC

RL 151.28 LAL .00 LOL 235.46 VL 32.259 GAL -.59 AZL 90.52 HCA 171.52 SMA 185.90 ECC .18649 INC .5121 V1 29.451
RP 219.43 LAP -.08 LOP 46.98 VP 22.265 GAP 2.76 AZP 89.49 TAL 356.28 TAP 167.78 RCA 151.23 APO 220.57 V2 25.048
RC 182.871 GL -5.74 GP -10.06 ZAL 103.83 ZAP 68.86 ETS 175.30 ZAE 109.61 ETE 184.15 ZAC 92.20 ETC 272.49 LVI -1.30

PLANETOCENTRIC CONIC

C3 8.444 VHL 2.906 DLA -13.38 RAL 343.15 RAD 6637.2 VEL 11.338 PTH 6.39 VHP 2.972 DPA -32.61 RAP 299.83 ECC 1.1390
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 23 56 2680.52 -16.29 74.34 191.20 135.35 16 8 36 1680.5 1.97 58.31
60.00 16 18 24 2535.67 -12.56 64.76 194.66 128.62 17 0 39 1535.7 3.46 46.70
70.00 17 27 31 2332.44 -9.05 50.86 197.24 123.08 18 6 24 1332.4 4.89 31.29
80.00 18 51 35 2069.33 -6.39 32.51 198.87 119.23 19 26 4 1069.3 5.99 12.00
90.00 20 20 2 1783.97 -5.36 12.09 199.43 117.81 20 49 46 784.0 6.41 351.25
100.00 21 34 27 1543.80 -6.39 353.88 198.87 119.23 22 0 10 543.8 5.99 333.37
110.00 22 26 58 1379.25 -9.05 339.78 197.24 123.08 22 49 57 379.3 4.89 320.21

DIFFERENTIAL CORRECTIONS

TDE .1868 TRA .9960 TC3-7.7045 BAU .8794 SGT 4925.3 SGR 883.7 SG3 1518.8 ST 36.1 SR 9.3 S8 57.9
RDE .0347 RRA .2823 RC3-1.1530 FAU .22894 RRT .9804 RRF .9937 RTF .5687 CRT .9833 CR8 -.9211 C8T -.9686
FDE 1.6021 FRA 5.2433 FC-23.4728 B8P 8129 SGB 5004.0 R23 .2262 R13 .9686 LSA 68.3 MSA 8.2 S8A 1.1
BDE .1900 BRA 1.0352 BC3 7.7903 F8P 2580 SG1 4998.1 SG2 242.7 THA 9.80 EL1 37.2 EL2 1.6 ALF 14.24

LAUNCH DATE MAY 17 1971

FLIGHT TIME 234.00

ARRIVAL DATE JAN 6 1972

HELIOCENTRIC CONIC

RL 151.28 LAL .00 LOL 235.46 VL 32.266 GAL -.65 AZL 90.31 HCA 172.64 SMA 186.02 ECC .18707 INC .3022 V1 29.451
RP 219.80 LAP -.04 LOP 48.10 VP 22.229 GAP 2.62 AZP 89.69 TAL 355.85 TAP 168.49 RCA 151.22 APO 220.82 V2 25.007
RC 185.475 GL -3.45 GP -11.45 ZAL 104.56 ZAP 67.84 ETS 174.44 ZAE 107.99 ETE 184.30 ZAC 90.82 ETC 272.43 LVI .08

PLANETOCENTRIC CONIC

C3 8.486 VHL 2.913 DLA -11.00 RAL 342.91 RAD 6637.3 VEL 11.340 PTH 6.39 VHP 3.007 DPA -34.02 RAP 299.88 ECC 1.1397
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 13 41 2729.72 -18.66 76.82 191.11 134.60 15 59 11 1729.7 -.51 60.36
60.00 16 5 18 2592.45 -14.95 67.65 194.51 127.87 16 48 31 1592.4 .97 49.41
70.00 17 11 6 2399.01 -11.50 54.46 197.00 122.38 17 51 5 1399.0 2.36 34.78
80.00 18 31 55 2146.01 -8.91 36.80 198.55 118.61 19 7 41 1146.0 3.41 16.24
90.00 19 58 54 1865.43 -7.92 16.70 199.08 117.24 20 29 59 865.4 3.82 355.83
100.00 21 14 47 1620.48 -8.91 358.17 198.55 118.61 21 41 48 620.5 3.41 337.60
110.00 22 10 32 1445.83 -11.50 343.37 197.00 122.38 22 34 38 445.8 2.36 323.70

DIFFERENTIAL CORRECTIONS

TDE .2825 TRA 1.0350 TC3-7.9118 BAU .9098 SGT 5085.7 SGR 1003.2 SG3 1477.8 ST 42.3 SR 11.6 S8 61.3
RDE .0651 RRA .3184 RC3-1.3107 FAU .22155 RRT .9834 RRF .9963 RTF .9668 CRT .9885 CR8 -.9661 C8T -.9893
FDE 1.7982 FRA 5.1521 FC-22.6021 B8P 8459 SGB 5183.7 R23 .2326 R13 .9691 LSA 75.1 MSA 5.5 S8A 1.4
BDE .2899 BRA 1.0837 BC3 8.0196 F8P 2512 SG1 5176.9 SG2 264.4 THA 10.79 EL1 43.8 EL2 1.7 ALF 15.16

LAUNCH DATE MAY 17 1971

FLIGHT TIME 236.00

ARRIVAL DATE JAN 8 1972

Heliocentric Conic: RL 151.28 LAL .00 LOL 235.46 VL 32.273 GAL -.72 AZL 90.03 HCA 173.78 SMA 186.14 ECC .18768 INC .0000 V1 29.451
 RP 220.18 LAP -.00 LOP 49.22 VP 22.184 GAP 2.47 AZP 89.97 TAL 355.43 TAP 169.19 RCA 151.21 APO 221.08 V2 24.886
 RC 188.089 GL -.38 GP -13.31 ZAL 105.28 ZAP 66.54 ETS 173.32 ZAE 106.37 ETE 184.51 ZAC 88.98 ETC 272.38 LVI 1.88

Planetocentric Conic: C3 8.555 VHL 2.925 DLA -7.89 RAL 342.37 RAD 8637.3 VEL 11.343 PTH 6.40 VHP 3.051 DPA -35.97 RAP 300.10 ECC 1.1400
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 59 47 2793.78 -21.69 79.69 190.97 133.45 15 46 21 1793.8 -3.72 63.04
 60.00 15 47 52 2665.92 -17.98 71.49 194.28 126.70 16 32 18 1665.9 -2.27 52.92
 70.00 16 49 38 2484.38 -14.56 59.17 196.68 121.24 17 31 1 1484.4 -.90 39.24
 80.00 18 6 36 2243.33 -12.03 42.34 198.15 117.53 18 44 0 1243.3 .12 21.58
 90.00 19 31 52 1968.27 -11.07 22.61 198.64 116.19 20 4 40 968.3 .51 1.58
 100.00 20 49 28 1717.80 -12.03 3.71 198.15 117.53 21 18 6 717.8 .12 342.95
 110.00 21 49 3 1531.20 -14.56 348.09 196.68 121.24 22 14 34 531.2 -.90 328.15

Differential Corrections: TDE .4126 TRA 1.0660 TC3-8.1018 BAU .9428 SGT 5249.7 SGR 1166.9 SG3 1431.4 ST 51.8 SR 15.3 SS 86.1
 RDE .1095 RRA .3665 RC3-1.5199 FAU .21359 RRT .9655 RRF .9980 RTF .9669 CRT .9906 CRS -.9881 CST -.9978
 FDE 2.0493 FRA 5.0181 FC-21.6151 BSP 8775 SGB 5377.8 R23 .2363 R13 .9697 LSA 85.3 MSA 2.9 SSA 1.9
 BDE .4268 BRA 1.1272 BC3 8.2432 FSP 2435 SG1 5369.6 SG2 296.9 THA 12.15 EL1 54.0 EL2 2.0 ALF 16.36

LAUNCH DATE MAY 17 1971

FLIGHT TIME 236.00

ARRIVAL DATE JAN 10 1972

Heliocentric Conic: RL 151.28 LAL .00 LOL 235.46 VL 32.281 GAL -.79 AZL 89.64 HCA 174.88 SMA 186.27 ECC .18832 INC .3546 V1 29.451
 RP 220.55 LAP .03 LOP 50.34 VP 22.158 GAP 2.33 AZP 90.36 TAL 355.00 TAP 169.88 RCA 151.19 APO 221.35 V2 24.925
 RC 190.711 GL 3.96 GP -15.91 ZAL 105.95 ZAP 65.64 ETS 171.78 ZAE 104.74 ETE 184.83 ZAC 86.39 ETC 272.34 LVI 4.35

Planetocentric Conic: C3 8.694 VHL 2.949 DLA -3.61 RAL 341.38 RAD 8637.4 VEL 11.349 PTH 6.40 VHP 3.114 DPA -38.45 RAP 300.59 ECC 1.1431
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 39 57 2882.50 -25.77 84.19 190.86 131.49 15 28 0 1882.5 -8.16 66.79
 60.00 15 23 22 2767.03 -22.00 77.02 194.09 124.68 16 9 29 1767.0 -6.70 57.78
 70.00 16 19 52 2600.89 -18.56 65.83 196.38 119.20 17 3 13 1600.9 -5.34 45.34
 80.00 17 32 2 2374.93 -16.04 50.05 197.74 115.52 18 11 37 1374.9 -4.33 28.82
 90.00 18 55 10 2106.72 -15.09 30.79 198.20 114.20 19 30 16 1106.7 -3.94 9.31
 100.00 20 14 54 1849.41 -16.04 11.42 197.74 115.52 20 45 43 849.4 -4.33 350.18
 110.00 21 19 18 1647.71 -18.56 354.75 196.38 119.20 21 46 46 647.7 -5.34 334.25

Differential Corrections: TDE .6019 TRA 1.0840 TC3-8.1922 BAU .9746 SGT 5400.1 SGR 1392.6 SG3 1366.0 ST 66.9 SR 21.5 SS 72.4
 RDE .1782 RRA .4318 RC3-1.7887 FAU .20264 RRT .9674 RRF .9991 RTF .9672 CRT .9906 CRS -.9968 CST -.9977
 FDE 2.3573 FRA 4.8012 FC-20.1785 BSP 9192 SGB 5576.8 R23 .2355 R13 .9709 LSA 100.8 MSA 3.9 SSA 1.0
 BDE .6277 BRA 1.1669 BC3 8.3852 FSP 2339 SG1 5566.3 SG2 342.1 THA 14.06 EL1 70.2 EL2 2.8 ALF 17.67

LAUNCH DATE MAY 17 1971

FLIGHT TIME 240.00

ARRIVAL DATE JAN 12 1972

Heliocentric Conic: RL 151.28 LAL .00 LOL 235.46 VL 32.288 GAL -.86 AZL 89.03 HCA 175.99 SMA 186.40 ECC .18898 INC .9647 V1 29.451
 RP 220.93 LAP .07 LOP 51.45 VP 22.123 GAP 2.18 AZP 90.97 TAL 354.57 TAP 170.56 RCA 151.18 APO 221.63 V2 24.884
 RC 193.341 GL 10.52 GP -19.78 ZAL 106.43 ZAP 65.12 ETS 169.58 ZAE 103.06 ETE 185.32 ZAC 82.53 ETC 272.33 LVI 7.97

Planetocentric Conic: C3 9.039 VHL 3.006 DLA 2.74 RAL 339.58 RAD 8637.5 VEL 11.364 PTH 6.42 VHP 3.215 DPA -42.25 RAP 301.56 ECC 1.1488
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 9 32 3018.36 -31.59 91.64 191.24 127.63 14 59 48 2016.4 -14.77 72.64
 60.00 14 46 12 2918.79 -27.59 85.96 194.36 120.63 15 34 51 1918.8 -13.23 65.28
 70.00 15 35 12 2774.87 -23.98 76.40 196.48 115.08 16 21 27 1774.7 -11.81 54.64
 80.00 16 40 33 2570.04 -21.35 62.10 197.70 111.38 17 23 23 1570.0 -10.75 39.74
 90.00 18 0 42 2311.40 -20.37 43.48 198.09 110.05 18 39 13 1311.4 -10.35 20.93
 100.00 19 23 25 2044.51 -21.35 23.46 197.70 111.38 19 57 29 1044.5 -10.75 1.11
 110.00 20 34 38 1821.49 -23.98 5.32 196.48 115.08 21 5 0 821.5 -11.81 343.55

Differential Corrections: TDE .8742 TRA 1.0437 TC3-8.2003 BAU 1.0250 SGT 5572.6 SGR 1728.4 SG3 1271.4 ST 88.8 SR 31.9 SS 80.1
 RDE .2958 RRA .5158 RC3-2.1493 FAU .18040 RRT .9687 RRF .9996 RTF .570 CRT .9902 CRS -.9994 CST -.9942
 FDE 2.7203 FRA 4.3669 FC-18.2362 BSP 9342 SGB 5834.5 R23 .2325 R13 .9722 LSA 123.5 MSA 7.0 SSA .4
 BDE .9229 BRA 1.1642 BC3 8.4824 FSP 2120 SG1 5820.0 SG2 410.9 THA 16.81 EL1 94.3 EL2 4.2 ALF 19.60

LAUNCH DATE MAY 17 1971

FLIGHT TIME 242.00

ARRIVAL DATE JAN 14 1972

Heliocentric Conic: RL 151.28 LAL .00 LOL 235.46 VL 32.298 GAL -.93 AZL 87.95 HCA 177.10 SMA 186.54 ECC .18966 INC 2.0487 V1 29.451
 RP 221.31 LAP .10 LOP 52.58 VP 22.088 GAP 2.04 AZP 92.05 TAL 354.13 TAP 171.23 RCA 151.16 APO 221.92 V2 24.842
 RC 195.978 GL 21.34 GP -26.05 ZAL 106.28 ZAP 65.44 ETS 166.24 ZAE 101.24 ETE 186.13 ZAC 76.27 ETC 272.38 LVI 13.75

Planetocentric Conic: C3 10.095 VHL 3.177 DLA 13.02 RAL 338.09 RAD 8638.1 VEL 11.410 PTH 6.46 VHP 3.418 DPA -48.33 RAP 303.68 ECC 1.1661
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 17 0 3244.52 -40.09 106.77 194.17 118.15 14 11 4 2244.5 -25.54 83.63
 60.00 13 42 8 3177.63 -35.31 103.50 196.91 110.83 14 35 5 2177.6 -23.66 79.21
 70.00 14 17 59 3072.11 -31.02 96.81 198.57 105.07 15 9 11 2072.1 -21.89 71.77
 80.00 15 11 0 2905.98 -27.87 84.86 199.42 101.18 15 59 26 1906.0 -20.56 59.83
 90.00 16 25 39 2665.07 -26.67 67.40 199.66 99.76 17 10 4 1665.1 -20.05 42.33
 100.00 17 53 52 2380.46 -27.87 46.23 199.42 101.18 18 33 33 1380.5 -20.56 21.20
 110.00 19 17 25 2118.93 -31.02 25.53 198.57 105.07 19 52 44 1118.9 -21.89 .69

Differential Corrections: TDE 1.4127 TRA .9622 TC3-7.5352 BAU 1.0732 SGT 5708.6 SGR 2250.2 SG3 1103.2 ST 130.3 SR 54.0 SS 92.9
 RDE .5643 RRA .6435 RC3-2.5420 FAU .16500 RRT .9691 RRF .9998 RTF .9657 CRT .9914 CRS -1.0000 CST -.9920
 FDE 3.2970 FRA 3.6975 FC-14.1307 BSP 10024 SGB 6136.1 R23 .2276 R13 .9736 LSA 168.6 MSA 10.6 SSA .1
 BDE 1.5213 BRA 1.1575 BC3 7.9524 FSP 1872 SG1 6114.2 SG2 518.7 THA 21.06 EL1 140.9 EL2 6.5 ALF 22.37

LAUNCH DATE MAY 17 1971

FLIGHT TIME 244.00

ARRIVAL DATE JAN 16 1972

HELIOCENTRIC CONIC

DISTANCE 566.051

EARTH TO MARS

RL 151.28 LAL .00 LOL 235.46 VL 32.305 GAL -1.01 AZL 85.56 HCA 178.20 SMA 186.67 ECC .19037 INC 4.4300 V1 29.451
RP 221.89 LAP .14 LOP 53.86 VP 22.053 GAP 1.89 AZP 94.44 TAL 353.70 TAP 171.89 RCA 151.14 APO 222.21 V2 24.801
RC 198.821 GL 40.88 GP -37.32 ZAL 104.07 ZAP 68.07 ETS 161.17 ZAE 99.13 ETE 187.89 ZAC 64.98 ETC 272.67 LVI 23.96

PLANETOCENTRIC CONIC

C3 14.697 VHL 3.834 DLA 31.04 RAL 328.37 RAD 6640.4 VEL 11.608 PTH 6.65 VHP 3.977 DPA -59.04 RAP 309.77 ECC 1.2419
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 11 21 46 3713.81 -47.51 148.50 208.97 87.07 12 23 40 2713.8 -43.07 114.46
60.00 11 14 8 3734.21 -39.38 149.13 207.76 80.62 12 16 22 2734.2 -38.92 117.97
70.00 10 57 19 3783.88 -30.56 150.71 205.34 73.96 12 0 23 2783.9 -34.15 122.57
76.63 9 51 14 3990.72 -20.04 162.15 201.08 65.79 10 57 45 2990.7 -28.26 137.46
76.63 9 51 14 3990.72 -20.04 162.15 201.08 65.79 10 57 45 2990.7 -28.26 137.46
76.63 9 51 14 3990.72 -20.04 162.15 201.08 65.79 10 57 45 2990.7 -28.26 137.46
110.00 15 56 45 2830.70 -30.56 79.63 205.34 73.96 16 43 56 1830.7 -34.15 51.49

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 2.5654 TRA .5738 TC3-5.6196 BAU 1.2193 SGT 5853.8 SGR 3104.2 SG3 758.0 ST 192.4 SR 100.8 S8 98.3
RDE 1.3240 RRA .7353 RC3-2.6329 FAU .12304 RRT .9668 RRF .9996 RTF .9591 CRT .9935 CRS -.9999 CST -.9922
FDE 3.7467 FRA 2.1999 FC3-7.2480 BSP 9758 SGB 6625.9 R23 .2293 R13 .9733 LSA 238.0 MSA 13.5 S8A .0
BDE 2.8669 BRA .9327 BC3 6.2058 FSP 1195 SG1 6588.4 S62 704.3 THA 27.48 EL1 217.0 EL2 10.2 ALF 27.57

LAUNCH DATE MAY 17 1971

FLIGHT TIME 250.00

ARRIVAL DATE JAN 22 1972

HELIOCENTRIC CONIC

DISTANCE 578.471

EARTH TO MARS

RL 151.28 LAL .00 LOL 235.46 VL 32.330 GAL -1.24 AZL 99.33 HCA 181.51 SMA 187.11 ECC .19265 INC 9.3229 V1 29.451
RP 222.84 LAP .25 LOP 56.95 VP 21.950 GAP 1.47 AZP 80.67 TAL 352.29 TAP 173.81 RCA 151.06 APO 223.15 V2 24.675
RC 206.578 GL -63.02 GP 41.13 ZAL 100.44 ZAP 67.38 ETS 200.40 ZAE 97.71 ETE 173.96 ZAC 143.22 ETC 274.76 LVI -48.10

PLANETOCENTRIC CONIC

C3 34.589 VHL 5.881 DLA -58.44 RAL 31.70 RAD 6648.7 VEL 12.430 PTH 7.33 VHP 4.351 DPA 17.97 RAP 291.52 ECC 1.5693
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
36.47 23 5 58 2037.63 23.23 56.40 286.39 145.28 23 39 56 1037.6 42.59 38.57
36.47 23 5 58 2037.63 23.23 56.40 286.39 145.28 23 39 56 1037.6 42.59 38.57
36.47 23 5 58 2037.63 23.23 56.40 286.39 145.28 23 39 56 1037.6 42.59 38.57
36.47 23 5 58 2037.63 23.23 56.40 286.39 145.28 23 39 56 1037.6 42.59 38.57
36.47 23 5 58 2037.63 23.23 56.40 286.39 145.28 23 39 56 1037.6 42.59 38.57
36.47 23 5 58 2037.63 23.23 56.40 286.39 145.28 23 39 56 1037.6 42.59 38.57
36.47 23 5 58 2037.63 23.23 56.40 286.39 145.28 23 39 56 1037.6 42.59 38.57

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4887 TRA 2.6067 TC3-2.9216 BAU 1.5185 SGT 5964.6 SGR 3426.2 SG3 578.0 ST 76.7 SR 52.5 S8 43.5
RDE -.6118 RRA -1.5454 RC3 1.4992 FAU .11482 RRT -.9656 RRF -.9977 RTF .9461 CRT -.6066 CRS .9867 CST -.4693
FDE 1.6494 FRA 2.9810 FC3-2.8688 BSP 8763 SGB 6878.6 R23 .2623 R13 -.9649 LSA 90.6 MSA 48.2 S8A .0
BDE .7830 BRA 3.0304 BC3 3.2838 FSP 850 SG1 6834.4 S62 777.9 THA 150.57 EL1 85.0 EL2 37.7 ALF 151.33

LAUNCH DATE MAY 17 1971

FLIGHT TIME 252.00

ARRIVAL DATE JAN 24 1972

HELIOCENTRIC CONIC

DISTANCE 582.583

EARTH TO MARS

RL 151.28 LAL .00 LOL 235.46 VL 32.339 GAL -1.32 AZL 96.19 HCA 182.60 SMA 187.26 ECC .19344 INC 6.1915 V1 29.451
RP 223.23 LAP .28 LOP 58.04 VP 21.916 GAP 1.33 AZP 83.81 TAL 351.84 TAP 174.44 RCA 151.04 APO 223.48 V2 24.633
RC 209.236 GL -50.14 GP 27.51 ZAL 104.13 ZAP 61.22 ETS 195.79 ZAE 96.56 ETE 177.14 ZAC 129.72 ETC 273.30 LVI -35.78

PLANETOCENTRIC CONIC

C3 20.642 VHL 4.543 DLA -49.28 RAL 16.18 RAD 6643.1 VEL 11.859 PTH 6.87 VHP 3.604 DPA 4.39 RAP 292.91 ECC 1.3397
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
47.79 22 37 2 1837.83 26.84 38.66 260.57 133.13 23 7 40 837.8 41.66 15.53
47.79 22 37 2 1837.83 26.84 38.66 260.57 133.13 23 7 40 837.8 41.66 15.53
47.79 22 37 2 1837.83 26.84 38.66 260.57 133.13 23 7 40 837.8 41.66 15.53
47.79 22 37 2 1837.83 26.84 38.66 260.57 133.13 23 7 40 837.8 41.66 15.53
47.79 22 37 2 1837.83 26.84 38.66 260.57 133.13 23 7 40 837.8 41.66 15.53
47.79 22 37 2 1837.83 26.84 38.66 260.57 133.13 23 7 40 837.8 41.66 15.53
47.79 22 37 2 1837.83 26.84 38.66 260.57 133.13 23 7 40 837.8 41.66 15.53

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7851 TRA 2.5595 TC3-4.3361 BAU 1.2598 SGT 6398.5 SGR 2464.0 SG3 946.7 ST 88.7 SR 32.2 S8 47.0
RDE -.1087 RRA -1.0818 RC3 1.4257 FAU .14950 RRT -.9718 RRF -.9987 RTF .5988 CRT -.7040 CRS .9842 CST -.5671
FDE .9170 FRA 4.8038 FC3-6.2701 BSP 11444 SGB 6856.5 R23 .2510 R13 -.9678 LSA 97.1 MSA 41.2 S8A .1
BDE .7728 BRA 2.7787 BC3 4.5645 FSP 1711 SG1 6834.9 S62 543.9 THA 159.35 EL1 91.8 EL2 22.1 ALF 164.78

LAUNCH DATE MAY 17 1971

FLIGHT TIME 234.00

ARRIVAL DATE JAN 26 1972

HELIOCENTRIC CONIC

DISTANCE 586.695

EARTH TO MARS

RL 151.28 LAL .00 LOL 235.46 VL 32.348 GAL -1.40 AZL 94.91 HCA 183.68 SMA 187.41 ECC .19426 INC 4.9051 V1 29.451
RP 223.62 LAP .31 LOP 59.13 VP 21.882 GAP 1.19 AZP 85.10 TAL 351.39 TAP 175.07 RCA 151.01 APO 223.82 V2 24.592
RC 211.898 GL -42.67 GP 20.16 ZAL 106.42 ZAP 58.18 ETS 192.38 ZAE 95.31 ETE 178.57 ZAC 122.41 ETC 272.90 LVI -29.06

PLANETOCENTRIC CONIC

C3 16.659 VHL 4.081 DLA -43.02 RAL 10.25 RAD 6641.3 VEL 11.692 PTH 6.73 VHP 3.403 DPA -2.90 RAP 293.85 ECC 1.2742
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 20 15 27 2098.75 12.66 49.44 236.94 136.26 20 50 26 1098.8 29.77 31.02
56.11 22 43 51 1709.88 25.84 25.90 248.99 125.68 23 12 21 709.9 38.09 1.30
56.11 22 43 51 1709.88 25.84 25.90 248.99 125.68 23 12 21 709.9 38.09 1.30
56.11 22 43 51 1709.88 25.84 25.90 248.99 125.68 23 12 21 709.9 38.09 1.30
56.11 22 43 51 1709.88 25.84 25.90 248.99 125.68 23 12 21 709.9 38.09 1.30
56.11 22 43 51 1709.88 25.84 25.90 248.99 125.68 23 12 21 709.9 38.09 1.30
56.11 22 43 51 1709.88 25.84 25.90 248.99 125.68 23 12 21 709.9 38.09 1.30

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7119 TRA 2.4681 TC3-5.4381 BAU 1.2447 SGT 6370.0 SGR 1847.1 SG3 1082.6 ST 87.1 SR 22.9 S8 47.6
RDE -.0299 RRA -.7904 RC3 1.2686 FAU .16762 RRT -.9740 RRF -.9985 RTF .9629 CRT -.7631 CRS .9772 CST -.6086
FDE .6942 FRA 5.3490 FC3-8.7113 BSP 11166 SGB 6824.7 R23 .2519 R13 -.9671 LSA 94.8 MSA 37.4 S8A .1
BDE .7125 BRA 2.5916 BC3 5.5887 FSP 1905 SG1 6812.8 S62 403.2 THA 164.63 EL1 88.9 EL2 14.5 ALF 168.34

LAUNCH DATE MAY 17 1971

FLIGHT TIME 256.00

ARRIVAL DATE JAN 28 1972

HELIOCENTRIC CONIC

RL 151.28 LAL .00 LOL 235.46 VL 32.357 GAL -1.48 AZL 94.21 HCA 184.76 SMA 187.57 ECC .19510 INC 4.2070 V1 29.451
 RP 224.01 LAP .35 LOP 60.21 VP 21.849 GAP 1.04 AZP 85.81 TAL 350.92 TAP 175.68 RCA 150.97 APO 224.16 V2 24.850
 RC 214.358 GL -37.84 GP 15.76 ZAL 108.06 ZAP 56.21 ETS 190.10 ZAE 94.05 ETE 179.36 ZAC 118.01 ETC 272.75 LVI -25.02

DISTANCE 590.804

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.988 VHL 3.869 DLA -38.69 RAL 7.40 RAD 6640.5 VEL 11.620 PTH 6.66 VHP 3.339 DPA -7.26 RAP 294.92 ECC 1.2483
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 18 16 2216.87 6.00 54.53 228.19 137.20 19 55 13 1216.9 24.53 37.39
 60.00 21 32 35 1858.12 16.77 31.56 237.39 127.20 22 3 33 858.1 30.40 9.84
 62.41 23 0 24 1607.76 24.39 16.10 242.90 121.02 23 27 11 607.8 34.93 351.14
 62.41 23 0 24 1607.76 24.39 16.10 242.90 121.02 23 27 11 607.8 34.93 351.14
 62.41 23 0 24 1607.76 24.39 16.10 242.90 121.02 23 27 11 607.8 34.93 351.14
 62.41 23 0 24 1607.76 24.39 16.10 242.90 121.02 23 27 11 607.8 34.93 351.14
 62.41 23 0 24 1607.76 24.39 16.10 242.90 121.02 23 27 11 607.8 34.93 351.14

DIFFERENTIAL CORRECTIONS

TDE -.5857 TRA 2.4774 TC3-6.1024 BAU 1.2409
 RDE -.0169 RRA -.6286 RC3 1.1076 FAU .17205
 FDE .7457 FRA 5.5802 FC3-9.9529 BSP 11436
 BDE .5859 BRA 2.5559 BC3 6.2021 FSP 2001

MID-COURSE EXECUTION ACCURACY

SGT 6718.9 SGR 1469.0 SG3 1135.2
 RRT -.9759 RRF -.9977 RTF .9648
 SGB 6877.6 R23 .2479 R13 -.9673
 SG1 6870.5 SG2 313.6 THA 167.93

ORBIT DETERMINATION ACCURACY

ST 83.1 SR 18.0 SS 48.8
 CRT -.8142 CRS .9653 CST -.6345
 LSA 91.2 MSA 35.6 SSA .2
 EL1 84.4 EL2 10.3 ALF 169.85

LAUNCH DATE MAY 17 1971

FLIGHT TIME 258.00

ARRIVAL DATE JAN 30 1972

HELIOCENTRIC CONIC

RL 151.28 LAL .00 LOL 235.46 VL 32.366 GAL -1.56 AZL 93.77 HCA 185.84 SMA 187.73 ECC .19596 INC 3.7689 V1 29.451
 RP 224.40 LAP .38 LOP 61.29 VP 21.815 GAP .90 AZP 86.25 TAL 350.45 TAP 176.29 RCA 150.94 APO 224.51 V2 24.808
 RC 217.222 GL -34.48 GP 12.87 ZAL 109.37 ZAP 54.74 ETS 188.52 ZAE 92.82 ETE 179.85 ZAC 115.12 ETC 272.69 LVI -22.40

DISTANCE 594.905

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.110 VHL 3.756 DLA -35.52 RAL 5.87 RAD 6640.1 VEL 11.583 PTH 6.63 VHP 3.314 DPA -10.10 RAP 295.05 ECC 1.2322
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 46 52 2291.48 3.06 57.67 223.78 137.50 19 25 3 1291.5 21.07 41.11
 60.00 20 32 38 2009.74 10.37 39.27 230.71 129.17 21 6 8 1009.7 25.20 19.29
 67.56 23 21 6 1515.90 22.98 7.78 239.39 117.85 23 46 22 515.9 32.39 342.77
 67.56 23 21 6 1515.90 22.98 7.78 239.39 117.85 23 46 22 515.9 32.39 342.77
 67.56 23 21 6 1515.90 22.98 7.78 239.39 117.85 23 46 22 515.9 32.39 342.77
 67.56 23 21 6 1515.90 22.98 7.78 239.39 117.85 23 46 22 515.9 32.39 342.77
 67.56 23 21 6 1515.90 22.98 7.78 239.39 117.85 23 46 22 515.9 32.39 342.77

DIFFERENTIAL CORRECTIONS

TDE -.4782 TRA 2.5125 TC3-6.5741 BAU 1.2529
 RDE -.0121 RRA -.5280 RC3 .9467 FAU .17109
 FDE .8715 FRA 5.7043 FC-10.4975 BSP 11669
 BDE .4783 BRA 2.5674 BC3 6.6420 FSP 2066

MID-COURSE EXECUTION ACCURACY

SGT 6862.5 SGR 1218.6 SG3 1153.5
 RRT -.9755 RRF -.9964 RTF .9639
 SGB 6969.8 R23 .2483 R13 -.9656
 SG1 6964.8 SG2 264.4 THA 170.16

ORBIT DETERMINATION ACCURACY

ST 79.8 SR 14.9 SS 49.8
 CRT -.8590 CRS .9461 CST -.6472
 LSA 88.6 MSA 35.0 SSA .2
 EL1 80.9 EL2 7.5 ALF 170.81

LAUNCH DATE MAY 17 1971

FLIGHT TIME 260.00

ARRIVAL DATE FEB 1 1972

HELIOCENTRIC CONIC

RL 151.28 LAL .00 LOL 235.46 VL 32.375 GAL -1.64 AZL 93.47 HCA 186.91 SMA 187.89 ECC .19683 INC 3.4654 V1 29.451
 RP 224.79 LAP .42 LOP 62.36 VP 21.782 GAP .76 AZP 86.56 TAL 349.98 TAP 176.89 RCA 150.90 APO 224.87 V2 24.466
 RC 219.886 GL -31.99 GP 10.83 ZAL 110.49 ZAP 53.51 ETS 187.37 ZAE 91.62 ETE 180.17 ZAC 113.08 ETC 272.68 LVI -20.57

DISTANCE 599.003

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 13.643 VHL 3.694 DLA -33.06 RAL 5.02 RAD 6639.9 VEL 11.563 PTH 6.61 VHP 3.313 DPA -12.09 RAP 295.50 ECC 1.2245
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 26 43 2346.52 .30 59.97 221.26 137.58 19 5 50 1346.5 18.46 43.74
 60.00 20 0 41 2098.44 6.62 43.51 227.30 129.85 20 35 37 1096.4 21.92 24.29
 70.00 22 26 42 1666.02 15.85 15.34 233.94 120.66 22 54 28 666.0 27.05 352.90
 72.11 23 44 53 1425.81 21.73 .06 237.25 115.55 24 8 39 425.8 30.32 335.10
 72.11 23 44 53 1425.81 21.73 .06 237.25 115.55 24 8 39 425.8 30.32 335.10
 72.11 23 44 53 1425.81 21.73 .06 237.25 115.55 24 8 39 425.8 30.32 335.10
 110.00 3 30 5 8000.87 15.85 282.16 233.94 120.66 5 10 5 5000.9 27.05 259.32

DIFFERENTIAL CORRECTIONS

TDE -.3762 TRA 2.5739 TC3-6.8928 BAU 1.2680
 RDE -.0074 RRA -.4598 RC3 .8135 FAU .16814
 FDE 1.0023 FRA 5.7653 FC-10.6691 BSP 11999
 BDE .3763 BRA 2.6146 BC3 6.9406 FSP 2091

MID-COURSE EXECUTION ACCURACY

SGT 6997.4 SGR 1041.6 SG3 1154.0
 RRT -.9750 RRF -.9942 RTF .9636
 SGB 7074.5 R23 .2416 R13 -.9647
 SG1 7070.8 SG2 229.3 THA 171.73

ORBIT DETERMINATION ACCURACY

ST 77.6 SR 12.8 SS 51.1
 CRT -.9081 CRS .9187 CST -.6689
 LSA 87.3 MSA 34.2 SSA .2
 EL1 78.4 EL2 5.3 ALF 171.43

LAUNCH DATE MAY 17 1971

FLIGHT TIME 262.00

ARRIVAL DATE FEB 3 1972

HELIOCENTRIC CONIC

RL 151.28 LAL .00 LOL 235.46 VL 32.385 GAL -1.73 AZL 93.25 HCA 187.99 SMA 188.05 ECC .19773 INC 3.2455 V1 29.451
 RP 225.18 LAP .45 LOP 63.43 VP 21.749 GAP .62 AZP 86.79 TAL 349.50 TAP 177.49 RCA 150.87 APO 225.23 V2 24.424
 RC 222.551 GL -30.06 GP 9.33 ZAL 111.49 ZAP 52.42 ETS 186.50 ZAE 90.45 ETE 180.40 ZAC 111.57 ETC 272.68 LVI -19.25

DISTANCE 603.098

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 13.387 VHL 3.659 DLA -31.09 RAL 4.57 RAD 6639.7 VEL 11.552 PTH 6.60 VHP 3.323 DPA -13.55 RAP 295.91 ECC 1.2203
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 12 42 2390.34 -1.90 61.80 219.75 137.55 18 52 32 1390.3 16.35 45.78
 60.00 19 39 39 2158.96 3.88 46.52 225.30 130.15 20 15 38 1159.0 19.46 27.74
 70.00 21 41 19 1800.87 11.03 22.81 230.60 122.53 22 11 20 800.9 23.36 1.23
 76.51 0 16 37 1329.33 20.63 352.17 235.93 113.79 0 38 46 329.3 28.61 327.29
 76.51 0 16 37 1329.33 20.63 352.17 235.93 113.79 0 38 46 329.3 28.61 327.29
 76.51 0 16 37 1329.33 20.63 352.17 235.93 113.79 0 38 46 329.3 28.61 327.29
 110.00 2 44 42 6135.73 11.03 289.64 230.60 122.53 4 26 57 5135.7 23.36 268.05

DIFFERENTIAL CORRECTIONS

TDE -.2925 TRA 2.6395 TC3-7.1457 BAU 1.2852
 RDE .0003 RRA -.4087 RC3 .7104 FAU .16378
 FDE 1.0899 FRA 5.7616 FC-10.7209 BSP 12262
 BDE .2925 BRA 2.6709 BC3 7.1809 FSP 2071

MID-COURSE EXECUTION ACCURACY

SGT 7150.7 SGR 910.5 SG3 1144.5
 RRT -.9744 RRF -.9911 RTF .9644
 SGB 7188.6 R23 .2251 R13 -.9652
 SG1 7185.8 SG2 203.1 THA 172.90

ORBIT DETERMINATION ACCURACY

ST 76.3 SR 11.2 SS 51.7
 CRT -.9539 CRS .8794 CST -.6972
 LSA 86.9 MSA 32.8 SSA .3
 EL1 77.1 EL2 3.3 ALF 171.99

LAUNCH DATE MAY 17 1971

FLIGHT TIME 264.00

ARRIVAL DATE FEB 5 1972

HELIOCENTRIC CONIC

RL 151.28 LAL .00 LOL 235.46 VL 32.394 GAL -1.81 AZL 93.08 HCA 189.05 SMA 188.21 ECC .19885 INC 3.0771 V1 29.451
 RP 225.57 LAP .48 LOP 64.90 VP 21.716 GAP .48 AZP 86.96 TAL 349.02 TAP 178.08 RCA 150.82 APO 225.60 V2 24.382
 RC 225.217 GL -29.52 GP 8.18 ZAL 112.42 ZAP 51.42 ETS 185.83 ZAE 89.31 ETE 180.57 ZAC 110.41 ETC 272.71 LVI -18.25

DISTANCE 607.186

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 13.258 VHL 3.641 DLA -29.44 RAL 4.37 RAD 6639.7 VEL 11.547 PTH 6.59 VHP 3.339 DPA -14.65 RAP 296.30 ECC 1.2182
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 2 23 2426.99 -3.74 63.34 218.86 137.46 18 42 50 1427.0 14.57 47.42
 60.00 19 24 32 2208.44 1.70 48.89 224.09 130.27 20 1 21 1208.4 17.46 30.39
 70.00 21 14 58 1883.71 7.96 27.26 228.78 123.32 21 46 20 883.7 20.82 6.32
 80.00 23 55 47 1379.57 16.19 353.78 233.51 115.44 24 18 46 379.6 25.27 330.07
 91.45 0 52 40 1210.02 19.65 342.82 235.12 112.38 1 12 50 210.0 27.15 318.03
 100.00 2 42 34 6142.08 16.19 293.05 233.51 115.44 4 24 56 5142.1 25.27 269.34
 110.00 2 18 18 6218.57 7.96 294.09 228.78 123.32 4 1 57 5218.6 20.82 273.14

DIFFERENTIAL CORRECTIONS

TDE -.2232 TRA 2.7069 TC3-7.3613 BAU 1.3095
 RDE .0063 RRA -.3711 RC3 .6256 FAU .16293
 FDE 1.1716 FRA 5.7454 FC-10.6393 BSP 12421
 BDE .2233 BRA 2.7323 BC3 7.3879 FSP 2034

MID-COURSE EXECUTION ACCURACY

SGT 7265.3 SGR 810.7 SG3 1130.5
 RRT -.9722 RRF -.9867 RTF .9643
 SGB 7310.4 R23 .2075 R13 -.9648
 SG1 7308.0 SG2 188.8 THA 173.80

ORBIT DETERMINATION ACCURACY

ST 75.9 SR 10.1 SS 52.3
 CRT -.9849 CRS .8267 CST -.7196
 LSA 87.1 MSA 31.9 SSA .3
 EL1 76.5 EL2 1.7 ALF 172.52

LAUNCH DATE MAY 17 1971

FLIGHT TIME 266.00

ARRIVAL DATE FEB 7 1972

HELIOCENTRIC CONIC

RL 151.28 LAL .00 LOL 235.46 VL 32.404 GAL -1.90 AZL 92.95 HCA 190.12 SMA 188.38 ECC .19958 INC 2.9449 V1 29.451
 RP 225.96 LAP .52 LOP 65.56 VP 21.683 GAP .33 AZP 87.10 TAL 348.54 TAP 178.66 RCA 150.78 APO 225.97 V2 24.340
 RC 227.883 GL -27.24 GP 7.27 ZAL 113.30 ZAP 50.49 ETS 185.29 ZAE 88.20 ETE 180.69 ZAC 109.49 ETC 272.74 LVI -17.49

DISTANCE 611.269

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 13.213 VHL 3.635 DLA -28.03 RAL 4.35 RAD 6639.7 VEL 11.545 PTH 6.59 VHP 3.358 DPA -15.51 RAP 296.67 ECC 1.2174
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 54 32 2458.73 -5.33 64.67 218.36 137.35 18 35 31 1458.7 13.02 48.83
 60.00 19 13 6 2249.76 -.11 50.86 223.37 130.30 19 50 35 1249.8 15.76 32.55
 70.00 20 56 26 1945.85 5.62 30.56 227.70 123.74 21 28 52 945.8 18.81 10.02
 80.00 23 9 54 1527.96 11.66 2.47 231.32 117.68 23 35 22 528.0 22.05 339.90
 90.00 1 29 50 1089.36 16.14 332.42 233.53 113.54 1 48 0 89.4 24.46 308.48
 100.00 1 56 42 1002.43 11.66 323.83 231.32 117.68 2 13 25 2.4 22.05 301.27
 110.00 1 59 49 6280.70 5.62 297.38 227.70 123.74 3 44 29 5280.7 18.81 276.84

DIFFERENTIAL CORRECTIONS

TDE -.1519 TRA 2.7899 TC3-7.5134 BAU 1.3307
 RDE .0156 RRA -.3435 RC3 .5522 FAU .15919
 FDE 1.2586 FRA 5.7384 FC-10.4305 BSP 12712
 BDE .1527 BRA 2.8110 BC3 7.5336 FSP 2017

MID-COURSE EXECUTION ACCURACY

SGT 7396.8 SGR 733.5 SG3 1114.7
 RRT -.9685 RRF -.9808 RTF .9640
 SGB 7433.1 R23 .1868 R13 -.9645
 SG1 7430.8 SG2 181.8 THA 174.51

ORBIT DETERMINATION ACCURACY

ST 76.1 SR 9.3 SS 53.2
 CRT -.9987 CRS .7619 CST -.7448
 LSA 88.1 MSA 30.9 SSA .4
 EL1 76.7 EL2 .5 ALF 173.04

LAUNCH DATE MAY 17 1971

FLIGHT TIME 268.00

ARRIVAL DATE FEB 9 1972

HELIOCENTRIC CONIC

RL 151.28 LAL .00 LOL 235.46 VL 32.414 GAL -1.99 AZL 92.84 HCA 191.18 SMA 188.55 ECC .20053 INC 2.8375 V1 29.451
 RP 226.35 LAP .55 LOP 66.62 VP 21.651 GAP .19 AZP 87.22 TAL 348.06 TAP 179.24 RCA 150.74 APO 226.35 V2 24.299
 RC 230.348 GL -26.17 GP 6.53 ZAL 114.15 ZAP 49.61 ETS 184.85 ZAE 87.11 ETE 180.79 ZAC 108.74 ETC 272.79 LVI -16.90

DISTANCE 615.346

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 13.225 VHL 3.637 DLA -26.79 RAL 4.44 RAD 6639.7 VEL 11.545 PTH 6.59 VHP 3.380 DPA -16.20 RAP 297.05 ECC 1.2177
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 48 23 2486.93 -6.75 65.86 218.12 137.21 18 29 50 1486.9 11.63 50.07
 60.00 19 4 6 2285.53 -1.69 52.57 222.97 130.27 19 42 12 1285.5 14.26 34.39
 70.00 20 42 27 1996.37 3.71 33.21 227.05 123.98 21 15 43 996.4 17.12 12.95
 80.00 22 44 35 1614.07 8.89 7.36 230.22 118.62 23 11 29 614.1 19.88 345.38
 90.00 0 42 43 1245.78 11.67 341.72 231.68 115.94 1 3 28 245.8 21.37 318.89
 100.00 1 31 22 1088.54 8.89 328.73 230.22 118.62 1 49 31 88.5 19.88 306.75
 110.00 1 45 49 1043.19 3.71 322.13 227.05 123.98 2 3 12 43.2 17.12 301.87

DIFFERENTIAL CORRECTIONS

TDE -.0927 TRA 2.8887 TC3-7.6565 BAU 1.3366
 RDE .0240 RRA -.3212 RC3 .4924 FAU .15804
 FDE 1.3222 FRA 5.7052 FC-10.2145 BSP 12890
 BDE .0957 BRA 2.8666 BC3 7.6723 FSP 1976

MID-COURSE EXECUTION ACCURACY

SGT 7527.8 SGR 671.6 SG3 1096.1
 RRT -.9633 RRF -.9731 RTF .9539
 SGB 7557.7 R23 .1839 R13 -.9643
 SG1 7555.6 SG2 179.6 THA 175.09

ORBIT DETERMINATION ACCURACY

ST 76.8 SR 8.7 SS 53.7
 CRT -.9914 CRS .6817 CST -.7659
 LSA 89.2 MSA 30.0 SSA .4
 EL1 77.2 EL2 1.1 ALF 173.57

LAUNCH DATE MAY 17 1971

FLIGHT TIME 270.00

ARRIVAL DATE FEB 11 1972

HELIOCENTRIC CONIC

RL 151.28 LAL .00 LOL 235.46 VL 32.423 GAL -2.07 AZL 92.75 HCA 192.23 SMA 188.71 ECC .20150 INC 2.7490 V1 29.451
 RP 226.74 LAP .58 LOP 67.68 VP 21.619 GAP .05 AZP 87.31 TAL 347.57 TAP 179.81 RCA 150.69 APO 226.74 V2 24.237
 RC 233.212 GL -23.24 GP 5.92 ZAL 114.96 ZAP 48.77 ETS 184.49 ZAE 86.04 ETE 180.86 ZAC 108.12 ETC 272.85 LVI -16.43

DISTANCE 619.419

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 13.281 VHL 3.644 DLA -25.68 RAL 4.61 RAD 6639.7 VEL 11.548 PTH 6.59 VHP 3.403 DPA -16.75 RAP 297.43 ECC 1.2186
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 43 28 2512.53 -8.02 66.95 218.08 137.06 18 25 20 1512.5 10.36 51.19
 60.00 18 56 51 2317.35 -3.09 54.09 222.81 130.20 19 35 28 1317.4 12.92 36.01
 70.00 20 31 21 2039.47 2.07 35.46 226.71 124.10 21 5 21 1039.5 15.63 15.41
 80.00 22 26 34 1678.88 6.76 10.99 229.60 119.15 22 54 33 678.9 18.12 349.39
 90.00 0 17 43 1333.11 9.02 346.77 230.82 116.92 0 39 56 333.1 19.33 324.49
 100.00 1 13 22 1153.35 6.76 332.36 229.60 119.15 1 32 35 153.4 18.12 310.76
 110.00 1 34 44 1086.28 2.07 324.38 226.71 124.10 1 52 50 86.3 15.63 304.33

DIFFERENTIAL CORRECTIONS

TDE -.0312 TRA 2.9586 TC3-7.7576 BAU 1.3796
 RDE .0319 RRA -.3044 RC3 .4390 FAU .15206
 FDE 1.3903 FRA 5.6871 FC3-9.9118 BSP 13135
 BDE .0447 BRA 2.9742 BC3 7.7700 FSP 1947

MID-COURSE EXECUTION ACCURACY

SGT 7655.9 SGR 622.0 SG3 1077.1
 RRT -.9560 RRF -.9634 RTF .9634
 SGB 7681.1 R23 .1427 R13 -.9637
 SG1 7679.0 SG2 181.9 THA 175.56

ORBIT DETERMINATION ACCURACY

ST 77.9 SR 8.4 SS 54.4
 CRT -.9618 CRS .5924 CST -.7872
 LSA 90.8 MSA 29.1 SSA .5
 EL1 78.3 EL2 2.3 ALF 174.10

LAUNCH DATE MAY 17 1971

FLIGHT TIME 272.00

ARRIVAL DATE FEB 13 1972

HELIOCENTRIC CONIC. DISTANCE 823.484 EARTH TO MARS
 RL 151.28 LAL .00 LOL 235.46 VL 32.433 GAL -2.16 AZL 92.67 HCA 193.28 SMA 188.89 ECC .20249 INC 2.6748 V1 29.491
 RP 227.13 LAP .61 LOP 68.73 VP 21.987 GAP -.09 AZP 87.40 TAL 347.09 TAP 180.37 RCA 150.84 APO 227.13 V2 24.215
 RC 235.874 GL -24.43 GP 5.41 ZAL 115.76 ZAP 47.97 ETS 184.18 ZAE 84.99 ETE 180.92 ZAC 107.59 ETC 272.91 LVI -16.07

PLANETOCENTRIC CONIC
 C3 13.371 VML 3.657 DLA -24.68 RAL 4.85 RAD 6639.7 VEL 11.551 PTH 6.60 VHP 3.428 DPA -17.21 RAP 297.81 ECC 1.2200
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 39 27 2536.12 -9.20 67.98 218.19 136.89 18 21 43 1536.1 9.19 52.20
 60.00 18 50 51 2346.22 -4.36 55.48 222.81 130.10 19 29 57 1346.2 11.69 37.46
 70.00 20 22 18 2077.39 .62 37.44 226.57 124.15 20 56 55 1077.4 14.30 17.54
 80.00 22 12 38 1732.07 4.98 13.94 229.29 119.48 22 41 30 732.1 16.61 352.61
 90.00 23 55 57 1398.84 6.97 350.51 230.37 117.48 24 19 16 398.8 17.67 328.59
 100.00 0 59 26 1206.54 4.98 335.31 229.29 119.48 1 19 32 206.5 16.61 313.98
 110.00 1 25 40 1124.21 .62 326.36 226.57 124.15 1 44 24 124.2 14.30 306.46

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .0292 TRA 3.0520 TC3-7.8368 BAW 1.4026 SGT 7781.1 SGR 581.6 SG3 1057.1 ST 79.4 SR 8.2 SS 55.0
 RDE .0399 RRA -.2910 RC3 .3930 FAU .14819 RRT -.9468 RRF -.9516 RTF .9631 CRT -.9111 CRS .4950 CST -.8070
 FDE 1.4533 FRA 5.6603 FC3-9.5949 B8P 13392 SGB 7802.9 R23 .1219 R13 -.9633 LSA 92.8 MSA 28.3 SSA .5
 BDE .0495 BRA 3.0658 BC3 7.8465 F8P 1916 SGI 7800.6 SG2 186.7 THA 175.95 EL1 79.8 EL2 3.3 ALF 174.64

LAUNCH DATE MAY 17 1971

FLIGHT TIME 274.00

ARRIVAL DATE FEB 15 1972

HELIOCENTRIC CONIC DISTANCE 627.545 EARTH TO MARS
 RL 151.28 LAL .00 LOL 235.46 VL 32.443 GAL -2.25 AZL 92.61 HCA 194.33 SMA 189.06 ECC .20349 INC 2.6109 V1 28.451
 RP 227.52 LAP .65 LOP 69.78 VP 21.555 GAP -.24 AZP 87.47 TAL 346.60 TAP 180.93 RCA 150.59 APO 227.53 V2 24.174
 RC 238.932 GL -23.71 GP 4.98 ZAL 116.53 ZAP 47.19 ETS 183.92 ZAE 83.97 ETE 180.97 ZAC 107.14 ETC 272.98 LVI -15.78

PLANETOCENTRIC CONIC
 C3 13.487 VML 3.672 DLA -23.76 RAL 5.13 RAD 6639.8 VEL 11.556 PTH 6.60 VHP 3.453 DPA -17.58 RAP 298.21 ECC 1.2220
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 36 9 2558.15 -10.29 68.91 218.40 136.71 18 18 47 1558.1 8.09 53.15
 60.00 18 45 50 2372.83 -5.92 56.76 222.94 129.98 19 25 23 1372.8 10.55 38.78
 70.00 20 14 42 2111.54 -.69 39.22 228.60 124.15 20 49 54 1111.5 13.08 19.43
 80.00 22 1 20 1777.81 3.45 16.48 229.17 119.68 22 30 58 777.8 15.27 355.34
 90.00 23 42 4 1452.96 5.26 353.57 230.17 117.83 24 6 17 453.0 16.23 331.81
 100.00 0 48 8 1252.28 3.45 337.83 229.17 119.68 1 9 0 252.3 15.27 316.71
 110.00 1 18 5 1158.36 -.69 328.14 226.60 124.15 1 37 23 158.4 13.08 308.35

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .0809 TRA 3.1419 TC3-7.9208 BAW 1.4296 SGT 7908.4 SGR 548.7 SG3 1037.0 ST 81.1 SR 8.1 SS 55.4
 RDE .0485 RRA -.2800 RC3 .3541 FAU .14482 RRT -.9354 RRF -.9376 RTF .9627 CRT -.8443 CRS .3927 CST -.8226
 FDE 1.5003 FRA 5.6254 FC3-9.2961 B8P 13558 SGB 7927.4 R23 .1035 R13 -.9628 LSA 94.6 MSA 27.6 SSA .6
 BDE .0943 BRA 3.1543 BC3 7.9285 F8P 1873 SGI 7925.0 SG2 193.6 THA 176.28 EL1 81.3 EL2 4.3 ALF 175.18

LAUNCH DATE MAY 17 1971

FLIGHT TIME 276.00

ARRIVAL DATE FEB 17 1972

HELIOCENTRIC CONIC DISTANCE 631.800 EARTH TO MARS
 RL 151.28 LAL .00 LOL 235.46 VL 32.453 GAL -2.35 AZL 92.58 HCA 195.38 SMA 189.23 ECC .20451 INC 2.5560 V1 29.451
 RP 227.91 LAP .68 LOP 70.82 VP 21.524 GAP -.38 AZP 87.53 TAL 346.11 TAP 181.49 RCA 150.53 APO 227.93 V2 24.133
 RC 241.188 GL -23.07 GP 4.61 ZAL 117.30 ZAP 46.45 ETS 183.69 ZAE 82.97 ETE 181.00 ZAC 106.74 ETC 273.05 LVI -15.55

PLANETOCENTRIC CONIC
 C3 13.626 VML 3.691 DLA -22.90 RAL 5.45 RAD 6639.9 VEL 11.562 PTH 6.61 VHP 3.479 DPA -17.89 RAP 298.61 ECC 1.2242
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 33 24 2578.94 -11.32 69.81 218.70 136.53 18 16 23 1578.9 7.06 94.03
 60.00 18 41 33 2397.87 -6.61 57.96 223.17 129.85 19 21 31 1397.7 9.48 40.01
 70.00 20 8 15 2142.82 -1.88 40.88 226.74 124.11 20 43 57 1142.8 11.95 21.15
 80.00 21 51 55 1818.37 2.08 18.69 229.21 119.79 22 22 13 818.4 14.05 357.73
 90.00 23 30 43 1499.67 3.77 356.19 230.15 118.05 23 55 43 499.7 14.95 334.74
 100.00 0 38 42 1292.85 2.08 340.06 229.21 119.79 1 0 15 292.0 14.05 319.10
 110.00 1 11 37 1189.84 -1.88 329.78 226.74 124.11 1 31 26 189.6 11.95 310.07

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .1357 TRA 3.2389 TC3-7.9782 BAW 1.4545 SGT 8032.5 SGR 521.9 SG3 1016.8 ST 83.0 SR 8.2 SS 55.9
 RDE .0568 RRA -.2714 RC3 .3189 FAU .14112 RRT -.9218 RRF -.9213 RTF .9621 CRT -.7651 CRS .2922 CST -.8378
 FDE 1.5506 FRA 5.5952 FC3-8.9866 B8P 13777 SGB 8049.5 R23 .0873 R13 -.9623 LSA 96.7 MSA 26.9 SSA .6
 BDE .1471 BRA 3.2803 BC3 7.9846 F8P 1839 SGI 8046.5 SG2 202.0 THA 176.57 EL1 83.2 EL2 5.2 ALF 175.68

LAUNCH DATE MAY 17 1971

FLIGHT TIME 278.00

ARRIVAL DATE FEB 19 1972

HELIOCENTRIC CONIC DISTANCE 635.648 EARTH TO MARS
 RL 151.28 LAL .00 LOL 235.46 VL 32.463 GAL -2.44 AZL 92.51 HCA 196.42 SMA 189.41 ECC .20554 INC 2.5085 V1 29.451
 RP 228.30 LAP .71 LOP 71.87 VP 21.493 GAP -.53 AZP 87.59 TAL 345.61 TAP 182.03 RCA 150.47 APO 228.34 V2 24.092
 RC 243.834 GL -22.48 GP 4.28 ZAL 118.05 ZAP 45.73 ETS 183.50 ZAE 81.98 ETE 181.03 ZAC 106.40 ETC 273.13 LVI -15.37

PLANETOCENTRIC CONIC
 C3 13.783 VML 3.713 DLA -22.10 RAL 5.80 RAD 6639.9 VEL 11.569 PTH 6.61 VHP 3.505 DPA -18.15 RAP 299.03 ECC 1.2268
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 31 5 2598.71 -12.29 70.68 219.07 136.33 18 14 24 1598.7 6.07 54.87
 60.00 18 37 53 2421.08 -7.63 59.10 223.49 129.69 19 18 14 1421.1 8.47 41.16
 70.00 20 2 39 2171.87 -2.99 42.38 226.98 124.04 20 38 51 1171.9 10.89 22.74
 80.00 21 43 52 1855.11 .83 20.71 229.36 119.85 22 14 47 855.1 12.91 359.87
 90.00 23 21 11 1541.21 2.44 358.52 230.25 118.18 23 48 52 541.2 13.77 337.22
 100.00 0 30 39 1329.59 .83 342.08 229.36 119.85 0 52 49 329.6 12.91 321.24
 110.00 1 8 1 1218.68 -2.99 331.29 226.98 124.04 1 26 20 218.7 10.89 311.65

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .1926 TRA 3.3425 TC3-8.0134 BAW 1.4778 SGT 8154.0 SGR 500.1 SG3 996.7 ST 85.3 SR 8.3 SS 56.4
 RDE .0651 RRA -.2649 RC3 .2889 FAU .13719 RRT -.9059 RRF -.9027 RTF .9616 CRT -.6782 CRS .1969 CST -.8526
 FDE 1.5982 FRA 5.5691 FC3-8.6171 B8P 14041 SGB 8169.3 R23 .0734 R13 -.9617 LSA 99.1 MSA 26.3 SSA .7
 BDE .2033 BRA 3.3530 BC3 8.0186 F8P 1810 SGI 8166.5 SG2 211.5 THA 176.82 EL1 85.5 EL2 6.1 ALF 176.20

LAUNCH DATE MAY 17 1971

FLIGHT TIME 280.00

ARRIVAL DATE FEB 21 1972

HELIOCENTRIC CONIC
 RL 151.28 LAL .00 LOL 235.48 VL 32.473 GAL -2.53 AZL 92.47 HCA 197.48 SMA 189.58 ECC .20660 INC 2.4662 V1 29.451
 RP 229.69 LAP .74 LOP 72.90 VP 21.462 GAP -.67 AZP 87.65 TAL 345.12 TAP 182.58 RCA 150.41 APO 229.75 V2 24.051
 RC 246.477 GL -21.94 GP 4.00 ZAL 118.78 ZAP 45.03 ETS 183.32 ZAC 81.01 ETE 181.06 ZAC 106.09 ETC 273.21 LVI -18.24
 PLANETOCENTRIC CONIC
 CS 13.958 VHL 3.736 DLA -21.34 RAL 6.17 RAD 6640.0 VEL 11.577 PTH 6.62 VHP 3.532 DPA -18.38 RAP 299.46 ECC 1.2297
 LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZNTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 29 7 2617.66 -13.23 71.52 219.49 136.13 18 12 45 1617.7 5.12 59.67
 60.00 18 34 41 2443.33 -8.59 60.18 223.86 129.53 19 15 24 1443.3 7.50 42.24
 70.00 19 57 45 2199.12 -4.03 43.80 227.29 123.94 20 34 24 1199.1 9.89 24.21
 80.00 21 36 52 1888.93 -.31 22.57 229.60 119.86 22 8 21 888.9 11.86 1.83
 90.00 23 12 58 1578.93 1.23 .62 230.46 118.26 23 39 17 578.9 12.67 339.45
 100.00 0 23 40 1363.40 -.31 343.93 229.60 119.86 0 46 23 363.4 11.86 323.19
 110.00 1 1 7 1245.94 -4.03 332.72 227.29 123.94 1 21 53 245.9 9.89 313.13
 DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .2458 TRA 3.4445 TC3-8.0503 BAV 1.5030 SGT 8275.8 SGR 482.4 SG3 976.7 ST 87.6 SR 8.5 SS 56.8
 RDE .0735 RRA -.2595 RC3 .2590 FAU .13361 RRT -.6879 RRF -.8820 RTF .9610 CRT -.5901 CRS .1068 CST -.8645
 FDE 1.6404 FRA 5.5370 FC3-8.2873 BSP 14255 SGB 8289.9 R23 .0612 R13 -.9611 LSA 101.5 MSA 25.8 SSA .7
 BDE .2566 BRA 3.4543 BC3 8.0545 FSP 1776 SGI 8286.9 SG2 221.6 THA 177.04 EL1 87.7 EL2 6.9 ALF 176.69

LAUNCH DATE MAY 18 1971 FLIGHT TIME 92.00 ARRIVAL DATE AUG 18 1971

HELIOCENTRIC CONIC											DISTANCE 272.454											EARTH TO MARS																																																																												
RL 151.32	LAL -1.00	LOL 236.42	VL 35.548	GAL -1.68	AZL 91.85	HCA 85.45	SMA 270.57	ECC .44088	INC 1.8530	V1 29.445	RP 207.18	LAP -1.85	LOP 321.07	VP 28.119	GAP 22.59	AZP 90.15	TAL 357.76	TAP 83.21	RCA 151.28	AP0 389.86	V2 26.438	RC 56.568	GL -10.82	GP -.52	ZAL 97.21	ZAP 177.56	ETS 192.40	ZAE 173.72	ETE 44.73	ZAC 99.31	ETC 278.05	LVI -17.82																																																																		
PLANETOCENTRIC CONIC											PLANETOCENTRIC CONIC											PLANETOCENTRIC CONIC																																																																												
C3 38.948	VHL 6.241	DLA -20.00	RAL 339.74	RAD 6880.3	VEL 12.603	PTH 7.46	VHP 11.347	DPA -17.23	RAP 322.68	ECC 1.8410	LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CBT TIM	INJ 2 LAT	INJ 2 LONG	90.00	15 33 47	2893.85	-26.28	84.79	205.99	131.20	16 22 1	1893.9	-8.72	67.27	60.00	16 37 15	2725.11	-20.36	74.69	211.09	125.56	17 22 40	1725.1	-4.87	55.76	70.00	17 57 31	2489.12	-14.73	59.43	214.98	121.17	18 39 0	1489.1	-1.08	39.48	80.00	19 33 20	2189.25	-10.31	39.25	217.56	118.18	20 9 49	1189.2	1.95	18.61	90.00	21 7 37	1885.10	-8.54	17.82	218.50	117.06	21 39 2	885.1	3.19	356.93	100.00	22 16 12	1663.72	-10.31	.61	217.56	118.18	22 43 56	663.7	1.95	339.98	110.00	22 56 57	1533.94	-14.73	348.35	214.98	121.17	23 22 33	535.9	-1.08	328.40
DIFFERENTIAL CORRECTIONS											MID-COURSE EXECUTION ACCURACY											ORBIT DETERMINATION ACCURACY																																																																												
TDE -.3770	TRA -.0659	TC3 .0313	BAU .0373	SGT 914.8	SGR 581.1	SG3 92.9	ST 21.5	SR 26.6	SS 10.0	RDE -.5752	RRA .2343	RC3 .0644	FAU .03225	RRT -.0146	RRF .0164	RTF -.5764	CRT .7234	CR8 .3721	CST .9036	FDE .1084	FRA .6022	FC3 -.7168	BSP 1210	SG8 1083.8	R23 -.0023	R13 .5765	LSA 32.5	MSA 14.6	SSA 1.1	BDE .6877	BRA .8970	BC3 .0716	FSP 109	SG1 914.9	SG2 581.0	THA 179.11	EL1 31.9	EL2 12.4	ALF 53.36																																																											

LAUNCH DATE MAY 18 1971 FLIGHT TIME 94.00 ARRIVAL DATE AUG 20 1971

HELIOCENTRIC CONIC											DISTANCE 274.169											EARTH TO MARS																																																																												
RL 151.32	LAL -1.00	LOL 236.42	VL 35.331	GAL -1.63	AZL 91.85	HCA 86.71	SMA 282.35	ECC .42334	INC 1.8488	V1 29.445	RP 207.09	LAP -1.85	LOP 323.13	VP 27.854	GAP 22.06	AZP 90.11	TAL 357.89	TAP 84.60	RCA 151.29	AP0 373.41	V2 26.448	RC 56.856	GL -10.91	GP -.54	ZAL 97.10	ZAP 176.67	ETS 189.28	ZAE 173.14	ETE 39.52	ZAC 99.25	ETC 278.12	LVI -18.00																																																																		
PLANETOCENTRIC CONIC											PLANETOCENTRIC CONIC											PLANETOCENTRIC CONIC																																																																												
C3 36.282	VHL 6.023	DLA -20.30	RAL 339.78	RAD 6649.4	VEL 12.497	PTH 7.38	VHP 10.968	DPA -17.13	RAP 323.04	ECC 1.5971	LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CBT TIM	INJ 2 LAT	INJ 2 LONG	90.00	15 35 12	2869.46	-25.18	83.51	204.96	131.80	16 23 2	1869.5	-7.51	68.23	60.00	16 39 8	2699.47	-19.34	73.29	210.06	126.07	17 24 7	1699.5	-3.74	54.53	70.00	18 0 1	2461.67	-13.76	57.90	213.96	121.57	18 41 3	1461.7	-0.03	38.05	80.00	19 36 33	2159.56	-9.35	37.56	216.56	118.48	20 12 32	1159.6	2.96	16.98	90.00	21 11 13	1854.18	-7.57	16.06	217.51	117.33	21 42 7	854.2	4.18	355.20	100.00	22 19 25	1634.03	-9.35	358.93	216.56	118.48	22 46 39	634.0	2.96	338.35	110.00	22 59 27	1508.49	-13.76	346.82	213.96	121.57	23 24 36	508.5	-0.03	326.97
DIFFERENTIAL CORRECTIONS											MID-COURSE EXECUTION ACCURACY											ORBIT DETERMINATION ACCURACY																																																																												
TDE -.3712	TRA -.8555	TC3 .0448	BAU .0400	SGT 938.3	SGR 585.3	SG3 99.8	ST 21.9	SR 26.8	SS 10.3	RDE -.5586	RRA .2276	RC3 .0691	FAU .03341	RRT -.0149	RRF .0171	RTF -.5887	CRT .7215	CR8 .3564	CST .8978	FDE .1083	FRA .8248	FC3 -.7971	BSP 1274	SG8 1105.9	R23 -.0028	R13 .5888	LSA 32.9	MSA 14.9	SSA 1.1	BDE .6707	BRA .8853	BC3 .0824	FSP 118	SG1 938.4	SG2 585.2	THA 179.13	EL1 32.2	EL2 12.6	ALF 52.80																																																											

LAUNCH DATE MAY 18 1971 FLIGHT TIME 96.00 ARRIVAL DATE AUG 22 1971

HELIOCENTRIC CONIC											DISTANCE 276.161											EARTH TO MARS																																																																												
RL 151.32	LAL -1.00	LOL 236.42	VL 35.127	GAL -1.57	AZL 91.84	HCA 87.98	SMA 255.11	ECC .40695	INC 1.8437	V1 29.445	RP 207.01	LAP -1.84	LOP 324.40	VP 27.604	GAP 21.54	AZP 90.07	TAL 358.04	TAP 86.02	RCA 151.29	AP0 358.92	V2 26.457	RC 57.225	GL -11.20	GP -.55	ZAL 96.96	ZAP 175.75	ETS 187.49	ZAE 172.55	ETE 35.23	ZAC 99.18	ETC 278.19	LVI -18.07																																																																		
PLANETOCENTRIC CONIC											PLANETOCENTRIC CONIC											PLANETOCENTRIC CONIC																																																																												
C3 33.860	VHL 5.819	DLA -20.62	RAL 339.75	RAD 6648.5	VEL 12.400	PTH 7.31	VHP 10.603	DPA -17.04	RAP 323.38	ECC 1.5572	LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CBT TIM	INJ 2 LAT	INJ 2 LONG	50.00	15 36 34	2845.25	-24.08	82.26	203.96	132.36	16 24 0	1845.2	-6.30	85.21	60.00	16 40 59	2673.94	-18.31	71.92	209.05	126.95	17 25 33	1673.9	-2.62	53.30	70.00	18 2 32	2434.21	-12.77	56.38	212.96	121.95	18 43 6	1434.2	1.01	36.62	80.00	19 39 50	2129.71	-8.38	35.88	215.57	118.76	20 15 19	1129.7	3.96	15.34	90.00	21 14 55	1822.98	-6.59	14.29	216.54	117.56	21 45 18	823.0	5.17	353.45	100.00	22 22 42	1604.18	-8.38	357.25	215.57	118.76	22 49 26	604.2	3.96	336.71	110.00	23 1 59	1481.03	-12.77	345.30	212.96	121.95	23 26 40	481.0	1.01	325.54
DIFFERENTIAL CORRECTIONS											MID-COURSE EXECUTION ACCURACY											ORBIT DETERMINATION ACCURACY																																																																												
TDE -.3849	TRA -.8453	TC3 .0595	BAU .0430	SGT 961.7	SGR 589.1	SG3 107.0	ST 22.4	SR 26.9	SS 10.7	RDE -.5426	RRA .2211	RC3 .0741	FAU .03456	RRT -.0157	RRF .0171	RTF -.5810	CRT .7189	CR8 .3438	CST .8936	FDE .1089	FRA .6477	FC3 -.8837	BSP 1322	SG8 1127.8	R23 -.0020	R13 .6010	LSA 33.2	MSA 15.3	SSA 1.1	BDE .6539	BRA .8738	BC3 .0930	FSP 129	SG1 961.8	SG2 589.0	THA 179.12	EL1 32.6	EL2 12.9	ALF 52.28																																																											

LAUNCH DATE MAY 18 1971 FLIGHT TIME 98.00 ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC											DISTANCE 278.391											EARTH TO MARS																																																																												
RL 151.32	LAL -1.00	LOL 236.42	VL 34.935	GAL -1.50	AZL 91.84	HCA 89.24	SMA 248.68	ECC .39182	INC 1.8387	V1 29.445	RP 206.94	LAP -1.84	LOP 325.86	VP 27.368	GAP 21.03	AZP 90.02	TAL 358.21	TAP 87.45	RCA 151.29	AP0 346.07	V2 26.486	RC 57.675	GL -11.49	GP -.57	ZAL 97.80	ZAP 174.83	ETS 186.33	ZAE 171.96	ETE 31.67	ZAC 99.12	ETC 278.25	LVI -18.15																																																																		
PLANETOCENTRIC CONIC											PLANETOCENTRIC CONIC											PLANETOCENTRIC CONIC																																																																												
C3 31.655	VHL 5.826	DLA -20.95	RAL 339.71	RAD 6647.6	VEL 12.312	PTH 7.24	VHP 10.252	DPA -16.94	RAP 323.72	ECC 1.5210	LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CBT TIM	INJ 2 LAT	INJ 2 LONG	50.00	15 37 54	2821.27	-22.97	81.05	202.98	132.89	16 24 55	1821.3	-5.10	64.19	60.00	16 42 50	2648.57	-17.27	70.57	208.06	127.00	17 26 58	1648.6	-1.51	52.09	70.00	18 5 4	2406.80	-11.78	54.88	211.98	122.29	18 45 11	1408.8	2.06	35.19	80.00	19 43 11	2099.73	-7.39	34.21	214.61	119.01	20 18 11	1099.7	4.97	13.68	90.00	21 18 44	1791.56	-5.60	12.52	215.59	117.76	21 48 35	791.6	6.17	351.68	100.00	22 26 3	1574.21	-7.39	355.57	214.61	119.01	22 52 17	574.2	4.97	335.05	110.00	23 4 31	1453.62	-11.78	343.80	211.98	122.29	23 28 44	453.6	2.06	324.11
DIFFERENTIAL CORRECTIONS											MID-COURSE EXECUTION ACCURACY											ORBIT DETERMINATION ACCURACY																																																																												
TDE -.3579	TRA -.8346	TC3 .0787	BAU .0467	SGT 984.1	SGR 592.5	SG3 115.0	ST 22.8	SR 27.1	SS 11.0	RDE -.5272	RRA .2147	RC3 .0792	FAU .03587	RRT -.0167	RRF .0207	RTF -.6139	CRT .7158	CR8 .3148	CST .8819	FDE .1054	FRA .6748	FC3 -.9809	BSP 1372	SG8 1148.7	R23 -.0046	R13 .6140	LSA 33.5	MSA 15.7	SSA 1.2	BDE .6372	BRA .8618	BC3 .1102	FSP 142	SG1 984.2	SG2 592.3	THA 179.10	EL1 32.9	EL2 13.1	ALF 51.83																																																											

LAUNCH DATE MAY 18 1971

FLIGHT TIME 100.00

ARRIVAL DATE AUG 26 1971

HELIOCENTRIC CONIC

RL 151.32 LAL -.00 LOL 236.42 VL 34.755 GAL -.44 AZL 91.83 HCA 90.51 SMA 242.96 ECC .37727 INC 1.8336 V1 29.445
RP 206.87 LAP -1.83 LOP 326.93 VP 27.144 GAP 20.53 AZP 89.98 TAL 358.39 TAP 88.89 RCA 151.30 APO 334.62 V2 26.473
RC 58.203 GL -11.78 GP -.58 ZAL 96.61 ZAP 173.89 ETS 185.52 ZAE 171.40 ETE 28.69 ZAC 99.06 ETC 278.32 LVI -18.21

DISTANCE 280.827

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 29.648 VHL 5.445 DLA -21.29 RAL 339.64 RAD 6646.9 VEL 12.230 PTH 7.18 VHP 9.914 DPA -16.85 RAP 324.05 ECC 1.4879
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 30 10 2797.56 -21.87 79.88 202.03 133.37 16 25 48 1797.6 -3.91 63.20
60.00 16 44 39 2623.42 -16.24 69.25 207.09 127.41 17 28 22 1623.4 -4.40 50.89
70.00 18 7 38 2379.49 -10.78 53.40 211.02 122.60 18 47 17 1379.5 3.10 33.76
80.00 19 46 37 2089.67 -6.40 32.53 213.67 119.23 20 21 7 1069.7 5.97 12.02
90.00 21 22 40 1759.88 -4.59 10.74 214.66 117.93 21 52 0 759.9 7.17 349.88
100.00 22 29 29 1544.14 -6.40 353.90 213.67 119.23 22 55 13 544.1 5.97 333.38
110.00 23 7 4 1426.31 -10.78 342.31 211.02 122.60 23 30 50 426.3 3.10 322.68

DIFFERENTIAL CORRECTIONS

TDE -.3516 TRA -.8245 TC3 .0938 BAU .0500
RDE -.5123 RRA .2085 RC3 .0844 FAU .03723
FDE .1042 FRA .6991 FC3-1.0871 BSP 1433
BDE .6213 BRA .8505 BC3 .1262 FSP 154

MID-COURSE EXECUTION ACCURACY

SGT 1007.2 SGR 595.4 SG3 123.3
RRT -.0175 RRF .0213 RTF -.6238
SGB 1170.0 R23 -.0045 R13 .6239
SG1 1007.3 SG2 595.2 THA 179.09

ORBIT DETERMINATION ACCURACY

ST 23.2 SR 27.2 SS 11.3
CRT .7129 CRS .2967 CST .8750
LSA 33.8 MSA 16.1 S8A 1.2
EL1 33.1 EL2 13.3 ALF 51.33

LAUNCH DATE MAY 18 1971

FLIGHT TIME 102.00

ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC

RL 151.32 LAL -.00 LOL 236.42 VL 34.585 GAL -.38 AZL 91.83 HCA 91.77 SMA 237.84 ECC .36384 INC 1.8286 V1 29.445
RP 206.82 LAP -1.83 LOP 328.20 VP 26.933 GAP 20.03 AZP 89.94 TAL 358.58 TAP 90.36 RCA 151.30 APO 324.37 V2 26.479
RC 58.807 GL -12.08 GP -.60 ZAL 96.39 ZAP 172.94 ETS 184.92 ZAE 170.86 ETE 26.17 ZAC 98.99 ETC 278.38 LVI -18.28

DISTANCE 283.442

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 27.818 VHL 5.274 DLA -21.64 RAL 339.58 RAD 6646.1 VEL 12.156 PTH 7.12 VHP 9.589 DPA -16.77 RAP 324.36 ECC 1.4578
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 40 24 2774.16 -20.77 78.74 201.10 133.82 16 26 38 1774.2 -2.74 62.22
60.00 16 46 27 2598.51 -15.20 67.96 206.14 127.78 17 29 46 1598.5 .70 49.70
70.00 18 10 12 2352.31 -9.78 51.93 210.08 122.89 18 49 24 1352.3 4.14 32.34
80.00 19 50 8 2039.54 -5.39 30.86 212.75 119.41 20 24 8 1039.5 6.98 10.34
90.00 21 26 43 1728.03 -3.58 8.95 213.75 118.07 21 55 31 728.0 8.16 348.07
100.00 22 33 0 1514.01 -5.39 352.23 212.75 119.41 22 58 14 514.0 6.98 331.71
110.00 23 9 38 1399.13 -9.78 340.85 210.08 122.89 23 32 57 399.1 4.14 321.26

DIFFERENTIAL CORRECTIONS

TDE -.3456 TRA -.8175 TC3 .1119 BAU .0533
RDE -.4978 RRA .2026 RC3 .0897 FAU .03856
FDE .1031 FRA .7253 FC3-1.1999 BSP 1501
BDE .6060 BRA .8422 BC3 .1434 FSP 170

MID-COURSE EXECUTION ACCURACY

SGT 1033.3 SGR 597.9 SG3 132.0
RRT -.0194 RRF .0223 RTF -.6345
SGB 1193.8 R23 -.0038 R13 .6345
SG1 1033.4 SG2 597.7 THA 179.03

ORBIT DETERMINATION ACCURACY

ST 23.6 SR 27.3 SS 11.6
CRT .7090 CRS .2786 CST .8667
LSA 34.1 MSA 16.5 S8A 1.2
EL1 33.4 EL2 13.6 ALF 50.76

LAUNCH DATE MAY 18 1971

FLIGHT TIME 104.00

ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC

RL 151.32 LAL -.00 LOL 236.42 VL 34.426 GAL -.32 AZL 91.82 HCA 93.04 SMA 233.23 ECC .35126 INC 1.8235 V1 29.445
RP 206.77 LAP -1.82 LOP 329.47 VP 26.733 GAP 19.55 AZP 89.90 TAL 358.79 TAP 91.83 RCA 151.31 APO 315.16 V2 26.485
RC 59.485 GL -12.37 GP -.62 ZAL 96.15 ZAP 171.97 ETS 184.47 ZAE 170.37 ETE 24.02 ZAC 98.93 ETC 278.44 LVI -18.34

DISTANCE 286.214

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 26.149 VHL 5.114 DLA -22.00 RAL 339.44 RAD 6645.5 VEL 12.088 PTH 7.07 VHP 9.275 DPA -16.69 RAP 324.66 ECC 1.4304
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 41 35 2751.12 -19.68 77.63 200.19 134.24 16 27 26 1751.1 -1.58 61.25
60.00 16 48 14 2573.89 -14.17 66.70 205.22 128.13 17 31 7 1573.9 1.78 48.52
70.00 18 12 47 2325.31 -8.78 50.48 209.16 123.14 18 51 32 1325.3 5.16 30.92
80.00 19 53 44 2009.39 -4.38 29.19 211.86 119.56 20 27 13 1009.4 7.97 8.66
90.00 21 30 53 1695.99 -2.55 7.16 212.88 118.17 21 59 9 696.0 9.15 346.24
100.00 22 36 36 1483.86 -4.38 350.56 211.86 119.56 23 1 19 483.9 7.97 330.02
110.00 23 12 14 1372.12 -8.78 339.40 209.16 123.14 23 35 6 372.1 5.16 319.84

DIFFERENTIAL CORRECTIONS

TDE -.3367 TRA -.8040 TC3 .1350 BAU .0577
RDE -.4840 RRA .1967 RC3 .0950 FAU .04007
FDE .0994 FRA .7521 FC3-1.3268 BSP 1532
BDE .5896 BRA .8277 BC3 .1650 FSP 193

MID-COURSE EXECUTION ACCURACY

SGT 1051.4 SGR 600.0 SG3 141.4
RRT -.0206 RRF .0243 RTF -.6345
SGB 1210.5 R23 -.0046 R13 .6464
SG1 1051.5 SG2 599.8 THA 179.00

ORBIT DETERMINATION ACCURACY

ST 23.8 SR 27.3 SS 11.9
CRT .7049 CRS .2529 CST .8982
LSA 34.3 MSA 16.8 S8A 1.2
EL1 33.6 EL2 13.8 ALF 50.53

LAUNCH DATE MAY 18 1971

FLIGHT TIME 106.00

ARRIVAL DATE SEP 1 1971

HELIOCENTRIC CONIC

RL 151.32 LAL -.00 LOL 236.42 VL 34.275 GAL -.25 AZL 91.82 HCA 94.31 SMA 229.08 ECC .33948 INC 1.8185 V1 29.445
RP 206.74 LAP -1.81 LOP 330.73 VP 26.544 GAP 19.07 AZP 89.86 TAL 359.01 TAP 93.32 RCA 151.31 APO 306.84 V2 26.489
RC 60.233 GL -12.66 GP -.64 ZAL 95.89 ZAP 170.99 ETS 184.11 ZAE 169.93 ETE 22.16 ZAC 98.87 ETC 278.50 LVI -18.39

DISTANCE 289.123

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 24.626 VHL 4.962 DLA -22.37 RAL 339.31 RAD 6644.8 VEL 12.025 PTH 7.01 VHP 8.973 DPA -16.61 RAP 324.95 ECC 1.4053
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 42 44 2728.47 -18.60 76.56 199.31 134.62 16 28 12 1728.5 -4.44 60.31
60.00 16 49 59 2549.61 -13.15 65.46 204.33 128.45 17 32 28 1549.6 2.85 47.36
70.00 18 15 23 2298.52 -7.78 49.05 208.28 123.36 18 53 42 1298.5 6.17 29.51
80.00 19 57 24 1979.25 -3.37 27.53 211.00 119.68 20 30 24 979.2 8.96 6.96
90.00 21 35 12 1663.80 -1.51 5.36 212.02 118.24 22 2 56 663.8 10.14 344.39
100.00 22 40 16 1453.72 -3.37 348.90 211.00 119.68 23 4 30 453.7 8.96 328.33
110.00 23 14 50 1345.34 -7.78 337.97 208.28 123.36 23 37 15 345.3 6.17 318.42

DIFFERENTIAL CORRECTIONS

TDE -.3307 TRA -.7957 TC3 .1593 BAU .0620
RDE -.4705 RRA .1911 RC3 .1003 FAU .04176
FDE .0982 FRA .7815 FC3-1.4680 BSP 1586
BDE .5751 BRA .8183 BC3 .1882 FSP 200

MID-COURSE EXECUTION ACCURACY

SGT 1076.0 SGR 601.7 SG3 151.8
RRT -.0215 RRF .0248 RTF -.6574
SGB 1232.8 R23 -.0043 R13 .6575
SG1 1076.1 SG2 601.4 THA 179.00

ORBIT DETERMINATION ACCURACY

ST 24.2 SR 27.4 SS 12.3
CRT .7012 CRS .2348 CST .8516
LSA 34.5 MSA 17.2 S8A 1.3
EL1 33.8 EL2 14.0 ALF 50.00

LAUNCH DATE MAY 18 1971 FLIGHT TIME 116.00 ARRIVAL DATE SEP 11 1971

HELIOCENTRIC CONIC DISTANCE 305.252 EARTH TO MARS
RL 151.32 LAL -.00 LOL 236.42 VL 33.648 GAL .05 AZL 91.78 HCA 100.66 SMA 213.37 ECC .29004 INC 1.7928 V1 29.445
RP 206.68 LAP -1.76 LOP 337.08 VP 25.735 GAP 16.82 AZP 89.67 TAL .23 TAP 100.89 RCA 151.32 APO 275.43 V2 26.496
RC 64.956 GL -14.07 GP -.75 ZAL 94.34 ZAP 165.83 ETS 183.09 ZAE 188.59 ETE 15.68 ZAC 98.59 ETC 278.73 LVI -18.58
PLANETOCENTRIC CONIC
C3 18.797 VHL 4.331 DLA -24.25 RAL 338.38 RAD 6642.3 VEL 11.780 PTH 6.81 VHP 7.616 DPA -16.33 RAP 326.16 ECC 1.3087
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 47 47 2622.18 -13.45 71.72 195.29 136.08 16 31 29 1622.2 4.89 55.86
60.00 16 58 23 2434.44 -8.21 59.75 200.24 129.60 17 38 57 1434.4 7.89 41.81
70.00 18 28 36 2189.20 -2.89 42.24 204.23 124.05 19 4 45 1169.2 10.99 22.59
80.00 20 17 8 1829.31 1.70 19.31 207.09 119.81 20 47 38 829.5 13.70 358.30
90.00 21 59 9 1500.46 3.75 356.24 208.23 118.05 22 24 10 500.5 14.92 334.79
100.00 23 0 0 1303.98 1.70 340.67 207.09 119.81 23 21 44 304.0 13.70 319.75
110.00 23 28 2 1216.02 -2.89 331.15 204.23 124.05 23 48 18 216.0 10.99 311.51
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.2655 TRA -.7282 TC3 .3246 BAU .0872 SGT 1148.4 SGR 604.4 SG3 214.8 ST 23.7 SR 27.4 SS 13.3
RDE -.4110 RRA .1637 RC3 .1251 FAU .05257 RRT -.0470 RRF .0492 RTF -.7022 CRT .6478 CRS -.0496 CST .7215
FDE .0244 FRA .9149 FC3-2.4265 BSP 1584 SGB 1297.7 R23 -.0036 R13 .7024 LSA 33.3 MSA 19.5 SSA 1.4
BDE .4893 BRA .7468 BC3 .3479 FSP 273 SG1 1148.9 SG2 603.5 THA 178.04 EL1 33.0 EL2 15.0 ALF 51.45

LAUNCH DATE MAY 18 1971 FLIGHT TIME 118.00 ARRIVAL DATE SEP 13 1971

HELIOCENTRIC CONIC DISTANCE 308.722 EARTH TO MARS
RL 151.32 LAL -.00 LOL 236.42 VL 33.544 GAL .11 AZL 91.79 HCA 101.92 SMA 211.00 ECC .28287 INC 1.7875 V1 29.445
RP 206.70 LAP -1.75 LOP 338.35 VP 25.997 GAP 16.39 AZP 89.63 TAL .50 TAP 102.42 RCA 151.31 APO 270.69 V2 26.494
RC 66.082 GL -14.33 GP -.78 ZAL 93.99 ZAP 164.74 ETS 182.97 ZAE 168.92 ETE 14.75 ZAC 98.54 ETC 278.76 LVI -18.60
PLANETOCENTRIC CONIC
C3 17.863 VHL 4.226 DLA -24.63 RAL 338.13 RAD 6641.9 VEL 11.743 PTH 6.77 VHP 7.372 DPA -16.29 RAP 326.34 ECC 1.2940
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 48 40 2602.53 -12.48 70.85 194.57 136.30 16 32 3 1602.5 5.88 55.03
60.00 16 59 58 2412.90 -7.27 58.70 199.50 129.75 17 40 11 1412.9 8.82 40.76
70.00 18 31 15 2144.53 -1.95 40.95 203.51 124.10 19 7 0 1144.5 11.89 21.25
80.00 20 21 22 1799.92 2.70 17.68 206.40 119.75 20 51 22 799.9 14.61 356.65
90.00 22 4 31 1467.25 4.81 354.37 207.57 117.90 22 28 58 467.2 15.85 332.78
100.00 23 4 14 1274.40 2.70 339.05 206.40 119.75 23 25 28 274.4 14.61 318.02
110.00 23 30 42 1191.35 -1.95 329.86 203.51 124.10 23 50 33 191.3 11.89 310.16
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.2821 TRA -.7284 TC3 .3357 BAU .0860 SGT 1186.1 SGR 603.4 SG3 229.1 ST 25.1 SR 27.3 SS 14.2
RDE -.3999 RRA .1615 RC3 .1300 FAU .05413 RRT -.0323 RRF .0396 RTF -.7109 CRT .6688 CRS .0461 CST .7670
FDE .0578 FRA .9729 FC3-2.6234 BSP 1781 SGB 1330.7 R23 -.0086 R13 .7110 LSA 34.5 MSA 19.7 SSA 1.4
BDE .4894 BRA .7461 BC3 .3600 FSP 324 SG1 1186.3 SG2 602.9 THA 178.73 EL1 34.0 EL2 15.0 ALF 48.62

LAUNCH DATE MAY 18 1971 FLIGHT TIME 120.00 ARRIVAL DATE SEP 15 1971

HELIOCENTRIC CONIC DISTANCE 312.255 EARTH TO MARS
RL 151.32 LAL -.00 LOL 236.42 VL 33.446 GAL .17 AZL 91.78 HCA 103.19 SMA 208.83 ECC .27541 INC 1.7822 V1 29.445
RP 206.72 LAP -1.74 LOP 339.62 VP 25.465 GAP 15.98 AZP 89.59 TAL .76 TAP 103.98 RCA 151.31 APO 266.34 V2 26.491
RC 67.265 GL -14.59 GP -.80 ZAL 93.64 ZAP 163.63 ETS 182.86 ZAE 168.52 ETE 13.90 ZAC 98.48 ETC 278.79 LVI -18.61
PLANETOCENTRIC CONIC
C3 17.043 VHL 4.128 DLA -25.00 RAL 337.88 RAD 6641.5 VEL 11.708 PTH 6.74 VHP 7.138 DPA -16.27 RAP 326.51 ECC 1.2805
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 49 31 2583.47 -11.54 70.01 193.86 136.49 16 32 34 1583.5 6.83 54.22
60.00 17 1 32 2391.93 -6.36 57.68 198.78 129.88 17 41 24 1391.9 9.73 39.72
70.00 18 33 55 2120.33 -1.02 39.68 202.81 124.14 19 9 15 1120.3 12.76 19.92
80.00 20 25 41 1770.51 3.69 16.06 205.74 119.65 20 55 12 770.5 15.49 354.91
90.00 22 10 6 1433.78 5.87 352.49 206.94 117.71 22 33 59 433.8 16.75 330.74
100.00 23 8 33 1244.98 3.69 337.43 205.75 119.65 23 29 18 245.0 15.49 316.28
110.00 23 33 21 1167.15 -1.02 328.60 202.81 124.14 23 52 48 167.2 12.76 308.84
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.2732 TRA -.7144 TC3 .3647 BAU .0885 SGT 1196.4 SGR 602.3 SG3 245.7 ST 25.1 SR 27.3 SS 14.6
RDE -.3887 RRA .1573 RC3 .1341 FAU .05687 RRT -.0348 RRF .0430 RTF -.7158 CRT .6628 CRS .0059 CST .7461
FDE .0464 FRA 1.0103 FC3-2.8890 BSP 1840 SGB 1339.4 R23 -.0097 R13 .7159 LSA 34.4 MSA 20.1 SSA 1.4
BDE .4760 BRA .7315 BC3 .3886 FSP 347 SG1 1196.6 SG2 601.8 THA 178.66 EL1 33.8 EL2 15.1 ALF 48.62

LAUNCH DATE MAY 18 1971 FLIGHT TIME 122.00 ARRIVAL DATE SEP 17 1971

HELIOCENTRIC CONIC DISTANCE 315.846 EARTH TO MARS
RL 151.32 LAL -.00 LOL 236.42 VL 33.354 GAL .22 AZL 91.78 HCA 104.46 SMA 206.83 ECC .26842 INC 1.7768 V1 29.445
RP 206.75 LAP -1.72 LOP 340.89 VP 25.341 GAP 15.57 AZP 89.56 TAL 1.03 TAP 105.49 RCA 151.31 APO 262.34 V2 26.487
RC 68.502 GL -14.85 GP -.83 ZAL 93.28 ZAP 162.50 ETS 182.77 ZAE 168.59 ETE 13.12 ZAC 98.44 ETC 278.82 LVI -18.62
PLANETOCENTRIC CONIC
C3 16.292 VHL 4.036 DLA -25.37 RAL 337.63 RAD 6641.1 VEL 11.876 PTH 6.71 VHP 6.911 DPA -16.25 RAP 326.65 ECC 1.2681
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 50 19 2565.03 -10.63 69.21 193.18 136.65 16 33 4 1565.0 7.75 53.44
60.00 17 3 4 2371.56 -5.47 56.70 198.10 129.99 17 42 35 1371.6 10.60 38.72
70.00 18 36 34 2096.65 -1.12 38.45 202.14 124.15 19 11 31 1096.7 13.61 18.61
80.00 20 30 7 1741.26 4.68 14.45 205.12 119.52 20 59 8 741.3 16.35 353.17
90.00 22 15 56 1399.99 6.94 350.58 206.35 117.48 22 39 16 400.0 17.64 328.87
100.00 23 12 59 1215.73 4.68 335.81 205.12 119.52 23 33 15 215.7 16.35 314.53
110.00 23 36 0 1143.47 -1.12 327.37 202.14 124.15 23 55 4 143.5 13.61 307.53
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.2664 TRA -.7053 TC3 .3939 BAU .0909 SGT 1213.1 SGR 600.9 SG3 263.3 ST 25.2 SR 27.2 SS 15.1
RDE -.3798 RRA .1533 RC3 .1378 FAU .05964 RRT -.0378 RRF .0467 RTF -.7215 CRT .6567 CRS -.0262 CST .7301
FDE .0371 FRA 1.0537 FC3-3.1691 BSP 1838 SGB 1353.8 R23 -.0106 R13 .7217 LSA 34.3 MSA 20.6 SSA 1.5
BDE .4639 BRA .7217 BC3 .4174 FSP 368 SG1 1213.4 SG2 600.3 THA 178.58 EL1 33.8 EL2 15.3 ALF 48.36

LAUNCH DATE MAY 18 1971

FLIGHT TIME 124.00

ARRIVAL DATE SEP 19 1971

HELIOCENTRIC CONIC

DISTANCE 319.489

EARTH TO MARS

RL 191.32 LAL -.00 LOL 236.42 VL 33.268 GAL .27 AZL 91.77 HCA 105.73 SMA 204.99 ECC .26187 INC 1.7714 V1 29.445
RP 206.79 LAP -1.71 LOP 342.16 VP 25.222 GAP 15.17 AZP 89.52 TAL 1.30 TAP 107.03 RCA 151.31 APO 258.67 V2 26.403
RC 69.791 GL -15.09 GP -.06 ZAL 92.93 ZAP 161.34 ETS 182.69 ZAE 168.74 ETE 12.39 ZAC 98.39 ETC 278.84 LVI -18.62

PLANETOCENTRIC CONIC

C3 15.602 VHL 3.950 DLA -25.73 RAL 337.37 RAD 8640.8 VEL 11.647 PTH 6.69 VHP 6.693 DPA -16.24 RAP 326.77 ECC 1.2568
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 51 5 2547.23 -9.75 68.44 192.53 138.80 16 33 32 1547.2 8.64 52.68
60.00 17 4 33 2351.82 -4.80 35.75 197.44 130.08 17 43 45 1351.8 11.45 37.74
70.00 18 39 13 2073.53 .76 37.24 201.50 124.15 19 13 46 1073.5 14.44 17.32
80.00 20 34 39 1712.22 5.65 12.84 204.53 119.37 21 3 11 712.2 17.18 391.42
90.00 22 22 4 1365.79 6.01 346.64 205.80 117.21 22 44 50 365.8 18.52 326.54
100.00 23 17 31 1186.69 5.65 334.21 204.53 119.37 23 37 17 186.7 17.18 312.78
110.00 23 38 39 1120.34 .76 326.16 201.50 124.15 23 57 19 120.3 14.44 306.24

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2608 TRA -.6955 TC3 .4211 BAU .0926 SGT 1227.8 SGR 599.0 S63 281.2 ST 25.3 SR 27.1 SS 15.9
RDE -.3703 RRA .1494 RC3 .1412 FAU .06248 RRT -.0398 RRF .0487 RTF -.7244 CRT .6524 CR8 -.0534 CST .7152
FDE .0286 FRA 1.0912 FC3-3.4668 B8P 1891 SGB 1366.2 R23 -.0110 R13 .7246 LSA 34.2 M8A 21.0 S8A 1.5
BDE .4528 BRA .7113 BC3 .4441 F8P 402 SG1 1228.1 S62 598.4 THA 178.54 EL1 33.7 EL2 15.4 ALF 48.02

LAUNCH DATE MAY 18 1971

FLIGHT TIME 126.00

ARRIVAL DATE SEP 21 1971

HELIOCENTRIC CONIC

DISTANCE 323.180

EARTH TO MARS

RL 151.32 LAL -.00 LOL 236.42 VL 33.186 GAL .32 AZL 91.77 HCA 107.00 SMA 203.30 ECC .25575 INC 1.7659 V1 29.445
RP 206.84 LAP -1.69 LOP 343.43 VP 25.109 GAP 14.78 AZP 89.48 TAL 1.57 TAP 108.56 RCA 151.30 APO 255.29 V2 26.477
RC 71.130 GL -15.33 GP -.09 ZAL 92.97 ZAP 160.16 ETS 182.81 ZAE 168.96 ETE 11.71 ZAC 98.35 ETC 278.85 LVI -18.61

PLANETOCENTRIC CONIC

C3 14.968 VHL 3.869 DLA -26.08 RAL 337.11 RAD 8640.5 VEL 11.620 PTH 6.66 VHP 6.482 DPA -16.24 RAP 326.86 ECC 1.2463
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 51 49 2530.07 -8.90 67.70 191.91 136.94 16 33 59 1530.1 9.49 51.94
60.00 17 6 1 2332.73 -3.76 54.83 196.81 130.15 17 44 53 1332.7 12.26 36.78
70.00 18 41 50 2050.99 1.63 38.07 200.89 124.12 19 16 1 1051.0 15.23 16.06
80.00 20 39 17 1683.37 6.61 11.24 203.97 119.18 21 7 20 683.4 18.00 349.66
90.00 22 28 32 1331.04 9.08 346.65 205.30 116.90 22 50 43 331.0 19.38 324.36
100.00 23 22 9 1157.84 6.61 332.61 203.97 119.18 23 41 27 157.8 18.00 311.03
110.00 23 41 16 1097.81 1.63 324.98 200.89 124.12 23 59 34 97.8 15.23 304.98

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2532 TRA -.6816 TC3 .4509 BAU .0947 SGT 1235.0 SGR 596.9 S63 300.4 ST 25.2 SR 27.0 SS 15.9
RDE -.3612 RRA .1458 RC3 .1440 FAU .06555 RRT -.0416 RRF .0539 RTF -.7284 CRT .6476 CR8 -.0988 CST .6874
FDE .0124 FRA 1.1319 FC3-3.7912 B8P 1912 SGB 1371.7 R23 -.0144 R13 .7286 LSA 34.0 M8A 21.5 S8A 1.5
BDE .4411 BRA .6970 BC3 .4733 F8P 433 SG1 1235.4 S62 596.3 THA 178.50 EL1 33.5 EL2 15.5 ALF 48.00

LAUNCH DATE MAY 18 1971

FLIGHT TIME 128.00

ARRIVAL DATE SEP 23 1971

HELIOCENTRIC CONIC

DISTANCE 326.914

EARTH TO MARS

RL 151.32 LAL -.00 LOL 236.42 VL 33.110 GAL .37 AZL 91.76 HCA 108.26 SMA 201.74 ECC .25001 INC 1.7604 V1 29.445
RP 206.90 LAP -1.67 LOP 344.70 VP 25.001 GAP 14.41 AZP 89.45 TAL 1.83 TAP 110.09 RCA 151.30 APO 252.17 V2 26.470
RC 72.517 GL -15.56 GP -.93 ZAL 92.22 ZAP 158.95 ETS 182.55 ZAE 169.25 ETE 11.07 ZAC 98.30 ETC 278.86 LVI -18.59

PLANETOCENTRIC CONIC

C3 14.386 VHL 3.793 DLA -26.42 RAL 336.85 RAD 8640.2 VEL 11.595 PTH 6.64 VHP 6.279 DPA -16.25 RAP 326.93 ECC 1.2368
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 52 30 2513.60 -8.08 67.00 191.30 137.05 16 34 24 1513.6 10.31 51.23
60.00 17 7 25 2314.32 -2.96 53.95 196.20 130.21 17 46 0 1314.3 13.05 35.85
70.00 18 44 26 2029.08 2.46 34.92 200.30 124.08 19 18 15 1029.1 15.99 14.82
80.00 20 44 2 1654.75 7.56 9.64 203.44 118.97 21 11 36 654.8 18.79 347.91
90.00 22 35 24 1293.55 10.17 344.61 204.83 116.53 22 57 0 295.6 20.23 322.10
100.00 23 26 53 1129.22 7.56 331.01 203.44 118.97 23 45 43 129.2 18.79 309.27
110.00 23 43 52 1075.90 2.46 323.84 200.30 124.08 24 1 48 75.9 15.99 303.74

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2449 TRA -.6720 TC3 .4738 BAU .0933 SGT 1245.3 SGR 594.5 S63 321.1 ST 25.1 SR 26.9 SS 16.4
RDE -.3524 RRA .1423 RC3 .1464 FAU .06873 RRT -.0477 RRF .0599 RTF -.7309 CRT .6388 CR8 -.1392 CST .6659
FDE -.0031 FRA 1.1804 FC3-4.1360 B8P 1923 SGB 1379.9 R23 -.0148 R13 .7312 LSA 33.7 M8A 22.0 S8A 1.5
BDE .4292 BRA .6869 BC3 .4957 F8P 466 SG1 1245.7 S62 593.6 THA 178.31 EL1 33.3 EL2 15.6 ALF 47.98

LAUNCH DATE MAY 18 1971

FLIGHT TIME 130.00

ARRIVAL DATE SEP 25 1971

HELIOCENTRIC CONIC

DISTANCE 330.688

EARTH TO MARS

RL 151.32 LAL -.00 LOL 236.42 VL 33.039 GAL .41 AZL 91.75 HCA 109.53 SMA 200.30 ECC .24464 INC 1.7547 V1 29.445
RP 206.96 LAP -1.65 LOP 345.96 VP 24.898 GAP 14.03 AZP 89.41 TAL 2.09 TAP 111.62 RCA 151.30 APO 249.30 V2 26.462
RC 73.950 GL -15.77 GP -.96 ZAL 91.87 ZAP 157.71 ETS 182.46 ZAE 169.62 ETE 10.45 ZAC 98.27 ETC 278.87 LVI -18.56

PLANETOCENTRIC CONIC

C3 13.851 VHL 3.722 DLA -26.76 RAL 336.58 RAD 8640.0 VEL 11.572 PTH 6.62 VHP 6.083 DPA -16.27 RAP 326.97 ECC 1.2280
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 53 9 2497.81 -7.29 66.33 190.73 137.15 16 34 47 1497.8 11.09 50.55
60.00 17 8 48 2296.62 -2.18 53.10 195.83 130.25 17 47 4 1296.6 13.79 34.96
70.00 18 47 0 2007.85 3.27 33.81 199.75 124.02 19 20 28 1007.8 16.72 13.61
80.00 20 48 53 1628.36 8.49 8.05 202.94 118.73 21 15 59 626.4 19.56 348.15
90.00 22 42 46 1259.05 11.27 342.50 204.41 116.11 23 3 46 259.1 21.07 319.75
100.00 23 31 44 1100.83 8.49 329.42 202.94 118.73 23 50 5 100.8 19.56 307.51
110.00 23 46 26 1054.67 3.27 322.73 199.75 124.02 24 4 1 54.7 16.72 302.53

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2388 TRA -.6600 TC3 .5004 BAU .0986 SGT 1252.3 SGR 591.6 S63 343.4 ST 25.1 SR 26.7 SS 16.9
RDE -.3440 RRA .1391 RC3 .1480 FAU .07236 RRT -.0503 RRF .0833 RTF -.7332 CRT .6342 CR8 -.1689 CST .6477
FDE -.0156 FRA 1.2260 FC3-4.5225 B8P 1963 SGB 1385.0 R23 -.0158 R13 .7335 LSA 33.5 M8A 22.5 S8A 1.6
BDE .4186 BRA .6745 BC3 .5218 F8P 509 SG1 1252.8 S62 590.7 THA 178.25 EL1 33.1 EL2 15.6 ALF 47.86

LAUNCH DATE MAY 18 1971 FLIGHT TIME 132.00 ARRIVAL DATE SEP 27 1971

Heliocentric Conic: RL 151.32 LAL -.00 LOL 236.42 VL 32.972 GAL .45 AZL 91.75 HCA 110.80 SMA 198.97 ECC .23982 INC 1.7490 V1 29.445
 RP 207.04 LAP -1.64 LOP 347.23 VP 24.800 GAP 13.67 AZP 89.38 TAL 2.34 TAP 113.14 RCA 151.29 APO 246.65 V2 26.454
 RC 75.426 GL -15.98 GP -1.00 ZAL 91.53 ZAP 156.45 ETS 182.43 ZAE 170.06 ETE 9.85 ZAC 98.23 ETC 278.87 LVI -18.53

Planeto-centric Conic: C3 13.360 VHL 3.655 DLA -27.08 RAL 336.32 RAD 6639.7 VEL 11.551 PTH 6.60 VHP 5.895 DPA -16.31 RAP 326.98 ECC 1.2199
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 53 46 2482.72 -6.54 65.69 190.18 137.23 16 35 9 1482.7 11.83 49.89
 60.00 17 10 7 2279.65 -1.43 52.29 195.08 130.20 17 48 7 1279.6 14.51 34.09
 70.00 18 49 32 1987.32 4.05 32.74 199.22 123.94 19 22 39 987.3 17.42 12.43
 80.00 20 53 50 1598.20 9.41 6.46 202.48 118.47 21 20 28 598.2 20.30 344.38
 90.00 22 50 47 1221.09 12.40 340.28 204.04 115.62 23 11 8 221.1 21.91 317.28
 100.00 23 36 42 1072.67 9.41 327.83 202.48 118.47 23 54 35 72.7 20.30 305.75
 110.00 23 48 58 1034.13 4.05 321.65 199.22 123.94 24 6 12 34.1 17.42 301.35

Differential Corrections: TDE -.2328 TRA -.6478 TC3 .5188 BAU .0961 SGT 1255.7 SGR 588.5 SG3 366.2 ST 25.0 SR 26.6 SS 17.5
 RDE -.3358 RRA .1360 RC3 .1491 FAU .07580 RRT -.0540 RRF .0694 RTF -.7340 CRT .6302 CRS -.2022 CST .6258
 FDE -.0309 FRA 1.2787 FC3-4.9121 BSP 1963 SGB 1386.7 R23 -.0187 R13 .7344 LSA 33.2 MSA 23.0 SSA 1.6
 BDE .4086 BRA .8620 BC3 .5379 FSP 544 SG1 1256.2 SG2 587.4 THA 178.15 EL1 33.0 EL2 15.7 ALF 47.72

LAUNCH DATE MAY 18 1971 FLIGHT TIME 134.00 ARRIVAL DATE SEP 29 1971

Heliocentric Conic: RL 151.32 LAL -.00 LOL 236.42 VL 32.909 GAL .49 AZL 91.74 HCA 112.06 SMA 197.74 ECC .23493 INC 1.7432 V1 29.445
 RP 207.12 LAP -1.62 LOP 348.49 VP 24.706 GAP 13.32 AZP 89.35 TAL 2.59 TAP 114.65 RCA 151.29 APO 244.20 V2 26.444
 RC 76.944 GL -16.18 GP -1.04 ZAL 91.20 ZAP 155.15 ETS 182.38 ZAE 170.58 ETE 9.27 ZAC 98.20 ETC 278.86 LVI -18.48

Planeto-centric Conic: C3 12.907 VHL 3.593 DLA -27.38 RAL 336.06 RAD 6639.5 VEL 11.532 PTH 6.58 VHP 5.713 DPA -16.35 RAP 326.97 ECC 1.2124
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 54 21 2488.35 -5.82 65.08 189.66 137.30 16 35 29 1488.3 12.54 49.26
 60.00 17 11 23 2283.42 -.72 51.52 194.55 130.30 17 49 7 1263.4 15.19 33.26
 70.00 18 52 1 1967.53 4.80 31.70 198.72 123.86 19 24 48 967.5 18.09 11.28
 80.00 20 58 53 1570.29 10.31 4.88 202.06 118.18 21 25 5 570.3 21.01 342.62
 90.00 22 59 40 1180.89 13.57 337.91 203.73 115.05 23 19 20 180.9 22.74 314.63
 100.00 23 41 46 1044.76 10.31 326.25 202.06 118.18 23 59 11 44.8 21.01 303.98
 110.00 23 51 27 1014.35 4.80 320.61 198.72 123.85 24 8 22 14.3 18.09 300.20

Differential Corrections: TDE -.2277 TRA -.6362 TC3 .5375 BAU .0963 SGT 1259.7 SGR 585.0 SG3 391.0 ST 25.0 SR 26.4 SS 18.0
 RDE -.3279 RRA .1332 RC3 .1494 FAU .07969 RRT -.0570 RRF .0743 RTF -.7353 CRT .6270 CRS -.2283 CST .6080
 FDE -.0442 FRA 1.3322 FC3-5.3450 BSP 1965 SGB 1388.9 R23 -.0210 R13 .7358 LSA 33.0 MSA 23.5 SSA 1.6
 BDE .3992 BRA .8500 BC3 .5579 FSP 585 SG1 1260.2 SG2 583.8 THA 178.07 EL1 32.8 EL2 15.7 ALF 47.52

LAUNCH DATE MAY 18 1971 FLIGHT TIME 136.00 ARRIVAL DATE OCT 1 1971

Heliocentric Conic: RL 151.32 LAL -.00 LOL 236.42 VL 32.850 GAL .53 AZL 91.74 HCA 113.32 SMA 196.61 ECC .23054 INC 1.7373 V1 29.445
 RP 207.21 LAP -1.60 LOP 349.76 VP 24.615 GAP 12.97 AZP 89.31 TAL 2.83 TAP 116.15 RCA 151.28 APO 241.93 V2 26.433
 RC 78.502 GL -16.37 GP -1.08 ZAL 90.88 ZAP 153.83 ETS 182.33 ZAE 171.17 ETE 8.69 ZAC 98.17 ETC 278.85 LVI -18.43

Planeto-centric Conic: C3 12.491 VHL 3.534 DLA -27.68 RAL 335.81 RAD 6639.3 VEL 11.514 PTH 6.56 VHP 5.538 DPA -16.41 RAP 326.92 ECC 1.2058
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 54 53 2454.66 -5.13 64.50 189.16 137.36 16 35 48 1454.7 13.22 48.65
 60.00 17 12 37 2247.92 -.03 50.78 194.05 130.30 17 50 5 1247.9 15.83 32.45
 70.00 18 54 27 1948.47 5.33 30.69 198.25 123.76 19 26 55 948.5 18.72 10.17
 80.00 21 4 7 1542.51 11.20 3.30 201.66 117.86 21 29 49 542.5 21.70 340.84
 90.00 23 9 55 1136.81 14.82 335.28 203.49 114.36 23 28 52 136.8 23.60 311.69
 100.00 23 46 59 1016.98 11.20 324.67 201.66 117.86 24 3 56 17.0 21.70 302.21
 110.00 23 53 53 8283.33 5.53 297.52 198.25 123.76 25 38 36 5283.3 18.72 278.99

Differential Corrections: TDE -.2124 TRA -.6153 TC3 .5758 BAU .0993 SGT 1246.2 SGR 581.3 SG3 416.8 ST 24.1 SR 26.2 SS 18.6
 RDE -.3204 RRA .1304 RC3 .1490 FAU .08380 RRT -.0692 RRF .0812 RTF -.7359 CRT .6113 CRS -.2700 CST .5889
 FDE -.0684 FRA 1.3820 FC3-5.8084 BSP 1860 SGB 1375.1 R23 -.0192 R13 .7463 LSA 32.2 MSA 24.0 SSA 1.6
 BDE .3844 BRA .6289 BC3 .5948 FSP 626 SG1 1246.9 SG2 579.7 THA 177.78 EL1 32.0 EL2 15.6 ALF 48.87

LAUNCH DATE MAY 18 1971 FLIGHT TIME 138.00 ARRIVAL DATE OCT 3 1971

Heliocentric Conic: RL 151.32 LAL -.00 LOL 236.42 VL 32.795 GAL .56 AZL 91.73 HCA 114.59 SMA 195.58 ECC .22645 INC 1.7312 V1 29.445
 RP 207.31 LAP -1.57 LOP 351.02 VP 24.529 GAP 12.63 AZP 89.28 TAL 3.06 TAP 117.64 RCA 151.28 APO 239.84 V2 26.422
 RC 80.098 GL -16.54 GP -1.12 ZAL 90.58 ZAP 152.47 ETS 182.28 ZAE 171.84 ETE 8.09 ZAC 98.14 ETC 278.83 LVI -18.37

Planeto-centric Conic: C3 12.108 VHL 3.480 DLA -27.96 RAL 335.57 RAD 6639.1 VEL 11.497 PTH 6.55 VHP 5.369 DPA -16.48 RAP 326.85 ECC 1.1993
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 55 24 2441.76 -4.48 63.96 188.69 137.41 16 36 6 1441.8 13.85 48.08
 60.00 17 13 47 2233.28 .61 50.08 193.59 130.30 17 51 0 1233.3 16.44 31.69
 70.00 18 56 48 1930.33 6.21 29.74 197.81 123.65 19 28 58 930.3 19.32 9.10
 80.00 21 9 24 1515.14 12.06 1.73 201.31 117.52 21 34 39 515.1 22.36 339.08
 90.00 23 22 33 1085.75 16.23 332.20 203.36 113.48 23 40 39 85.7 24.52 308.23
 100.00 23 52 16 8277.65 12.06 301.00 201.31 117.52 25 36 54 5277.7 22.36 278.35
 110.00 0 0 10 6265.19 6.21 296.56 197.81 123.65 1 44 35 5265.2 19.32 275.93

Differential Corrections: TDE -.2102 TRA -.6075 TC3 .5759 BAU .0962 SGT 1250.2 SGR 577.3 SG3 444.8 ST 24.3 SR 26.0 SS 19.3
 RDE -.3131 RRA .1280 RC3 .1477 FAU .08812 RRT -.0701 RRF .0892 RTF -.7395 CRT .6105 CRS -.3015 CST .5635
 FDE -.0860 FRA 1.4454 FC3-6.3005 BSP 1914 SGB 1377.0 R23 -.0235 R13 .7401 LSA 32.1 MSA 24.6 SSA 1.6
 BDE .3771 BRA .6209 BC3 .5945 FSP 675 SG1 1251.0 SG2 575.5 THA 177.65 EL1 31.9 EL2 15.6 ALF 48.28

LAUNCH DATE MAY 18 1971 FLIGHT TIME 140.00 ARRIVAL DATE OCT 9 1971

HELIOCENTRIC CONIC DISTANCE 350.049 EARTH TO MARS
 RL 151.32 LAL -.00 LOL 236.42 VL 32.743 GAL .60 AZL 91.73 HCA 115.85 SMA 194.59 ECC .22263 INC 1.7251 V1 29.445
 RP 207.42 LAP -1.55 LOP 352.28 VP 24.447 GAP 12.30 AZP 89.25 TAL 3.28 TAP 119.12 RCA 151.27 APO 237.91 V2 26.409
 RC 81.730 GL -16.71 GP -1.16 ZAL 90.29 ZAP 151.08 ETS 182.23 ZAE 172.57 ETE 7.45 ZAC 98.11 ETC 278.80 LVI -18.29

PLANETOCENTRIC CONIC
 C3 11.756 VHL 3.429 DLA -28.22 RAL 335.34 RAD 6638.9 VEL 11.462 PTH 6.53 VHP 5.208 DPA -16.57 RAP 326.74 ECC 1.1935
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 55 53 2429.60 -3.87 63.45 186.25 137.46 16 36 22 1429.6 14.44 47.94
 60.00 17 14 53 2219.43 1.22 49.41 193.14 130.29 17 51 53 1219.4 17.01 30.97
 70.00 18 59 4 1913.05 6.86 26.82 197.39 123.54 19 30 57 913.0 19.88 8.08
 80.00 21 14 49 1480.00 12.91 .16 200.98 117.16 21 39 37 488.0 22.99 337.31
 90.00 23 42 38 1011.21 18.20 327.61 203.49 112.03 23 59 29 11.2 25.70 303.09
 100.00 0 1 37 6250.51 12.91 299.44 200.98 117.16 1 45 47 5250.5 22.99 276.58
 110.00 0 2 26 6247.90 6.86 295.65 197.39 123.54 1 46 34 5247.9 19.88 274.90

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2088 TRA -.5969 TC3 .5777 BAU .0936 SGT 1249.1 SGR 572.9 SG3 474.3 ST 24.4 SR 25.8 SS 19.9
 RDE -.3059 RRA .1257 RC3 .1455 FAU .09275 RRT -.0725 RRF .0952 RTF -.7340 CRT .6131 CRS -.3202 CST .5444
 FDE -.0999 FRA 1.5072 FC3-6.8303 BSP 1940 SGB 1374.2 R23 -.0279 R13 .7347 LSA 32.0 MSA 25.1 SSA 1.7
 BDE .3704 BRA .6100 BC3 .5957 FSP 727 SG1 1249.9 SG2 570.9 THA 177.59 EL1 31.9 EL2 15.6 ALF 47.71

LAUNCH DATE MAY 18 1971 FLIGHT TIME 142.00 ARRIVAL DATE OCT 7 1971

HELIOCENTRIC CONIC DISTANCE 354.002 EARTH TO MARS
 RL 151.32 LAL -.00 LOL 236.42 VL 32.695 GAL .63 AZL 91.72 HCA 117.11 SMA 193.70 ECC .21906 INC 1.7189 V1 29.445
 RP 207.54 LAP -1.53 LOP 353.54 VP 24.368 GAP 11.98 AZP 89.22 TAL 3.48 TAP 120.59 RCA 151.27 APO 236.13 V2 26.389
 RC 83.399 GL -16.86 GP -1.21 ZAL 90.02 ZAP 149.66 ETS 182.19 ZAE 173.38 ETE 6.75 ZAC 98.09 ETC 278.77 LVI -18.21

PLANETOCENTRIC CONIC
 C3 11.432 VHL 3.381 DLA -28.46 RAL 335.12 RAD 6638.8 VEL 11.468 PTH 6.52 VHP 5.052 DPA -16.67 RAP 326.59 ECC 1.1881
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 56 20 2418.17 -3.30 62.97 187.83 137.49 16 36 38 1418.2 15.00 47.03
 60.00 17 15 56 2206.40 1.79 48.79 192.73 130.27 17 52 42 1206.4 17.54 30.28
 70.00 19 1 15 1896.67 7.48 27.95 197.00 123.42 19 32 52 896.7 20.41 7.10
 80.00 21 20 21 1461.09 13.74 358.60 200.69 116.77 21 44 42 461.1 23.59 335.94
 86.66 23 30 17 1042.48 19.80 330.56 203.48 110.87 23 47 40 42.5 26.86 305.99
 100.00 0 7 9 6223.60 13.74 297.87 200.69 116.77 1 50 52 5223.6 23.59 274.81
 110.00 0 4 37 6231.52 7.48 294.78 197.00 123.42 1 48 29 5231.5 20.41 273.92

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2051 TRA -.5853 TC3 .5680 BAU .0895 SGT 1241.4 SGR 568.3 SG3 504.7 ST 24.3 SR 25.6 SS 20.7
 RDE -.2991 RRA .1236 RC3 .1427 FAU .09733 RRT -.0789 RRF .1046 RTF -.7271 CRT .6119 CRS -.3481 CST .5206
 FDE -.1210 FRA 1.5769 FC3-7.3706 BSP 1937 SGB 1365.4 R23 -.0323 R13 .7279 LSA 31.7 MSA 25.7 SSA 1.7
 BDE .3627 BRA .5982 BC3 .5857 FSP 781 SG1 1242.5 SG2 566.1 THA 177.39 EL1 31.7 EL2 15.5 ALF 47.50

LAUNCH DATE MAY 18 1971 FLIGHT TIME 144.00 ARRIVAL DATE OCT 9 1971

HELIOCENTRIC CONIC DISTANCE 357.977 EARTH TO MARS
 RL 151.32 LAL -.00 LOL 236.42 VL 32.650 GAL .65 AZL 91.71 HCA 118.36 SMA 192.87 ECC .21574 INC 1.7125 V1 29.445
 RP 207.66 LAP -1.51 LOP 354.80 VP 24.291 GAP 11.67 AZP 89.19 TAL 3.68 TAP 122.04 RCA 151.26 APO 234.48 V2 26.381
 RC 85.104 GL -17.00 GP -1.26 ZAL 89.77 ZAP 148.20 ETS 182.15 ZAE 174.26 ETE 5.92 ZAC 98.07 ETC 278.73 LVI -18.11

PLANETOCENTRIC CONIC
 C3 11.133 VHL 3.337 DLA -28.69 RAL 334.91 RAD 6638.6 VEL 11.455 PTH 6.51 VHP 4.903 DPA -16.78 RAP 326.41 ECC 1.1832
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 56 44 2407.49 -2.77 62.52 187.45 137.51 16 36 52 1407.5 15.92 46.94
 60.00 17 16 55 2194.20 2.33 48.21 192.34 130.24 17 53 29 1194.2 18.04 29.63
 70.00 19 3 20 1881.23 8.05 27.13 196.63 123.30 19 34 41 881.2 20.90 6.17
 80.00 21 26 0 1434.41 14.55 357.03 200.43 116.36 21 49 54 434.4 24.17 333.76
 84.97 23 15 31 1082.13 20.08 333.58 202.97 110.93 23 33 33 82.1 26.93 308.96
 100.00 0 12 48 6196.92 14.55 296.31 200.43 116.36 1 56 5 5196.9 24.17 273.04
 110.00 0 6 42 6216.09 8.05 293.96 196.63 123.30 1 50 18 5216.1 20.90 272.99

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2014 TRA -.5722 TC3 .5614 BAU .0861 SGT 1230.7 SGR 563.5 SG3 537.3 ST 24.1 SR 25.4 SS 21.4
 RDE -.2925 RRA .1217 RC3 .1387 FAU .10243 RRT -.0843 RRF .1132 RTF -.7103 CRT .6119 CRS -.3721 CST .4984
 FDE -.1412 FRA 1.6445 FC3-7.9655 BSP 1918 SGB 1353.6 R23 -.0367 R13 .7213 LSA 31.5 MSA 26.2 SSA 1.7
 BDE .3551 BRA .5850 BC3 .5783 FSP 837 SG1 1231.8 SG2 561.0 THA 177.21 EL1 31.4 EL2 15.4 ALF 47.35

LAUNCH DATE MAY 18 1971 FLIGHT TIME 146.00 ARRIVAL DATE OCT 11 1971

HELIOCENTRIC CONIC DISTANCE 361.972 EARTH TO MARS
 RL 151.32 LAL -.00 LOL 236.42 VL 32.608 GAL .68 AZL 91.71 HCA 119.62 SMA 192.11 ECC .21264 INC 1.7060 V1 29.445
 RP 207.80 LAP -1.48 LOP 356.05 VP 24.218 GAP 11.36 AZP 89.16 TAL 3.86 TAP 123.48 RCA 151.26 APO 232.96 V2 26.365
 RC 86.843 GL -17.13 GP -1.31 ZAL 89.54 ZAP 146.71 ETS 182.10 ZAE 175.21 ETE 4.87 ZAC 98.06 ETC 278.68 LVI -18.00

PLANETOCENTRIC CONIC
 C3 10.858 VHL 3.295 DLA -28.90 RAL 334.72 RAD 6638.5 VEL 11.443 PTH 6.49 VHP 4.759 DPA -16.91 RAP 326.20 ECC 1.1787
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 57 7 2397.55 -2.27 62.11 187.09 137.53 16 37 5 1397.6 16.00 46.09
 60.00 17 17 50 2182.85 2.83 47.67 191.98 130.22 17 54 13 1182.8 18.50 29.02
 70.00 19 5 18 1868.79 8.59 26.36 196.29 123.18 19 36 24 868.8 21.35 5.30
 80.00 21 31 47 1407.96 15.35 355.47 200.21 115.93 21 55 14 408.0 24.71 331.99
 83.80 23 5 15 1107.64 20.35 335.57 202.48 110.97 23 23 43 107.6 27.19 310.48
 100.00 0 18 34 6170.47 15.35 294.74 200.21 115.93 2 1 25 5170.5 24.71 271.26
 110.00 0 8 40 6201.65 8.59 293.19 196.29 123.18 1 52 1 5201.7 21.35 272.12

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1986 TRA -.5580 TC3 .5467 BAU .0817 SGT 1215.4 SGR 558.4 SG3 571.2 ST 24.0 SR 25.1 SS 22.1
 RDE -.2860 FRA .1199 RC3 .1337 FAU .10772 RRT -.0892 RRF .1223 RTF -.7113 CRT .6143 CRS -.3933 CST .4757
 FDE -.1612 FRA 1.7141 FC3-8.5891 BSP 1896 SGB 1337.5 R23 -.0423 R13 .7125 LSA 31.2 MSA 26.7 SSA 1.7
 BDE .3482 BRA .5707 BC3 .5628 FSP 898 SG1 1216.6 SG2 555.6 THA 177.03 EL1 31.2 EL2 15.2 ALF 47.18

LAUNCH DATE MAY 18 1971

FLIGHT TIME 148.00

ARRIVAL DATE OCT 13 1971

HELIOCENTRIC CONIC

RL 151.32 LAL -.00 LOL 236.42 VL 32.589 GAL .70 AZL 91.70 MCA 120.88 SMA 191.40 ECC .20977 INC 1.6993 V1 29.449
RP 207.94 LAP -1.46 LOP 357.31 VP 24.148 GAP 11.06 AZP 89.13 TAL 4.03 TAP 124.90 RCA 151.25 APO 231.55 V2 26.349
RC 88.616 GL -17.25 GP -1.36 ZAL 89.32 ZAP 145.18 ETS 182.06 ZAE 176.23 ETE 3.37 ZAC 98.05 ETC 278.63 LVI -17.88

PLANETOCENTRIC CONIC

C3 10.604 VHL 3.256 DLA -29.09 RAL 334.55 RAD 6638.4 VEL 11.432 PTH 6.48 VHP 4.622 DPA -17.05 RAP 325.95 ECC 1.1745
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 57 29 2388.37 -1.81 61.72 186.75 137.55 16 37 17 1388.4 16.45 45.67
60.00 17 18 41 2172.35 3.29 47.16 191.65 130.19 17 54 53 1172.3 18.92 28.46
70.00 19 7 7 1853.39 9.09 25.64 195.98 123.06 19 38 1 853.4 21.77 4.48
80.00 21 37 41 1381.71 16.12 353.91 200.01 115.48 22 0 42 381.7 25.23 330.21
82.90 22 57 20 1126.13 20.59 337.03 202.04 111.01 23 16 6 126.1 27.42 311.89
100.00 0 24 29 6144.23 16.12 293.18 200.01 115.48 2 6 53 5144.2 25.23 269.49
110.00 0 10 30 6188.24 9.09 292.47 195.98 123.06 1 53 38 5188.2 21.77 271.30

DIFFERENTIAL CORRECTIONS

TDE -.1946 TRA -.5440 TC3 .5225 BAU .0763
RDE -.2798 RRA .1184 RC3 .1278 FAU .11315
FDE -.1871 FRA 1.7922 FC3-9.2377 BSP 1843
BDE .3408 BRA .5567 BC3 .5379 FSP 955

MID-COURSE EXECUTION ACCURACY

SGT 1196.9 SGR 553.3 SG3 606.8
RRT -.0969 RRF .1342 RTF -.7003
SGB 1318.6 R23 -.0485 R13 .7018
SG1 1198.4 SGT 550.0 THA 176.75

ORBIT DETERMINATION ACCURACY

ST 23.7 SR 24.9 SS 22.9
CRT .6146 CRS -.4194 CST .4500
LSA 30.9 MSA 27.3 SSA 1.7
EL1 30.9 EL2 15.1 ALF 47.18

LAUNCH DATE MAY 18 1971

FLIGHT TIME 150.00

ARRIVAL DATE OCT 15 1971

HELIOCENTRIC CONIC

RL 151.32 LAL -.00 LOL 236.42 VL 32.533 GAL .72 AZL 91.69 HCA 122.13 SMA 190.75 ECC .20709 INC 1.6924 V1 29.445
RP 208.08 LAP -1.43 LOP 358.56 VP 24.080 GAP 10.77 AZP 89.10 TAL 4.18 TAP 126.31 RCA 151.25 APO 230.25 V2 26.332
RC 90.421 GL -17.36 GP -1.42 ZAL 89.13 ZAP 143.61 ETS 182.02 ZAE 177.32 ETE .80 ZAC 98.04 ETC 278.57 LVI -17.75

PLANETOCENTRIC CONIC

C3 10.371 VHL 3.220 DLA -29.26 RAL 334.39 RAD 6638.2 VEL 11.422 PTH 6.47 VHP 4.490 DPA -17.20 RAP 325.66 ECC 1.1707
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 57 48 2379.93 -1.38 61.37 186.45 137.56 16 37 28 1379.9 16.86 45.29
60.00 17 19 27 2162.72 3.71 46.70 191.34 130.16 17 55 30 1162.7 19.31 27.94
70.00 19 8 49 1841.05 9.55 24.98 195.69 122.95 19 39 30 841.1 22.15 3.72
80.00 21 43 43 1355.67 16.88 352.34 199.85 115.00 22 6 19 355.7 25.73 328.43
82.18 22 50 56 1140.20 20.82 338.16 201.62 111.03 23 9 56 140.2 27.64 312.97
100.00 0 30 31 6118.18 16.88 291.62 199.85 115.00 2 12 29 5118.2 25.73 267.71
110.00 0 12 11 6175.91 9.55 291.81 195.69 122.95 1 55 7 5175.9 22.15 270.55

DIFFERENTIAL CORRECTIONS

TDE -.1938 TRA -.5296 TC3 .4914 BAU .0702
RDE -.2736 RRA .1170 RC3 .1208 FAU .11881
FDE -.2033 FRA 1.8743 FC3-9.9181 BSP 1807
BDE .3353 BRA .5424 BC3 .5060 FSP 1024

MID-COURSE EXECUTION ACCURACY

SGT 1177.1 SGR 547.7 SG3 643.9
RRT -.1012 RRF .1448 RTF -.6868
SGB 1298.3 R23 -.0567 R13 .6886
SG1 1178.8 SGT 544.2 THA 176.57

ORBIT DETERMINATION ACCURACY

ST 23.7 SR 24.6 SS 23.8
CRT .6214 CRS -.4303 CST .4314
LSA 30.8 MSA 27.8 SSA 1.8
EL1 30.7 EL2 14.8 ALF 46.79

LAUNCH DATE MAY 18 1971

FLIGHT TIME 152.00

ARRIVAL DATE OCT 17 1971

HELIOCENTRIC CONIC

RL 151.32 LAL -.00 LOL 236.42 VL 32.499 GAL .73 AZL 91.69 HCA 123.38 SMA 190.15 ECC .20460 INC 1.6854 V1 29.445
RP 208.24 LAP -1.41 LOP 359.81 VP 24.014 GAP 10.48 AZP 89.07 TAL 4.32 TAP 127.70 RCA 151.24 APO 229.05 V2 26.313
RC 92.259 GL -17.45 GP -1.48 ZAL 88.97 ZAP 142.01 ETS 181.97 ZAE 178.46 ETE 354.53 ZAC 98.03 ETC 278.50 LVI -17.60

PLANETOCENTRIC CONIC

C3 10.155 VHL 3.187 DLA -29.41 RAL 334.26 RAD 6638.1 VEL 11.413 PTH 6.46 VHP 4.364 DPA -17.38 RAP 325.33 ECC 1.1671
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 58 6 2372.23 -.99 61.05 186.17 137.57 16 37 38 1372.2 17.23 44.93
60.00 17 20 9 2153.95 4.10 46.28 191.06 130.13 17 56 3 1154.0 19.66 27.47
70.00 19 10 21 1829.63 9.96 24.38 195.42 122.84 19 40 57 829.8 22.49 3.03
80.00 21 49 54 1329.78 17.62 350.77 199.73 114.50 22 12 3 329.8 26.19 326.65
81.59 22 45 44 1190.94 21.02 339.04 201.24 111.05 23 4 55 150.9 27.83 313.80
100.00 0 36 41 6092.29 17.62 290.05 199.73 114.50 2 18 14 5092.3 26.19 265.93
110.00 0 13 43 6184.89 9.96 291.20 195.42 122.84 1 56 27 5184.7 22.49 269.85

DIFFERENTIAL CORRECTIONS

TDE -.1917 TRA -.5130 TC3 .4555 BAU .0637
RDE -.2877 RRA .1158 RC3 .1125 FAU .12499
FDE -.2275 FRA 1.9557 FC-10.8549 BSP 1743
BDE .3293 BRA .5259 BC3 .4692 FSP 1090

MID-COURSE EXECUTION ACCURACY

SGT 1130.7 SGR 542.2 SG3 683.5
RRT -.1063 RRF .1573 RTF -.5.06
SGB 1272.0 R23 -.0684 R13 .6729
SG1 1152.6 SGT 538.2 THA 176.33

ORBIT DETERMINATION ACCURACY

ST 23.4 SR 24.3 SS 24.4
CRT .6275 CRS -.4498 CST .4044
LSA 30.6 MSA 28.2 SSA 1.8
EL1 30.5 EL2 14.6 ALF 46.70

LAUNCH DATE MAY 18 1971

FLIGHT TIME 154.00

ARRIVAL DATE OCT 19 1971

HELIOCENTRIC CONIC

RL 151.32 LAL -.00 LOL 236.42 VL 32.488 GAL .75 AZL 91.68 HCA 124.63 SMA 189.59 ECC .20230 INC 1.6781 V1 29.445
RP 208.41 LAP -1.38 LOP 359.81 VP 23.951 GAP 10.20 AZP 89.05 TAL 4.44 TAP 129.07 RCA 151.24 APO 227.95 V2 26.294
RC 94.128 GL -17.54 GP -1.54 ZAL 88.83 ZAP 140.37 ETS 181.93 ZAE 179.55 ETE 312.99 ZAC 98.03 ETC 278.42 LVI -17.44

PLANETOCENTRIC CONIC

C3 9.957 VHL 3.155 DLA -29.54 RAL 334.14 RAD 6638.0 VEL 11.404 PTH 6.46 VHP 4.244 DPA -17.56 RAP 324.98 ECC 1.1639
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 58 22 2365.25 -.64 60.76 185.91 137.57 16 37 47 1365.2 17.56 44.81
60.00 17 20 46 2146.02 4.45 45.90 190.80 130.10 17 56 32 1146.0 19.98 27.03
70.00 19 11 43 1819.70 10.34 25.83 195.18 122.73 19 42 2 819.7 22.80 2.40
80.00 21 56 17 1303.76 18.34 349.18 199.63 113.98 22 18 1 303.8 26.63 324.85
81.10 22 41 29 1159.13 21.21 339.72 200.89 111.05 23 0 48 159.1 28.00 314.44
100.00 0 43 5 6066.27 18.34 288.46 199.63 113.98 2 24 11 5066.3 26.63 264.12
110.00 0 15 5 6154.55 10.34 290.66 195.18 122.73 1 57 39 5154.6 22.80 269.23

DIFFERENTIAL CORRECTIONS

TDE -.1829 TRA -.4904 TC3 .4356 BAU .0596
RDE -.2821 RRA .1147 RC3 .1029 FAU .13160
FDE -.2631 FRA 2.0352 FC-11.4421 BSP 1594
BDE .3196 BRA .5036 BC3 .4476 FSP 1154

MID-COURSE EXECUTION ACCURACY

SGT 1110.6 SGR 536.6 SG3 725.0
RRT -.1159 RRF .1721 RTF -.6625
SGB 1233.4 R23 -.0729 R13 .6654
SG1 1112.8 SGT 531.9 THA 175.84

ORBIT DETERMINATION ACCURACY

ST 22.6 SR 24.1 SS 25.3
CRT .6247 CRS -.4801 CST .3761
LSA 30.5 MSA 28.2 SSA 1.8
EL1 29.8 EL2 14.3 ALF 47.83

LAUNCH DATE MAY 18 1971

FLIGHT TIME 164.00

ARRIVAL DATE OCT 29 1971

HELIOCENTRIC CONIC

DISTANCE 398.623

EARTH TO MARS

RL 151.32 LAL -.00 LOL 236.42 VL 32.343 GAL .77 AZL 91.64 HCA 130.84 SMA 187.43 ECC .19314 INC 1.6384 V1 29.445
RP 209.34 LAP -1.24 LOP 7.28 VP 23.661 GAP 8.91 AZP 88.93 TAL 4.79 TAP 135.63 RCA 151.23 APO 223.63 V2 26.186
RC 103.900 GL -17.77 GP -1.89 ZAL 88.51 ZAP 131.60 ETS 181.67 ZAE 173.10 ETE 190.19 ZAC 98.04 ETC 277.89 LVI -16.44

PLANETOCENTRIC CONIC

C3 9.178 VHL 3.030 DLA -29.87 RAL 333.90 RAD 6637.6 VEL 11.370 PTH 6.42 VHP 3.725 DPA -18.72 RAP 322.54 ECC 1.1511
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 59 21 2341.42 .55 59.76 185.06 137.57 16 38 22 1341.4 18.71 43.50
60.00 17 22 41 2119.71 5.60 44.63 189.90 129.98 17 58 0 1119.7 21.02 25.59
70.00 19 15 38 1787.45 11.52 22.08 194.27 122.38 19 45 25 787.4 23.75 .38
79.95 22 31 42 1171.46 21.83 340.89 199.66 110.91 22 51 13 171.5 28.49 315.45
79.95 22 31 42 1171.46 21.83 340.89 199.66 110.91 22 51 13 171.5 28.49 315.45
79.95 22 31 42 1171.46 21.83 340.89 199.66 110.91 22 51 13 171.5 28.49 315.45
110.00 0 19 0 6122.30 11.52 288.91 194.27 122.38 2 1 2 5122.3 23.75 267.21

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1872 TRA -.4012 TC3 .0274 BAU .0060 SGT 944.0 SGR 507.3 SG3 948.8 ST 22.0 SR 22.5 SS 29.4
RDE -.2346 RRA .1122 RC3 .0403 FAU .16546 RRT -.1183 RRF .2574 RTF -.4590 CRT .6953 CRS -.5251 CST .2362
FDE -.3682 FRA 2.5402 FC-15.6065 B8P 1114 SGB 1071.7 R23 -.1828 R13 .4681 LSA 32.9 MSA 27.8 SSA 1.8
BDE .3002 BRA .4166 BC3 .0487 FSP 1549 SG1 946.7 SG2 502.4 THA 174.93 EL1 29.0 EL2 12.3 ALF 45.84

LAUNCH DATE MAY 18 1971

FLIGHT TIME 166.00

ARRIVAL DATE OCT 31 1971

HELIOCENTRIC CONIC

DISTANCE 402.752

EARTH TO MARS

RL 151.32 LAL -.00 LOL 236.42 VL 32.324 GAL .77 AZL 91.63 HCA 132.08 SMA 187.10 ECC .19172 INC 1.6297 V1 29.445
RP 209.35 LAP -1.21 LOP 8.51 VP 23.808 GAP 8.66 AZP 88.91 TAL 4.80 TAP 136.88 RCA 151.23 APO 222.97 V2 26.162
RC 105.933 GL -17.78 GP -1.97 ZAL 88.53 ZAP 129.73 ETS 181.61 ZAE 171.49 ETE 189.42 ZAC 98.04 ETC 277.76 LVI -16.19

PLANETOCENTRIC CONIC

C3 9.059 VHL 3.010 DLA -29.88 RAL 333.93 RAD 6637.6 VEL 11.365 PTH 6.42 VHP 3.637 DPA -18.99 RAP 321.94 ECC 1.1491
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 59 28 2338.81 .69 59.65 184.97 137.57 16 38 27 1338.8 18.83 43.37
60.00 17 22 49 2117.08 5.71 44.51 189.79 129.96 17 58 6 1117.1 21.12 25.44
70.00 19 15 46 1784.77 11.62 21.94 194.15 122.35 19 45 31 784.8 23.83 .21
79.94 22 31 44 1169.13 21.90 340.75 199.52 110.85 22 51 13 169.1 28.52 315.29
79.94 22 31 44 1169.13 21.90 340.75 199.52 110.85 22 51 13 169.1 28.52 315.29
79.94 22 31 44 1169.13 21.90 340.75 199.52 110.85 22 51 13 169.1 28.52 315.29
110.00 0 19 9 6119.62 11.62 288.76 194.15 122.35 2 1 8 5119.6 23.83 267.04

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1947 TRA -.3854 TC3 -.1137 BAU .0141 SGT 926.2 SGR 501.5 SG3 995.1 ST 22.5 SR 22.1 SS 30.1
RDE -.2291 RRA .1125 RC3 .0294 FAU .17192 RRT -.1039 RRF .2775 RTF -.3768 CRT .7188 CRS -.5158 CST .2141
FDE -.3703 FRA 2.6688 FC-16.4308 B8P 1039 SGB 1053.2 R23 -.2235 R13 .3866 LSA 33.3 MSA 28.1 SSA 1.8
BDE .3007 BRA .4014 BC3 .1165 FSP 1644 SG1 928.3 SG2 497.7 THA 175.48 EL1 29.2 EL2 11.8 ALF 44.40

LAUNCH DATE MAY 18 1971

FLIGHT TIME 168.00

ARRIVAL DATE NOV 2 1971

HELIOCENTRIC CONIC

DISTANCE 406.889

EARTH TO MARS

RL 151.32 LAL -.00 LOL 236.42 VL 32.306 GAL .77 AZL 91.62 HCA 133.31 SMA 186.80 ECC .19042 INC 1.6206 V1 29.445
RP 209.76 LAP -1.18 LOP 9.75 VP 23.557 GAP 8.43 AZP 88.89 TAL 4.80 TAP 138.11 RCA 151.23 APO 222.07 V2 26.137
RC 107.990 GL -17.78 GP -2.06 ZAL 88.56 ZAP 127.84 ETS 181.54 ZAE 169.82 ETE 188.82 ZAC 98.05 ETC 277.63 LVI -15.93

PLANETOCENTRIC CONIC

C3 8.948 VHL 2.991 DLA -29.86 RAL 333.98 RAD 6637.5 VEL 11.360 PTH 6.41 VHP 3.554 DPA -19.28 RAP 321.30 ECC 1.1473
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 59 34 2336.87 .78 59.57 184.91 137.57 16 38 31 1336.9 18.92 43.28
60.00 17 22 51 2115.28 5.79 44.42 189.71 129.95 17 58 7 1115.3 21.19 25.34
70.00 19 15 43 1783.29 11.67 21.85 194.05 122.33 19 45 26 783.3 23.87 .12
80.00 22 32 22 1165.41 21.94 340.49 199.40 110.78 22 51 47 165.4 28.53 315.01
80.00 22 32 22 1165.41 21.94 340.49 199.40 110.78 22 51 47 165.4 28.53 315.01
80.00 22 32 22 1165.41 21.94 340.49 199.40 110.78 22 51 47 165.4 28.53 315.01
110.00 0 19 5 6118.15 11.67 288.68 194.05 122.33 2 1 3 5118.1 23.87 266.95

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1983 TRA -.3633 TC3 -.2426 BAU .0290 SGT 899.5 SGR 495.7 SG3 1043.1 ST 22.5 SR 21.8 SS 30.8
RDE -.2238 RRA .1126 RC3 .0087 FAU .17906 RRT -.0842 RRF .2983 RTF -.1206 CRT .7403 CRS -.5123 CST .1889
FDE -.3768 FRA 2.7843 FC-17.3232 B8P 903 SGB 1027.1 R23 -.2641 R13 .3203 LSA 33.7 MSA 28.1 SSA 1.8
BDE .2990 BRA .3804 BC3 .2428 FSP 1735 SG1 900.9 SG2 493.1 THA 176.21 EL1 29.2 EL2 11.3 ALF 43.72

LAUNCH DATE MAY 18 1971

FLIGHT TIME 170.00

ARRIVAL DATE NOV 4 1971

HELIOCENTRIC CONIC

DISTANCE 411.034

EARTH TO MARS

RL 151.32 LAL -.00 LOL 236.42 VL 32.290 GAL .78 AZL 91.61 HCA 134.54 SMA 186.55 ECC .18924 INC 1.6111 V1 29.445
RP 209.99 LAP -1.13 LOP 10.98 VP 23.506 GAP 8.20 AZP 88.87 TAL 4.78 TAP 139.32 RCA 151.23 APO 221.83 V2 26.111
RC 110.071 GL -17.77 GP -2.14 ZAL 88.65 ZAP 125.91 ETS 181.47 ZAE 168.10 ETE 188.35 ZAC 98.06 ETC 277.48 LVI -15.85

PLANETOCENTRIC CONIC

C3 8.848 VHL 2.975 DLA -29.82 RAL 334.05 RAD 6637.4 VEL 11.356 PTH 6.41 VHP 3.476 DPA -19.57 RAP 320.63 ECC 1.1456
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 59 38 2335.62 .85 59.52 184.87 137.57 16 38 34 1335.6 18.98 43.22
60.00 17 22 49 2114.32 5.83 44.37 189.65 129.95 17 58 3 1114.3 21.23 25.29
70.00 19 15 26 1783.05 11.68 21.84 193.97 122.32 19 45 9 783.0 23.88 .11
80.00 22 19 55 1203.95 20.99 342.95 198.90 111.74 22 39 59 204.0 28.08 317.79
80.13 22 33 39 1180.05 21.98 340.10 199.31 110.69 22 52 59 160.1 28.52 314.61
100.00 1 6 42 5966.46 20.99 282.23 198.90 111.74 2 46 9 4966.5 28.08 257.06
110.00 0 18 48 6117.90 11.68 288.67 193.97 122.32 2 0 46 5117.9 23.88 266.93

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2004 TRA -.3397 TC3 -.3798 BAU .0449 SGT 876.9 SGR 490.3 SG3 1092.5 ST 22.4 SR 21.4 SS 31.6
RDE -.2187 RRA .1130 RC3 -.0093 FAU .18644 RRT -.0590 RRF .3221 RTF -.1907 CRT .7602 CRS -.5180 CST .1503
FDE -.3951 FRA 2.9020 FC-18.2433 B8P 742 SGB 1004.7 R23 -.3062 R13 .1989 LSA 34.3 MSA 27.8 SSA 1.8
BDE .2968 BRA .3580 BC3 .3799 FSP 1817 SG1 877.6 SG2 489.1 THA 177.26 EL1 29.0 EL2 10.7 ALF 43.32

LAUNCH DATE MAY 18 1971

FLIGHT TIME 188.00

ARRIVAL DATE NOV 22 1971

Heliocentric Conic: RL 151.32 LAL -.00 LOL 236.42 VL 32.205 GAL .59 AZL 91.50 HCA 145.49 SMA 185.10 ECC .10280 INC 1.5037 V1 29.445
 RP 212.29 LAP -.85 LOP 21.93 VP 23.094 GAP 6.32 AZP 88.76 TAL 3.82 TAP 149.31 RCA 151.26 APO 218.94 V2 25.848
 RC 129.850 GL -17.09 GP -3.10 ZAL 90.54 ZAP 107.60 ETS 180.67 ZAE 150.78 ETE 185.96 ZAC 97.99 ETC 275.86 LVI -12.56

Planetocentric Conic: C3 8.274 VHL 2.876 DLA -28.47 RAL 335.76 RAD 6637.1 VEL 11.331 PTH 6.38 VHP 2.987 DPA -22.61 RAP 313.37 ECC 1.1362
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 58 58 2354.04 -.08 60.29 185.55 137.58 16 38 12 1354.0 18.10 44.09
 60.00 17 18 36 2142.18 4.62 45.72 190.05 130.08 17 54 18 1142.2 20.13 26.82
 70.00 19 3 59 1832.27 9.87 24.51 193.97 122.86 19 34 31 832.3 22.42 3.18
 80.00 21 23 16 1396.09 15.70 354.76 197.32 115.73 21 46 32 396.1 24.95 331.19
 86.94 23 31 53 6269.83 21.30 304.61 199.77 109.35 25 16 23 3269.8 27.37 279.18
 100.00 0 10 4 6158.61 15.70 294.04 197.32 115.73 1 52 42 5158.6 24.95 270.46
 110.00 0 7 21 6167.13 9.87 291.33 193.97 122.86 1 50 8 5167.1 22.42 270.00

Differential Corrections: TOE -.2305 TRA -.0695 TC3-2.1584 BAU .2398 SGT 1333.2 SGR 456.7 SG3 1497.1 ST 23.2 SR 17.6 SS 36.7
 RDE -.1711 RRA .1233 RC3 -.2084 FAU .24469 RRT .4293 RRF .5735 RTF .7431 CRT .9393 CRS -.4606 CST -.1496
 FDE -.3387 FRA 4.0166 FC-25.6042 BSP 1460 SGB 1409.2 R23 .2450 R13 .7560 LSA 38.5 MSA 26.6 SSA 1.6
 BDE .2871 BRA .1415 BC3 2.1684 FSP 2529 SG1 1349.0 SG2 407.6 THA 9.21 EL1 28.6 EL2 4.9 ALF 36.68

LAUNCH DATE MAY 18 1971

FLIGHT TIME 190.00

ARRIVAL DATE NOV 24 1971

Heliocentric Conic: RL 151.32 LAL -.00 LOL 236.42 VL 32.201 GAL .56 AZL 91.49 HCA 146.70 SMA 185.03 ECC .10247 INC 1.4884 V1 29.445
 RP 212.57 LAP -.82 LOP 23.13 VP 23.052 GAP 6.13 AZP 88.76 TAL 3.63 TAP 150.32 RCA 151.27 APO 218.79 V2 25.815
 RC 132.153 GL -16.94 GP -3.23 ZAL 90.88 ZAP 105.52 ETS 180.55 ZAE 148.73 ETE 185.79 ZAC 97.95 ETC 275.66 LVI -12.17

Planetocentric Conic: C3 8.240 VHL 2.870 DLA -28.21 RAL 336.05 RAD 6637.1 VEL 11.329 PTH 6.38 VHP 2.954 DPA -22.97 RAP 312.50 ECC 1.1358
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 58 42 2359.33 -.35 60.51 185.72 137.58 16 38 2 1359.3 17.85 44.33
 60.00 17 17 42 2149.21 4.31 46.05 190.19 130.11 17 53 31 1149.2 19.05 27.21
 70.00 19 1 51 1842.92 9.48 25.08 194.05 122.97 19 32 33 842.9 22.09 3.84
 80.00 21 17 30 1418.17 15.04 356.07 197.27 116.10 21 41 8 418.2 24.50 332.68
 90.00 23 44 33 6231.90 19.86 301.28 199.45 110.55 25 28 24 3231.9 26.58 276.27
 100.00 0 4 17 6180.69 15.04 295.35 197.27 116.10 1 47 18 5180.7 24.50 271.95
 110.00 0 5 13 6177.78 9.48 291.91 194.05 122.97 1 48 11 5177.8 22.09 270.66

Differential Corrections: TDE -.2360 TRA -.0355 TC3-2.4229 BAU .2681 SGT 1470.7 SGR 455.0 SG3 1528.7 ST 23.7 SR 17.0 SS 37.2
 RDE -.1648 RRA .1258 RC3 -.2311 FAU .24784 RRT .4731 RRF .6026 RTF .7796 CRT .9510 CRS -.4232 CST -.1463
 FDE -.2679 FRA 4.1713 FC-26.0398 BSP 1705 SGB 1539.5 R23 .2324 R13 .7901 LSA 38.8 MSA 27.1 SSA 1.6
 BDE .2878 BRA .1307 BC3 2.4339 FSP 2615 SG1 1487.6 SG2 396.3 THA 8.97 EL1 28.8 EL2 4.3 ALF 35.24

LAUNCH DATE MAY 18 1971

FLIGHT TIME 192.00

ARRIVAL DATE NOV 26 1971

Heliocentric Conic: RL 151.32 LAL -.00 LOL 236.42 VL 32.198 GAL .53 AZL 91.47 HCA 147.89 SMA 184.98 ECC .10221 INC 1.4719 V1 29.445
 RP 212.86 LAP -.78 LOP 24.32 VP 23.011 GAP 5.94 AZP 88.75 TAL 3.42 TAP 151.32 RCA 151.27 APO 218.68 V2 25.782
 RC 134.475 GL -16.78 GP -3.36 ZAL 91.24 ZAP 103.45 ETS 180.43 ZAE 146.67 ETE 185.63 ZAC 97.91 ETC 275.46 LVI -11.78

Planetocentric Conic: C3 8.211 VHL 2.865 DLA -27.92 RAL 336.36 RAD 6637.1 VEL 11.328 PTH 6.38 VHP 2.925 DPA -23.33 RAP 311.62 ECC 1.1351
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 58 24 2363.23 -.64 60.76 185.92 137.57 16 37 49 1365.2 17.56 44.61
 60.00 17 16 41 2156.97 3.97 46.43 190.35 130.14 17 52 38 1157.0 19.54 27.63
 70.00 18 59 33 1854.46 9.05 25.70 194.15 123.07 19 30 28 854.5 21.74 4.54
 80.00 21 11 47 1440.47 14.37 357.39 197.25 116.46 21 35 47 440.5 24.04 334.17
 90.00 23 23 47 1014.76 18.11 327.83 199.00 112.10 23 40 42 14.8 25.65 303.34
 100.00 23 54 39 6202.99 14.37 296.66 197.25 116.46 25 38 2 3203.0 24.04 273.44
 110.00 0 2 56 6189.32 9.05 292.53 194.15 123.07 1 46 5 5189.3 21.74 271.37

Differential Corrections: TDE -.2375 TRA .0028 TC3-2.6756 BAU .2951 SGT 1605.2 SGR 454.5 SG3 1562.0 ST 23.9 SR 16.5 SS 37.8
 RDE -.1590 RRA .1278 RC3 -.2581 FAU .25262 RRT .5203 RRF .6327 RTF .8.60 CRT .9625 CRS -.4050 CST -.1893
 FDE -.2249 FRA 4.2759 FC-26.6359 BSP 1989 SGB 1668.3 R23 .2134 R13 .8244 LSA 39.0 MSA 26.9 SSA 1.6
 BDE .2858 BRA .1278 BC3 2.6880 FSP 2675 SG1 1623.6 SG2 383.7 THA 8.88 EL1 28.8 EL2 3.7 ALF 34.27

LAUNCH DATE MAY 18 1971

FLIGHT TIME 194.00

ARRIVAL DATE NOV 28 1971

Heliocentric Conic: RL 151.32 LAL -.00 LOL 236.42 VL 32.195 GAL .49 AZL 91.45 HCA 149.09 SMA 184.94 ECC .10200 INC 1.4545 V1 29.445
 RP 213.16 LAP -.75 LOP 25.52 VP 22.970 GAP 5.76 AZP 88.75 TAL 3.20 TAP 152.29 RCA 151.28 APO 218.60 V2 25.749
 RC 136.814 GL -16.60 GP -3.50 ZAL 91.63 ZAP 101.39 ETS 180.31 ZAE 144.61 ETE 185.48 ZAC 97.86 ETC 275.26 LVI -11.35

Planetocentric Conic: C3 8.186 VHL 2.861 DLA -27.61 RAL 336.69 RAD 6637.1 VEL 11.327 PTH 6.38 VHP 2.900 DPA -23.68 RAP 310.74 ECC 1.1347
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 58 2 2371.79 -.97 61.03 186.13 137.57 16 37 33 1371.8 17.25 44.91
 60.00 17 15 35 2163.49 3.59 46.83 190.51 130.17 17 51 41 1165.5 19.20 28.09
 70.00 18 57 7 1866.90 8.59 26.37 194.25 123.18 19 28 14 866.9 21.35 5.30
 80.00 21 6 6 1463.12 13.68 358.71 197.25 116.80 21 30 29 463.1 23.55 335.67
 90.00 23 10 31 1061.89 16.88 330.74 198.78 113.03 23 28 13 61.9 24.92 306.60
 100.00 23 48 58 6225.63 13.68 297.99 197.25 116.80 25 32 43 5225.6 23.55 274.94
 110.00 0 0 30 6201.76 8.59 293.19 194.25 123.18 1 43 51 5201.8 21.35 272.13

Differential Corrections: TDE -.2379 TRA .0429 TC3-2.9363 BAU .3229 SGT 1749.2 SGR 454.5 SG3 1588.3 ST 24.0 SR 16.0 SS 37.8
 RDE -.1532 RRA .1298 RC3 -.2844 FAU .25618 RRT .8636 RRF .6621 RTF .8454 CRT .9724 CRS -.3905 CST -.1974
 FDE -.1851 FRA 4.3685 FC-27.0922 BSP 2288 SGB 1807.3 R23 .1974 R13 .8522 LSA 39.3 MSA 26.7 SSA 1.6
 BDE .2829 BRA .1367 BC3 2.9500 FSP 2733 SG1 1768.7 SG2 371.3 THA 8.72 EL1 28.6 EL2 3.1 ALF 33.34

LAUNCH DATE MAY 18 1971

FLIGHT TIME 196.00

ARRIVAL DATE NOV 30 1971

HELIOCENTRIC CONIC
 RL 151.32 LAL -.00 LOL 236.42 VL 32.194 GAL .46 AZL 91.44 HCA 150.28 SMA 184.91 ECC .18185 INC 1.4360 V1 29.445
 RP 213.48 LAP -.71 LOP 26.71 VP 22.929 GAP 5.58 AZP 88.75 TAL 2.97 TAP 153.25 RCA 151.28 APO 218.54 V2 25.714
 RC 139.171 GL -16.40 GP -3.65 ZAL 92.04 ZAP 99.34 ETS 180.17 ZAE 142.54 ETE 185.34 ZAC 97.79 ETC 275.06 LVI -10.93

PLANETOCENTRIC CONIC
 C3 8.166 VHL 2.858 DLA -27.27 RAL 337.03 RAD 6637.1 VEL 11.326 PTH 6.38 VHP 2.878 DPA -24.04 RAP 309.88 ECC 1.1344
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 57 36 2379.01 -1.34 81.33 186.35 137.56 16 37 15 1379.0 16.90 45.24
 60.00 17 14 23 2174.78 3.18 47.28 190.69 130.20 17 50 37 1174.8 18.83 28.59
 70.00 18 54 32 1880.24 8.09 27.08 194.37 123.29 19 25 53 880.2 20.93 6.11
 80.00 21 0 26 1486.15 12.97 .05 197.26 117.13 21 25 12 486.2 23.03 337.19
 90.00 22 59 37 1101.78 15.80 333.17 198.65 113.76 23 17 59 101.8 24.24 309.32
 100.00 23 43 18 6248.66 12.97 299.33 197.26 117.13 25 27 26 5248.7 23.03 276.46
 110.00 23 53 59 6215.10 8.09 293.90 194.37 123.29 25 37 34 5215.1 20.93 272.93

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 1900.2 SGR 456.4 SCS 1616.3 ST 24.1 SR 15.4 SS 38.4
 RRT .6035 RRF .6927 RTF .8667 CRT .9799 CRS -.3722 CST -.2189
 SGB 1954.2 R23 .1882 R13 .8724 LSA 39.9 MSA 26.6 S8A 1.5
 SGI 1920.8 SGI 360.0 THA 8.55 EL1 20.5 EL2 2.6 ALF 32.34

LAUNCH DATE MAY 18 1971

FLIGHT TIME 198.00

ARRIVAL DATE DEC 2 1971

HELIOCENTRIC CONIC
 RL 151.32 LAL -.00 LOL 236.42 VL 32.193 GAL .42 AZL 91.42 HCA 151.47 SMA 184.90 ECC .18176 INC 1.4160 V1 29.445
 RP 213.77 LAP -.68 LOP 27.90 VP 22.889 GAP 5.40 AZP 88.76 TAL 2.72 TAP 154.19 RCA 151.29 APO 218.50 V2 25.680
 RC 141.545 GL -16.18 GP -3.81 ZAL 92.47 ZAP 97.32 ETS 180.04 ZAE 140.49 ETE 185.21 ZAC 97.71 ETC 274.86 LVI -10.90

PLANETOCENTRIC CONIC
 C3 8.131 VHL 2.855 DLA -26.90 RAL 337.38 RAD 6637.1 VEL 11.325 PTH 6.38 VHP 2.860 DPA -24.40 RAP 309.03 ECC 1.1341
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 57 6 2386.90 -1.73 61.66 186.59 137.55 16 36 53 1386.9 16.32 45.61
 60.00 17 13 3 2184.86 2.74 47.76 190.89 130.22 17 49 28 1184.9 18.42 29.13
 70.00 18 51 48 1894.48 7.56 27.84 194.51 123.41 19 23 23 894.5 20.48 6.97
 80.00 20 54 46 1509.60 12.24 1.41 197.29 117.45 21 19 55 509.6 22.49 338.72
 90.00 22 49 57 1138.12 14.79 335.36 198.57 114.38 23 8 56 138.1 23.58 311.78
 100.00 23 37 38 6272.12 12.24 300.68 197.29 117.45 25 22 10 5272.1 22.49 277.99
 110.00 23 51 15 6229.34 7.56 294.66 194.51 123.41 25 35 4 5229.3 20.48 273.79

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 2037.5 SGR 458.6 SCS 1637.0 ST 24.3 SR 14.9 SS 38.9
 RRT .6404 RRF .7215 RTF .8837 CRT .9856 CRS -.3492 CST -.2351
 SGB 2108.0 R23 .1807 R13 .8884 LSA 40.3 MSA 26.5 S8A 1.5
 SGI 2079.0 SGI 348.6 THA 8.36 EL1 28.4 EL2 2.1 ALF 31.28

LAUNCH DATE MAY 18 1971

FLIGHT TIME 200.00

ARRIVAL DATE DEC 4 1971

HELIOCENTRIC CONIC
 RL 151.32 LAL -.00 LOL 236.42 VL 32.193 GAL .38 AZL 91.39 HCA 152.65 SMA 184.89 ECC .18172 INC 1.3944 V1 29.445
 RP 214.08 LAP -.64 LOP 29.08 VP 22.849 GAP 5.23 AZP 88.76 TAL 2.46 TAP 155.12 RCA 151.29 APO 218.49 V2 25.645
 RC 143.936 GL -15.94 GP -3.97 ZAL 92.93 ZAP 95.31 ETS 179.89 ZAE 138.44 ETE 185.08 ZAC 97.62 ETC 274.66 LVI -10.08

PLANETOCENTRIC CONIC
 C3 8.139 VHL 2.853 DLA -26.51 RAL 337.74 RAD 6637.1 VEL 11.325 PTH 6.38 VHP 2.848 DPA -24.76 RAP 308.19 ECC 1.1340
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 56 31 2395.48 -2.16 62.02 186.84 137.54 16 36 26 1395.5 16.10 46.00
 60.00 17 11 37 2195.73 2.26 48.28 191.09 130.25 17 48 13 1195.7 17.98 29.71
 70.00 18 48 55 1909.61 6.99 28.64 194.65 123.52 19 20 45 909.6 19.99 7.87
 80.00 20 49 4 1533.53 11.48 2.78 197.34 117.75 21 14 38 533.5 21.92 340.26
 90.00 22 41 2 1172.44 13.81 337.41 198.52 114.92 23 0 35 172.4 22.91 314.07
 100.00 23 31 56 1008.00 11.48 324.15 197.34 117.75 23 48 44 8.0 21.92 301.63
 110.00 23 48 22 6244.47 6.99 295.46 194.65 123.52 25 32 26 5244.5 19.99 274.70

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 2220.4 SGR 481.8 SCS 1654.1 ST 24.3 SR 14.3 SS 39.3
 RRT .6757 RRF .7494 RTF .8484 CRT .9897 CRS -.3320 CST -.2584
 SGB 2267.9 R23 .1737 R13 .9024 LSA 40.6 MSA 26.2 S8A 1.5
 SGI 2242.7 SGI 337.1 THA 8.19 EL1 28.2 EL2 1.8 ALF 30.28

LAUNCH DATE MAY 18 1971

FLIGHT TIME 202.00

ARRIVAL DATE DEC 6 1971

HELIOCENTRIC CONIC
 RL 151.32 LAL -.00 LOL 236.42 VL 32.193 GAL .34 AZL 91.37 HCA 153.83 SMA 184.90 ECC .18173 INC 1.3711 V1 29.445
 RP 214.39 LAP -.60 LOP 30.26 VP 22.810 GAP 5.06 AZP 88.77 TAL 2.19 TAP 156.03 RCA 151.30 APO 218.50 V2 25.609
 RC 146.344 GL -15.68 GP -4.15 ZAL 93.40 ZAP 93.33 ETS 179.74 ZAE 136.41 ETE 184.97 ZAC 97.52 ETC 274.47 LVI -9.64

PLANETOCENTRIC CONIC
 C3 8.131 VHL 2.852 DLA -26.08 RAL 338.12 RAD 6637.1 VEL 11.325 PTH 6.38 VHP 2.834 DPA -25.12 RAP 307.38 ECC 1.1338
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 55 30 2404.78 -2.63 62.41 187.10 137.52 16 35 55 1404.8 15.65 46.42
 60.00 17 10 2 2207.41 1.75 48.84 191.31 130.27 17 46 50 1207.4 17.50 30.33
 70.00 18 45 52 1925.65 6.39 29.49 194.80 123.62 19 17 58 925.6 19.47 8.83
 80.00 20 43 20 1557.98 10.70 4.18 197.40 118.04 21 9 18 558.0 21.32 341.83
 90.00 22 32 37 1205.59 12.85 339.37 198.51 115.41 22 52 42 205.6 22.23 318.27
 100.00 23 26 12 1032.45 10.70 325.55 197.40 118.04 23 43 25 32.4 21.32 303.20
 110.00 23 45 19 6260.50 6.39 296.31 194.80 123.62 25 29 39 5260.5 19.47 275.65

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 2387.0 SGR 466.1 SCS 1667.2 ST 24.4 SR 13.7 SS 39.7
 RRT .7087 RRF .7762 RTF .9099 CRT .9919 CRS -.3104 CST -.2762
 SGB 2432.1 R23 .1689 R13 .9133 LSA 41.1 MSA 25.9 S8A 1.5
 SGI 2410.2 SGI 325.7 THA 8.03 EL1 27.9 EL2 1.5 ALF 29.20

LAUNCH DATE MAY 18 1971

FLIGHT TIME 204.00

ARRIVAL DATE DEC 8 1971

Heliocentric Conic: RL 151.32 LAL -.00 LOL 236.42 VL 32.194 GAL .29 AZL 91.35 HCA 155.01 SMA 184.92 ECC .18179 INC 1.3460 V1 29.445
 RP 214.72 LAP -.57 LOP 31.44 VP 22.771 GAP 4.89 AZP 88.78 TAL 1.91 TAP 156.92 RCA 151.30 APO 218.54 V2 25.373
 RC 148.770 GL -15.38 GP -4.34 ZAL 93.90 ZAP 91.38 ETS 179.58 ZAE 134.39 ETE 184.86 ZAC 97.40 ETC 274.29 LVI -9.20

Planetocentric Conic: C3 8.127 VHL 2.851 DLA -25.63 RAL 338.50 RAD 6637.1 VEL 11.324 PTH 6.38 VHP 2.826 DPA -25.49 RAP 306.60 ECC 1.1338
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 55 4 2414.81 -3.13 62.83 187.36 137.50 16 35 19 1414.8 15.16 46.87
 60.00 17 8 20 2219.95 1.20 49.44 191.53 130.29 17 45 20 1220.0 16.99 30.99
 70.00 18 42 39 1942.62 5.75 30.39 194.96 123.72 19 15 2 942.6 18.92 9.83
 80.00 20 37 33 1583.01 9.90 5.60 197.48 118.31 21 3 56 583.0 20.69 343.42
 90.00 22 24 30 1238.11 11.90 341.28 198.52 115.85 22 45 8 238.1 21.54 318.39
 100.00 23 20 25 1057.49 9.90 326.97 197.48 118.31 23 38 2 57.5 20.69 304.79
 110.00 23 42 6 8277.48 5.75 297.21 194.96 123.72 25 26 43 5277.5 18.92 276.63

Differential Corrections: TDE -.2232 TRA .2603 TC3-4.2913 BAU .4686 SGT 2554.4 SGR 471.3 SG3 1674.6 ST 24.3 SR 13.1 SS 40.1
 RDE -.1207 RRA .1448 RC3 -.4259 FAU .26503 RRT .7396 RRF .8015 RTF .9194 CRT .9923 CRS -.2859 CST -.2919
 FDE .1466 FRA 4.8406 FC-28.2330 BSP 3849 SGB 2597.5 R23 .1650 R13 .9223 LSA 41.4 MSA 25.5 SSA 1.4
 BDE .2537 BRA .2979 BC3 4.3124 FSP 2901 SG1 2578.4 SG2 314.2 THA 7.89 EL1 27.6 EL2 1.4 ALF 28.14

LAUNCH DATE MAY 18 1971

FLIGHT TIME 206.00

ARRIVAL DATE DEC 10 1971

Heliocentric Conic: RL 151.32 LAL -.00 LOL 236.42 VL 32.196 GAL .25 AZL 91.32 HCA 156.19 SMA 184.95 ECC .18189 INC 1.3186 V1 29.445
 RP 215.04 LAP -.53 LOP 32.61 VP 22.732 GAP 4.73 AZP 88.79 TAL 1.61 TAP 157.79 RCA 151.31 APO 218.59 V2 25.536
 RC 151.211 GL -15.07 GP -4.54 ZAL 94.41 ZAP 89.46 ETS 179.40 ZAE 132.39 ETE 184.76 ZAC 97.26 ETC 274.11 LVI -8.76

Planetocentric Conic: C3 8.127 VHL 2.851 DLA -25.14 RAL 338.88 RAD 6637.1 VEL 11.324 PTH 6.38 VHP 2.821 DPA -25.86 RAP 305.84 ECC 1.1337
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 54 10 2425.64 -3.68 63.28 187.64 137.47 16 34 36 1425.6 14.64 47.36
 60.00 17 6 27 2233.39 .61 50.08 191.75 130.30 17 43 41 1233.4 16.43 31.70
 70.00 18 39 15 1960.57 5.07 31.33 195.13 123.82 19 11 55 960.6 18.32 10.88
 80.00 20 31 40 1608.73 9.06 7.06 197.56 118.57 20 58 28 608.7 20.02 345.04
 90.00 22 16 34 1270.38 10.93 343.15 198.55 116.24 22 37 45 270.4 20.81 320.48
 100.00 23 14 32 1083.20 9.06 328.43 197.56 118.57 23 32 35 83.2 20.02 306.41
 110.00 23 38 41 1007.39 5.07 320.25 195.13 123.82 23 55 28 7.4 18.32 299.80

Differential Corrections: TDE -.2169 TRA .3082 TC3-4.5670 BAU .4987 SGT 2727.3 SGR 479.9 SG3 1681.7 ST 24.4 SR 12.5 SS 40.7
 RDE -.1146 RRA .1490 RC3 -.4569 FAU .26502 RRT .7678 RRF .8271 RTF .9275 CRT .9911 CRS -.2920 CST -.3380
 FDE .1835 FRA 4.9262 FC-28.2320 BSP 4160 SGB 2769.2 R23 .1650 R13 .9301 LSA 42.2 MSA 24.9 SSA 1.4
 BDE .2453 BRA .3423 BC3 4.5898 FSP 2889 SG1 2752.4 SG2 304.7 THA 7.79 EL1 27.4 EL2 1.5 ALF 27.09

LAUNCH DATE MAY 18 1971

FLIGHT TIME 208.00

ARRIVAL DATE DEC 12 1971

Heliocentric Conic: RL 151.32 LAL -.00 LOL 236.42 VL 32.198 GAL .20 AZL 91.29 HCA 157.36 SMA 184.98 ECC .18204 INC 1.2886 V1 29.445
 RP 215.37 LAP -.50 LOP 33.78 VP 22.693 GAP 4.56 AZP 88.81 TAL 1.30 TAP 158.66 RCA 151.31 APO 218.66 V2 25.499
 RC 153.669 GL -14.71 GP -4.76 ZAL 94.95 ZAP 87.57 ETS 179.22 ZAE 130.42 ETE 184.66 ZAC 97.09 ETC 273.94 LVI -8.30

Planetocentric Conic: C3 8.130 VHL 2.851 DLA -24.61 RAL 339.27 RAD 6637.1 VEL 11.324 PTH 6.38 VHP 2.818 DPA -26.23 RAP 305.11 ECC 1.1338
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 53 8 2437.30 -4.26 63.77 187.92 137.43 16 33 45 1437.3 14.07 47.88
 60.00 17 4 24 2247.76 -.03 50.77 191.99 130.30 17 41 52 1247.8 15.84 32.45
 70.00 18 35 38 1979.55 4.35 32.33 195.30 123.91 19 8 37 979.5 17.69 11.98
 80.00 20 25 39 1635.20 8.20 8.55 197.66 118.81 20 52 54 635.2 19.32 346.70
 90.00 22 8 45 1302.71 9.95 345.02 198.59 116.61 22 30 27 302.7 20.06 322.56
 100.00 23 8 31 1109.67 8.20 329.91 197.66 118.81 23 27 1 109.7 19.32 308.06
 110.00 23 35 4 1026.36 4.35 321.25 195.30 123.91 23 52 10 26.4 17.69 300.90

Differential Corrections: TDE -.2071 TRA .3572 TC3-4.8415 BAU .5289 SGT 2901.5 SGR 490.5 SG3 1689.8 ST 24.3 SR 11.9 SS 41.4
 RDE -.1073 RRA .1538 RC3 -.4913 FAU .26528 RRT .7952 RRF .8911 RTF .9340 CRT .9870 CRS -.2811 CST -.3665
 FDE .2649 FRA 5.0119 FC-28.2495 BSP 4499 SGB 2942.7 R23 .1660 R13 .9363 LSA 43.0 MSA 24.4 SSA 1.4
 BDE .2333 BRA .3889 BC3 4.8663 FSP 2919 SG1 2927.9 SG2 294.7 THA 7.74 EL1 27.0 EL2 1.7 ALF 25.99

LAUNCH DATE MAY 18 1971

FLIGHT TIME 210.00

ARRIVAL DATE DEC 14 1971

Heliocentric Conic: RL 151.32 LAL -.00 LOL 236.42 VL 32.201 GAL .15 AZL 91.26 HCA 158.52 SMA 185.03 ECC .18223 INC 1.2556 V1 29.445
 RP 215.71 LAP -.46 LOP 34.95 VP 22.655 GAP 4.40 AZP 88.83 TAL .98 TAP 159.50 RCA 151.31 APO 218.75 V2 25.461
 RC 156.143 GL -14.33 GP -5.00 ZAL 95.50 ZAP 85.73 ETS 179.03 ZAE 128.47 ETE 184.58 ZAC 96.91 ETC 273.77 LVI -7.84

Planetocentric Conic: C3 8.138 VHL 2.852 DLA -24.04 RAL 339.66 RAD 6637.1 VEL 11.325 PTH 6.38 VHP 2.818 DPA -26.61 RAP 304.42 ECC 1.1339
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 51 57 2449.85 -4.89 64.30 188.20 137.38 16 32 47 1449.9 13.45 48.44
 60.00 17 2 9 2263.16 -.70 51.50 192.22 130.30 17 39 52 1263.2 15.20 33.24
 70.00 18 31 47 1999.63 3.58 33.38 195.47 123.99 19 5 6 999.6 17.00 13.14
 80.00 20 19 29 1662.56 7.30 10.08 197.75 119.03 20 47 11 662.6 18.58 348.39
 90.00 22 0 56 1335.37 8.95 348.90 198.64 116.94 22 23 11 335.4 19.28 324.63
 100.00 23 2 21 1137.03 7.30 331.44 197.75 119.03 23 21 18 137.0 18.58 309.75
 110.00 23 31 13 1046.45 3.58 322.30 195.47 123.99 23 48 40 46.5 17.00 302.06

Differential Corrections: TDE -.1950 TRA .4044 TC3-5.1088 BAU .5586 SGT 3072.1 SGR 499.3 SG3 1680.2 ST 24.1 SR 11.3 SS 41.8
 RDE -.0993 RRA .1578 RC3 -.5230 FAU .26312 RRT .8191 RRF .8712 RTF .9390 CRT .9832 CRS -.2605 CST -.3840
 FDE .3709 FRA 5.0324 FC-27.9991 BSP 4797 SGB 3112.4 R23 .1664 R13 .9412 LSA 43.5 MSA 23.6 SSA 1.3
 BDE .2188 BRA .4341 BC3 5.1355 FSP 2879 SG1 3099.5 SG2 283.9 THA 7.65 EL1 26.5 EL2 1.9 ALF 24.80

LAUNCH DATE MAY 18 1971 FLIGHT TIME 212.00 ARRIVAL DATE DEC 16 1971

HELIOCENTRIC CONIC DISTANCE 498.855 EARTH TO MARS
RL 151.32 LAL -.00 LOL 236.42 VL 32.204 GAL .10 AZL 91.22 HCA 159.69 SMA 185.08 ECC .18246 INC 1.2190 V1 29.445
PLANETOCENTRIC CONIC
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 15 50 34 2463.39 -5.57 64.87 188.48 137.33 16 31 37 1463.4 12.79 49.04
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.1822 TRA .4536 TC3-5.3777 BAU .5887 SGT 3246.7 SGR 513.4 SG3 1675.6 ST 24.0 SR 10.7 S8 42.3

LAUNCH DATE MAY 18 1971 FLIGHT TIME 214.00 ARRIVAL DATE DEC 18 1971

HELIOCENTRIC CONIC DISTANCE 503.042 EARTH TO MARS
RL 151.32 LAL -.00 LOL 236.42 VL 32.208 GAL .05 AZL 91.18 HCA 160.85 SMA 185.15 ECC .18273 INC 1.1785 V1 29.445
PLANETOCENTRIC CONIC
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 15 48 58 2478.02 -6.30 65.49 188.76 137.26 16 30 16 1478.0 12.07 49.68
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.1683 TRA .4989 TC3-5.6718 BAU .6221 SGT 3431.9 SGR 531.4 SG3 1877.5 ST 23.9 SR 10.1 S8 41.7

LAUNCH DATE MAY 18 1971 FLIGHT TIME 216.00 ARRIVAL DATE DEC 20 1971

HELIOCENTRIC CONIC DISTANCE 507.220 EARTH TO MARS
RL 151.32 LAL -.00 LOL 236.42 VL 32.212 GAL -.01 AZL 91.13 HCA 162.00 SMA 185.22 ECC .18304 INC 1.1331 V1 29.445
PLANETOCENTRIC CONIC
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 15 47 7 2493.86 -7.09 66.16 189.03 137.17 16 28 41 1493.9 11.28 50.38
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.1227 TRA .5836 TC3-5.7516 BAU .6313 SGT 3530.4 SGR 533.8 SG3 1602.9 ST 23.1 SR 8.9 S8 50.2

LAUNCH DATE MAY 18 1971 FLIGHT TIME 218.00 ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC DISTANCE 511.406 EARTH TO MARS
RL 151.32 LAL -.00 LOL 236.42 VL 32.217 GAL -.06 AZL 91.08 HCA 163.16 SMA 185.29 ECC .18338 INC 1.0820 V1 29.445
PLANETOCENTRIC CONIC
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 15 44 57 2511.11 -7.95 66.89 189.29 137.07 16 26 48 1511.1 10.43 51.13
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.1112 TRA .6200 TC3-6.1315 BAU .6751 SGT 3759.6 SGR 573.0 SG3 1646.4 ST 23.5 SR 8.6 S8 47.5

LAUNCH DATE MAY 18 1971

FLIGHT TIME 220.00

ARRIVAL DATE DEC 24 1971

Heliocentric Conic

RL 151.32 LAL -.00 LOL 236.42 VL 32.222 GAL -.12 AZL 91.02 HCA 164.30 SMA 185.38 ECC .18376 INC 1.0228 V1 29.448
 RP 217.43 LAP -.28 LOP 40.73 VP 22.468 GAP 3.62 AZP 89.01 TAL 359.23 TAP 163.54 RCA 151.31 APO 219.44 V2 25.289
 RC 168.717 GL -11.80 GP -6.84 ZAL 98.54 ZAP 77.12 ETS 177.79 ZAE 119.16 ETE 184.29 ZAC 95.48 ETC 273.06 LVI -5.30

DISTANCE 515.585

EARTH TO MARS

Planetocentric Conic

C3 8.205 VHL 2.864 DLA -20.38 RAL 341.48 RAD 6637.1 VEL 11.328 PTH 6.38 VHP 2.855 DPA -28.81 RAP 301.62 ECC 1.1350
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 42 24 2529.98 -8.89 67.70 189.54 136.94 16 24 34 1530.0 9.50 51.94
 60.00 16 46 27 2359.67 -4.95 56.13 193.31 130.05 17 25 46 1359.7 11.11 38.13
 70.00 18 7 30 2121.42 -1.07 39.74 196.25 124.14 18 42 51 1121.4 12.73 19.98
 80.00 19 44 12 1818.75 2.06 18.71 198.20 119.79 20 14 31 818.8 14.03 357.76
 90.00 21 18 58 1513.06 3.34 356.94 198.91 118.10 21 44 11 513.1 14.57 355.54
 100.00 22 27 4 1293.22 2.06 340.08 198.20 119.79 22 48 37 293.2 14.03 319.12
 110.00 23 6 56 1188.24 -1.07 328.66 196.25 124.14 23 26 24 168.2 12.73 308.90

Differential Corrections

TDE -.0877 TRA .6648 TC3-6.4110 BAU .7079
 RDE -.0524 RRA .1955 RC3 -.7372 FAU .25014
 FDE .9211 FRA 5.2571 FC-26.3931 BSP 6493
 BDE .1022 BRA .6929 BC3 6.4532 FSP 2912

Mid-Course Execution Accuracy

SGT 3941.1 SGR 802.9 SG3 1634.4
 RRT .9097 RRF .9534 RTF .9540
 SGB 3986.9 R23 .1978 R13 .9557
 SG1 3979.2 SG2 248.0 THA 7.95

Orbit Determination Accuracy

ST 23.7 SR 8.2 SS 47.7
 CRT .9426 CRS -.3698 C8T -.6337
 LSA 50.5 MSA 18.7 S8A 1.2
 EL1 24.9 EL2 2.6 ALF 18.27

LAUNCH DATE MAY 18 1971

FLIGHT TIME 222.00

ARRIVAL DATE DEC 26 1971

Heliocentric Conic

RL 151.32 LAL -.00 LOL 236.42 VL 32.227 GAL -.18 AZL 90.96 HCA 165.45 SMA 185.47 ECC .18416 INC .9572 V1 29.448
 RP 217.79 LAP -.24 LOP 41.87 VP 22.431 GAP 3.47 AZP 89.07 TAL 358.85 TAP 164.30 RCA 151.31 APO 219.62 V2 25.229
 RC 171.268 GL -10.81 GP -7.10 ZAL 99.20 ZAP 75.54 ETS 177.46 ZAE 117.39 ETE 184.26 ZAC 95.05 ETC 272.94 LVI -4.70

DISTANCE 519.761

EARTH TO MARS

Planetocentric Conic

C3 8.225 VHL 2.868 DLA -19.41 RAL 341.78 RAD 6637.1 VEL 11.329 PTH 6.38 VHP 2.870 DPA -29.36 RAP 301.21 ECC 1.1354
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 39 24 2350.79 -9.93 68.59 189.77 136.78 16 21 55 1550.8 8.46 52.83
 60.00 16 41 59 2384.37 -6.03 57.32 193.49 129.92 17 21 43 1384.4 10.05 39.38
 70.00 18 1 7 2151.73 -2.22 41.32 196.36 124.09 18 36 59 1151.7 11.63 21.64
 80.00 19 35 38 1855.90 .81 20.75 198.25 119.85 20 6 34 855.9 12.88 359.92
 90.00 21 9 14 1553.96 2.03 359.23 198.93 118.21 21 35 8 554.0 13.40 337.97
 100.00 22 18 30 1330.37 .81 342.12 198.25 119.85 22 40 41 330.4 12.89 321.29
 110.00 23 0 33 1198.55 -2.22 330.24 196.36 124.09 23 20 32 198.5 11.63 310.56

Differential Corrections

TDE -.0533 TRA .7187 TC3-6.6481 BAU .7363
 RDE -.0412 RRA .2064 RC3 -.7944 FAU .24620
 FDE 1.0276 FRA 5.2581 FC-25.9136 BSP 6814
 BDE .0673 BRA .7477 BC3 6.6954 FSP 2853

Mid-Course Execution Accuracy

SGT 4107.3 SGR 636.8 SG3 1614.5
 RRT .9221 RRF .9641 RTF .9565
 SGB 4156.4 R23 .2041 R13 .9583
 SG1 4149.2 SG2 243.9 THA 8.16

Orbit Determination Accuracy

ST 24.1 SR 7.8 SS 48.9
 CRT .9358 CRS -.4487 C8T -.7131
 LSA 52.4 MSA 17.1 S8A 1.2
 EL1 25.2 EL2 2.6 ALF 16.96

LAUNCH DATE MAY 18 1971

FLIGHT TIME 224.00

ARRIVAL DATE DEC 28 1971

Heliocentric Conic

RL 151.32 LAL -.00 LOL 236.42 VL 32.233 GAL -.24 AZL 90.88 HCA 166.59 SMA 185.56 ECC .18461 INC .8783 V1 29.445
 RP 218.15 LAP -.20 LOP 43.01 VP 22.395 GAP 3.32 AZP 89.15 TAL 358.47 TAP 165.06 RCA 151.31 APO 219.82 V2 25.189
 RC 173.829 GL -9.91 GP -7.64 ZAL 99.88 ZAP 74.01 ETS 177.08 ZAE 115.65 ETE 184.25 ZAC 94.53 ETC 272.84 LVI -4.03

DISTANCE 523.935

EARTH TO MARS

Planetocentric Conic

C3 8.248 VHL 2.872 DLA -18.33 RAL 342.05 RAD 6637.1 VEL 11.330 PTH 6.38 VHP 2.887 DPA -29.97 RAP 300.86 ECC 1.1357
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 35 49 2373.95 -11.07 69.60 189.97 136.57 16 18 43 1574.0 7.31 53.82
 60.00 16 36 50 2411.72 -7.22 58.64 193.63 129.76 17 17 1 1411.7 8.87 40.70
 70.00 17 53 57 2185.01 -3.49 43.06 196.44 124.00 18 30 22 1185.0 10.41 23.45
 80.00 19 26 14 1896.15 -.56 22.96 198.27 119.85 19 57 51 896.1 11.63 2.24
 90.00 20 58 41 1597.92 .61 1.68 198.92 118.27 21 25 19 597.9 12.12 340.56
 100.00 22 9 6 1370.62 -.56 344.33 198.27 119.85 22 31 57 370.6 11.63 323.61
 110.00 22 53 23 1231.83 -3.49 331.98 196.44 124.00 23 13 55 231.8 10.41 312.36

Differential Corrections

TDE -.0165 TRA .7703 TC3-6.8944 BAU .7661
 RDE -.0288 RRA .2195 RC3 -.8598 FAU .24201
 FDE 1.1380 FRA 5.2386 FC-25.4032 BSP 7107
 BDE .0332 BRA .8009 BC3 6.9478 FSP 2805

Mid-Course Execution Accuracy

SGT 4278.2 SGR 678.3 SG3 1993.6
 RRT .9320 RRF .9731 RTF .9580
 SGB 4331.7 R23 .2135 R13 .9598
 SG1 4324.8 SG2 243.3 THA 8.43

Orbit Determination Accuracy

ST 25.1 SR 7.5 SS 50.4
 CRT .9391 CRS -.5501 C8T -.7838
 LSA 54.6 MSA 15.5 S8A 1.2
 EL1 26.0 EL2 2.5 ALF 15.91

LAUNCH DATE MAY 18 1971

FLIGHT TIME 226.00

ARRIVAL DATE DEC 30 1971

Heliocentric Conic

RL 151.32 LAL -.00 LOL 236.42 VL 32.239 GAL -.30 AZL 90.79 HCA 167.73 SMA 185.66 ECC .18508 INC .7866 V1 29.445
 RP 218.51 LAP -.17 LOP 44.15 VP 22.359 GAP 3.17 AZP 89.23 TAL 358.08 TAP 165.80 RCA 151.30 APO 220.03 V2 25.149
 RC 176.400 GL -8.86 GP -8.27 ZAL 100.57 ZAP 72.53 ETS 176.65 ZAE 113.94 ETE 184.25 ZAC 93.93 ETC 272.74 LVI -3.32

DISTANCE 528.106

EARTH TO MARS

Planetocentric Conic

C3 8.272 VHL 2.876 DLA -17.10 RAL 342.26 RAD 6637.1 VEL 11.331 PTH 6.38 VHP 2.906 DPA -30.66 RAP 300.57 ECC 1.1361
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 31 30 2600.06 -12.36 70.74 190.14 136.32 16 14 51 1600.1 6.00 54.93
 60.00 16 30 48 2442.38 -8.55 60.14 193.74 129.94 17 11 30 1442.4 7.54 42.19
 70.00 17 45 46 2221.99 -4.90 45.00 196.49 123.84 18 22 48 1222.0 9.04 25.44
 80.00 19 15 46 1940.32 -2.05 25.39 198.25 119.79 19 48 6 940.3 10.22 4.76
 90.00 20 47 3 1645.81 -.93 4.35 198.88 118.27 21 14 29 645.8 10.68 343.35
 100.00 21 58 38 1414.80 -2.05 346.76 198.25 119.79 22 22 12 414.8 10.22 326.13
 110.00 22 45 13 1268.81 -4.90 333.92 196.49 123.84 23 6 21 268.8 9.04 314.36

Differential Corrections

TDE .0300 TRA .8197 TC3-7.1417 BAU .7966
 RDE -.0142 RRA .2343 RC3 -.9410 FAU .23872
 FDE 1.2709 FRA 5.2249 FC-24.9840 BSP 7440
 BDE .0332 BRA .8526 BC3 7.2034 FSP 2774

Mid-Course Execution Accuracy

SGT 4449.6 SGR 729.6 SG3 1973.2
 RRT .9415 RRF .9805 RTF .9602
 SGB 4509.0 R23 .2190 R13 .9621
 SG1 4502.4 SG2 243.1 THA 8.80

Orbit Determination Accuracy

ST 26.5 SR 7.5 SS 52.2
 CRT .9471 CRS -.6642 C8T -.8522
 LSA 57.4 MSA 13.6 S8A 1.2
 EL1 27.5 EL2 2.3 ALF 15.11

LAUNCH DATE MAY 18 1971

FLIGHT TIME 228.00

ARRIVAL DATE JAN 1 1972

MELIOCENTRIC CONIC

DISTANCE 532.273

EARTH TO MARS

RL 151.32 LAL -.00 LOL 236.42 VL 32.245 GAL -.36 AZL 90.68 HCA 168.86 SMA 185.77 ECC .18558 INC .6784 V1 29.445
RP 218.88 LAP -.13 LOP 45.28 VP 22.322 GAP 3.02 AZP 89.34 TAL 357.68 TAP 166.54 RCA 151.30 APO 220.25 V2 25.109
RC 178.981 GL -7.60 GP -9.03 ZAL 101.27 ZAP 71.11 ETS 176.14 ZAE 112.27 ETE 184.27 ZAC 93.20 ETC 272.65 LVI -2.30

PLANETOCENTRIC CONIC

C3 8.299 VHL 2.891 DLA -15.69 RAL 342.40 RAD 8637.2 VEL 11.332 PTH 6.38 VHP 2.928 DPA -31.47 RAP 300.36 ECC 1.1386
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 26 15 2629.93 -13.83 72.06 190.27 135.99 16 10 5 1629.9 4.51 56.19
60.00 16 23 39 2477.29 -10.06 61.85 193.81 129.23 17 4 56 1477.3 6.02 43.89
70.00 17 36 18 2263.73 -6.47 47.20 196.49 123.61 18 14 2 1263.7 7.48 27.66
80.00 19 3 53 1989.61 -3.72 28.10 198.19 119.65 19 37 2 989.6 8.62 7.55
90.00 20 34 0 1698.89 -2.64 7.32 198.79 118.17 21 2 19 698.9 9.06 346.41
100.00 21 46 44 1464.08 -3.72 349.47 198.19 119.65 22 11 8 464.1 8.62 329.91
110.00 22 35 44 1310.55 -6.47 336.12 196.49 123.61 22 57 35 310.5 7.48 316.58

DIFFERENTIAL CORRECTIONS

TDE .0846 TRA .8709 TC3-7.3771 BAU .8264 SGT 4618.5 SGR 792.6 SG3 1549.4 ST 29.0 SR 7.9 SS 54.4
RDE .0028 RRA .2536 RC3-1.0321 FAU .23406 RRT .9483 RRF .9864 RTF .9614 CRT .9598 CR8 -.7800 CST -.9107
FDE 1.4100 FRA 5.2089 FC-24.4176 BSP 7749 SGB 4686.0 R23 .2270 R13 .9634 LSA 61.0 MSA 11.5 S8A 1.2
BDE .0846 BRA .9071 BC3 7.4489 FSP 2721 SGI 4679.4 SG2 248.3 THA 9.27 EL1 30.0 EL2 2.1 ALF 14.77

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 18 1971

FLIGHT TIME 230.00

ARRIVAL DATE JAN 3 1972

MELIOCENTRIC CONIC

DISTANCE 536.437

EARTH TO MARS

RL 151.32 LAL -.00 LOL 236.42 VL 32.252 GAL -.43 AZL 90.54 HCA 169.99 SMA 185.88 ECC .18611 INC .5380 V1 29.445
RP 219.25 LAP -.09 LOP 46.41 VP 22.287 GAP 2.87 AZP 89.47 TAL 357.27 TAP 167.26 RCA 151.29 APO 220.48 V2 25.068
RC 181.572 GL -6.08 GP -9.94 ZAL 101.99 ZAP 69.76 ETS 175.54 ZAE 110.61 ETE 184.32 ZAC 92.30 ETC 272.58 LVI -1.94

PLANETOCENTRIC CONIC

C3 8.330 VHL 2.888 DLA -14.02 RAL 342.45 RAD 8637.2 VEL 11.333 PTH 6.39 VHP 2.954 DPA -32.42 RAP 300.22 ECC 1.1371
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 19 45 2664.78 -15.53 73.63 190.35 135.56 16 4 10 1664.8 2.76 57.63
60.00 16 15 1 2517.80 -11.80 63.86 193.83 128.82 16 56 59 1517.8 4.25 45.84
70.00 17 25 6 2311.77 -8.28 49.76 196.43 123.25 18 3 38 1311.8 5.67 30.21
80.00 18 50 6 2045.72 -5.60 31.20 198.07 119.38 19 24 12 1045.7 6.77 10.68
90.00 20 19 0 1758.94 -4.56 10.68 198.64 117.94 20 48 19 758.9 7.20 349.83
100.00 21 32 58 1520.19 -5.60 352.57 198.07 119.38 21 58 18 520.2 6.77 332.05
110.00 22 24 33 1358.58 -8.28 338.67 196.43 123.25 22 47 11 358.6 5.67 319.12

DIFFERENTIAL CORRECTIONS

TDE .1447 TRA .9114 TC3-7.6247 BAU .8588 SGT 4788.7 SGR 868.2 SG3 1518.2 ST 32.1 SR 8.8 SS 56.3
RDE .0222 RRA .2751 RC3-1.1424 FAU .22921 RRT .9537 RRF .9908 RTF .9625 CRT .9723 CR8 -.8711 CST -.9510
FDE 1.5423 FRA 5.1331 FC-23.8218 BSP 7986 SGB 4866.7 R23 .2336 R13 .9646 LSA 64.7 MSA 9.4 S8A 1.3
BDE .1464 BRA .9520 BC3 7.7098 FSP 2642 SGI 4859.9 SG2 257.3 THA 9.84 EL1 33.2 EL2 2.0 ALF 14.94

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 18 1971

FLIGHT TIME 232.00

ARRIVAL DATE JAN 5 1972

MELIOCENTRIC CONIC

DISTANCE 540.599

EARTH TO MARS

RL 151.32 LAL -.00 LOL 236.42 VL 32.259 GAL -.49 AZL 90.38 HCA 171.12 SMA 186.00 ECC .18667 INC .3742 V1 29.445
RP 219.62 LAP -.06 LOP 47.54 VP 22.251 GAP 2.72 AZP 89.63 TAL 356.86 TAP 167.98 RCA 151.28 APO 220.72 V2 25.028
RC 184.172 GL -4.20 GP -11.07 ZAL 102.71 ZAP 68.48 ETS 174.81 ZAE 108.98 ETE 184.39 ZAC 91.19 ETC 272.51 LVI -.39

PLANETOCENTRIC CONIC

C3 8.369 VHL 2.893 DLA -12.02 RAL 342.37 RAD 8637.2 VEL 11.335 PTH 6.39 VHP 2.985 DPA -33.58 RAP 300.18 ECC 1.1377
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 11 33 2706.41 -17.54 75.53 190.38 134.97 15 56 39 1706.4 .67 59.39
60.00 16 4 22 2365.93 -13.84 66.29 193.79 128.24 16 47 8 1365.9 2.13 48.14
70.00 17 11 34 2368.37 -10.38 52.79 196.31 122.72 17 51 3 1368.4 3.53 33.18
80.00 18 33 45 2111.15 -7.77 34.84 197.89 118.92 19 8 56 1111.1 4.59 14.31
90.00 20 1 20 1828.58 -6.77 14.61 198.43 117.52 20 31 48 828.6 5.00 353.76
100.00 21 18 36 1585.62 -7.77 356.21 197.89 118.92 21 43 2 585.6 4.59 335.68
110.00 22 11 1 1415.18 -10.38 341.71 196.31 122.72 22 34 36 415.2 3.53 322.10

DIFFERENTIAL CORRECTIONS

TDE .2261 TRA .9544 TC3-7.8463 BAU .8896 SGT 4954.3 SGR 967.4 SG3 1489.0 ST 37.3 SR 10.2 SS 58.3
RDE .0492 RRA .3011 RC3-1.2891 FAU .22582 RRT .9608 RRF .9942 RTF .9561 CRT .9774 CR8 -.9325 CST -.9817
FDE 1.6714 FRA 5.0208 FC-23.3605 BSP 8271 SGB 5047.8 R23 .2282 R13 .9684 LSA 69.6 MSA 6.6 S8A 1.4
BDE .2306 BRA 1.0008 BC3 7.9515 FSP 2520 SGI 5040.9 SG2 264.2 THA 10.65 EL1 38.6 EL2 2.1 ALF 15.09

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 18 1971

FLIGHT TIME 234.00

ARRIVAL DATE JAN 7 1972

MELIOCENTRIC CONIC

DISTANCE 544.756

EARTH TO MARS

RL 151.32 LAL -.00 LOL 236.42 VL 32.266 GAL -.56 AZL 90.16 HCA 172.24 SMA 186.12 ECC .18726 INC .1462 V1 29.445
RP 219.99 LAP -.02 LOP 48.66 VP 22.215 GAP 2.58 AZP 89.84 TAL 356.44 TAP 168.68 RCA 151.27 APO 220.97 V2 24.987
RC 186.781 GL -1.80 GP -12.51 ZAL 103.44 ZAP 67.30 ETS 173.90 ZAE 107.38 ETE 184.51 ZAC 89.77 ETC 272.45 LVI 1.02

PLANETOCENTRIC CONIC

C3 8.424 VHL 2.902 DLA -9.54 RAL 342.10 RAD 8637.2 VEL 11.337 PTH 6.39 VHP 3.022 DPA -35.03 RAP 300.27 ECC 1.1386
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 0 57 2757.84 -20.00 77.95 190.36 134.12 15 46 55 1757.8 -1.92 61.53
60.00 15 50 53 2625.06 -16.31 69.34 193.70 127.38 16 34 38 1625.1 -.47 50.97
70.00 16 54 44 2437.33 -12.89 56.56 196.14 121.91 17 35 21 1437.3 .90 36.78
80.00 18 13 43 2190.10 -10.34 39.29 197.65 118.17 18 50 13 1190.1 1.93 18.66
90.00 19 39 50 1912.20 -9.37 19.37 198.16 116.80 20 11 43 912.2 2.32 358.45
100.00 20 58 34 1664.57 -10.34 .66 197.65 118.17 21 24 19 664.6 1.93 340.03
110.00 21 54 10 1484.15 -12.89 345.47 196.14 121.91 22 18 54 484.1 .90 325.70

DIFFERENTIAL CORRECTIONS

TDE .3261 TRA .9884 TC3-8.0496 BAU .9211 SGT 5114.9 SGR 1088.8 SG3 1446.0 ST 44.3 SR 12.8 SS 61.9
RDE .0785 RRA .43366 RC3-1.4489 FAU .21820 RRT .9630 RRF .9965 RTF .9660 CRT .9837 CR8 -.9710 CST -.9947
FDE 1.8694 FRA 4.9206 FC-22.4245 BSP 8576 SGB 5229.5 R23 .2349 R13 .9687 LSA 77.1 MSA 4.2 S8A 1.8
BDE .3354 BRA 1.0441 BC3 8.1789 FSP 2465 SGI 5221.6 SG2 287.5 THA 11.62 EL1 46.1 EL2 2.2 ALF 15.89

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 18 1971

FLIGHT TIME 236.00

ARRIVAL DATE JAN 9 1972

Heliocentric Conic: RL 151.32 LAL -.00 LOL 236.42 VL 32.274 GAL -.63 AZL 89.88 HCA 173.36 SMA 186.25 ECC .18787 INC .0839 V1 29.445
 RP 220.36 LAP .01 LOP 49.78 VP 22.180 GAP 2.43 AZP 90.12 TAL 356.01 TAP 169.37 RCA 151.24 APO 221.24 V2 24.946
 RC 189.399 GL 1.36 GP -14.39 ZAL 104.15 ZAP 86.25 ETS 172.73 ZAE 105.77 ETE 184.69 ZAC 87.90 ETC 272.41 LVI 2.83

Planetocentric Conic: C3 8.515 VHL 2.918 DLA -6.34 RAL 341.55 RAD 6637.3 VEL 11.341 PTH 6.39 VHP 3.069 DPA -36.90 RAP 300.52 ECC 1.1401
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 46 48 2023.95 -23.10 81.19 190.32 132.83 15 33 52 1824.0 -5.23 64.31
 60.00 15 33 10 2700.64 -19.38 73.35 193.60 126.05 16 18 11 1700.6 -3.79 54.58
 70.00 16 32 59 2524.78 -15.98 61.45 195.95 120.60 17 15 4 1524.8 -2.45 41.35
 80.00 17 48 11 2289.32 -13.47 45.00 197.37 116.90 18 26 21 1289.3 -1.44 24.11
 90.00 19 12 39 2016.82 -12.52 25.45 197.85 115.57 19 46 16 1016.8 -1.05 4.28
 100.00 20 31 3 1763.80 -13.47 6.37 197.37 116.90 21 0 27 763.8 -1.44 345.47
 110.00 21 32 25 1571.59 -15.98 350.36 195.95 120.60 21 58 37 571.6 -2.45 330.26

Differential Corrections: TDE .4606 TRA 1.0113 TC3-8.2282 BAU .9555 SGT 5279.1 SGR 1251.8 SG3 1397.5 ST 54.7 SR 16.8 SS 66.7
 RDE .1258 RRA .3819 RC3-1.6583 FAU .21038 RRT .9652 RRF .9980 RTF .9662 CRT .9869 CRS -.9896 CST -.9983
 FDE 2.1131 FRA 4.7640 FC-21.3899 BSP 8873 SGB 5425.5 R23 .2373 R13 .9695 LSA 87.9 MSA 2.8 SSA 2.1
 BDE .4775 BRA 1.0810 BC3 8.3937 FSP 2381 SG1 5416.1 SG2 319.1 THA 12.94 EL1 57.2 EL2 2.6 ALF 16.90

LAUNCH DATE MAY 18 1971

FLIGHT TIME 238.00

ARRIVAL DATE JAN 11 1972

Heliocentric Conic: RL 151.32 LAL -.00 LOL 236.42 VL 32.281 GAL -.70 AZL 89.48 HCA 174.47 SMA 186.38 ECC .18851 INC .5060 V1 29.445
 RP 220.74 LAP .05 LOP 50.89 VP 22.145 GAP 2.29 AZP 90.52 TAL 355.58 TAP 170.05 RCA 151.24 APO 221.51 V2 24.904
 RC 192.025 GL 5.72 GP -16.95 ZAL 104.60 ZAP 65.41 ETS 171.18 ZAE 104.17 ETE 184.95 ZAC 85.34 ETC 272.38 LVI 5.26

Planetocentric Conic: C3 8.688 VHL 2.948 DLA -2.04 RAL 340.58 RAD 6637.4 VEL 11.349 PTH 6.40 VHP 3.135 DPA -39.44 RAP 301.05 ECC 1.1430
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 27 5 2913.62 -27.16 85.84 190.41 130.69 15 15 38 1913.6 -9.71 68.12
 60.00 15 8 49 2802.59 -23.36 79.04 193.60 123.82 15 55 32 1802.6 -8.25 59.51
 70.00 16 3 28 2641.91 -19.91 68.25 195.84 118.34 16 47 29 1641.9 -6.89 47.50
 80.00 17 13 56 2421.26 -17.38 52.84 197.17 114.67 17 54 17 1421.3 -5.88 31.38
 90.00 18 36 19 2155.44 -16.43 33.74 197.61 113.34 19 12 14 1155.4 -5.49 12.05
 100.00 19 56 48 1895.73 -17.38 14.21 197.17 114.67 20 28 23 895.7 -5.88 352.75
 110.00 21 2 54 1688.73 -19.91 357.17 195.84 118.34 21 31 3 688.7 -6.89 336.42

Differential Corrections: TDE .6458 TRA 1.0134 TC3-8.3412 BAU .9943 SGT 5444.3 SGR 1473.6 SG3 1333.2 ST 69.8 SR 23.2 SS 72.9
 RDE .1975 RRA .4410 RC3-1.9293 FAU .20053 RRT .9665 RRF .9990 RTF .9659 CRT .9883 CRS -.9970 CST -.9965
 FDE 2.4072 FRA 4.5250 FC-19.9819 BSP 9136 SGB 5640.2 R23 .2385 R13 .9701 LSA 103.4 MSA 4.8 SSA .9
 BDE .6753 BRA 1.1052 BC3 8.5605 FSP 2259 SG1 5628.3 SG2 365.9 THA 14.72 EL1 73.4 EL2 3.4 ALF 18.21

LAUNCH DATE MAY 18 1971

FLIGHT TIME 240.00

ARRIVAL DATE JAN 13 1972

Heliocentric Conic: RL 151.32 LAL -.00 LOL 236.42 VL 32.289 GAL -.77 AZL 88.88 HCA 175.58 SMA 186.51 ECC .18917 INC 1.1058 V1 29.445
 RP 221.12 LAP .09 LOP 52.00 VP 22.109 GAP 2.15 AZP 91.11 TAL 355.15 TAP 170.73 RCA 151.23 APO 221.79 V2 24.863
 RC 194.659 GL 12.05 GP -20.64 ZAL 105.26 ZAP 64.92 ETS 169.02 ZAE 102.52 ETE 185.34 ZAC 81.66 ETC 272.37 LVI 8.71

Planetocentric Conic: C3 9.075 VHL 3.012 DLA 4.11 RAL 338.86 RAD 6637.6 VEL 11.366 PTH 6.42 VHP 3.237 DPA -43.05 RAP 302.03 ECC 1.1493
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 57 47 3044.30 -32.73 93.31 191.08 126.68 14 48 32 2044.3 -16.12 73.90
 60.00 14 33 0 2950.60 -28.67 87.96 194.16 119.63 15 22 11 1950.6 -14.57 66.90
 70.00 15 20 23 2811.25 -25.01 78.74 196.23 114.05 16 7 14 1811.3 -13.13 56.65
 80.00 16 24 15 2611.26 -22.35 64.75 197.42 110.33 17 7 46 1611.3 -12.05 42.10
 90.00 17 43 45 2354.71 -21.35 46.28 197.80 108.99 18 22 59 1354.7 -11.65 23.45
 100.00 19 7 6 2089.73 -22.35 26.12 197.42 110.33 19 41 52 1085.7 -12.05 3.47
 110.00 20 19 49 1858.07 -25.01 7.66 196.23 114.05 20 50 47 858.1 -13.13 345.56

Differential Corrections: TDE .9264 TRA .9833 TC3-8.2634 BAU 1.0392 SGT 5804.2 SGR 1787.6 SG3 1239.1 ST 92.8 SR 33.9 SS 81.0
 RDE .3191 RRA .3197 RC3-2.2546 FAU .18679 RRT .9673 RRF .9995 RTF .553 CRT .9891 CRS -.9994 CST -.9933
 FDE 2.7747 FRA 4.1480 FC-17.8189 BSP 9421 SGB 5882.4 R23 .2373 R13 .9710 LSA 127.5 MSA 7.7 SSA .4
 BDE .9798 BRA 1.1122 BC3 8.5655 FSP 2084 SG1 5866.4 SG2 433.2 THA 17.24 EL1 98.7 EL2 4.7 ALF 19.89

LAUNCH DATE MAY 18 1971

FLIGHT TIME 242.00

ARRIVAL DATE JAN 15 1972

Heliocentric Conic: RL 151.32 LAL -.00 LOL 236.42 VL 32.297 GAL -.84 AZL 87.90 HCA 176.88 SMA 186.85 ECC .18985 INC 2.1003 V1 29.445
 RP 221.50 LAP .12 LOP 53.11 VP 22.075 GAP 2.00 AZP 92.10 TAL 354.71 TAP 171.39 RCA 151.21 APO 222.08 V2 24.821
 RC 197.299 GL 21.91 GP -26.31 ZAL 105.21 ZAP 65.18 ETS 165.92 ZAE 100.79 ETE 185.97 ZAC 75.99 ETC 272.43 LVI 13.93

Planetocentric Conic: C3 10.108 VHL 3.179 DLA 13.50 RAL 335.74 RAD 6638.1 VEL 11.411 PTH 6.46 VHP 3.426 DPA -48.55 RAP 304.02 ECC 1.1663
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 9 48 3254.50 -40.40 107.52 194.13 117.64 14 4 2 2254.5 -25.99 84.18
 60.00 13 34 20 3189.18 -35.59 104.35 196.85 110.31 14 27 29 2189.2 -24.09 79.88
 70.00 14 9 30 3085.70 -31.26 97.60 198.48 104.53 15 0 56 2085.7 -22.31 72.61
 80.00 15 1 50 2921.72 -28.07 85.98 199.29 100.62 15 50 32 1921.7 -20.96 60.83
 90.00 16 16 10 2681.82 -26.86 68.59 199.53 99.19 17 0 52 1681.8 -20.44 43.41
 100.00 17 44 42 2396.19 -28.07 47.35 199.29 100.62 18 24 38 1396.2 -20.96 22.19
 110.00 19 8 56 2132.52 -31.26 26.52 198.48 104.53 19 44 29 1132.5 -22.31 1.53

Differential Corrections: TDE 1.4271 TRA .9043 TC3-7.6329 BAU 1.0882 SGT 5742.5 SGR 2253.0 SG3 1084.4 ST 131.2 SR 54.2 SS 92.3
 RDE .5692 RRA .6271 RC3-2.5714 FAU .16373 RRT .9677 RRF .9997 RTF .9640 CRT .9909 CRS-1.0000 CST -.9917
 FDE 3.2809 FRA 3.5392 FC-14.0263 BSP 9975 SGB 6168.6 R23 .2331 R13 .9723 LSA 169.0 MSA 10.8 SSA .1
 BDE 1.5364 BRA 1.1004 BC3 8.0543 FSP 1834 SG1 6145.8 SG2 530.3 THA 20.95 EL1 141.8 EL2 6.7 ALF 22.32

LAUNCH DATE MAY 18 1971

FLIGHT TIME 244.00

ARRIVAL DATE JAN 17 1972

HELIOCENTRIC CONIC

DISTANCE 565.468

EARTH TO MARS

RL 151.32 LAL -.00 LOL 236.42 VL 32.306 GAL -.92 AZL 85.93 HCA 177.78 SMA 186.79 ECC .19056 INC 4.0586 V1 29.445
RP 221.88 LAP .16 LOP 54.21 VP 22.040 GAP 1.86 AZP 94.07 TAL 354.27 TAP 172.05 RCA 151.19 APO 222.38 V2 24.780
RC 199.945 GL 38.21 GP -35.75 ZAL 103.66 ZAP 67.21 ETS 161.46 ZAE 98.89 ETE 187.10 ZAC 66.55 ETC 272.66 LVI 22.49

PLANETOCENTRIC CONIC

C3 13.733 VHL 3.708 DLA 26.74 RAL 329.44 RAD 6639.9 VEL 11.567 PTH 6.61 VHP 3.882 DPA -57.53 RAP 308.94 ECC 1.2260
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 11 35 13 3644.89 -47.54 141.84 206.38 92.20 12 36 0 2644.9 -41.12 109.00
60.00 11 34 7 3647.92 -40.09 141.90 206.17 85.47 12 34 54 2647.9 -37.53 111.07
70.00 11 31 56 3654.34 -32.61 141.18 204.93 79.25 12 32 50 2654.3 -33.70 112.49
80.00 11 25 0 3676.13 -24.89 140.64 202.75 72.95 12 26 17 2676.1 -29.59 114.21
84.68 10 53 26 3777.84 -19.02 145.89 200.51 68.04 11 56 24 2777.8 -26.41 121.19
100.00 14 7 52 3150.60 -24.89 102.01 202.75 72.95 15 0 23 2150.6 -29.59 75.58
110.00 16 31 22 2701.16 -32.61 70.09 204.93 79.25 17 16 23 1701.2 -33.70 41.41

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 2.3569 TRA .5586 TC3-6.1109 BAU 1.2280 SGT 5895.9 SGR 2962.7 SG3 796.1 ST 182.9 SR 91.8 SS 96.6
RDE 1.1635 RRA .6896 RC3-2.7196 FAU .13064 RRT .9665 RRF .9996 RTF .9591 CRT .9929 CR8-1.0000 CST -.9918
FDE 3.6435 FRA 2.2614 FC3-8.2359 BSP 9402 SGB 6598.4 R23 .2335 R13 .9723 LSA 225.9 MSA 13.4 S8A .1
BDE 2.6284 BRA .8875 BC3 6.6887 FSP 1225 SG1 6563.0 SG2 683.4 THA 26.21 EL1 204.4 EL2 9.8 ALF 26.56

LAUNCH DATE MAY 18 1971

FLIGHT TIME 246.00

ARRIVAL DATE JAN 19 1972

HELIOCENTRIC CONIC

DISTANCE 569.581

EARTH TO MARS

RL 151.32 LAL -.00 LOL 236.42 VL 32.314 GAL -.99 AZL 80.18 HCA 178.87 SMA 186.93 ECC .19129 INC 9.6008 V1 29.445
RP 222.27 LAP .19 LOP 55.31 VP 22.005 GAP 1.72 AZP 99.82 TAL 353.84 TAP 172.71 RCA 151.18 APO 222.69 V2 24.738
RC 202.595 GL 65.06 GP -52.04 ZAL 98.66 ZAP 73.85 ETS 157.10 ZAE 97.14 ETE 190.21 ZAC 90.16 ETC 273.93 LVI 36.53

PLANETOCENTRIC CONIC

C3 36.967 VHL 6.000 DLA 52.67 RAL 312.73 RAD 6649.6 VEL 12.524 PTH 7.40 VHP 5.640 DPA -71.53 RAP 329.66 ECC 1.6084
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
43.52 6 8 44 4657.22 -20.74 219.03 205.95 40.42 7 26 21 3657.2 -38.45 199.80
43.52 6 8 44 4657.22 -20.74 219.03 205.95 40.42 7 26 21 3657.2 -38.45 199.80
43.52 6 8 44 4657.22 -20.74 219.03 205.95 40.42 7 26 21 3657.2 -38.45 199.80
43.52 6 8 44 4657.22 -20.74 219.03 205.95 40.42 7 26 21 3657.2 -38.45 199.80
43.52 6 8 44 4657.22 -20.74 219.03 205.95 40.42 7 26 21 3657.2 -38.45 199.80
43.52 6 8 44 4657.22 -20.74 219.03 205.95 40.42 7 26 21 3657.2 -38.45 199.80
43.52 6 8 44 4657.22 -20.74 219.03 205.95 40.42 7 26 21 3657.2 -38.45 199.80

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 4.7758 TRA -.8715 TC3-3.0748 BAU 1.8220 SGT 6005.6 SGR 4029.4 SG3 277.0 ST 226.0 SR 159.0 SS 61.9
RDE 3.3722 RRA .0875 RC3-2.0342 FAU .06752 RRT .9656 RRF .9980 RTF .9384 CRT .9947 CR8 -.9994 CST -.9907
FDE 2.6908 FRA .2526 FC3-1.5813 BSP 2646 SGB 7232.1 R23 .2689 R13 .9632 LSA 292.8 MSA 14.7 S8A .0
BDE 5.8464 BRA .8759 BC3 3.6867 FSP 174 SG1 7178.8 SG2 876.8 THA 33.50 EL1 276.0 EL2 13.4 ALF 35.07

LAUNCH DATE MAY 18 1971

FLIGHT TIME 252.00

ARRIVAL DATE JAN 25 1972

HELIOCENTRIC CONIC

DISTANCE 582.004

EARTH TO MARS

RL 151.32 LAL -.00 LOL 236.42 VL 32.340 GAL -1.23 AZL 97.83 HCA 182.18 SMA 187.38 ECC .19363 INC 7.6295 V1 29.445
RP 223.42 LAP .30 LOP 58.58 VP 21.903 GAP 1.30 AZP 82.17 TAL 352.39 TAP 174.58 RCA 151.10 APO 223.67 V2 24.612
RC 210.566 GL -57.62 GP 35.21 ZAL 101.65 ZAP 63.85 ETS 199.30 ZAE 96.33 ETE 176.17 ZAC 137.35 ETC 274.06 LVI -42.90

PLANETOCENTRIC CONIC

C3 27.232 VHL 5.218 DLA -54.79 RAL 24.44 RAD 6645.9 VEL 12.132 PTH 7.10 VHP 3.971 DPA 12.10 RAP 292.32 ECC 1.4482
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
40.90 22 45 8 1953.23 25.40 49.45 274.85 140.34 23 17 41 953.2 43.05 29.04
40.90 22 45 8 1953.23 25.40 49.45 274.85 140.34 23 17 41 953.2 43.05 29.04
40.90 22 45 8 1953.23 25.40 49.45 274.85 140.34 23 17 41 953.2 43.05 29.04
40.90 22 45 8 1953.23 25.40 49.45 274.85 140.34 23 17 41 953.2 43.05 29.04
40.90 22 45 8 1953.23 25.40 49.45 274.85 140.34 23 17 41 953.2 43.05 29.04
40.90 22 45 8 1953.23 25.40 49.45 274.85 140.34 23 17 41 953.2 43.05 29.04
40.90 22 45 8 1953.23 25.40 49.45 274.85 140.34 23 17 41 953.2 43.05 29.04

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7847 TRA 2.6802 TC3-3.5258 BAU 1.3918 SGT 6317.0 SGR 3015.9 SG3 731.1 ST 87.0 SR 41.5 SS 43.8
RDE -.8724 RRA -1.3521 RC3 1.4774 FAU .12847 RRT -.9692 RRF -.9982 RTF .5334 CRT -.8429 CR8 .9827 CST -.4889
FDE 1.2198 FRA 3.7736 FC3-4.0842 BSP 10651 SGB 7000.0 R23 .2578 R13 -.9660 LSA 95.8 MSA 45.2 S8A .1
BDE .8117 BRA 2.9841 BC3 3.8228 FSP 1230 SG1 6967.5 SG2 673.5 THA 154.92 EL1 91.5 EL2 30.2 ALF 160.78

LAUNCH DATE MAY 18 1971

FLIGHT TIME 254.00

ARRIVAL DATE JAN 27 1972

HELIOCENTRIC CONIC

DISTANCE 588.111

EARTH TO MARS

RL 151.32 LAL -.00 LOL 236.42 VL 32.349 GAL -1.31 AZL 95.84 HCA 183.26 SMA 187.54 ECC .19444 INC 5.8385 V1 29.445
RP 223.81 LAP .33 LOP 59.67 VP 21.869 GAP 1.18 AZP 84.17 TAL 351.94 TAP 175.20 RCA 151.07 APO 224.00 V2 24.571
RC 213.227 GL -48.20 GP 25.45 ZAL 104.40 ZAP 59.44 ETS 195.51 ZAE 95.06 ETE 178.15 ZAC 127.65 ETC 273.26 LVI -34.03

PLANETOCENTRIC CONIC

C3 19.493 VHL 4.415 DLA -47.52 RAL 14.84 RAD 6642.6 VEL 11.811 PTH 6.83 VHP 3.959 DPA 2.39 RAP 293.44 ECC 1.3208
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 21 36 1839.99 24.97 37.17 256.20 131.91 22 52 16 840.0 39.68 14.30
50.07 22 35 30 1805.44 26.48 35.31 257.68 131.02 23 5 36 805.4 40.73 11.68
50.07 22 35 30 1805.44 26.48 35.31 257.68 131.02 23 5 36 805.4 40.73 11.68
50.07 22 35 30 1805.44 26.48 35.31 257.68 131.02 23 5 36 805.4 40.73 11.68
50.07 22 35 30 1805.44 26.48 35.31 257.68 131.02 23 5 36 805.4 40.73 11.68
50.07 22 35 30 1805.44 26.48 35.31 257.68 131.02 23 5 36 805.4 40.73 11.68
50.07 22 35 30 1805.44 26.48 35.31 257.68 131.02 23 5 36 805.4 40.73 11.68

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8428 TRA 2.5532 TC3-4.7774 BAU 1.2980 SGT 6562.6 SGR 2261.1 SG3 960.0 ST 91.9 SR 28.6 SS 45.2
RDE -.0536 RRA -.9819 RC3 1.4087 FAU .15478 RRT -.9724 RRF -.9985 RTF .9599 CRT -.7252 CR8 .9788 CST -.5688
FDE .7306 FRA 4.8174 FC3-6.8734 BSP 11169 SGB 6941.2 R23 .2555 R13 -.9664 LSA 98.8 MSA 39.2 S8A .1
BDE .8445 BRA 2.7355 BC3 4.9808 FSP 1675 SG1 6923.2 SG2 499.7 THA 161.38 EL1 94.3 EL2 19.2 ALF 166.74

LAUNCH DATE MAY 18 1971

FLIGHT TIME 256.00

ARRIVAL DATE JAN 29 1972

Heliocentric Conic: RL 151.32 LAL -.00 LOL 236.42 VL 32.359 GAL -1.39 AZL 94.84 HCA 184.34 SMA 187.89 ECC .19528 INC 4.8405 V1 29.445
 RP 224.20 LAP .37 LOP 60.75 VP 21.836 GAP 1.01 AZP 85.17 TAL 351.47 TAP 175.81 RCA 151.04 APO 224.35 V2 24.529
 RC 215.890 GL -42.18 GP 19.63 ZAL 106.33 ZAP 58.87 ETS 192.67 ZAE 93.78 ETE 179.17 ZAC 121.85 ETC 272.98 LVI -28.70

Planetocentric Conic: C3 16.553 VHL 4.069 DLA -42.34 RAL 10.43 RAD 6641.3 VEL 11.687 PTH 6.72 VHP 3.419 DPA -3.38 RAP 294.26 ECC 1.2724
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 3 40 2122.59 11.48 30.48 236.11 136.50 20 39 2 1122.6 28.74 32.36
 57.07 22 44 34 1697.82 25.53 24.60 248.80 125.00 23 12 52 697.8 37.55 359.97
 57.07 22 44 34 1697.82 25.53 24.60 248.80 125.00 23 12 52 697.8 37.55 359.97
 57.07 22 44 34 1697.82 25.53 24.60 248.80 125.00 23 12 52 697.8 37.55 359.97
 57.07 22 44 34 1697.82 25.53 24.60 248.80 125.00 23 12 52 697.8 37.55 359.97
 57.07 22 44 34 1697.82 25.53 24.60 248.80 125.00 23 12 52 697.8 37.55 359.97

Differential Corrections: TDE -.7434 TRA 2.9218 TC3-5.6460 BAU 1.2802 SGT 8729.5 SGR 1779.2 SG3 1037.5 ST 89.3 SR 21.9 SS 46.2
 RDE -.0180 RRA -.7632 RC3 1.2598 FAU 1.6586 RRT -.9749 RRF -.9981 RTF .9631 CRT -.7790 CRS .9708 CST -.6060
 FDE .6428 FRA 5.2271 FC3-8.6745 BSP 11340 SGB 8960.8 R23 .2521 R13 -.9668 LSA 96.2 MSA 36.5 SSA .1
 BDE .7436 BRA 2.6347 BC3 5.7848 FSP 1834 SG1 6950.2 SG2 383.9 THA 165.50 EL1 91.0 EL2 13.5 ALF 168.95

LAUNCH DATE MAY 18 1971

FLIGHT TIME 256.00

ARRIVAL DATE JAN 31 1972

Heliocentric Conic: RL 151.32 LAL -.00 LOL 236.42 VL 32.368 GAL -1.47 AZL 94.24 HCA 185.42 SMA 187.85 ECC .19613 INC 4.2404 V1 29.445
 RP 224.59 LAP .40 LOP 61.82 VP 21.803 GAP .87 AZP 85.78 TAL 351.00 TAP 176.41 RCA 151.01 APO 224.70 V2 24.487
 RC 218.554 GL -37.98 GP 15.86 ZAL 107.82 ZAP 55.09 ETS 190.66 ZAE 92.54 ETE 179.78 ZAC 118.08 ETC 272.87 LVI -25.27

Planetocentric Conic: C3 15.131 VHL 3.890 DLA -38.53 RAL 8.09 RAD 6640.6 VEL 11.627 PTH 6.67 VHP 3.385 DPA -7.10 RAP 294.90 ECC 1.2490
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 15 43 2223.91 6.45 54.83 228.87 137.24 19 52 47 1223.9 24.21 37.75
 60.00 21 27 48 1871.23 16.22 32.24 237.92 127.41 21 59 0 871.2 29.98 10.89
 62.66 23 0 24 1808.86 24.21 15.91 243.69 120.94 23 27 11 606.9 34.74 350.99
 62.66 23 0 24 1808.86 24.21 15.91 243.69 120.94 23 27 11 606.9 34.74 350.99
 62.66 23 0 24 1808.86 24.21 15.91 243.69 120.94 23 27 11 606.9 34.74 350.99
 62.66 23 0 24 1808.86 24.21 15.91 243.69 120.94 23 27 11 606.9 34.74 350.99
 62.66 23 0 24 1808.86 24.21 15.91 243.69 120.94 23 27 11 606.9 34.74 350.99

Differential Corrections: TDE -.6245 TRA 2.9417 TC3-8.2340 BAU 1.2801 SGT 8875.5 SGR 1460.6 SG3 1099.5 ST 85.6 SR 17.9 SS 47.7
 RDE -.0117 RRA -.6321 RC3 1.0880 FAU 1.6675 RRT -.9744 RRF -.9972 RTF .9621 CRT -.8160 CRS .9572 CST -.6141
 FDE .7465 FRA 5.4584 FC3-9.5410 BSP 11637 SGB 7028.9 R23 .2566 R13 -.9646 LSA 92.8 MSA 36.1 SSA .2
 BDE .6246 BRA 2.8191 BC3 6.3282 FSP 1958 SG1 7021.6 SG2 321.4 THA 168.28 EL1 86.8 EL2 10.2 ALF 170.17

LAUNCH DATE MAY 18 1971

FLIGHT TIME 260.00

ARRIVAL DATE FEB 2 1972

Heliocentric Conic: RL 151.32 LAL -.00 LOL 236.42 VL 32.377 GAL -1.56 AZL 93.84 HCA 186.49 SMA 188.02 ECC .19701 INC 3.8403 V1 29.445
 RP 224.98 LAP .43 LOP 62.90 VP 21.770 GAP .73 AZP 86.18 TAL 350.52 TAP 177.01 RCA 150.98 APO 225.06 V2 24.445
 RC 221.219 GL -34.92 GP 13.24 ZAL 109.06 ZAP 53.68 ETS 189.20 ZAE 91.33 ETE 180.18 ZAC 115.47 ETC 272.82 LVI -22.91

Planetocentric Conic: C3 14.355 VHL 3.789 DLA -35.62 RAL 6.76 RAD 6640.2 VEL 11.594 PTH 6.64 VHP 3.347 DPA -9.66 RAP 295.42 ECC 1.2362
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 47 14 2292.60 3.01 57.72 224.91 137.50 19 25 27 1292.6 21.02 41.16
 60.00 20 33 37 2009.24 10.39 39.24 231.91 129.16 21 7 6 1009.2 25.21 19.26
 67.38 23 19 44 1522.66 22.92 8.28 240.57 118.04 23 45 7 522.7 32.41 343.32
 67.38 23 19 44 1522.66 22.92 8.28 240.57 118.04 23 45 7 522.7 32.41 343.32
 67.38 23 19 44 1522.66 22.92 8.28 240.57 118.04 23 45 7 522.7 32.41 343.32
 67.38 23 19 44 1522.66 22.92 8.28 240.57 118.04 23 45 7 522.7 32.41 343.32
 67.38 23 19 44 1522.66 22.92 8.28 240.57 118.04 23 45 7 522.7 32.41 343.32

Differential Corrections: TDE -.5163 TRA 2.9847 TC3-6.6579 BAU 1.2906 SGT 7012.9 SGR 1236.2 SG3 1113.0 ST 82.4 SR 15.1 SS 48.6
 RDE -.0073 RRA -.5412 RC3 .9468 FAU 1.6615 RRT -.9748 RRF -.9957 RTF .9625 CRT -.8623 CRS .9367 CST -.6308
 FDE .8537 FRA 5.3509 FC-10.0207 BSP 11925 SGB 7121.0 R23 .2515 R13 -.9641 LSA 90.2 MSA 35.3 SSA .2
 BDE .5163 BRA 2.6407 BC3 6.7249 FSP 1997 SG1 7115.8 SG2 271.7 THA 170.24 EL1 83.4 EL2 7.6 ALF 170.91

LAUNCH DATE MAY 18 1971

FLIGHT TIME 262.00

ARRIVAL DATE FEB 4 1972

Heliocentric Conic: RL 151.32 LAL -.00 LOL 236.42 VL 32.387 GAL -1.64 AZL 93.56 HCA 187.56 SMA 188.18 ECC .19790 INC 3.5545 V1 29.445
 RP 225.37 LAP .47 LOP 63.97 VP 21.737 GAP .59 AZP 86.48 TAL 350.03 TAP 177.60 RCA 150.94 APO 225.42 V2 24.403
 RC 223.884 GL -32.57 GP 11.34 ZAL 110.16 ZAP 52.49 ETS 188.10 ZAE 90.15 ETE 180.45 ZAC 113.56 ETC 272.81 LVI -21.21

Planetocentric Conic: C3 13.909 VHL 3.729 DLA -33.29 RAL 6.00 RAD 6640.0 VEL 11.575 PTH 6.62 VHP 3.347 DPA -11.52 RAP 295.89 ECC 1.2289
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 28 9 2345.14 .37 59.92 222.54 137.57 19 7 14 1345.1 18.53 43.67
 60.00 20 3 1 2092.60 6.78 43.32 228.67 129.82 20 37 54 1092.6 22.07 24.07
 70.00 22 33 47 1648.05 16.47 14.31 235.60 120.35 23 1 15 648.1 27.50 351.29
 71.66 23 41 59 1438.86 21.74 1.07 238.58 115.85 24 5 58 438.9 30.46 336.14
 71.66 23 41 59 1438.86 21.74 1.07 238.58 115.85 24 5 58 438.9 30.46 336.14
 71.66 23 41 59 1438.86 21.74 1.07 238.58 115.85 24 5 58 438.9 30.46 336.14
 110.00 3 37 9 5982.91 16.47 281.14 235.60 120.35 5 16 52 4982.9 27.50 258.12

Differential Corrections: TDE -.4230 TRA 2.6411 TC3-6.9794 BAU 1.3070 SGT 7147.4 SGR 1071.8 SG3 1112.2 ST 80.1 SR 13.2 SS 49.3
 RDE -.0011 RRA -.4759 RC3 .8303 FAU 1.6466 RRT -.9750 RRF -.9935 RTF .9633 CRT -.9109 CRS .9075 CST -.6540
 FDE .9447 FRA 5.5800 FC-10.2488 BSP 12172 SGB 7227.3 R23 .2397 R13 -.9645 LSA 88.6 MSA 34.2 SSA .3
 BDE .4230 BRA 2.6837 BC3 7.0286 FSP 1988 SG1 7223.5 SG2 235.6 THA 171.67 EL1 81.0 EL2 5.4 ALF 171.46

LAUNCH DATE MAY 18 1971 FLIGHT TIME 264.00 ARRIVAL DATE FEB 6 1972

HELIOCENTRIC CONIC DISTANCE 606.592 EARTH TO MARS
RL 151.32 LAL -.00 LOL 236.42 VL 32.398 GAL -1.73 AZL 93.34 HCA 188.62 SMA 188.35 ECC .19881 INC 3.3394 V1 29.446
PLANETOCENTRIC CONIC
C3 13.654 VHL 3.695 DLA -31.37 RAL 5.58 RAD 6639.9 VEL 11.564 PTH 6.61 VHP 3.356 DPA -12.92 RAP 296.32 ECC 1.2247
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 18 1971 FLIGHT TIME 266.00 ARRIVAL DATE FEB 8 1972

HELIOCENTRIC CONIC DISTANCE 610.673 EARTH TO MARS
RL 151.32 LAL -.00 LOL 236.42 VL 32.406 GAL -1.81 AZL 93.17 HCA 189.68 SMA 188.51 ECC .19974 INC 3.1720 V1 29.445
PLANETOCENTRIC CONIC
C3 13.919 VHL 3.677 DLA -29.74 RAL 5.39 RAD 6639.8 VEL 11.558 PTH 6.60 VHP 3.371 DPA -14.00 RAP 296.74 ECC 1.2255
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 18 1971 FLIGHT TIME 268.00 ARRIVAL DATE FEB 10 1972

HELIOCENTRIC CONIC DISTANCE 614.749 EARTH TO MARS
RL 151.32 LAL -.00 LOL 236.42 VL 32.416 GAL -1.90 AZL 93.04 HCA 190.74 SMA 188.68 ECC .20069 INC 3.0360 V1 29.445
PLANETOCENTRIC CONIC
C3 13.466 VHL 3.670 DLA -28.32 RAL 5.36 RAD 6639.8 VEL 11.556 PTH 6.60 VHP 3.390 DPA -14.86 RAP 297.15 ECC 1.2216
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 18 1971 FLIGHT TIME 270.00 ARRIVAL DATE FEB 12 1972

HELIOCENTRIC CONIC DISTANCE 618.820 EARTH TO MARS
RL 151.32 LAL -.00 LOL 236.42 VL 32.423 GAL -1.99 AZL 92.93 HCA 191.80 SMA 188.85 ECC .20165 INC 2.9275 V1 29.445
PLANETOCENTRIC CONIC
C3 13.470 VHL 3.670 DLA -27.06 RAL 5.44 RAD 6639.8 VEL 11.556 PTH 6.60 VHP 3.411 DPA -15.55 RAP 297.55 ECC 1.2217
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 18 1971 FLIGHT TIME 272.00 ARRIVAL DATE FEB 14 1972

MELIOCENTRIC CONIC
 RL 151.32 LAL -.00 LOL 236.42 VL 32.435 GAL -2.08 AZL 92.84 HCA 192.85 SMA 189.03 ECC .20263 INC 2.8357 V1 29.448
 RP 227.33 LAP .63 LOP 69.25 VP 21.576 GAP -.12 AZP 87.23 TAL 347.62 TAP 180.47 RCA 150.72 APO 227.33 V2 24.195
 RC 237.203 GL -25.86 GP 6.46 ZAL 114.86 ZAP 47.87 ETS 185.17 ZAE 84.70 ETE 181.05 ZAC 108.61 ETC 273.01 LVI -17.16

PLANETOCENTRIC CONIC
 C3 13.518 VHL 3.677 DLA -25.93 RAL 5.61 RAD 6639.8 VEL 11.558 PTH 6.60 VHP 3.433 DPA -16.12 RAP 297.96 ECC 1.2225
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 44 45 2510.81 -7.94 66.88 219.31 137.07 18 26 36 1510.8 10.45 51.11
 60.00 18 58 39 2314.27 -2.95 53.95 224.08 130.21 19 37 13 1314.3 13.05 35.85
 70.00 20 33 59 2033.96 2.28 35.18 228.04 124.09 21 7 53 1034.0 15.82 15.10
 80.00 22 30 35 1669.00 7.08 10.44 231.01 119.08 22 58 24 669.0 18.40 348.78
 90.00 0 22 59 1319.22 9.45 345.97 232.27 116.78 0 44 58 319.2 19.67 323.61
 100.00 1 17 23 1143.47 7.08 331.80 231.01 119.08 1 36 27 143.5 18.40 310.15
 110.00 1 37 22 1080.78 2.28 324.09 228.04 124.09 1 55 22 80.8 15.82 304.01

MID-COURSE EXECUTION ACCURACY
 SGT 7793.5 SGR 660.5 SG3 1041.6
 RRT -.9562 RRF -.9638 RTF .9620
 SGB 7821.5 R23 .1482 R13 -.9623
 SG1 7819.1 SG2 192.7 THA 175.36

ORBIT DETERMINATION ACCURACY
 ST 79.5 SR 8.9 SS 53.0
 CRT -.9710 CRS .5965 CST -.7675
 LSA 91.2 MSA 30.0 SSA .5
 EL1 79.9 EL2 2.1 ALF 173.80

LAUNCH DATE MAY 18 1971 FLIGHT TIME 274.00 ARRIVAL DATE FEB 16 1972

MELIOCENTRIC CONIC
 RL 151.32 LAL -.00 LOL 236.42 VL 32.445 GAL -2.17 AZL 92.76 HCA 193.89 SMA 189.20 ECC .20363 INC 2.7576 V1 29.445
 RP 227.72 LAP .66 LOP 70.30 VP 21.544 GAP -.26 AZP 87.32 TAL 347.13 TAP 181.02 RCA 150.67 APO 227.72 V2 24.153
 RC 239.859 GL -25.03 GP 5.93 ZAL 115.46 ZAP 47.09 ETS 184.84 ZAE 83.67 ETE 181.10 ZAC 108.06 ETC 273.08 LVI -16.78

PLANETOCENTRIC CONIC
 C3 13.600 VHL 3.688 DLA -24.90 RAL 5.83 RAD 6639.8 VEL 11.561 PTH 6.61 VHP 3.457 DPA -16.59 RAP 298.38 ECC 1.2238
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 40 33 2534.88 -9.14 67.91 219.39 136.90 18 22 48 1534.9 9.25 52.15
 60.00 18 52 23 2343.83 -4.25 55.36 224.05 130.11 19 31 27 1343.8 11.79 37.34
 70.00 20 24 29 2073.05 .78 37.22 227.86 124.15 20 59 2 1073.0 14.45 17.30
 80.00 22 15 49 1724.58 5.24 13.52 230.63 119.44 22 44 34 724.6 16.83 352.16
 90.00 0 3 50 1388.92 7.28 349.95 231.74 117.40 0 26 59 388.9 17.93 327.98
 100.00 1 2 37 1199.05 5.24 334.89 230.63 119.44 1 22 36 199.0 16.83 313.53
 110.00 1 27 51 1119.87 .78 326.13 227.86 124.15 1 46 31 119.9 14.45 306.21

MID-COURSE EXECUTION ACCURACY
 SGT 7918.5 SGR 618.8 SG3 1022.9
 RRT -.9476 RRF -.9528 RTF .9616
 SGB 7942.7 R23 .1282 R13 -.9619
 SG1 7940.2 SG2 197.1 THA 175.76

ORBIT DETERMINATION ACCURACY
 ST 80.7 SR 8.7 SS 53.8
 CRT -.9281 CRS .5046 CST -.7874
 LSA 92.8 MSA 29.2 SSA .6
 EL1 81.1 EL2 3.2 ALF 174.31

LAUNCH DATE MAY 18 1971 FLIGHT TIME 276.00 ARRIVAL DATE FEB 18 1972

MELIOCENTRIC CONIC
 RL 151.32 LAL -.00 LOL 236.42 VL 32.455 GAL -2.26 AZL 92.69 HCA 194.94 SMA 189.37 ECC .20464 INC 2.6904 V1 29.445
 RP 228.10 LAP .69 LOP 71.34 VP 21.513 GAP -.41 AZP 87.40 TAL 346.64 TAP 181.57 RCA 150.62 APO 228.13 V2 24.112
 RC 242.511 GL -24.28 GP 5.48 ZAL 116.25 ZAP 46.34 ETS 184.56 ZAE 82.67 ETE 181.14 ZAC 107.59 ETC 273.15 LVI -16.48

PLANETOCENTRIC CONIC
 C3 13.710 VHL 3.703 DLA -23.96 RAL 6.10 RAD 6639.9 VEL 11.566 PTH 6.61 VHP 3.482 DPA -16.98 RAP 298.80 ECC 1.2256
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 37 3 2557.40 -10.25 68.88 219.58 136.72 18 19 40 1557.4 8.13 53.12
 60.00 18 47 5 2371.12 -5.45 56.68 224.15 129.99 19 26 36 1371.1 10.62 38.70
 70.00 20 16 30 2108.26 -.56 39.05 227.85 124.15 20 51 38 1108.3 13.20 19.25
 80.00 22 3 53 1772.20 3.64 16.15 230.46 119.66 22 33 25 772.2 15.44 335.01
 90.00 23 45 6 1445.72 5.49 353.16 231.48 117.78 24 9 12 445.7 16.43 331.47
 100.00 0 50 41 1246.67 3.64 337.52 230.46 119.66 1 11 27 246.7 15.44 316.38
 110.00 1 19 52 1155.08 -.56 327.97 227.85 124.15 1 39 7 155.1 13.20 308.17

MID-COURSE EXECUTION ACCURACY
 SGT 8041.5 SGR 584.2 SG3 1003.6
 RRT -.9371 RRF -.9396 RTF .9611
 SGB 8062.7 R23 .1099 R13 -.9613
 SG1 8060.1 SG2 203.4 THA 176.10

ORBIT DETERMINATION ACCURACY
 ST 82.3 SR 8.6 SS 54.1
 CRT -.8686 CRS .4086 CST -.8092
 LSA 94.6 MSA 28.5 SSA .6
 EL1 82.6 EL2 4.2 ALF 174.82

LAUNCH DATE MAY 18 1971 FLIGHT TIME 278.00 ARRIVAL DATE FEB 20 1972

MELIOCENTRIC CONIC
 RL 151.32 LAL -.00 LOL 236.42 VL 32.465 GAL -2.35 AZL 92.63 HCA 195.98 SMA 189.55 ECC .20567 INC 2.6321 V1 29.445
 RP 228.49 LAP .72 LOP 72.38 VP 21.482 GAP -.55 AZP 87.47 TAL 346.14 TAP 182.12 RCA 150.56 APO 228.53 V2 24.071
 RC 245.157 GL -23.60 GP 5.08 ZAL 117.02 ZAP 45.62 ETS 184.31 ZAE 81.69 ETE 181.18 ZAC 107.17 ETC 273.23 LVI -16.25

PLANETOCENTRIC CONIC
 C3 13.843 VHL 3.721 DLA -23.07 RAL 6.41 RAD 6640.0 VEL 11.572 PTH 6.62 VHP 3.507 DPA -17.30 RAP 299.23 ECC 1.2278
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 34 6 2578.69 -11.31 69.80 219.85 136.53 18 17 5 1578.7 7.07 54.02
 60.00 18 42 34 2396.62 -6.56 57.91 224.36 129.85 19 22 30 1396.6 9.53 39.96
 70.00 20 9 41 2140.92 -1.80 40.74 227.95 124.11 20 45 21 1140.5 12.03 21.03
 80.00 21 53 55 1814.30 2.21 18.47 230.45 119.78 22 24 9 814.3 14.17 357.50
 90.00 23 33 4 1494.47 3.94 355.90 231.41 118.03 23 57 59 494.5 15.09 334.43
 100.00 0 40 42 1288.78 2.21 339.84 230.45 119.78 1 2 11 288.8 14.17 318.86
 110.00 1 13 3 1187.34 -1.80 329.65 227.95 124.11 1 32 50 187.3 12.03 309.95

MID-COURSE EXECUTION ACCURACY
 SGT 8162.9 SGR 555.6 SG3 984.4
 RRT -.9244 RRF -.9244 RTF .9604
 SGB 8181.8 R23 .0945 R13 -.9605
 SG1 8179.0 SG2 211.5 THA 176.40

ORBIT DETERMINATION ACCURACY
 ST 84.1 SR 8.6 SS 54.7
 CRT -.7966 CRS .3131 CST -.8218
 LSA 96.8 MSA 27.8 SSA .7
 EL1 84.4 EL2 5.2 ALF 175.34

LAUNCH DATE MAY 18 1971

FLIGHT TIME 200.00

ARRIVAL DATE FEB 22 1972

HELIOCENTRIC CONIC

DISTANCE 639.084

EARTH TO MARS

RL 181.32 LAL -.00 LOL 236.42 VL 32.478 GAL -2.44 AZL 92.38 HCA 197.01 SMA 189.73 ECC .20072 INC 2.5909 V1 29.445
 RP 228.88 LAP .78 LOP 73.42 VP 21.452 GAP -.69 AZP 87.33 TAL 348.65 TAP 182.66 RCA 150.51 APO 228.95 V2 24.030
 RC 247.796 GL -22.99 GP 4.74 ZAL 117.78 ZAP 44.92 ETS 184.10 ZAE 80.73 ETE 181.20 ZAC 106.80 ETC 273.31 LVI -16.08

PLANETOCENTRIC CONIC

C3 13.996 VHL 3.741 DLA -22.24 RAL 8.75 RAD 6640.0 VEL 11.578 PTH 6.62 VMP 3.532 DPA -17.97 RAP 299.67 ECC 1.2303
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 31 37 2598.94 -12.31 70.69 220.20 136.33 18 14 56 1598.9 6.06 84.88
 60.00 18 38 39 2420.66 -7.61 59.08 224.64 129.70 19 19 0 1420.7 8.49 41.13
 70.00 20 3 46 2170.45 -2.94 42.30 228.16 124.04 20 39 56 1170.4 10.94 22.66
 80.00 21 45 24 1852.36 .93 20.56 230.57 119.84 22 16 16 652.4 13.00 359.71
 90.00 23 22 58 1537.64 2.55 358.32 231.47 118.17 23 48 36 537.6 13.97 337.01
 100.00 0 32 12 1326.83 .93 341.93 230.57 119.84 0 34 19 326.8 13.00 321.08
 110.00 1 7 8 1217.26 -2.94 331.22 228.16 124.04 1 27 25 217.3 10.94 311.58

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

YDE .1633 TRA 3.4165 TC3-8.0848 BAW 1.5138 SGT 8283.2 SCR 532.0 SC3 985.1 ST 86.2 SR 8.7 88 59.1
 RDE .0665 RRA -.2839 RC3 .3047 FAU .13349 RRT -.9098 RRF -.9071 RTF .9599 CRT -.7159 CR8 .2201 CST -.8372
 FDE 1.5594 FRA 5.4358 FC3-8.2576 B8P 14270 SGB 8300.3 R23 .0798 R13 -.9600 LSA 99.0 MSA 27.2 88A .7
 BDE .1763 BRA 3.4283 BC3 8.0903 F8P 1753 SGI 8297.3 SGI 220.4 THA 176.65 EL1 86.4 EL2 6.1 ALF 178.88

LAUNCH DATE MAY 19 1971 FLIGHT TIME 92.00 ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC DISTANCE 270.877 EARTH TO MARS
 RL 151.35 LAL -.00 LOL 237.39 VL 35.476 GAL -.46 AZL 91.85 HCA 85.12 SMA 267.99 ECC .43331 INC 1.8937 V1 29.439
 RP 207.13 LAP -1.85 LOP 322.50 VP 28.040 GAP 22.42 AZP 90.16 TAL 358.47 TAP 83.58 RCA 151.33 APO 384.65 V2 26.443
 RC 56.701 GL -10.73 GP -.60 ZAL 95.96 ZAP 177.29 ETS 192.80 ZAE 173.33 EYE 40.47 ZAC 99.18 ETC 278.12 LVI -17.94

PLANETOCENTRIC CONIC
 C3 37.965 VHL 6.182 DLA -20.22 RAL 339.49 RAD 6650.0 VEL 12.564 PTH 7.43 VHP 11.216 DPA -17.19 RAP 323.07 ECC 1.6248
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 29 51 2882.76 -25.78 84.20 205.36 131.48 16 17 53 1882.8 -8.17 66.80
 60.00 16 33 38 2713.12 -19.88 74.03 210.47 125.81 17 18 51 1713.1 -4.34 55.18
 70.00 17 54 21 2475.84 -14.26 58.69 214.37 121.37 18 35 37 1475.8 -5.58 38.79
 80.00 19 30 40 2174.38 -9.83 38.40 216.97 118.33 20 6 55 1174.4 2.46 17.80
 90.00 21 5 14 1869.35 -8.05 16.92 217.92 117.20 21 36 23 869.4 3.69 356.05
 100.00 22 13 32 1648.85 -9.83 359.77 216.97 118.33 22 41 1 648.8 2.46 339.18
 110.00 22 53 47 1522.66 -14.26 347.61 214.37 121.37 23 19 10 522.7 -5.58 327.71

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3674 TRA -.8493 TC3 .0397 BAU .0387 SGT 909.6 SGR 581.9 SG3 94.3 ST 21.2 SR 26.7 SS 9.7
 RDE -.5686 RRA .2316 RC3 .0651 FAU .03262 RRT -.0162 RRF .0182 RTF -.5736 CRT .7208 CRS .3486 CST .8942
 FDE .1004 FRA .5909 FC3 -.7438 BSP 1204 SGB 1079.8 R23 -.0025 R13 .5736 LSA 32.3 MSA 14.5 S8A 1.1
 BDE .6770 BRA .8803 BC3 .0762 FSP 112 SG1 909.7 SG2 581.8 THA 179.00 EL1 31.8 EL2 12.4 ALF 53.81

LAUNCH DATE MAY 19 1971 FLIGHT TIME 94.00 ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC DISTANCE 272.694 EARTH TO MARS
 RL 151.35 LAL -.00 LOL 237.39 VL 35.263 GAL -.41 AZL 91.85 HCA 86.38 SMA 260.06 ECC .41808 INC 1.8479 V1 29.439
 RP 207.05 LAP -1.84 LOP 323.76 VP 27.779 GAP 21.89 AZP 90.12 TAL 358.61 TAP 84.99 RCA 151.33 APO 368.79 V2 26.453
 RC 57.030 GL -11.02 GP -.62 ZAL 95.83 ZAP 176.39 ETS 189.84 ZAE 172.73 EYE 35.94 ZAC 99.12 ETC 278.19 LVI -18.02

PLANETOCENTRIC CONIC
 C3 35.377 VHL 5.948 DLA -20.53 RAL 339.49 RAD 6649.0 VEL 12.461 PTH 7.36 VHP 10.841 DPA -17.09 RAP 323.42 ECC 1.5822
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 31 12 2858.27 -24.67 82.93 204.32 132.07 16 18 50 1858.3 -6.95 65.76
 60.00 16 35 28 2687.35 -18.85 72.64 209.43 126.30 17 20 16 1687.3 -3.21 53.95
 70.00 17 56 50 2448.18 -13.28 57.16 213.34 121.76 18 37 38 1448.2 .48 37.35
 80.00 19 33 54 2144.38 -8.86 36.71 215.96 118.63 20 9 39 1144.4 3.47 16.14
 90.00 21 8 52 1838.05 -7.07 15.14 216.92 117.45 21 39 30 838.1 4.69 354.29
 100.00 22 16 46 1618.85 -8.86 358.08 215.96 118.63 22 43 45 618.9 3.47 337.51
 110.00 22 58 16 1495.00 -13.28 346.07 213.34 121.76 23 21 11 495.0 .48 326.27

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3625 TRA -.8395 TC3 .0545 BAU .0419 SGT 933.8 SGR 586.1 SG3 101.2 ST 21.7 SR 26.8 SS 10.0
 RDE -.5523 RRA .2250 RC3 .0698 FAU .03374 RRT -.0159 RRF .0194 RTF -.5872 CRT .7193 CRS .3310 CST .8870
 FDE .0998 FRA .6135 FC3 -.8258 BSP 1259 SGB 1102.5 R23 -.0040 R13 .5873 LSA 32.7 MSA 14.9 S8A 1.1
 BDE .6607 BRA .8692 BC3 .0886 FSP 121 SG1 933.8 SG2 586.0 THA 179.06 EL1 32.1 EL2 12.6 ALF 53.21

LAUNCH DATE MAY 19 1971 FLIGHT TIME 96.00 ARRIVAL DATE AUG 23 1971

HELIOCENTRIC CONIC DISTANCE 274.776 EARTH TO MARS
 RL 151.35 LAL -.00 LOL 237.39 VL 35.062 GAL -.35 AZL 91.84 HCA 87.65 SMA 253.06 ECC .40197 INC 1.8422 V1 29.439
 RP 206.97 LAP -1.84 LOP 325.03 VP 27.532 GAP 21.37 AZP 90.08 TAL 358.77 TAP 86.42 RCA 151.34 APO 354.79 V2 26.462
 RC 57.440 GL -11.31 GP -.63 ZAL 95.67 ZAP 175.47 ETS 188.06 ZAE 172.14 EYE 32.19 ZAC 99.05 ETC 278.26 LVI -18.09

PLANETOCENTRIC CONIC
 C3 33.026 VHL 5.747 DLA -20.86 RAL 339.45 RAD 6648.2 VEL 12.367 PTH 7.29 VHP 10.479 DPA -17.00 RAP 323.76 ECC 1.5435
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 32 30 2834.00 -23.56 81.69 203.31 132.61 16 19 44 1834.0 -5.74 64.73
 60.00 16 37 17 2661.72 -17.81 71.27 208.41 126.77 17 21 39 1661.7 -2.08 52.72
 70.00 17 59 20 2420.55 -12.28 58.63 212.33 122.12 18 39 40 1420.6 1.54 35.91
 80.00 19 37 12 2114.25 -7.87 35.02 214.97 118.89 20 12 26 1114.2 4.48 14.48
 90.00 21 12 36 1806.49 -6.07 13.36 215.94 117.67 21 42 43 806.5 5.70 352.52
 100.00 22 20 4 1588.72 -7.87 356.38 214.97 118.89 22 46 33 588.7 4.48 335.85
 110.00 22 58 46 1487.37 -12.28 344.55 212.33 122.12 23 23 13 467.4 1.54 324.82

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3555 TRA -.8282 TC3 .0688 BAU .0448 SGT 955.3 SGR 590.0 SG3 108.5 ST 22.1 SR 27.0 SS 10.3
 RDE -.5387 RRA .2186 RC3 .0747 FAU .03496 RRT -.0171 RRF .0198 RTF -.5773 CRT .7164 CRS .3142 CST .8808
 FDE .0990 FRA .6350 FC3 -.9165 BSP 1320 SGB 1122.8 R23 -.0033 R13 .5974 LSA 33.0 MSA 15.2 S8A 1.1
 BDE .6437 BRA .8566 BC3 .1016 FSP 134 SG1 955.4 SG2 589.8 THA 179.02 EL1 32.4 EL2 12.8 ALF 52.78

LAUNCH DATE MAY 19 1971 FLIGHT TIME 98.00 ARRIVAL DATE AUG 25 1971

HELIOCENTRIC CONIC DISTANCE 277.084 EARTH TO MARS
 RL 151.35 LAL -.00 LOL 237.39 VL 34.873 GAL -.29 AZL 91.84 HCA 88.91 SMA 246.85 ECC .38691 INC 1.8365 V1 29.439
 RP 206.90 LAP -1.84 LOP 326.30 VP 27.299 GAP 20.88 AZP 90.03 TAL 358.95 TAP 87.86 RCA 151.34 APO 342.36 V2 26.469
 RC 57.930 GL -11.60 GP -.65 ZAL 95.48 ZAP 174.53 ETS 186.88 ZAE 171.55 EYE 29.07 ZAC 98.99 ETC 278.32 LVI -18.15

PLANETOCENTRIC CONIC
 C3 30.888 VHL 5.558 DLA -21.19 RAL 339.39 RAD 6647.3 VEL 12.281 PTH 7.22 VHP 10.132 DPA -16.91 RAP 324.09 ECC 1.5083
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 33 46 2809.99 -22.45 80.49 202.33 133.12 16 20 36 1810.0 -4.54 63.72
 60.00 16 39 5 2636.28 -16.77 69.92 207.41 127.20 17 23 1 1636.3 -.96 51.50
 70.00 18 1 50 2393.00 -11.28 54.13 211.34 122.45 18 41 43 1393.0 2.59 34.47
 80.00 19 40 34 2084.00 -6.87 33.33 214.00 119.13 20 15 18 1084.0 5.50 12.81
 90.00 21 16 28 1774.71 -5.07 11.57 214.98 117.86 21 46 2 774.7 6.70 350.72
 100.00 22 23 26 1558.48 -6.87 354.70 214.00 119.13 22 49 25 558.5 5.50 334.18
 110.00 23 1 17 1439.82 -11.28 343.05 211.34 122.45 23 25 17 439.8 2.59 323.39

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3488 TRA -.8188 TC3 .0874 BAU .0489 SGT 978.9 SGR 593.4 SG3 116.5 ST 22.5 SR 27.1 SS 10.6
 RDE -.5216 RRA .2123 RC3 .0797 FAU .03628 RRT -.0182 RRF .0209 RTF -.6103 CRT .7129 CRS .2949 CST .8737
 FDE .0977 FRA .6590 FC3 -1.0170 BSP 1368 SGB 1144.7 R23 -.0033 R13 .6103 LSA 33.3 MSA 15.6 S8A 1.2
 BDE .6274 BRA .8458 BC3 .1183 FSP 148 SG1 979.0 SG2 593.2 THA 179.00 EL1 32.7 EL2 13.1 ALF 52.32

LAUNCH DATE MAY 19 1971 FLIGHT TIME 100.00 ARRIVAL DATE AUG 27 1971

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, etc.

LAUNCH DATE MAY 19 1971 FLIGHT TIME 102.00 ARRIVAL DATE AUG 29 1971

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, etc.

LAUNCH DATE MAY 19 1971 FLIGHT TIME 104.00 ARRIVAL DATE AUG 31 1971

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, etc.

LAUNCH DATE MAY 19 1971 FLIGHT TIME 106.00 ARRIVAL DATE SEP 2 1971

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, etc.

LAUNCH DATE MAY 19 1971 FLIGHT TIME 108.00 ARRIVAL DATE SEP 4 1971

HELIOCENTRIC CONIC DISTANCE 291.126 EARTH TO MARS
 RL 151.35 LAL -.00 LOL 237.39 VL 34.089 GAL .01 AZL 91.81 HCA 95.25 SMA 224.18 ECC .32488 INC 1.8078 V1 29.439
 RP 206.68 LAP -1.80 LOP 332.64 VP 26.309 GAP 18.44 AZP 89.83 TAL .03 TAP 95.28 RCA 151.35 APO 297.01 V2 26.494
 RC 61.463 GL -13.04 GP -.76 ZAL 94.19 ZAP 169.65 ETS 184.24 ZAE 169.23 ETE 19.07 ZAC 98.67 ETC 278.61 LVI -18.42

PLANETOCENTRIC CONIC
 C3 22.728 VHL 4.787 DLA -23.00 RAL 338.71 RAD 6644.0 VEL 11.946 PTH 6.95 VHP 8.577 DPA -16.54 RAP 325.56 ECC 1.3740
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 39 20 2695.20 -17.00 75.01 197.77 135.13 16 24 16 1695.2 1.23 56.92
 60.00 16 47 41 2513.45 -11.61 63.65 202.77 128.87 17 29 34 1513.4 4.44 45.63
 70.00 18 14 37 2257.85 -6.25 48.89 206.74 123.64 18 32 15 1257.9 7.70 27.35
 80.00 19 58 38 1932.35 -1.78 24.95 209.51 119.81 20 30 50 932.3 10.47 4.31
 90.00 21 37 39 1612.97 .13 2.52 210.57 118.28 22 4 32 613.0 11.67 341.44
 100.00 22 41 30 1406.82 -1.78 346.32 209.51 119.81 23 4 56 406.8 10.47 325.68
 110.00 23 14 4 1304.67 -6.25 335.81 206.74 123.64 23 35 48 304.7 7.70 316.27

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3654 TRA -.7886 TC3 .3163 BAU .1012 SGT 1159.4 SGR 602.4 SG3 169.0 ST 26.9 SR 27.4 SS 15.9
 RDE -.4519 RRA .1843 RC3 .1049 FAU .04438 RRT .0299 RRF -.0462 RTF -.7555 CRT .7349 CRS .5467 CST .9660
 FDE .2321 FRA .8219 FC3-1.6906 BSP 873 SGB 1306.5 R23 -.0154 R13 -.7557 LSA 38.1 MSA 16.4 SSA 1.2
 BDE .5811 BRA .8099 BC3 .3333 FSP 165 SG1 1159.6 SG2 602.0 THA 1.22 EL1 35.7 EL2 14.0 ALF 45.78

LAUNCH DATE MAY 19 1971 FLIGHT TIME 110.00 ARRIVAL DATE SEP 6 1971

HELIOCENTRIC CONIC DISTANCE 294.300 EARTH TO MARS
 RL 151.35 LAL -.00 LOL 237.39 VL 33.954 GAL .07 AZL 91.80 HCA 96.52 SMA 220.86 ECC .31475 INC 1.8020 V1 29.439
 RP 206.68 LAP -1.79 LOP 333.91 VP 26.141 GAP 17.98 AZP 89.80 TAL .28 TAP 96.80 RCA 151.35 APO 290.38 V2 26.496
 RC 62.398 GL -13.31 GP -.78 ZAL 93.87 ZAP 168.63 ETS 183.99 ZAE 168.93 ETE 17.76 ZAC 98.61 ETC 278.65 LVI -18.46

PLANETOCENTRIC CONIC
 C3 21.495 VHL 4.636 DLA -23.38 RAL 338.51 RAD 6643.5 VEL 11.895 PTH 6.90 VHP 8.299 DPA -16.48 RAP 325.81 ECC 1.3537
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 40 19 2673.58 -15.96 74.03 196.93 135.44 16 24 53 1673.6 2.32 58.02
 60.00 16 49 19 2490.07 -10.61 62.48 201.92 129.11 17 30 49 1490.1 5.46 44.50
 70.00 18 17 13 2231.60 -5.26 45.51 205.90 123.79 18 34 24 1231.7 8.68 25.96
 80.00 20 2 29 1902.20 -.76 23.29 208.70 119.85 20 34 12 902.2 11.44 2.59
 90.00 21 42 19 1580.21 1.18 .70 209.78 118.26 22 8 39 580.2 12.64 339.52
 100.00 22 45 21 1376.67 -.76 344.66 208.70 119.85 23 8 18 376.7 11.44 323.95
 110.00 23 16 39 1278.50 -5.26 334.43 205.90 123.79 23 37 58 278.5 8.68 314.87

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2946 TRA -.7415 TC3 .2541 BAU .0796 SGT 1088.5 SGR 605.0 SG3 175.5 ST 23.6 SR 27.5 SS 11.9
 RDE -.4416 RRA .1785 RC3 .1101 FAU .04637 RRT -.0259 RRF .0290 RTF -.6756 CRT .6825 CRS .1063 CST .7919
 FDE .0625 FRA .7872 FC3-1.8677 BSP 1575 SGB 1245.3 R23 -.0037 R13 .6757 LSA 33.8 MSA 17.7 SSA 1.3
 BDE .5309 BRA .7627 BC3 .2769 FSP 242 SG1 1088.6 SG2 604.7 THA 178.80 EL1 33.3 EL2 14.2 ALF 51.42

LAUNCH DATE MAY 19 1971 FLIGHT TIME 112.00 ARRIVAL DATE SEP 8 1971

HELIOCENTRIC CONIC DISTANCE 297.572 EARTH TO MARS
 RL 151.35 LAL -.00 LOL 237.39 VL 33.831 GAL .12 AZL 91.80 HCA 97.79 SMA 217.84 ECC .30525 INC 1.7962 V1 29.439
 RP 206.67 LAP -1.78 LOP 335.18 VP 25.982 GAP 17.54 AZP 89.76 TAL .53 TAP 98.32 RCA 151.35 APO 284.34 V2 26.496
 RC 63.376 GL -13.59 GP -.81 ZAL 93.55 ZAP 167.59 ETS 183.78 ZAE 168.69 ETE 16.58 ZAC 98.55 ETC 278.70 LVI -18.49

PLANETOCENTRIC CONIC
 C3 20.369 VHL 4.513 DLA -23.78 RAL 338.30 RAD 6643.0 VEL 11.848 PTH 6.86 VHP 8.031 DPA -16.43 RAP 326.04 ECC 1.3352
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 41 15 2652.48 -14.93 73.07 196.12 135.72 16 25 28 1652.9 3.37 57.13
 60.00 16 50 98 2487.16 -9.62 61.35 201.10 129.33 17 32 3 1467.2 6.46 43.40
 70.00 18 19 49 2203.87 -4.28 44.16 205.09 123.92 18 36 34 1205.9 9.64 24.57
 80.00 20 6 27 1872.14 .26 21.65 207.92 119.86 20 37 39 872.1 12.38 .86
 90.00 21 47 10 1547.29 2.24 358.86 209.02 118.20 22 12 57 547.3 13.59 337.58
 100.00 22 49 18 1346.61 .26 343.01 207.92 119.86 23 11 45 346.6 12.38 328.23
 110.00 23 19 15 1252.69 -4.28 333.07 205.09 123.92 23 40 8 252.7 9.64 313.49

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2861 TRA -.7427 TC3 .2701 BAU .0799 SGT 1119.3 SGR 605.7 SG3 190.6 ST 23.8 SR 27.5 SS 12.8
 RDE -.4299 RRA .1740 RC3 .1149 FAU .04841 RRT -.0371 RRF .0379 RTF -.6706 CRT .6697 CRS .0868 CST .7911
 FDE .0624 FRA .8561 FC3-2.0577 BSP 1628 SGB 1272.6 R23 -.0017 R13 .6907 LSA 33.8 MSA 18.5 SSA 1.3
 BDE .5164 BRA .7829 BC3 .2935 FSP 255 SG1 1119.6 SG2 605.1 THA 178.38 EL1 33.4 EL2 14.6 ALF 51.07

LAUNCH DATE MAY 19 1971 FLIGHT TIME 114.00 ARRIVAL DATE SEP 10 1971

HELIOCENTRIC CONIC DISTANCE 300.926 EARTH TO MARS
 RL 151.35 LAL -.00 LOL 237.39 VL 33.716 GAL .18 AZL 91.79 HCA 99.06 SMA 215.09 ECC .29636 INC 1.7903 V1 29.439
 RP 206.68 LAP -1.77 LOP 336.45 VP 25.831 GAP 17.10 AZP 89.72 TAL .79 TAP 99.85 RCA 151.34 APO 278.83 V2 26.496
 RC 64.414 GL -13.86 GP -.83 ZAL 93.20 ZAP 166.53 ETS 183.60 ZAE 168.52 ETE 15.51 ZAC 98.50 ETC 278.74 LVI -18.52

PLANETOCENTRIC CONIC
 C3 19.338 VHL 4.398 DLA -24.13 RAL 338.07 RAD 6642.5 VEL 11.805 PTH 6.83 VHP 7.772 DPA -16.38 RAP 326.26 ECC 1.3183
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 42 8 2631.91 -13.92 72.15 195.34 135.97 16 26 0 1631.9 4.41 56.27
 60.00 16 52 31 2444.75 -8.65 60.25 200.30 129.52 17 33 16 1444.7 7.44 42.31
 70.00 18 22 25 2180.45 -3.32 42.82 204.30 124.01 18 38 45 1180.5 10.58 23.20
 80.00 20 10 29 1842.20 1.27 20.00 207.16 119.83 20 41 11 842.2 13.31 359.12
 90.00 21 52 11 1514.19 3.31 357.01 208.29 118.10 22 17 25 514.2 14.54 335.61
 100.00 22 53 21 1316.68 1.27 341.37 207.16 119.83 23 15 18 316.7 13.31 320.49
 110.00 23 21 51 1227.27 -3.32 331.74 204.30 124.01 23 42 18 227.3 10.58 312.12

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2830 TRA -.7301 TC3 .2944 BAU .0822 SGT 1135.5 SGR 605.9 SG3 203.4 ST 24.2 SR 27.5 SS 13.0
 RDE -.4187 RRA .1692 RC3 .1196 FAU .05054 RRT -.0340 RRF .0407 RTF -.6914 CRT .6709 CRS .0416 CST .7618
 FDE .0506 FRA .8792 FC3-2.2626 BSP 1660 SGB 1287.0 R23 -.0078 R13 .6916 LSA 34.0 MSA 18.8 SSA 1.4
 BDE .5054 BRA .7494 BC3 .3178 FSP 274 SG1 1135.8 SG2 605.4 THA 178.55 EL1 33.5 EL2 14.7 ALF 50.48

LAUNCH DATE MAY 19 1971 FLIGHT TIME 116.00 ARRIVAL DATE SEP 12 1971

Heliocentric Conic: RL 151.35 LAL -.00 LOL 237.39 VL 33.607 GAL .24 AZL 91.78 HCA 100.33 SMA 212.57 ECC .28803 INC 1.7844 V1 29.439 RP 206.69 LAP -1.76 LOP 337.72 VP 25.688 GAP 16.67 AZP 89.60 TAL 1.06 TAP 101.39 RCA 151.34 APO 273.79 V2 26.495 RC 65.512 GL -14.12 GP -.86 ZAL 92.85 ZAP 165.45 ETS 183.44 ZAE 166.41 ETE 14.54 ZAC 98.44 ETC 275.77 LVI -18.54

Distance 304.355 Earth to Mars

Planetocentric Conic: C3 18.394 VHL 4.288 DLA -24.51 RAL 337.83 RAD 6642.1 VEL 11.765 PTH 6.79 VHP 7.523 DPA -16.35 RAP 326.45 ECC 1.3027 LNCN AZMTH LNCN TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

Differential Corrections: TDE -.2777 TRA -.7193 TC3 .3224 BAU .0850 RDE -.4079 RRA .1647 RC3 .1240 FAU .05272 FDE .0497 FRA .9132 FC3-2.4813 BSP 1710 BDE .4934 BRA .7382 BC3 .3455 FSP 299

Mid-course Execution Accuracy: SGT 1153.3 SGR 605.6 SG3 217.4 RRT -.0343 RRF .0406 RTF -.6994 SGB 1302.6 R23 -.0074 R13 .6995 SGI 1153.6 SG2 605.1 THA 178.58

Orbit Determination Accuracy: ST 24.4 SR 27.5 SS 13.4 CRT .6679 CRS .0316 CST .7579 LSA 34.1 MSA 19.2 SSA 1.4 EL1 33.6 EL2 14.8 ALF 50.07

LAUNCH DATE MAY 19 1971 FLIGHT TIME 118.00 ARRIVAL DATE SEP 14 1971

Heliocentric Conic: RL 151.35 LAL -.00 LOL 237.39 VL 33.505 GAL .29 AZL 91.78 HCA 101.60 SMA 210.26 ECC .28022 INC 1.7784 V1 29.439 RP 206.71 LAP -1.74 LOP 338.99 VP 25.552 GAP 16.25 AZP 89.64 TAL 1.33 TAP 102.93 RCA 151.34 APO 269.17 V2 26.493 RC 66.867 GL -14.38 GP -.89 ZAL 92.49 ZAP 164.35 ETS 183.31 ZAE 168.37 ETE 13.66 ZAC 98.38 ETC 278.81 LVI -18.55

Distance 307.852 Earth to Mars

Planetocentric Conic: C3 17.530 VHL 4.187 DLA -24.88 RAL 337.57 RAD 6641.7 VEL 11.729 PTH 6.76 VHP 7.282 DPA -16.32 RAP 326.63 ECC 1.2885 LNCN AZMTH LNCN TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

Differential Corrections: TDE -.2705 TRA -.7110 TC3 .3508 BAU .0875 RDE -.3976 RRA .1605 RC3 .1280 FAU .05522 FDE .0350 FRA .9520 FC3-2.7269 BSP 1736 BDE .4809 BRA .7289 BC3 .3734 FSP 321

Mid-course Execution Accuracy: SGT 1172.1 SGR 605.1 SG3 233.1 RRT -.0378 RRF .0471 RTF -.7048 SGB 1319.0 R23 -.0109 R13 .7051 SGI 1172.4 SG2 604.5 THA 178.48

Orbit Determination Accuracy: ST 24.5 SR 27.4 SS 13.8 CRT .6613 CRS -.0210 CST .7289 LSA 34.0 MSA 19.7 SSA 1.4 EL1 33.6 EL2 15.0 ALF 49.83

LAUNCH DATE MAY 19 1971 FLIGHT TIME 120.00 ARRIVAL DATE SEP 16 1971

Heliocentric Conic: RL 151.35 LAL -.00 LOL 237.39 VL 33.409 GAL .34 AZL 91.77 HCA 102.87 SMA 208.14 ECC .27291 INC 1.7725 V1 29.439 RP 206.73 LAP -1.73 LOP 340.26 VP 25.422 GAP 15.83 AZP 89.61 TAL 1.60 TAP 104.47 RCA 151.33 APO 264.94 V2 26.489 RC 67.877 GL -14.63 GP -.92 ZAL 92.13 ZAP 163.23 ETS 183.19 ZAE 168.41 ETE 12.83 ZAC 98.33 ETC 278.86 LVI -18.56

Distance 311.410 Earth to Mars

Planetocentric Conic: C3 16.737 VHL 4.091 DLA -25.25 RAL 337.31 RAD 6641.3 VEL 11.695 PTH 6.73 VHP 7.050 DPA -16.30 RAP 326.78 ECC 1.2755 LNCN AZMTH LNCN TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

Differential Corrections: TDE -.2630 TRA -.7003 TC3 .3820 BAU .0904 RDE -.3876 RRA .1584 RC3 .1316 FAU .05789 FDE .0261 FRA .9899 FC3-2.9943 BSP 1799 BDE .4684 BRA .7176 BC3 .4040 FSP 353

Mid-course Execution Accuracy: SGT 1187.1 SGR 604.1 SG3 249.7 RRT -.0405 RRF .0502 RTF -.7115 SGB 1332.0 R23 -.0113 R13 .7118 SGI 1187.5 SG2 603.4 THA 178.41

Orbit Determination Accuracy: ST 24.6 SR 27.4 SS 14.2 CRT .6591 CRS -.0522 CST .7131 LSA 33.9 MSA 20.2 SSA 1.5 EL1 33.5 EL2 15.2 ALF 49.69

LAUNCH DATE MAY 19 1971 FLIGHT TIME 122.00 ARRIVAL DATE SEP 18 1971

Heliocentric Conic: RL 151.35 LAL -.00 LOL 237.39 VL 33.319 GAL .39 AZL 91.77 HCA 104.13 SMA 206.19 ECC .26607 INC 1.7684 V1 29.439 RP 206.77 LAP -1.71 LOP 341.33 VP 25.299 GAP 15.43 AZP 89.57 TAL 1.88 TAP 106.01 RCA 151.33 APO 261.05 V2 26.485 RC 69.140 GL -14.87 GP -.95 ZAL 91.76 ZAP 162.08 ETS 183.09 ZAE 168.52 ETE 12.06 ZAC 98.28 ETC 278.86 LVI -18.56

Distance 315.023 Earth to Mars

Planetocentric Conic: C3 16.011 VHL 4.001 DLA -25.81 RAL 337.04 RAD 6641.0 VEL 11.664 PTH 6.70 VHP 6.826 DPA -16.29 RAP 326.91 ECC 1.2635 LNCN AZMTH LNCN TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

Differential Corrections: TDE -.2558 TRA -.6888 TC3 .4082 BAU .0920 RDE -.3780 RRA .1525 RC3 .1349 FAU .06057 FDE .0133 FRA 1.0222 FC3-3.2753 BSP 1825 BDE .4564 BRA .7054 BC3 .4299 FSP 381

Mid-course Execution Accuracy: SGT 1198.8 SGR 602.7 SG3 266.4 RRT -.0433 RRF .0537 RTF -.7139 SGB 1341.8 R23 -.0124 R13 .7142 SGI 1199.2 SG2 602.0 THA 178.33

Orbit Determination Accuracy: ST 24.6 SR 27.3 SS 14.6 CRT .6495 CRS -.0919 CST .6901 LSA 33.7 MSA 20.6 SSA 1.5 EL1 33.4 EL2 15.3 ALF 49.59

LAUNCH DATE MAY 19 1971

FLIGHT TIME 124.00

ARRIVAL DATE SEP 20 1971

Heliocentric Conic

DISTANCE 318.007

EARTH TO MARS

RL 131.35 LAL -.00 LOL 237.39 VL 33.234 GAL .44 AZL 91.76 HCA 108.40 SMA 204.40 ECC .25966 INC 1.7603 V1 29.439
 RP 206.81 LAP -1.70 LOP 342.79 VP 28.182 GAP 19.04 AZP 89.53 TAL 2.19 TAP 107.55 RCA 151.33 APO 257.48 V2 26.480
 RC 70.435 GL -19.11 GP -.99 ZAL 91.40 ZAP 180.91 ETS 183.00 ZAE 168.70 ETE 11.34 ZAC 98.23 ETC 278.88 LVI -18.55

Planetocentric Conic

C3 15.344 VML 3.917 DLA -25.97 RAL 336.78 RAD 8640.7 VEL 11.636 PTH 6.68 VMP 6.611 DPA -16.29 RAP 327.02 ECC 1.2525
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 45 56 2530.07 -9.29 68.05 191.79 136.88 16 28 14 1538.1 9.09 52.29
 60.00 16 59 54 2341.34 -4.14 55.24 196.71 130.12 17 38 55 1341.3 11.90 37.21
 70.00 18 39 21 2060.68 1.26 36.57 200.79 124.13 19 9 42 1060.7 14.89 16.60
 80.00 20 32 9 1695.09 6.22 11.89 203.86 119.26 21 0 24 695.1 17.67 350.38
 90.00 22 20 48 1344.70 8.66 347.43 205.18 117.03 22 43 13 344.7 19.05 325.22
 100.00 23 15 1 1169.56 6.22 333.26 203.86 119.26 23 34 31 169.6 17.67 311.75
 110.00 23 34 47 1107.50 1.26 325.49 200.79 124.13 23 53 15 107.5 14.89 305.92

Differential Corrections

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2301 TRA -.6777 TC3 .4394 BAV .0045 8GT 1211.7 8GR 600.9 8G3 285.4 8T 24.7 8R 27.2 88 15.0
 RDE -.3688 RRA .1488 RC3 .1375 FAU .06369 RRT -.0448 RRF .0558 RTF -.7190 CRT .6457 CR8 -.1152 C8T .8767
 FDE .0056 FRA 1.0825 FC3-3.5936 88P 1862 8GB 1352.5 R23 -.0133 R13 .7193 LSA 33.6 M8A 21.0 88A 1.5
 BDE .4496 BRA .6938 BC3 .4604 F8P 411 8G1 1212.0 8G2 600.1 THA 178.32 EL1 33.4 EL2 15.4 ALF 49.33

LAUNCH DATE MAY 19 1971

FLIGHT TIME 126.00

ARRIVAL DATE SEP 22 1971

Heliocentric Conic

DISTANCE 322.396

EARTH TO MARS

RL 151.35 LAL -.00 LOL 237.39 VL 33.184 GAL .49 AZL 91.75 HCA 106.67 SMA 202.75 ECC .25367 INC 1.7540 V1 29.439
 RP 206.87 LAP -1.68 LOP 344.06 VP 25.070 GAP 14.65 AZP 89.50 TAL 2.42 TAP 109.09 RCA 151.32 APO 254.18 V2 26.474
 RC 71.818 GL -15.33 GP -1.02 ZAL 91.03 ZAP 159.72 ETS 182.91 ZAE 168.95 ETE 10.65 ZAC 98.19 ETC 278.89 LVI -18.53

Planetocentric Conic

C3 14.731 VML 3.938 DLA -26.32 RAL 336.48 RAD 8640.4 VEL 11.610 PTH 6.65 VMP 6.402 DPA -16.30 RAP 327.10 ECC 1.2424
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 46 34 2521.26 -8.46 67.33 191.16 137.00 16 28 35 1521.3 9.93 51.56
 60.00 17 1 15 2322.59 -3.32 54.34 196.07 130.19 17 39 58 1322.6 12.70 36.27
 70.00 18 37 53 2038.46 2.10 35.41 200.18 124.10 19 11 52 1038.5 15.67 15.35
 80.00 20 36 47 1666.30 7.17 10.29 203.30 119.06 21 4 34 666.3 16.47 348.82
 90.00 22 27 28 1309.38 9.75 345.41 204.68 116.68 22 49 17 309.4 19.90 322.98
 100.00 23 19 39 1140.77 7.17 331.65 203.30 119.06 23 36 40 140.8 16.47 309.98
 110.00 23 37 20 1085.28 2.10 324.33 200.18 124.10 23 55 25 85.3 15.67 304.27

Differential Corrections

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2422 TRA -.6673 TC3 .4649 BAV .0056 8GT 1222.0 8GR 599.0 8G3 304.9 8T 24.6 8R 27.1 88 15.5
 RDE -.3599 RRA .1453 RC3 .1398 FAU .06669 RRT -.0496 RRF .0627 RTF -.7228 CRT .6378 CR8 -.1612 C8T .8649
 FDE -.0114 FRA 1.1071 FC3-3.9189 88P 1885 8GB 1360.9 R23 -.0153 R13 .7231 LSA 33.4 M8A 21.5 88A 1.5
 BDE .4339 BRA .6830 BC3 .4854 F8P 444 8G1 1222.4 8G2 599.0 THA 178.17 EL1 33.2 EL2 15.5 ALF 49.34

LAUNCH DATE MAY 19 1971

FLIGHT TIME 128.00

ARRIVAL DATE SEP 24 1971

Heliocentric Conic

DISTANCE 326.148

EARTH TO MARS

RL 151.35 LAL -.00 LOL 237.39 VL 33.080 GAL .53 AZL 91.75 HCA 107.94 SMA 201.23 ECC .24806 INC 1.7478 V1 29.439
 RP 206.93 LAP -1.66 LOP 345.33 VP 24.964 GAP 14.27 AZP 89.46 TAL 2.69 TAP 110.62 RCA 151.31 APO 251.15 V2 26.458
 RC 73.228 GL -15.55 GP -1.06 ZAL 90.67 ZAP 158.49 ETS 182.84 ZAE 169.28 ETE 9.99 ZAC 98.14 ETC 278.90 LVI -18.50

Planetocentric Conic

C3 14.189 VML 3.784 DLA -26.65 RAL 336.20 RAD 8640.1 VEL 11.586 PTH 6.63 VMP 6.202 DPA -16.32 RAP 327.16 ECC 1.2332
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 47 9 2505.14 -7.65 66.64 190.55 137.10 16 28 54 1505.1 10.73 50.87
 60.00 17 2 34 2304.58 -2.53 53.48 195.46 130.24 17 40 58 1304.6 13.46 35.36
 70.00 18 40 24 2016.91 2.93 34.29 199.59 124.04 19 14 0 1016.9 16.41 14.13
 80.00 20 41 32 1637.75 8.12 8.69 202.77 118.83 21 8 49 637.7 19.25 346.85
 90.00 22 34 34 1273.18 10.85 343.32 204.22 116.28 22 55 48 273.2 20.75 320.66
 100.00 23 24 23 1112.22 8.12 330.08 202.77 118.83 23 42 56 112.2 19.25 308.22
 110.00 23 39 50 1063.73 2.93 323.20 199.59 124.04 23 57 34 63.7 16.41 303.05

Differential Corrections

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2392 TRA -.6567 TC3 .4883 BAV .0063 8GT 1230.5 8GR 596.6 8G3 325.8 8T 24.5 8R 27.0 88 16.0
 RDE -.3514 RRA .1420 RC3 .1414 FAU .07001 RRT -.0543 RRF .0670 RTF -. .49 CRT .6311 CR8 -.1967 C8T .8286
 FDE -.0259 FRA 1.1518 FC3-4.2774 88P 1906 8GB 1367.5 R23 -.0165 R13 .7253 LSA 33.2 M8A 22.0 88A 1.6
 BDE .4229 BRA .6719 BC3 .5084 F8P 478 8G1 1231.1 8G2 595.5 THA 178.03 EL1 33.0 EL2 15.6 ALF 49.29

LAUNCH DATE MAY 19 1971

FLIGHT TIME 130.00

ARRIVAL DATE SEP 26 1971

Heliocentric Conic

DISTANCE 329.938

EARTH TO MARS

RL 151.35 LAL -.00 LOL 237.39 VL 33.010 GAL .58 AZL 91.74 HCA 109.20 SMA 199.83 ECC .24281 INC 1.7414 V1 29.439
 RP 207.00 LAP -1.64 LOP 346.59 VP 24.882 GAP 13.90 AZP 89.43 TAL 2.95 TAP 112.15 RCA 151.31 APO 248.35 V2 26.458
 RC 74.683 GL -15.75 GP -1.10 ZAL 90.32 ZAP 157.24 ETS 182.77 ZAE 169.69 ETE 9.34 ZAC 98.10 ETC 278.90 LVI -18.47

Planetocentric Conic

C3 13.652 VML 3.695 DLA -26.97 RAL 335.92 RAD 8639.9 VEL 11.564 PTH 6.61 VMP 6.009 DPA -16.35 RAP 327.19 ECC 1.2247
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 47 43 2489.73 -6.89 65.98 189.97 137.19 16 29 12 1489.7 11.49 50.20
 60.00 17 3 50 2287.25 -1.77 52.65 194.88 130.27 17 41 57 1287.3 14.19 34.48
 70.00 18 42 52 1998.07 3.72 33.19 199.03 123.98 19 16 8 998.1 17.13 12.93
 80.00 20 46 22 1609.45 9.04 7.10 202.28 118.58 21 13 11 609.5 20.00 345.09
 90.00 22 42 16 1235.71 11.97 341.14 203.81 115.81 23 2 51 235.7 21.59 318.24
 100.00 23 29 14 1083.92 9.04 328.47 202.28 118.58 23 47 18 83.9 20.00 306.46
 110.00 23 42 18 1042.88 3.72 322.11 199.03 123.98 23 59 41 42.9 17.13 301.85

Differential Corrections

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2292 TRA -.6441 TC3 .5138 BAV .0073 8GT 1235.5 8GR 593.9 8G3 348.1 8T 24.5 8R 26.9 88 16.5
 RDE -.3432 RRA .1389 RC3 .1422 FAU .07382 RRT -.0570 RRF .0725 RTF -.7270 CRT .6269 CR8 -.2288 C8T .8071
 FDE -.0403 FRA 1.1961 FC3-4.6884 88P 1921 8GB 1370.8 R23 -.0187 R13 .7275 LSA 33.0 M8A 22.4 88A 1.6
 BDE .4127 BRA .6589 BC3 .5328 F8P 514 8G1 1236.1 8G2 592.6 THA 177.96 EL1 32.8 EL2 15.6 ALF 49.23

LAUNCH DATE MAY 19 1971

FLIGHT TIME 132.00

ARRIVAL DATE SEP 28 1971

HELIOCENTRIC CONIC

RL 151.35 LAL -.00 LOL 237.39 VL 32.944 GAL .62 AZL 91.73 HCA 110.47 SMA 196.84 ECC .23791 INC 1.7350 V1 29.439
RP 207.08 LAP -1.83 LOP 347.86 VP 24.788 GAP 13.54 AZP 89.39 TAL 3.21 TAP 113.67 RCA 151.30 APO 248.77 V2 26.449
RC 76.180 GL -15.95 GP -1.14 ZAL 89.97 ZAP 155.97 ETS 182.71 ZAE 170.17 ETE 8.69 ZAC 98.06 ETC 278.89 LVI -18.43

PLANETOCENTRIC CONIC

C3 13.177 VHL 3.630 DLA -27.29 RAL 335.64 RAD 6639.6 VEL 11.543 PTH 6.59 VHP 5.822 DPA -16.39 RAP 327.19 ECC 1.2169
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
80.00 15 48 14 2475.03 -8.18 68.36 189.42 137.27 16 29 29 1475.0 12.21 49.55
60.00 17 5 3 2270.70 -1.04 81.86 194.33 130.29 17 42 53 1270.7 14.88 33.63
70.00 18 45 17 1975.97 4.48 32.14 198.50 123.89 19 18 13 976.0 17.81 11.77
80.00 20 51 19 1581.42 9.95 8.51 201.82 118.30 21 17 40 581.4 20.73 343.32
90.00 22 50 43 1186.35 13.12 338.82 203.48 118.28 23 10 40 196.3 22.43 315.66
100.00 23 34 11 1055.09 9.95 326.86 201.82 118.30 23 91 47 55.9 20.73 304.69
110.00 23 44 43 1022.78 4.48 321.06 198.50 123.89 24 1 46 22.8 17.81 300.69

DIFFERENTIAL CORRECTIONS

TDE -.2234 TRA -.6338 TC3 .5312 BAU .0969
RDE -.3353 RRA .1360 RC3 .1425 FAU .07726
PDE -.0556 FRA 1.2475 FC3-5.0756 B8P 1926
BDE .4029 BRA .6482 BC3 .5500 F8P 554

MID-COURSE EXECUTION ACCURACY

SGT 1241.0 SGR 590.9 8C3 371.6
RRT -.0818 RRF .0789 RTF -.7277
SG8 1374.5 R23 -.0208 R13 .7282
SG1 1241.7 SGT 589.4 THA 177.82

ORBIT DETERMINATION ACCURACY

BT 24.4 SR 26.7 88 17.1
CRT .6217 CR8 -.2597 CBT .5869
L8A 32.7 M8A 23.0 88A 1.6
EL1 32.6 EL2 15.7 ALF 49.11

LAUNCH DATE MAY 19 1971

FLIGHT TIME 134.00

ARRIVAL DATE SEP 30 1971

HELIOCENTRIC CONIC

RL 151.35 LAL -.00 LOL 237.39 VL 32.883 GAL .65 AZL 91.73 HCA 111.73 SMA 197.34 ECC .23333 INC 1.7284 V1 29.439
RP 207.17 LAP -1.61 LOP 349.12 VP 24.672 GAP 13.19 AZP 89.36 TAL 3.46 TAP 115.19 RCA 151.30 APO 243.38 V2 26.439
RC 77.718 GL -16.13 GP -1.19 ZAL 89.64 ZAP 154.66 ETS 182.65 ZAE 170.72 ETE 8.04 ZAC 98.03 ETC 278.89 LVI -18.37

PLANETOCENTRIC CONIC

C3 12.740 VHL 3.569 DLA -27.58 RAL 335.37 RAD 6639.4 VEL 11.524 PTH 6.57 VHP 5.843 DPA -16.45 RAP 327.16 ECC 1.2097
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 15 48 42 2461.07 -5.45 64.77 188.89 137.34 16 29 44 1461.1 12.90 48.94
60.00 17 6 12 2254.92 -.34 51.11 193.80 130.30 17 43 47 1254.9 15.54 32.82
70.00 18 47 38 1956.65 5.22 31.12 197.99 123.80 19 20 15 956.7 18.45 10.65
80.00 20 58 22 1553.66 10.84 3.94 201.39 117.99 21 22 16 553.7 21.42 341.56
90.00 23 0 19 1153.96 14.34 336.31 203.16 114.64 23 19 33 154.0 23.28 312.84
100.00 23 39 14 1026.13 10.84 325.30 201.39 117.99 23 56 22 28.1 21.42 302.92
110.00 23 47 5 1003.47 5.22 320.04 197.99 123.80 24 3 48 3.5 18.45 299.57

DIFFERENTIAL CORRECTIONS

TDE -.2177 TRA -.6210 TC3 .5497 BAU .0987
RDE -.3277 RRA .1333 RC3 .1418 FAU .08130
PDE -.0741 FRA 1.2969 FC3-5.5242 B8P 1940
BDE .3934 BRA .6351 BC3 .5677 F8P 598

MID-COURSE EXECUTION ACCURACY

SGT 1241.3 SGR 587.5 8C3 386.7
RRT -.0657 RRF .0853 RTF -.7277
SG8 1373.3 R23 -.0238 R13 .7283
SG1 1242.0 SGT 585.9 THA 177.71

ORBIT DETERMINATION ACCURACY

BT 24.3 SR 26.5 88 17.7
CRT .6179 CR8 -.2943 CBT .5815
L8A 32.5 M8A 23.4 88A 1.6
EL1 32.4 EL2 15.6 ALF 49.10

LAUNCH DATE MAY 19 1971

FLIGHT TIME 136.00

ARRIVAL DATE OCT 2 1971

HELIOCENTRIC CONIC

RL 151.35 LAL -.00 LOL 237.39 VL 32.825 GAL .69 AZL 91.72 HCA 112.99 SMA 196.23 ECC .22904 INC 1.7217 V1 29.439
RP 207.26 LAP -1.58 LOP 350.39 VP 24.563 GAP 12.85 AZP 89.33 TAL 3.70 TAP 116.69 RCA 151.29 APO 241.18 V2 26.428
RC 79.295 GL -16.31 GP -1.23 ZAL 89.31 ZAP 153.32 ETS 182.59 ZAE 171.35 ETE 7.36 ZAC 97.99 ETC 278.87 LVI -18.31

PLANETOCENTRIC CONIC

C3 12.338 VHL 3.513 DLA -27.86 RAL 335.11 RAD 6639.2 VEL 11.507 PTH 6.56 VHP 5.470 DPA -16.52 RAP 327.10 ECC 1.2031
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 15 49 9 2447.81 -4.79 64.21 188.39 137.39 16 29 57 1447.6 13.55 48.35
60.00 17 7 19 2239.90 .32 50.39 193.29 130.30 17 44 39 1239.9 16.16 32.04
70.00 18 49 56 1938.11 5.92 30.15 197.51 123.70 19 22 14 938.1 19.07 9.56
80.00 21 1 33 1528.07 11.72 2.36 200.89 117.66 21 26 39 526.1 22.10 339.78
90.00 23 11 51 1105.84 15.89 333.42 202.98 113.84 23 30 17 105.8 24.17 309.60
100.00 23 44 24 1000.54 11.72 323.73 200.89 117.66 24 1 3 .5 22.10 301.15
110.00 23 49 22 8272.97 5.92 296.97 187.51 123.70 25 33 55 5273.0 19.07 276.39

DIFFERENTIAL CORRECTIONS

TDE -.2035 TRA -.6007 TC3 .5892 BAU .0999
RDE -.3204 RRA .1307 RC3 .1402 FAU .08565
PDE -.0977 FRA 1.3475 FC3-6.0100 B8P 1831
BDE .3786 BRA .6147 BC3 .6087 F8P 637

MID-COURSE EXECUTION ACCURACY

SGT 1228.7 SGR 584.0 8C3 423.6
RRT -.0738 RRF .0932 RTF -.7280
SG8 1360.5 R23 -.0230 R13 .7394
SG1 1229.7 SGT 581.9 THA 177.41

ORBIT DETERMINATION ACCURACY

BT 23.5 SR 28.4 88 18.3
CRT .6028 CR8 -.3356 CBT .5412
L8A 31.7 M8A 24.0 88A 1.7
EL1 31.7 EL2 15.6 ALF 50.45

LAUNCH DATE MAY 19 1971

FLIGHT TIME 138.00

ARRIVAL DATE OCT 4 1971

HELIOCENTRIC CONIC

RL 151.35 LAL -.00 LOL 237.39 VL 32.771 GAL .72 AZL 91.71 HCA 114.28 SMA 195.22 ECC .22505 INC 1.7149 V1 29.439
RP 207.37 LAP -1.56 LOP 351.63 VP 24.498 GAP 12.51 AZP 89.30 TAL 3.93 TAP 118.18 RCA 151.28 APO 239.15 V2 26.418
RC 80.909 GL -16.47 GP -1.28 ZAL 89.01 ZAP 151.94 ETS 182.54 ZAE 172.05 ETE 8.63 ZAC 97.96 ETC 278.85 LVI -18.24

PLANETOCENTRIC CONIC

C3 11.968 VHL 3.460 DLA -28.13 RAL 334.86 RAD 6639.0 VEL 11.491 PTH 6.54 VHP 5.304 DPA -16.60 RAP 327.01 ECC 1.1970
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 15 49 34 2435.35 -4.16 63.69 187.92 137.44 16 30 9 1435.3 14.16 47.80
60.00 17 8 21 2225.75 .94 49.72 192.82 130.29 17 45 27 1225.7 16.75 31.30
70.00 18 82 9 1920.53 6.58 29.22 197.07 123.59 19 24 9 920.5 19.64 8.52
80.00 21 6 48 1498.91 12.57 .79 200.63 117.31 21 31 47 498.9 22.74 338.82
90.00 23 27 47 1044.23 17.34 329.65 202.94 112.69 23 45 11 44.2 25.20 303.38
100.00 23 49 40 8281.42 12.57 300.07 200.63 117.31 25 34 1 5261.4 22.74 277.29
110.00 23 51 35 6255.38 6.58 296.04 197.07 123.59 25 35 50 5255.4 19.64 275.35

DIFFERENTIAL CORRECTIONS

TDE -.2028 TRA -.5920 TC3 .5866 BAU .0964
RDE -.3133 RRA .1284 RC3 .1379 FAU .09004
PDE -.1144 FRA 1.4053 FC3-6.5133 B8P 1878
BDE .3732 BRA .6058 BC3 .6026 F8P 687

MID-COURSE EXECUTION ACCURACY

SGT 1230.2 SGR 580.1 8C3 451.5
RRT -.0771 RRF .1004 RTF -.7310
SG8 1360.1 R23 -.0282 R13 .7318
SG1 1231.3 SGT 577.8 THA 177.33

ORBIT DETERMINATION ACCURACY

BT 23.7 SR 26.2 88 18.9
CRT .6054 CR8 -.3590 CBT .5172
L8A 31.7 M8A 24.4 88A 1.7
EL1 31.7 EL2 15.6 ALF 49.76

LAUNCH DATE MAY 19 1971

FLIGHT TIME 140.00

ARRIVAL DATE OCT 6 1971

HELIOCENTRIC CONIC
 RL 151.35 LAL -.00 LOL 237.39 VL 32.721 GAL .75 AZL 91.71 HCA 115.51 SMA 194.27 ECC .22132 INC 1.7000 V1 29.439
 RP 207.48 LAP -1.54 LOP 352.91 VP 24.417 GAP 12.19 AZP 89.26 TAL 4.14 TAP 119.66 RCA 151.28 APO 237.27 V2 26.402
 RC 82.560 GL -16.62 GP -1.33 ZAL 88.72 ZAP 150.54 ETS 182.49 ZAE 172.02 ETE 5.81 ZAC 97.93 ETC 278.82 LVI -18.19

PLANETOCENTRIC CONIC
 C3 11.628 VHL 3.410 DLA -28.38 RAL 334.62 RAD 6638.9 VEL 11.476 PTH 6.53 VHP 5.145 DPA -16.70 RAP 326.89 ECC 1.1914
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 49 57 2423.63 -3.58 63.20 187.47 137.47 16 30 20 1423.6 14.73 47.27
 60.00 17 9 21 2212.41 1.53 49.08 192.38 130.28 17 46 13 1212.4 17.30 30.60
 70.00 18 54 16 1903.84 7.21 28.33 196.64 123.48 19 26 0 903.8 20.18 7.53
 80.00 21 12 10 1472.02 13.41 359.23 200.31 116.93 21 36 42 472.0 23.35 336.26
 87.55 23 31 49 1021.87 19.66 328.99 203.20 110.89 23 48 51 21.9 26.54 304.06
 100.00 23 55 2 6234.53 13.41 298.51 200.31 116.93 25 38 56 5234.5 23.35 275.53
 110.00 23 53 42 6238.70 7.21 295.16 196.64 123.48 25 37 41 5238.7 20.18 274.35

DIFFERENTIAL CORRECTIONS
 TDE -.1994 TRA -.5815 TC3 .5807 BAU .0927 SGT 1225.7 SGR 376.0 SG3 480.7 ST 23.6 SR 26.0 SS 19.6
 RDE -.3065 RRA .1262 RC3 .1348 FAU .09460 RRT -.0833 RRF .1096 RTF -.7234 CRT .6040 CRS -.3894 CST .4903
 FDE -.1368 FRA 1.4654 FC3-7.0433 B8P 1904 SGB 1354.3 R23 -.0326 R13 .7243 LSA 31.5 MSA 25.0 SSA 1.7
 BDE .3656 BRA .5951 BC3 .5961 F8P 742 SG1 1226.9 SG2 573.4 THA 177.13 EL1 31.5 EL2 15.5 ALF 49.50

LAUNCH DATE MAY 19 1971

FLIGHT TIME 142.00

ARRIVAL DATE OCT 8 1971

HELIOCENTRIC CONIC
 RL 151.35 LAL -.00 LOL 237.39 VL 32.674 GAL .78 AZL 91.70 HCA 116.77 SMA 193.40 ECC .21785 INC 1.7009 V1 29.439
 RP 207.60 LAP -1.52 LOP 354.17 VP 24.338 GAP 11.87 AZP 89.23 TAL 4.35 TAP 121.12 RCA 151.27 APO 235.53 V2 26.388
 RC 84.247 GL -16.76 GP -1.38 ZAL 88.45 ZAP 149.10 ETS 182.44 ZAE 173.66 ETE 4.85 ZAC 97.91 ETC 278.78 LVI -18.08

PLANETOCENTRIC CONIC
 C3 11.314 VHL 3.364 DLA -28.61 RAL 334.39 RAD 6638.7 VEL 11.463 PTH 6.51 VHP 4.992 DPA -16.81 RAP 326.73 ECC 1.1862
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 50 17 2412.66 -3.03 62.74 187.05 137.50 16 30 30 1412.7 15.27 46.78
 60.00 17 10 16 2199.91 2.08 48.48 191.96 130.26 17 46 56 1199.9 17.81 29.93
 70.00 18 56 17 1886.09 7.80 27.50 196.25 123.36 19 27 45 886.1 20.68 6.58
 80.00 21 17 38 1445.42 14.22 357.68 200.01 116.53 21 41 44 445.4 23.93 334.50
 85.49 23 13 48 1071.55 19.95 332.75 202.65 110.94 23 31 40 71.5 26.82 307.76
 100.00 0 4 26 6207.93 14.22 296.95 200.01 116.53 1 47 54 5207.9 23.93 273.77
 110.00 23 55 44 6222.95 7.80 294.32 196.25 123.36 25 39 26 5223.0 20.68 273.41

DIFFERENTIAL CORRECTIONS
 TDE -.1971 TRA -.5706 TC3 .5732 BAU .0889 SGT 1219.4 SGR 571.6 SG3 511.9 ST 23.6 SR 25.8 SS 20.3
 RDE -.2998 RRA .1243 RC3 .1306 FAU .09942 RRT -.0885 RRF .1187 RTF -.7164 CRT .6051 CRS -.4092 CST .4701
 FDE -.1550 FRA 1.5320 FC3-7.6074 B8P 1894 SGB 1346.7 R23 -.0378 R13 .7176 LSA 31.4 MSA 25.5 SSA 1.7
 BDE .3588 BRA .5839 BC3 .5879 F8P 795 SG1 1220.7 SG2 568.7 THA 176.96 EL1 31.4 EL2 15.5 ALF 49.14

LAUNCH DATE MAY 19 1971

FLIGHT TIME 144.00

ARRIVAL DATE OCT 10 1971

HELIOCENTRIC CONIC
 RL 151.35 LAL -.00 LOL 237.39 VL 32.630 GAL .80 AZL 91.69 HCA 118.03 SMA 192.60 ECC .21461 INC 1.6937 V1 29.439
 RP 207.73 LAP -1.50 LOP 355.43 VP 24.263 GAP 11.56 AZP 89.20 TAL 4.54 TAP 122.57 RCA 151.26 APO 233.93 V2 26.373
 RC 85.969 GL -16.88 GP -1.44 ZAL 88.20 ZAP 147.63 ETS 182.39 ZAE 174.57 ETE 3.64 ZAC 97.89 ETC 278.74 LVI -17.95

PLANETOCENTRIC CONIC
 C3 11.025 VHL 3.320 DLA -28.82 RAL 334.18 RAD 6638.6 VEL 11.450 PTH 6.50 VHP 4.844 DPA -16.93 RAP 326.54 ECC 1.1819
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 50 38 2402.44 -2.91 62.31 186.68 137.53 16 30 39 1402.4 15.76 46.31
 60.00 17 11 7 2188.26 2.99 47.92 191.56 130.23 17 47 35 1188.3 18.28 29.31
 70.00 18 56 11 1873.34 8.35 26.71 195.88 123.24 19 29 25 873.3 21.15 5.69
 80.00 21 23 13 1419.10 15.01 356.13 199.75 116.11 21 46 52 419.1 24.49 332.74
 84.20 23 2 24 1100.32 20.22 334.98 202.13 110.98 23 20 44 100.3 27.08 309.92
 100.00 0 10 1 6181.61 15.01 295.40 199.75 116.11 1 53 2 5181.6 24.49 272.01
 110.00 0 1 34 6208.20 8.35 293.54 195.88 123.24 1 45 2 5208.2 21.15 272.52

DIFFERENTIAL CORRECTIONS
 TDE -.1933 TRA -.5573 TC3 .5600 BAU .0846 SGT 1205.9 SGR 567.0 SG3 544.1 ST 23.4 SR 25.6 SS 21.1
 RDE -.2934 RRA .1225 RC3 .1255 FAU .10444 RRT -.0951 RRF .1292 RTF -.7080 CRT .6050 CRS -.4349 CST .4450
 FDE -.1784 FRA 1.5977 FC3-8.2008 B8P 1870 SGB 1332.6 R23 -.0433 R13 .7094 LSA 31.2 MSA 25.9 SSA 1.8
 BDE .3514 BRA .5706 BC3 .5739 F8P 850 SG1 1207.5 SG2 563.7 THA 176.73 EL1 31.1 EL2 15.3 ALF 49.09

LAUNCH DATE MAY 19 1971

FLIGHT TIME 146.00

ARRIVAL DATE OCT 12 1971

HELIOCENTRIC CONIC
 RL 151.35 LAL -.00 LOL 237.39 VL 32.589 GAL .82 AZL 91.69 HCA 119.29 SMA 191.85 ECC .21160 INC 1.6864 V1 29.439
 RP 207.86 LAP -1.47 LOP 356.68 VP 24.191 GAP 11.25 AZP 89.17 TAL 4.72 TAP 124.01 RCA 151.26 APO 232.45 V2 26.357
 RC 87.725 GL -17.00 GP -1.50 ZAL 87.97 ZAP 146.12 ETS 182.34 ZAE 175.55 ETE 1.98 ZAC 97.87 ETC 278.69 LVI -17.83

PLANETOCENTRIC CONIC
 C3 10.759 VHL 3.280 DLA -29.01 RAL 333.98 RAD 6638.4 VEL 11.439 PTH 6.49 VHP 4.703 DPA -17.07 RAP 326.31 ECC 1.1771
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 50 53 2392.98 -2.04 61.91 86.30 137.54 16 30 46 1393.0 16.22 45.88
 60.00 17 11 54 2177.47 3.07 47.41 191.20 130.20 17 48 11 1177.5 18.72 28.74
 70.00 18 59 58 1859.62 8.86 25.98 195.53 123.12 19 30 58 859.6 21.58 4.86
 80.00 21 28 54 1393.08 15.79 354.58 199.52 115.68 21 52 7 393.1 25.01 330.98
 83.23 22 53 47 1120.55 20.47 336.57 201.65 111.02 23 12 28 120.6 27.32 311.46
 100.00 0 15 41 6155.59 15.79 293.86 199.52 115.68 1 58 17 5155.6 25.01 270.26
 110.00 0 3 20 6194.48 8.86 292.80 195.53 123.12 1 46 35 5194.5 21.58 271.68

DIFFERENTIAL CORRECTIONS
 TDE -.1904 TRA -.5446 TC3 .5441 BAU .0801 SGT 1192.1 SGR 562.2 SG3 579.1 ST 23.3 SR 25.3 SS 21.8
 RDE -.2872 RRA .1210 RC3 .1191 FAU .10993 RRT -.1016 RRF .1403 RTF -.6988 CRT .6063 CRS -.4551 CST .4231
 FDE -.2006 FRA 1.6706 FC3-8.8456 B8P 1840 SGB 1318.1 R23 -.0496 R13 .7005 LSA 31.0 MSA 26.4 SSA 1.8
 BDE .3446 BRA .5578 BC3 .5570 F8P 912 SG1 1193.9 SG2 558.5 THA 176.49 EL1 30.9 EL2 15.2 ALF 48.93

LAUNCH DATE MAY 19 1971

FLIGHT TIME 148.00

ARRIVAL DATE OCT 14 1971

HELIOCENTRIC CONIC

DISTANCE 365.536

EARTH TO MARS

RL 191.38 LAL -.00 LOL 237.39 VL 32.861 GAL .84 AZL 91.68 MCA 120.84 SMA 191.17 ECC .20880 INC 1.6788 V1 29.439
 RP 208.01 LAP -1.45 LOP 357.94 VP 24.121 GAP 10.96 AZP 89.15 TAL 4.89 TAP 125.43 RCA 151.25 APO 231.08 V2 26.340
 RC 89.514 GL -17.10 GP -1.56 ZAL 87.76 ZAP 144.57 ETS 182.29 ZAE 176.60 ETE 359.37 ZAC 97.85 ETC 278.63 LVI -17.70

PLANETOCENTRIC CONIC

C3 10.514 VHL 3.242 DLA -29.19 RAL 333.80 RAD 6630.3 VEL 11.428 PTH 6.48 VHP 4.868 DPA -17.22 RAP 326.04 ECC 1.1730
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 51 9 2384.27 -1.60 61.55 185.96 137.56 16 30 53 1384.3 16.65 45.48
 60.00 17 12 37 2167.54 3.50 46.93 190.86 130.17 17 48 44 1167.5 19.12 28.20
 70.00 19 1 36 1846.97 9.33 25.30 195.21 123.00 19 32 23 847.0 21.97 4.09
 80.00 21 34 40 1367.38 16.54 383.05 199.33 115.22 21 57 27 367.4 25.51 329.24
 82.46 22 46 54 1135.7 20.70 337.78 201.20 111.04 23 5 50 135.7 27.54 312.62
 100.00 0 21 28 6129.89 16.54 292.32 199.33 115.22 2 3 38 5129.9 25.51 268.51
 110.00 0 4 58 6181.83 9.33 292.12 195.21 123.00 1 48 0 5181.8 21.97 270.91

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1887 TRA -.5297 TC3 .5191 BAU .0746 SGT 1172.2 SGR 557.2 SG3 614.9 ST 23.2 SR 25.1 SS 22.5
 RDE -.2811 RRA .1196 RC3 .1117 FAU .11554 RRT -.1065 RRF .1513 RTF -.6865 CRT .6116 CRS -.4712 CST .4005
 FDE -.2208 FRA 1.7416 FC3-9.5139 BSP 1801 SGB 1297.9 R23 -.0576 R13 .6886 LSA 30.9 MSA 26.8 SSA 1.8
 BDE .3385 BRA .5430 BC3 .5310 FSP 975 SGT 1174.1 SGT 553.1 THA 176.28 EL1 30.7 EL2 15.0 ALF 48.73

LAUNCH DATE MAY 19 1971

FLIGHT TIME 150.00

ARRIVAL DATE OCT 16 1971

HELIOCENTRIC CONIC

DISTANCE 369.375

EARTH TO MARS

RL 151.35 LAL -.00 LOL 237.39 VL 32.515 GAL .86 AZL 91.67 MCA 121.79 SMA 190.53 ECC .20620 INC 1.6711 V1 29.439
 RP 208.16 LAP -1.42 LOP 359.19 VP 24.054 GAP 10.67 AZP 89.12 TAL 5.04 TAP 126.83 RCA 151.25 APO 229.82 V2 26.323
 RC 91.337 GL -17.19 GP -1.62 ZAL 87.58 ZAP 142.99 ETS 182.24 ZAE 177.70 ETE 354.32 ZAC 97.83 ETC 278.56 LVI -17.55

PLANETOCENTRIC CONIC

C3 10.288 VHL 3.207 DLA -29.34 RAL 333.64 RAD 6638.2 VEL 11.418 PTH 6.47 VHP 4.439 DPA -17.39 RAP 325.73 ECC 1.1693
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 51 22 2376.32 -1.20 61.22 185.65 137.56 16 30 59 1376.3 17.03 45.12
 60.00 17 13 15 2158.49 3.90 46.50 190.55 130.14 17 49 13 1158.5 19.48 27.71
 70.00 19 3 5 1835.43 9.76 24.68 194.91 122.89 19 33 40 835.4 22.32 3.38
 80.00 21 40 32 1342.01 17.27 351.52 199.16 114.74 22 2 54 342.0 25.97 327.50
 81.83 22 41 19 1147.25 20.92 338.72 200.79 111.06 23 0 26 147.2 27.74 313.51
 100.00 0 27 19 6104.52 17.27 290.79 199.16 114.74 2 9 4 5104.5 25.97 266.77
 110.00 0 6 27 6170.29 9.76 291.50 194.91 122.89 1 49 17 5170.3 22.32 270.20

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1868 TRA -.5156 TC3 .4843 BAU .0681 SGT 1150.7 SGR 552.1 SG3 652.3 ST 23.0 SR 24.8 SS 23.3
 RDE -.2752 RRA .1184 RC3 .1032 FAU .12134 RRT -.1128 RRF .1646 RTF -.6709 CRT .6164 CRS -.4899 CST .3750
 FDE -.2453 FRA 1.8198 FC-10.2113 BSP 1747 SGB 1276.3 R23 -.0672 R13 .6735 LSA 30.9 MSA 27.1 SSA 1.8
 BDE .3326 BRA .5290 BC3 .4952 FSP 1041 SGT 1152.9 SGT 547.5 THA 176.00 EL1 30.5 EL2 14.8 ALF 48.53

LAUNCH DATE MAY 19 1971

FLIGHT TIME 152.00

ARRIVAL DATE OCT 18 1971

HELIOCENTRIC CONIC

DISTANCE 373.429

EARTH TO MARS

RL 151.35 LAL -.00 LOL 237.39 VL 32.482 GAL .87 AZL 91.66 MCA 123.04 SMA 189.95 ECC .20378 INC 1.6631 V1 29.439
 RP 208.32 LAP -1.39 LOP 359.44 VP 23.989 GAP 10.38 AZP 89.09 TAL 5.17 TAP 128.21 RCA 151.24 APO 228.66 V2 26.304
 RC 93.190 GL -17.27 GP -1.69 ZAL 87.42 ZAP 141.37 ETS 182.19 ZAE 178.82 ETE 339.32 ZAC 97.82 ETC 278.49 LVI -17.40

PLANETOCENTRIC CONIC

C3 10.079 VHL 3.175 DLA -29.48 RAL 333.51 RAD 6638.1 VEL 11.409 PTH 6.46 VHP 4.315 DPA -17.58 RAP 325.39 ECC 1.1659
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 51 34 2389.11 -.84 60.92 185.37 137.57 16 31 3 1389.1 17.38 44.79
 60.00 17 13 49 2150.32 4.26 46.11 190.26 130.11 17 49 39 1150.3 19.81 27.27
 70.00 19 4 24 1825.04 10.14 24.12 194.64 122.79 19 34 40 825.0 22.64 2.73
 80.00 21 46 28 1317.00 17.98 350.00 199.02 114.25 22 8 25 317.0 26.41 325.77
 81.32 22 36 47 1155.95 21.11 339.44 200.41 111.06 22 56 3 156.0 27.91 314.19
 100.00 0 33 16 6079.51 17.98 289.27 199.02 114.25 2 14 35 5079.5 26.41 265.04
 110.00 0 7 46 6159.90 10.14 290.94 194.64 122.79 1 50 26 5159.9 22.64 269.56

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1848 TRA -.5003 TC3 .4458 BAU .0614 SGT 1125.7 SGR 546.9 SG3 692.4 ST 22.8 SR 24.6 SS 24.2
 RDE -.2694 RRA .1173 RC3 .0933 FAU .12762 RRT -.1191 RRF .1789 RTF -.5335 CRT .6219 CRS -.5079 CST .3481
 FDE -.2711 FRA 1.9012 FC-10.9621 BSP 1689 SGB 1251.5 R23 -.0781 R13 .6567 LSA 31.0 MSA 27.3 SSA 1.8
 BDE .3287 BRA .5139 BC3 .4555 FSP 1110 SGT 1128.1 SGT 541.6 THA 175.69 EL1 30.2 EL2 14.5 ALF 48.43

LAUNCH DATE MAY 19 1971

FLIGHT TIME 154.00

ARRIVAL DATE OCT 20 1971

HELIOCENTRIC CONIC

DISTANCE 377.498

EARTH TO MARS

RL 151.35 LAL -.00 LOL 237.39 VL 32.452 GAL .89 AZL 91.66 MCA 124.29 SMA 189.41 ECC .20154 INC 1.6550 V1 29.439
 RP 208.49 LAP -1.37 LOP 359.69 VP 23.926 GAP 10.11 AZP 89.07 TAL 5.29 TAP 129.58 RCA 151.24 APO 227.59 V2 26.284
 RC 95.074 GL -17.34 GP -1.76 ZAL 87.28 ZAP 139.71 ETS 182.14 ZAE 179.38 ETE 256.42 ZAC 97.81 ETC 278.41 LVI -17.23

PLANETOCENTRIC CONIC

C3 9.887 VHL 3.144 DLA -29.59 RAL 333.39 RAD 6638.0 VEL 11.401 PTH 6.45 VHP 4.197 DPA -17.78 RAP 325.01 ECC 1.1627
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 51 45 2362.61 -.51 60.65 185.12 137.57 16 31 7 1362.6 17.69 44.49
 60.00 17 14 17 2143.00 4.58 45.75 190.00 130.08 17 50 0 1143.0 20.10 26.87
 70.00 19 5 32 1815.78 10.48 23.62 194.39 122.69 19 35 48 815.8 22.91 2.16
 80.00 21 52 31 1292.23 18.66 348.48 198.91 113.74 22 14 3 292.2 26.82 324.04
 80.91 22 33 5 1162.42 21.28 339.99 200.06 111.06 22 52 28 162.4 28.06 314.70
 100.00 0 39 18 6054.74 18.66 287.75 198.91 113.74 2 20 13 5054.7 26.82 263.31
 110.00 0 8 54 6150.64 10.48 290.44 194.39 122.69 1 51 25 5150.6 22.91 268.98

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1789 TRA -.4788 TC3 .4155 BAU .0560 SGT 1086.8 SGR 541.6 SG3 733.8 ST 22.2 SR 24.3 SS 25.0
 RDE -.2639 RRA .1164 RC3 .0821 FAU .13423 RRT -.1265 RRF .1940 RTF -.6406 CRT .6242 CRS -.5283 CST .3237
 FDE -.3003 FRA 1.9785 FC-11.7544 BSP 1535 SGB 1214.3 R23 -.0876 R13 .6447 LSA 31.1 MSA 27.1 SSA 1.8
 BDE .3188 BRA .4927 BC3 .4236 FSP 1171 SGT 1089.7 SGT 535.9 THA 175.24 EL1 29.7 EL2 14.2 ALF 49.10

LAUNCH DATE MAY 19 1971

FLIGHT TIME 164.00

ARRIVAL DATE OCT 30 1971

HELIOCENTRIC CONIC

DISTANCE 398.019

EARTH TO MARS

RL 151.35 LAL -.00 LOL 237.39 VL 32.331 GAL .90 AZL 91.61 HCA 130.50 SMA 187.32 ECC .19266 INC 1.6104 V1 29.439
RP 209.44 LAP -1.22 LOP 7.90 VP 23.639 GAP 8.02 AZP 88.93 TAL 5.60 TAP 136.10 RCA 151.23 APO 223.41 V2 26.174
RC 104.913 GL -17.30 GP -2.16 ZAL 87.01 ZAP 130.86 ETS 181.85 ZAE 172.45 ETE 191.71 ZAC 97.79 ETC 277.87 LVI -16.15

PLANETOCENTRIC CONIC

C3 9.130 VHL 3.022 DLA -29.04 RAL 333.16 RAD 6637.6 VEL 11.368 PTH 6.42 VHP 3.689 DPA -19.01 RAP 322.51 ECC 1.1503
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 52 15 2341.19 .57 59.75 184.26 137.57 16 31 16 1341.2 18.72 43.48
80.00 17 15 29 2119.74 5.60 44.63 189.08 129.98 17 50 49 1119.7 21.02 25.59
70.00 19 8 13 1788.11 11.50 22.12 193.44 122.38 19 38 2 788.1 23.73 .43
80.00 22 16 18 1197.70 21.14 342.56 198.55 111.59 22 36 13 197.7 28.16 317.34
80.06 22 25 40 1167.64 21.83 340.61 198.84 110.86 22 45 8 167.6 28.47 315.17
100.00 1 3 3 5960.21 21.14 281.83 198.55 111.59 2 42 24 4960.2 28.16 256.61
110.00 0 11 36 6122.97 11.50 288.94 193.44 122.38 1 53 39 5123.0 23.73 267.25

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1835 TRA -.3895 TC3 -.0080 BAU .0016 SGT 919.9 SGR 515.1 SG3 957.9 ST 21.6 SR 22.8 SS 28.9
RDE -.2372 RRA .1148 RC3 .0100 FAU .16868 RRT -.1205 RRF .2877 RTF -.4173 CRT .6975 CRS -.5727 CST .1767
FDE -.4140 FRA 2.4583 FC-15.9949 B8P 1026 SGB 1054.9 R23 -.2164 R13 .4295 LSA 33.3 MSA 26.7 SSA 1.8
BDE .2999 BRA .4061 BC3 .0128 FSP 1563 SG1 922.9 SG2 509.7 THA 174.44 EL1 28.9 EL2 12.2 ALF 47.26

LAUNCH DATE MAY 19 1971

FLIGHT TIME 166.00

ARRIVAL DATE NOV 1 1971

HELIOCENTRIC CONIC

DISTANCE 402.152

EARTH TO MARS

RL 151.35 LAL -.00 LOL 237.39 VL 32.312 GAL .90 AZL 91.60 HCA 131.73 SMA 187.00 ECC .19129 INC 1.6006 V1 29.439
RP 209.66 LAP -1.19 LOP 9.13 VP 23.587 GAP 8.58 AZP 88.93 TAL 5.61 TAP 137.35 RCA 151.23 APO 222.77 V2 26.150
RC 106.958 GL -17.49 GP -2.25 ZAL 87.04 ZAP 128.98 ETS 181.78 ZAE 170.82 ETE 190.73 ZAC 97.79 ETC 277.73 LVI -15.89

PLANETOCENTRIC CONIC

C3 9.013 VHL 3.002 DLA -29.82 RAL 333.19 RAD 6637.5 VEL 11.363 PTH 6.42 VHP 3.603 DPA -19.29 RAP 321.90 ECC 1.1483
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 52 17 2339.06 .67 59.66 184.17 137.57 16 31 16 1339.1 18.82 43.38
80.00 17 15 29 2117.73 5.69 44.54 188.98 129.97 17 50 47 1117.7 21.09 25.48
70.00 19 8 7 1786.38 11.56 22.02 193.31 122.36 19 37 54 786.4 23.78 .32
80.00 22 13 17 1205.12 20.96 343.03 198.31 111.77 22 33 22 205.1 28.07 317.67
80.11 22 26 9 1163.99 21.86 340.36 198.69 110.79 22 45 33 164.0 28.49 314.90
100.00 1 0 5 5967.63 20.96 282.30 198.31 111.77 2 39 32 4967.6 28.07 257.15
110.00 0 11 29 6121.23 11.56 288.85 193.31 122.36 1 53 31 5121.2 23.78 267.14

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1928 TRA -.3747 TC3 -.1541 BAU .0188 SGT 907.5 SGR 509.8 SG3 1003.9 ST 22.2 SR 22.4 SS 29.8
RDE -.2318 RRA .1152 RC3 -.0089 FAU .17523 RRT -.0990 RRF .3085 RTF -.3279 CRT .7235 CRS -.5581 CST .1573
FDE -.4099 FRA 2.5813 FC-16.8321 B8P 964 SGB 1040.9 R23 -.2624 R13 .3401 LSA 33.5 MSA 27.2 SSA 1.9
BDE .3015 BRA .3920 BC3 .1543 FSP 1666 SG1 909.5 SG2 506.2 THA 175.39 EL1 29.3 EL2 11.7 ALF 45.48

LAUNCH DATE MAY 19 1971

FLIGHT TIME 168.00

ARRIVAL DATE NOV 3 1971

HELIOCENTRIC CONIC

DISTANCE 406.293

EARTH TO MARS

RL 151.35 LAL -.00 LOL 237.39 VL 32.295 GAL .89 AZL 91.59 HCA 132.97 SMA 186.71 ECC .19004 INC 1.5904 V1 29.439
RP 209.87 LAP -1.16 LOP 10.36 VP 23.535 GAP 8.34 AZP 88.92 TAL 5.60 TAP 138.57 RCA 151.23 APO 222.20 V2 26.124
RC 109.028 GL -17.48 GP -2.34 ZAL 87.09 ZAP 127.07 ETS 181.71 ZAE 169.13 ETE 189.99 ZAC 97.79 ETC 277.59 LVI -15.62

PLANETOCENTRIC CONIC

C3 8.905 VHL 2.984 DLA -29.79 RAL 333.25 RAD 6637.5 VEL 11.358 PTH 6.41 VHP 3.522 DPA -19.59 RAP 321.25 ECC 1.1486
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 52 18 2337.60 .75 59.60 184.11 137.57 16 31 15 1337.6 18.89 43.32
80.00 17 15 23 2116.53 5.74 44.48 188.89 129.96 17 50 40 1116.5 21.14 25.41
70.00 19 7 48 1785.84 11.58 21.99 193.20 122.36 19 37 34 785.8 23.80 .28
80.00 22 8 18 1219.42 20.99 343.93 198.02 112.11 22 28 37 219.4 27.88 318.89
80.23 22 27 17 1158.78 21.91 339.98 198.58 110.70 22 46 36 158.8 28.48 314.51
100.00 0 35 6 5981.93 20.99 283.21 198.02 112.11 2 34 48 4981.9 27.88 258.17
110.00 0 11 11 6120.69 11.58 288.82 193.20 122.36 1 53 11 5120.7 23.80 267.11

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1993 TRA -.3545 TC3 -.2889 BAU .0345 SGT 886.3 SGR 505.3 SG3 1052.6 ST 22.1 SR 22.1 SS 30.4
RDE -.2267 RRA .1159 RC3 -.0257 FAU .18236 RRT -.0783 RRF .3336 RTF -.1170 CRT .7417 CRS -.5618 CST .1261
FDE -.4290 FRA 2.7044 FC-17.7287 B8P 815 SGB 1020.2 R23 -.3069 R13 .2486 LSA 34.1 MSA 27.1 SSA 1.8
BDE .2992 BRA .3730 BC3 .2900 FSP 1746 SG1 887.6 SG2 503.0 THA 176.23 EL1 29.2 EL2 11.2 ALF 44.93

LAUNCH DATE MAY 19 1971

FLIGHT TIME 170.00

ARRIVAL DATE NOV 5 1971

HELIOCENTRIC CONIC

DISTANCE 410.441

EARTH TO MARS

RL 151.35 LAL -.00 LOL 237.39 VL 32.280 GAL .89 AZL 91.58 HCA 134.20 SMA 186.45 ECC .18890 INC 1.5798 V1 29.439
RP 210.10 LAP -1.13 LOP 11.59 VP 23.485 GAP 8.11 AZP 88.90 TAL 5.58 TAP 139.77 RCA 151.23 APO 221.67 V2 26.098
RC 111.121 GL -17.45 GP -2.44 ZAL 87.18 ZAP 125.13 ETS 181.63 ZAE 167.38 ETE 189.39 ZAC 97.79 ETC 277.44 LVI -15.33

PLANETOCENTRIC CONIC

C3 8.806 VHL 2.968 DLA -29.73 RAL 333.32 RAD 6637.4 VEL 11.354 PTH 6.41 VHP 3.446 DPA -19.90 RAP 320.57 ECC 1.1449
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 52 17 2336.81 .79 59.57 184.07 137.57 16 31 14 1336.8 18.93 43.28
80.00 17 15 13 2116.18 5.75 44.46 188.83 129.96 17 50 29 1116.2 21.16 25.39
70.00 19 7 17 1786.52 11.55 22.03 193.11 122.37 19 37 3 786.5 23.78 .32
80.00 22 2 36 1236.55 20.15 345.01 197.74 112.51 22 23 12 236.6 27.65 320.11
80.43 22 29 6 1151.82 21.92 339.47 198.50 110.60 22 48 18 151.8 28.44 313.99
100.00 0 49 23 5999.06 20.15 284.29 197.74 112.51 2 29 22 4999.1 27.65 259.39
110.00 0 10 39 6121.37 11.55 288.85 193.11 122.37 1 52 40 5121.4 23.78 267.15

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1995 TRA -.3314 TC3 -.4369 BAU .0517 SGT 870.9 SGR 500.5 SG3 1099.5 ST 22.2 SR 21.7 SS 31.0
RDE -.2215 RRA .1163 RC3 -.0454 FAU .18945 RRT -.0430 RRF .3569 RTF -.1276 CRT .7645 CRS -.5586 CST .0951
FDE -.4355 FRA 2.8108 FC-18.6246 B8P 675 SGB 1004.4 R23 -.3490 R13 .1350 LSA 34.5 MSA 27.1 SSA 1.8
BDE .2981 BRA .3512 BC3 .4393 FSP 1838 SG1 871.3 SG2 499.8 THA 177.89 EL1 29.2 EL2 10.7 ALF 44.19

LAUNCH DATE MAY 19 1971

FLIGHT TIME 172.00

ARRIVAL DATE NOV 7 1971

HELIOCENTRIC CONIC
 RL 181.35 LAL -.00 LOL 237.39 VL 32.286 GAL .87 AZL 91.57 HCA 135.42 SMA 186.22 ECC .18786 INC 1.5688 V1 29.439
 RP 210.33 LAP -1.10 LOP 12.82 VP 23.436 GAP 7.89 AZP 88.88 TAL 5.53 TAP 140.99 RCA 151.24 APO 221.20 V2 26.071
 RC 113.239 GL -17.41 GP -2.54 ZAL 87.29 ZAP 123.17 ETS 181.55 ZAE 165.59 ETE 188.89 ZAC 97.78 ETC 277.28 LVI -15.02

PLANETOCENTRIC CONIC
 C3 8.716 VHL 2.952 DLA -29.65 RAL 333.43 RAD 8637.4 VEL 11.350 PTH 6.40 VHP 3.375 DPA -20.22 RAP 319.85 ECC 1.1434
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 52 14 2336.70 .79 59.56 184.05 137.57 16 31 11 1336.7 18.93 43.27
 60.00 17 14 57 2116.65 5.73 44.49 188.79 129.96 17 50 14 1116.7 21.14 25.42
 70.00 19 6 33 1788.39 11.49 22.13 193.04 122.39 19 36 21 788.4 23.72 .44
 80.00 21 56 39 1254.92 19.67 346.16 197.48 112.93 22 17 34 254.9 27.39 321.42
 80.70 22 31 37 1143.15 21.91 338.82 198.44 110.49 22 50 40 143.1 28.39 313.33
 100.00 0 43 27 6017.43 19.67 285.44 197.48 112.93 2 23 45 5017.4 27.39 260.69
 110.00 0 9 55 6123.25 11.49 288.96 193.04 122.39 1 51 58 5123.2 23.72 267.27

DIFFERENTIAL CORRECTIONS
 TDE -.2027 TRA -.3075 TC3 -.5910 BAU .0693 SGT 864.9 SGR 496.3 S63 1148.8 ST 22.2 SR 21.4 S8 31.7
 RDE -.2164 RRA .1171 RC3 -.0666 FAU .19673 RRT -.0014 RRF .3830 RTF -.0112 CRT .7855 CRS -.5563 CST .0642
 FDE -.4440 FRA 2.9313 FC-19.5418 BSP 530 SGB 997.1 R23 -3830 R13 .0115 LSA 35.0 MSA 27.0 SSA 1.8
 BDE .2965 BRA .3290 BC3 .5948 FSP 1928 S61 864.9 S62 496.3 THA 179.93 EL1 29.1 EL2 10.1 ALF 43.58

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 19 1971

FLIGHT TIME 174.00

ARRIVAL DATE NOV 9 1971

HELIOCENTRIC CONIC
 RL 151.35 LAL -.00 LOL 237.39 VL 32.254 GAL .86 AZL 91.56 HCA 136.65 SMA 186.01 ECC .18692 INC 1.5573 V1 29.439
 RP 210.57 LAP -1.07 LOP 14.04 VP 23.388 GAP 7.67 AZP 88.87 TAL 5.47 TAP 142.11 RCA 151.24 APO 220.78 V2 26.044
 RC 115.380 GL -17.36 GP -2.64 ZAL 87.43 ZAP 121.17 ETS 181.47 ZAE 163.75 ETE 188.47 ZAC 97.77 ETC 277.12 LVI -14.70

PLANETOCENTRIC CONIC
 C3 8.633 VHL 2.938 DLA -29.55 RAL 333.55 RAD 8637.3 VEL 11.346 PTH 6.40 VHP 3.309 DPA -20.55 RAP 319.10 ECC 1.1421
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 52 10 2337.25 .76 59.59 184.06 137.57 16 31 8 1337.3 18.90 43.30
 60.00 17 14 36 2117.95 5.68 44.55 188.77 129.97 17 49 54 1117.9 21.09 25.49
 70.00 19 5 36 1791.45 11.37 22.30 192.98 122.42 19 35 28 791.4 23.63 .64
 80.00 21 50 39 1273.99 19.16 347.35 197.25 113.35 22 11 53 274.0 27.11 322.76
 81.06 22 34 54 1132.41 21.88 338.02 198.41 110.36 22 53 47 132.4 28.31 312.92
 100.00 0 37 27 6036.50 19.16 286.62 197.25 113.35 2 18 4 5036.5 27.11 262.04
 110.00 0 8 59 6126.30 11.37 289.12 192.98 122.42 1 51 5 5126.3 23.63 267.46

DIFFERENTIAL CORRECTIONS
 TDE -.2062 TRA -.2811 TC3 -.7586 BAU .0881 SGT 870.3 SGR 492.1 S63 1195.9 ST 22.2 SR 21.0 S8 32.2
 RDE -.2112 RRA .1178 RC3 -.0887 FAU .20397 RRT .0525 RRF .4087 RTF .1179 CRT .8081 CRS -.5528 CST .0304
 FDE -.4474 FRA 3.0369 FC-20.4547 BSP 403 SGB 999.8 R23 .4001 R13 .1277 LSA 35.3 MSA 26.8 SSA 1.8
 BDE .2952 BRA .3048 BC3 .7638 FSP 2006 S61 870.9 S62 491.1 THA 2.49 EL1 29.1 EL2 9.4 ALF 42.95

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 19 1971

FLIGHT TIME 176.00

ARRIVAL DATE NOV 11 1971

HELIOCENTRIC CONIC
 RL 151.35 LAL -.00 LOL 237.39 VL 32.242 GAL .84 AZL 91.55 HCA 137.87 SMA 185.82 ECC .18608 INC 1.5453 V1 29.439
 RP 210.82 LAP -1.04 LOP 15.26 VP 23.341 GAP 7.45 AZP 88.85 TAL 5.39 TAP 143.26 RCA 151.24 APO 220.40 V2 26.015
 RC 117.545 GL -17.29 GP -2.75 ZAL 87.60 ZAP 119.16 ETS 181.38 ZAE 161.87 ETE 188.09 ZAC 97.77 ETC 276.94 LVI -14.37

PLANETOCENTRIC CONIC
 C3 8.557 VHL 2.925 DLA -29.42 RAL 333.70 RAD 8637.3 VEL 11.343 PTH 6.40 VHP 3.247 DPA -20.89 RAP 318.33 ECC 1.1408
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 52 5 2338.46 .70 59.64 184.09 137.57 16 31 3 1338.5 18.85 43.36
 60.00 17 14 11 2120.04 5.58 44.65 188.77 129.98 17 49 31 1120.0 21.00 25.60
 70.00 19 4 28 1795.61 11.22 22.53 192.94 122.47 19 34 24 795.6 23.51 .90
 80.00 21 44 40 1293.51 18.63 348.56 197.03 113.77 22 6 14 293.5 26.80 324.13
 81.52 22 39 4 1119.33 21.84 337.03 198.41 110.23 22 57 43 119.3 28.21 311.54
 100.00 0 31 28 6056.02 18.63 287.83 197.03 113.77 2 12 24 5056.0 26.80 263.40
 110.00 0 7 51 6130.47 11.22 289.35 192.94 122.47 1 50 1 5130.5 23.51 267.72

DIFFERENTIAL CORRECTIONS
 TDE -.2072 TRA -.2531 TC3 -.9292 BAU .1071 SGT 885.4 SGR 489.2 S63 1245.8 ST 22.0 SR 20.6 S8 33.0
 RDE -.2065 RRA .1188 RC3 -.1126 FAU .21153 RRT .1104 RRF .4385 RTF .1.62 CRT .8283 CRS -.5618 CST -.0163
 FDE -.4706 FRA 3.1541 FC-21.4002 BSP 366 SGB 1011.6 R23 .4017 R13 .2656 LSA 36.1 MSA 26.3 SSA 1.8
 BDE .2925 BRA .2798 BC3 .9360 FSP 2084 S61 887.8 S62 484.9 THA 4.98 EL1 28.8 EL2 8.8 ALF 42.71

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 19 1971

FLIGHT TIME 178.00

ARRIVAL DATE NOV 13 1971

HELIOCENTRIC CONIC
 RL 151.35 LAL -.00 LOL 237.39 VL 32.232 GAL .83 AZL 91.53 HCA 139.09 SMA 185.65 ECC .18533 INC 1.5328 V1 29.439
 RP 211.07 LAP -1.00 LOP 16.48 VP 23.295 GAP 7.24 AZP 88.84 TAL 5.29 TAP 144.37 RCA 151.25 APO 220.06 V2 25.986
 RC 119.734 GL -17.21 GP -2.86 ZAL 87.79 ZAP 117.12 ETS 181.28 ZAE 159.96 ETE 187.77 ZAC 97.75 ETC 276.77 LVI -14.92

PLANETOCENTRIC CONIC
 C3 8.489 VHL 2.914 DLA -29.28 RAL 333.88 RAD 8637.3 VEL 11.340 PTH 6.39 VHP 3.191 DPA -21.24 RAP 317.53 ECC 1.1397
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 51 58 2340.35 .61 59.72 184.15 137.57 16 30 58 1340.3 18.76 43.45
 60.00 17 13 40 2122.98 5.46 44.79 188.80 129.99 17 49 3 1123.0 20.89 25.77
 70.00 19 3 9 1800.97 11.03 22.82 192.92 122.53 19 33 10 801.0 23.35 1.23
 80.00 21 38 40 1313.63 18.07 349.79 196.85 114.18 22 0 34 313.6 26.47 325.53
 82.09 22 44 16 1103.37 21.77 335.82 198.44 110.08 23 2 39 103.4 28.09 310.34
 100.00 0 25 28 6076.14 18.07 289.06 196.85 114.18 2 6 44 5076.1 26.47 284.81
 110.00 0 6 31 6135.83 11.03 289.64 192.92 122.53 1 48 47 5135.8 23.35 268.06

DIFFERENTIAL CORRECTIONS
 TDE -.2156 TRA -.2291 TC3-1.1425 BAU .1306 SGT 943.3 SGR 485.6 S63 1288.4 ST 22.6 SR 20.2 S8 33.4
 RDE -.2009 RRA .1204 RC3 -.1345 FAU .21715 RRT .1735 RRF .4653 RTF .3644 CRT .8500 CRS -.5385 CST -.0290
 FDE -.4426 FRA 3.2916 FC-22.1463 BSP 439 SGB 1061.0 R23 .3856 R13 .3883 LSA 36.2 MSA 26.8 SSA 1.8
 BDE .2947 BRA .2588 BC3 1.1504 FSP 2188 S61 948.4 S62 475.7 THA 6.83 EL1 29.1 EL2 8.2 ALF 41.18

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 19 1971 FLIGHT TIME 180.00 ARRIVAL DATE NOV 15 1971

Heliocentric Conic: RL 151.35 LAL -.00 LOL 237.39 VL 32.224 GAL .81 AZL 91.52 HCA 140.30 SMA 185.51 ECC .18466 INC 1.5197 V1 29.439
 RP 211.33 LAP -.97 LOP 17.70 VP 23.250 GAP 7.04 AZP 88.83 TAL 5.17 TAP 145.47 RCA 151.25 APO 219.76 V2 25.957
 RC 121.945 GL -17.12 GP -2.98 ZAL 88.02 ZAP 115.07 ETS 181.18 ZAE 156.00 ETE 187.47 ZAC 97.74 ETC 276.56 LVI -13.67

PLANETOCENTRIC CONIC: C3 8.427 VHL 2.903 DLA -29.11 RAL 334.08 RAD 6637.2 VEL 11.337 PTH 6.39 VHP 3.138 DPA -21.60 RAP 316.71 ECC 1.1387
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 51 49 2342.66 .48 59.82 184.23 137.57 16 30 52 1342.9 18.64 43.56
 60.00 17 13 4 2126.69 5.29 44.97 188.84 130.01 17 48 31 1126.7 20.74 25.97
 70.00 19 1 38 1807.36 10.79 23.16 192.92 122.60 19 31 46 807.4 23.16 1.63
 80.00 21 32 45 1333.97 17.50 351.03 196.68 114.59 21 54 58 334.0 26.12 326.94
 82.80 22 50 43 1083.79 21.68 334.34 198.50 109.91 23 8 47 83.8 27.94 308.87
 100.00 0 19 32 8096.48 17.50 290.30 196.68 114.59 2 1 9 5096.5 26.12 266.22
 110.00 0 5 1 6142.22 10.79 289.99 192.92 122.60 1 47 23 5142.2 23.16 268.46

Differential Corrections: TDE -.2200 TRA -.2008 TC3-1.3502 BAU .1532 SGT 1004.4 SGR 483.0 S63 1332.7 ST 22.8 SR 19.7 SS 33.0
 RDE -.1956 RRA .1219 RC3 -.1586 FAU .22339 RRT .2368 RRF .4943 RTF .4719 CRT .8697 CRS -.5280 CST -.0561
 FDE -.4315 FRA 3.4188 FC-22.9508 BSP 599 SGB 1114.5 R23 .3815 R13 .4970 LSA 36.6 MSA 26.8 SSA 1.8
 BDE .2944 BRA .2349 BC3 1.3595 FSP 2270 S61 1012.7 S62 485.4 THA 8.25 EL1 29.2 EL2 7.6 ALF 40.30

LAUNCH DATE MAY 19 1971 FLIGHT TIME 182.00 ARRIVAL DATE NOV 17 1971

Heliocentric Conic: RL 151.35 LAL -.00 LOL 237.39 VL 32.216 GAL .78 AZL 91.51 HCA 141.51 SMA 185.38 ECC .18407 INC 1.5059 V1 29.439
 RP 211.60 LAP -.94 LOP 18.91 VP 23.206 GAP 6.83 AZP 88.82 TAL 5.04 TAP 146.55 RCA 151.26 APO 219.50 V2 25.926
 RC 124.177 GL -17.01 GP -3.10 ZAL 88.26 ZAP 113.01 ETS 181.08 ZAE 156.02 ETE 187.20 ZAC 97.72 ETC 276.39 LVI -13.29

PLANETOCENTRIC CONIC: C3 8.370 VHL 2.893 DLA -28.92 RAL 334.30 RAD 6637.2 VEL 11.335 PTH 6.39 VHP 3.091 DPA -21.95 RAP 315.87 ECC 1.1378
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 51 38 2346.02 .32 59.95 184.33 137.58 16 30 44 1346.0 18.49 43.71
 60.00 17 12 24 2131.17 5.10 45.19 188.91 130.03 17 47 55 1131.2 20.57 26.22
 70.00 18 59 58 1814.80 10.52 23.57 192.93 122.68 19 30 12 814.8 22.94 2.10
 80.00 21 26 52 1354.63 16.91 352.28 196.55 114.98 21 49 27 354.6 25.74 328.36
 83.70 22 58 47 1059.39 21.57 332.50 198.58 109.74 23 16 26 59.4 27.77 307.04
 100.00 0 13 40 6117.14 16.91 291.55 196.55 114.98 1 55 37 5117.1 25.74 267.64
 110.00 0 3 20 6149.66 10.52 290.39 192.93 122.68 1 45 50 5149.7 22.94 268.92

Differential Corrections: TDE -.2242 TRA -.1706 TC3-1.5662 BAU .1765 SGT 1080.5 SGR 480.9 S63 1376.0 ST 23.0 SR 19.3 SS 34.4
 RDE -.1902 RRA .1235 RC3 -.1839 FAU .22959 RRT .3000 RRF .5237 RTF .5653 CRT .8887 CRS -.5171 CST -.0842
 FDE -.4169 FRA 3.5401 FC-23.7456 BSP 812 SGB 1182.7 R23 .3323 R13 .5890 LSA 36.9 MSA 26.8 SSA 1.8
 BDE .2940 BRA .2108 BC3 1.5770 FSP 2337 S61 1092.1 S62 453.9 THA 9.21 EL1 29.2 EL2 7.0 ALF 39.41

LAUNCH DATE MAY 19 1971 FLIGHT TIME 184.00 ARRIVAL DATE NOV 19 1971

Heliocentric Conic: RL 151.35 LAL -.00 LOL 237.39 VL 32.209 GAL .76 AZL 91.49 HCA 142.72 SMA 185.27 ECC .18356 INC 1.4913 V1 29.439
 RP 211.87 LAP -.90 LOP 20.12 VP 23.162 GAP 6.64 AZP 88.81 TAL 4.89 TAP 147.61 RCA 151.26 APO 219.28 V2 25.896
 RC 126.431 GL -16.89 GP -3.23 ZAL 88.54 ZAP 110.94 ETS 180.97 ZAE 154.02 ETE 186.96 ZAC 97.69 ETC 276.20 LVI -12.91

PLANETOCENTRIC CONIC: C3 8.320 VHL 2.864 DLA -28.70 RAL 334.54 RAD 6637.2 VEL 11.333 PTH 6.39 VHP 3.047 DPA -22.32 RAP 315.01 ECC 1.1369
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 51 25 2349.83 .13 60.11 184.45 137.58 16 30 35 1349.8 18.30 43.89
 60.00 17 11 38 2136.44 4.87 45.44 188.99 130.06 17 47 14 1136.4 20.36 26.31
 70.00 18 58 7 1823.25 10.21 24.02 192.96 122.77 19 28 30 823.2 22.69 2.82
 80.00 21 21 3 1375.61 16.30 353.54 196.44 115.37 21 43 58 375.6 25.35 329.80
 84.87 23 9 20 1027.31 21.44 330.10 198.68 109.55 23 26 27 27.3 27.58 304.65
 100.00 0 7 50 6138.12 16.30 292.82 196.44 115.37 1 50 9 5138.1 25.35 269.07
 110.00 0 1 29 6158.11 10.21 290.85 192.96 122.77 1 44 7 5158.1 22.69 269.45

Differential Corrections: TDE -.2283 TRA -.1395 TC3-1.7914 BAU .2008 SGT 1171.9 SGR 479.4 S63 1418.0 ST 23.2 SR 18.8 SS 34.8
 RDE -.1847 RRA .1253 RC3 -.2101 FAU .23555 RRT .3596 RRF .5532 RTF .1.18 CRT .9059 CRS -.5011 CST -.1059
 FDE -.3915 FRA 3.6631 FC-24.5102 BSP 1042 SGB 1266.2 R23 .3039 R13 .6625 LSA 37.1 MSA 26.8 SSA 1.8
 BDE .2937 BRA .1875 BC3 1.8037 FSP 2415 S61 1186.6 S62 441.8 THA 9.73 EL1 29.2 EL2 6.3 ALF 38.46

LAUNCH DATE MAY 19 1971 FLIGHT TIME 186.00 ARRIVAL DATE NOV 21 1971

Heliocentric Conic: RL 151.35 LAL -.00 LOL 237.39 VL 32.204 GAL .73 AZL 91.48 HCA 143.93 SMA 185.18 ECC .18312 INC 1.4760 V1 29.439
 RP 212.14 LAP -.87 LOP 21.32 VP 23.119 GAP 6.44 AZP 88.81 TAL 4.73 TAP 148.66 RCA 151.27 APO 219.09 V2 25.864
 RC 128.706 GL -16.76 GP -3.36 ZAL 88.84 ZAP 108.86 ETS 180.85 ZAE 151.99 ETE 186.73 ZAC 97.66 ETC 276.00 LVI -12.52

PLANETOCENTRIC CONIC: C3 8.275 VHL 2.877 DLA -28.47 RAL 334.80 RAD 6637.1 VEL 11.331 PTH 6.38 VHP 3.008 DPA -22.68 RAP 314.15 ECC 1.1362
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 51 9 2354.27 -.09 60.30 184.59 137.58 16 30 24 1354.3 18.09 44.10
 60.00 17 10 46 2142.47 4.80 45.73 189.09 130.08 17 46 29 1142.5 20.12 26.84
 70.00 18 56 7 1832.67 9.86 24.53 193.01 122.87 19 26 39 832.7 22.41 3.21
 80.00 21 15 16 1396.89 15.68 354.81 196.35 115.74 21 38 33 396.9 24.94 331.24
 86.62 23 24 46 8267.80 21.30 304.46 198.81 109.35 25 9 13 5267.8 27.36 279.03
 100.00 0 2 4 6159.40 15.68 294.09 196.35 115.74 1 44 43 5159.4 24.94 270.52
 110.00 23 55 33 6167.53 9.86 291.36 193.01 122.87 25 38 21 5167.5 22.41 270.03

Differential Corrections: TDE -.2311 TRA -.1061 TC3-2.0261 BAU .2257 SGT 1276.1 SGR 478.8 S63 1457.2 ST 23.4 SR 18.4 SS 35.2
 RDE -.1794 RRA .1271 RC3 -.2370 FAU .24110 RRT .4159 RRF .5836 RTF .7064 CRT .9221 CRS -.4931 CST -.1380
 FDE -.3761 FRA 3.7791 FC-25.2232 BSP 1300 SGB 1363.0 R23 .2769 R13 .7237 LSA 37.6 MSA 26.7 SSA 1.7
 BDE .2925 BRA .1656 BC3 2.0399 FSP 2482 S61 1293.5 S62 429.6 THA 9.98 EL1 29.2 EL2 5.7 ALF 37.65

LAUNCH DATE MAY 19 1971

FLIGHT TIME 186.00

ARRIVAL DATE NOV 23 1971

HELIOCENTRIC CONIC DISTANCE 448.000 EARTH TO MARS

RL 151.35 LAL -.00 LOL 237.39 VL 32.199 GAL .70 AZL 91.48 HCA 145.13 SMA 189.10 ECC .18274 INC 1.4599 V1 29.439
 RP 212.43 LAP -.83 LOP 22.53 VP 23.076 GAP 6.25 AZP 88.80 TAL 4.55 TAP 149.68 RCA 151.27 APO 218.93 V2 25.832
 RC 130.999 GL -16.61 GP -3.50 ZAL 89.16 ZAP 106.78 ETS 180.73 ZAE 149.94 ETE 186.52 ZAC 97.61 ETC 275.80 LVI -12.12

PLANETOCENTRIC CONIC

C3 8.235 VHL 2.870 DLA -28.20 RAL 335.08 RAD 6637.1 VEL 11.329 PTH 6.38 VHP 2.973 DPA -23.05 RAP 313.27 ECC 1.1355
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 50 51 2359.33 -.35 60.51 184.74 137.58 16 30 10 1359.3 17.85 44.33
 60.00 17 9 50 2149.25 4.31 46.05 189.21 130.11 17 45 39 1149.2 19.85 27.21
 70.00 18 53 57 1843.02 9.48 25.09 193.07 122.97 19 24 40 843.0 22.09 3.84
 80.00 21 9 33 1418.46 15.03 358.09 196.29 116.10 21 33 11 418.5 24.50 332.70
 90.00 23 36 8 6233.68 19.82 301.39 198.45 110.59 25 20 2 5233.7 26.56 276.39
 100.00 23 52 25 6180.98 15.03 295.37 196.29 116.10 25 35 26 5181.0 24.50 271.97
 110.00 23 53 24 6177.88 9.48 291.91 193.07 122.97 25 36 22 5177.9 22.09 270.67

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2317 TRA -.0694 TC3-2.2580 BAU .2503 SGT 1385.0 SGR 478.9 SG3 1496.1 ST 23.3 SR 17.9 SS 35.5
 RDE -.1741 RRA .1289 RC3 -.2661 FAU .24706 RRT .4716 RRF .6138 RTF .7618 CRT .9376 CRS -.4863 CST -.1745
 FDE -.3597 FRA 3.8767 FC-25.9718 BSP 1591 SGB 1465.5 R23 .2479 R13 .7760 LSA 37.9 MSA 26.3 SSA 1.7
 BDE .2898 BRA .1464 BC3 2.2737 FSP 2533 SG1 1405.1 SG2 416.3 THA 10.16 EL1 29.0 EL2 5.0 ALF 37.06

LAUNCH DATE MAY 19 1971

FLIGHT TIME 190.00

ARRIVAL DATE NOV 23 1971

HELIOCENTRIC CONIC DISTANCE 452.188 EARTH TO MARS

RL 151.35 LAL -.00 LOL 237.39 VL 32.196 GAL .67 AZL 91.44 HCA 146.33 SMA 185.04 ECC .18244 INC 1.4427 V1 29.439
 RP 212.72 LAP -.80 LOP 23.73 VP 23.034 GAP 6.06 AZP 88.80 TAL 4.35 TAP 150.68 RCA 151.28 APO 218.80 V2 25.799
 RC 133.312 GL -16.44 GP -3.64 ZAL 89.52 ZAP 104.71 ETS 180.61 ZAE 147.89 ETE 186.32 ZAC 97.56 ETC 275.60 LVI -11.71

PLANETOCENTRIC CONIC

C3 8.201 VHL 2.864 DLA -27.92 RAL 335.38 RAD 6637.1 VEL 11.328 PTH 6.38 VHP 2.941 DPA -23.42 RAP 312.40 ECC 1.1350
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 50 30 2365.08 -.64 60.75 184.92 137.57 16 29 56 1365.1 17.57 44.60
 60.00 17 8 48 2156.84 3.97 46.42 189.35 130.14 17 44 45 1156.8 19.55 27.62
 70.00 18 51 39 1854.38 9.06 25.70 193.14 123.07 19 22 33 854.4 21.74 4.54
 80.00 21 3 50 1440.52 14.37 357.39 196.24 116.46 21 27 51 440.5 24.04 334.17
 90.00 23 15 44 1015.17 18.10 327.86 198.00 112.11 23 32 39 15.2 25.64 303.37
 100.00 23 46 42 6203.03 14.37 296.67 196.24 116.46 25 30 5 5203.0 24.04 273.44
 110.00 23 51 5 6189.24 9.06 292.52 193.14 123.07 25 34 14 5189.2 21.74 271.36

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2373 TRA -.0369 TC3-2.5278 BAU .2790 SGT 1525.9 SGR 478.9 SG3 1524.6 ST 23.9 SR 17.4 SS 35.9
 RDE -.1679 RRA .1316 RC3 -.2909 FAU .24999 RRT .5142 RRF .6420 RTF .7950 CRT .9487 CRS -.4533 CST -.1728
 FDE -.2967 FRA 4.0127 FC-26.3917 BSP 1833 SGB 1599.3 R23 .2355 R13 .8065 LSA 38.0 MSA 26.8 SSA 1.7
 BDE .2906 BRA .1367 BC3 2.5445 FSP 2618 SG1 1547.1 SG2 405.1 THA 9.85 EL1 29.2 EL2 4.5 ALF 35.61

LAUNCH DATE MAY 19 1971

FLIGHT TIME 192.00

ARRIVAL DATE NOV 27 1971

HELIOCENTRIC CONIC DISTANCE 456.378 EARTH TO MARS

RL 151.35 LAL -.00 LOL 237.39 VL 32.193 GAL .64 AZL 91.42 HCA 147.53 SMA 184.99 ECC .18219 INC 1.4246 V1 29.439
 RP 213.01 LAP -.76 LOP 24.92 VP 22.993 GAP 5.88 AZP 88.80 TAL 4.14 TAP 151.67 RCA 151.29 APO 218.69 V2 25.766
 RC 135.843 GL -16.26 GP -3.79 ZAL 89.89 ZAP 102.65 ETS 180.47 ZAE 145.83 ETE 186.14 ZAC 97.51 ETC 275.40 LVI -11.29

PLANETOCENTRIC CONIC

C3 8.170 VHL 2.858 DLA -27.61 RAL 335.89 RAD 6637.1 VEL 11.326 PTH 6.38 VHP 2.914 DPA -23.79 RAP 311.53 ECC 1.1345
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 50 7 2371.48 -.98 61.02 185.11 137.57 16 29 38 1371.5 17.26 44.90
 60.00 17 7 40 2165.17 3.61 46.82 189.50 130.17 17 43 45 1165.2 19.21 28.07
 70.00 18 49 12 1866.60 8.60 26.35 193.23 123.18 19 20 18 866.6 21.36 5.28
 80.00 20 58 9 1462.86 13.69 358.70 196.22 116.80 21 22 32 462.9 23.55 335.65
 90.00 23 2 33 1061.73 16.88 330.73 197.76 113.03 23 20 15 61.7 24.92 308.59
 100.00 23 41 1 6223.38 13.69 297.97 196.22 116.80 25 24 47 5223.4 23.55 274.93
 110.00 23 48 38 6201.46 8.60 293.18 193.23 123.18 25 32 0 5201.5 21.36 272.11

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2387 TRA .0001 TC3-2.7853 BAU .3082 SGT 1662.6 SGR 480.6 SG3 1557.0 ST 24.0 SR 16.9 SS 36.3
 RDE -.1620 RRA .1342 RC3 -.3199 FAU .25426 RRT .5590 RRF .6716 RTF .8267 CRT .9596 CRS -.4345 CST -.1914
 FDE -.2537 FRA 4.1296 FC-26.9420 BSP 2123 SGB 1730.7 R23 .2195 R13 .8361 LSA 38.3 MSA 26.7 SSA 1.7
 BDE .2885 BRA .1342 BC3 2.8036 FSP 2669 SG1 1685.5 SG2 393.1 THA 9.71 EL1 29.1 EL2 3.9 ALF 34.86

LAUNCH DATE MAY 19 1971

FLIGHT TIME 194.00

ARRIVAL DATE NOV 29 1971

HELIOCENTRIC CONIC DISTANCE 460.589 EARTH TO MARS

RL 151.35 LAL -.00 LOL 237.39 VL 32.191 GAL .60 AZL 91.41 HCA 148.72 SMA 184.96 ECC .18201 INC 1.4053 V1 29.439
 RP 213.31 LAP -.73 LOP 26.12 VP 22.952 GAP 5.70 AZP 88.80 TAL 3.91 TAP 152.63 RCA 151.29 APO 218.62 V2 25.732
 RC 137.991 GL -16.06 GP -3.94 ZAL 90.29 ZAP 100.59 ETS 180.33 ZAE 143.77 ETE 185.96 ZAC 97.44 ETC 275.20 LVI -10.87

PLANETOCENTRIC CONIC

C3 8.145 VHL 2.854 DLA -27.27 RAL 336.02 RAD 6637.1 VEL 11.325 PTH 6.38 VHP 2.891 DPA -24.16 RAP 310.66 ECC 1.1340
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 49 39 2378.50 -1.31 61.31 185.32 137.56 16 29 17 1378.5 16.92 45.22
 60.00 17 6 26 2174.26 3.21 47.25 189.66 130.19 17 42 40 1174.3 18.85 28.56
 70.00 18 46 36 1879.72 8.11 27.05 193.34 123.29 19 17 56 879.7 20.93 6.08
 80.00 20 52 30 1485.61 12.99 .02 196.22 117.12 21 17 15 485.6 23.04 337.15
 90.00 22 51 42 1101.21 15.81 333.14 197.61 113.75 23 10 3 101.2 24.25 309.29
 100.00 23 35 22 6248.12 12.99 299.30 196.22 117.12 25 19 30 5248.1 23.04 276.42
 110.00 23 46 2 6214.58 8.11 293.88 193.34 123.29 25 29 37 5214.6 20.95 272.90

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2389 TRA .0385 TC3-3.0499 BAU .3342 SGT 1807.8 SGR 482.7 SG3 1581.6 ST 24.2 SR 16.3 SS 36.7
 RDE -.1561 RRA .1367 RC3 -.3480 FAU .25726 RRT .5993 RRF .6998 RTF .8524 CRT .9691 CRS -.4185 CST -.2138
 FDE -.2117 FRA 4.2301 FC-27.3461 BSP 2421 SGB 1871.1 R23 .2062 R13 .8601 LSA 38.6 MSA 26.5 SSA 1.6
 BDE .2854 BRA .1420 BC3 3.0697 FSP 2725 SG1 1831.8 SG2 381.4 THA 9.51 EL1 29.0 EL2 3.4 ALF 33.77

LAUNCH DATE MAY 19 1971

FLIGHT TIME 196.00

ARRIVAL DATE DEC 1 1971

HELIOCENTRIC CONIC

DISTANCE 464.761

EARTH TO MARS

RL 151.35 LAL -.00 LOL 237.39 VL 32.189 GAL .56 AZL 91.30 MCA 149.91 SMA 184.94 ECC .18188 INC 1.3646 V1 29.439
 RP 213.61 LAP -.69 LOP 27.30 VP 22.912 GAP 3.52 AZP 88.80 TAL 3.67 TAP 153.58 RCA 151.30 APO 218.57 V2 25.697
 RC 140.356 GL -15.84 GP -4.11 ZAL 90.71 ZAP 98.56 ETS 180.19 ZAE 141.71 ETE 185.80 ZAC 97.36 ETC 275.01 LVI -10.44

PLANETOCENTRIC CONIC

C3 8.123 VHL 2.850 DLA -26.90 RAL 336.36 RAD 6637.1 VEL 11.324 PTH 6.38 VHP 2.870 DPA -24.53 RAP 309.80 ECC 1.1337
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 49 8 2386.20 -1.70 61.63 185.54 137.55 16 28 54 1386.2 16.55 45.57
 60.00 17 5 6 2184.14 2.77 47.73 189.84 130.22 17 41 30 1184.1 18.45 29.09
 70.00 18 43 51 1893.73 7.59 27.80 193.46 123.40 19 15 25 893.7 20.50 6.92
 80.00 20 46 50 1508.79 12.26 1.36 196.24 117.44 21 11 59 508.8 22.51 338.66
 90.00 22 42 3 1137.21 14.81 335.31 197.51 114.37 23 1 1 137.2 23.60 311.72
 100.00 23 29 42 8271.30 12.26 300.64 196.24 117.44 25 14 13 5271.3 22.51 277.94
 110.00 23 43 18 6228.59 7.59 294.62 193.46 123.40 25 27 6 5228.6 20.50 273.75

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2385 TRA .0781 TC3-3.3189 BAW .3628 SGT 1959.6 SGR 486.2 S63 1606.9 ST 24.3 SR 15.8 S8 37.0
 RDE -.1498 RRA .1397 RC3 -.3781 FAU .26038 RRT .6378 RRF .7278 RTF .8724 CRT .9767 CRS -.3951 CST -.2269
 FDE -.1527 FRA 4.3372 FC-27.7503 BSP 2722 SGB 2019.0 R23 .1958 R13 .8768 LSA 38.8 MSA 26.5 SSA 1.6
 BDE .2817 BRA .1601 BC3 3.3403 F8P 2768 S61 1984.8 S62 369.7 THA 9.32 EL1 28.8 EL2 2.9 ALF 32.78

LAUNCH DATE MAY 19 1971

FLIGHT TIME 196.00

ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC

DISTANCE 468.953

EARTH TO MARS

RL 151.35 LAL -.00 LOL 237.39 VL 32.189 GAL .53 AZL 91.36 MCA 151.10 SMA 184.93 ECC .18180 INC 1.3624 V1 29.439
 RP 213.92 LAP -.06 LOP 28.49 VP 22.872 GAP 3.35 AZP 88.81 TAL 3.42 TAP 154.52 RCA 151.31 APO 218.55 V2 25.682
 RC 142.739 GL -15.60 GP -4.28 ZAL 91.15 ZAP 96.54 ETS 180.03 ZAE 139.68 ETE 185.65 ZAC 97.26 ETC 274.81 LVI -10.00

PLANETOCENTRIC CONIC

C3 8.106 VHL 2.847 DLA -26.91 RAL 336.72 RAD 6637.1 VEL 11.323 PTH 6.38 VHP 2.854 DPA -24.90 RAP 308.96 ECC 1.1334
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 48 32 2394.60 -2.12 61.98 185.78 137.54 16 28 26 1394.6 16.15 45.98
 60.00 17 3 38 2194.81 2.30 48.24 190.03 130.25 17 40 13 1194.8 18.01 29.66
 70.00 18 40 58 1908.64 7.03 28.59 193.58 123.51 19 12 47 908.6 20.03 7.81
 80.00 20 41 9 1532.45 11.52 2.72 196.27 117.74 21 6 42 532.4 21.94 340.19
 90.00 22 35 10 1171.23 13.85 337.34 197.46 114.91 22 52 41 171.2 22.94 313.99
 100.00 23 24 1 1006.92 11.52 324.09 196.27 117.74 23 40 48 6.9 21.94 301.56
 110.00 23 40 24 6243.50 7.03 295.41 193.58 123.51 25 24 28 5243.5 20.03 274.64

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2371 TRA .1186 TC3-3.5938 BAW .3919 SGT 2118.0 SGR 489.8 S63 1622.7 ST 24.4 SR 15.2 S8 37.3
 RDE -.1435 RRA .1425 RC3 -.4070 FAU .26202 RRT .8724 RRF .7538 RTF .8886 CRT .9827 CRS -.3743 CST -.2429
 FDE -.0943 FRA 4.4191 FC-27.9830 BSP 3026 SGB 2173.9 R23 .1873 R13 .8939 LSA 39.0 MSA 26.3 SSA 1.6
 BDE .2772 BRA .1854 BC3 3.6166 F8P 2801 S61 2144.2 S62 358.1 THA 9.09 EL1 28.8 EL2 2.4 ALF 31.78

LAUNCH DATE MAY 19 1971

FLIGHT TIME 200.00

ARRIVAL DATE DEC 5 1971

HELIOCENTRIC CONIC

DISTANCE 473.146

EARTH TO MARS

RL 151.35 LAL -.00 LOL 237.39 VL 32.189 GAL .48 AZL 91.34 MCA 152.28 SMA 184.93 ECC .18178 INC 1.3386 V1 29.439
 RP 214.24 LAP -.62 LOP 29.67 VP 22.832 GAP 3.17 AZP 88.81 TAL 3.15 TAP 158.43 RCA 151.31 APO 218.56 V2 25.627
 RC 145.139 GL -15.33 GP -4.46 ZAL 91.62 ZAP 94.55 ETS 179.87 ZAE 137.62 ETE 185.51 ZAC 97.15 ETC 274.62 LVI -9.56

PLANETOCENTRIC CONIC

C3 8.092 VHL 2.845 DLA -26.09 RAL 337.09 RAD 6637.0 VEL 11.323 PTH 6.38 VHP 2.841 DPA -25.28 RAP 308.14 ECC 1.1332
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 47 51 2403.70 -2.58 62.36 186.03 137.52 16 27 54 1403.7 15.70 46.37
 60.00 17 2 4 2206.29 1.80 48.79 190.23 130.27 17 38 50 1206.3 17.55 30.27
 70.00 18 37 55 1924.44 6.43 29.43 193.72 123.61 19 10 0 924.4 19.51 8.75
 80.00 20 35 26 1556.62 10.75 4.10 196.32 118.02 21 1 23 556.6 21.35 341.75
 90.00 22 24 45 1204.08 12.90 339.28 197.43 115.39 22 44 49 204.1 22.27 316.17
 100.00 23 18 18 1031.09 10.75 325.47 196.32 118.02 23 35 29 31.1 21.35 303.11
 110.00 23 37 22 6259.30 6.43 296.25 193.72 123.61 25 21 41 5259.3 19.51 275.56

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2338 TRA .1609 TC3-3.8689 BAW .4212 SGT 2279.7 SGR 495.4 S63 1641.0 ST 24.4 SR 14.6 S8 37.7
 RDE -.1368 RRA .1460 RC3 -.4387 FAU .26401 RRT .7060 RRF .7798 RTF .517 CRT .9872 CRS -.3472 CST -.2524
 FDE -.0187 FRA 4.5144 FC-28.2453 BSP 3339 SGB 2332.9 R23 .1808 R13 .9063 LSA 39.3 MSA 26.2 SSA 1.6
 BDE .2708 BRA .2173 BC3 3.8937 F8P 2828 S61 2307.0 S62 346.7 THA 8.93 EL1 28.4 EL2 2.0 ALF 30.81

LAUNCH DATE MAY 19 1971

FLIGHT TIME 202.00

ARRIVAL DATE DEC 7 1971

HELIOCENTRIC CONIC

DISTANCE 477.338

EARTH TO MARS

RL 151.35 LAL -.00 LOL 237.39 VL 32.190 GAL .44 AZL 91.31 MCA 153.46 SMA 184.94 ECC .18181 INC 1.3128 V1 29.439
 RP 214.35 LAP -.59 LOP 30.85 VP 22.793 GAP 3.00 AZP 88.83 TAL 2.87 TAP 156.33 RCA 151.32 APO 218.56 V2 25.591
 RC 147.555 GL -15.04 GP -4.65 ZAL 92.11 ZAP 92.59 ETS 179.70 ZAE 135.59 ETE 185.38 ZAC 97.03 ETC 274.43 LVI -9.11

PLANETOCENTRIC CONIC

C3 8.082 VHL 2.843 DLA -25.64 RAL 337.46 RAD 6637.0 VEL 11.322 PTH 6.38 VHP 2.830 DPA -25.65 RAP 307.35 ECC 1.1330
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 47 4 2413.53 -3.07 62.77 186.28 137.50 16 27 17 1413.5 15.23 46.82
 60.00 17 0 21 2218.61 1.26 49.38 190.44 130.28 17 37 20 1218.6 17.04 30.92
 70.00 18 34 43 1941.17 5.80 30.31 193.87 123.72 19 7 4 941.2 18.97 9.74
 80.00 20 29 40 1581.37 9.95 5.51 196.39 118.30 20 56 1 581.4 20.73 343.32
 90.00 22 16 40 1236.30 11.95 341.17 197.43 115.82 22 37 18 236.3 21.58 318.28
 100.00 23 12 32 1055.84 9.95 326.88 196.39 118.30 23 30 8 55.8 20.73 304.69
 110.00 23 34 9 6276.03 5.80 297.13 193.87 123.72 25 18 45 5276.0 18.97 276.57

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2293 TRA .2038 TC3-4.1485 BAW .4511 SGT 2446.5 SGR 502.2 S63 1654.3 ST 24.4 SR 14.0 S8 38.1
 RDE -.1300 RRA .1495 RC3 -.4713 FAU .26540 RRT .7370 RRF .8045 RTF .9128 CRT .9902 CRS -.3273 CST -.2694
 FDE .0495 FRA 4.5907 FC-28.4280 BSP 3651 SGB 2497.5 R23 .1758 R13 .9167 LSA 39.6 MSA 25.9 SSA 1.5
 BDE .2636 BRA .2528 BC3 4.1752 F8P 2850 S61 2474.8 S62 335.5 THA 8.77 EL1 28.1 EL2 1.7 ALF 29.83

LAUNCH DATE MAY 19 1971	FLIGHT TIME 204.00	ARRIVAL DATE DEC 9 1971
HELIOCENTRIC CONIC		
RL 151.35 LAL -.00 LOL 237.39 VL 32.191 GAL .40 AZL 91.29 HCA 154.64 SMA 184.96 ECC .18188 INC 1.2854 V1 29.439		
RP 214.88 LAP -.55 LOP 32.03 VP 22.754 GAP 4.84 AZP 88.84 TAL 2.58 TAP 157.22 RCA 151.32 APO 218.61 V2 25.554		
RC 149.988 GL -14.72 GP -4.86 ZAL 92.61 ZAP 90.65 ETS 179.52 ZAE 133.58 ETE 185.25 ZAC 96.89 ETC 274.25 LVI -8.68		
PLANETOCENTRIC CONIC		
C3 8.076 VHL 2.842 DLA -25.15 RAL 337.84 RAD 6637.0 VEL 11.322 PTH 6.38 VHP 2.823 DPA -26.03 RAP 306.57 ECC 1.1320		
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG		
50.00 15 46 10 2424.13 -3.60 63.22 186.55 137.47 16 26 34 1424.1 14.71 47.29		
60.00 16 58 29 2231.80 .68 50.01 190.66 130.30 17 35 41 1231.8 16.50 31.61		
70.00 18 31 20 1958.85 5.13 31.24 194.03 123.81 19 3 58 958.0 18.36 10.78		
80.00 20 23 49 1806.77 9.13 6.95 196.46 118.55 20 50 36 606.0 20.07 344.92		
90.00 22 8 47 1268.24 11.00 343.03 197.45 116.22 22 29 53 268.2 20.86 320.35		
100.00 23 6 41 1081.24 9.13 328.32 196.46 118.55 23 24 42 81.2 20.07 306.29		
110.00 23 30 46 1005.66 5.13 320.16 194.03 123.81 23 47 32 5.7 18.36 299.69		
DIFFERENTIAL CORRECTIONS		
TDE -.2225 TRA .2489 TC3-4.4255 BAU .4809 SGT 2614.4 SGR 511.1 S63 1665.0 ORBIT DETERMINATION ACCURACY		
RDE -.1232 RRA .1538 RC3 -.5045 FAU .26600 RRT .7853 RRF .8283 RTF .9216 CRT .9916 CRS -.3113 CST -.2918 ST 24.2 SR 13.4 SS 38.7		
FDE .1196 FRA 4.6800 FC-28.5141 BSP 3975 SGB 2863.9 R23 .1738 R13 .9251 LSA 40.2 MSA 25.4 SSA 1.5		
BDE .2543 BRA .2926 BC3 4.4542 FSP 2868 S61 2644.0 S62 325.3 THA 8.64 EL1 27.7 EL2 1.5 ALF 28.93		

LAUNCH DATE MAY 19 1971	FLIGHT TIME 206.00	ARRIVAL DATE DEC 11 1971
HELIOCENTRIC CONIC		
RL 151.35 LAL -.00 LOL 237.39 VL 32.193 GAL .35 AZL 91.26 HCA 155.81 SMA 185.00 ECC .18199 INC 1.2550 V1 29.439		
RP 215.21 LAP -.51 LOP 33.20 VP 22.715 GAP 4.67 AZP 88.85 TAL 2.28 TAP 158.08 RCA 151.33 APO 218.67 V2 25.518		
RC 152.438 GL -14.37 GP -5.08 ZAL 93.14 ZAP 88.75 ETS 179.33 ZAE 131.60 ETE 185.14 ZAC 96.73 ETC 274.07 LVI -8.21		
PLANETOCENTRIC CONIC		
C3 8.073 VHL 2.841 DLA -24.63 RAL 338.23 RAD 6637.0 VEL 11.322 PTH 6.38 VHP 2.819 DPA -26.41 RAP 305.83 ECC 1.1320		
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG		
50.00 15 45 9 2435.55 -4.17 63.70 186.82 137.44 16 25 45 1435.6 14.15 47.80		
60.00 16 56 28 2245.92 .05 50.68 190.89 130.30 17 33 53 1245.9 15.91 32.35		
70.00 18 27 45 1977.52 4.42 32.22 194.19 123.90 19 0 42 977.5 17.75 11.86		
80.00 20 17 52 1632.90 8.27 8.42 196.55 118.79 20 45 5 632.9 19.38 346.55		
90.00 22 1 1 1300.20 10.03 344.88 197.48 116.58 22 22 41 300.2 20.12 322.40		
100.00 23 0 44 1107.37 8.27 329.78 196.55 118.79 23 19 11 107.4 19.38 307.92		
110.00 23 27 11 1024.34 4.42 321.14 194.19 123.90 23 44 16 24.3 17.75 300.78		
DIFFERENTIAL CORRECTIONS		
TDE -.2143 TRA .2942 TC3-4.7007 BAU .5107 SGT 2783.6 SGR 520.0 S63 1666.3 ORBIT DETERMINATION ACCURACY		
RDE -.1159 RRA .1579 RC3 -.5370 FAU .26522 RRT .7908 RRF .8496 RTF .9288 CRT .9913 CRS -.2927 CST -.3111 ST 24.1 SR 12.8 SS 39.2		
FDE .2007 FRA 4.7405 FC-28.4406 BSP 4292 SGB 2831.8 R23 .1726 R13 .9318 LSA 40.7 MSA 25.0 SSA 1.5		
BDE .2436 BRA .3339 BC3 4.7313 FSP 2880 S61 2814.2 S62 314.8 THA 8.51 EL1 27.2 EL2 1.5 ALF 27.93		

LAUNCH DATE MAY 19 1971	FLIGHT TIME 208.00	ARRIVAL DATE DEC 13 1971
HELIOCENTRIC CONIC		
RL 151.35 LAL -.00 LOL 237.39 VL 32.196 GAL .30 AZL 91.22 HCA 156.98 SMA 185.04 ECC .18215 INC 1.2219 V1 29.439		
RP 215.54 LAP -.48 LOP 34.37 VP 22.677 GAP 4.51 AZP 88.88 TAL 1.96 TAP 158.94 RCA 151.33 APO 218.75 V2 25.480		
RC 154.904 GL -13.99 GP -5.32 ZAL 93.69 ZAP 86.88 ETS 179.13 ZAE 129.63 ETE 185.03 ZAC 96.55 ETC 273.90 LVI -7.74		
PLANETOCENTRIC CONIC		
C3 8.074 VHL 2.841 DLA -24.07 RAL 338.62 RAD 6637.0 VEL 11.322 PTH 6.38 VHP 2.818 DPA -26.80 RAP 305.13 ECC 1.1320		
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG		
50.00 15 44 0 2447.84 -4.79 64.21 187.10 137.39 16 24 48 1447.8 13.55 48.35		
60.00 16 54 15 2261.01 -.61 51.40 191.11 130.30 17 31 56 1261.0 15.29 33.13		
70.00 18 23 57 1997.27 3.67 33.26 194.36 123.90 18 57 15 997.3 17.08 13.00		
80.00 20 11 46 1659.88 7.39 9.93 196.64 119.01 20 39 26 659.9 18.65 348.22		
90.00 21 53 17 1332.44 9.04 348.73 197.53 116.91 22 15 29 332.4 19.35 324.44		
100.00 22 54 38 1134.33 7.39 331.29 196.64 119.01 23 13 32 134.3 18.65 309.59		
110.00 23 23 24 1044.09 3.67 322.17 194.36 123.98 23 40 48 44.1 17.08 301.92		
DIFFERENTIAL CORRECTIONS		
TDE -.2042 TRA .3396 TC3-4.9834 BAU .5415 SGT 2958.4 SGR 532.3 S63 1871.6 ORBIT DETERMINATION ACCURACY		
RDE -.1082 RRA .1625 RC3 -.5754 FAU .26563 RRT .8161 RRF .8704 RTF .533 CRT .9895 CRS -.2785 CST -.3310 ST 23.8 SR 12.2 SS 39.7		
FDE .2878 FRA 4.7921 FC-28.4827 BSP 4816 SGB 3005.9 R23 .1712 R13 .9380 LSA 41.2 MSA 24.4 SSA 1.4		
BDE .2311 BRA .3765 BC3 5.0165 FSP 2894 S61 2990.5 S62 304.3 THA 8.44 EL1 26.7 EL2 1.6 ALF 26.91		

LAUNCH DATE MAY 19 1971	FLIGHT TIME 210.00	ARRIVAL DATE DEC 15 1971
HELIOCENTRIC CONIC		
RL 151.35 LAL -.00 LOL 237.39 VL 32.199 GAL .25 AZL 91.19 HCA 158.14 SMA 185.09 ECC .18236 INC 1.1858 V1 29.439		
RP 215.87 LAP -.44 LOP 35.53 VP 22.639 GAP 4.35 AZP 88.90 TAL 1.63 TAP 159.78 RCA 151.34 APO 218.84 V2 25.443		
RC 157.385 GL -13.56 GP -5.58 ZAL 94.26 ZAP 85.06 ETS 178.92 ZAE 127.70 ETE 184.93 ZAC 96.34 ETC 273.74 LVI -7.27		
PLANETOCENTRIC CONIC		
C3 8.077 VHL 2.842 DLA -23.46 RAL 339.01 RAD 6637.0 VEL 11.322 PTH 6.38 VHP 2.819 DPA -27.20 RAP 304.46 ECC 1.1320		
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG		
50.00 15 42 40 2461.07 -5.45 64.77 187.38 137.34 16 23 41 1461.1 12.90 48.94		
60.00 16 51 49 2277.17 -1.32 52.17 191.34 130.28 17 29 46 1277.2 14.61 33.96		
70.00 18 19 55 2018.15 2.88 34.35 194.53 124.05 18 53 33 1018.1 16.37 14.20		
80.00 20 5 29 1687.76 6.46 11.48 196.74 119.21 20 33 37 687.8 17.88 349.93		
90.00 21 45 30 1365.17 8.03 348.60 197.59 117.21 22 8 16 365.2 18.53 326.50		
100.00 22 48 21 1162.23 6.46 332.85 196.74 119.21 23 7 43 162.2 17.88 311.30		
110.00 23 19 22 1064.97 2.88 323.27 194.53 124.05 23 37 7 65.0 16.37 303.12		
DIFFERENTIAL CORRECTIONS		
TDE -.1919 TRA .3872 TC3-5.2523 BAU .5710 SGT 3128.4 SGR 545.4 S63 1664.7 ORBIT DETERMINATION ACCURACY		
RDE -.1009 RRA .1678 RC3 -.6097 FAU .26325 RRT .8365 RRF .8889 RTF .9402 CRT .9858 CRS -.2773 CST -.3721 ST 23.6 SR 11.6 SS 40.3		
FDE .3556 FRA 4.8471 FC-28.2161 BSP 4947 SGB 3175.6 R23 .1740 R13 .9427 LSA 41.9 MSA 23.6 SSA 1.4		
BDE .2168 BRA .4220 BC3 5.2876 FSP 2899 S61 3161.0 S62 295.7 THA 8.37 EL1 26.2 EL2 1.7 ALF 25.95		

LAUNCH DATE MAY 19 1971

FLIGHT TIME 220.00

ARRIVAL DATE DEC 25 1971

HELIOCENTRIC CONIC

RL 151.35 LAL -.00 LOL 237.39 VL 32.221 GAL -.02 AZL 90.93 HCA 163.91 SMA 185.46 ECC .18392 INC .9330 V1 29.439
 RP 217.61 LAP -.26 LOP 41.30 VP 22.433 GAP 3.57 AZP 89.10 TAL 359.86 TAP 163.77 RCA 151.35 APO 219.57 V2 25.249
 RC 189.992 GL -10.61 GP -7.34 ZAL 97.35 ZAP 76.57 ETS 177.55 ZAE 118.45 ETE 184.57 ZAC 94.78 ETC 273.05 LVI -4.64

PLANETOCENTRIC CONIC

C3 8.135 VHL 2.852 DLA -19.57 RAL 340.80 RAD 6637.1 VEL 11.325 PTH 6.38 VHP 2.861 DPA -29.50 RAP 301.78 ECC 1.1339
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 32 16 2545.42 -9.66 68.36 188.71 136.82 16 14 41 1545.4 8.73 52.60
 60.00 16 35 4 2378.38 -5.76 57.03 192.43 129.96 17 14 43 1378.4 10.31 39.06
 70.00 17 54 31 2144.85 -1.96 40.96 195.30 124.10 18 30 16 1144.8 11.88 21.26
 80.00 19 29 23 1847.94 1.08 20.32 197.20 119.84 20 0 11 847.9 13.14 359.46
 90.00 21 3 10 1545.42 2.30 358.75 197.88 118.19 21 28 55 545.4 13.65 337.47
 100.00 22 12 15 1322.41 1.08 341.69 197.20 119.84 22 34 17 322.4 13.14 320.83
 110.00 22 53 57 1191.67 -1.96 329.88 195.30 124.10 23 13 49 191.7 11.88 310.18

DIFFERENTIAL CORRECTIONS

TDE -.0794 TRA .6451 TC3-6.4290 BAU .7044
 RDE -.0523 RRA .2118 RC3 -.7793 FAU .23292
 FDE .8989 FRA 5.1583 FC-24.7865 BSP 6951
 BDE .0951 BRA .6790 BC3 6.4760 FSP 3184

MID-COURSE EXECUTION ACCURACY

SGT 3920.1 SGR 642.3 SG3 1555.5
 RRT .9008 RRF .9566 RTF .9450
 SGB 3972.3 R23 .2328 R13 .9474
 SG1 3962.7 SG2 276.0 THA 8.44

ORBIT DETERMINATION ACCURACY

ST 22.8 SR 8.6 SS 46.8
 CRT .9456 CRS -.4038 CST -.6492
 LSA 49.6 MSA 18.0 SSA 1.4
 EL1 24.2 EL2 2.6 ALF 19.88

LAUNCH DATE MAY 19 1971

FLIGHT TIME 222.00

ARRIVAL DATE DEC 27 1971

HELIOCENTRIC CONIC

RL 151.35 LAL -.00 LOL 237.39 VL 32.226 GAL -.08 AZL 90.86 HCA 165.06 SMA 185.55 ECC .18434 INC .8613 V1 29.439
 RP 217.97 LAP -.22 LOP 42.44 VP 22.416 GAP 3.42 AZP 89.17 TAL 359.48 TAP 164.53 RCA 151.35 APO 219.75 V2 25.209
 RC 172.547 GL -9.77 GP -7.84 ZAL 98.02 ZAP 75.01 ETS 177.18 ZAE 116.70 ETE 184.53 ZAC 94.31 ETC 272.94 LVI -4.02

PLANETOCENTRIC CONIC

C3 8.155 VHL 2.856 DLA -18.55 RAL 341.10 RAD 6637.1 VEL 11.326 PTH 6.38 VHP 2.876 DPA -30.08 RAP 301.39 ECC 1.1342
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 29 2 2567.33 -10.74 69.31 188.94 136.63 16 11 49 1567.3 7.64 53.94
 60.00 16 30 21 2404.27 -6.89 58.28 192.60 129.81 17 10 25 1404.3 9.20 40.33
 70.00 17 47 52 2176.41 -3.16 42.61 195.41 124.02 18 24 8 1176.4 10.72 22.98
 80.00 19 20 35 1886.20 -2.22 22.42 197.25 119.86 19 52 1 886.2 11.94 1.67
 90.00 20 53 15 1587.27 .96 1.09 197.90 118.27 21 19 42 587.3 12.43 339.94
 100.00 22 3 27 1360.67 -2.22 343.79 197.25 119.86 22 26 8 360.7 11.94 323.04
 110.00 22 47 18 1223.22 -3.16 331.53 195.41 124.02 23 7 41 223.2 10.72 311.90

DIFFERENTIAL CORRECTIONS

TDE -.0438 TRA .6918 TC3-6.7979 BAU .7475
 RDE -.0407 RRA .2211 RC3 -.8961 FAU .24383
 FDE 1.0045 FRA 5.0952 FC-25.8661 BSP 6949
 BDE .0598 BRA .7262 BC3 6.8568 FSP 2843

MID-COURSE EXECUTION ACCURACY

SGT 4150.2 SGR 698.3 SG3 1590.6
 RRT .9245 RRF .9684 RTF .9556
 SGB 4208.6 R23 .2135 R13 .9577
 SG1 4200.3 SG2 263.0 THA 8.88

ORBIT DETERMINATION ACCURACY

ST 23.1 SR 8.2 SS 47.7
 CRT .9355 CRS -.4738 CST -.7294
 LSA 51.1 MSA 16.2 SSA 1.3
 EL1 24.4 EL2 2.7 ALF 18.49

LAUNCH DATE MAY 19 1971

FLIGHT TIME 224.00

ARRIVAL DATE DEC 29 1971

HELIOCENTRIC CONIC

RL 151.35 LAL -.00 LOL 237.39 VL 32.232 GAL -.14 AZL 90.78 HCA 166.20 SMA 185.65 ECC .18478 INC .7764 V1 29.439
 RP 218.33 LAP -.19 LOP 43.58 VP 22.380 GAP 3.27 AZP 89.24 TAL 359.09 TAP 165.28 RCA 151.34 APO 219.95 V2 25.169
 RC 175.114 GL -8.80 GP -8.41 ZAL 98.70 ZAP 73.51 ETS 176.77 ZAE 114.97 ETE 184.51 ZAC 93.77 ETC 272.84 LVI -3.34

PLANETOCENTRIC CONIC

C3 8.176 VHL 2.859 DLA -17.40 RAL 341.35 RAD 6637.1 VEL 11.327 PTH 6.38 VHP 2.894 DPA -30.72 RAP 301.07 ECC 1.1346
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 25 13 2591.70 -11.95 70.37 189.15 136.41 16 8 24 1591.7 6.42 54.57
 60.00 16 24 55 2432.93 -8.14 59.67 192.75 129.61 17 5 28 1432.9 7.95 41.73
 70.00 17 40 24 2211.05 -4.48 44.43 195.50 123.89 18 17 15 1211.0 9.45 24.85
 80.00 19 10 56 1927.69 -1.63 24.69 197.28 119.82 19 43 3 927.7 10.62 4.04
 90.00 20 42 29 1632.32 -.50 3.60 197.91 118.28 21 9 42 632.3 11.09 342.57
 100.00 21 53 47 1402.17 -1.63 346.06 197.28 119.82 22 17 10 402.2 10.62 325.41
 110.00 22 39 50 1257.87 -4.48 333.35 195.50 123.89 23 0 48 257.9 9.45 313.77

DIFFERENTIAL CORRECTIONS

TDE .0013 TRA .7351 TC3-7.0677 BAU .7799
 RDE -.0248 RRA .2330 RC3 -.9742 FAU .24133
 FDE 1.1842 FRA 5.0435 FC-25.5739 BSP 7212
 BDE .0249 BRA .7712 BC3 7.1345 FSP 2776

MID-COURSE EXECUTION ACCURACY

SGT 4326.6 SGR 743.1 SG3 1573.6
 RRT .9352 RRF .9762 RTF .9578
 SGB 4390.0 R23 .2181 R13 .9599
 SG1 4382.3 SG2 259.7 THA 9.16

ORBIT DETERMINATION ACCURACY

ST 23.9 SR 7.8 SS 49.9
 CRT .9363 CRS -.5718 CST -.8019
 LSA 53.9 MSA 14.5 SSA 1.3
 EL1 25.0 EL2 2.6 ALF 17.15

LAUNCH DATE MAY 19 1971

FLIGHT TIME 226.00

ARRIVAL DATE DEC 31 1971

HELIOCENTRIC CONIC

RL 151.35 LAL -.00 LOL 237.39 VL 32.238 GAL -.20 AZL 90.68 HCA 167.33 SMA 185.75 ECC .18526 INC .6800 V1 29.439
 RP 218.69 LAP -.15 LOP 44.72 VP 22.344 GAP 3.12 AZP 89.34 TAL 358.69 TAP 166.02 RCA 151.34 APO 220.17 V2 25.129
 RC 177.690 GL -7.67 GP -9.08 ZAL 99.40 ZAP 72.06 ETS 176.31 ZAE 113.28 ETE 184.50 ZAC 93.12 ETC 272.75 LVI -2.59

PLANETOCENTRIC CONIC

C3 8.201 VHL 2.864 DLA -16.10 RAL 341.56 RAD 6637.1 VEL 11.328 PTH 6.38 VHP 2.914 DPA -31.44 RAP 300.81 ECC 1.1350
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 20 39 2619.13 -13.30 71.58 189.33 136.12 16 4 18 1619.1 5.05 55.73
 60.00 16 18 35 2465.04 -9.53 61.25 192.88 129.35 16 59 41 1465.0 6.56 43.29
 70.00 17 31 54 2249.52 -5.94 46.45 195.56 123.70 18 9 24 1249.5 8.02 26.91
 80.00 19 0 10 1973.25 -3.17 27.20 197.28 119.70 19 33 3 973.3 9.15 6.62
 90.00 20 30 37 1681.47 -2.08 6.34 197.88 118.21 20 58 38 681.5 9.60 345.41
 100.00 21 43 2 1447.73 -3.17 348.57 197.28 119.70 22 7 10 447.7 9.15 327.99
 110.00 22 31 21 1296.34 -5.94 335.37 195.56 123.70 22 52 57 296.3 8.02 315.83

DIFFERENTIAL CORRECTIONS

TDE .0511 TRA .7885 TC3-7.3008 BAU .8088
 RDE -.0095 RRA .2580 RC3-1.0564 FAU .23719
 FDE 1.3095 FRA 5.0503 FC-25.0389 BSP 7547
 BDE .0520 BRA .8272 BC3 7.3768 FSP 2728

MID-COURSE EXECUTION ACCURACY

SGT 4493.5 SGR 798.5 SG3 1533.1
 RRT .9429 RRF .9826 RTF .9595
 SGB 4563.9 R23 .2245 R13 .9617
 SG1 4556.3 SG2 262.3 THA 9.54

ORBIT DETERMINATION ACCURACY

ST 25.9 SR 7.9 SS 51.9
 CRT .9409 CRS -.6902 CST -.8775
 LSA 57.2 MSA 12.4 SSA 1.3
 EL1 27.0 EL2 2.6 ALF 16.19

LAUNCH DATE MAY 19 1971

FLIGHT TIME 228.00

ARRIVAL DATE JAN 2 1972

HELIOCENTRIC CONIC

DISTANCE 531.698

EARTH TO MARS

RL 151.35 LAL -0.00 LOL 237.39 VL 32.245 GAL -0.27 AZL 90.56 HCA 168.46 SMA 185.86 ECC .18577 INC .5605 V1 29.439
 RP 219.06 LAP -.11 LOP 45.85 VP 22.308 GAP 2.98 AZP 89.45 TAL 358.28 TAP 166.75 RCA 151.34 APO 220.39 V2 25.089
 RC 180.275 GL -6.34 GP -9.87 ZAL 100.11 ZAP 70.67 ETS 175.76 ZAE 111.62 ETE 184.50 ZAC 92.35 ETC 272.67 LVI -1.74

PLANETOCENTRIC CONIC

C3 8.230 VHL 2.869 DLA -14.61 RAL 341.68 RAD 6637.1 VEL 11.329 PTH 6.38 VHP 2.938 DPA -32.28 RAP 300.62 ECC 1.1354
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 15 7 2650.47 -14.83 72.98 189.47 135.74 15 59 18 1650.5 3.48 57.05
 60.00 16 11 8 2501.51 -11.10 63.05 192.96 129.00 16 52 49 1501.5 4.96 45.05
 70.00 17 22 6 2292.88 -7.57 48.75 195.58 123.40 18 0 19 1292.9 6.39 29.21
 80.00 18 47 59 2024.06 -4.87 30.00 197.24 119.49 19 21 43 1024.1 7.49 9.48
 90.00 20 17 18 1735.94 -3.83 9.39 197.81 118.04 20 46 13 735.9 7.92 348.52
 100.00 21 30 51 1498.53 -4.87 351.37 197.24 119.49 21 55 49 498.5 7.49 330.84
 110.00 22 21 32 1339.70 -7.57 337.67 195.58 123.40 22 43 52 339.7 6.39 318.13

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .1042 TRA .8258 TC3-7.5345 BAU .8386 SGT 4651.5 SGR 857.4 SG3 1515.8 ST 28.4 SR 8.3 SS 53.4
 RDE .0075 RRA .2682 RC3-1.1470 FAU .23145 RRT .9489 RRF .9874 RTF .9608 CRT .9516 CRS -.7936 CST -.9288
 FDE 1.4254 FRA 4.9540 FC-24.3470 BSP 7779 SGB 4729.8 R23 .2303 R13 .9631 LSA 60.1 MSA 10.3 SSA 1.4
 BDE .1044 BRA .8676 BC3 7.6213 FSP 2641 SGI 4722.3 SG2 286.5 THA 9.95 EL1 29.4 EL2 2.5 ALF 15.74

LAUNCH DATE MAY 19 1971

FLIGHT TIME 230.00

ARRIVAL DATE JAN 4 1972

HELIOCENTRIC CONIC

DISTANCE 535.860

EARTH TO MARS

RL 151.35 LAL -0.00 LOL 237.39 VL 32.252 GAL -.33 AZL 90.42 HCA 169.59 SMA 185.98 ECC .18630 INC .4209 V1 29.439
 RP 219.43 LAP -.08 LOP 46.98 VP 22.272 GAP 2.83 AZP 89.58 TAL 357.97 TAP 167.46 RCA 151.33 APO 220.63 V2 25.048
 RC 182.871 GL -4.74 GP -10.81 ZAL 100.84 ZAP 69.35 ETS 175.12 ZAE 109.98 ETE 184.53 ZAC 91.42 ETC 272.59 LVI -.75

PLANETOCENTRIC CONIC

C3 8.266 VHL 2.875 DLA -12.87 RAL 341.72 RAD 6637.1 VEL 11.330 PTH 6.38 VHP 2.965 DPA -33.26 RAP 300.52 ECC 1.1360
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 8 20 2686.91 -16.60 74.63 189.58 135.25 15 53 7 1686.9 1.65 58.57
 60.00 16 2 11 2543.72 -12.90 65.17 193.01 128.52 16 44 35 1543.7 3.11 47.08
 70.00 17 10 35 2342.65 -9.43 51.41 195.56 122.98 17 49 37 1342.7 4.50 31.83
 80.00 18 33 53 2081.81 -6.80 33.20 197.15 119.14 19 8 36 1081.8 5.57 12.69
 90.00 20 2 2 1797.51 -5.79 12.85 197.71 117.73 20 31 59 797.5 5.98 352.01
 100.00 21 16 46 1556.28 -6.80 354.57 197.15 119.14 21 42 43 556.3 5.57 334.06
 110.00 22 10 1 1389.47 -9.43 340.33 195.56 122.98 22 33 10 389.5 4.50 320.75

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .1785 TRA .8740 TC3-7.7525 BAU .8679 SGT 4815.6 SGR 938.2 SG3 1489.5 ST 32.9 SR 9.5 SS 56.6
 RDE .0307 RRA .2901 RC3-1.2599 FAU .22622 RRT .9541 RRF .9914 RTF .9619 CRT .9647 CRS -.8866 CST -.9683
 FDE 1.6063 FRA 4.9244 FC-23.6939 BSP 8163 SGB 4906.2 R23 .2358 R13 .9645 LSA 65.6 MSA 8.0 SSA 1.5
 BDE .1611 BRA .9209 BC3 7.8542 FSP 2621 SGI 4898.4 SG2 276.3 THA 10.56 EL1 34.1 EL2 2.4 ALF 15.62

LAUNCH DATE MAY 19 1971

FLIGHT TIME 232.00

ARRIVAL DATE JAN 6 1972

HELIOCENTRIC CONIC

DISTANCE 540.022

EARTH TO MARS

RL 151.35 LAL -0.00 LOL 237.39 VL 32.259 GAL -.40 AZL 90.25 HCA 170.71 SMA 186.10 ECC .18686 INC .2459 V1 29.439
 RP 219.80 LAP -.04 LOP 48.10 VP 22.236 GAP 2.68 AZP 89.76 TAL 357.46 TAP 168.17 RCA 151.32 APO 220.87 V2 25.007
 RC 185.475 GL -2.77 GP -11.98 ZAL 101.56 ZAP 68.10 ETS 174.34 ZAE 108.36 ETE 184.58 ZAC 90.28 ETC 272.53 LVI .42

PLANETOCENTRIC CONIC

C3 8.312 VHL 2.883 DLA -10.78 RAL 341.82 RAD 6637.2 VEL 11.332 PTH 6.39 VHP 2.997 DPA -34.45 RAP 300.51 ECC 1.1368
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 59 52 2730.23 -18.68 76.64 189.64 134.59 15 45 22 1730.2 -1.53 60.38
 60.00 15 51 13 2593.64 -15.00 67.71 193.01 127.86 16 34 27 1593.6 .91 49.47
 70.00 16 56 44 2401.06 -11.57 54.57 195.49 122.36 17 36 45 1401.1 2.28 34.89
 80.00 18 17 16 2148.93 -9.01 36.96 197.02 118.59 18 53 5 1148.9 3.32 16.40
 90.00 19 44 7 1868.76 -8.03 16.89 197.55 117.21 20 15 15 868.8 3.71 356.02
 100.00 21 0 8 1623.41 -9.01 358.33 197.02 118.59 21 27 11 623.4 3.32 337.76
 110.00 21 56 10 1447.87 -11.57 343.49 195.49 122.36 22 20 18 447.9 2.28 323.81

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .2581 TRA .9082 TC3-7.9884 BAU .9013 SGT 4984.8 SGR 1039.0 SG3 1458.1 ST 38.3 SR 11.0 SS 58.2
 RDE .0541 RRA .3145 RC3-1.4122 FAU .22299 RRT .9605 RRF .9944 RTF .5.55 CRT .9703 CRS -.9394 CST -.9803
 FDE 1.7127 FRA 4.7893 FC-23.2244 BSP 8371 SGB 5091.7 R23 .2300 R13 .9681 LSA 70.3 MSA 5.5 SSA 1.8
 BDE .2637 BRA .9612 BC3 8.1103 FSP 2473 SGI 5083.8 SG2 283.6 THA 11.36 EL1 39.7 EL2 2.6 ALF 15.68

LAUNCH DATE MAY 19 1971

FLIGHT TIME 234.00

ARRIVAL DATE JAN 8 1972

HELIOCENTRIC CONIC

DISTANCE 544.177

EARTH TO MARS

RL 151.35 LAL -0.00 LOL 237.39 VL 32.266 GAL -.47 AZL 90.03 HCA 171.83 SMA 186.22 ECC .18745 INC .0000 V1 29.439
 RP 220.18 LAP -.00 LOP 49.22 VP 22.201 GAP 2.54 AZP 89.97 TAL 357.03 TAP 168.87 RCA 151.32 APO 221.13 V2 24.966
 RC 188.089 GL -.30 GP -13.44 ZAL 102.29 ZAP 66.96 ETS 173.39 ZAE 106.77 ETE 184.67 ZAC 88.83 ETC 272.48 LVI 1.85

PLANETOCENTRIC CONIC

C3 8.381 VHL 2.895 DLA -8.22 RAL 341.34 RAD 6637.2 VEL 11.335 PTH 6.39 VHP 3.036 DPA -35.92 RAP 300.63 ECC 1.1379
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 49 3 2783.32 -21.20 79.18 189.69 133.65 15 35 26 1783.3 -3.20 62.60
 60.00 15 37 29 2654.48 -17.92 70.88 193.00 126.89 16 21 44 1654.5 -1.77 52.37
 70.00 16 39 39 2471.72 -14.12 58.46 195.40 121.43 17 20 51 1471.7 -1.42 38.58
 80.00 17 57 2 2229.46 -11.59 41.54 196.86 117.71 18 34 12 1229.5 .59 20.82
 90.00 19 22 28 1953.84 -10.64 21.77 197.36 116.36 19 55 1 953.8 .98 .77
 100.00 20 39 54 1703.93 -11.59 2.91 196.86 117.71 21 8 18 703.9 .59 342.19
 110.00 21 39 5 1518.54 -14.12 347.38 195.40 121.43 22 4 24 518.5 -.42 327.49

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .3643 TRA .9406 TC3-8.1866 BAU .9341 SGT 5130.2 SGR 1164.5 SG3 1418.9 ST 46.3 SR 13.8 SS 62.2
 RDE .0899 RRA .3497 RC3-1.5786 FAU .21619 RRT .9631 RRF .9965 RTF .9657 CRT .9783 CRS -.9741 CST -.9971
 FDE 1.9164 FRA 4.6939 FC-22.3332 BSP 8688 SGB 5280.2 R23 .2345 R13 .9688 LSA 78.7 MSA 3.3 SSA 2.4
 BDE .3752 BRA 1.0035 BC3 8.3374 FSP 2418 SGI 5271.4 SG2 306.3 THA 12.33 EL1 48.3 EL2 2.7 ALF 16.33

LAUNCH DATE MAY 19 1971

FLIGHT TIME 236.00

ARRIVAL DATE JAN 10 1972

HELIOCENTRIC CONIC DISTANCE 548.328 EARTH TO MARS
 RL 151.35 LAL -.00 LOL 237.39 VL 32.274 GAL -.94 AZL 89.74 HCA 172.95 SMA 186.35 ECC .18807 INC .2477 V1 29.439
 RP 220.55 LAP .03 LOP 50.34 VP 22.166 GAP 2.40 AZP 90.26 TAL 356.60 TAP 169.55 RCA 151.31 APO 221.40 V2 24.925
 RC 190.711 GL 2.91 GP -15.32 ZAL 102.99 ZAP 65.96 ETS 172.19 ZAE 105.19 ETE 184.80 ZAC 86.96 ETC 272.44 LVI 3.85

PLANETOCENTRIC CONIC
 C3 8.491 VHL 2.914 DLA -4.98 RAL 340.80 RAD 6637.3 VEL 11.340 PTH 6.39 VHP 3.086 DPA -37.79 RAP 300.92 ECC 1.1397
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 34 49 2830.71 -24.33 82.54 189.77 132.24 15 22 20 1850.7 -6.37 65.44
 60.00 15 19 42 2731.33 -20.60 75.03 193.01 125.43 16 5 14 1731.3 -5.14 56.06
 70.00 16 17 51 2560.36 -17.20 63.48 195.32 119.97 17 0 32 1560.4 -3.80 43.21
 80.00 17 31 32 2329.69 -14.70 47.37 196.71 116.29 18 10 21 1329.7 -2.80 26.32
 90.00 18 55 19 2059.36 -13.75 27.96 197.18 114.96 19 29 38 1059.4 -2.42 6.66
 100.00 20 14 24 1804.16 -14.70 8.73 196.71 116.29 20 44 28 804.2 -2.80 347.69
 110.00 21 17 18 1607.17 -17.20 352.40 195.32 119.97 21 44 5 607.2 -3.80 352.13

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .5042 TRA .9590 TC3-8.3432 BAU .9684 SGT 5311.1 SGR 1323.9 SG3 1367.5 ST 57.6 SR 18.1 SS 67.2
 RDE .1404 RRA .3925 RC3-1.7803 FAU .20777 RRT .9649 RRF .9980 RTF .9657 CRT .9833 CRS -.9906 CST -.9977
 FDE 2.1638 FRA 4.5315 FC-21.1838 BSP 8970 SGB 5473.7 R23 .2376 R13 .9693 LSA 90.3 MSA 3.7 SSA 1.6
 BDE .5234 BRA 1.0362 BC3 8.5310 FSP 2328 SG1 5463.2 SG2 337.9 THA 13.58 EL1 60.3 EL2 3.1 ALF 17.23

LAUNCH DATE MAY 19 1971

FLIGHT TIME 238.00

ARRIVAL DATE JAN 12 1972

HELIOCENTRIC CONIC DISTANCE 552.474 EARTH TO MARS
 RL 151.35 LAL -.00 LOL 237.39 VL 32.282 GAL -.61 AZL 89.34 HCA 174.06 SMA 186.48 ECC .18870 INC .6543 V1 29.439
 RP 220.93 LAP .07 LOP 51.45 VP 22.130 GAP 2.25 AZP 90.65 TAL 356.17 TAP 170.23 RCA 151.29 APO 221.67 V2 24.884
 RC 193.341 GL 7.23 GP -17.83 ZAL 103.63 ZAP 65.16 ETS 170.63 ZAE 103.61 ETE 185.01 ZAC 84.45 ETC 272.42 LVI 6.03

PLANETOCENTRIC CONIC
 C3 8.693 VHL 2.948 DLA -.70 RAL 339.85 RAD 6637.4 VEL 11.349 PTH 6.40 VHP 3.154 DPA -40.27 RAP 301.47 ECC 1.1431
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 15 23 2940.37 -28.34 87.30 190.03 129.96 15 4 23 1940.4 -11.03 69.28
 60.00 14 55 42 2833.12 -24.51 80.81 193.19 123.05 15 42 55 1833.1 -9.57 61.01
 70.00 15 48 46 2677.00 -21.03 70.36 195.40 117.55 16 33 23 1677.1 -8.21 49.37
 80.00 16 57 48 2460.91 -18.49 55.26 196.70 113.87 17 38 49 1460.9 -7.19 33.59
 90.00 18 19 33 2197.10 -17.54 36.29 197.13 112.55 18 56 10 1197.1 -6.81 14.40
 100.00 19 40 40 1935.38 -18.49 16.63 196.70 113.87 20 12 55 935.4 -7.19 354.95
 110.00 20 48 12 1723.90 -21.03 359.28 195.40 117.55 21 16 56 723.9 -8.21 358.29

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .7051 TRA .9713 TC3-8.3690 BAU 1.0004 SGT 5458.4 SGR 1535.4 SG3 1300.7 ST 74.5 SR 25.0 SS 74.2
 RDE .2176 RRA .4504 RC3-2.0154 FAU .19615 RRT .9661 RRF .9989 RTF .9653 CRT .9863 CRS -.9973 CST -.9953
 FDE 2.4782 FRA 4.3280 FC-19.5350 BSP 9395 SGB 5670.3 R23 .2390 R13 .9699 LSA 107.9 MSA 5.8 SSA .7
 BDE .7380 BRA 1.0707 BC3 8.6082 FSP 2240 SG1 5657.4 SG2 382.5 THA 15.27 EL1 78.5 EL2 3.9 ALF 18.33

LAUNCH DATE MAY 19 1971

FLIGHT TIME 240.00

ARRIVAL DATE JAN 14 1972

HELIOCENTRIC CONIC DISTANCE 556.616 EARTH TO MARS
 RL 151.35 LAL -.00 LOL 237.39 VL 32.290 GAL -.68 AZL 88.77 HCA 175.17 SMA 186.62 ECC .18937 INC 1.2301 V1 29.439
 RP 221.31 LAP .10 LOP 52.56 VP 22.096 GAP 2.11 AZP 91.23 TAL 355.73 TAP 170.90 RCA 151.28 APO 221.96 V2 24.842
 RC 195.978 GL 13.32 GP -21.34 ZAL 104.10 ZAP 64.70 ETS 168.54 ZAE 102.00 ETE 185.31 ZAC 80.98 ETC 272.42 LVI 9.29

PLANETOCENTRIC CONIC
 C3 9.109 VHL 3.018 DLA 5.22 RAL 338.24 RAD 6637.6 VEL 11.367 PTH 6.42 VHP 3.257 DPA -43.70 RAP 302.46 ECC 1.1499
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 47 17 3067.20 -33.66 94.72 190.93 125.86 14 38 25 2067.2 -17.23 74.95
 60.00 14 21 19 2976.69 -29.54 89.62 193.99 118.76 15 10 55 1976.7 -15.66 68.25
 70.00 15 7 21 2841.27 -25.83 80.69 196.03 113.16 15 54 42 1841.3 -14.20 58.31
 80.00 16 9 59 2645.12 -23.13 66.96 197.18 109.42 16 54 4 1645.1 -13.11 44.05
 90.00 17 28 57 2390.30 -22.12 48.60 197.55 108.08 18 8 47 1390.3 -12.70 25.53
 100.00 18 52 51 2119.59 -23.13 28.33 197.18 109.42 19 28 10 1119.6 -13.11 5.42
 110.00 20 6 47 1888.09 -25.83 9.60 196.03 113.16 20 38 15 888.1 -14.20 347.23

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .9877 TRA .9449 TC3-8.2430 BAU 1.0424 SGT 5614.0 SGR 1828.5 SG3 1208.7 ST 97.9 SR 35.6 SS 82.1
 RDE .3398 RRA .5214 RC3-2.3071 FAU .18257 RRT .9672 RRF .9994 RTF .9651 CRT .9885 CRS -.9995 CST -.9926
 FDE 2.8252 FRA 3.9691 FC-17.3522 BSP 9703 SGB 5904.3 R23 .2367 R13 .9710 LSA 132.3 MSA 8.4 SSA .3
 BDE 1.0445 BRA 1.0792 BC3 8.5597 FSP 2059 SG1 5887.7 SG2 442.6 THA 17.59 EL1 104.0 EL2 5.1 ALF 19.82

LAUNCH DATE MAY 19 1971

FLIGHT TIME 242.00

ARRIVAL DATE JAN 16 1972

HELIOCENTRIC CONIC DISTANCE 560.752 EARTH TO MARS
 RL 151.35 LAL -.00 LOL 237.39 VL 32.298 GAL -.75 AZL 87.85 HCA 176.27 SMA 186.76 ECC .19005 INC 2.1432 V1 29.439
 RP 221.69 LAP .14 LOP 53.66 VP 22.061 GAP 1.97 AZP 92.14 TAL 355.29 TAP 171.56 RCA 151.27 APO 222.25 V2 24.801
 RC 198.621 GL 22.35 GP -26.50 ZAL 104.13 ZAP 64.90 ETS 165.64 ZAE 100.34 ETE 185.79 ZAC 75.80 ETC 272.47 LVI 14.05

PLANETOCENTRIC CONIC
 C3 10.108 VHL 3.179 DLA 13.86 RAL 335.43 RAD 6638.1 VEL 11.411 PTH 6.46 VHP 3.435 DPA -48.69 RAP 304.32 ECC 1.1663
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 3 13 3261.82 -40.63 108.07 194.05 117.26 13 57 35 2261.8 -26.31 84.55
 60.00 13 27 19 3197.67 -35.79 104.99 196.74 109.92 14 20 36 2197.7 -24.41 80.37
 70.00 14 1 57 3095.74 -31.42 98.33 198.34 104.12 14 53 33 2095.7 -22.61 73.23
 80.00 14 53 46 2933.37 -28.21 86.82 199.14 100.20 15 42 39 1933.4 -21.25 61.57
 90.00 16 7 51 2694.25 -26.99 69.48 199.37 98.77 16 52 45 1694.3 -20.73 44.20
 100.00 17 36 38 2407.84 -28.21 48.19 199.14 100.20 18 16 46 1407.8 -21.25 22.94
 110.00 19 1 23 2142.56 -31.42 27.25 198.34 104.12 19 37 6 1142.6 -22.61 2.15

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.4541 TRA .8559 TC3-7.6598 BAU 1.0919 SGT 5759.6 SGR 2245.1 SG3 1065.6 ST 133.4 SR 54.5 SS 92.2
 RDE .5740 RRA .6128 RC3-2.5728 FAU .16127 RRT .9672 RRF .9997 RTF .9634 CRT .9907 CRS -1.0000 CST -.9916
 FDE 3.2778 FRA 3.4109 FC-13.8132 BSP 10180 SGB 6181.7 R23 .2355 R13 .9716 LSA 170.7 MSA 11.0 SSA .2
 BDE 1.5633 BRA 1.0608 BC3 8.0804 FSP 1829 SG1 6158.6 SG2 533.0 THA 20.82 EL1 144.0 EL2 6.9 ALF 22.09

LAUNCH DATE MAY 19 1971

FLIGHT TIME 244.00

ARRIVAL DATE JAN 16 1972

HELIOCENTRIC CONIC

DISTANCE 964.882

EARTH TO MARS

RL 151.35 LAL -.00 LOL 237.39 VL 32.306 GAL -.82 AZL 86.19 HCA 177.37 SMA 186.90 ECC .19076 INC 3.8099 V1 29.439
RP 222.07 LAP .17 LOP 54.76 VP 22.026 GAP 1.82 AZP 93.81 TAL 354.85 TAP 172.22 RCA 151.25 APO 222.56 V2 24.759
RC 201.270 GL 36.42 GP -34.59 ZAL 103.06 ZAP 66.51 VES 161.65 ZAE 98.59 ETE 186.62 ZAC 67.69 ETC 272.67 LVI 21.40

PLANETOCENTRIC CONIC

C3 13.098 VHL 3.619 DLA 27.05 RAL 330.13 RAD 6639.6 VEL 11.540 PTH 6.59 VHP 3.819 DPA -56.40 RAP 308.47 ECC 1.2156
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 11 43 4 3596.38 -47.31 137.17 204.46 95.79 12 43 0 2596.4 -39.59 105.36
60.00 11 45 55 3588.75 -40.29 136.88 204.85 88.87 12 45 44 2588.8 -36.33 106.50
70.00 11 51 4 3573.60 -33.47 135.04 204.23 82.78 12 50 37 2573.6 -32.97 106.31
80.00 12 3 30 3534.54 -27.35 130.85 203.00 77.53 13 2 24 2534.5 -29.83 103.70
90.00 12 49 39 3385.41 -24.12 119.02 202.12 74.77 13 46 4 2385.4 -28.14 92.73
100.00 14 46 22 3009.01 -27.35 92.22 203.00 77.53 15 36 31 2009.0 -29.83 65.07
110.00 16 50 30 2620.42 -33.47 63.95 204.23 82.78 17 34 10 1620.4 -32.97 35.22

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 2.3041 TRA .6240 TC3-6.2355 BAU 1.1865 SGT 5908.3 SGR 2859.1 SG3 822.7 ST 183.3 SR 88.4 SS 90.3
RDE 1.0917 RRA .6901 RC3-2.6311 FAU .12973 RRT .9665 RRF .9996 RTF .9994 CRT .9929 CR8-1.0000 CST -.0920
FDE 3.6736 FRA 2.4081 FC3-6.5744 B8P 10384 SGB 8863.7 R23 .2352 R13 .9719 LSA 225.6 MSA 13.2 SSA .1
BDE 2.9497 BRA .9304 BC3 6.7757 F8P 1378 SG1 6530.0 SG2 664.0 THA 25.33 EL1 203.3 EL2 9.4 ALF 25.65

LAUNCH DATE MAY 19 1971

FLIGHT TIME 246.00

ARRIVAL DATE JAN 20 1972

HELIOCENTRIC CONIC

DISTANCE 968.999

EARTH TO MARS

RL 151.35 LAL -.00 LOL 237.39 VL 32.318 GAL -.90 AZL 82.17 HCA 178.46 SMA 187.08 ECC .19149 INC 7.8260 V1 29.439
RP 222.48 LAP .21 LOP 55.86 VP 21.992 GAP 1.68 AZP 97.83 TAL 354.41 TAP 172.87 RCA 151.25 APO 222.87 V2 24.717
RC 203.922 GL 58.37 GP -47.83 ZAL 99.56 ZAP 71.44 VES 157.20 ZAE 96.94 ETE 188.57 ZAC 54.40 ETC 273.48 LVI 22.98

PLANETOCENTRIC CONIC

C3 26.781 VHL 5.173 DLA 46.90 RAL 318.09 RAD 6645.7 VEL 12.113 PTH 7.09 VHP 4.982 DPA -68.21 RAP 321.95 ECC 1.4404
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 7 36 37 4402.96 -28.60 201.77 210.64 50.21 8 49 59 3402.6 -42.17 177.04
90.89 6 50 11 4518.94 -22.75 207.28 205.00 47.81 8 5 30 3518.9 -37.75 185.21
90.89 6 50 11 4518.94 -22.75 207.28 205.00 47.81 8 5 30 3518.9 -37.75 185.21
90.89 6 50 11 4518.94 -22.75 207.28 205.00 47.81 8 5 30 3518.9 -37.75 185.21
90.89 6 50 11 4518.94 -22.75 207.28 205.00 47.81 8 5 30 3518.9 -37.75 185.21
90.89 6 50 11 4518.94 -22.75 207.28 205.00 47.81 8 5 30 3518.9 -37.75 185.21
90.89 6 50 11 4518.94 -22.75 207.28 205.00 47.81 8 5 30 3518.9 -37.75 185.21

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 4.2915 TRA -.1555 TC3-3.5127 BAU 1.4539 SGT 5988.7 SGR 3727.6 SG3 400.6 ST 237.8 SR 148.4 SS 79.2
RDE 2.6701 RRA .5083 RC3-2.0437 FAU .07567 RRT .9846 RRF .9978 RTF .9453 CRT .9951 CR8 -.9997 CST -.0924
FDE 3.3009 FRA .8097 FC3-2.4479 B8P 9038 SGB 7054.0 R23 .2360 R13 .9667 LSA 290.9 MSA 14.4 SSA .0
BDE 5.0544 BRA .5315 BC3 4.0639 F8P 586 SG1 7003.8 SG2 840.5 THA 31.49 EL1 280.0 EL2 12.5 ALF 31.92

LAUNCH DATE MAY 19 1971

FLIGHT TIME 252.00

ARRIVAL DATE JAN 26 1972

HELIOCENTRIC CONIC

DISTANCE 981.425

EARTH TO MARS

RL 151.35 LAL -.00 LOL 237.39 VL 32.342 GAL -1.14 AZL 100.24 HCA 181.77 SMA 187.50 ECC .19383 INC10.2419 V1 29.439
RP 223.62 LAP .31 LOP 59.13 VP 21.890 GAP 1.27 AZP 79.76 TAL 352.94 TAP 174.71 RCA 151.16 APO 223.85 V2 24.591
RC 211.896 GL -65.80 GP 43.78 ZAL 99.11 ZAP 67.60 ETS 202.33 ZAE 96.30 ETE 174.73 ZAC 145.77 ETC 275.52 LVI 20.573

PLANETOCENTRIC CONIC

C3 39.750 VHL 6.305 DLA -59.87 RAL 36.48 RAD 6650.6 VEL 12.634 PTH 7.48 VHP 4.630 DPA 20.71 RAP 291.81 ECC 1.6542
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
34.75 23 12 43 2081.04 21.60 59.32 293.16 147.32 23 47 24 1081.0 41.63 42.80
34.75 23 12 43 2081.04 21.60 59.32 293.16 147.32 23 47 24 1081.0 41.63 42.80
34.75 23 12 43 2081.04 21.60 59.32 293.16 147.32 23 47 24 1081.0 41.63 42.80
34.75 23 12 43 2081.04 21.60 59.32 293.16 147.32 23 47 24 1081.0 41.63 42.80
34.75 23 12 43 2081.04 21.60 59.32 293.16 147.32 23 47 24 1081.0 41.63 42.80
34.75 23 12 43 2081.04 21.60 59.32 293.16 147.32 23 47 24 1081.0 41.63 42.80
34.75 23 12 43 2081.04 21.60 59.32 293.16 147.32 23 47 24 1081.0 41.63 42.80

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1785 TRA 2.9589 TC3-2.5239 BAU 1.5121 SGT 6229.4 SGR 3643.4 SG3 489.5 ST 80.8 SR 62.5 SS 45.0
RDE -.9030 RRA -1.7343 RC3 1.3138 FAU .09162 RRT -.9868 RRF -.9965 RTF .5.24 CRT -.6847 CR8 .9866 CST -.5364
FDE 1.9087 FRA 2.6355 FC3-1.9955 B8P 11378 SGB 7216.6 R23 .2723 R13 -.9621 LSA 101.1 MSA 47.3 SSA .1
BDE .9205 BRA 3.4279 BC3 2.8454 F8P 852 SG1 7171.2 SG2 808.2 THA 150.09 EL1 94.5 EL2 39.0 ALF 145.40

LAUNCH DATE MAY 19 1971

FLIGHT TIME 254.00

ARRIVAL DATE JAN 28 1972

HELIOCENTRIC CONIC

DISTANCE 985.527

EARTH TO MARS

RL 151.35 LAL -.00 LOL 237.39 VL 32.351 GAL -1.22 AZL 97.05 HCA 182.84 SMA 187.66 ECC .19464 INC 7.0494 V1 29.439
RP 224.01 LAP .35 LOP 60.21 VP 21.857 GAP 1.13 AZP 82.96 TAL 352.49 TAP 175.33 RCA 151.14 APO 224.19 V2 24.550
RC 214.558 GL -54.24 GP 31.52 ZAL 102.30 ZAP 61.37 ETS 198.71 ZAE 94.88 ETE 177.62 ZAC 133.66 ETC 273.81 LVI -39.68

PLANETOCENTRIC CONIC

C3 23.934 VHL 4.892 DLA -52.16 RAL 20.86 RAD 6644.5 VEL 11.996 PTH 6.99 VHP 3.807 DPA 8.46 RAP 293.00 ECC 1.3939
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
44.15 22 36 25 1900.48 26.09 44.51 268.49 136.92 23 8 5 900.5 42.51 22.71
44.15 22 36 25 1900.48 26.09 44.51 268.49 136.92 23 8 5 900.5 42.51 22.71
44.15 22 36 25 1900.48 26.09 44.51 268.49 136.92 23 8 5 900.5 42.51 22.71
44.15 22 36 25 1900.48 26.09 44.51 268.49 136.92 23 8 5 900.5 42.51 22.71
44.15 22 36 25 1900.48 26.09 44.51 268.49 136.92 23 8 5 900.5 42.51 22.71
44.15 22 36 25 1900.48 26.09 44.51 268.49 136.92 23 8 5 900.5 42.51 22.71
44.15 22 36 25 1900.48 26.09 44.51 268.49 136.92 23 8 5 900.5 42.51 22.71

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8398 TRA 2.7239 TC3-3.9467 BAU 1.3427 SGT 6551.8 SGR 2724.8 SG3 807.4 ST 92.4 SR 36.2 SS 43.9
RDE -.1557 RRA -1.2224 RC3 1.4252 FAU .13376 RRT -.9715 RRF -.9982 RTF .9567 CRT -.6854 CR8 .9796 CST -.5251
FDE 1.0049 FRA 4.1751 FC3-4.8382 B8P 11619 SGB 7095.8 R23 .2570 R13 -.9662 LSA 99.9 MSA 42.4 SSA .1
BDE .8541 BRA 2.9857 BC3 4.1961 F8P 1445 SG1 7070.5 SG2 598.8 THA 157.83 EL1 95.9 EL2 25.4 ALF 163.79

LAUNCH DATE MAY 19 1971

FLIGHT TIME 256.00

ARRIVAL DATE JAN 30 1972

HELIOCENTRIC CONIC

RL 151.35 LAL -.00 LOL 237.39 VL 32.360 GAL -1.30 AZL 95.61 HCA 183.92 SMA 187.82 ECC .19547 INC 5.6117 V1 29.439
 RP 224.40 LAP .38 LOP 61.29 VP 21.823 GAP .98 AZP 84.40 TAL 352.02 TAP 175.94 RCA 151.11 APO 224.53 V2 24.508
 RC 217.222 GL -46.85 GP 24.03 ZAL 104.53 ZAP 57.91 ETS 195.44 ZAE 93.56 ETE 178.96 ZAC 126.21 ETC 273.29 LVI -32.87

PLANETOCENTRIC CONIC

C3 18.815 VHL 4.338 DLA -46.20 RAL 14.17 RAD 6642.3 VEL 11.783 PTH 6.81 VHP 3.542 DPA 1.03 RAP 293.96 ECC 1.3098
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 18 16 1975.59 18.64 43.84 248.55 134.61 21 51 11 975.6 34.81 23.60
 51.81 22 35 7 1781.41 26.24 32.79 255.95 129.49 23 4 48 781.4 39.92 8.87
 51.81 22 35 7 1781.41 26.24 32.79 255.95 129.49 23 4 48 781.4 39.92 8.87
 51.81 22 35 7 1781.41 26.24 32.79 255.95 129.49 23 4 48 781.4 39.92 8.87
 51.81 22 35 7 1781.41 26.24 32.79 255.95 129.49 23 4 48 781.4 39.92 8.87
 51.81 22 35 7 1781.41 26.24 32.79 255.95 129.49 23 4 48 781.4 39.92 8.87

DIFFERENTIAL CORRECTIONS

TDE -.8852 TRA 2.6046 TC3-5.0541 BAU 1.3168
 RDE -.0284 RRA -.9207 RC3 1.3649 FAU .15497
 FDE .6492 FRA 4.8044 FC3-7.1308 BSP 11511
 BDE .8657 BRA 2.7626 BC3 5.2352 FSP 1663

MID-COURSE EXECUTION ACCURACY

SGT 6725.7 SCR 2119.0 SG3 958.5
 RRT -.9740 RRF -.9982 RTF .9612
 SGB 7051.6 R23 .2545 R13 -.9665
 SG1 7036.6 SG2 458.8 THA 162.87

ORBIT DETERMINATION ACCURACY

ST 94.2 SR 26.5 SS 44.2
 CRT -.7496 CRS .9735 CST -.5783
 LSA 100.5 MSA 37.6 SSA .1
 EL1 96.3 EL2 17.1 ALF 167.70

LAUNCH DATE MAY 19 1971

FLIGHT TIME 258.00

ARRIVAL DATE FEB 1 1972

HELIOCENTRIC CONIC

RL 151.35 LAL -.00 LOL 237.39 VL 32.370 GAL -1.38 AZL 94.80 HCA 184.99 SMA 187.98 ECC .19832 INC 4.7958 V1 29.439
 RP 224.79 LAP .42 LOP 62.36 VP 21.790 GAP .84 AZP 85.22 TAL 351.55 TAP 176.54 RCA 151.08 APO 224.89 V2 24.466
 RC 219.886 GL -41.76 GP 19.22 ZAL 106.22 ZAP 55.66 ETS 193.00 ZAE 92.29 ETE 179.72 ZAC 121.41 ETC 273.08 LVI -28.49

PLANETOCENTRIC CONIC

C3 18.908 VHL 4.063 DLA -41.74 RAL 10.72 RAD 6641.2 VEL 11.685 PTH 6.72 VHP 3.437 DPA -3.72 RAP 294.70 ECC 1.2716
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 53 54 2142.89 10.48 51.36 235.62 136.68 20 29 37 1142.9 27.85 33.47
 57.91 22 45 20 1687.40 25.25 23.47 248.80 124.42 23 13 28 687.4 37.06 358.82
 57.91 22 45 20 1687.40 25.25 23.47 248.80 124.42 23 13 28 687.4 37.06 358.82
 57.91 22 45 20 1687.40 25.25 23.47 248.80 124.42 23 13 28 687.4 37.06 358.82
 57.91 22 45 20 1687.40 25.25 23.47 248.80 124.42 23 13 28 687.4 37.06 358.82
 57.91 22 45 20 1687.40 25.25 23.47 248.80 124.42 23 13 28 687.4 37.06 358.82

DIFFERENTIAL CORRECTIONS

TDE -.7462 TRA 2.6078 TC3-5.7620 BAU 1.2988
 RDE -.0160 RRA -.7534 RC3 1.2012 FAU .15901
 FDE .6932 FRA 5.1889 FC3-8.3402 BSP 11937
 BDE .7464 BRA 2.7145 BC3 5.8859 FSP 1865

MID-COURSE EXECUTION ACCURACY

SGT 6879.2 SCR 1726.6 SG3 1033.5
 RRT -.9737 RRF -.9976 RTF .9606
 SGB 7092.6 R23 .2607 R13 -.9641
 SG1 7082.3 SG2 382.0 THA 166.23

ORBIT DETERMINATION ACCURACY

ST 91.0 SR 21.4 SS 46.1
 CRT -.7841 CRS .9645 CST -.5924
 LSA 97.5 MSA 36.9 SSA .2
 EL1 92.6 EL2 13.1 ALF 169.32

LAUNCH DATE MAY 19 1971

FLIGHT TIME 260.00

ARRIVAL DATE FEB 3 1972

HELIOCENTRIC CONIC

RL 151.35 LAL -.00 LOL 237.39 VL 32.379 GAL -1.47 AZL 94.27 HCA 186.06 SMA 188.15 ECC .19719 INC 4.2691 V1 29.439
 RP 225.18 LAP .45 LOP 63.43 VP 21.757 GAP .70 AZP 85.75 TAL 351.07 TAP 177.13 RCA 151.05 APO 225.25 V2 24.424
 RC 222.551 GL -38.06 GP 15.92 ZAL 107.60 ZAP 54.01 ETS 191.19 ZAE 91.06 ETE 180.20 ZAC 118.12 ETC 272.99 LVI -25.50

PLANETOCENTRIC CONIC

C3 15.281 VHL 3.909 DLA -38.33 RAL 8.75 RAD 6640.7 VEL 11.633 PTH 6.67 VHP 3.394 DPA -6.97 RAP 295.31 ECC 1.2515
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 12 42 2231.95 6.05 55.17 229.47 137.28 19 49 54 1231.9 23.84 38.16
 60.00 21 22 9 1886.40 15.59 33.03 238.34 127.65 21 53 35 886.4 29.49 11.68
 62.97 23 0 38 1604.67 24.03 15.60 244.42 120.82 23 27 23 604.7 34.52 350.72
 62.97 23 0 38 1604.67 24.03 15.60 244.42 120.82 23 27 23 604.7 34.52 350.72
 62.97 23 0 38 1604.67 24.03 15.60 244.42 120.82 23 27 23 604.7 34.52 350.72
 62.97 23 0 38 1604.67 24.03 15.60 244.42 120.82 23 27 23 604.7 34.52 350.72

DIFFERENTIAL CORRECTIONS

TDE -.6431 TRA 2.6236 TC3-6.3156 BAU 1.3084
 RDE -.0077 RRA -.6346 RC3 1.0645 FAU .16147
 FDE .7530 FRA 5.3388 FC3-9.1482 BSP 12082
 BDE .6431 BRA 2.6992 BC3 6.4047 FSP 1919

MID-COURSE EXECUTION ACCURACY

SGT 7021.4 SCR 1448.7 SG3 1064.8
 RRT -.9744 RRF -.9966 RTF .9512
 SGB 7169.3 R23 .2582 R13 -.9636
 SG1 7162.2 SG2 319.4 THA 168.61

ORBIT DETERMINATION ACCURACY

ST 87.7 SR 17.8 SS 46.9
 CRT -.8253 CRS .9490 CST -.6054
 LSA 94.3 MSA 36.0 SSA .2
 EL1 88.9 EL2 9.9 ALF 170.34

LAUNCH DATE MAY 19 1971

FLIGHT TIME 262.00

ARRIVAL DATE FEB 5 1972

HELIOCENTRIC CONIC

RL 151.35 LAL -.00 LOL 237.39 VL 32.389 GAL -1.55 AZL 93.90 HCA 187.13 SMA 188.31 ECC .19808 INC 3.9018 V1 29.439
 RP 225.57 LAP .48 LOP 64.50 VP 21.725 GAP .56 AZP 86.13 TAL 350.59 TAP 177.72 RCA 151.01 APO 225.61 V2 24.382
 RC 225.217 GL -35.25 GP 13.54 ZAL 108.79 ZAP 52.67 ETS 189.83 ZAE 89.88 ETE 180.52 ZAC 115.73 ETC 272.96 LVI -23.37

PLANETOCENTRIC CONIC

C3 14.574 VHL 3.818 DLA -35.63 RAL 7.59 RAD 6640.3 VEL 11.603 PTH 6.64 VHP 3.379 DPA -9.30 RAP 295.85 ECC 1.2399
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 46 42 2295.71 2.85 57.85 225.90 137.51 19 24 57 1295.7 20.87 41.32
 60.00 20 33 7 2012.21 10.27 39.39 232.93 129.19 21 6 39 1012.2 25.11 19.44
 67.37 23 19 3 1526.25 22.82 8.51 241.62 118.13 23 44 29 526.3 32.36 343.58
 67.37 23 19 3 1526.25 22.82 8.51 241.62 118.13 23 44 29 526.3 32.36 343.58
 67.37 23 19 3 1526.25 22.82 8.51 241.62 118.13 23 44 29 526.3 32.36 343.58
 67.37 23 19 3 1526.25 22.82 8.51 241.62 118.13 23 44 29 526.3 32.36 343.58

DIFFERENTIAL CORRECTIONS

TDE -.5389 TRA 2.6699 TC3-6.7089 BAU 1.3199
 RDE -.0033 RRA -.5525 RC3 .9377 FAU .16075
 FDE .8477 FRA 5.4187 FC3-9.5491 BSP 12355
 BDE .5389 BRA 2.7264 BC3 6.7741 FSP 1941

MID-COURSE EXECUTION ACCURACY

SGT 7155.0 SCR 1246.3 SG3 1075.0
 RRT -.9748 RRF -.9950 RTF .9618
 SGB 7262.8 R23 .2513 R13 -.9634
 SG1 7257.6 SG2 274.3 THA 170.35

ORBIT DETERMINATION ACCURACY

ST 84.6 SR 15.3 SS 47.7
 CRT -.8701 CRS .9272 CST -.6225
 LSA 91.8 MSA 35.2 SSA .2
 EL1 85.7 EL2 7.5 ALF 170.97

LAUNCH DATE MAY 19 1971

FLIGHT TIME 264.00

ARRIVAL DATE FEB 7 1972

HELIOCENTRIC CONIC

RL 151.35 LAL -.00 LOL 237.39 VL 32.398 GAL -1.64 AZL 93.63 HCA 188.19 SMA 188.48 ECC .19899 INC 3.6296 V1 29.439
 RP 225.96 LAP .52 LOP 65.56 VP 21.692 GAP .42 AZP 86.41 TAL 350.11 TAP 178.30 RCA 150.97 APO 225.98 V2 24.340
 RC 227.863 GL -33.03 GP 11.74 ZAL 109.86 ZAP 51.51 ETS 188.77 ZAE 88.73 ETE 180.75 ZAC 113.93 ETC 272.96 LVI -21.78

DISTANCE 605.995

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.152 VHL 3.762 DLA -33.41 RAL 6.91 RAD 6640.1 VEL 11.585 PTH 6.63 VHP 3.380 DPA -11.03 RAP 296.33 ECC 1.2329
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 28 30 2345.99 .32 59.95 223.68 137.58 19 7 44 1346.0 18.49 43.71
 60.00 20 3 59 2092.14 6.80 43.30 229.87 129.82 20 38 51 1092.1 22.09 24.05
 70.00 22 37 36 1639.07 16.78 13.80 236.99 120.19 23 4 55 639.1 27.72 350.69
 71.43 23 40 14 1447.17 21.70 1.69 239.78 116.05 24 4 21 447.2 30.50 336.80
 71.43 23 40 14 1447.17 21.70 1.69 239.78 116.05 24 4 21 447.2 30.50 336.80
 71.43 23 40 14 1447.17 21.70 1.69 239.78 116.05 24 4 21 447.2 30.50 336.80
 110.00 3 40 58 5973.93 16.78 280.63 236.99 120.19 5 20 32 4973.9 27.72 257.51

DIFFERENTIAL CORRECTIONS

TDE -.4558 TRA 2.7193 TC3-7.0419 BAU 1.3416
 RDE .0026 RRA -.4917 RC3 .8326 FAU .15953
 FDE .9339 FRA 5.4464 FC3-9.7589 BSP 12498
 BDE .4558 BRA 2.7634 BC3 7.0910 FSP 1934

MID-COURSE EXECUTION ACCURACY

SGT 7291.7 SGR 1094.2 SG3 1074.6
 RRT -.9742 RRF -.9927 RTF .9617
 SGB 7373.3 R23 .2423 R13 -.9629
 SG1 7369.3 SG2 244.3 THA 171.67

ORBIT DETERMINATION ACCURACY

ST 82.5 SR 13.5 SS 48.3
 CRT -.9127 CRS .8965 CST -.6380
 LSA 90.2 MSA 34.6 SSA .3
 EL1 83.4 EL2 5.5 ALF 171.47

LAUNCH DATE MAY 19 1971

FLIGHT TIME 266.00

ARRIVAL DATE FEB 9 1972

HELIOCENTRIC CONIC

RL 151.35 LAL -.00 LOL 237.39 VL 32.408 GAL -1.72 AZL 93.42 HCA 189.25 SMA 188.65 ECC .19991 INC 3.4213 V1 29.439
 RP 226.35 LAP .55 LOP 66.62 VP 21.660 GAP .28 AZP 86.62 TAL 349.62 TAP 178.88 RCA 150.93 APO 226.36 V2 24.299
 RC 230.548 GL -31.23 GP 10.35 ZAL 110.85 ZAP 50.48 ETS 187.93 ZAE 87.61 ETE 180.91 ZAC 112.52 ETC 272.98 LVI -20.58

DISTANCE 610.075

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 13.902 VHL 3.728 DLA -31.54 RAL 6.53 RAD 6640.0 VEL 11.574 PTH 6.62 VHP 3.389 DPA -12.37 RAP 296.79 ECC 1.2288
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 15 21 2387.76 -1.77 61.70 222.27 137.55 18 55 8 1387.8 16.48 45.64
 60.00 19 43 46 2152.47 4.16 46.21 227.97 130.12 20 19 38 1152.5 19.72 27.39
 70.00 21 49 29 1782.39 11.70 21.81 233.53 122.32 22 19 12 782.4 23.90 .06
 75.42 0 8 51 1361.81 20.68 354.64 238.56 114.37 0 31 33 361.8 28.89 329.81
 75.42 0 8 51 1361.81 20.68 354.64 238.56 114.37 0 31 33 361.8 28.89 329.81
 75.42 0 8 51 1361.81 20.68 354.64 238.56 114.37 0 31 33 361.8 28.89 329.81
 110.00 2 52 52 6117.24 11.70 288.63 233.53 122.32 4 34 49 5117.2 23.90 266.89

DIFFERENTIAL CORRECTIONS

TDE -.3694 TRA 2.7893 TC3-7.2706 BAU 1.3582
 RDE .0082 RRA -.4465 RC3 .7374 FAU .15658
 FDE 1.0248 FRA 5.4563 FC3-9.7512 BSP 12796
 BDE .3695 BRA 2.8248 BC3 7.3079 FSP 1924

MID-COURSE EXECUTION ACCURACY

SGT 7417.0 SGR 975.1 SG3 1065.7
 RRT -.9731 RRF -.9894 RTF .9620
 SGB 7480.8 R23 .2276 R13 -.9629
 SG1 7477.5 SG2 222.7 THA 172.70

ORBIT DETERMINATION ACCURACY

ST 81.0 SR 12.1 SS 49.1
 CRT -.9528 CRS .8573 CST -.6618
 LSA 89.3 MSA 33.7 SSA .3
 EL1 81.8 EL2 3.6 ALF 171.87

LAUNCH DATE MAY 19 1971

FLIGHT TIME 268.00

ARRIVAL DATE FEB 11 1972

HELIOCENTRIC CONIC

RL 151.35 LAL -.00 LOL 237.39 VL 32.418 GAL -1.81 AZL 93.26 HCA 190.31 SMA 188.82 ECC .20085 INC 3.2551 V1 29.439
 RP 226.74 LAP .58 LOP 67.60 VP 21.628 GAP .14 AZP 86.80 TAL 349.14 TAP 179.45 RCA 150.89 APO 226.74 V2 24.257
 RC 233.212 GL -29.73 GP 9.23 ZAL 111.79 ZAP 49.53 ETS 187.25 ZAE 86.51 ETE 181.03 ZAC 111.40 ETC 273.01 LVI -19.64

DISTANCE 614.149

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 13.765 VHL 3.710 DLA -29.93 RAL 6.35 RAD 6639.9 VEL 11.568 PTH 6.61 VHP 3.403 DPA -13.43 RAP 297.23 ECC 1.2265
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 5 11 2423.75 -3.98 63.20 221.38 137.47 18 45 35 1423.7 14.73 47.28
 60.00 19 28 41 2201.60 2.00 48.56 226.74 130.26 20 5 23 1201.6 17.74 30.02
 70.00 21 22 0 1868.26 8.54 26.44 231.63 123.20 21 53 8 868.3 21.31 5.38
 79.76 0 39 43 1259.70 19.74 346.55 237.78 112.97 1 0 42 259.7 27.47 321.79
 79.76 0 39 43 1259.70 19.74 346.55 237.78 112.97 1 0 42 259.7 27.47 321.79
 79.76 0 39 43 1259.70 19.74 346.55 237.78 112.97 1 0 42 259.7 27.47 321.79
 110.00 2 25 22 6203.12 8.54 293.26 231.63 123.20 4 8 45 5203.1 21.31 272.21

DIFFERENTIAL CORRECTIONS

TDE -.2970 TRA 2.8599 TC3-7.4787 BAU 1.3815
 RDE .0145 RRA -.4117 RC3 .6582 FAU .15372
 FDE 1.1097 FRA 5.4570 FC3-9.6682 BSP 12985
 BDE .2974 BRA 2.8894 BC3 7.3076 FSP 1903

MID-COURSE EXECUTION ACCURACY

SGT 7548.4 SGR 881.6 SG3 1054.3
 RRT -.9706 RRF -.9850 RTF .9615
 SGB 7599.7 R23 .2122 R13 -.9622
 SG1 7596.8 SG2 210.7 THA 173.53

ORBIT DETERMINATION ACCURACY

ST 80.2 SR 11.1 SS 49.8
 CRT -.9815 CRS .8072 CST -.6819
 LSA 89.2 MSA 33.1 SSA .4
 EL1 81.0 EL2 2.1 ALF 172.27

LAUNCH DATE MAY 19 1971

FLIGHT TIME 270.00

ARRIVAL DATE FEB 13 1972

HELIOCENTRIC CONIC

RL 151.35 LAL -.00 LOL 237.39 VL 32.428 GAL -1.90 AZL 93.12 HCA 191.36 SMA 188.99 ECC .20181 INC 3.1204 V1 29.439
 RP 227.13 LAP .61 LOP 68.73 VP 21.596 GAP -.00 AZP 86.94 TAL 348.65 TAP 180.01 RCA 150.85 APO 227.13 V2 24.215
 RC 235.874 GL -28.46 GP 8.33 ZAL 112.68 ZAP 48.64 ETS 186.69 ZAE 85.45 ETE 181.13 ZAC 110.47 ETC 273.06 LVI -18.90

DISTANCE 618.181

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 13.706 VHL 3.702 DLA -28.52 RAL 6.33 RAD 6639.9 VEL 11.566 PTH 6.61 VHP 3.421 DPA -14.28 RAP 297.66 ECC 1.2256
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 57 12 2455.56 -5.18 64.54 220.85 137.36 18 38 8 1455.6 13.17 48.69
 60.00 19 16 57 2243.41 .16 50.56 225.97 130.30 19 54 20 1243.4 16.02 32.22
 70.00 21 2 32 1932.88 6.11 29.87 230.46 123.67 21 34 45 932.9 19.24 9.25
 80.00 23 22 28 1494.65 12.70 .55 234.38 117.25 23 47 23 494.7 22.83 337.74
 86.17 1 30 44 1094.31 18.88 333.98 237.31 111.78 1 48 58 94.3 26.21 309.29
 100.00 2 9 16 6257.16 12.70 299.82 234.38 117.25 3 53 33 5257.2 22.83 277.02
 110.00 2 5 54 6267.74 6.11 296.70 230.46 123.67 3 50 22 5267.7 19.24 276.08

DIFFERENTIAL CORRECTIONS

TDE -.2249 TRA 2.9407 TC3-7.6352 BAU 1.4031
 RDE .0212 RRA -.3844 RC3 .5889 FAU .15044
 FDE 1.1891 FRA 5.4491 FC3-9.5030 BSP 13239
 BDE .2259 BRA 2.9658 BC3 7.6578 FSP 1882

MID-COURSE EXECUTION ACCURACY

SGT 7675.2 SGR 806.0 SG3 1040.4
 RRT -.9672 RRF -.9794 RTF .9613
 SGB 7717.5 R23 .1927 R13 -.9618
 SG1 7714.8 SG2 203.6 THA 174.20

ORBIT DETERMINATION ACCURACY

ST 80.1 SR 10.3 SS 50.6
 CRT -.9973 CRS .7468 CST -.7058
 LSA 89.7 MSA 32.3 SSA .4
 EL1 80.7 EL2 .8 ALF 172.68

LAUNCH DATE MAY 19 1971

FLIGHT TIME 272.00

ARRIVAL DATE FEB 15 1972

Heliocentric Conic: RL 151.35 LAL -.00 LOL 237.39 VL 32.438 GAL -1.99 AZL 93.01 HCA 192.41 SMA 189.16 ECC .20279 INC 3.0086 V1 29.439
 RP 227.52 LAP .65 LOP 69.78 VP 21.565 GAP -.14 AZP 87.06 TAL 348.16 TAP 180.57 RCA 150.80 APO 227.52 V2 24.174
 RC 238.532 GL -27.36 GP 7.57 ZAL 113.54 ZAP 47.81 ETS 186.22 ZAE 84.41 ETE 181.20 ZAC 109.70 ETC 273.12 LVI -18.32

Planetocentric Conic: C3 13.704 VHL 3.702 DLA -27.25 RAL 6.40 RAD 6639.9 VEL 11.566 PTH 6.61 VHP 3.441 DPA -14.97 RAP 298.10 ECC 1.2255
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 50 47 2484.24 -6.61 65.75 220.57 137.22 18 32 11 1484.2 11.76 49.96
 60.00 19 7 32 2280.10 -1.45 52.31 225.52 130.28 19 45 32 1280.1 14.49 34.11
 70.00 20 47 38 1985.72 4.11 32.65 229.72 123.94 21 20 44 985.7 17.48 12.34
 80.00 22 53 25 1592.00 9.61 6.11 233.07 118.41 23 19 57 592.0 20.46 343.99
 90.00 0 56 22 1208.19 12.78 339.52 234.71 115.44 1 16 30 208.2 22.18 316.44
 100.00 1 40 12 1066.47 9.61 327.48 233.07 118.41 1 57 59 66.5 20.46 305.36
 110.00 1 51 1 1032.54 4.11 321.57 229.72 123.94 2 8 13 32.5 17.48 301.26

Differential Corrections: TDE -.1572 TRA 3.0256 TC3-7.7626 BAU 1.4254 SGT 7799.8 SGR 744.0 SG3 1024.4 ST 80.4 SR 9.7 SS 51.3
 RDE .0284 RRA -.3626 RC3 .5284 FAU .14894 RRT -.9623 RRF -.9723 RTF .9610 CRT -.9961 CRS .6760 CST -.7291
 FDE 1.2611 FRA 5.4343 FC3-9.2830 B8P 13476 SGB 7835.3 R23 .1725 R13 -.9614 LSA 90.6 MSA 31.4 SSA .5
 BDE .1597 BRA 3.0472 BC3 7.7806 F8P 1854 SG1 7832.7 SG2 201.4 THA 174.75 EL1 81.0 EL2 .9 ALF 173.12

LAUNCH DATE MAY 19 1971

FLIGHT TIME 274.00

ARRIVAL DATE FEB 17 1972

Heliocentric Conic: RL 151.35 LAL -.00 LOL 237.39 VL 32.448 GAL -2.08 AZL 92.91 HCA 193.45 SMA 189.34 ECC .20378 INC 2.9138 V1 29.439
 RP 227.91 LAP .68 LOP 70.82 VP 21.533 GAP -.29 AZP 87.17 TAL 347.66 TAP 181.12 RCA 150.76 APO 227.92 V2 24.133
 RC 241.186 GL -26.40 GP 6.94 ZAL 114.37 ZAP 47.01 ETS 185.82 ZAE 83.39 ETE 181.25 ZAC 109.04 ETC 273.19 LVI -17.84

Planetocentric Conic: C3 13.746 VHL 3.707 DLA -26.11 RAL 6.56 RAD 6639.9 VEL 11.568 PTH 6.61 VHP 3.463 DPA -15.54 RAP 298.53 ECC 1.2262
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 45 32 2510.54 -7.92 66.87 220.48 137.07 18 27 22 1510.5 10.46 51.10
 60.00 18 59 47 2313.02 -2.90 53.89 225.29 130.21 19 38 20 1313.0 13.10 35.79
 70.00 20 35 43 2030.97 2.39 35.02 229.29 124.08 21 9 34 1031.0 15.93 14.93
 80.00 22 33 21 1662.77 7.29 10.09 232.31 119.03 23 1 4 662.8 18.57 348.40
 90.00 0 26 43 1309.86 9.73 345.44 233.62 116.68 0 48 33 309.9 19.89 323.01
 100.00 1 20 9 1137.24 7.29 331.46 232.31 119.03 1 39 6 137.2 18.57 309.77
 110.00 1 39 5 1077.78 2.39 323.94 229.29 124.08 1 57 3 77.8 15.93 303.84

Differential Corrections: TDE -.0974 TRA 3.1095 TC3-7.8793 BAU 1.4506 SGT 7924.5 SGR 692.7 SG3 1007.0 ST 81.1 SR 9.3 SS 51.8
 RDE .0362 RRA -.3447 RC3 .4763 FAU .14361 RRT -.9558 RRF -.9635 RTF .9604 CRT -.9767 CRS .5949 CST -.7495
 FDE 1.3203 FRA 5.4100 FC3-9.0450 B8P 13669 SGB 7954.7 R23 .1526 R13 -.9608 LSA 91.7 MSA 30.7 SSA .5
 BDE .1039 BRA 3.1266 BC3 7.8937 F8P 1825 SG1 7952.1 SG2 202.9 THA 175.22 EL1 81.6 EL2 2.0 ALF 173.58

LAUNCH DATE MAY 19 1971

FLIGHT TIME 276.00

ARRIVAL DATE FEB 19 1972

Heliocentric Conic: RL 151.35 LAL -.00 LOL 237.39 VL 32.458 GAL -2.17 AZL 92.83 HCA 194.50 SMA 189.51 ECC .20478 INC 2.8329 V1 29.439
 RP 228.30 LAP .71 LOP 71.87 VP 21.502 GAP -.43 AZP 87.26 TAL 347.17 TAP 181.67 RCA 150.70 APO 228.32 V2 24.092
 RC 243.834 GL -25.54 GP 6.39 ZAL 115.18 ZAP 46.25 ETS 185.47 ZAE 82.39 ETE 181.30 ZAC 108.48 ETC 273.26 LVI -17.46

Planetocentric Conic: C3 13.822 VHL 3.718 DLA -25.06 RAL 6.78 RAD 6640.0 VEL 11.571 PTH 6.61 VHP 3.486 DPA -16.01 RAP 298.98 ECC 1.2275
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 41 10 2534.94 -9.14 67.91 220.53 136.90 18 23 25 1534.9 9.25 52.15
 60.00 18 53 19 2343.06 -4.22 55.33 225.23 130.12 19 32 22 1343.1 11.82 37.30
 70.00 20 25 53 2070.89 .87 37.10 229.08 124.14 21 0 24 1070.9 14.53 17.18
 80.00 22 17 58 1720.13 5.38 13.28 231.88 119.41 22 46 38 720.1 16.96 351.89
 90.00 0 6 32 1382.65 7.48 349.60 233.02 117.35 0 29 35 382.7 18.09 327.59
 100.00 1 4 46 1194.60 5.38 334.65 231.88 119.41 1 24 40 194.6 16.96 313.26
 110.00 1 29 16 1117.71 .87 326.02 229.08 124.14 1 47 53 117.7 14.53 306.09

Differential Corrections: TDE -.0373 TRA 3.2005 TC3-7.9694 BAU 1.4748 SGT 8047.7 SGR 650.2 SG3 989.4 ST 82.2 SR 9.1 SS 52.4
 RDE .0440 RRA -.3304 RC3 .4299 FAU .14011 RRT -.9477 RRF -.9329 RTF .5999 CRT -.9392 CRS .5077 CST -.7699
 FDE 1.3778 FRA 5.3885 FC3-8.7757 B8P 13882 SGB 8073.9 R23 .1335 R13 -.9602 LSA 93.2 MSA 29.9 SSA .6
 BDE .0577 BRA 3.2175 BC3 7.9810 F8P 1794 SG1 8071.3 SG2 207.0 THA 175.62 EL1 82.7 EL2 2.1 ALF 174.06

LAUNCH DATE MAY 19 1971

FLIGHT TIME 278.00

ARRIVAL DATE FEB 21 1972

Heliocentric Conic: RL 151.35 LAL -.00 LOL 237.39 VL 32.468 GAL -2.26 AZL 92.76 HCA 195.54 SMA 189.69 ECC .20581 INC 2.7629 V1 29.439
 RP 228.69 LAP .74 LOP 72.90 VP 21.472 GAP -.57 AZP 87.34 TAL 346.67 TAP 182.21 RCA 150.65 APO 228.73 V2 24.051
 RC 246.477 GL -24.78 GP 5.92 ZAL 115.98 ZAP 45.53 ETS 185.18 ZAE 81.40 ETE 181.33 ZAC 107.99 ETC 273.34 LVI -17.15

Planetocentric Conic: C3 13.926 VHL 3.732 DLA -24.09 RAL 7.05 RAD 6640.0 VEL 11.575 PTH 6.62 VHP 3.510 DPA -16.41 RAP 299.42 ECC 1.2292
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 37 32 2557.83 -10.27 68.90 220.70 136.72 18 20 9 1557.8 8.11 53.13
 60.00 18 47 49 2370.86 -5.44 56.66 225.31 129.99 19 27 20 1370.9 10.63 38.68
 70.00 20 17 37 2106.90 -5.1 38.98 229.03 124.15 20 52 43 1106.9 13.25 19.18
 80.00 22 5 31 1769.16 3.74 15.99 231.68 119.64 22 35 1 769.2 15.53 354.83
 90.00 23 47 7 1441.51 5.63 352.93 232.72 117.76 24 11 8 441.5 16.54 331.22
 100.00 0 52 19 1243.63 3.74 337.35 231.68 119.64 1 13 3 243.6 15.53 316.20
 110.00 1 20 59 1153.72 -5.1 327.90 229.03 124.15 1 40 13 153.7 13.25 308.10

Differential Corrections: TDE .0212 TRA 3.2935 TC3-8.0462 BAU 1.4998 SGT 8170.0 SGR 614.7 SG3 971.4 ST 83.6 SR 9.0 SS 52.9
 RDE .0520 RRA -.3186 RC3 .3891 FAU .13677 RRT -.9378 RRF -.9404 RTF .9594 CRT -.8857 CRS .4163 CST -.7886
 FDE 1.4309 FRA 5.3615 FC3-8.5021 B8P 14086 SGB 8193.1 R23 .1154 R13 -.9596 LSA 94.9 MSA 29.2 SSA .6
 BDE .0562 BRA 3.3089 BC3 8.0556 F8P 1761 SG1 8190.3 SG2 212.9 THA 175.96 EL1 84.0 EL2 4.2 ALF 174.55

LAUNCH DATE MAY 19 1971

FLIGHT TIME 280.00

ARRIVAL DATE FEB 23 1972

MELIOCENTRIC CONIC

DISTANCE 638,474

EARTH TO MARS

RL 191.35 LAL -.00 LOL 237.39 VL 32.478 GAL -2.36 AZL 92.70 HCA 196.57 SMA 189.87 ECC .20684 INC 2.7017 V1 29.439
 RP 229.07 LAP .77 LOP 73.94 VP 21.441 GAP -.72 AZP 87.41 TAL 346.18 TAP 182.75 RCA 190.60 APO 229.14 V2 24.010
 RC 249.113 GL -24.08 GP 5.51 ZAL 116.76 ZAP 44.83 ETS 184.91 ZAE 80.44 ETE 181.36 ZAC 107.55 ETC 273.42 LVI -16.91

PLANETOCENTRIC CONIC

C3 14.055 VHL 3.749 DLA -23.19 RAL 7.35 RAD 6640.1 VEL 11.581 PTH 6.62 VHP 3.534 DPA -16.74 RAP 299.88 ECC 1.2313
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 34 26 2579.48 -11.35 69.84 220.96 136.52 18 17 26 1579.9 7.03 54.06
 60.00 18 43 6 2396.87 -6.57 57.92 225.49 129.85 19 23 3 1396.9 9.52 39.97
 70.00 20 10 31 2139.90 -1.77 40.70 229.11 124.11 20 46 11 1139.9 12.06 20.99
 80.00 21 55 8 1812.45 2.28 18.37 231.64 119.78 22 25 21 812.5 14.23 357.39
 90.00 23 34 33 1491.81 4.02 355.75 232.60 118.02 23 59 25 491.8 15.17 334.27
 100.00 0 41 56 1286.93 2.28 339.74 231.64 119.78 1 3 23 286.9 14.23 318.75
 110.00 1 13 53 1186.72 -1.77 329.62 229.11 124.11 1 33 40 186.7 12.06 309.91

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .0791 TRA 3.3914 TC3-8.1039 BAW 1.5241 SGT 8290.3 SGR 585.1 SG3 953.2 ST 85.3 SR 9.0 SS 53.4
 RDE .0601 RRA -.3091 RC3 .3521 FAU .13324 RRT -.9259 RRF -.9260 RTF .9588 CRT -.8195 CRS .3247 CST -.8062
 FDE 1.4800 FRA 5.3371 FC3-8.2072 BSP 14298 SGB 8311.0 R23 .0995 R13 -.9590 LSA 96.9 MSA 28.6 SSA .7
 BDE .0994 BRA 3.4055 BC3 8.1116 F8P 1728 SG1 8308.0 SG2 220.5 THA 176.26 EL1 85.6 EL2 5.1 ALF 175.05

LAUNCH DATE MAY 20 1971

FLIGHT TIME 90.00

ARRIVAL DATE AUG 18 1971

HELIOCENTRIC CONIC

DISTANCE 267.705

EARTH TO MARS

RL 151.38 LAL -.00 LOL 238.35 VL 35.629 GAL -.20 AZL 91.86 HCA 83.52 SMA 274.19 ECC .44792 INC 1.8598 V1 29.433
RP 207.18 LAP -1.85 LOP 321.87 VP 28.234 GAP 22.77 AZP 90.21 TAL 359.05 TAP 82.57 RCA 151.37 APO 397.00 V2 26.438
RC 56.568 GL -10.36 GP -.66 ZAL 94.82 ZAP 177.90 ETS 198.32 ZAE 173.53 ETE 41.51 ZAC 99.12 ETC 278.12 LVI -17.88

PLANETOCENTRIC CONIC

C3 39.793 VHL 6.308 DLA -20.13 RAL 339.22 RAD 6650.6 VEL 12.636 PTH 7.49 VHP 11.472 DPA -17.24 RAP 323.11 ECC 1.6549
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 24 28 2896.34 -26.39 84.92 203.77 131.14 16 12 45 1896.3 -8.85 67.38
60.00 16 28 8 2727.03 -20.43 74.79 210.90 125.52 17 13 35 1727.0 -4.90 55.85
70.00 17 40 41 2490.23 -14.77 59.50 214.80 121.15 18 30 12 1490.2 -1.13 39.54
80.00 19 24 50 2189.35 -10.32 39.25 217.40 118.17 20 1 19 1189.4 1.95 18.62
90.00 20 59 17 1884.65 -8.52 17.80 218.35 117.07 21 30 42 884.7 3.20 356.91
100.00 22 7 42 1663.82 -10.32 .62 217.40 118.17 22 35 25 663.8 1.95 339.99
110.00 22 48 8 1537.05 -14.77 348.41 214.80 121.15 23 13 45 537.0 -1.13 328.46

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3640 TRA -.8431 TC3 .0352 BAU .0375 SGT 881.2 SGR 577.9 SG3 89.1 ST 20.6 SR 26.5 SS 9.2
RDE -.5786 RRA .2355 RC3 .0611 FAU .03185 RRT -.0169 RRF .0187 RTF -.5585 CRT .7204 CRS .3425 CST .8910
FDE .0933 FRA .5585 FC3 -.6930 BSP 1154 SGB 1053.8 R23 -.0021 R13 .5585 LSA 31.8 MSA 14.1 SSA 1.1
BDE .6836 BRA .8754 BC3 .0705 FSP 107 SG1 881.3 SG2 577.8 THA 178.88 EL1 31.3 EL2 12.1 ALF 54.79

LAUNCH DATE MAY 20 1971

FLIGHT TIME 92.00

ARRIVAL DATE AUG 20 1971

HELIOCENTRIC CONIC

DISTANCE 269.326

EARTH TO MARS

RL 151.38 LAL -.00 LOL 238.35 VL 35.405 GAL -.24 AZL 91.85 HCA 84.79 SMA 265.47 ECC .42980 INC 1.8534 V1 29.433
RP 207.09 LAP -1.85 LOP 323.13 VP 27.961 GAP 22.24 AZP 90.17 TAL 359.19 TAP 83.97 RCA 151.37 APO 379.57 V2 26.448
RC 56.856 GL -10.85 GP -.68 ZAL 94.69 ZAP 177.01 ETS 193.13 ZAE 172.93 ETE 36.73 ZAC 99.05 ETC 278.19 LVI -17.98

PLANETOCENTRIC CONIC

C3 37.025 VHL 6.085 DLA -20.44 RAL 339.22 RAD 6649.6 VEL 12.526 PTH 7.41 VHP 11.085 DPA -17.15 RAP 323.46 ECC 1.6093
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 25 49 2871.60 -25.28 83.62 204.70 131.75 16 13 41 1871.6 -7.62 66.32
60.00 16 29 58 2701.02 -19.40 73.38 209.83 126.04 17 14 59 1701.0 -3.81 54.60
70.00 17 51 8 2462.38 -13.78 57.94 213.75 121.56 18 32 11 1462.4 -.06 38.09
80.00 19 28 0 2159.22 -9.34 37.54 216.36 118.49 20 3 59 1159.2 2.97 16.96
90.00 21 2 51 1853.25 -7.54 16.01 217.33 117.34 21 33 45 853.3 4.21 355.15
100.00 22 10 52 1633.69 -9.34 358.91 216.36 118.49 22 38 6 633.7 2.97 338.33
110.00 22 50 35 1509.19 -13.78 346.86 213.75 121.56 23 15 44 509.2 -.06 327.01

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3590 TRA -.8333 TC3 .0499 BAU .0408 SGT 905.0 SGR 582.7 SG3 95.6 ST 21.1 SR 26.7 SS 9.4
RDE -.5622 RRA .2288 RC3 .0657 FAU .03293 RRT -.0166 RRF .0206 RTF -.5728 CRT .7188 CRS .3208 CST .8818
FDE .0917 FRA .5793 FC3 -.7699 BSP 1205 SGB 1076.4 R23 -.0044 R13 .5729 LSA 32.2 MSA 14.5 SSA 1.1
BDE .6670 BRA .8641 BC3 .0825 FSP 116 SG1 905.1 SG2 582.5 THA 178.95 EL1 31.7 EL2 12.3 ALF 54.21

LAUNCH DATE MAY 20 1971

FLIGHT TIME 94.00

ARRIVAL DATE AUG 22 1971

HELIOCENTRIC CONIC

DISTANCE 271.242

EARTH TO MARS

RL 151.38 LAL -.00 LOL 238.35 VL 35.195 GAL -.19 AZL 91.85 HCA 86.05 SMA 257.82 ECC .41287 INC 1.8469 V1 29.433
RP 207.01 LAP -1.84 LOP 324.40 VP 27.703 GAP 21.72 AZP 90.13 TAL 359.34 TAP 85.39 RCA 151.38 APO 364.27 V2 26.457
RC 57.225 GL -11.13 GP -.70 ZAL 94.54 ZAP 176.10 ETS 190.31 ZAE 172.32 ETE 32.78 ZAC 98.99 ETC 278.26 LVI -18.03

PLANETOCENTRIC CONIC

C3 34.514 VHL 5.875 DLA -20.77 RAL 339.19 RAD 6648.7 VEL 12.427 PTH 7.33 VHP 10.714 DPA -17.05 RAP 323.80 ECC 1.5680
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 27 7 2847.04 -24.16 82.35 203.66 132.32 16 14 34 1847.0 -6.39 65.28
60.00 16 31 45 2675.14 -18.36 71.98 208.77 126.53 17 16 20 1675.1 -2.67 53.36
70.00 17 53 36 2434.53 -12.79 56.40 212.71 121.94 18 34 10 1434.5 1.00 36.64
80.00 19 31 14 2128.93 -8.35 35.84 215.35 118.77 20 6 43 1128.9 3.99 15.30
90.00 21 6 32 1821.58 -6.55 14.21 216.32 117.57 21 36 53 821.6 5.22 353.37
100.00 22 14 7 1603.40 -8.35 357.21 215.35 118.77 22 40 50 603.4 3.99 336.66
110.00 22 53 2 1481.35 -12.79 345.32 212.71 121.94 23 17 44 481.3 1.00 325.55

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3525 TRA -.8222 TC3 .0647 BAU .0441 SGT 927.1 SGR 587.0 SG3 102.8 ST 21.5 SR 26.9 SS 9.8
RDE -.5463 RRA .2224 RC3 .0704 FAU .03415 RRT -.0174 RRF .0208 RTF -.5560 CRT .7163 CRS .3080 CST .8774
FDE .0923 FRA .6242 FC3 -.8566 BSP 1261 SGB 1097.2 R23 -.0038 R13 .5860 LSA 32.5 MSA 14.8 SSA 1.1
BDE .6501 BRA .8518 BC3 .0856 FSP 122 SG1 927.1 SG2 586.8 THA 178.95 EL1 32.0 EL2 12.6 ALF 53.76

LAUNCH DATE MAY 20 1971

FLIGHT TIME 96.00

ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC

DISTANCE 273.410

EARTH TO MARS

RL 151.38 LAL -.00 LOL 238.35 VL 34.997 GAL -.14 AZL 91.84 HCA 87.32 SMA 251.06 ECC .39704 INC 1.8406 V1 29.433
RP 206.94 LAP -1.84 LOP 325.66 VP 27.460 GAP 21.20 AZP 90.09 TAL 359.51 TAP 86.83 RCA 151.38 APO 350.74 V2 26.466
RC 57.675 GL -11.42 GP -.72 ZAL 94.35 ZAP 175.17 ETS 188.56 ZAE 171.72 ETE 29.50 ZAC 98.92 ETC 278.32 LVI -18.10

PLANETOCENTRIC CONIC

C3 32.233 VHL 5.677 DLA -21.10 RAL 339.12 RAD 6647.9 VEL 12.335 PTH 7.26 VHP 10.356 DPA -16.97 RAP 324.13 ECC 1.5305
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 28 21 2822.73 -23.04 81.13 202.64 132.85 16 15 24 1822.7 -5.17 64.26
60.00 16 33 31 2649.43 -17.31 70.62 207.74 126.98 17 17 41 1649.4 -1.54 52.13
70.00 17 56 4 2406.74 -11.78 54.88 211.69 122.29 18 36 11 1406.7 2.06 35.19
80.00 19 34 34 2098.52 -7.35 34.14 214.35 119.02 20 9 32 1098.5 5.01 13.61
90.00 21 10 19 1789.66 -5.54 12.41 215.33 117.78 21 40 8 789.7 6.23 351.57
100.00 22 17 25 1572.99 -7.35 355.51 214.35 119.02 22 43 38 573.0 5.01 334.98
110.00 22 55 31 1453.56 -11.78 343.80 211.69 122.29 23 19 44 453.6 2.06 324.10

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3468 TRA -.8132 TC3 .0788 BAU .0463 SGT 950.8 SGR 590.9 SG3 109.9 ST 21.9 SR 27.0 SS 10.0
RDE -.5310 RRA .2161 RC3 .0753 FAU .03522 RRT -.0189 RRF .0238 RTF -.5945 CRT .7136 CRS .2803 CST .8654
FDE .0888 FRA .6242 FC3 -.9460 BSP 1327 SGB 1119.4 R23 -.0056 R13 .5946 LSA 32.8 MSA 15.2 SSA 1.2
BDE .6342 BRA .8415 BC3 .1075 FSP 137 SG1 950.9 SG2 590.7 THA 178.91 EL1 32.3 EL2 12.8 ALF 53.24

LAUNCH DATE MAY 20 1971

FLIGHT TIME 98.00

ARRIVAL DATE AUG 26 1971

HELIOCENTRIC CONIC					DISTANCE 275.793							EARTH TO MARS		
RL	151.38	LAL	-.00	L0L 238.35	VL 34.811	GAL	-.08	AZL 91.83	HCA 88.58	SMA 245.05	ECC .38225	INC 1.8341	V1 29.433	
RP	206.87	LAP	-1.83	LOP 326.93	VP 27.230	GAP	20.69	AZP 90.05	TAP 359.70	TAP 88.28	RCA 151.38	APO 338.72	V2 26.473	
RC	58.203	GL	-11.71	GP	-.74	ZAL 94.14	ZAP 174.23	ETS 187.37	ZAE 171.15	ETE 26.74	ZAC 98.85	ETC 278.39	LVI -18.16	
PLANETOCENTRIC CONIC														
C3	30.159	VHL 5.492	DLA -21.44	RAL 339.04	RAD 6647.1	VEL 12.251	PTH 7.20	VHP 10.012	DPA -16.88	RAP 324.46	ECC 1.4963			
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG				
50.00	15 29 33	2798.71	-21.92	79.93	201.65	133.35	16 16 11	1798.7	-3.97	63.25				
60.00	16 35 16	2623.94	-16.26	69.28	206.74	127.40	17 19 0	1623.9	-.42	50.91				
70.00	17 58 34	2379.06	-10.77	53.37	210.69	122.61	18 38 13	1379.1	3.12	33.74				
80.00	19 37 57	2068.02	-6.34	32.44	213.37	119.24	20 12 25	1068.0	6.03	11.92				
90.00	21 14 12	1757.53	-4.52	10.60	214.37	117.95	21 43 30	757.5	7.24	349.75				
100.00	22 20 49	1542.49	-6.34	353.81	213.37	119.24	22 46 31	542.5	6.03	333.29				
110.00	22 58 0	1425.88	-10.77	342.29	210.69	122.61	23 21 46	425.9	3.12	322.68				
DIFFERENTIAL CORRECTIONS					MID-COURSE EXECUTION ACCURACY					ORBIT DETERMINATION ACCURACY				
TDE	-.3399	TRA	-.8026	TC3 .0967	BAU .0507	SGT 972.8	SGR 594.3	SG3 117.3	ST 22.3	SR 27.2	SS 10.4			
RDE	-.5162	RAA	.2099	RC3 .0803	FAU .03631	RRT -.0196	RRF .0228	RTF -.6106	CRT .7103	CRS .2750	CST .8692			
FDE	.0908	FRA	.6460	FC3-1.0423	BSP 1374	SGB 1140.0	R23 -.0037	R13 .6107	LSA 33.1	MSA 15.6	SSA 1.2			
BDE	.6180	BRA	.8296	BC3 .1257	FSP 133	SG1 972.9	SG2 594.1	THA 178.91	EL1 32.6	EL2 13.1	ALF 52.83			

LAUNCH DATE MAY 20 1971

FLIGHT TIME 100.00

ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC					DISTANCE 278.364							EARTH TO MARS		
RL	151.38	LAL	-.00	L0L 238.35	VL 34.637	GAL	-.03	AZL 91.83	HCA 89.85	SMA 239.68	ECC .36841	INC 1.8277	V1 29.433	
RP	206.82	LAP	-1.83	LOP 328.20	VP 27.012	GAP	20.19	AZP 90.00	TAP 359.90	TAP 89.75	RCA 151.38	APO 327.98	V2 26.479	
RC	58.807	GL	-11.99	GP	-.76	ZAL 93.91	ZAP 173.28	ETS 186.51	ZAE 170.61	ETE 24.39	ZAC 98.79	ETC 278.45	LVI -18.22	
PLANETOCENTRIC CONIC														
C3	28.272	VHL 5.317	DLA -21.79	RAL 338.92	RAD 6646.3	VEL 12.175	PTH 7.14	VHP 9.681	DPA -16.80	RAP 324.77	ECC 1.4653			
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG				
50.00	15 30 41	2775.02	-20.81	78.78	200.68	133.81	16 16 56	1775.0	-2.78	62.25				
60.00	16 36 59	2598.72	-15.21	67.97	205.75	127.78	17 20 17	1598.7	.69	49.71				
70.00	18 1 4	2351.54	-9.75	51.89	209.71	122.89	18 40 15	1351.5	4.17	32.30				
80.00	19 41 25	2037.48	-5.32	30.74	212.41	119.42	20 15 22	1037.5	7.04	10.23				
90.00	21 18 13	1725.20	-3.48	8.79	213.43	118.08	21 46 59	725.2	8.25	347.91				
100.00	22 24 16	1511.95	-5.32	352.11	212.41	119.42	22 49 28	512.0	7.04	331.59				
110.00	23 0 30	1398.35	-9.75	340.80	209.71	122.89	23 23 48	398.4	4.17	321.21				
DIFFERENTIAL CORRECTIONS					MID-COURSE EXECUTION ACCURACY					ORBIT DETERMINATION ACCURACY				
TDE	-.3399	TRA	-.7953	TC3 .1157	BAU .0544	SGT 1000.5	SGR 597.3	SG3 124.3	ST 23.0	SR 27.3	SS 10.9			
RDE	-.5018	RAA	.2041	RC3 .0856	FAU .03694	RRT -.0157	RRF .0220	RTF -.6315	CRT .7123	CRS .2655	CST .8697			
FDE	.0980	FRA	.6747	FC3-1.1312	BSP 1552	SGB 1165.2	R23 -.0066	R13 .6316	LSA 33.7	MSA 15.9	SSA 1.2			
BDE	.6060	BRA	.8210	BC3 .1439	FSP 167	SG1 1000.6	SG2 597.1	THA 179.17	EL1 33.1	EL2 13.3	ALF 51.82			

LAUNCH DATE MAY 20 1971

FLIGHT TIME 102.00

ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC					DISTANCE 281.100							EARTH TO MARS		
RL	151.38	LAL	-.00	L0L 238.35	VL 34.473	GAL	.03	AZL 91.82	HCA 91.12	SMA 234.86	ECC .35547	INC 1.8213	V1 29.433	
RP	206.77	LAP	-1.82	LOP 329.47	VP 26.807	GAP	19.70	AZP 89.96	TAL .12	TAP 91.24	RCA 151.38	APO 318.35	V2 26.485	
RC	59.485	GL	-12.28	GP	-.78	ZAL 93.65	ZAP 172.31	ETS 185.87	ZAE 170.11	ETE 22.37	ZAC 98.72	ETC 278.91	LVI -18.27	
PLANETOCENTRIC CONIC														
C3	26.553	VHL 5.153	DLA -22.15	RAL 338.78	RAD 6645.6	VEL 12.104	PTH 7.08	VHP 9.362	DPA -16.73	RAP 325.07	ECC 1.4370			
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG				
50.00	15 31 47	2751.70	-19.71	77.66	199.74	134.23	16 17 38	1751.7	-1.61	61.28				
60.00	16 38 40	2573.81	-14.17	66.69	204.79	128.13	17 21 34	1573.8	1.79	48.52				
70.00	18 3 34	2324.20	-8.74	50.42	208.76	123.15	18 42 19	1324.2	5.20	30.86				
80.00	19 44 57	2006.93	-4.30	29.05	211.49	119.57	20 18 24	1006.9	8.05	8.52				
90.00	21 22 22	1692.71	-2.44	6.97	212.51	118.18	21 50 35	692.7	9.25	346.05				
100.00	22 27 49	1481.40	-4.30	350.42	211.49	119.57	22 52 30	481.4	8.05	329.89				
110.00	23 3 1	1371.02	-8.74	339.34	208.76	123.15	23 25 52	371.0	5.20	319.78				
DIFFERENTIAL CORRECTIONS					MID-COURSE EXECUTION ACCURACY					ORBIT DETERMINATION ACCURACY				
TDE	-.3105	TRA	-.7907	TC3 .1652	BAU .0667	SGT 1024.4	SGR 600.6	SG3 136.5	ST 22.4	SR 27.4	SS 9.5			
RDE	-.4892	RAA	.1977	RC3 .0895	FAU .04106	RRT -.0354	RRF .0567	RTF -.5570	CRT .6823	CRS -.1156	CST .8370			
FDE	.0024	FRA	.6407	FC3-1.3387	BSP 1126	SGB 1187.5	R23 -.0246	R13 .5976	LSA 32.7	MSA 16.6	SSA 1.3			
BDE	.5794	BRA	.8151	BC3 .1879	FSP 133	SG1 1024.7	SG2 600.0	THA 178.19	EL1 32.6	EL2 13.8	ALF 53.35			

LAUNCH DATE MAY 20 1971

FLIGHT TIME 104.00

ARRIVAL DATE SEP 1 1971

HELIOCENTRIC CONIC					DISTANCE 283.978							EARTH TO MARS		
RL	151.38	LAL	-.00	L0L 238.35	VL 34.318	GAL	.09	AZL 91.81	HCA 92.39	SMA 230.53	ECC .34335	INC 1.8149	V1 29.433	
RP	206.74	LAP	-1.81	LOP 330.73	VP 26.612	GAP	19.22	AZP 89.92	TAL .35	TAP 92.73	RCA 151.38	APO 309.68	V2 26.489	
RC	60.233	GL	-12.56	GP	-.80	ZAL 93.37	ZAP 171.32	ETS 185.37	ZAE 169.66	ETE 20.62	ZAC 98.66	ETC 278.56	LVI -18.32	
PLANETOCENTRIC CONIC														
C3	24.986	VHL 4.999	DLA -22.52	RAL 338.62	RAD 6645.0	VEL 12.040	PTH 7.03	VHP 9.055	DPA -16.66	RAP 325.35	ECC 1.4112			
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG				
50.00	15 32 49	2728.79	-18.61	76.58	198.82	134.61	16 18 18	1728.8	-.46	60.32				
60.00	16 40 20	2549.25	-13.13	63.45	203.86	128.45	17 22 49	1549.3	2.87	47.35				
70.00	18 6 6	2297.11	-7.73	48.97	207.84	123.37	18 44 23	1297.1	6.23	29.43				
80.00	19 48 34	1976.40	-3.27	27.37	210.58	119.69	20 21 31	976.4	9.05	6.80				
90.00	21 26 39	1660.06	-1.39	5.15	211.63	118.25	21 54 19	660.1	10.25	344.17				
100.00	22 31 26	1450.87	-3.27	348.74	210.58	119.69	22 55 37	450.9	9.05	328.17				
110.00	23 5 32	1343.93	-7.73	337.89	207.84	123.37	23 27 56	343.9	6.23	318.35				
DIFFERENTIAL CORRECTIONS					MID-COURSE EXECUTION ACCURACY					ORBIT DETERMINATION ACCURACY				
TDE	-.3109	TRA	-.7660	TC3 .1675	BAU .0643	SGT 1028.8	SGR 602.3	SG3 146.1	ST 22.8	SR 27.5	SS 10.9			
RDE	-.4751	RAA	.1926	RC3 .0950	FAU .04154	RRT -.0278	RRF .0342	RTF -.6374	CRT .6925	CRS .1384	CST .8027			
FDE	.0643	FRA	.7138	FC3-1.4395	BSP 1424	SGB 1192.2	R23 -.0073	R13 .6376	LSA 33.3	MSA 16.8	SSA 1.3			
BDE	.5676	BRA	.7899	BC3 .1926	FSP 180	SG1 1029.0	SG2 601.9	THA 178.58	EL1 33.0	EL2 13.7	ALF 52.53			

LAUNCH DATE MAY 20 1971 FLIGHT TIME 106.00 ARRIVAL DATE SEP 3 1971

HELIOCENTRIC CONIC DISTANCE 286.983 EARTH TO MARS
 RL 151.38 LAL -.00 LOL 238.35 VL 34.173 GAL .15 AZL 91.81 MCA 93.65 SMA 226.81 ECC .33201 INC 1.8085 V1 29.433
 RP 206.71 LAP -1.80 LOP 332.00 VP 26.428 GAP 18.75 AZP 89.88 TAL .59 TAP 94.24 RCA 151.38 APO 301.85 V2 26.492
 RC 61.050 GL -12.84 GP -.83 ZAL 93.07 ZAP 170.32 ETS 184.96 ZAE 169.27 ETE 19.08 ZAC 98.59 ETC 278.81 LVI -18.36

PLANETOCENTRIC CONIC
 C3 23.556 VHL 4.853 DLA -22.89 RAL 338.44 RAD 6644.4 VEL 11.981 PTH 6.98 VHP 8.759 DPA -16.59 RAP 325.62 ECC 1.3877
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 33 49 2706.33 -17.54 75.53 197.93 134.97 16 18 55 1706.3 .67 59.38
 60.00 16 41 57 2525.09 -12.11 64.23 202.95 128.74 17 24 3 1525.1 3.93 46.19
 70.00 18 8 38 2270.30 -6.72 47.55 206.94 123.56 18 46 28 1270.3 7.24 28.01
 80.00 19 52 16 1945.92 -2.24 25.70 209.71 119.78 20 24 42 945.9 10.04 5.08
 90.00 21 31 4 1627.27 -.33 3.32 210.77 118.28 21 58 11 627.3 11.24 342.27
 100.00 22 35 8 1420.39 -2.24 347.06 209.71 119.78 22 58 49 420.4 10.04 326.45
 110.00 23 8 4 1317.12 -6.72 336.47 206.94 123.56 23 30 1 317.1 7.24 316.93

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3040 TRA -.7557 TC3 .1935 BAU .0686 SGT 1049.7 SGR 604.1 SG3 157.5 ST 23.1 SR 27.5 SS 11.4
 RDE -.4623 RRA .1874 RC3 .0999 FAU .04340 RRT -.0291 RRF .0342 RTF -.6517 CRT .6882 CRS .1314 CST .8023
 FDE .0658 FRA .7479 FC3-1.5952 BSP 1496 SGB 1211.1 R23 -.0058 R13 .6518 LSA 33.5 MSA 17.2 SSA 1.3
 BDE .5533 BRA .7786 BC3 .2178 FSP 204 SG1 1049.9 SG2 603.7 THA 178.57 EL1 33.1 EL2 13.9 ALF 52.20

LAUNCH DATE MAY 20 1971 FLIGHT TIME 108.00 ARRIVAL DATE SEP 5 1971

HELIOCENTRIC CONIC DISTANCE 290.099 EARTH TO MARS
 RL 151.38 LAL -.00 LOL 238.35 VL 34.036 GAL .20 AZL 91.80 MCA 94.92 SMA 223.06 ECC .32138 INC 1.8020 V1 29.433
 RP 206.69 LAP -1.80 LOP 333.27 VP 26.293 GAP 18.28 AZP 89.85 TAL .84 TAP 95.76 RCA 151.37 APO 294.75 V2 26.495
 RC 61.933 GL -13.12 GP -.85 ZAL 92.74 ZAP 169.31 ETS 184.64 ZAE 168.94 ETE 17.71 ZAC 98.53 ETC 278.66 LVI -18.40

PLANETOCENTRIC CONIC
 C3 22.249 VHL 4.717 DLA -23.27 RAL 338.23 RAD 6643.8 VEL 11.927 PTH 6.93 VHP 8.473 DPA -16.53 RAP 325.88 ECC 1.3862
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 34 45 2684.31 -16.47 74.51 197.06 135.29 16 19 29 1684.3 1.78 58.46
 60.00 16 43 33 2501.32 -11.09 63.04 202.07 129.00 17 25 15 1501.3 4.97 45.05
 70.00 18 11 10 2243.75 -5.72 46.15 206.06 123.73 18 48 34 1243.8 8.23 26.60
 80.00 19 56 4 1915.46 -1.21 24.02 208.86 119.84 20 27 59 915.5 11.01 3.35
 90.00 21 35 39 1594.26 .73 1.48 209.94 118.27 22 2 13 594.3 12.22 340.35
 100.00 22 38 56 1389.93 -1.21 345.39 208.86 119.84 23 2 6 389.9 11.01 324.71
 110.00 23 10 36 1290.87 -5.72 335.07 206.06 123.73 23 32 7 290.6 8.23 315.52

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2892 TRA -.7369 TC3 .2385 BAU .0775 SGT 1060.0 SGR 605.4 SG3 168.1 ST 22.9 SR 27.6 SS 11.7
 RDE -.4500 RRA .1821 RC3 .1047 FAU .04512 RRT -.0317 RRF .0337 RTF -.6747 CRT .6783 CRS .1138 CST .7999
 FDE .0631 FRA .7699 FC3-1.7557 BSP 1428 SGB 1220.7 R23 -.0019 R13 .6748 LSA 33.3 MSA 17.5 SSA 1.3
 BDE .5349 BRA .7591 BC3 .2604 FSP 219 SG1 1060.2 SG2 605.0 THA 178.46 EL1 32.9 EL2 14.1 ALF 52.77

LAUNCH DATE MAY 20 1971 FLIGHT TIME 110.00 ARRIVAL DATE SEP 7 1971

HELIOCENTRIC CONIC DISTANCE 293.315 EARTH TO MARS
 RL 151.38 LAL -.00 LOL 238.35 VL 33.908 GAL .26 AZL 91.80 MCA 96.19 SMA 219.84 ECC .31144 INC 1.7955 V1 29.433
 RP 206.68 LAP -1.79 LOP 334.54 VP 26.088 GAP 17.83 AZP 89.81 TAL 1.09 TAP 97.29 RCA 151.37 APO 288.30 V2 26.498
 RC 62.879 GL -13.59 GP -.88 ZAL 92.41 ZAP 168.27 ETS 184.37 ZAE 168.67 ETE 16.49 ZAC 98.47 ETC 278.71 LVI -18.46

PLANETOCENTRIC CONIC
 C3 21.058 VHL 4.589 DLA -23.65 RAL 338.01 RAD 6643.3 VEL 11.877 PTH 6.89 VHP 8.198 DPA -16.48 RAP 326.12 ECC 1.3466
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 35 39 2662.86 -15.43 73.54 196.21 135.59 16 20 2 1662.9 2.85 57.57
 60.00 16 45 8 2478.07 -10.09 61.89 201.21 129.23 17 26 26 1478.1 5.99 43.92
 70.00 18 13 43 2217.64 -4.73 44.78 205.22 123.86 18 50 40 1217.6 9.20 25.20
 80.00 19 59 56 1885.19 -.19 22.36 208.04 119.86 20 31 22 885.2 11.97 1.61
 90.00 21 40 23 1561.21 1.80 359.63 209.14 118.23 22 6 24 561.2 13.19 338.40
 100.00 22 42 48 1359.66 -.19 343.73 208.04 119.86 23 5 28 359.7 11.97 322.98
 110.00 23 13 9 1264.46 -4.73 333.69 205.22 123.86 23 34 14 264.5 9.20 314.12

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2852 TRA -.7337 TC3 .2606 BAU .0796 SGT 1088.1 SGR 606.5 SG3 179.8 ST 23.3 SR 27.6 SS 12.0
 RDE -.4382 RRA .1772 RC3 .1094 FAU .04694 RRT -.0344 RRF .0381 RTF -.5195 CRT .6735 CRS .0746 CST .7800
 FDE .0549 FRA .8002 FC3-1.9298 BSP 1523 SGB 1245.7 R23 -.0042 R13 .6797 LSA 33.5 MSA 18.0 SSA 1.3
 BDE .5228 BRA .7548 BC3 .2827 FSP 241 SG1 1088.4 SG2 605.9 THA 178.41 EL1 33.1 EL2 14.3 ALF 52.12

LAUNCH DATE MAY 20 1971 FLIGHT TIME 112.00 ARRIVAL DATE SEP 9 1971

HELIOCENTRIC CONIC DISTANCE 296.621 EARTH TO MARS
 RL 151.38 LAL -.00 LOL 238.35 VL 33.787 GAL .31 AZL 91.79 MCA 97.46 SMA 216.90 ECC .30213 INC 1.7890 V1 29.433
 RP 206.67 LAP -1.77 LOP 335.81 VP 25.931 GAP 17.38 AZP 89.77 TAL 1.36 TAP 98.82 RCA 151.37 APO 282.43 V2 26.498
 RC 63.888 GL -13.65 GP -.91 ZAL 92.06 ZAP 167.22 ETS 184.14 ZAE 168.46 ETE 15.38 ZAC 98.41 ETC 278.75 LVI -18.48

PLANETOCENTRIC CONIC
 C3 19.968 VHL 4.469 DLA -24.02 RAL 337.78 RAD 6642.8 VEL 11.831 PTH 6.85 VHP 7.933 DPA -16.43 RAP 326.35 ECC 1.3288
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 36 30 2641.94 -14.41 72.60 195.40 135.85 16 20 32 1641.9 3.90 56.69
 60.00 16 46 40 2455.32 -9.11 60.77 200.38 129.43 17 27 35 1455.3 6.98 42.82
 70.00 18 16 16 2191.92 -3.75 43.43 204.40 123.97 18 52 48 1191.9 10.15 23.82
 80.00 20 3 54 1855.04 .84 20.71 207.25 119.85 20 34 49 855.0 12.92 359.87
 90.00 21 45 18 1527.99 2.86 357.78 208.38 118.15 22 10 46 528.0 14.15 336.43
 100.00 22 46 46 1329.51 .84 342.08 207.25 119.85 23 8 55 329.5 12.92 321.24
 110.00 23 15 42 1238.74 -3.75 332.34 204.40 123.97 23 36 21 238.7 10.15 312.74

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2817 TRA -.7241 TC3 .2827 BAU .0814 SGT 1107.9 SGR 607.1 SG3 192.9 ST 23.6 SR 27.6 SS 12.3
 RDE -.4269 RRA .1725 RC3 .1139 FAU .04910 RRT -.0337 RRF .0406 RTF -.6825 CRT .6726 CRS .0420 CST .7601
 FDE .0478 FRA .8306 FC3-2.1290 BSP 1584 SGB 1263.3 R23 -.0077 R13 .6827 LSA 33.7 MSA 18.3 SSA 1.4
 BDE .5114 BRA .7443 BC3 .3048 FSP 260 SG1 1108.2 SG2 606.6 THA 178.49 EL1 33.3 EL2 14.5 ALF 51.52

LAUNCH DATE MAY 20 1971 FLIGHT TIME 114.00 ARRIVAL DATE SEP 11 1971

HELIOCENTRIC CONIC DISTANCE 300.007 EARTH TO MARS

RL 151.38 LAL -.00 LOL 238.35 VL 33.673 GAL .37 AZL 91.78 HCA 98.73 SMA 214.22 ECC .29341 INC 1.7825 V1 29.433
 RP 206.68 LAP -1.78 LOP 337.08 VP 25.782 GAP 16.95 AZP 89.73 TAL 1.63 TAP 100.36 RCA 151.36 APO 277.07 V2 26.496
 RC 84.936 GL -13.92 GP -.94 ZAL 91.71 ZAP 166.15 ETS 183.95 ZAE 168.32 ETE 14.38 ZAC 98.35 ETC 278.79 LVI -18.48

PLANETOCENTRIC CONIC

C3 18.970 VHL 4.356 DLA -24.40 RAL 337.52 RAD 6642.4 VEL 11.789 PTH 6.81 VHP 7.677 DPA -16.40 RAP 326.55 ECC 1.3122
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 37 18 2621.59 -13.42 71.69 194.61 136.09 16 21 0 1621.6 4.92 55.83
 60.00 16 48 10 2433.10 -8.15 59.68 199.58 129.61 17 28 43 1433.1 7.95 41.74
 70.00 18 18 48 2166.63 -2.79 42.10 203.61 124.05 18 54 55 1166.6 11.08 22.45
 80.00 20 7 57 1825.03 1.85 19.06 206.50 119.81 20 38 22 825.0 13.84 358.12
 90.00 21 50 25 1494.59 3.94 355.91 207.65 118.03 22 15 19 494.6 15.09 334.43
 100.00 22 50 49 1299.50 1.85 340.43 206.50 119.81 23 12 29 299.5 13.84 319.49
 110.00 23 18 15 1213.45 -2.79 331.02 203.61 124.05 23 38 28 213.5 11.08 311.37

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2736 TRA -.7156 TC3 .3103 BAU .0842 SGT 1127.5 SGR 607.3 SG3 206.6 ST 23.8 SR 27.6 SS 12.6
 RDE -.4160 RRA .1679 RC3 .1181 FAU .05136 RRT -.0379 RRF .0447 RTF -.6881 CRT .6649 CRS -.0018 CST .7380
 FDE .0369 FRA .8610 FC3-2.3439 BSP 1657 SGB 1280.7 R23 -.0081 R13 .6883 LSA 33.6 MSA 18.8 SSA 1.4
 BDE .4979 BRA .7351 BC3 .3320 FSP 283 SG1 1127.8 SG2 606.7 THA 178.35 EL1 33.3 EL2 14.7 ALF 51.38

LAUNCH DATE MAY 20 1971 FLIGHT TIME 116.00 ARRIVAL DATE SEP 13 1971

HELIOCENTRIC CONIC DISTANCE 303.464 EARTH TO MARS

RL 151.38 LAL -.00 LOL 238.35 VL 33.567 GAL .42 AZL 91.78 HCA 100.00 SMA 211.77 ECC .28925 INC 1.7759 V1 29.433
 RP 206.70 LAP -1.75 LOP 338.35 VP 25.641 GAP 16.52 AZP 89.69 TAL 1.90 TAP 101.90 RCA 151.36 APO 272.17 V2 26.494
 RC 66.082 GL -14.17 GP -.97 ZAL 91.34 ZAP 165.06 ETS 183.78 ZAE 168.25 ETE 13.45 ZAC 98.29 ETC 278.82 LVI -18.49

PLANETOCENTRIC CONIC

C3 18.058 VHL 4.249 DLA -24.77 RAL 337.26 RAD 6642.0 VEL 11.751 PTH 6.78 VHP 7.431 DPA -16.37 RAP 326.74 ECC 1.2972
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 38 3 2601.83 -12.45 70.82 193.84 136.30 16 21 25 1601.8 5.91 55.00
 60.00 16 49 38 2411.45 -7.21 58.63 198.80 129.76 17 29 50 1411.5 8.88 40.68
 70.00 18 21 21 2141.81 -1.84 40.80 202.84 124.11 18 57 3 1141.8 11.99 21.10
 80.00 20 12 6 1795.18 2.86 17.42 205.77 119.73 20 42 1 795.2 14.75 358.37
 90.00 21 55 44 1460.98 5.01 354.02 206.96 117.87 22 20 5 461.0 16.02 332.40
 100.00 22 54 58 1269.67 2.86 338.79 205.77 119.73 23 16 7 269.7 14.75 317.74
 110.00 23 20 47 1188.63 -1.84 329.72 202.84 124.11 23 40 36 188.6 11.99 310.02

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2670 TRA -.7056 TC3 .3393 BAU .0871 SGT 1144.8 SGR 607.2 SG3 221.0 ST 23.9 SR 27.6 SS 13.0
 RDE -.4055 RRA .1635 RC3 .1221 FAU .05368 RRT -.0398 RRF .0479 RTF -.6941 CRT .6598 CRS -.0375 CST .7183
 FDE .0276 FRA .8920 FC3-2.5736 BSP 1705 SGB 1295.9 R23 -.0095 R13 .6943 LSA 33.6 MSA 19.2 SSA 1.4
 BDE .4855 BRA .7243 BC3 .3606 FSP 305 SG1 1145.2 SG2 606.5 THA 178.32 EL1 33.3 EL2 14.9 ALF 51.14

LAUNCH DATE MAY 20 1971 FLIGHT TIME 118.00 ARRIVAL DATE SEP 15 1971

HELIOCENTRIC CONIC DISTANCE 306.987 EARTH TO MARS

RL 151.38 LAL -.00 LOL 238.35 VL 33.468 GAL .47 AZL 91.77 HCA 101.27 SMA 209.52 ECC .27761 INC 1.7692 V1 29.433
 RP 206.72 LAP -1.74 LOP 339.62 VP 25.507 GAP 16.10 AZP 89.65 TAL 2.18 TAP 103.45 RCA 151.35 APO 267.68 V2 26.491
 RC 67.265 GL -14.42 GP -1.01 ZAL 90.97 ZAP 163.95 ETS 183.64 ZAE 168.25 ETE 12.60 ZAC 98.23 ETC 278.85 LVI -18.50

PLANETOCENTRIC CONIC

C3 17.221 VHL 4.150 DLA -25.14 RAL 336.98 RAD 6641.6 VEL 11.716 PTH 6.75 VHP 7.193 DPA -16.35 RAP 326.90 ECC 1.2834
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 38 4 2582.69 -11.50 69.98 193.10 136.49 16 21 49 1582.7 6.87 54.19
 60.00 16 51 4 2390.40 -6.29 57.61 198.05 129.89 17 30 54 1390.4 9.79 39.65
 70.00 18 23 53 2117.51 -.92 39.54 202.11 124.14 18 59 10 1117.5 12.87 19.76
 80.00 20 16 20 1765.55 3.86 15.79 205.08 119.63 20 45 46 765.5 15.63 354.62
 90.00 22 1 17 1427.10 6.08 352.11 206.30 117.67 22 25 4 427.1 16.93 330.34
 100.00 22 59 12 1240.02 3.86 337.16 205.08 119.63 23 19 52 240.0 15.63 315.98
 110.00 23 23 19 1164.33 -.92 328.45 202.11 124.14 23 42 44 164.3 12.87 308.68

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2618 TRA -.6952 TC3 .3658 BAU .0890 SGT 1160.6 SGR 606.6 SG3 236.5 ST 24.1 SR 27.5 SS 13.4
 RDE -.3954 RRA .1594 RC3 .1256 FAU .05620 RRT -.0409 RRF .0503 RTF -.5186 CRT .6566 CRS -.0658 CST .7018
 FDE .0200 FRA .9264 FC3-2.8252 BSP 1737 SGB 1309.6 R23 -.0113 R13 .6989 LSA 33.6 MSA 19.6 SSA 1.5
 BDE .4742 BRA .7132 BC3 .3888 FSP 330 SG1 1161.0 SG2 605.9 THA 178.32 EL1 33.4 EL2 15.0 ALF 50.80

LAUNCH DATE MAY 20 1971 FLIGHT TIME 120.00 ARRIVAL DATE SEP 17 1971

HELIOCENTRIC CONIC DISTANCE 310.569 EARTH TO MARS

RL 151.38 LAL -.00 LOL 238.35 VL 33.372 GAL .52 AZL 91.76 HCA 102.54 SMA 207.46 ECC .27045 INC 1.7625 V1 29.433
 RP 206.73 LAP -1.72 LOP 340.89 VP 25.379 GAP 15.69 AZP 89.62 TAL 2.46 TAP 105.00 RCA 151.35 APO 263.56 V2 26.487
 RC 68.502 GL -14.66 GP -1.04 ZAL 90.59 ZAP 162.81 ETS 183.51 ZAE 168.32 ETE 11.79 ZAC 98.18 ETC 278.88 LVI -18.50

PLANETOCENTRIC CONIC

C3 16.455 VHL 4.056 DLA -25.51 RAL 336.70 RAD 6641.2 VEL 11.683 PTH 6.72 VHP 6.964 DPA -16.33 RAP 327.04 ECC 1.2708
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 39 26 2564.19 -10.59 69.17 192.39 136.66 16 22 10 1564.2 7.79 53.40
 60.00 16 52 27 2369.97 -5.40 56.62 197.33 130.00 17 31 57 1370.0 10.67 38.64
 70.00 18 26 24 2093.75 -.01 38.30 201.40 124.15 19 1 18 1093.8 13.72 18.45
 80.00 20 20 40 1736.10 4.85 14.16 204.42 119.50 20 49 37 736.1 16.50 352.86
 90.00 22 7 5 1392.90 7.16 350.18 205.68 117.43 22 30 18 392.9 17.83 328.23
 100.00 23 3 32 1210.58 4.85 335.53 204.42 119.50 23 23 43 210.6 16.50 314.22
 110.00 23 25 51 1140.57 -.01 327.21 201.40 124.15 23 44 51 140.6 13.72 307.37

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2540 TRA -.6847 TC3 .3984 BAU .0921 SGT 1175.3 SGR 605.8 SG3 253.3 ST 24.1 SR 27.5 SS 13.8
 RDE -.3858 RRA .1554 RC3 .1287 FAU .05894 RRT -.0441 RRF .0554 RTF -.7052 CRT .6496 CRS -.1094 CST .6766
 FDE .0067 FRA .9623 FC3-3.1010 BSP 1768 SGB 1322.3 R23 -.0131 R13 .7055 LSA 33.5 MSA 20.1 SSA 1.5
 BDE .4619 BRA .7021 BC3 .4187 FSP 357 SG1 1175.7 SG2 605.0 THA 178.23 EL1 33.3 EL2 15.1 ALF 50.75

LAUNCH DATE MAY 20 1971 FLIGHT TIME 122.00 ARRIVAL DATE SEP 19 1971

HELIOCENTRIC CONIC
RL 151.38 LAL -.00 LOL 238.35 VL 33.284 GAL .57 AZL 91.76 HCA 103.81 SMA 203.56 ECC .26376 INC 1.7550 V1 29.433
RP 206.79 LAP -1.71 LOP 342.16 VP 25.238 GAP 15.29 AZP 89.58 TAL 2.74 TAP 106.54 RCA 151.34 APO 259.78 V2 26.483
RC 69.791 GL -14.89 GP -1.08 ZAL 90.21 ZAP 161.66 ETS 183.40 ZAE 168.46 ETE 11.03 ZAC 98.13 ETC 276.90 LVI -18.49
PLANETOCENTRIC CONIC
C3 15.753 VHL 3.969 DLA -25.86 RAL 336.41 RAD 6640.9 VEL 11.633 PTH 6.69 VHP 6.742 DPA -16.33 RAP 327.16 ECC 1.2592
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 40 3 2546.36 -9.71 68.40 191.70 136.81 16 22 30 1346.4 8.68 52.64
60.00 16 53 48 2350.20 -4.53 55.67 196.63 130.09 17 32 58 1350.2 11.52 37.66
70.00 18 28 54 2070.59 .86 37.09 200.72 124.14 19 3 25 1070.6 14.54 17.16
80.00 20 25 6 1706.89 5.83 12.54 203.79 119.34 20 53 33 706.9 17.34 351.09
90.00 22 13 12 1358.28 8.24 348.21 205.09 117.15 22 35 50 358.3 18.71 326.07
100.00 23 7 58 1181.36 5.83 333.91 203.79 119.34 23 27 40 181.4 17.34 312.46
110.00 23 28 21 1117.41 .86 326.01 200.72 124.14 23 46 58 117.4 14.54 306.08
DIFFERENTIAL CORRECTIONS
TDE -.2467 TRA -.6732 TC3 .4251 BAU .0937
RDE -.3765 RRA .1517 RC3 .1314 FAU .06171
FDE -.0059 FRA .9973 FC3-3.3915 B8P 1800
BDE .4501 BRA .69D1 BC3 .4450 FSP 387
MID-COURSE EXECUTION ACCURACY
SGT 1186.2 SGR 604.5 SG3 270.6
RRT -.0474 RRF .0597 RTF -.7089
SGB 1331.4 R23 -.0144 R13 .7092
SG1 1186.7 SG2 603.6 THA 178.13
ORBIT DETERMINATION ACCURACY
ST 24.1 SR 27.4 SS 14.2
CRT .6436 CRS -.1476 CST .6539
LSA 33.3 MSA 20.5 SSA 1.5
EL1 33.2 EL2 15.2 ALF 50.72

LAUNCH DATE MAY 20 1971 FLIGHT TIME 124.00 ARRIVAL DATE SEP 21 1971

HELIOCENTRIC CONIC
RL 151.38 LAL -.00 LOL 238.35 VL 33.201 GAL .62 AZL 91.75 HCA 105.07 SMA 203.82 ECC .25749 INC 1.7490 V1 29.433
RP 206.84 LAP -1.69 LOP 343.43 VP 25.142 GAP 14.90 AZP 89.54 TAL 3.02 TAP 108.09 RCA 151.34 APO 256.30 V2 26.477
RC 71.130 GL -15.11 GP -1.12 ZAL 89.83 ZAP 160.47 ETS 183.30 ZAE 168.68 ETE 10.31 ZAC 98.08 ETC 278.91 LVI -18.47
PLANETOCENTRIC CONIC
C3 15.108 VHL 3.887 DLA -26.21 RAL 336.11 RAD 6640.6 VEL 11.626 PTH 6.67 VHP 6.529 DPA -16.34 RAP 327.26 ECC 1.2486
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 40 38 2529.21 -8.85 67.67 191.03 136.94 16 22 47 1529.2 9.53 51.91
60.00 16 55 6 2331.12 -3.69 54.75 195.96 130.16 17 33 58 1331.1 12.33 36.70
70.00 18 31 25 2048.05 1.74 35.91 200.07 124.11 19 5 31 1048.0 15.33 15.89
80.00 20 29 38 1677.91 6.79 10.93 203.19 119.15 20 57 36 677.9 18.15 349.33
90.00 22 19 40 1323.07 9.33 346.19 204.55 116.82 22 41 43 323.1 19.58 323.85
100.00 23 12 30 1192.38 6.79 332.30 203.19 119.15 23 31 42 152.4 18.15 310.70
110.00 23 30 49 1094.87 1.74 324.83 200.07 124.11 23 49 4 94.9 15.33 304.81
DIFFERENTIAL CORRECTIONS
TDE -.2390 TRA -.6625 TC3 .4551 BAU .0958
RDE -.3676 RRA .1481 RC3 .1334 FAU .06481
FDE -.0203 FRA 1.0378 FC3-3.7136 B8P 1839
BDE .4365 BRA .6788 BC3 .4743 FSP 419
MID-COURSE EXECUTION ACCURACY
SGT 1197.5 SGR 603.0 SG3 289.7
RRT -.0517 RRF .0652 RTF -.7140
SGB 1340.8 R23 -.0158 R13 .7143
SG1 1198.1 SG2 601.9 THA 178.01
ORBIT DETERMINATION ACCURACY
ST 24.0 SR 27.3 SS 14.7
CRT .6361 CRS -.1876 CST .6304
LSA 33.1 MSA 21.0 SSA 1.5
EL1 33.0 EL2 15.4 ALF 50.75

LAUNCH DATE MAY 20 1971 FLIGHT TIME 126.00 ARRIVAL DATE SEP 23 1971

HELIOCENTRIC CONIC
RL 151.38 LAL -.00 LOL 238.35 VL 33.123 GAL .66 AZL 91.74 HCA 106.34 SMA 202.21 ECC .25163 INC 1.7421 V1 29.433
RP 206.90 LAP -1.67 LOP 344.70 VP 25.032 GAP 14.51 AZP 89.51 TAL 3.29 TAP 109.63 RCA 151.33 APO 253.09 V2 26.470
RC 72.517 GL -15.32 GP -1.16 ZAL 89.46 ZAP 159.26 ETS 183.21 ZAE 168.97 ETE 9.60 ZAC 98.03 ETC 278.92 LVI -18.45
PLANETOCENTRIC CONIC
C3 14.516 VHL 3.810 DLA -26.55 RAL 335.81 RAD 6640.3 VEL 11.601 PTH 6.64 VHP 6.324 DPA -16.36 RAP 327.33 ECC 1.2389
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 41 10 2512.75 -8.03 66.96 190.40 137.05 16 23 3 1512.7 10.35 51.20
60.00 16 58 22 2312.75 -2.89 53.87 195.32 130.21 17 34 55 1312.7 13.11 35.77
70.00 18 33 50 2026.18 2.57 34.77 199.45 124.07 19 7 36 1026.2 16.09 14.66
80.00 20 34 16 1649.19 7.74 9.33 202.63 118.93 21 1 45 649.2 18.94 347.56
90.00 22 26 33 1287.09 10.43 344.12 204.06 116.44 22 48 0 287.1 20.43 321.56
100.00 23 17 8 1123.66 7.74 330.70 202.63 118.93 23 35 51 123.7 18.94 308.93
110.00 23 33 16 1072.99 2.57 323.69 199.45 124.07 23 51 9 73.0 16.09 303.57
DIFFERENTIAL CORRECTIONS
TDE -.2331 TRA -.6518 TC3 .4821 BAU .0972
RDE -.3590 RRA .1447 RC3 .1349 FAU .06803
FDE -.0340 FRA 1.0764 FC3-4.0573 B8P 1851
BDE .4280 BRA .6875 BC3 .5006 FSP 451
MID-COURSE EXECUTION ACCURACY
SGT 1207.5 SGR 601.0 SG3 309.5
RRT -.0545 RRF .0897 RTF -.7167
SGB 1348.8 R23 -.0178 R13 .7171
SG1 1208.0 SG2 599.8 THA 177.94
ORBIT DETERMINATION ACCURACY
ST 24.0 SR 27.2 SS 15.1
CRT .6312 CRS -.2221 CST .6076
LSA 33.0 MSA 21.4 SSA 1.6
EL1 32.9 EL2 15.4 ALF 50.63

LAUNCH DATE MAY 20 1971 FLIGHT TIME 128.00 ARRIVAL DATE SEP 25 1971

HELIOCENTRIC CONIC
RL 151.38 LAL -.00 LOL 238.35 VL 33.049 GAL .70 AZL 91.74 HCA 107.61 SMA 200.73 ECC .24615 INC 1.7350 V1 29.433
RP 206.96 LAP -1.65 LOP 345.96 VP 24.927 GAP 14.14 AZP 89.47 TAL 3.58 TAP 111.17 RCA 151.32 APO 250.14 V2 26.462
RC 73.950 GL -15.33 GP -1.20 ZAL 89.09 ZAP 158.03 ETS 183.12 ZAE 169.34 ETE 8.91 ZAC 97.98 ETC 278.93 LVI -18.41
PLANETOCENTRIC CONIC
C3 13.973 VHL 3.738 DLA -26.88 RAL 335.52 RAD 6640.0 VEL 11.577 PTH 6.62 VHP 6.126 DPA -16.39 RAP 327.38 ECC 1.2300
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 41 40 2497.01 -7.25 66.29 189.78 137.15 16 23 17 1497.0 11.13 50.51
60.00 16 57 34 2295.11 -2.11 53.03 194.71 130.25 17 35 49 1295.1 13.86 34.88
70.00 18 36 14 2005.01 3.38 33.66 198.86 124.01 19 9 39 1005.0 16.82 13.45
80.00 20 39 0 1620.73 8.67 7.73 202.10 118.68 21 6 0 620.7 19.70 345.79
90.00 22 33 57 1250.00 11.54 341.97 203.61 116.00 22 54 47 250.0 21.27 319.17
100.00 23 21 52 1095.20 8.67 329.10 202.10 118.68 23 40 7 95.2 19.70 307.16
110.00 23 35 40 1051.83 3.38 322.58 198.86 124.01 23 53 12 51.8 16.82 302.36
DIFFERENTIAL CORRECTIONS
TDE -.2261 TRA -.6409 TC3 .5040 BAU .0975
RDE -.3507 RRA .1416 RC3 .1357 FAU .07145
FDE -.0500 FRA 1.1222 FC3-4.4268 B8P 1873
BDE .4173 BRA .6563 BC3 .5219 FSP 487
MID-COURSE EXECUTION ACCURACY
SGT 1214.5 SGR 598.8 SG3 331.0
RRT -.0597 RRF .0761 RTF -.7187
SGB 1354.1 R23 -.0195 R13 .7192
SG1 1215.2 SG2 597.4 THA 177.78
ORBIT DETERMINATION ACCURACY
ST 23.9 SR 27.1 SS 15.7
CRT .6244 CRS -.2588 CST .5845
LSA 32.7 MSA 21.9 SSA 1.6
EL1 32.7 EL2 15.5 ALF 50.66

LAUNCH DATE MAY 20 1971 FLIGHT TIME 130.00 ARRIVAL DATE SEP 27 1971

MELIOCENTRIC CONIC DISTANCE 329.190 EARTH TO MARS
 RL 151.38 LAL -.00 LOL 238.35 VL 32.981 GAL .74 AZL 91.73 HCA 108.87 SMA 189.36 ECC .24102 INC 1.7279 V1 29.433
 RP 207.04 LAP -1.64 LOP 347.23 VP 24.826 GAP 13.77 AZP 89.44 TAL 3.83 TAP 112.70 RCA 151.31 APO 247.42 V2 26.454
 RC 75.426 GL -15.72 GP -1.24 ZAL 88.73 ZAP 156.76 ETS 183.05 ZAE 169.78 ETE 8.22 ZAC 97.94 ETC 278.93 LVI -18.37

PLANETOCENTRIC CONIC
 C3 13.473 VHL 3.671 DLA -27.19 RAL 335.22 RAD 6639.8 VEL 11.556 PTH 6.60 VHP 5.935 DPA -16.43 RAP 327.39 ECC 1.2217
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 42 8 2481.99 -6.50 65.66 189.20 137.24 16 23 30 1482.0 11.87 49.86
 60.00 16 58 44 2270.23 -1.37 52.22 194.12 130.28 17 36 42 1278.2 14.57 34.02
 70.00 18 38 35 1984.59 4.16 32.59 198.29 123.93 19 11 40 984.6 17.92 12.27
 80.00 20 43 49 1592.56 9.59 6.14 201.60 118.41 21 10 22 592.6 20.44 344.03
 90.00 22 42 3 1211.28 12.69 339.70 203.21 115.49 23 2 15 211.3 22.11 316.64
 100.00 23 26 41 1067.05 9.59 327.51 201.60 118.41 23 44 28 67.0 20.44 305.39
 110.00 23 38 2 1031.41 4.16 321.51 198.29 123.93 23 53 13 31.4 17.92 301.19

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2203 TRA -.6288 TC3 .5285 BAU .0983 SGT 1219.1 SGR 596.2 SG3 353.3 ST 23.9 SR 27.0 SS 16.2
 RDE -.3428 RRA .1386 RC3 .1358 FAU .07507 RRT -.0629 RRF .0814 RTF -.7205 CRT .6200 CRS -.2916 CST .5610
 FDE -.0656 FRA 1.1635 FC3 -4.8237 BSP 1882 SGB 1357.1 R23 -.0220 R13 .7211 LSA 32.5 MSA 22.3 SSA 1.6
 BDE .4075 BRA .6439 BC3 .5457 FSP 523 SG1 1219.9 SG2 594.6 THA 177.69 EL1 32.5 EL2 15.6 ALF 50.64

LAUNCH DATE MAY 20 1971 FLIGHT TIME 132.00 ARRIVAL DATE SEP 29 1971

MELIOCENTRIC CONIC DISTANCE 333.029 EARTH TO MARS
 RL 151.38 LAL -.00 LOL 238.35 VL 32.917 GAL .78 AZL 91.72 HCA 110.14 SMA 198.10 ECC .23624 INC 1.7208 V1 29.433
 RP 207.12 LAP -1.62 LOP 348.49 VP 24.730 GAP 13.42 AZP 89.41 TAL 4.08 TAP 114.22 RCA 151.30 APO 244.90 V2 26.444
 RC 76.944 GL -15.90 GP -1.29 ZAL 88.39 ZAP 155.47 ETS 182.98 ZAE 170.29 ETE 7.51 ZAC 97.89 ETC 278.92 LVI -18.32

PLANETOCENTRIC CONIC
 C3 13.014 VHL 3.608 DLA -27.49 RAL 334.93 RAD 6639.6 VEL 11.536 PTH 6.58 VHP 5.751 DPA -16.48 RAP 327.38 ECC 1.2142
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 42 33 2467.71 -5.78 65.05 188.64 137.31 16 23 40 1467.7 12.37 49.23
 60.00 16 59 50 2262.12 -.66 51.45 193.56 130.30 17 37 32 1262.1 15.24 33.19
 70.00 18 40 53 1964.96 4.90 31.56 197.76 123.84 19 13 38 965.0 18.18 11.13
 80.00 20 48 45 1564.67 10.49 4.56 201.14 118.12 21 14 50 564.7 21.15 342.26
 90.00 22 51 8 1170.03 13.88 337.26 202.87 114.89 23 10 38 170.0 22.96 313.91
 100.00 23 31 37 1039.14 10.49 325.93 201.14 118.12 23 48 56 39.1 21.15 303.63
 110.00 23 40 20 1011.78 4.90 320.48 197.76 123.84 23 57 11 11.8 18.18 300.05

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2134 TRA -.6176 TC3 .5468 BAU .0980 SGT 1222.0 SGR 593.3 SG3 377.3 ST 23.7 SR 26.9 SS 16.7
 RDE -.3352 RRA .1358 RC3 .1351 FAU .07893 RRT -.0691 RRF .0888 RTF -.7208 CRT .6129 CRS -.3288 CST .9359
 FDE -.0851 FRA 1.2110 FC3 -5.2509 BSP 1897 SGB 1358.4 R23 -.0238 R13 .7214 LSA 32.3 MSA 22.8 SSA 1.7
 BDE .3973 BRA .6324 BC3 .5633 FSP 566 SG1 1222.9 SG2 591.5 THA 177.49 EL1 32.3 EL2 15.6 ALF 50.76

LAUNCH DATE MAY 20 1971 FLIGHT TIME 134.00 ARRIVAL DATE OCT 1 1971

MELIOCENTRIC CONIC DISTANCE 336.901 EARTH TO MARS
 RL 151.38 LAL -.00 LOL 238.35 VL 32.856 GAL .82 AZL 91.71 HCA 111.40 SMA 196.94 ECC .23176 INC 1.7134 V1 29.433
 RP 207.21 LAP -1.60 LOP 349.76 VP 24.639 GAP 13.07 AZP 89.37 TAL 4.34 TAP 115.74 RCA 151.30 APO 242.58 V2 26.433
 RC 78.502 GL -16.07 GP -1.34 ZAL 88.04 ZAP 154.14 ETS 182.91 ZAE 170.88 ETE 6.78 ZAC 97.86 ETC 278.91 LVI -18.25

PLANETOCENTRIC CONIC
 C3 12.591 VHL 3.548 DLA -27.78 RAL 334.65 RAD 6639.4 VEL 11.518 PTH 6.57 VHP 5.574 DPA -16.55 RAP 327.34 ECC 1.2072
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 42 55 2454.11 -5.10 64.48 188.10 137.37 16 23 49 1454.1 13.24 48.63
 60.00 17 0 53 2246.75 .02 50.72 193.02 130.30 17 38 19 1246.7 15.88 32.39
 70.00 18 43 8 1946.06 5.62 30.57 197.25 123.74 19 15 34 946.1 18.80 10.03
 80.00 20 53 49 1536.92 11.37 2.98 200.71 117.79 21 19 26 536.9 21.83 340.48
 90.00 23 1 50 1124.05 15.18 334.51 202.61 114.15 23 20 34 124.0 23.84 310.83
 100.00 23 36 40 1011.39 11.37 324.35 200.71 117.79 23 53 32 11.4 21.83 301.85
 110.00 23 42 34 6280.92 5.62 297.39 197.25 123.74 25 27 15 5280.9 18.80 276.85

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1940 TRA -.5925 TC3 .6092 BAU .1043 SGT 1204.8 SGR 590.2 SG3 403.2 ST 22.6 SR 26.7 SS 17.3
 RDE -.3279 RRA .1332 RC3 .1332 FAU .08326 RRT -.0792 RRF .0971 RTF -.7205 CRT .5899 CRS -.3763 CST .9172
 FDE -.1113 FRA 1.2543 FC3 -5.7245 BSP 1732 SGB 1341.6 R23 -.0202 R13 .7413 LSA 31.3 MSA 23.2 SSA 1.7
 BDE .3810 BRA .6072 BC3 .6197 FSP 601 SG1 1206.0 SG2 587.8 THA 177.09 EL1 31.3 EL2 15.5 ALF 53.06

LAUNCH DATE MAY 20 1971 FLIGHT TIME 136.00 ARRIVAL DATE OCT 3 1971

MELIOCENTRIC CONIC DISTANCE 340.800 EARTH TO MARS
 RL 151.38 LAL -.00 LOL 238.35 VL 32.800 GAL .85 AZL 91.71 HCA 112.66 SMA 195.86 ECC .22758 INC 1.7060 V1 29.433
 RP 207.31 LAP -1.57 LOP 351.02 VP 24.551 GAP 12.73 AZP 89.34 TAL 4.58 TAP 117.24 RCA 151.29 APO 240.44 V2 26.422
 RC 80.098 GL -16.23 GP -1.39 ZAL 87.72 ZAP 152.79 ETS 182.85 ZAE 171.54 ETE 5.98 ZAC 97.82 ETC 278.89 LVI -18.18

PLANETOCENTRIC CONIC
 C3 12.203 VHL 3.493 DLA -28.05 RAL 334.38 RAD 6639.2 VEL 11.501 PTH 6.55 VHP 5.404 DPA -16.63 RAP 327.27 ECC 1.2008
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 43 18 2441.35 -4.46 63.94 187.60 137.42 16 23 58 1441.4 13.87 48.06
 60.00 17 1 52 2232.29 .65 50.03 192.52 130.30 17 39 4 1232.3 16.48 31.64
 70.00 18 45 17 1928.17 6.29 29.62 196.77 123.64 19 17 25 928.2 19.39 8.97
 80.00 20 58 56 1509.71 12.23 1.42 200.32 117.45 21 24 5 509.7 22.48 338.72
 90.00 23 15 36 1068.95 16.89 331.17 202.49 113.17 23 33 25 68.9 24.80 307.08
 100.00 23 41 47 6272.22 12.23 300.69 200.32 117.45 25 26 20 5272.2 22.48 278.00
 110.00 23 44 43 6263.03 6.29 296.45 196.77 123.64 25 29 6 5263.0 19.39 275.80

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1949 TRA -.5864 TC3 .6006 BAU .1003 SGT 1210.8 SGR 586.8 SG3 430.3 ST 22.9 SR 26.6 SS 18.0
 RDE -.3208 RRA .1308 RC3 .1307 FAU .08758 RRT -.0822 RRF .1048 RTF -.7304 CRT .5942 CRS -.4012 CST .4893
 FDE -.1291 FRA 1.3086 FC3 -6.2133 BSP 1809 SGB 1345.4 R23 -.0266 R13 .7313 LSA 31.4 MSA 23.7 SSA 1.7
 BDE .3754 BRA .6008 BC3 .6147 FSP 649 SG1 1212.0 SG2 584.2 THA 177.03 EL1 31.4 EL2 15.6 ALF 52.09

LAUNCH DATE MAY 20 1971

FLIGHT TIME 138.00

ARRIVAL DATE OCT 5 1971

HELIOCENTRIC CONIC
 RL 131.38 LAL -.00 LOL 238.35 VL 32.747 GAL .88 AZL 91.70 HCA 113.92 SMA 194.87 ECC .22369 INC 1.6985 V1 29.433
 RP 207.42 LAP -1.55 LOP 352.28 VP 24.467 GAP 12.40 AZP 89.31 TAL 4.80 TAP 118.73 RCA 151.28 APO 238.46 V2 26.409
 RC 81.730 GL -16.38 GP -1.44 ZAL 87.42 ZAP 151.40 ETS 182.79 ZAE 172.28 ETE 5.09 ZAC 97.78 ETC 278.66 LVI -18.10

PLANETOCENTRIC CONIC
 C3 11.846 VHL 3.442 DLA -28.30 RAL 334.12 RAD 6638.0 VEL 11.486 PTH 6.53 VHP 5.240 DPA -16.72 RAP 327.16 ECC 1.1949
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 43 35 2429.34 -3.86 63.44 187.13 137.46 16 24 4 1429.3 14.46 47.53
 60.00 17 2 47 2218.65 1.25 49.38 192.04 130.28 17 39 46 1218.6 17.04 30.92
 70.00 18 47 20 1911.17 6.93 28.72 196.31 123.53 19 19 12 911.2 19.94 7.97
 80.00 21 4 9 1482.00 13.07 359.86 199.95 117.08 21 28 51 482.0 23.11 336.97
 88.97 23 37 48 6275.20 19.51 304.30 202.94 110.91 25 22 23 5275.2 26.41 279.40
 100.00 23 47 0 6245.31 13.07 299.13 199.95 117.08 25 31 6 5245.3 23.11 276.24
 110.00 23 46 47 6246.03 6.93 295.55 196.31 123.53 25 30 53 5246.0 19.94 274.79

DIFFERENTIAL CORRECTIONS
 TDE -.1936 TRA -.5778 TC3 .5905 BAU .0957
 RDE -.3139 RRA .1286 RC3 .1275 FAU .09186
 FDE -.1486 FRA 1.3650 FC3-6.7136 BSP 1843
 BDE .3688 BRA .5920 BC3 .6042 FSP 699

MID-COURSE EXECUTION ACCURACY
 SGT 1209.4 SGR 583.1 SG3 457.8
 RRT -.0873 RRF .1137 RTF -.7206
 SGB 1342.7 R23 -.0320 R13 .7217
 SG1 1210.8 SG2 580.2 THA 176.87

ORBIT DETERMINATION ACCURACY
 ST 23.0 SR 26.4 SS 18.7
 CRT .5958 CRS -.4261 CST .4635
 LSA 31.4 MSA 24.2 SSA 1.7
 EL1 31.4 EL2 15.5 ALF 51.52

LAUNCH DATE MAY 20 1971

FLIGHT TIME 140.00

ARRIVAL DATE OCT 7 1971

HELIOCENTRIC CONIC
 RL 151.38 LAL -.00 LOL 238.35 VL 32.698 GAL .91 AZL 91.69 HCA 115.18 SMA 193.96 ECC .22006 INC 1.6908 V1 29.433
 RP 207.54 LAP -1.53 LOP 353.54 VP 24.386 GAP 12.07 AZP 89.28 TAL 5.02 TAP 120.20 RCA 151.27 APO 236.64 V2 26.395
 RC 83.399 GL -16.52 GP -1.50 ZAL 87.13 ZAP 149.98 ETS 182.74 ZAE 173.08 ETE 4.05 ZAC 97.75 ETC 278.83 LVI -18.01

PLANETOCENTRIC CONIC
 C3 11.516 VHL 3.394 DLA -28.53 RAL 333.87 RAD 6638.8 VEL 11.472 PTH 6.52 VHP 5.083 DPA -16.83 RAP 327.02 ECC 1.1895
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 43 52 2418.08 -3.30 62.96 186.68 137.49 16 24 10 1418.1 15.00 47.02
 60.00 17 3 39 2205.84 1.82 48.77 191.59 130.27 17 40 25 1205.8 17.56 30.25
 70.00 18 49 18 1895.11 7.54 27.87 195.89 123.41 19 20 53 895.1 20.46 7.01
 80.00 21 9 27 1456.20 13.89 358.31 199.62 116.70 21 33 44 456.2 23.70 335.21
 86.05 23 12 25 1060.26 19.81 331.87 202.35 110.96 23 30 6 60.3 26.70 306.90
 100.00 23 52 19 6218.71 13.89 297.58 199.62 116.70 25 35 58 5218.7 23.70 274.49
 110.00 23 48 44 6229.97 7.54 294.69 195.89 123.41 25 32 34 5230.0 20.46 273.83

DIFFERENTIAL CORRECTIONS
 TDE -.1916 TRA -.5678 TC3 .5891 BAU .0927
 RDE -.3073 RRA .1267 RC3 .1230 FAU .09671
 FDE -.1679 FRA 1.4245 FC3-7.2704 BSP 1846
 BDE .3621 BRA .5818 BC3 .6018 FSP 750

MID-COURSE EXECUTION ACCURACY
 SGT 1206.3 SGR 579.1 SG3 488.2
 RRT -.0923 RRF .1227 RTF -.7143
 SGB 1338.1 R23 -.0375 R13 .7156
 SG1 1207.8 SG2 575.9 THA 176.72

ORBIT DETERMINATION ACCURACY
 ST 23.0 SR 26.2 SS 19.4
 CRT .5967 CRS -.4477 CST .4409
 LSA 31.3 MSA 24.6 SSA 1.8
 EL1 31.2 EL2 15.5 ALF 51.13

LAUNCH DATE MAY 20 1971

FLIGHT TIME 142.00

ARRIVAL DATE OCT 9 1971

HELIOCENTRIC CONIC
 RL 131.38 LAL -.00 LOL 238.35 VL 32.652 GAL .93 AZL 91.68 HCA 116.44 SMA 193.11 ECC .21667 INC 1.6829 V1 29.433
 RP 207.66 LAP -1.51 LOP 354.80 VP 24.309 GAP 11.75 AZP 89.25 TAL 5.23 TAP 121.67 RCA 151.27 APO 234.95 V2 26.380
 RC 85.104 GL -16.64 GP -1.56 ZAL 86.86 ZAP 148.53 ETS 182.68 ZAE 173.95 ETE 2.77 ZAC 97.72 ETC 278.79 LVI -19.90

PLANETOCENTRIC CONIC
 C3 11.213 VHL 3.349 DLA -28.75 RAL 333.63 RAD 6638.7 VEL 11.459 PTH 6.51 VHP 4.932 DPA -16.95 RAP 326.85 ECC 1.1845
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 44 7 2407.58 -2.77 62.53 186.26 137.51 16 24 14 1407.6 15.52 46.55
 60.00 17 4 26 2193.89 2.34 48.19 191.17 130.24 17 41 0 1193.9 18.05 29.61
 70.00 18 51 9 1880.04 8.10 27.07 195.48 123.29 19 22 29 880.0 20.94 6.10
 80.00 21 14 52 1429.94 14.69 356.77 199.33 116.29 21 38 42 429.9 24.26 333.46
 84.61 22 59 36 1093.13 20.09 334.39 201.80 111.01 23 17 49 93.1 26.97 309.37
 100.00 0 1 39 6192.45 14.69 296.04 199.33 116.29 1 44 52 5192.4 24.26 272.74
 110.00 23 50 35 6214.90 8.10 293.89 195.48 123.29 25 34 10 5214.9 20.94 272.92

DIFFERENTIAL CORRECTIONS
 TDE -.1885 TRA -.5556 TC3 .5781 BAU .0884
 RDE -.3009 RRA .1249 RC3 .1176 FAU .10164
 FDE -.1918 FRA 1.4850 FC3-7.8478 BSP 1842
 BDE .3551 BRA .5693 BC3 .5900 FSP 807

MID-COURSE EXECUTION ACCURACY
 SGT 1195.7 SGR 575.0 SG3 519.3
 RRT -.0984 RRF .1334 RTF -.7056
 SGB 1326.8 R23 -.0436 R13 .7072
 SG1 1197.5 SG2 571.4 THA 176.49

ORBIT DETERMINATION ACCURACY
 ST 22.9 SR 26.0 SS 20.1
 CRT .5972 CRS -.4476 CST .4139
 LSA 31.2 MSA 25.0 SSA 1.8
 EL1 31.1 EL2 15.4 ALF 50.99

LAUNCH DATE MAY 20 1971

FLIGHT TIME 144.00

ARRIVAL DATE OCT 11 1971

HELIOCENTRIC CONIC
 RL 131.38 LAL -.00 LOL 238.35 VL 32.609 GAL .95 AZL 91.67 HCA 117.70 SMA 192.33 ECC .21352 INC 1.6749 V1 29.433
 RP 207.80 LAP -1.48 LOP 356.03 VP 24.233 GAP 11.45 AZP 89.22 TAL 5.42 TAP 123.11 RCA 151.26 APO 233.39 V2 26.365
 RC 86.843 GL -16.75 GP -1.62 ZAL 86.61 ZAP 147.04 ETS 182.63 ZAE 174.89 ETE 1.08 ZAC 97.70 ETC 278.74 LVI -17.78

PLANETOCENTRIC CONIC
 C3 10.934 VHL 3.307 DLA -28.95 RAL 333.41 RAD 6638.5 VEL 11.446 PTH 6.50 VHP 4.787 DPA -17.09 RAP 326.64 ECC 1.1799
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 44 20 2397.84 -2.28 62.12 185.86 137.53 16 24 17 1397.8 15.99 46.10
 60.00 17 5 10 2182.80 2.83 47.66 190.77 130.22 17 41 32 1182.8 18.50 29.02
 70.00 18 52 52 1866.00 8.62 26.32 195.11 123.18 19 23 58 866.0 21.38 5.25
 80.00 21 20 21 1404.03 15.46 355.24 199.06 115.86 21 43 45 404.0 24.79 331.72
 83.56 22 50 13 1115.41 20.35 336.14 201.29 111.04 23 8 48 115.4 27.22 311.06
 100.00 0 7 9 6166.55 15.46 294.51 199.06 115.86 1 49 55 5166.5 24.79 271.00
 110.00 23 52 19 6200.86 8.62 293.14 195.11 123.18 25 35 40 5200.9 21.38 272.07

DIFFERENTIAL CORRECTIONS
 TDE -.1860 TRA -.5440 TC3 .5627 BAU .0838
 RDE -.2946 RRA .1233 RC3 .1111 FAU .10684
 FDE -.2143 FRA 1.5530 FC3-8.4596 BSP 1813
 BDE .3485 BRA .5578 BC3 .5736 FSP 862

MID-COURSE EXECUTION ACCURACY
 SGT 1184.4 SGR 570.7 SG3 552.5
 RRT -.1051 RRF .1450 RTF -.6965
 SGB 1314.7 R23 -.0503 R13 .6984
 SG1 1186.3 SG2 566.6 THA 176.24

ORBIT DETERMINATION ACCURACY
 ST 22.8 SR 25.8 SS 20.9
 CRT .5984 CRS -.4937 CST .3915
 LSA 31.2 MSA 25.4 SSA 1.8
 EL1 30.9 EL2 15.3 ALF 50.77

LAUNCH DATE MAY 20 1971

FLIGHT TIME 154.00

ARRIVAL DATE OCT 21 1971

HELIOCENTRIC CONIC
 RL 151.38 LAL -.00 LOL 238.35 VL 32.436 GAL 1.03 AZL 91.63 HCA 123.95 SMA 189.23 ECC .20081 INC 1.6319 V1 29.433
 RP 208.58 LAP -1.35 LOP 2.31 VP 23.901 GAP 10.01 AZP 89.09 TAL 6.14 TAP 130.09 RCA 151.23 APO 227.23 V2 26.274
 RC 96.027 GL -17.13 GP -1.98 ZAL 85.72 ZAP 139.03 ETS 182.35 ZAE 178.92 ETE 234.90 ZAC 97.60 ETC 278.39 LVI -17.00

PLANETOCENTRIC CONIC
 C3 9.830 VHL 3.135 DLA -29.63 RAL 332.62 RAD 6636.0 VEL 11.399 PTH 6.45 VHP 4.151 DPA -18.00 RAP 325.04 ECC 1.1618
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 44 59 2360.45 -.40 60.56 184.31 137.57 16 24 20 1360.4 17.79 44.38
 60.00 17 7 39 2140.51 4.69 45.63 189.19 130.07 17 43 20 1140.5 20.20 26.73
 70.00 18 59 9 1812.52 10.60 23.44 193.58 122.66 19 29 22 812.5 23.01 1.96
 80.00 21 48 24 1281.81 18.95 347.83 198.18 113.52 22 9 46 281.8 26.98 323.31
 80.76 22 24 53 1165.13 21.54 340.22 199.23 111.06 22 44 18 165.1 28.12 314.91
 100.00 0 35 12 6044.32 18.95 287.11 198.18 113.52 2 15 56 5044.3 26.98 262.58
 110.00 0 2 32 6147.38 10.60 290.27 193.58 122.66 1 44 59 5147.4 23.01 268.78

DIFFERENTIAL CORRECTIONS
 TDE -.1735 TRA -.4677 TC3 .3982 BAU .0527
 RDE -.2661 RRA .1179 RC3 .0603 FAU .13702
 FDE -.3453 FRA 1.9195 FC-12.0673 BSP 1480
 BDE .3177 BRA .4823 BC3 .4007 FSP 1188

MID-COURSE EXECUTION ACCURACY
 SGT 1062.7 SGR 547.1 S63 742.9
 RRT -.1378 RRF .2170 RTF -.6181
 SGB 1195.2 R23 -.1031 R13 .6238
 S61 1066.3 S62 540.1 THA 174.54

ORBIT DETERMINATION ACCURACY
 ST 21.7 SR 24.6 SS 24.8
 CRT .6208 CRS -.5825 CST .2648
 LSA 31.8 MSA 26.0 SSA 1.9
 EL1 29.6 EL2 14.1 ALF 50.81

LAUNCH DATE MAY 20 1971

FLIGHT TIME 156.00

ARRIVAL DATE OCT 23 1971

HELIOCENTRIC CONIC
 RL 151.38 LAL -.00 LOL 238.35 VL 32.409 GAL 1.03 AZL 91.62 HCA 125.20 SMA 188.78 ECC .19880 INC 1.6227 V1 29.433
 RP 208.76 LAP -1.33 LOP 3.56 VP 23.841 GAP 9.74 AZP 89.06 TAL 6.23 TAP 131.43 RCA 151.23 APO 226.20 V2 26.254
 RC 97.955 GL -17.17 GP -2.06 ZAL 85.62 ZAP 137.32 ETS 182.29 ZAE 177.75 ETE 208.71 ZAC 97.59 ETC 278.30 LVI -16.80

PLANETOCENTRIC CONIC
 C3 9.658 VHL 3.108 DLA -29.71 RAL 332.53 RAD 6637.9 VEL 11.391 PTH 6.44 VHP 4.041 DPA -18.23 RAP 324.61 ECC 1.1589
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 45 3 2355.22 -.14 60.34 184.08 137.58 16 24 18 1355.2 18.04 44.14
 60.00 17 7 55 2134.74 4.94 45.36 188.96 130.05 17 43 30 1134.7 20.42 26.42
 70.00 18 59 52 1805.44 10.86 23.06 193.35 122.58 19 29 57 805.4 23.22 1.51
 80.00 21 53 39 1260.31 19.52 346.50 198.08 113.05 22 14 40 260.3 27.31 321.80
 80.50 22 22 32 1168.03 21.47 340.49 198.92 111.04 22 42 0 168.0 28.23 315.15
 100.00 0 40 27 6022.82 19.52 285.77 198.08 113.05 2 20 50 5022.8 27.31 261.07
 110.00 0 3 14 6140.30 10.86 289.88 193.35 122.58 1 45 35 5140.3 23.22 268.34

DIFFERENTIAL CORRECTIONS
 TDE -.1788 TRA -.4562 TC3 .3096 BAU .0404
 RDE -.2606 RRA .1173 RC3 .0471 FAU .14324
 FDE -.3622 FRA 2.0122 FC-12.8395 BSP 1455
 BDE .3159 BRA .4711 BC3 .3132 FSP 1272

MID-COURSE EXECUTION ACCURACY
 SGT 1040.7 SGR 542.2 S63 784.2
 RRT -.1376 RRF .2342 RTF -.5772
 SGB 1173.4 R23 -.1273 R13 .5843
 S61 1044.3 S62 535.1 THA 174.43

ORBIT DETERMINATION ACCURACY
 ST 22.0 SR 24.3 SS 25.6
 CRT .6391 CRS -.5848 CST .2390
 LSA 32.1 MSA 26.3 SSA 1.9
 EL1 29.7 EL2 13.8 ALF 49.55

LAUNCH DATE MAY 20 1971

FLIGHT TIME 158.00

ARRIVAL DATE OCT 25 1971

HELIOCENTRIC CONIC
 RL 151.38 LAL -.00 LOL 238.35 VL 32.383 GAL 1.04 AZL 91.61 HCA 126.44 SMA 188.32 ECC .19695 INC 1.6131 V1 29.433
 RP 208.94 LAP -1.30 LOP 4.80 VP 23.782 GAP 9.48 AZP 89.04 TAL 6.31 TAP 132.75 RCA 151.23 APO 225.40 V2 26.232
 RC 99.910 GL -17.20 GP -2.19 ZAL 85.55 ZAP 135.57 ETS 182.22 ZAE 176.38 ETE 200.60 ZAC 97.58 ETC 278.20 LVI -16.59

PLANETOCENTRIC CONIC
 C3 9.499 VHL 3.082 DLA -29.78 RAL 332.46 RAD 6637.8 VEL 11.384 PTH 6.44 VHP 3.936 DPA -18.48 RAP 324.13 ECC 1.1563
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 45 5 2350.71 .09 60.15 183.89 137.58 16 24 16 1350.7 18.26 43.93
 60.00 17 8 6 2129.83 5.16 45.12 188.75 130.03 17 43 36 1129.8 20.62 26.15
 70.00 19 0 22 1799.57 11.08 22.74 193.13 122.52 19 30 22 799.6 23.39 1.15
 80.00 21 58 24 1240.99 20.03 345.29 197.98 112.61 22 19 5 241.0 27.59 320.43
 80.32 22 20 52 1169.20 21.59 340.63 198.64 111.00 22 40 21 169.2 28.31 315.25
 100.00 0 45 12 6003.50 20.03 284.57 197.98 112.61 2 25 16 5003.5 27.59 259.70
 110.00 0 3 45 6134.44 11.08 289.57 193.13 122.52 1 45 59 5134.4 23.39 267.97

DIFFERENTIAL CORRECTIONS
 TDE -.1808 TRA -.4398 TC3 .2285 BAU .0293
 RDE -.2553 RRA .1171 RC3 .0322 FAU .14994
 FDE -.3805 FRA 2.0992 FC-13.6651 BSP 1368
 BDE .3128 BRA .4551 BC3 .2307 FSP 1350

MID-COURSE EXECUTION ACCURACY
 SGT 1009.8 SGR 537.2 S63 827.2
 RRT -.1363 RRF .2520 RTF -.5580
 SGB 1143.8 R23 -.1523 R13 .5447
 S61 1013.5 S62 530.2 THA 174.28

ORBIT DETERMINATION ACCURACY
 ST 22.0 SR 24.0 SS 26.2
 CRT .6552 CRS -.5892 CST .2130
 LSA 32.4 MSA 26.3 SSA 1.9
 EL1 29.6 EL2 13.4 ALF 48.92

LAUNCH DATE MAY 20 1971

FLIGHT TIME 160.00

ARRIVAL DATE OCT 27 1971

HELIOCENTRIC CONIC
 RL 151.38 LAL -.00 LOL 238.35 VL 32.360 GAL 1.04 AZL 91.60 HCA 127.68 SMA 187.91 ECC .19524 INC 1.6032 V1 29.433
 RP 209.14 LAP -1.27 LOP 6.04 VP 23.726 GAP 9.22 AZP 89.02 TAL 6.37 TAP 134.05 RCA 151.23 APO 224.60 V2 26.209
 RC 101.892 GL -17.22 GP -2.23 ZAL 85.50 ZAP 133.78 ETS 182.16 ZAE 174.91 ETE 196.75 ZAC 97.57 ETC 278.08 LVI -16.36

PLANETOCENTRIC CONIC
 C3 9.353 VHL 3.058 DLA -29.79 RAL 332.42 RAD 6637.7 VEL 11.378 PTH 6.43 VHP 3.836 DPA -18.74 RAP 323.62 ECC 1.1539
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 45 6 2346.91 -.28 59.99 183.71 137.58 16 24 13 1346.9 18.44 43.75
 60.00 17 8 13 2125.79 5.33 44.93 188.56 130.01 17 43 38 1125.8 20.78 25.92
 70.00 19 0 41 1794.95 11.25 22.49 192.94 122.46 19 30 35 794.9 23.53 .86
 80.00 22 2 0 1225.91 20.43 344.34 197.87 112.26 22 22 26 225.9 27.80 319.36
 80.21 22 19 51 1168.86 21.69 340.64 198.40 110.95 22 39 20 168.9 28.38 315.24
 100.00 0 48 48 5988.42 20.43 283.62 197.87 112.26 2 28 36 4988.4 27.80 258.63
 110.00 0 4 3 6129.81 11.25 289.31 192.94 122.46 1 46 13 5129.8 23.53 267.68

DIFFERENTIAL CORRECTIONS
 TDE -.1823 TRA -.4231 TC3 .1382 BAU .0174
 RDE -.2501 RRA .1171 RC3 .0161 FAU .15683
 FDE -.4031 FRA 2.1979 FC-14.5168 BSP 1259
 BDE .3095 BRA .4390 BC3 .1392 FSP 1430

MID-COURSE EXECUTION ACCURACY
 SGT 978.8 SGR 532.5 S63 872.3
 RRT -.1344 RRF .2727 RTF -.4884
 SGB 1114.2 R23 -.1818 R13 .4992
 S61 982.4 S62 525.7 THA 174.13

ORBIT DETERMINATION ACCURACY
 ST 21.9 SR 23.7 SS 27.1
 CRT .6700 CRS -.5956 CST .1857
 LSA 32.8 MSA 26.3 SSA 1.9
 EL1 29.5 EL2 13.1 ALF 48.44

LAUNCH DATE MAY 20 1971 FLIGHT TIME 162.00 ARRIVAL DATE OCT 29 1971

HELIOCENTRIC CONIC DISTANCE 393.205 EARTH TO MARS

RL 151.38 LAL -.00 LOL 238.35 VL 32.339 GAL 1.04 AZL 91.59 HCA 128.92 SMA 187.55 ECC .19366 INC 1.5931 V1 20.433
 RP 209.34 LAP -1.24 LOP 7.28 VP 23.671 GAP 8.97 AZP 89.00 ZAL 6.41 TAP 139.32 RCA 151.23 APO 223.87 V2 26.186
 RC 103.900 GL -17.22 GP -2.33 ZAL 85.48 ZAP 131.96 ETS 182.09 ZAE 173.38 ETE 194.47 ZAC 97.56 ETC 277.96 LVI -16.12

PLANETOCENTRIC CONIC

C3 9.218 VHL 3.038 DLA -29.81 RAL 332.40 RAD 6637.6 VEL 11.372 PTH 6.42 VHP 3.742 DPA -19.01 RAP 323.07 ECC 1.1517
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

50.00	15 45 5	2343.82	.43	59.86	183.57	137.57	16 24 9	1343.8	18.59	43.61
60.00	17 8 14	2122.62	5.47	44.77	188.40	129.99	17 43 37	1122.6	20.90	25.75
70.00	19 0 46	1791.59	11.37	22.31	192.76	122.42	19 30 37	791.6	23.63	.64
80.00	22 3 26	1218.26	20.62	343.86	197.71	112.08	22 23 44	218.3	27.90	318.81
80.17	22 19 31	1166.89	21.76	340.53	198.19	110.88	22 38 58	166.9	28.42	315.10
100.00	0 50 14	5980.77	20.62	283.13	197.71	112.08	2 29 54	4980.8	27.90	258.09
110.00	0 4 8	6126.44	11.37	289.13	192.76	122.42	1 46 15	5126.4	23.63	267.47

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.1832 TRA -.4038 TC3 .0426 BAU .0053 SGT 944.1 SGR 527.8 SG3 918.5 ST 21.7 SR 23.4 SS 27.8
 RDE -.2450 RRA .1171 RC3 -.0015 FAU .16404 RRT -.1280 RRF .2939 RTF -.4325 CRT .6860 CRS -.6025 CST .1555
 FDE -.4257 FRA 2.2913 FC-15.4071 B8P 1132 SGB 1081.6 R23 -.2157 R13 .4454 LSA 33.3 MSA 26.2 SSA 1.9
 BDE .3059 BRA .4204 BC3 .0426 F8P 1509 SG1 947.6 SG2 521.6 THA 174.12 EL1 29.4 EL2 12.6 ALF 48.13

LAUNCH DATE MAY 20 1971 FLIGHT TIME 164.00 ARRIVAL DATE OCT 31 1971

HELIOCENTRIC CONIC DISTANCE 397.414 EARTH TO MARS

RL 151.38 LAL -.00 LOL 238.35 VL 32.319 GAL 1.04 AZL 91.58 HCA 130.15 SMA 187.21 ECC .19221 INC 1.5826 V1 29.433
 RP 209.55 LAP -1.21 LOP 8.51 VP 23.617 GAP 8.73 AZP 88.98 ZAL 6.43 TAP 138.58 RCA 151.23 APO 223.19 V2 26.182
 RC 105.933 GL -17.22 GP -2.42 ZAL 85.49 ZAP 130.10 ETS 182.02 ZAE 171.78 ETE 192.95 ZAC 97.55 ETC 277.84 LVI -15.88

PLANETOCENTRIC CONIC

C3 9.093 VHL 3.015 DLA -29.80 RAL 332.40 RAD 6637.6 VEL 11.367 PTH 6.42 VHP 3.653 DPA -19.30 RAP 322.47 ECC 1.1496
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

50.00	15 45 3	2341.41	.55	59.76	183.45	137.57	16 24 5	1341.4	18.71	43.50
60.00	17 8 10	2120.28	5.57	44.66	188.26	129.98	17 43 30	1120.3	20.99	25.62
70.00	19 0 39	1789.43	11.45	22.19	192.60	122.40	19 30 28	789.4	23.69	.51
80.00	22 2 8	1219.83	20.58	343.96	197.49	112.12	22 22 28	219.8	27.88	318.92
80.20	22 19 47	1163.47	21.82	340.30	198.02	110.81	22 39 10	163.5	28.44	314.85
100.00	0 48 56	5982.35	20.58	283.23	197.49	112.12	2 28 38	4982.3	27.88	258.20
110.00	0 4 1	6124.28	11.45	289.01	192.60	122.40	1 46 5	5124.3	23.69	267.33

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.1804 TRA -.3792 TC3 -.0450 BAU .0061 SGT 898.6 SGR 523.5 SG3 967.3 ST 21.2 SR 23.1 SS 28.6
 RDE -.2402 RRA .1170 RC3 -.0214 FAU .17199 RRT -.1191 RRF .3171 RTF -.3728 CRT .7000 CRS -.6184 CST .1159
 FDE -.4597 FRA 2.3750 FC-16.3749 B8P 937 SGB 1040.0 R23 -.2520 R13 .3885 LSA 33.8 MSA 25.6 SSA 1.9
 BDE .3004 BRA .3968 BC3 .0498 F8P 1575 SG1 901.8 SG2 517.9 THA 174.07 EL1 28.9 EL2 12.1 ALF 48.60

LAUNCH DATE MAY 20 1971 FLIGHT TIME 166.00 ARRIVAL DATE NOV 2 1971

HELIOCENTRIC CONIC DISTANCE 401.551 EARTH TO MARS

RL 151.38 LAL -.00 LOL 238.35 VL 32.301 GAL 1.03 AZL 91.57 HCA 131.39 SMA 186.90 ECC .19089 INC 1.5717 V1 29.433
 RP 209.76 LAP -1.18 LOP 9.75 VP 23.565 GAP 8.49 AZP 88.96 ZAL 6.43 TAP 137.82 RCA 151.23 APO 222.58 V2 26.137
 RC 107.990 GL -17.20 GP -2.52 ZAL 85.53 ZAP 128.21 ETS 181.94 ZAE 170.12 ETE 191.84 ZAC 97.54 ETC 277.70 LVI -15.59

PLANETOCENTRIC CONIC

C3 8.979 VHL 2.996 DLA -29.76 RAL 332.44 RAD 6637.5 VEL 11.362 PTH 6.41 VHP 3.569 DPA -19.60 RAP 321.85 ECC 1.1478
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

50.00	15 45 0	2339.75	.64	59.69	183.36	137.57	16 24 0	1339.8	18.78	43.42
60.00	17 8 2	2118.87	5.64	44.59	188.15	129.97	17 43 21	1118.9	21.05	25.54
70.00	19 0 18	1788.61	11.48	22.14	192.47	122.39	19 30 7	788.6	23.72	.46
80.00	21 58 23	1229.86	20.32	344.59	197.23	112.36	22 18 53	229.9	27.74	319.64
80.31	22 20 47	1158.00	21.86	339.93	197.87	110.72	22 40 5	158.3	28.44	314.47
100.00	0 45 11	5992.37	20.32	283.87	197.23	112.36	2 25 3	4992.4	27.74	258.91
110.00	0 3 40	6123.46	11.48	288.97	192.47	122.39	1 45 44	5123.5	23.72	267.28

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.1898 TRA -.3863 TC3 -.1999 BAU .0245 SGT 892.9 SGR 519.2 SG3 1013.0 ST 21.8 SR 22.8 SS 29.3
 RDE -.2349 RRA .1178 RC3 -.0400 FAU .17845 RRT -.0939 RRF .3406 RTF -.1.60 CRT .7249 CRS -.6070 CST .0947
 FDE -.4618 FRA 2.5011 FC-17.2063 B8P 885 SGB 1032.9 R23 -.3027 R13 .2907 LSA 34.2 MSA 26.1 SSA 1.9
 BDE .3020 BRA .3848 BC3 .2039 F8P 1681 SG1 894.9 SG2 515.8 THA 175.31 EL1 29.3 EL2 11.7 ALF 46.72

LAUNCH DATE MAY 20 1971 FLIGHT TIME 168.00 ARRIVAL DATE NOV 4 1971

HELIOCENTRIC CONIC DISTANCE 405.695 EARTH TO MARS

RL 151.38 LAL -.00 LOL 238.35 VL 32.285 GAL 1.02 AZL 91.56 HCA 132.62 SMA 186.63 ECC .18968 INC 1.5604 V1 29.433
 RP 209.99 LAP -1.15 LOP 10.98 VP 23.514 GAP 8.28 AZP 88.94 ZAL 6.41 TAP 139.03 RCA 151.23 APO 222.05 V2 26.111
 RC 110.071 GL -17.16 GP -2.62 ZAL 85.59 ZAP 126.29 ETS 181.86 ZAE 168.41 ETE 190.98 ZAC 97.53 ETC 277.55 LVI -15.30

PLANETOCENTRIC CONIC

C3 8.873 VHL 2.979 DLA -29.71 RAL 332.50 RAD 6637.5 VEL 11.357 PTH 6.41 VHP 3.490 DPA -19.91 RAP 321.19 ECC 1.1460
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

50.00	15 44 56	2338.75	.69	59.65	183.30	137.57	16 23 55	1338.7	18.83	43.37
60.00	17 7 48	2118.27	5.66	44.56	188.07	129.97	17 43 7	1118.3	21.07	25.51
70.00	18 59 45	1788.97	11.46	22.16	192.35	122.39	19 29 34	789.0	23.71	.48
80.00	21 53 33	1243.79	19.98	345.47	196.95	112.68	22 14 17	243.8	27.55	320.63
80.90	22 22 25	1151.53	21.87	339.43	197.76	110.62	22 41 36	151.5	28.41	313.96
100.00	0 40 21	6006.30	19.98	284.74	196.95	112.68	2 20 27	5006.3	27.55	259.90
110.00	0 3 7	6123.82	11.46	288.99	192.35	122.39	1 45 11	5123.8	23.71	267.30

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.1938 TRA -.3453 TC3 -.3393 BAU .0409 SGT 874.4 SGR 515.1 SG3 1060.1 ST 21.9 SR 22.4 SS 29.9
 RDE -.2298 RRA .1184 RC3 -.0808 FAU .18560 RRT -.0633 RRF .3648 RTF -.1767 CRT .7465 CRS -.6045 CST .0657
 FDE -.4720 FRA 2.6067 FC-18.1093 B8P 743 SGB 1014.9 R23 -.3482 R13 .1884 LSA 34.5 MSA 26.1 SSA 1.9
 BDE .3006 BRA .3651 BC3 .3447 F8P 1765 SG1 875.4 SG2 513.6 THA 176.74 EL1 29.3 EL2 11.2 ALF 45.97

LAUNCH DATE MAY 20 1971

FLIGHT TIME 170.00

ARRIVAL DATE NOV 6 1971

Heliocentric Conic: RL 151.38 LAL -.00 LOL 238.35 VL 32.270 GAL 1.01 AZL 91.55 HCA 133.85 SMA 186.38 ECC .18858 INC 1.5487 V1 29.433
 RP 210.22 LAP -1.12 LOP 12.21 VP 23.464 GAP 8.03 AZP 88.93 TAL 6.38 TAP 140.23 RCA 151.23 APO 221.52 V2 26.085
 RC 112.177 GL -17.12 GP -2.73 ZAL 85.69 ZAP 124.34 ETS 181.78 ZAE 166.64 ETE 190.29 ZAC 97.52 ETC 277.40 LVI -15.00

PLANETOCENTRIC CONIC: C3 8.776 VHL 2.962 DLA -29.63 RAL 332.58 RAD 6637.4 VEL 11.353 PTH 6.41 VHP 3.417 DPA -20.23 RAP 320.49 ECC 1.1444
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 44 50 2338.42 .70 59.64 183.26 137.57 16 23 49 1338.4 18.85 43.39
 60.00 17 7 30 2118.50 5.65 44.57 188.00 129.97 17 42 48 1118.5 21.06 25.52
 70.00 18 59 0 1790.54 11.41 22.25 192.26 122.41 19 28 50 790.5 23.86 .58
 80.00 21 48 9 1260.07 19.53 346.48 196.68 113.04 22 9 9 260.1 27.32 321.78
 80.76 22 24 46 1142.98 21.87 338.79 197.68 110.51 22 43 49 143.0 28.36 313.32
 100.00 0 34 57 6022.58 19.53 285.76 196.68 113.04 2 15 20 5022.6 27.32 261.05
 110.00 0 2 22 6125.39 11.41 289.07 192.26 122.41 1 44 27 5125.4 23.66 267.40

Differential Corrections: TDE -.1975 TRA -.3237 TC3 -.4915 BAU .0585 SGT 865.6 SGR 511.6 SG3 1107.4 ST 21.9 SR 22.1 SS 30.6
 RDE -.2248 RRA .1192 RC3 -.0826 FAU .19268 RRT -.0243 RRF .3909 RTF -.0648 CRT .7674 CRS -.6038 CST .0343
 FDE -.4847 FRA 2.7186 FC-19.0073 BSP 609 SGB 1005.5 R23 -.3886 R13 .0699 LSA 35.0 MSA 26.0 SSA 1.9
 BDE .2992 BRA .3449 BC3 .4984 FSP 1857 SG1 865.8 S62 511.4 THA 178.73 EL1 29.3 EL2 10.6 ALF 45.26

LAUNCH DATE MAY 20 1971

FLIGHT TIME 172.00

ARRIVAL DATE NOV 8 1971

Heliocentric Conic: RL 151.38 LAL -.00 LOL 238.35 VL 32.257 GAL 1.00 AZL 91.54 HCA 135.07 SMA 186.15 ECC .18758 INC 1.5366 V1 29.433
 RP 210.45 LAP -1.09 LOP 13.43 VP 23.416 GAP 7.81 AZP 88.91 TAL 6.33 TAP 141.40 RCA 151.23 APO 221.07 V2 26.058
 RC 114.307 GL -17.06 GP -2.84 ZAL 85.81 ZAP 122.37 ETS 181.69 ZAE 164.83 ETE 189.72 ZAC 97.50 ETC 277.24 LVI -14.68

PLANETOCENTRIC CONIC: C3 8.687 VHL 2.947 DLA -29.53 RAL 332.69 RAD 6637.4 VEL 11.349 PTH 6.40 VHP 3.348 DPA -20.57 RAP 319.77 ECC 1.1430
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 44 43 2338.76 .69 59.65 183.24 137.57 16 23 42 1338.8 18.83 43.37
 60.00 17 7 7 2119.55 5.61 44.63 187.96 129.98 17 42 26 1119.5 21.02 25.58
 70.00 18 58 2 1793.21 11.31 22.40 192.18 122.44 19 27 55 793.2 23.58 .75
 80.00 21 42 30 1277.69 19.06 347.58 196.43 113.43 22 3 47 277.7 27.05 323.02
 81.11 22 27 55 1132.34 21.85 338.00 197.63 110.38 22 46 47 132.3 28.29 312.51
 100.00 0 29 17 6040.20 19.06 286.85 196.43 113.43 2 9 58 5040.2 27.05 262.30
 110.00 0 1 24 6128.13 11.31 289.22 192.18 122.44 1 43 32 5128.1 23.58 267.57

Differential Corrections: TDE -.2012 TRA -.3007 TC3 -.6530 BAU .0768 SGT 867.4 SGR 508.5 SG3 1155.5 ST 22.0 SR 21.7 SS 31.2
 RDE -.2198 RRA .1202 RC3 -.1058 FAU .19987 RRT .0242 RRF .4182 RTF .0555 CRT .7885 CRS -.6020 CST .0023
 FDE -.4950 FRA 2.8333 FC-19.9194 BSP 477 SGB 1005.5 R23 .4182 R13 .0608 LSA 35.4 MSA 26.0 SSA 1.9
 BDE .2980 BRA .3238 BC3 .6615 FSP 1937 SG1 867.6 S62 508.2 THA 1.24 EL1 29.3 EL2 10.1 ALF 44.55

LAUNCH DATE MAY 20 1971

FLIGHT TIME 174.00

ARRIVAL DATE NOV 10 1971

Heliocentric Conic: RL 151.38 LAL -.00 LOL 238.35 VL 32.245 GAL .98 AZL 91.52 HCA 136.30 SMA 185.95 ECC .18668 INC 1.5239 V1 29.433
 RP 210.70 LAP -1.05 LOP 14.65 VP 23.368 GAP 7.59 AZP 88.90 TAL 6.26 TAP 142.55 RCA 151.24 APO 220.66 V2 26.030
 RC 116.480 GL -17.00 GP -2.96 ZAL 85.96 ZAP 120.36 ETS 181.60 ZAE 162.98 ETE 189.23 ZAC 97.49 ETC 277.07 LVI -14.35

PLANETOCENTRIC CONIC: C3 8.605 VHL 2.933 DLA -29.41 RAL 332.82 RAD 6637.3 VEL 11.345 PTH 6.40 VHP 3.283 DPA -20.91 RAP 319.01 ECC 1.1416
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 44 34 2339.75 .64 59.69 183.25 137.57 16 23 34 1339.8 18.78 43.42
 60.00 17 6 39 2121.41 5.52 44.72 187.94 129.98 17 42 0 1121.4 20.95 25.68
 70.00 18 56 53 1797.15 11.17 22.61 192.11 122.49 19 26 50 797.2 23.47 .99
 80.00 21 36 43 1296.20 18.55 348.72 196.20 113.82 21 58 19 296.2 26.76 324.32
 81.55 22 31 54 1119.44 21.80 337.02 197.60 110.25 22 50 34 119.4 28.19 311.54
 100.00 0 23 31 6058.71 18.55 287.99 196.20 113.82 2 4 29 5058.7 26.76 263.59
 110.00 0 0 15 6132.01 11.17 289.43 192.11 122.49 1 42 27 5132.0 23.47 267.82

Differential Corrections: TDE -.2052 TRA -.2750 TC3 -.8266 BAU .0963 SGT 882.3 SGR 505.6 SG3 1202.4 ST 22.1 SR 21.4 SS 31.7
 RDE -.2147 RRA .1213 RC3 -.1299 FAU .20689 RRT .0825 RRF .4456 RTF .15 CRT .8102 CRS -.5973 CST -.0266
 FDE -.4988 FRA 2.9449 FC-20.8144 BSP 398 SGB 1016.9 R23 .4245 R13 .1986 LSA 35.8 MSA 25.9 SSA 1.9
 BDE .2970 BRA .3013 BC3 .8367 FSP 2019 SG1 883.7 S62 503.0 THA 4.01 EL1 29.2 EL2 9.5 ALF 43.80

LAUNCH DATE MAY 20 1971

FLIGHT TIME 176.00

ARRIVAL DATE NOV 12 1971

Heliocentric Conic: RL 151.38 LAL -.00 LOL 238.35 VL 32.234 GAL .97 AZL 91.51 HCA 137.51 SMA 185.77 ECC .18587 INC 1.5107 V1 29.433
 RP 210.95 LAP -1.02 LOP 15.87 VP 23.321 GAP 7.38 AZP 88.89 TAL 6.17 TAP 143.68 RCA 151.24 APO 220.30 V2 26.001
 RC 118.637 GL -16.91 GP -3.08 ZAL 86.14 ZAP 118.34 ETS 181.50 ZAE 161.08 ETE 188.81 ZAC 97.47 ETC 276.90 LVI -14.00

PLANETOCENTRIC CONIC: C3 8.530 VHL 2.921 DLA -29.27 RAL 332.98 RAD 6637.3 VEL 11.342 PTH 6.39 VHP 3.224 DPA -21.27 RAP 318.23 ECC 1.1404
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 44 24 2341.39 .56 59.76 183.29 137.57 16 23 25 1341.4 18.71 43.49
 60.00 17 6 5 2124.07 5.41 44.84 187.94 130.00 17 41 30 1124.1 20.85 25.83
 70.00 18 55 32 1802.14 10.98 22.88 192.07 122.54 19 25 34 802.1 23.32 1.31
 80.00 21 30 54 1315.29 18.02 349.89 195.99 114.21 21 52 50 315.3 26.44 325.65
 82.11 22 36 54 1103.74 21.74 335.84 197.60 110.10 22 55 18 103.7 28.07 310.36
 100.00 0 17 42 6077.80 18.02 289.17 195.99 114.21 1 59 0 5077.8 26.44 264.92
 110.00 23 54 59 6137.00 10.98 289.70 192.07 122.54 25 37 16 5137.0 23.32 268.13

Differential Corrections: TDE -.2069 TRA -.2474 TC3 -1.0003 BAU .1155 SGT 903.1 SGR 503.5 SG3 1250.6 ST 22.0 SR 21.0 SS 32.3
 RDE -.2099 RRA .1223 RC3 -.1564 FAU .21454 RRT .1486 RRF .4745 RTF .3090 CRT .8318 CRS -.6027 CST -.0738
 FDE -.5158 FRA 3.0398 FC-21.7728 BSP 430 SGB 1034.0 R23 .4125 R13 .3363 LSA 36.3 MSA 25.4 SSA 1.9
 BDE .2947 BRA .2759 BC3 1.0124 FSP 2092 SG1 907.5 S62 495.5 THA 6.76 EL1 29.1 EL2 8.8 ALF 43.46

LAUNCH DATE MAY 20 1971

FLIGHT TIME 178.00

ARRIVAL DATE NOV 14 1971

HELIOCENTRIC CONIC

DISTANCE 426.510

EARTH TO MARS

RL 151.38 LAL -.00 LOL 238.35 VL 32.224 GAL .95 AZL 91.50 MCA 138.73 SMA 185.81 ECC .18515 INC 1.4969 V1 29.433
RP 211.20 LAP -.99 LOP 17.09 VP 23.276 GAP 7.17 AZP 88.87 TAL 6.06 TAP 144.79 RCA 151.25 APO 219.98 V2 25.972
RC 120.836 GL -18.82 GP -3.20 ZAL 86.35 ZAP 118.30 ETS 181.39 ZAE 159.15 ETE 188.43 ZAC 97.44 ETC 276.72 LVI -13.84

PLANETOCENTRIC CONIC

C3 8.462 VHL 2.909 DLA -29.11 RAL 333.16 RAD 6637.2 VEL 11.339 PTH 6.39 VHP 3.169 DPA -21.62 RAP 317.42 ECC 1.1393
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 44 12 2343.72 .44 59.86 183.34 137.57 16 23 16 1343.7 18.60 43.60
60.00 17 5 28 2127.56 5.26 45.01 187.97 130.01 17 40 55 1127.6 20.71 26.02
70.00 18 54 1 1808.28 10.76 23.21 192.05 122.61 19 24 9 808.3 23.14 1.69
80.00 21 25 3 1335.08 17.47 351.10 195.82 114.61 21 47 18 335.1 26.10 327.02
82.81 22 43 12 1084.34 21.66 334.37 197.64 109.93 23 1 16 84.3 27.93 308.91
100.00 0 11 51 6097.50 17.47 290.37 195.82 114.61 1 53 29 5097.6 26.10 266.29
110.00 23 53 27 6143.14 10.76 290.04 192.05 122.61 23 35 50 5143.1 23.14 268.51

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2162 TRA -.2254 TC3-1.2196 BAU .1395 SGT 971.0 SGR 501.2 SG3 1293.4 ST 22.6 SR 20.5 S8 32.6
RDE -.2042 RRA .1242 RC3 -.1805 FAU .22018 RRT .2128 RRF .5020 RTF .4167 CRT .8521 CRS -.5749 CST -.0777
PDE -.4813 FRA 3.1828 FC-22.5230 BSP 536 SGB 1092.7 R23 .3917 R13 .4462 LSA 36.3 MSA 26.1 S8A 1.9
BDE .2974 BRA .2373 BC3 1.2328 FSP 2195 SGI 978.8 SG2 485.9 THA 8.33 EL1 29.4 EL2 8.3 ALF 41.75

LAUNCH DATE MAY 20 1971

FLIGHT TIME 180.00

ARRIVAL DATE NOV 16 1971

HELIOCENTRIC CONIC

DISTANCE 430.886

EARTH TO MARS

RL 151.38 LAL -.00 LOL 238.35 VL 32.216 GAL .92 AZL 91.48 MCA 139.95 SMA 185.48 ECC .18452 INC 1.4824 V1 29.433
RP 211.46 LAP -.95 LOP 18.30 VP 23.231 GAP 6.96 AZP 88.87 TAL 5.94 TAP 145.88 RCA 151.25 APO 219.70 V2 25.942
RC 123.058 GL -16.71 GP -3.33 ZAL 86.58 ZAP 114.25 ETS 181.28 ZAE 137.19 ETE 188.10 ZAC 97.42 ETC 276.53 LVI -13.27

PLANETOCENTRIC CONIC

C3 8.400 VHL 2.898 DLA -28.92 RAL 333.37 RAD 6637.2 VEL 11.336 PTH 6.39 VHP 3.118 DPA -21.99 RAP 316.60 ECC 1.1382
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 43 59 2346.67 .29 59.98 183.42 137.58 16 23 6 1346.7 18.45 43.74
60.00 17 4 45 2131.82 5.07 45.22 188.01 130.03 17 40 17 1131.8 20.54 26.25
70.00 18 52 19 1815.43 10.50 23.60 192.04 122.69 19 22 35 815.4 22.92 2.14
80.00 21 19 15 1355.19 16.89 392.31 195.66 114.99 21 41 50 355.2 25.73 328.40
83.69 22 51 5 1080.18 21.56 332.56 197.69 109.76 23 8 45 60.2 27.77 307.10
100.00 0 6 2 6117.71 16.89 291.59 195.66 114.99 1 48 0 5117.7 25.73 267.68
110.00 23 51 46 6190.28 10.50 290.42 192.04 122.69 23 34 18 5150.3 22.92 268.96

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2206 TRA -.1974 TC3-1.4311 BAU .1824 SGT 1037.9 SGR 500.0 SG3 1336.1 ST 22.8 SR 20.1 S8 33.1
RDE -.1991 RRA .1258 RC3 -.2069 FAU .22634 RRT .2783 RRF .5312 RTF .5176 CRT .8715 CRS -.5679 CST -.1082
PDE -.4756 FRA 3.2963 FC-23.3270 BSP 717 SGB 1152.0 R23 .3622 R13 .5470 LSA 36.6 MSA 26.1 S3A 1.8
BDE .2972 BRA .2341 BC3 1.4460 FSP 2271 SGI 1049.6 SG2 474.8 THA 9.62 EL1 29.5 EL2 7.7 ALF 40.86

LAUNCH DATE MAY 20 1971

FLIGHT TIME 182.00

ARRIVAL DATE NOV 18 1971

HELIOCENTRIC CONIC

DISTANCE 434.867

EARTH TO MARS

RL 151.38 LAL -.00 LOL 238.38 VL 32.209 GAL .90 AZL 91.47 MCA 141.16 SMA 185.36 ECC .18396 INC 1.4672 V1 29.433
RP 211.73 LAP -.92 LOP 19.51 VP 23.187 GAP 6.76 AZP 88.86 TAL 5.80 TAP 146.95 RCA 151.26 APO 219.45 V2 25.911
RC 125.302 GL -16.59 GP -3.46 ZAL 86.84 ZAP 112.18 ETS 181.17 ZAE 155.19 ETE 187.79 ZAC 97.38 ETC 276.34 LVI -12.89

PLANETOCENTRIC CONIC

C3 8.344 VHL 2.889 DLA -26.71 RAL 333.59 RAD 6637.2 VEL 11.334 PTH 6.39 VHP 3.072 DPA -22.36 RAP 315.75 ECC 1.1373
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 43 43 2330.27 .11 60.13 183.92 137.58 16 22 54 1350.3 18.28 43.91
60.00 17 3 57 2136.85 4.85 45.46 188.07 130.06 17 39 34 1136.8 20.34 26.53
70.00 18 50 28 1823.59 10.19 24.04 192.05 122.77 19 20 51 823.6 22.68 2.64
80.00 21 13 28 1375.71 16.30 353.55 195.53 115.37 21 36 24 375.7 25.35 329.80
84.85 23 1 24 1028.53 21.43 330.18 197.77 109.57 23 18 33 28.5 27.58 304.74
100.00 0 0 16 6138.22 16.30 292.82 195.53 115.37 1 42 34 5138.2 25.35 269.08
110.00 23 49 34 6158.45 10.19 290.87 192.05 122.77 23 32 32 5158.5 22.68 269.47

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2250 TRA -.1686 TC3-1.6510 BAU .1860 SGT 1120.0 SGR 499.4 SG3 1379.5 ST 23.1 SR 19.7 S8 33.5
RDE -.1937 RRA .1277 RC3 -.2349 FAU .23263 RRT .3411 RRF .9607 RTF .1.17 CRT .8892 CRS -.5537 CST -.1299
PDE -.4562 FRA 3.4133 FC-24.1368 BSP 930 SGB 1226.3 R23 .3322 R13 .6282 LSA 36.8 MSA 26.1 S8A 1.8
BDE .2969 BRA .2115 BC3 1.6676 FSP 2353 SGI 1135.5 SG2 463.0 THA 10.39 EL1 29.5 EL2 7.0 ALF 39.92

LAUNCH DATE MAY 20 1971

FLIGHT TIME 184.00

ARRIVAL DATE NOV 20 1971

HELIOCENTRIC CONIC

DISTANCE 439.050

EARTH TO MARS

RL 151.38 LAL -.00 LOL 238.35 VL 32.203 GAL .87 AZL 91.45 MCA 142.36 SMA 185.25 ECC .18347 INC 1.4512 V1 29.433
RP 212.01 LAP -.89 LOP 20.72 VP 23.143 GAP 6.57 AZP 88.85 TAL 5.64 TAP 148.00 RCA 151.26 APO 219.24 V2 25.880
RC 127.568 GL -16.45 GP -3.60 ZAL 87.13 ZAP 110.11 ETS 181.05 ZAE 153.18 ETE 187.51 ZAC 97.34 ETC 276.15 LVI -12.49

PLANETOCENTRIC CONIC

C3 8.293 VHL 2.880 DLA -28.47 RAL 333.84 RAD 6637.2 VEL 11.332 PTH 6.38 VHP 3.031 DPA -22.73 RAP 314.90 ECC 1.1365
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 43 26 2334.50 -.10 60.31 183.64 137.58 16 22 40 1354.5 18.08 44.11
60.00 17 3 4 2142.65 4.59 45.74 188.15 130.08 17 38 47 1142.6 20.11 26.85
70.00 18 48 27 1832.74 9.86 24.54 192.07 122.87 19 18 59 832.7 22.40 3.21
80.00 21 7 43 1396.60 15.68 354.79 195.42 115.74 21 31 0 396.6 24.94 331.22
86.54 23 16 24 6270.14 21.29 304.63 197.88 109.36 25 0 54 3270.1 27.36 279.21
100.00 23 50 35 6159.11 15.68 294.07 195.42 115.74 25 33 14 5159.1 24.94 270.50
110.00 23 47 53 6167.60 9.86 291.36 192.07 122.87 25 30 41 5167.6 22.40 270.03

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2291 TRA -.1382 TC3-1.6837 BAU .2109 SGT 1217.7 SGR 499.3 SG3 1418.0 ST 23.3 SR 19.2 S8 33.8
RDE -.1882 RRA .1297 RC3 -.2626 FAU .23802 RRT .3997 RRF .5897 RTF .6715 CRT .9059 CRS -.5393 CST -.1512
PDE -.4335 FRA 3.5295 FC-24.8470 BSP 1167 SGB 1316.1 R23 .3033 R13 .6941 LSA 37.0 MSA 26.2 S3A 1.8
BDE .2965 BRA .1895 BC3 1.9019 FSP 2427 SGI 1236.5 SG2 450.7 THA 10.75 EL1 29.5 EL2 6.4 ALF 38.95

LAUNCH DATE MAY 20 1971

FLIGHT TIME 106.00

ARRIVAL DATE NOV 22 1971

HELIOCENTRIC CONIC
 RL 151.38 LAL -.00 LOL 238.35 VL 32.198 GAL .85 AZL 91.43 HCA 143.57 SMA 185.17 ECC .18308 INC 1.4344 V1 29.433
 RP 212.29 LAP -.83 LOP 21.93 VP 23.100 GAP 6.37 AZP 88.85 TAL 5.47 TAP 149.04 RCA 151.27 APO 219.06 V2 25.848
 RC 128.850 GL -16.30 GP -3.74 ZAL 87.44 ZAP 108.03 ETS 180.92 ZAE 151.15 ETE 187.26 ZAC 97.30 ETC 275.95 LVI -12.09

PLANETOCENTRIC CONIC
 C3 8.248 VHL 2.872 DLA -28.22 RAL 334.10 RAD 6637.1 VEL 11.330 PTH 6.38 VHP 2.993 DPA -23.11 RAP 314.03 ECC 1.1357
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 43 6 2359.37 -.35 60.51 183.79 137.58 16 22 25 1359.4 17.85 44.34
 60.00 17 2 6 2149.21 4.31 46.05 188.26 130.11 17 37 55 1149.2 19.85 27.21
 70.00 18 46 17 1842.85 9.48 25.08 192.12 122.97 19 16 59 842.8 22.09 3.83
 80.00 21 2 0 1417.85 15.05 356.05 195.34 116.09 21 25 38 417.8 24.51 332.65
 90.00 23 29 41 6229.58 19.92 301.13 197.54 110.50 25 13 30 5229.6 26.61 276.10
 100.00 23 44 52 6180.36 15.05 295.33 195.34 116.09 25 27 53 5180.4 24.51 271.93
 110.00 23 45 43 6177.70 9.48 291.90 192.12 122.97 25 28 41 5177.7 22.09 270.66

DIFFERENTIAL CORRECTIONS
 TDE -.2328 TRA -.1064 TC3-2.1243 BAU .2364 SGT 1327.6 SGR 499.7 SG3 1454.1 ST 23.6 SR 18.8 SS 34.1
 RDE -.1826 RRA .1319 RC3 -.2909 FAU .24297 RRT .4539 RRF .6183 RTF .7276 CRT .9210 CRS -.5193 CST -.1663
 FDE -.3986 FRA 3.6435 FC-25.5029 BSP 1426 SGB 1418.5 R23 .2774 R13 .7462 LSA 37.1 MSA 26.3 SSA 1.8
 BDE .2959 BRA .1694 BC3 2.1441 FSP 2487 SG1 1349.2 SG2 438.1 THA 10.85 EL1 29.6 EL2 5.8 ALF 37.97

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 20 1971

FLIGHT TIME 188.00

ARRIVAL DATE NOV 24 1971

HELIOCENTRIC CONIC
 RL 151.38 LAL -.00 LOL 238.35 VL 32.194 GAL .81 AZL 91.42 HCA 144.77 SMA 185.10 ECC .18271 INC 1.4168 V1 29.433
 RP 212.57 LAP -.82 LOP 23.13 VP 23.058 GAP 6.19 AZP 88.84 TAL 5.28 TAP 150.05 RCA 151.28 APO 218.92 V2 25.815
 RC 132.153 GL -16.13 GP -3.89 ZAL 87.77 ZAP 105.96 ETS 180.78 ZAE 149.10 ETE 187.02 ZAC 97.24 ETC 275.75 LVI -11.68

PLANETOCENTRIC CONIC
 C3 8.207 VHL 2.865 DLA -27.93 RAL 334.39 RAD 6637.1 VEL 11.328 PTH 6.38 VHP 2.960 DPA -23.49 RAP 313.16 ECC 1.1351
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 42 43 2364.87 -.62 60.74 183.94 137.57 16 22 8 1364.9 17.58 44.59
 60.00 17 1 2 2156.52 3.99 46.40 188.37 130.14 17 36 59 1156.5 19.56 27.61
 70.00 18 43 58 1853.85 9.08 25.67 192.17 123.07 19 14 52 853.9 21.76 4.51
 80.00 20 56 20 1439.43 14.40 357.33 195.28 116.44 21 20 19 439.4 24.06 334.10
 90.00 23 8 45 1012.40 18.17 327.68 197.05 112.05 23 25 37 12.4 25.68 303.17
 100.00 23 39 12 6201.94 14.40 296.60 195.28 116.44 25 22 34 5201.9 24.06 273.37
 110.00 23 43 24 6188.71 9.08 292.49 192.17 123.07 25 26 33 5188.7 21.76 271.33

DIFFERENTIAL CORRECTIONS
 TDE -.2331 TRA -.0708 TC3-2.3584 BAU .2612 SGT 1438.4 SGR 501.8 SG3 1492.4 ST 23.5 SR 18.3 SS 34.4
 RDE -.1775 RRA .1336 RC3 -.3232 FAU .24907 RRT .5088 RRF .6483 RTF .7791 CRT .9360 CRS -.5202 CST -.2095
 FDE -.3950 FRA 3.7259 FC-26.2731 BSP 1721 SGB 1923.4 R23 .2481 R13 .7944 LSA 37.5 MSA 25.7 SSA 1.8
 BDE .2930 BRA .1512 BC3 2.3805 FSP 2526 SG1 1463.0 SG2 424.8 THA 11.00 EL1 29.4 EL2 5.2 ALF 37.46

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 20 1971

FLIGHT TIME 190.00

ARRIVAL DATE NOV 26 1971

HELIOCENTRIC CONIC
 RL 151.38 LAL -.00 LOL 238.35 VL 32.190 GAL .78 AZL 91.40 HCA 145.97 SMA 185.04 ECC .18242 INC 1.3981 V1 29.433
 RP 212.86 LAP -.78 LOP 24.32 VP 23.016 GAP 6.00 AZP 88.84 TAL 5.07 TAP 151.04 RCA 151.29 APO 218.80 V2 25.782
 RC 134.475 GL -15.95 GP -4.05 ZAL 88.14 ZAP 103.90 ETS 180.64 ZAE 147.04 ETE 186.80 ZAC 97.18 ETC 275.55 LVI -11.26

PLANETOCENTRIC CONIC
 C3 8.171 VHL 2.859 DLA -27.62 RAL 334.69 RAD 6637.1 VEL 11.326 PTH 6.38 VHP 2.930 DPA -23.87 RAP 312.29 ECC 1.1345
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 42 18 2371.06 -.94 61.00 184.12 137.57 16 21 49 1371.1 17.28 44.88
 60.00 16 59 54 2164.64 3.63 46.79 188.51 130.16 17 35 58 1164.6 19.23 28.05
 70.00 18 41 30 1865.84 8.63 26.31 192.25 123.17 19 12 36 865.8 21.38 5.24
 80.00 20 50 39 1461.53 13.73 358.82 195.24 116.78 21 15 1 461.5 23.58 335.56
 90.00 22 55 24 1059.23 16.95 330.58 196.79 112.98 23 13 4 59.2 24.96 306.42
 100.00 23 33 31 6224.04 13.73 297.90 195.24 116.78 25 17 15 5224.0 23.58 274.84
 110.00 23 40 57 6200.70 8.63 293.14 192.25 123.17 25 24 17 5200.7 21.38 272.06

DIFFERENTIAL CORRECTIONS
 TDE -.2384 TRA -.0398 TC3-2.6313 BAU .2900 SGT 1580.9 SGR 503.6 SG3 1521.3 ST 24.0 SR 17.8 SS 34.8
 RDE -.1711 RRA .1369 RC3 -.3503 FAU .25198 RRT .5494 RRF .6758 RTF .8279 CRT .9463 CRS -.4834 CST -.1996
 FDE -.3272 FRA 3.8700 FC-26.6985 BSP 1968 SGB 1659.2 R23 .2382 R13 .8204 LSA 37.5 MSA 26.4 SSA 1.8
 BDE .2933 BRA .1425 BC3 2.6545 FSP 2613 SG1 1606.7 SG2 414.1 THA 10.64 EL1 29.5 EL2 4.7 ALF 36.02

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 20 1971

FLIGHT TIME 192.00

ARRIVAL DATE NOV 28 1971

HELIOCENTRIC CONIC
 RL 151.38 LAL -.00 LOL 238.35 VL 32.188 GAL .75 AZL 91.38 HCA 147.18 SMA 185.00 ECC .18220 INC 1.3781 V1 29.433
 RP 213.16 LAP -.75 LOP 25.52 VP 22.975 GAP 5.82 AZP 88.84 TAL 4.86 TAP 152.02 RCA 151.29 APO 218.71 V2 25.749
 RC 136.814 GL -15.74 GP -4.21 ZAL 88.52 ZAP 101.84 ETS 180.50 ZAE 144.98 ETE 186.59 ZAC 97.11 ETC 275.35 LVI -10.83

PLANETOCENTRIC CONIC
 C3 8.140 VHL 2.853 DLA -27.29 RAL 335.01 RAD 6637.1 VEL 11.325 PTH 6.38 VHP 2.904 DPA -24.25 RAP 311.43 ECC 1.1340
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 41 49 2377.88 -1.28 61.28 184.31 137.56 16 21 27 1377.9 16.95 45.19
 60.00 16 58 39 2173.50 3.24 47.22 188.66 130.19 17 34 53 1173.5 18.88 28.52
 70.00 18 38 55 1878.69 8.15 27.00 192.34 123.28 19 10 13 878.7 20.98 6.02
 80.00 20 45 0 1483.96 13.04 359.93 195.23 117.10 21 9 44 484.0 23.08 337.04
 90.00 22 44 30 1098.62 15.88 332.98 196.62 113.71 23 2 48 98.6 24.30 309.11
 100.00 23 27 52 6246.48 13.04 299.20 195.23 117.10 25 11 58 5246.5 23.08 276.32
 110.00 23 38 21 6213.55 8.15 293.82 192.34 123.28 25 21 54 5213.5 20.98 272.84

DIFFERENTIAL CORRECTIONS
 TDE -.2398 TRA -.0038 TC3-2.8940 BAU .3176 SGT 1720.1 SGR 506.8 SG3 1549.5 ST 24.2 SR 17.3 SS 35.1
 RDE -.1652 RRA .1396 RC3 -.3806 FAU .25557 RRT .5916 RRF .7034 RTF .8367 CRT .9569 CRS -.4647 CST -.2157
 FDE -.2851 FRA 3.9757 FC-27.1818 BSP 2257 SGB 1793.3 R23 .2228 R13 .8470 LSA 37.6 MSA 26.3 SSA 1.7
 BDE .2912 BRA .1397 BC3 2.9189 FSP 2670 SG1 1747.6 SG2 402.2 THA 10.45 EL1 29.4 EL2 4.1 ALF 35.09

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 20 1971 FLIGHT TIME 194.00 ARRIVAL DATE NOV 30 1971

HELIOCENTRIC CONIC DISTANCE 459.996 EARTH TO MARS

RL 151.38 LAL -.00 LOL 238.35 VL 32.186 GAL .71 AZL 91.36 HCA 148.36 SMA 184.97 ECC .18203 INC 1.3569 V1 29.433
 RP 213.46 LAP -.71 LOP 26.71 VP 22.934 GAP 5.84 AZP 88.84 TAL 4.62 TAP 152.96 RCA 151.30 APO 218.65 V2 25.714
 RC 139.171 GL -15.52 GP -4.38 ZAL 88.83 ZAP 99.80 ETS 180.34 ZAE 142.92 ETE 186.40 ZAC 97.03 ETC 275.15 LVI -10.39

PLANETOCENTRIC CONIC

C3 8.113 VHL 2.848 DLA -26.93 RAL 335.35 RAD 6637.1 VEL 11.324 PTH 6.38 VHP 2.882 DPA -24.63 RAP 310.57 ECC 1.1335
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 41 17 2385.36 -1.65 61.60 184.52 137.55 16 21 2 1385.4 16.59 45.53
 60.00 16 57 18 2183.14 2.82 47.68 188.82 130.22 17 33 41 1183.1 18.49 29.04
 70.00 18 36 10 1892.43 7.64 27.73 192.44 123.39 19 7 43 892.4 20.55 6.84
 80.00 20 39 21 1506.84 12.32 1.25 195.23 117.41 21 4 28 506.8 22.55 338.54
 90.00 22 34 50 1134.43 14.89 335.14 196.51 114.32 22 53 44 134.4 23.65 311.53
 100.00 23 22 13 6269.3 12.32 300.52 195.23 117.41 25 6 42 5269.4 22.55 277.81
 110.00 23 35 37 6227.28 7.64 294.55 192.44 123.39 25 19 24 5227.3 20.55 273.67

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2402 TRA .0331 TC3-3.1619 BAU .3458 SGT 1866.4 SGR 510.1 SG3 1572.9 ST 24.3 SR 16.7 SS 35.2
 RDE -.1589 RRA .1424 RC3 -.4115 FAU .25858 RRT .6308 RRF .7293 RTF .8598 CRT .9659 CRS -.4352 CST -.2198
 FDE -.2214 FRA 4.0657 FC-27.5934 BSP 2553 SGB 1934.9 R23 .2089 R13 .8681 LSA 37.5 MSA 26.4 SSA 1.7
 BDE .2880 BRA .1462 BC3 3.1886 FSP 2708 SG1 1895.2 SG2 389.8 THA 10.22 EL1 29.3 EL2 3.6 ALF 34.11

LAUNCH DATE MAY 20 1971 FLIGHT TIME 196.00 ARRIVAL DATE DEC 2 1971

HELIOCENTRIC CONIC DISTANCE 464.189 EARTH TO MARS

RL 151.38 LAL -.00 LOL 238.35 VL 32.185 GAL .67 AZL 91.33 HCA 149.54 SMA 184.96 ECC .18192 INC 1.3343 V1 29.433
 RP 213.77 LAP -.68 LOP 27.90 VP 22.894 GAP 5.46 AZP 88.85 TAL 4.38 TAP 153.92 RCA 151.31 APO 218.61 V2 25.680
 RC 141.545 GL -15.28 GP -4.55 ZAL 89.37 ZAP 97.77 ETS 180.18 ZAE 140.87 ETE 186.22 ZAC 96.93 ETC 274.96 LVI -9.95

PLANETOCENTRIC CONIC

C3 8.090 VHL 2.844 DLA -26.54 RAL 335.70 RAD 6637.0 VEL 11.323 PTH 6.38 VHP 2.863 DPA -25.01 RAP 309.72 ECC 1.1331
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 40 40 2393.52 -2.06 61.94 184.75 137.54 16 20 34 1393.5 16.20 45.91
 60.00 16 55 51 2193.56 2.36 48.18 189.00 130.24 17 32 24 1193.6 18.07 29.60
 70.00 18 33 17 1907.05 7.09 28.50 192.55 123.50 19 5 4 907.0 20.08 7.72
 80.00 20 33 41 1330.19 11.59 2.59 195.25 117.71 20 59 12 530.2 22.00 340.05
 90.00 22 25 56 1168.23 13.93 337.16 196.44 114.86 22 45 24 168.2 23.00 313.79
 100.00 23 16 33 1004.66 11.59 323.96 195.25 117.71 23 33 18 4.7 22.00 301.42
 110.00 23 32 44 6241.91 7.09 295.33 192.55 123.50 25 16 46 5241.9 20.08 274.54

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2395 TRA .0712 TC3-3.4353 BAU .3746 SGT 2019.3 SGR 515.8 SG3 1597.2 ST 24.4 SR 16.2 SS 35.6
 RDE -.1528 RRA .1456 RC3 -.4443 FAU .26159 RRT .6672 RRF .7559 RTF .8785 CRT .9735 CRS -.4175 CST -.2363
 FDE -.1735 FRA 4.1664 FC-27.9940 BSP 2853 SGB 2084.1 R23 .1992 R13 .8854 LSA 37.8 MSA 26.3 SSA 1.7
 BDE .2841 BRA .1621 BC3 3.4639 FSP 2750 SG1 2049.4 SG2 378.6 THA 10.02 EL1 29.1 EL2 3.1 ALF 33.21

LAUNCH DATE MAY 20 1971 FLIGHT TIME 198.00 ARRIVAL DATE DEC 4 1971

HELIOCENTRIC CONIC DISTANCE 468.381 EARTH TO MARS

RL 151.38 LAL -.00 LOL 238.35 VL 32.185 GAL .63 AZL 91.31 HCA 150.73 SMA 184.96 ECC .18187 INC 1.3102 V1 29.433
 RP 214.08 LAP -.64 LOP 29.08 VP 22.854 GAP 5.29 AZP 88.86 TAL 4.11 TAP 154.84 RCA 151.32 APO 218.59 V2 25.645
 RC 143.936 GL -15.01 GP -4.74 ZAL 89.82 ZAP 95.77 ETS 180.01 ZAE 138.82 ETE 186.05 ZAC 96.82 ETC 274.76 LVI -9.51

PLANETOCENTRIC CONIC

C3 8.071 VHL 2.841 DLA -26.13 RAL 336.06 RAD 6637.0 VEL 11.322 PTH 6.38 VHP 2.848 DPA -25.39 RAP 308.89 ECC 1.1328
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 39 59 2402.39 -2.51 62.31 184.98 137.53 16 20 1 1402.4 15.77 46.31
 60.00 16 54 17 2204.78 1.87 48.71 189.19 130.26 17 31 1 1204.8 17.61 30.19
 70.00 18 30 16 1922.56 6.50 29.33 192.68 123.60 19 2 18 922.6 19.57 8.64
 80.00 20 28 0 1554.05 10.83 3.96 195.29 118.00 20 53 54 554.1 21.41 341.58
 90.00 22 17 31 1200.84 12.99 339.09 196.40 115.34 22 37 32 200.8 22.33 315.95
 100.00 23 10 52 1028.52 10.83 325.33 195.29 118.00 23 28 0 28.5 21.41 302.95
 110.00 23 29 42 6257.42 6.50 296.15 192.68 123.60 25 13 59 5257.4 19.57 275.47

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2374 TRA .1103 TC3-3.7125 BAU .4039 SGT 2177.2 SGR 521.6 SG3 1614.5 ST 24.4 SR 15.6 SS 35.9
 RDE -.1461 RRA .1490 RC3 -.4764 FAU .26344 RRT .7001 RRF .7803 RTF .8331 CRT .9796 CRS -.3883 CST -.2403
 FDE -.1021 FRA 4.2542 FC-28.2591 BSP 3160 SGB 2238.8 R23 .1914 R13 .8990 LSA 37.9 MSA 26.3 SSA 1.7
 BDE .2787 BRA .1834 BC3 3.7429 FSP 2784 SG1 2208.5 SG2 367.1 THA 9.79 EL1 28.8 EL2 2.6 ALF 32.28

LAUNCH DATE MAY 20 1971 FLIGHT TIME 200.00 ARRIVAL DATE DEC 6 1971

HELIOCENTRIC CONIC DISTANCE 472.574 EARTH TO MARS

RL 151.38 LAL -.00 LOL 238.35 VL 32.185 GAL .59 AZL 91.28 HCA 151.91 SMA 184.96 ECC .18186 INC 1.2841 V1 29.433
 RP 214.39 LAP -.60 LOP 30.26 VP 22.815 GAP 5.12 AZP 88.87 TAL 3.84 TAP 155.75 RCA 151.33 APO 218.60 V2 25.609
 RC 146.344 GL -14.72 GP -4.93 ZAL 90.30 ZAP 93.79 ETS 179.84 ZAE 136.79 ETE 185.89 ZAC 96.70 ETC 274.57 LVI -9.06

PLANETOCENTRIC CONIC

C3 8.055 VHL 2.838 DLA -25.68 RAL 336.43 RAD 6637.0 VEL 11.321 PTH 6.37 VHP 2.836 DPA -25.78 RAP 308.09 ECC 1.1326
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 39 12 2411.98 -2.99 62.71 185.23 137.50 16 19 24 1412.0 15.30 46.75
 60.00 16 52 35 2216.83 1.34 49.29 189.39 130.28 17 29 32 1216.8 17.11 30.83
 70.00 18 27 5 1938.98 5.88 30.19 192.82 123.70 18 59 24 939.0 19.04 9.61
 80.00 20 22 16 1578.48 10.04 5.35 195.34 118.27 20 48 34 578.5 20.80 343.14
 90.00 22 9 27 1232.77 12.05 340.96 196.39 115.78 22 30 0 232.8 21.65 318.05
 100.00 23 5 8 1052.95 10.04 326.72 195.34 118.27 23 22 41 52.9 20.80 304.50
 110.00 23 26 31 6273.84 5.88 297.02 192.82 123.70 25 11 5 5273.8 19.04 276.44

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2343 TRA .1506 TC3-3.9925 BAU .4334 SGT 2339.6 SGR 529.0 SG3 1628.4 ST 24.4 SR 15.0 SS 36.3
 RDE -.1395 RRA .1528 RC3 -.5088 FAU .26451 RRT .7298 RRF .8040 RTF .9048 CRT .9843 CRS -.3681 CST -.2536
 FDE -.0400 FRA 4.3470 FC-28.4281 BSP 3466 SGB 2398.6 R23 .1872 R13 .9098 LSA 38.2 MSA 26.1 SSA 1.6
 BDE .2726 BRA .2146 BC3 4.0248 FSP 2814 SG1 2372.0 SG2 356.8 THA 9.59 EL1 28.6 EL2 2.3 ALF 31.37

LAUNCH DATE MAY 20 1971

FLIGHT TIME 202.00

ARRIVAL DATE DEC 8 1971

Heliocentric Conic: RL 151.38 LAL -.00 LOL 238.35 VL 32.187 GAL .55 AZL 91.26 HCA 153.09 SMA 184.98 ECC .18190 INC 1.2581 V1 29.433
 RP 214.72 LAP -.57 LOP 31.44 VP 22.776 GAP 4.95 AZP 88.89 TAL 3.55 TAP 156.64 RCA 151.33 APO 218.63 V2 25.573
 RC 148.77D GL -14.41 GP -5.14 ZAL 90.80 ZAP 91.84 ETS 179.65 ZAE 134.77 ETE 185.74 ZAC 96.56 ETC 274.39 LVI -8.60

Distance 476.767 Earth to Mars

PLANETOCENTRIC CONIC: C3 8.044 VHL 2.836 DLA -25.20 RAL 336.80 RAD 6637.0 VEL 11.321 PTH 6.37 VHP 2.827 DPA -26.16 RAP 307.30 ECC 1.1324
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 38 20 2422.32 -3.51 63.14 185.49 137.48 16 18 42 1422.3 14.80 47.21
 60.00 16 50 45 2229.73 .77 49.91 189.60 130.29 17 27 54 1229.7 16.50 31.51
 70.00 18 23 44 1936.33 5.23 31.11 192.87 123.80 18 56 20 956.3 18.46 10.63
 80.00 20 16 27 1603.52 9.23 6.76 195.41 118.52 20 43 11 603.5 20.16 344.72
 90.00 22 1 37 1264.39 11.11 342.81 196.39 116.17 22 22 41 264.4 20.95 320.10
 100.00 22 59 19 1078.00 9.23 328.13 195.41 118.52 23 17 17 78.0 20.16 306.08
 110.00 23 23 10 1003.15 5.23 320.03 192.97 123.80 23 39 53 3.2 18.46 299.55

Differential Corrections: TDE -.2291 TRA .1919 TC3-4.2743 BAU .4633 SGT 2503.2 SGR 537.6 S63 1640.2 ST 24.3 SR 14.4 S5 36.6
 RDE -.1325 RRA .1563 RC3 -.5440 FAU .26574 RRT .7587 RRF .8263 RTF .9152 CRT .9879 CRS -.3435 CST -.2635
 FDE .0340 FRA 4.4155 FC-28.6012 BSP 3782 SGB 2562.2 R23 .1818 R13 .9195 LSA 38.3 MSA 25.8 SSA 1.6
 BDE .2647 BRA .2477 BC3 4.3088 FSP 2838 S61 2538.8 S62 345.6 THA 9.42 EL1 28.2 EL2 1.9 ALF 30.48

LAUNCH DATE MAY 20 1971

FLIGHT TIME 204.00

ARRIVAL DATE DEC 10 1971

Heliocentric Conic: RL 151.38 LAL -.00 LOL 238.35 VL 32.188 GAL .50 AZL 91.23 HCA 154.26 SMA 185.01 ECC .18198 INC 1.2259 V1 29.433
 RP 215.04 LAP -.53 LOP 32.61 VP 22.737 GAP 4.78 AZP 88.90 TAL 3.26 TAP 157.52 RCA 151.34 APO 218.68 V2 25.536
 RC 151.211 GL -14.06 GP -5.36 ZAL 91.31 ZAP 89.92 ETS 179.45 ZAE 132.77 ETE 185.80 ZAC 96.40 ETC 274.21 LVI -8.14

Distance 480.958 Earth to Mars

PLANETOCENTRIC CONIC: C3 8.035 VHL 2.835 DLA -24.68 RAL 337.19 RAD 6637.0 VEL 11.320 PTH 6.37 VHP 2.821 DPA -26.55 RAP 306.55 ECC 1.1322
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 37 21 2433.45 -4.07 63.61 185.75 137.44 16 17 54 1433.4 14.25 47.71
 60.00 16 48 45 2243.52 .16 50.57 189.82 130.30 17 26 9 1243.5 16.01 32.23
 70.00 18 20 12 1974.65 4.93 32.07 193.12 123.89 18 53 7 974.7 17.85 11.70
 80.00 20 10 34 1629.26 8.39 8.21 195.49 118.76 20 37 43 629.3 19.48 346.33
 90.00 21 53 54 1295.98 10.16 344.64 196.42 116.54 22 15 30 296.0 20.22 322.13
 100.00 22 53 26 1103.73 8.39 329.58 195.49 118.76 23 11 49 103.7 19.48 307.69
 110.00 23 19 39 1021.47 4.53 320.99 193.12 123.89 23 36 40 21.5 17.85 300.61

Differential Corrections: TDE -.2219 TRA .2345 TC3-4.5537 BAU .4931 SGT 2671.8 SGR 547.1 S63 1645.2 ST 24.1 SR 13.8 S5 37.1
 RDE -.1252 RRA .1608 RC3 -.5780 FAU .26551 RRT .7841 RRF .8470 RTF .9232 CRT .9900 CRS -.3197 CST -.2751
 FDE .1141 FRA 4.4846 FC-28.6062 BSP 4096 SGB 2727.2 R23 .1796 R13 .9270 LSA 38.6 MSA 25.4 SSA 1.6
 BDE .2548 BRA .2843 BC3 4.5903 FSP 2844 S61 2706.5 S62 335.2 THA 9.26 EL1 27.7 EL2 1.7 ALF 29.63

LAUNCH DATE MAY 20 1971

FLIGHT TIME 206.00

ARRIVAL DATE DEC 12 1971

Heliocentric Conic: RL 151.38 LAL -.00 LOL 238.35 VL 32.190 GAL .45 AZL 91.19 HCA 155.43 SMA 185.05 ECC .18211 INC 1.1930 V1 29.433
 RP 215.37 LAP -.50 LOP 33.78 VP 22.699 GAP 4.62 AZP 88.91 TAL 2.95 TAP 158.38 RCA 151.35 APO 218.75 V2 25.499
 RC 153.669 GL -13.69 GP -5.60 ZAL 91.85 ZAP 88.04 ETS 179.25 ZAE 130.80 ETE 185.47 ZAC 96.22 ETC 274.04 LVI -7.67

Distance 485.149 Earth to Mars

PLANETOCENTRIC CONIC: C3 8.030 VHL 2.834 DLA -24.13 RAL 337.58 RAD 6637.0 VEL 11.320 PTH 6.37 VHP 2.818 DPA -26.95 RAP 305.83 ECC 1.1322
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 36 13 2445.42 -4.67 64.11 186.02 137.40 16 16 59 1445.4 13.67 48.24
 60.00 16 46 36 2256.27 -.49 51.27 190.04 130.30 17 24 14 1258.3 15.40 32.99
 70.00 18 16 29 1993.99 3.80 33.09 193.29 123.97 18 49 43 994.0 17.20 12.81
 80.00 20 4 33 1655.78 7.52 9.70 195.58 118.98 20 32 9 655.8 18.76 347.97
 90.00 21 46 15 1327.79 9.18 346.47 196.47 116.86 22 8 22 327.8 19.46 324.15
 100.00 22 47 25 1130.25 7.52 331.07 195.58 118.98 23 6 15 130.3 18.76 309.34
 110.00 23 15 55 1040.81 3.80 322.00 193.29 123.97 23 33 16 40.8 17.20 301.73

Differential Corrections: TDE -.2132 TRA .2777 TC3-4.8365 BAU .5234 SGT 2842.2 SGR 559.3 S63 1650.9 ST 23.8 SR 13.1 S5 37.5
 RDE -.1179 RRA .1653 RC3 -.6161 FAU .26570 RRT .8084 RRF .8668 RTF .9304 CRT .9907 CRS -.3026 CST -.2939
 FDE .1907 FRA 4.5448 FC-28.6450 BSP 4415 SGB 2896.7 R23 .1778 R13 .9338 LSA 39.1 MSA 24.9 SSA 1.6
 BDE .2436 BRA .3232 BC3 4.8756 FSP 2858 S61 2878.4 S62 325.1 THA 9.16 EL1 27.1 EL2 1.6 ALF 28.77

LAUNCH DATE MAY 20 1971

FLIGHT TIME 208.00

ARRIVAL DATE DEC 14 1971

Heliocentric Conic: RL 151.38 LAL -.00 LOL 238.35 VL 32.193 GAL .40 AZL 91.16 HCA 156.60 SMA 185.09 ECC .18228 INC 1.1576 V1 29.433
 RP 215.71 LAP -.46 LOP 34.95 VP 22.661 GAP 4.46 AZP 88.94 TAL 2.62 TAP 159.22 RCA 151.35 APO 218.83 V2 25.461
 RC 156.143 GL -13.27 GP -5.86 ZAL 92.41 ZAP 86.19 ETS 179.03 ZAE 126.85 ETE 185.35 ZAC 96.02 ETC 273.87 LVI -7.20

Distance 489.339 Earth to Mars

PLANETOCENTRIC CONIC: C3 8.029 VHL 2.833 DLA -23.54 RAL 337.97 RAD 6637.0 VEL 11.320 PTH 6.37 VHP 2.818 DPA -27.35 RAP 305.14 ECC 1.1321
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 34 57 2458.29 -5.31 64.65 186.30 137.35 16 15 55 1458.3 13.04 48.82
 60.00 16 44 14 2274.02 -1.18 52.02 190.27 130.29 17 22 8 1274.0 14.74 33.80
 70.00 18 12 32 2014.42 3.02 34.15 193.45 124.04 18 46 7 1014.4 16.50 13.99
 80.00 19 58 23 1683.17 6.62 11.23 195.67 119.18 20 26 26 683.2 18.00 349.65
 90.00 21 38 34 1380.01 8.19 348.31 196.52 117.16 22 1 14 360.0 18.66 326.18
 100.00 22 41 15 1157.65 6.62 332.59 195.67 119.18 23 0 32 157.6 18.00 311.02
 110.00 23 11 59 1061.23 3.02 323.07 193.45 124.04 23 29 40 61.2 16.50 302.80

Differential Corrections: TDE -.2002 TRA .3237 TC3-5.1099 BAU .5529 SGT 3009.9 SGR 572.2 S63 1649.5 ST 23.3 SR 12.4 S5 38.4
 RDE -.1093 RRA .1710 RC3 -.6517 FAU .26395 RRT .8292 RRF .8848 RTF .9352 CRT .9897 CRS -.2752 CST -.3052
 FDE .3029 FRA 4.6229 FC-28.4619 BSP 4749 SGB 3063.8 R23 .1801 R13 .9383 LSA 39.8 MSA 24.3 SSA 1.5
 BDE .2281 BRA .3661 BC3 5.1513 FSP 2871 S61 3047.4 S62 315.9 THA 9.06 EL1 26.4 EL2 1.6 ALF 27.93

LAUNCH DATE MAY 20 1971

FLIGHT TIME 210.00

ARRIVAL DATE DEC 18 1971

HELIOCENTRIC CONIC

RL 151.38 LAL -.00 LOL 238.35 VL 32.197 GAL .35 AZL 91.12 HCA 157.76 SMA 185.15 ECC .18249 INC 1.1180 V1 29.433
 RP 216.04 LAP -.42 LOP 36.11 VP 22.623 GAP 4.30 AZP 88.96 TAL 2.29 TAP 180.08 RCA 151.36 APO 218.94 V2 25.424
 RC 158.631 GL -12.82 GP -6.13 ZAL 92.99 ZAP 84.39 ETS 178.79 ZAE 126.92 ETE 185.24 ZAC 95.79 ETC 273.71 LVI -6.71

DISTANCE 493.527

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 8.030 VHL 2.834 DLA -22.90 RAL 338.35 RAD 6637.0 VEL 11.320 PTH 6.37 VHP 2.820 DPA -27.76 RAP 304.49 ECC 1.1322
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 33 30 2472.13 -6.01 65.24 186.58 137.29 16 14 42 1472.1 12.36 49.43
 60.00 16 41 40 2290.86 -1.92 52.83 190.50 130.26 17 19 51 1290.9 14.04 34.66
 70.00 18 8 21 2036.02 2.20 35.28 193.62 124.09 18 42 17 1036.0 15.75 15.21
 80.00 19 52 1 1711.57 5.67 12.80 195.77 119.36 20 20 33 711.6 17.20 351.38
 90.00 21 30 50 1392.86 7.16 350.18 196.58 117.43 21 54 2 392.9 17.83 328.22
 100.00 22 34 53 1186.04 5.67 334.17 195.77 119.36 22 54 39 186.0 17.20 312.75
 110.00 23 7 47 1082.83 2.20 324.20 193.62 124.09 23 25 50 82.8 15.75 304.13

DIFFERENTIAL CORRECTIONS

TDE -.1889 TRA .3673 TC3-5.3940 BAU .5838
 RDE -.1021 RRA .1761 RC3 -.6938 FAU .26323
 FDE .3592 FRA 4.6555 FC-28.3798 BSP 5042
 BDE .2148 BRA .4073 BC3 5.4385 FSP 2844

MID-COURSE EXECUTION ACCURACY

SGT 3184.5 SGR 588.8 SG3 1647.6
 RRT .8493 RRF .9017 RTF .9408
 SGB 3238.5 R23 .1803 R13 .9436
 SG1 3223.9 SG2 307.0 THA 9.01

ORBIT DETERMINATION ACCURACY

ST 23.1 SR 11.9 SS 38.8
 CRT .9874 CRS -.2796 CST -.3456
 LSA 40.3 MSA 23.5 SSA 1.5
 EL1 25.9 EL2 1.7 ALF 27.03

LAUNCH DATE MAY 20 1971

FLIGHT TIME 212.00

ARRIVAL DATE DEC 18 1971

HELIOCENTRIC CONIC

RL 151.38 LAL -.00 LOL 238.35 VL 32.200 GAL .30 AZL 91.08 HCA 158.92 SMA 185.21 ECC .18274 INC 1.0753 V1 29.433
 RP 216.39 LAP -.39 LOP 37.27 VP 22.585 GAP 4.14 AZP 89.00 TAL 1.95 TAP 180.87 RCA 151.36 APO 219.06 V2 25.385
 RC 161.134 GL -12.31 GP -6.44 ZAL 93.58 ZAP 82.62 ETS 178.54 ZAE 125.03 ETE 185.14 ZAC 95.54 ETC 273.56 LVI -6.22

DISTANCE 497.714

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 8.034 VHL 2.834 DLA -22.21 RAL 338.74 RAD 6637.0 VEL 11.320 PTH 6.37 VHP 2.824 DPA -28.19 RAP 303.88 ECC 1.1322
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 31 51 2487.05 -6.75 65.87 186.86 137.21 16 13 18 1487.0 11.62 50.08
 60.00 16 38 50 2308.90 -2.72 53.69 190.73 130.22 17 17 19 1308.9 13.28 35.58
 70.00 18 3 52 2058.91 1.32 36.48 193.79 124.13 18 38 11 1058.9 14.95 16.50
 80.00 19 45 25 1741.12 4.68 14.44 195.88 119.52 20 14 26 741.1 16.35 353.16
 90.00 21 22 56 1426.58 6.10 352.08 196.65 117.67 21 46 42 426.6 16.94 330.30
 100.00 22 28 17 1215.59 4.68 335.81 195.88 119.52 22 48 32 215.6 16.35 314.53
 110.00 23 3 19 1105.73 1.32 325.40 193.79 124.13 23 21 44 105.7 14.95 305.42

DIFFERENTIAL CORRECTIONS

TDE -.1711 TRA .4148 TC3-5.6699 BAU .6141
 RDE -.0931 RRA .1828 RC3 -.7385 FAU .26200
 FDE .4680 FRA 4.7122 FC-28.2323 BSP 5378
 BDE .1948 BRA .4531 BC3 5.7178 FSP 2848

MID-COURSE EXECUTION ACCURACY

SGT 3357.1 SGR 608.2 SG3 1845.9
 RRT .8678 RRF .9173 RTF .9449
 SGB 3411.8 R23 .1827 R13 .9475
 SG1 3398.7 SG2 298.5 THA 9.00

ORBIT DETERMINATION ACCURACY

ST 22.5 SR 11.2 SS 39.8
 CRT .9825 CRS -.2712 CST -.3794
 LSA 41.3 MSA 22.6 SSA 1.5
 EL1 25.1 EL2 1.9 ALF 26.14

LAUNCH DATE MAY 20 1971

FLIGHT TIME 214.00

ARRIVAL DATE DEC 20 1971

HELIOCENTRIC CONIC

RL 151.38 LAL -.00 LOL 238.35 VL 32.205 GAL .25 AZL 91.03 HCA 160.08 SMA 185.28 ECC .18303 INC 1.0271 V1 29.433
 RP 216.73 LAP -.35 LOP 38.43 VP 22.548 GAP 3.98 AZP 89.03 TAL 1.60 TAP 181.68 RCA 151.37 APO 219.19 V2 25.347
 RC 183.649 GL -11.75 GP -6.77 ZAL 94.20 ZAP 80.90 ETS 178.27 ZAE 123.16 ETE 185.04 ZAC 95.25 ETC 273.42 LVI -5.70

DISTANCE 501.899

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 8.041 VHL 2.836 DLA -21.47 RAL 339.11 RAD 6637.0 VEL 11.321 PTH 6.37 VHP 2.831 DPA -28.64 RAP 303.32 ECC 1.1323
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 29 57 2503.15 -7.56 66.55 187.13 137.12 16 11 41 1503.1 10.83 50.78
 60.00 16 35 43 2328.27 -3.57 54.62 190.95 130.17 17 14 31 1328.3 12.45 36.56
 70.00 17 59 4 2083.25 .39 37.75 193.96 124.15 18 33 47 1083.2 14.09 17.87
 80.00 19 38 31 1772.01 3.64 16.14 195.98 119.66 20 8 3 772.0 15.44 355.00
 90.00 21 14 48 1461.39 4.99 354.05 196.72 117.87 21 39 10 461.4 16.01 332.43
 100.00 22 21 23 1246.48 3.64 337.51 195.98 119.66 22 42 9 246.5 15.44 316.37
 110.00 22 58 30 1130.06 .39 326.67 193.96 124.15 23 17 20 130.1 14.09 306.78

DIFFERENTIAL CORRECTIONS

TDE -.1502 TRA .4593 TC3-5.9433 BAU .6444
 RDE -.0831 RRA .1891 RC3 -.7839 FAU .25960
 FDE .5917 FRA 4.7248 FC-27.9499 BSP 5683
 BDE .1716 BRA .4967 BC3 5.9948 FSP 2827

MID-COURSE EXECUTION ACCURACY

SGT 3528.1 SGR 628.0 SG3 1834.6
 RRT .8841 RRF .9307 RTF .9583
 SGB 3583.6 R23 .1854 R13 .9507
 SG1 3571.8 SG2 289.8 THA 9.00

ORBIT DETERMINATION ACCURACY

ST 21.9 SR 10.4 SS 40.8
 CRT .9755 CRS -.2654 CST -.4148
 LSA 42.3 MSA 21.5 SSA 1.5
 EL1 24.2 EL2 2.1 ALF 25.12

LAUNCH DATE MAY 20 1971

FLIGHT TIME 216.00

ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC

RL 151.38 LAL -.00 LOL 238.35 VL 32.209 GAL .19 AZL 90.97 HCA 161.23 SMA 185.36 ECC .18335 INC .9741 V1 29.433
 RP 217.08 LAP -.31 LOP 39.58 VP 22.511 GAP 3.83 AZP 89.08 TAL 1.24 TAP 182.47 RCA 151.37 APO 219.35 V2 25.308
 RC 168.178 GL -11.13 GP -7.14 ZAL 94.83 ZAP 79.22 ETS 177.98 ZAE 121.32 ETE 184.96 ZAC 94.92 ETC 273.29 LVI -5.17

DISTANCE 506.081

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 8.051 VHL 2.837 DLA -20.66 RAL 339.48 RAD 6637.0 VEL 11.321 PTH 6.37 VHP 2.841 DPA -29.11 RAP 302.80 ECC 1.1323
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 27 47 2520.59 -8.42 67.30 187.41 137.00 16 9 47 1520.6 9.96 51.54
 60.00 16 32 15 2349.14 -4.48 55.62 191.17 130.09 17 11 24 1349.1 11.37 37.60
 70.00 17 53 52 2109.21 -.60 39.10 194.12 124.15 18 29 1 1109.2 13.16 19.31
 80.00 19 31 14 1804.45 2.55 17.93 196.08 119.76 20 1 19 804.5 14.47 356.92
 90.00 21 6 23 1497.58 3.84 356.08 196.79 118.04 21 31 20 497.6 15.01 334.61
 100.00 22 14 6 1278.92 2.55 339.30 196.08 119.76 22 35 25 278.9 14.47 318.28
 110.00 22 53 18 1156.03 -.60 328.02 194.12 124.15 23 12 34 156.0 13.16 308.22

DIFFERENTIAL CORRECTIONS

TDE -.1297 TRA .5063 TC3-6.2051 BAU .6738
 RDE -.0746 RRA .1968 RC3 -.8305 FAU .25611
 FDE .6556 FRA 4.7491 FC-27.5404 BSP 5987
 BDE .1498 BRA .5432 BC3 6.2604 FSP 2788

MID-COURSE EXECUTION ACCURACY

SGT 3696.2 SGR 652.1 SG3 1818.8
 RRT .8975 RRF .9429 RTF .9514
 SGB 3753.3 R23 .1904 R13 .9537
 SG1 3742.5 SG2 284.1 THA 9.05

ORBIT DETERMINATION ACCURACY

ST 21.6 SR 9.9 SS 41.5
 CRT .9665 CRS -.2976 CST -.4860
 LSA 43.3 MSA 20.2 SSA 1.5
 EL1 23.7 EL2 2.3 ALF 24.09

LAUNCH DATE MAY 20 1971

FLIGHT TIME 210.00

ARRIVAL DATE DEC 24 1971

HELIOCENTRIC CONIC
RL 151.38 LAL -.00 LOL 238.35 VL 32.214 GAL .13 AZL 90.92 HCA 162.38 SMA 185.44 ECC .18371 INC .9144 V1 29.433
RP 217.43 LAP -.28 LOP 40.73 VP 22.474 GAP 3.68 AZP 89.13 TAL .07 TAP 163.25 RCA 151.38 APO 219.51 V2 25.269
RC 168.717 GL -10.44 GP -7.54 ZAL 95.48 ZAP 77.59 ETS 177.66 ZAE 119.52 ETE 184.89 ZAC 94.55 ETC 273.16 LVI -4.61
DISTANCE 510.261 EARTH TO MARS

PLANETOCENTRIC CONIC
C3 8.063 VHL 2.840 DLA -19.77 RAL 339.82 RAD 6637.0 VEL 11.322 PTH 6.37 VHP 2.852 DPA -29.61 RAP 302.34 ECC 1.1327
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 25 16 2539.97 -9.37 68.11 187.67 136.86 16 7 36 1539.6 9.02 52.35
60.00 16 28 23 2371.73 -5.47 56.71 191.38 129.99 17 7 55 1371.7 10.60 38.73
70.00 17 48 13 2137.05 -1.66 40.56 194.27 124.12 18 23 50 1137.0 12.16 20.84
80.00 19 23 31 1838.76 1.39 19.81 196.17 119.83 19 54 10 838.8 13.42 358.92
90.00 20 57 32 1535.49 2.62 358.20 196.86 118.17 21 23 8 535.5 13.93 336.88
100.00 22 6 23 1313.23 1.39 341.18 196.17 119.83 22 28 16 313.2 13.42 320.29
110.00 22 47 39 1183.87 -1.66 329.47 194.27 124.12 23 7 23 183.9 12.16 309.76

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.1014 TRA .5522 TC3-6.4790 BAU .7050 SGT 3870.8 SGR 682.0 SG3 1608.9 ST 21.2 SR 9.2 SS 42.7
RDE -.0636 RRA .2052 RC3 -.8894 FAU .25430 RRT .9113 RRF .9539 RTF .9545 CRT .9541 CRS -.3272 CST -.5549
FDE .7768 FRA 4.7537 FC-27.3030 BSP 6296 SGB 3930.4 R23 .1933 R13 .9568 LSA 44.8 MSA 18.8 SSA 1.5
BDE .1197 BRA .5891 BC3 6.5398 FSP 2763 SG1 3920.6 SG2 277.3 THA 9.17 EL1 23.0 EL2 2.6 ALF 22.84

LAUNCH DATE MAY 20 1971

FLIGHT TIME 220.00

ARRIVAL DATE DEC 26 1971

HELIOCENTRIC CONIC
RL 151.38 LAL -.00 LOL 238.35 VL 32.220 GAL .08 AZL 90.85 HCA 163.52 SMA 185.53 ECC .18410 INC .8474 V1 29.433
RP 217.79 LAP -.24 LOP 41.87 VP 22.437 GAP 3.53 AZP 89.19 TAL .49 TAP 164.01 RCA 151.38 APO 219.69 V2 25.229
RC 171.268 GL -9.65 GP -8.00 ZAL 96.14 ZAP 76.01 ETS 177.30 ZAE 117.75 ETE 184.82 ZAC 94.12 ETC 273.05 LVI -4.02
DISTANCE 514.439 EARTH TO MARS

PLANETOCENTRIC CONIC
C3 8.079 VHL 2.842 DLA -18.80 RAL 340.14 RAD 6637.0 VEL 11.322 PTH 6.38 VHP 2.866 DPA -30.15 RAP 301.92 ECC 1.1330
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 22 21 2560.33 -10.40 69.01 187.92 136.70 16 5 1 1560.3 7.99 53.24
60.00 16 24 2 2396.31 -6.55 57.89 191.58 129.86 17 3 58 1396.3 9.54 39.94
70.00 17 42 0 2167.08 -2.81 42.13 194.41 124.05 18 18 7 1167.1 11.07 22.48
80.00 19 15 14 1875.29 .15 21.82 196.25 119.86 19 46 30 875.3 12.28 1.04
90.00 20 48 10 1575.51 1.34 .43 196.91 118.25 21 14 25 575.5 12.77 339.25
100.00 21 58 6 1349.76 .15 343.19 196.25 119.86 22 20 36 349.8 12.28 322.41
110.00 22 41 27 1213.90 -2.81 331.04 194.41 124.05 23 1 41 213.9 11.07 311.39

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.0699 TRA .5924 TC3-6.7361 BAU .7347 SGT 4034.1 SGR 711.9 SG3 1584.3 ST 21.0 SR 8.6 SS 43.5
RDE -.0523 RRA .2124 RC3 -.9490 FAU .25077 RRT .9232 RRF .9630 RTF .9577 CRT .9392 CRS -.3727 CST -.6341
FDE .8831 FRA 4.6896 FC-26.8732 BSP 6574 SGB 4096.4 R23 .1948 R13 .9598 LSA 46.0 MSA 17.1 SSA 1.4
BDE .0873 BRA .6293 BC3 6.8026 FSP 2702 SG1 4087.5 SG2 270.1 THA 9.29 EL1 22.5 EL2 2.8 ALF 21.46

LAUNCH DATE MAY 20 1971

FLIGHT TIME 222.00

ARRIVAL DATE DEC 28 1971

HELIOCENTRIC CONIC
RL 151.38 LAL -.00 LOL 238.35 VL 32.226 GAL .02 AZL 90.77 HCA 164.66 SMA 185.63 ECC .18452 INC .7700 V1 29.433
RP 218.15 LAP -.20 LOP 43.01 VP 22.401 GAP 3.38 AZP 89.26 TAL .10 TAP 164.77 RCA 151.38 APO 219.88 V2 25.189
RC 173.829 GL -8.76 GP -8.53 ZAL 96.82 ZAP 74.48 ETS 176.91 ZAE 116.01 ETE 184.77 ZAC 93.62 ETC 272.94 LVI -3.38
DISTANCE 518.616 EARTH TO MARS

PLANETOCENTRIC CONIC
C3 8.097 VHL 2.846 DLA -17.72 RAL 340.43 RAD 6637.0 VEL 11.323 PTH 6.38 VHP 2.883 DPA -30.75 RAP 301.56 ECC 1.1333
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 18 56 2583.20 -11.53 70.00 188.16 136.49 16 2 0 1583.2 6.84 54.21
60.00 16 19 5 2423.25 -7.72 59.20 191.77 129.68 16 59 29 1423.3 8.37 41.26
70.00 17 35 8 2199.72 -4.05 43.83 194.53 123.94 18 11 47 1199.7 9.87 24.24
80.00 19 6 15 1914.51 -1.18 23.97 196.31 119.84 19 38 10 914.5 11.04 3.29
90.00 20 38 7 1618.18 -.04 2.81 196.95 118.28 21 5 5 618.2 11.51 341.74
100.00 21 49 7 1388.98 -1.18 345.34 196.31 119.84 22 12 16 389.0 11.04 324.66
110.00 22 34 34 1246.54 -4.05 332.75 194.53 123.94 22 55 20 246.5 9.87 313.18

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.0423 TRA .4573 TC3-7.2959 BAU .7997 SGT 4264.1 SGR 737.7 SG3 1568.1 ST 16.3 SR 6.7 SS 32.1
RDE -.0454 RRA .1497 RC3-1.1598 FAU .27947 RRT .9710 RRF .9706 RTF .5666 CRT .8674 CRS -.0713 CST -.5286
FDE .8656 FRA 2.8850 FC-29.8809 BSP 6303 SGB 4327.4 R23 .0459 R13 .9870 LSA 33.5 MSA 14.8 SSA 1.2
BDE .0621 BRA .4812 BC3 7.3875 FSP 2192 SG1 4323.9 SG2 173.9 THA 9.55 EL1 17.4 EL2 3.1 ALF 20.15

LAUNCH DATE MAY 20 1971

FLIGHT TIME 224.00

ARRIVAL DATE DEC 30 1971

HELIOCENTRIC CONIC
RL 151.38 LAL -.00 LOL 238.35 VL 32.232 GAL -.05 AZL 90.68 HCA 165.80 SMA 185.73 ECC .18497 INC .6811 V1 29.433
RP 218.51 LAP -.17 LOP 44.15 VP 22.365 GAP 3.23 AZP 89.34 TAL 359.71 TAP 165.51 RCA 151.38 APO 220.09 V2 25.149
RC 176.400 GL -7.74 GP -9.13 ZAL 97.51 ZAP 73.01 ETS 176.47 ZAE 114.30 ETE 184.72 ZAC 93.05 ETC 272.84 LVI -2.68
DISTANCE 522.785 EARTH TO MARS

PLANETOCENTRIC CONIC
C3 8.119 VHL 2.849 DLA -16.52 RAL 340.68 RAD 6637.1 VEL 11.324 PTH 6.38 VHP 2.902 DPA -31.41 RAP 301.27 ECC 1.1336
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 14 56 2608.64 -12.78 71.12 188.37 136.23 15 58 24 1608.6 5.57 55.29
60.00 16 13 26 2453.06 -9.01 60.66 191.93 129.45 16 54 19 1453.1 7.08 42.71
70.00 17 27 25 2235.53 -5.41 45.72 194.63 123.77 18 4 41 1235.5 8.54 26.16
80.00 18 56 24 1957.06 -2.62 26.31 196.36 119.75 19 29 1 957.1 9.68 5.71
90.00 20 27 11 1664.16 -1.52 5.38 196.97 118.24 20 54 56 664.2 10.13 344.41
100.00 21 39 16 1431.53 -2.62 347.68 196.36 119.75 22 3 7 431.5 9.68 327.08
110.00 22 26 52 1282.35 -5.41 334.63 194.63 123.77 22 48 14 282.4 8.54 315.08

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE .0108 TRA .7023 TC3-7.1819 BAU .7880 SGT 4349.8 SGR 794.3 SG3 1533.5 ST 23.0 SR 8.1 SS 48.1
RDE -.0247 RRA .2442 RC3-1.0616 FAU .23654 RRT .9347 RRF .9777 RTF .9564 CRT .9254 CRS -.5798 CST -.8218
FDE 1.1432 FRA 4.8417 FC-25.2237 BSP 7302 SGB 4421.7 R23 .2254 R13 .9589 LSA 52.2 MSA 13.5 SSA 1.5
BDE .0270 BRA .7435 BC3 7.2599 FSP 2721 SG1 4412.9 SG2 278.2 THA 9.73 EL1 24.2 EL2 2.9 ALF 18.42

LAUNCH DATE MAY 20 1971 FLIGHT TIME 226.00 ARRIVAL DATE JAN 1 1972

HELIOCENTRIC CONIC DISTANCE 526.954 EARTH TO MARS

RL 151.38 LAL -.00 LOL 238.35 VL 32.230 GAL -.11 AZL 90.58 HCA 166.93 SMA 185.84 ECC .18546 INC .5782 V1 29.433
 RP 218.88 LAP -.13 LOP 45.28 VP 22.329 GAP 3.08 AZP 89.44 TAL 359.30 TAP 166.24 RCA 151.38 APO 220.31 V2 25.109
 RC 178.901 GL -8.53 GP -9.82 ZAL 98.22 ZAP 71.59 ETS 175.97 ZAE 112.62 ETE 184.70 ZAC 92.38 ETC 272.76 LVI -1.91

PLANETOCENTRIC CONIC

C3 8.145 VHL 2.854 DLA -15.16 RAL 340.87 RAD 6637.1 VEL 11.325 PTH 6.38 VHP 2.923 DPA -32.16 RAP 301.03 ECC 1.1340
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 10 9 2637.22 -14.18 72.39 188.56 135.91 15 54 6 1637.2 4.14 56.49
 60.00 16 6 52 2486.39 -10.45 62.30 192.07 129.15 16 48 19 1486.4 5.62 44.33
 70.00 17 18 41 2275.27 -6.91 47.81 194.70 123.53 17 56 37 1275.3 7.05 28.28
 80.00 18 45 26 2003.77 -4.19 28.88 196.38 119.59 19 18 49 1003.8 8.15 6.34
 90.00 20 15 9 1714.35 -3.14 8.18 196.96 118.12 20 43 43 714.3 8.59 347.29
 100.00 21 28 17 1478.25 -4.19 350.25 196.38 119.59 21 52 56 478.2 8.15 329.71
 110.00 22 18 8 1322.08 -6.91 336.73 194.70 123.53 22 40 10 322.1 7.05 317.19

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE .0711 TRA .7540 TC3-7.4438 BAU .8203 SGT 4531.2 SGR 858.0 SG3 1927.4 ST 25.4 SR 8.3 SS 51.7
 RDE -.0047 RRA .2626 RC3-1.1591 FAU .23466 RRT .9430 RRF .9838 RTF .9581 CRT .9324 CRS -.7100 CST -.8993
 FDE 1.3518 FRA 4.8667 FC-24.9428 BSP 7645 SGB 4611.8 R23 .2308 R13 .9607 LSA 57.1 MSA 11.3 SSA 1.3
 BDE .0712 BRA .7985 BC3 7.5335 FSP 2688 SG1 4603.2 SG2 281.1 THA 10.16 EL1 26.6 EL2 2.9 ALF 17.08

LAUNCH DATE MAY 20 1971 FLIGHT TIME 228.00 ARRIVAL DATE JAN 3 1972

HELIOCENTRIC CONIC DISTANCE 531.119 EARTH TO MARS

RL 151.38 LAL -.00 LOL 238.35 VL 32.245 GAL -.17 AZL 90.46 HCA 168.06 SMA 185.96 ECC .18597 INC .4536 V1 29.433
 RP 219.25 LAP -.09 LOP 46.41 VP 22.293 GAP 2.93 AZP 89.55 TAL 358.89 TAP 166.96 RCA 151.37 APO 220.54 V2 25.068
 RC 181.572 GL -5.16 GP -10.64 ZAL 98.94 ZAP 70.23 ETS 175.39 ZAE 110.97 ETE 184.66 ZAC 91.58 ETC 272.68 LVI -1.04

PLANETOCENTRIC CONIC

C3 8.176 VHL 2.859 DLA -13.61 RAL 340.99 RAD 6637.1 VEL 11.327 PTH 6.38 VHP 2.948 DPA -33.02 RAP 300.88 ECC 1.1346
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 4 25 2669.80 -15.77 73.85 188.73 135.49 15 48 55 1669.8 2.51 57.86
 60.00 15 59 10 2524.19 -12.07 64.18 192.18 128.75 16 41 14 1524.2 3.97 46.14
 70.00 17 8 38 2319.97 -8.58 50.19 194.75 123.19 17 47 18 1320.0 5.36 30.64
 80.00 18 33 2 2055.83 -5.94 31.76 196.37 119.32 19 7 17 1055.8 6.43 11.25
 90.00 20 1 38 1769.97 -4.91 11.30 196.93 117.88 20 31 8 770.0 6.85 350.45
 100.00 21 15 53 1530.30 -5.94 353.13 196.37 119.32 21 41 24 530.3 6.43 332.62
 110.00 22 8 5 1366.79 -8.58 339.11 194.75 123.19 22 30 51 366.8 5.36 319.56

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE .1279 TRA .7886 TC3-7.6774 BAU .8503 SGT 4689.0 SGR 919.0 SG3 1490.7 ST 28.3 SR 8.8 SS 53.4
 RDE .0136 RRA .2784 RC3-1.2541 FAU .22916 RRT .9489 RRF .9882 RTF .9598 CRT .9426 CRS -.8105 CST -.9470
 FDE 1.4724 FRA 4.7630 FC-24.2641 BSP 7947 SGB 4778.2 R23 .2347 R13 .9625 LSA 60.3 MSA 9.2 SSA 1.7
 BDE .1286 BRA .8363 BC3 7.7792 FSP 2644 SG1 4769.7 SG2 285.0 THA 10.57 EL1 29.5 EL2 2.8 ALF 16.44

LAUNCH DATE MAY 20 1971 FLIGHT TIME 230.00 ARRIVAL DATE JAN 5 1972

HELIOCENTRIC CONIC DISTANCE 535.281 EARTH TO MARS

RL 151.38 LAL -.00 LOL 238.35 VL 32.252 GAL -.24 AZL 90.31 HCA 169.19 SMA 186.07 ECC .18650 INC .3082 V1 29.433
 RP 219.62 LAP -.06 LOP 47.54 VP 22.257 GAP 2.79 AZP 89.70 TAL 358.48 TAP 167.67 RCA 151.37 APO 220.78 V2 25.028
 RC 184.172 GL -3.49 GP -11.61 ZAL 99.66 ZAP 66.94 ETS 174.71 ZAE 109.35 ETE 184.69 ZAC 90.62 ETC 272.61 LVI -1.04

PLANETOCENTRIC CONIC

C3 8.217 VHL 2.867 DLA -11.80 RAL 341.02 RAD 6637.1 VEL 11.328 PTH 6.38 VHP 2.976 DPA -34.03 RAP 300.80 ECC 1.1352
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 57 26 2707.54 -17.60 75.58 188.87 134.95 15 42 34 1707.5 .61 59.43
 60.00 15 49 59 2567.78 -13.92 66.39 192.26 128.21 16 32 47 1567.8 2.05 48.23
 70.00 16 56 53 2371.13 -10.48 52.94 194.76 122.69 17 36 24 1371.1 3.42 33.32
 80.00 18 18 45 2114.86 -7.89 35.05 196.32 118.89 18 54 0 1114.9 4.46 14.52
 90.00 19 46 12 1832.74 -6.90 14.84 196.86 117.49 20 16 44 832.7 4.86 354.00
 100.00 21 1 37 1589.33 -7.89 356.42 196.32 118.89 21 28 6 589.3 4.46 335.89
 110.00 21 56 19 1417.95 -10.48 341.86 194.76 122.69 22 19 57 418.0 3.42 322.24

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE .2041 TRA .8328 TC3-7.8949 BAU .8802 SGT 4852.1 SGR 1001.5 SG3 1463.3 ST 33.4 SR 10.0 SS 58.4
 RDE .0375 RRA .3017 RC3-1.3708 FAU .22408 RRT .9539 RRF .9918 RTF .9512 CRT .9559 CRS -.8959 CST -.9791
 FDE 1.6398 FRA 4.7202 FC-23.6090 BSP 8255 SGB 4954.4 R23 .2383 R13 .9640 LSA 65.9 MSA 6.9 SSA 1.9
 BDE .2075 BRA .8856 BC3 8.0130 FSP 2571 SG1 4945.6 SG2 294.8 THA 11.10 EL1 34.7 EL2 2.8 ALF 16.17

LAUNCH DATE MAY 20 1971 FLIGHT TIME 232.00 ARRIVAL DATE JAN 7 1972

HELIOCENTRIC CONIC DISTANCE 539.441 EARTH TO MARS

RL 151.38 LAL -.00 LOL 238.35 VL 32.259 GAL -.31 AZL 90.13 HCA 170.31 SMA 186.20 ECC .18707 INC .1079 V1 29.433
 RP 219.99 LAP -.02 LOP 48.66 VP 22.222 GAP 2.64 AZP 89.87 TAL 358.06 TAP 168.37 RCA 151.36 APO 221.03 V2 24.987
 RC 186.781 GL -1.46 GP -12.80 ZAL 100.39 ZAP 67.73 ETS 173.90 ZAE 107.75 ETE 184.72 ZAC 89.45 ETC 272.55 LVI 1.15

PLANETOCENTRIC CONIC

C3 8.272 VHL 2.876 DLA -9.65 RAL 340.91 RAD 6637.1 VEL 11.331 PTH 6.38 VHP 3.010 DPA -35.23 RAP 300.82 ECC 1.1361
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 48 47 2752.18 -19.73 77.68 188.98 134.22 15 34 39 1752.2 -1.63 61.30
 60.00 15 38 50 2619.07 -16.06 69.03 192.32 127.47 16 22 29 1619.1 -.21 50.68
 70.00 16 42 50 2430.91 -12.65 56.20 194.75 121.99 17 23 21 1430.9 1.14 36.45
 80.00 18 1 57 2183.25 -10.12 38.91 196.25 118.24 18 38 20 1183.2 2.16 18.20
 90.00 19 28 8 1905.15 -9.15 18.97 196.76 116.87 19 59 54 905.1 2.55 358.05
 100.00 20 44 48 1657.72 -10.12 .27 196.25 118.24 21 12 26 657.7 2.16 339.65
 110.00 21 42 16 1477.73 -12.65 345.12 194.75 121.99 22 6 54 477.7 1.14 325.37

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE .2813 TRA .8547 TC3-8.1515 BAU .9173 SGT 5028.2 SGR 1103.5 SG3 1431.4 ST 38.8 SR 11.6 SS 57.8
 RDE .0609 RRA .3226 RC3-1.5334 FAU .22183 RRT .9605 RRF .9945 RTF .9652 CRT .9625 CRS -.9429 CST -.9933
 FDE 1.7276 FRA 4.5424 FC-23.2173 BSP 8390 SGB 5147.8 R23 .2304 R13 .9681 LSA 70.2 MSA 4.6 SSA 2.3
 BDE .2878 BRA .9136 BC3 8.2945 FSP 2407 SG1 5139.1 SG2 300.3 THA 11.95 EL1 40.4 EL2 3.0 ALF 16.12

LAUNCH DATE MAY 20 1971

FLIGHT TIME 234.00

ARRIVAL DATE JAN 9 1972

HELIOCENTRIC CONIC
 RL 151.38 LAL -.00 LOL 238.35 VL 32.267 GAL -.37 AZL 89.90 HCA 171.43 SMA 186.32 ECC .18766 INC .0292 V1 29.433
 RP 220.36 LAP .01 LOP 49.78 VP 22.186 GAP 2.50 AZP 90.09 TAL 357.63 TAP 189.06 RCA 151.36 APO 221.29 V2 24.946
 RC 189.399 GL 1.06 GP -14.27 ZAL 101.12 ZAP 66.63 ETS 172.92 ZAE 106.18 ETE 184.78 ZAC 87.99 ETC 272.51 LVI 2.58

DISTANCE 543.595 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 8.392 VHL 2.890 DLA -7.04 RAL 340.63 RAD 6637.2 VEL 11.334 PTH 6.39 VHP 3.091 DPA -36.71 RAP 300.98 ECC 1.1375
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 37 51 2808.45 -22.28 80.32 189.10 133.19 15 24 37 1806.4 -4.36 63.57
 60.00 15 24 59 2681.11 -18.60 72.30 192.38 126.42 16 9 40 1681.1 -2.94 53.65
 70.00 16 25 39 2502.72 -15.21 60.20 194.74 120.96 17 7 22 1502.7 -1.60 40.19
 80.00 17 41 39 2264.79 -12.70 43.58 196.18 117.25 18 19 24 1264.8 -.61 22.76
 90.00 19 6 27 1991.16 -11.76 23.94 196.66 115.91 19 39 39 991.2 -.23 2.85
 100.00 20 24 31 1739.26 -12.70 4.94 196.18 117.25 20 53 30 739.3 -.61 344.13
 110.00 21 25 5 1549.54 -15.21 349.12 194.74 120.96 21 50 55 549.5 -1.60 329.11

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .3934 TRA .8833 TC3-8.3325 BAU .9495 SGT 5188.3 SGR 1226.1 SG3 1388.7 ST 47.7 SR 14.6 SS 62.0
 RDE .0998 RRA .3563 RC3-1.6929 FAU .21412 RRT .9626 RRF .9965 RTF .9649 CRT .9734 CRS -.9761 CST -.9975
 FDE 1.9480 FRA 4.4460 FC-22.1938 BSP 8681 SGB 5331.2 R23 .2364 R13 .9683 LSA 79.5 MSA 3.2 SSA 2.6
 BDE .4059 BRA .9525 BC3 8.5027 FSP 2343 SGI 5321.3 SG2 324.0 THA 12.86 EL1 49.8 EL2 3.2 ALF 16.70

LAUNCH DATE MAY 20 1971

FLIGHT TIME 236.00

ARRIVAL DATE JAN 11 1972

HELIOCENTRIC CONIC
 RL 151.38 LAL -.00 LOL 238.35 VL 32.274 GAL -.44 AZL 89.61 HCA 172.54 SMA 186.45 ECC .18827 INC .3781 V1 29.433
 RP 220.74 LAP .05 LOP 50.89 VP 22.151 GAP 2.36 AZP 90.38 TAL 357.20 TAP 189.74 RCA 151.35 APO 221.56 V2 24.904
 RC 192.025 GL 4.29 GP -16.13 ZAL 101.82 ZAP 65.66 ETS 171.70 ZAE 104.62 ETE 184.87 ZAC 86.14 ETC 272.47 LVI 4.36

DISTANCE 547.744 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 8.481 VHL 2.912 DLA -3.77 RAL 340.10 RAD 6637.3 VEL 11.340 PTH 6.39 VHP 3.103 DPA -38.56 RAP 301.30 ECC 1.1398
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 23 40 2874.53 -25.41 83.77 189.29 131.68 15 11 35 1874.5 -7.76 66.45
 60.00 15 7 15 2758.59 -21.67 76.54 192.50 124.85 15 53 14 1758.6 -6.33 57.37
 70.00 16 3 57 2591.88 -18.26 65.31 194.78 119.38 16 47 9 1591.9 -5.00 44.88
 80.00 17 16 18 2365.36 -15.76 49.48 196.14 115.69 17 55 44 1365.4 -4.00 28.29
 90.00 18 39 30 2096.89 -14.82 30.20 196.60 114.36 19 14 27 1096.9 -3.63 8.76
 100.00 19 59 10 1839.83 -15.76 10.85 196.14 115.69 20 29 50 839.8 -4.00 349.66
 110.00 21 3 24 1638.70 -18.26 354.22 194.78 119.38 21 30 42 638.7 -5.00 333.78

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .5432 TRA .9081 TC3-8.4374 BAU .9801 SGT 5338.3 SGR 1381.8 SG3 1336.8 ST 60.3 SR 19.2 SS 67.6
 RDE .1532 RRA .3989 RC3-1.8806 FAU .20479 RRT .9643 RRF .9979 RTF .9649 CRT .9799 CRS -.9913 CST -.9965
 FDE 2.2014 FRA 4.3146 FC-20.9053 BSP 9069 SGB 5514.3 R23 .2390 R13 .9689 LSA 92.4 MSA 4.6 SSA 1.4
 BDE .5644 BRA .9918 BC3 8.6444 FSP 2279 SGI 5502.8 SG2 354.9 THA 14.07 EL1 63.1 EL2 3.7 ALF 17.41

LAUNCH DATE MAY 20 1971

FLIGHT TIME 238.00

ARRIVAL DATE JAN 13 1972

HELIOCENTRIC CONIC
 RL 151.38 LAL -.00 LOL 238.35 VL 32.282 GAL -.51 AZL 89.22 HCA 173.65 SMA 186.59 ECC .18891 INC .7736 V1 29.433
 RP 221.12 LAP .09 LOP 52.00 VP 22.116 GAP 2.21 AZP 90.77 TAL 356.76 TAP 170.41 RCA 151.34 APO 221.84 V2 24.863
 RC 194.659 GL 8.54 GP -18.58 ZAL 102.46 ZAP 64.90 ETS 170.14 ZAE 103.06 ETE 185.02 ZAC 83.70 ETC 272.45 LVI 6.67

DISTANCE 551.889 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 8.706 VHL 2.951 DLA .45 RAL 339.19 RAD 6637.4 VEL 11.350 PTH 6.40 VHP 3.172 DPA -40.97 RAP 301.87 ECC 1.1433
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 4 37 2983.55 -29.35 88.59 189.70 129.29 14 54 1 1963.5 -12.18 70.29
 60.00 14 43 43 2859.52 -25.40 82.37 192.85 122.35 15 31 23 1859.5 -10.70 62.31
 70.00 15 35 26 2707.46 -21.97 72.21 195.02 116.83 16 20 33 1707.5 -9.34 51.00
 80.00 16 43 14 2495.14 -19.42 57.37 196.29 113.14 17 24 49 1495.1 -8.32 35.50
 90.00 18 4 27 2233.05 -18.46 38.53 196.71 111.81 18 41 40 1233.0 -7.94 16.44
 100.00 19 26 6 1969.61 -19.42 18.74 196.29 113.14 19 58 56 969.6 -8.32 356.87
 110.00 20 34 52 1734.27 -21.97 1.13 195.02 116.83 21 4 6 734.3 -9.34 339.92

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .7425 TRA .9153 TC3-8.4544 BAU 1.0140 SGT 5488.9 SGR 1585.5 SG3 1271.2 ST 77.2 SR 26.1 SS 74.2
 RDE .2309 RRA .4521 RC3-2.1042 FAU .19371 RRT .9655 RRF .9988 RTF .9645 CRT .9842 CRS -.9974 CST -.9940
 FDE 2.4953 FRA 4.1120 FC-19.2641 BSP 9446 SGB 5713.3 R23 .2405 R13 .9694 LSA 110.0 MSA 6.7 SSA .7
 BDE .7776 BRA 1.0209 BC3 8.7123 FSP 2181 SGI 5699.4 SG2 397.9 THA 15.66 EL1 81.4 EL2 4.4 ALF 18.43

LAUNCH DATE MAY 20 1971

FLIGHT TIME 240.00

ARRIVAL DATE JAN 15 1972

HELIOCENTRIC CONIC
 RL 151.38 LAL -.00 LOL 238.35 VL 32.291 GAL -.59 AZL 88.67 HCA 174.76 SMA 186.73 ECC .18958 INC 1.3319 V1 29.433
 RP 221.50 LAP .12 LOP 53.11 VP 22.081 GAP 2.07 AZP 91.33 TAL 356.32 TAP 171.08 RCA 151.33 APO 222.13 V2 24.821
 RC 197.289 GL 14.37 GP -21.90 ZAL 102.94 ZAP 64.46 ETS 168.10 ZAE 101.49 ETE 185.25 ZAC 80.38 ETC 272.46 LVI 9.76

DISTANCE 556.030 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.142 VHL 3.024 DLA 6.13 RAL 337.68 RAD 6637.6 VEL 11.369 PTH 6.42 VHP 3.274 DPA -44.21 RAP 302.85 ECC 1.1504
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 37 45 3086.22 -34.41 95.91 190.80 125.15 14 29 11 2086.2 -18.15 75.84
 60.00 14 10 46 2998.36 -30.24 91.03 193.83 118.02 15 0 45 1998.4 -16.56 69.37
 70.00 14 55 41 2866.22 -26.49 82.33 195.83 112.39 15 43 28 1866.2 -15.08 59.71
 80.00 15 57 18 2673.29 -23.76 68.82 196.96 108.63 16 41 51 1673.3 -13.98 45.70
 90.00 17 15 48 2419.93 -22.74 50.55 197.32 107.28 17 56 8 1419.9 -13.56 27.28
 100.00 18 40 9 2147.76 -23.76 30.19 196.96 108.63 19 15 57 1147.8 -13.98 7.06
 110.00 19 55 8 1913.04 -26.49 11.24 195.83 112.39 20 27 1 913.0 -15.08 348.63

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.0347 TRA .9001 TC3-8.2508 BAU 1.0484 SGT 5628.6 SGR 1856.3 SG3 1180.4 ST 101.6 SR 36.9 SS 82.6
 RDE .3560 RRA .5181 RC3-2.3478 FAU .17899 RRT .9667 RRF .9993 RTF .9644 CRT .9876 CRS -.9995 CST -.9921
 FDE 2.8568 FRA 3.7937 FC-16.9510 BSP 9923 SGB 5926.8 R23 .2383 R13 .9705 LSA 135.8 MSA 8.9 SSA .3
 BDE 1.0942 BRA 1.0385 BC3 8.5784 FSP 2041 SGI 5909.5 SG2 452.5 THA 17.79 EL1 108.0 EL2 5.5 ALF 19.78

LAUNCH DATE MAY 20 1971

FLIGHT TIME 242.00

ARRIVAL DATE JAN 17 1972

HELIOCENTRIC CONIC

RL 151.38 LAL -0.00 LOL 238.35 VL 32.299 GAL	-.86 AZL 87.82 HCA 175.86 SMA 186.87 ECC .19026 INC 2.1715 V1 29.433
RP 221.88 LAP .16 LOP 54.21 VP 22.047 GAP	1.93 AZP 92.17 TAL 355.87 TAP 171.73 RCA 151.32 APO 222.42 V2 24.780
RC 199.945 GL 22.71 GP -26.63 ZAL 103.06 ZAP	64.60 ETS 165.38 ZAE 99.90 ETE 185.60 ZAC 75.66 ETC 272.52 LVI 14.11

PLANETOCENTRIC CONIC

C3 10.105 VHL 3.179 DLA 14.12 RAL 339.14 RAD 6638.1 VEL 11.411 PTH 6.46 VHP 3.442 DPA -48.79 RAP 304.60 ECC 1.1663
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 12 57 4 3267.22 -40.80 108.48 193.93 116.98 13 51 31 2267.2 -26.56 84.83
60.00 13 20 50 3203.96 -35.93 105.46 196.60 109.62 14 14 14 2204.0 -24.64 80.74
70.00 13 55 4 3103.19 -31.55 98.88 198.18 103.82 14 46 47 2103.2 -22.84 73.69
80.00 14 46 30 2942.06 -28.32 87.44 198.96 99.89 15 35 32 1942.1 -21.47 62.12
90.00 16 0 24 2703.54 -27.09 70.14 199.19 98.45 16 45 27 1703.5 -20.94 44.80
100.00 17 29 21 2416.53 -28.32 48.81 198.96 99.89 18 9 38 1416.5 -21.47 23.49
110.00 18 54 30 2150.01 -31.55 27.80 198.18 103.82 19 30 20 1150.0 -22.84 2.61

DIFFERENTIAL CORRECTIONS

TDE 1.4402 TRA .7938 TC3-7.8300 BAU 1.1157
RDE .9637 RRA .9870 RC3-2.6270 FAU .16262
FDE 3.2029 FRA 3.2332 FC-13.9326 BSP 9912
BDE 1.5466 BRA .9873 BC3 8.2590 FSP 1754

MID-COURSE EXECUTION ACCURACY

SGT 5804.8 SGR 2238.7 SG3 1050.7
RRT .9666 RRF .9996 RTF .9625
SGB 6221.6 R23 .2387 R13 .9708
SG1 6198.3 SG2 537.5 THA 20.61

ORBIT DETERMINATION ACCURACY

ST 131.9 SR 53.4 SS 90.0
CRT .9898 CRS-1.0000 CST -.9910
LSA 168.0 MSA 11.2 SSA .2
EL1 142.1 EL2 7.1 ALF 21.91

LAUNCH DATE MAY 20 1971

FLIGHT TIME 244.00

ARRIVAL DATE JAN 19 1972

HELIOCENTRIC CONIC

RL 151.38 LAL -0.00 LOL 238.35 VL 32.308 GAL	-.73 AZL 86.37 HCA 176.96 SMA 187.02 ECC .19097 INC 3.6219 V1 29.433
RP 222.27 LAP .19 LOP 55.31 VP 22.013 GAP	1.79 AZP 93.62 TAL 355.43 TAP 172.38 RCA 151.30 APO 222.73 V2 24.738
RC 202.593 GL 35.08 GP -33.71 ZAL 102.34 ZAP	65.92 ETS 161.75 ZAE 98.27 ETE 188.19 ZAC 68.57 ETC 272.69 LVI 20.54

PLANETOCENTRIC CONIC

C3 12.649 VHL 3.557 DLA 25.76 RAL 330.60 RAD 6639.4 VEL 11.520 PTH 6.57 VHP 3.774 DPA -55.53 RAP 308.19 ECC 1.2082
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 11 47 35 3560.05 -47.00 133.71 202.97 98.43 12 46 55 2560.1 -38.36 102.75
60.00 11 53 12 3545.08 -40.28 133.17 203.76 91.39 12 52 17 2545.1 -35.32 103.24
70.00 12 2 54 3516.49 -33.87 130.63 203.54 85.36 13 1 31 2516.5 -32.25 102.01
80.00 12 23 50 3450.79 -28.44 124.87 202.75 80.50 13 21 21 2450.8 -29.53 97.50
90.00 13 19 6 3272.20 -25.92 111.23 202.22 78.27 14 13 38 2272.3 -28.26 84.46
100.00 15 6 42 2925.27 -28.44 86.23 202.75 80.50 15 55 27 1925.3 -29.53 58.86
110.00 17 2 20 2563.31 -33.87 59.54 203.54 85.36 17 45 4 1563.3 -32.25 30.93

DIFFERENTIAL CORRECTIONS

TDE 2.1970 TRA .5951 TC3-6.5414 BAU 1.1962
RDE 1.0079 RRA .6544 RC3-2.6926 FAU .13375
FDE 3.5862 FRA 2.3984 FC3-9.1542 BSP 10210
BDE 2.4171 BRA .8845 BC3 7.0739 FSP 1382

MID-COURSE EXECUTION ACCURACY

SGT 5942.2 SGR 2770.4 SG3 838.5
RRT .9661 RRF .9996 RTF .9591
SGB 6556.3 R23 .2386 R13 .9710
SG1 6523.9 SG2 651.1 THA 24.51

ORBIT DETERMINATION ACCURACY

ST 177.8 SR 83.1 SS 96.5
CRT .9924 CRS-1.0000 CST -.9917
LSA 218.4 MSA 13.1 SSA .1
EL1 196.1 EL2 9.2 ALF 24.94

LAUNCH DATE MAY 20 1971

FLIGHT TIME 246.00

ARRIVAL DATE JAN 21 1972

HELIOCENTRIC CONIC

RL 151.38 LAL -0.00 LOL 238.35 VL 32.316 GAL	-.81 AZL 83.32 HCA 178.04 SMA 187.16 ECC .19170 INC 6.6745 V1 29.433
RP 222.65 LAP .23 LOP 56.41 VP 21.978 GAP	1.65 AZP 96.68 TAL 354.98 TAP 173.03 RCA 151.29 APO 223.04 V2 24.696
RC 205.250 GL 33.51 GP -44.72 ZAL 99.87 ZAP	69.71 ETS 157.52 ZAE 96.74 ETE 187.50 ZAC 57.52 ETC 273.27 LVI 30.26

PLANETOCENTRIC CONIC

C3 21.879 VHL 4.678 DLA 42.59 RAL 321.31 RAD 6643.7 VEL 11.911 PTH 6.92 VHP 4.623 DPA -65.53 RAP 317.90 ECC 1.3601
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 9 6 55 4131.92 -39.18 184.64 216.00 60.49 10 15 46 3131.9 -47.22 153.11
56.71 7 21 22 4411.22 -23.05 197.69 203.76 53.13 8 34 54 3411.2 -36.02 174.23
56.71 7 21 22 4411.22 -23.05 197.69 203.76 53.13 8 34 54 3411.2 -36.02 174.23
56.71 7 21 22 4411.22 -23.05 197.69 203.76 53.13 8 34 54 3411.2 -36.02 174.23
56.71 7 21 22 4411.22 -23.05 197.69 203.76 53.13 8 34 54 3411.2 -36.02 174.23
56.71 7 21 22 4411.22 -23.05 197.69 203.76 53.13 8 34 54 3411.2 -36.02 174.23
56.71 7 21 22 4411.22 -23.05 197.69 203.76 53.13 8 34 54 3411.2 -36.02 174.23

DIFFERENTIAL CORRECTIONS

TDE 3.7324 TRA .0027 TC3-4.2233 BAU 1.4017
RDE 2.1463 RRA .5514 RC3-2.2645 FAU .08916
FDE 3.4642 FRA 1.0618 FC3-3.5281 BSP 9232
BDE 4.3056 BRA .5514 BC3 4.7921 FSP 722

MID-COURSE EXECUTION ACCURACY

SGT 6042.5 SGR 3198.9 SG3 488.9
RRT .9646 RRF .9985 RTF .5.90
SGB 6982.4 R23 .2522 R13 .9676
SG1 6936.1 SG2 803.5 THA 29.62

ORBIT DETERMINATION ACCURACY

ST 228.7 SR 132.2 SS 85.4
CRT .9946 CRS -.9998 CST -.9923
LSA 277.2 MSA 14.3 SSA .0
EL1 263.9 EL2 11.9 ALF 29.97

LAUNCH DATE MAY 20 1971

FLIGHT TIME 254.00

ARRIVAL DATE JAN 29 1972

HELIOCENTRIC CONIC

RL 151.38 LAL -0.00 LOL 238.35 VL 32.352 GAL	-1.13 AZL 98.68 HCA 182.43 SMA 187.78 ECC .19484 INC 8.6721 V1 29.433
RP 224.20 LAP .37 LOP 60.75 VP 21.844 GAP	1.09 AZP 81.33 TAL 353.04 TAP 175.47 RCA 151.20 APO 224.37 V2 24.529
RC 215.890 GL -60.77 GP 38.31 ZAL 100.16 ZAP	64.09 ETS 201.89 ZAE 94.85 ETE 176.87 ZAC 140.35 ETC 274.69 LVI -45.96

PLANETOCENTRIC CONIC

C3 31.262 VHL 5.591 DLA -56.71 RAL 28.97 RAD 6647.5 VEL 12.296 PTH 7.23 VHP 4.205 DPA 15.27 RAP 292.56 ECC 1.5145
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
38.55 22 48 48 2001.24 24.16 53.33 281.82 143.02 23 22 9 1001.2 42.76 34.32
38.55 22 48 48 2001.24 24.16 53.33 281.82 143.02 23 22 9 1001.2 42.76 34.32
38.55 22 48 48 2001.24 24.16 53.33 281.82 143.02 23 22 9 1001.2 42.76 34.32
38.55 22 48 48 2001.24 24.16 53.33 281.82 143.02 23 22 9 1001.2 42.76 34.32
38.55 22 48 48 2001.24 24.16 53.33 281.82 143.02 23 22 9 1001.2 42.76 34.32
38.55 22 48 48 2001.24 24.16 53.33 281.82 143.02 23 22 9 1001.2 42.76 34.32
38.55 22 48 48 2001.24 24.16 53.33 281.82 143.02 23 22 9 1001.2 42.76 34.32

DIFFERENTIAL CORRECTIONS

TDE -.7477 TRA 2.8267 TC3-3.2431 BAU 1.4803
RDE -.3744 RRA -1.4596 RC3 1.4242 FAU .11343
FDE 1.3408 FRA 3.2321 FC3-3.1413 BSP 10914
BDE .8362 BRA 3.1813 BC3 3.5420 FSP 1023

MID-COURSE EXECUTION ACCURACY

SGT 6449.5 SGR 3179.8 SG3 614.9
RRT -.9687 RRF -.9973 RTF .9486
SGB 7190.8 R23 .2700 R13 -.9627
SG1 7155.5 SG2 711.5 THA 154.20

ORBIT DETERMINATION ACCURACY

ST 88.1 SR 45.2 SS 41.3
CRT -.6310 CRS .9780 CST -.4553
LSA 96.7 MSA 46.5 SSA .1
EL1 93.3 EL2 35.1 ALF 159.34

LAUNCH DATE MAY 20 1971

FLIGHT TIME 256.00

ARRIVAL DATE JAN 31 1972

HELIOCENTRIC CONIC

RL 151.38 LAL -.00 LOL 238.35 VL 32.362 GAL -1.21 AZL 96.57 HCA 183.50 SMA 187.95 ECC .19567 INC 6.5664 V1 29.433
RP 224.59 LAP .40 LOP 61.82 VP 21.810 GAP .95 AZP 83.44 TAL 352.57 TAP 176.07 RCA 151.17 APO 224.72 V2 24.487
RC 218.534 GL -51.91 GP 29.01 ZAL 102.88 ZAP 59.42 ETS 198.31 ZAC 93.42 ETE 178.70 ZAC 131.14 ETC 273.72 LVI -37.55

PLANETOCENTRIC CONIC

C3 22.121 VHL 4.703 DLA -50.19 RAL 18.85 RAD 6643.8 VEL 11.921 PTH 6.93 VHP 3.725 DPA 6.02 RAP 293.62 ECC 1.3640
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
46.64 22 32 14 1863.42 26.24 40.81 264.58 134.45 23 3 17 863.4 41.77 18.21
46.64 22 32 14 1863.42 26.24 40.81 264.58 134.45 23 3 17 863.4 41.77 18.21
46.64 22 32 14 1863.42 26.24 40.81 264.58 134.45 23 3 17 863.4 41.77 18.21
46.64 22 32 14 1863.42 26.24 40.81 264.58 134.45 23 3 17 863.4 41.77 18.21
46.64 22 32 14 1863.42 26.24 40.81 264.58 134.45 23 3 17 863.4 41.77 18.21
46.64 22 32 14 1863.42 26.24 40.81 264.58 134.45 23 3 17 863.4 41.77 18.21
46.64 22 32 14 1863.42 26.24 40.81 264.58 134.45 23 3 17 863.4 41.77 18.21

DIFFERENTIAL CORRECTIONS

TDE -.9662 TRA 2.8884 TC3-4.4418 BAU 1.3792
RDE -.0725 RRA-1.1035 RC3 1.4217 FAU .14030
FDE .7845 FRA 4.2869 FC3-5.4911 BSP 11387
BDE .9689 BRA 2.9060 BC3 4.6638 FSP 1459

MID-COURSE EXECUTION ACCURACY

SGT 6708.6 SGR 2490.8 SG3 838.2
RRT -.9708 RRF -.9980 RTF .9553
SGB 7156.1 R23 .2668 R13 -.9633
SG1 7134.0 SG2 561.6 THA 160.05

ORBIT DETERMINATION ACCURACY

ST 96.9 SR 31.9 SS 42.3
CRT -.7024 CRS .9731 CST -.5195
LSA 102.8 MSA 40.4 SSA .1
EL1 99.6 EL2 22.1 ALF 166.31

LAUNCH DATE MAY 20 1971

FLIGHT TIME 258.00

ARRIVAL DATE FEB 2 1972

HELIOCENTRIC CONIC

RL 151.38 LAL -.00 LOL 238.35 VL 32.371 GAL -1.30 AZL 95.45 HCA 184.57 SMA 188.11 ECC .19652 INC 5.4522 V1 29.433
RP 224.98 LAP .43 LOP 62.90 VP 21.778 GAP .81 AZP 84.56 TAL 352.10 TAP 176.67 RCA 151.14 APO 225.08 V2 24.445
RC 221.219 GL -45.84 GP 22.98 ZAL 104.57 ZAP 56.53 ETS 195.50 ZAE 92.09 ETE 179.66 ZAC 125.14 ETC 273.35 LVI -32.07

PLANETOCENTRIC CONIC

C3 18.385 VHL 4.288 DLA -45.12 RAL 13.86 RAD 6642.1 VEL 11.765 PTH 6.79 VHP 3.539 DPA .06 RAP 294.48 ECC 1.3028
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 50 15 2031.04 15.97 46.41 245.31 135.44 21 24 6 1031.0 32.60 27.05
53.25 22 35 14 1762.40 25.95 30.76 254.85 128.31 23 4 36 762.4 39.21 6.67
53.25 22 35 14 1762.40 25.95 30.76 254.85 128.31 23 4 36 762.4 39.21 6.67
53.25 22 35 14 1762.40 25.95 30.76 254.85 128.31 23 4 36 762.4 39.21 6.67
53.25 22 35 14 1762.40 25.95 30.76 254.85 128.31 23 4 36 762.4 39.21 6.67
53.25 22 35 14 1762.40 25.95 30.76 254.85 128.31 23 4 36 762.4 39.21 6.67
53.25 22 35 14 1762.40 25.95 30.76 254.85 128.31 23 4 36 762.4 39.21 6.67

DIFFERENTIAL CORRECTIONS

TDE -.8868 TRA 2.6619 TC3-5.2898 BAU 1.3393
RDE -.0187 RRA -.8842 RC3 1.3073 FAU .15156
FDE .6482 FRA 4.8144 FC3-7.1367 BSP 11883
BDE .8870 BRA 2.8049 BC3 5.4489 FSP 1695

MID-COURSE EXECUTION ACCURACY

SGT 6884.4 SGR 2015.3 SG3 951.7
RRT -.9728 RRF -.9978 RTF .9587
SGB 7173.3 R23 .2643 R13 -.9636
SG1 7159.3 SG2 448.6 THA 164.04

ORBIT DETERMINATION ACCURACY

ST 96.3 SR 25.2 SS 43.9
CRT -.7567 CRS .9673 CST -.5662
LSA 102.1 MSA 37.6 SSA .1
EL1 98.2 EL2 16.2 ALF 168.48

LAUNCH DATE MAY 20 1971

FLIGHT TIME 260.00

ARRIVAL DATE FEB 4 1972

HELIOCENTRIC CONIC

RL 151.38 LAL -.00 LOL 238.35 VL 32.381 GAL -1.38 AZL 94.76 HCA 185.64 SMA 188.27 ECC .19738 INC 4.7615 V1 29.433
RP 225.37 LAP .47 LOP 63.97 VP 21.745 GAP .67 AZP 85.26 TAL 351.62 TAP 177.26 RCA 151.11 APO 225.44 V2 24.403
RC 223.884 GL -41.44 GP 18.89 ZAL 106.09 ZAP 54.52 ETS 193.35 ZAE 90.83 ETE 180.23 ZAC 121.05 ETC 273.19 LVI -28.36

PLANETOCENTRIC CONIC

C3 18.495 VHL 4.061 DLA -41.20 RAL 11.06 RAD 6641.2 VEL 11.685 PTH 6.72 VHP 3.457 DPA -3.98 RAP 295.18 ECC 1.2715
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 45 24 2160.97 9.58 52.14 235.33 136.83 20 21 25 1161.0 27.05 34.45
58.69 22 46 7 1678.08 24.97 22.45 248.92 123.91 23 14 5 678.1 36.60 357.80
58.69 22 46 7 1678.08 24.97 22.45 248.92 123.91 23 14 5 678.1 36.60 357.80
58.69 22 46 7 1678.08 24.97 22.45 248.92 123.91 23 14 5 678.1 36.60 357.80
58.69 22 46 7 1678.08 24.97 22.45 248.92 123.91 23 14 5 678.1 36.60 357.80
58.69 22 46 7 1678.08 24.97 22.45 248.92 123.91 23 14 5 678.1 36.60 357.80
58.69 22 46 7 1678.08 24.97 22.45 248.92 123.91 23 14 5 678.1 36.60 357.80

DIFFERENTIAL CORRECTIONS

TDE -.7829 TRA 2.6604 TC3-5.9456 BAU 1.3365
RDE -.0059 RRA -.7366 RC3 1.1749 FAU .15619
FDE .6676 FRA 5.0736 FC3-8.1973 BSP 12103
BDE .7829 BRA 2.7604 BC3 6.0606 FSP 1811

MID-COURSE EXECUTION ACCURACY

SGT 7030.5 SGR 1678.7 SG3 1006.6
RRT -.9734 RRF -.9971 RTF .9593
SGB 7228.1 R23 .2648 R13 -.9626
SG1 7218.4 SG2 374.3 THA 166.88

ORBIT DETERMINATION ACCURACY

ST 93.3 SR 20.8 SS 45.0
CRT -.7936 CRS .9559 CST -.5801
LSA 99.1 MSA 36.6 SSA .2
EL1 94.7 EL2 12.4 ALF 169.80

LAUNCH DATE MAY 20 1971

FLIGHT TIME 262.00

ARRIVAL DATE FEB 6 1972

HELIOCENTRIC CONIC

RL 151.38 LAL -.00 LOL 238.35 VL 32.391 GAL -1.46 AZL 94.29 HCA 186.70 SMA 188.44 ECC .19827 INC 4.2928 V1 29.433
RP 225.78 LAP .50 LOP 65.03 VP 21.712 GAP .53 AZP 85.74 TAL 351.14 TAP 177.84 RCA 151.08 APO 225.80 V2 24.361
RC 226.350 GL -38.11 GP 15.95 ZAL 107.39 ZAP 52.97 ETS 191.70 ZAE 89.63 ETE 180.61 ZAC 118.12 ETC 273.12 LVI -25.72

PLANETOCENTRIC CONIC

C3 15.423 VHL 3.927 DLA -38.10 RAL 9.40 RAD 6640.7 VEL 11.639 PTH 6.68 VHP 3.422 DPA -6.86 RAP 295.78 ECC 1.2538
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 9 19 2240.78 5.60 55.54 230.02 137.32 19 46 40 1240.8 23.44 38.60
60.00 21 15 57 1902.88 14.91 33.88 238.69 127.89 21 47 39 902.9 28.94 12.73
63.33 23 1 3 1601.57 23.82 15.21 245.11 120.66 23 27 45 601.6 34.27 350.37
63.33 23 1 3 1601.57 23.82 15.21 245.11 120.66 23 27 45 601.6 34.27 350.37
63.33 23 1 3 1601.57 23.82 15.21 245.11 120.66 23 27 45 601.6 34.27 350.37
63.33 23 1 3 1601.57 23.82 15.21 245.11 120.66 23 27 45 601.6 34.27 350.37
63.33 23 1 3 1601.57 23.82 15.21 245.11 120.66 23 27 45 601.6 34.27 350.37

DIFFERENTIAL CORRECTIONS

TDE -.6533 TRA 2.7123 TC3-6.3774 BAU 1.3320
RDE -.0078 RRA -.6401 RC3 1.0294 FAU .15450
FDE .7997 FRA 5.2608 FC3-8.6725 BSP 12629
BDE .6533 BRA 2.7868 BC3 6.4599 FSP 1919

MID-COURSE EXECUTION ACCURACY

SGT 7161.2 SGR 1436.0 SG3 1032.8
RRT -.9730 RRF -.9959 RTF .9585
SGB 7303.8 R23 .2658 R13 -.9609
SG1 7296.5 SG2 325.0 THA 168.94

ORBIT DETERMINATION ACCURACY

ST 89.5 SR 17.9 SS 46.7
CRT -.8289 CRS .9404 CST -.5896
LSA 95.8 MSA 36.6 SSA .2
EL1 90.8 EL2 9.9 ALF 170.50

LAUNCH DATE MAY 20 1971

FLIGHT TIME 264.00

ARRIVAL DATE FEB 8 1972

HELIOCENTRIC CONIC

RL 151.38 LAL -.00 LOL 238.35 VL 32.400 GAL -1.55 AZL 93.95 HCA 187.78 SMA 188.61 ECC .19917 INC 3.9514 V1 29.433
RP 226.15 LAP .53 LOP 68.09 VP 21.680 GAP .39 AZP 86.08 TAL 350.66 TAP 178.42 RCA 151.04 APO 226.18 V2 24.319
RC 229.216 GL -33.50 GP 13.76 ZAL 106.53 ZAP 51.69 ETS 180.42 ZAE 88.46 ETE 180.87 ZAC 115.92 ETC 273.10 LVI -23.77

DISTANCE 605.395

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.776 VHL 3.844 DLA -35.57 RAL 8.38 RAD 6640.4 VEL 11.612 PTH 6.65 VHP 3.410 DPA -0.99 RAP 296.32 ECC 1.2432
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 45 27 2300.37 2.62 58.05 226.79 137.52 19 23 47 1300.4 20.65 41.54
60.00 20 31 30 2017.85 10.02 39.67 233.82 129.24 21 5 8 1017.8 24.90 19.77
67.47 23 18 49 1527.59 22.69 8.54 242.58 118.16 23 44 17 527.6 32.25 343.65
67.47 23 18 49 1527.59 22.69 8.54 242.58 118.16 23 44 17 527.6 32.25 343.65
67.47 23 18 49 1527.59 22.69 8.54 242.58 118.16 23 44 17 527.6 32.25 343.65
67.47 23 18 49 1527.59 22.69 8.54 242.58 118.16 23 44 17 527.6 32.25 343.65
67.47 23 18 49 1527.59 22.69 8.54 242.58 118.16 23 44 17 527.6 32.25 343.65

DIFFERENTIAL CORRECTIONS

TDE -.5824 TRA 2.7308 TC3-6.8218 BAU 1.3601
RDE .0035 RRA -.3587 RC3 .9333 FAU .15678
FDE .0200 FRA 5.2674 FC3-9.1860 BSP 12509
BDE .5824 BRA 2.7874 BC3 6.8853 FSP 1865

MID-COURSE EXECUTION ACCURACY

SGT 7300.5 SGR 1250.2 963 1038.7
RRR -.9741 RRF -.9942 RTF .9602
SGB 7406.8 R23 .2542 R13 -.9618
SGI 7401.5 SG2 279.0 THA 170.52

ORBIT DETERMINATION ACCURACY

ST 87.1 SR 15.4 SS 46.4
CRT -.8747 CRS .9149 CST -.6051
LSA 93.4 MSA 33.3 SSA .3
EL1 88.1 EL2 7.4 ALF 171.14

LAUNCH DATE MAY 20 1971

FLIGHT TIME 266.00

ARRIVAL DATE FEB 10 1972

HELIOCENTRIC CONIC

RL 151.38 LAL -.00 LOL 238.35 VL 32.410 GAL -1.63 AZL 93.69 HCA 188.82 SMA 188.78 ECC .20009 INC 3.6931 V1 29.433
RP 226.55 LAP .57 LOP 67.15 VP 21.648 GAP .25 AZP 86.35 TAL 350.17 TAP 178.99 RCA 151.01 APO 226.55 V2 24.278
RC 231.880 GL -33.40 GP 12.08 ZAL 109.59 ZAP 50.57 ETS 189.41 ZAE 87.33 ETE 181.05 ZAC 114.23 ETC 273.11 LVI -22.30

DISTANCE 609.473

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.376 VHL 3.792 DLA -33.45 RAL 7.76 RAD 6640.2 VEL 11.595 PTH 6.64 VHP 3.411 DPA -10.61 RAP 296.82 ECC 1.2366
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 28 21 2348.53 .20 60.06 224.72 137.58 19 7 30 1348.5 18.36 43.83
60.00 20 3 53 2094.26 6.71 43.40 230.94 129.83 20 38 47 1094.3 22.01 24.17
70.00 22 38 27 1638.33 16.80 13.76 238.14 120.18 23 5 45 638.3 27.73 350.63
71.35 23 39 15 1452.04 21.62 2.02 240.87 116.16 24 3 27 452.0 30.47 337.17
71.35 23 39 15 1452.04 21.62 2.02 240.87 116.16 24 3 27 452.0 30.47 337.17
71.35 23 39 15 1452.04 21.62 2.02 240.87 116.16 24 3 27 452.0 30.47 337.17
110.00 3 41 49 5973.18 16.80 280.58 238.14 120.18 5 21 22 4973.2 27.73 257.46

DIFFERENTIAL CORRECTIONS

TDE -.4960 TRA 2.7856 TC3-7.1305 BAU 1.3798
RDE .0084 RRA -.5025 RC3 .8348 FAU .15545
FDE .9042 FRA 5.2938 FC3-9.3613 BSP 12710
BDE .4961 BRA 2.8306 BC3 7.1792 FSP 1858

MID-COURSE EXECUTION ACCURACY

SGT 7433.0 SGR 1108.7 SG3 1037.4
RRR -.9737 RRF -.9917 RTF .9605
SGB 7515.2 R23 .2431 R13 -.9617
SGI 7511.1 SG2 250.2 THA 171.73

ORBIT DETERMINATION ACCURACY

ST 84.8 SR 13.7 SS 47.0
CRT -.9159 CRS .8830 CST -.6211
LSA 91.6 MSA 34.7 SSA .3
EL1 85.8 EL2 5.4 ALF 171.55

LAUNCH DATE MAY 20 1971

FLIGHT TIME 268.00

ARRIVAL DATE FEB 12 1972

HELIOCENTRIC CONIC

RL 151.38 LAL -.00 LOL 238.35 VL 32.420 GAL -1.72 AZL 93.49 HCA 189.87 SMA 188.95 ECC .20103 INC 3.4908 V1 29.433
RP 226.94 LAP .60 LOP 68.20 VP 21.616 GAP .11 AZP 86.56 TAL 349.68 TAP 179.55 RCA 150.97 APO 226.94 V2 24.236
RC 234.543 GL -31.66 GP 10.74 ZAL 110.57 ZAP 49.56 ETS 188.58 ZAE 86.24 ETE 181.19 ZAC 112.87 ETC 273.14 LVI -21.16

DISTANCE 613.545

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.133 VHL 3.759 DLA -31.63 RAL 7.42 RAD 6640.1 VEL 11.584 PTH 6.63 VHP 3.420 DPA -11.89 RAP 297.29 ECC 1.2326
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 15 32 2389.24 -1.85 61.76 223.37 137.55 18 55 21 1389.2 16.41 45.71
60.00 19 44 15 2153.15 4.13 46.24 229.11 130.12 20 20 8 1153.2 19.69 27.42
70.00 21 50 51 1780.48 11.77 21.70 234.75 122.29 22 20 31 780.5 23.95 359.94
75.21 0 7 2 1369.97 20.63 355.24 239.73 114.53 0 29 52 370.0 28.91 330.44
75.21 0 7 2 1369.97 20.63 355.24 239.73 114.53 0 29 52 370.0 28.91 330.44
75.21 0 7 2 1369.97 20.63 355.24 239.73 114.53 0 29 52 370.0 28.91 330.44
110.00 2 54 13 6115.33 11.77 288.52 234.75 122.29 4 36 8 5115.3 23.95 266.77

DIFFERENTIAL CORRECTIONS

TDE -.4097 TRA 2.8973 TC3-7.3585 BAU 1.3971
RDE .0128 RRA -.4608 RC3 .7438 FAU .15234
FDE 1.0029 FRA 5.3186 FC3-9.3320 BSP 13001
BDE .4099 BRA 2.8942 BC3 7.3940 FSP 1859

MID-COURSE EXECUTION ACCURACY

SGT 7559.2 SGR 996.7 SG3 1030.3
RRR -.9720 RRF -.9883 RTF .5001
SGB 7624.6 R23 .2308 R13 -.9610
SGI 7621.1 SG2 232.1 THA 172.69

ORBIT DETERMINATION ACCURACY

ST 83.2 SR 12.4 SS 48.0
CRT -.9524 CRS .8434 CST -.6407
LSA 90.6 MSA 34.2 SSA .3
EL1 84.1 EL2 3.8 ALF 171.88

LAUNCH DATE MAY 20 1971

FLIGHT TIME 270.00

ARRIVAL DATE FEB 14 1972

HELIOCENTRIC CONIC

RL 151.38 LAL -.00 LOL 238.35 VL 32.430 GAL -1.81 AZL 93.33 HCA 190.92 SMA 189.13 ECC .20198 INC 3.3271 V1 29.433
RP 227.33 LAP .63 LOP 69.25 VP 21.585 GAP -.03 AZP 86.73 TAL 349.19 TAP 180.11 RCA 150.93 APO 227.33 V2 24.195
RC 237.203 GL -30.19 GP 9.65 ZAL 111.50 ZAP 48.64 ETS 187.91 ZAE 85.17 ETE 181.29 ZAC 111.77 ETC 273.18 LVI -20.28

DISTANCE 617.612

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 13.996 VHL 3.741 DLA -30.05 RAL 7.27 RAD 6640.0 VEL 11.578 PTH 6.62 VHP 3.434 DPA -12.92 RAP 297.76 ECC 1.2303
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 5 33 2424.71 -3.63 63.24 222.50 137.47 18 45 58 1424.7 14.68 47.32
60.00 19 29 23 2201.70 2.00 48.57 227.91 130.26 20 6 4 1201.7 17.73 30.03
70.00 21 23 25 1866.20 8.62 26.33 232.86 123.18 21 54 32 866.2 21.37 5.26
79.40 0 36 42 1272.07 19.71 347.46 238.97 113.15 0 57 54 272.1 27.52 322.72
79.40 0 36 42 1272.07 19.71 347.46 238.97 113.15 0 57 54 272.1 27.52 322.72
79.40 0 36 42 1272.07 19.71 347.46 238.97 113.15 0 57 54 272.1 27.52 322.72
110.00 2 26 48 6201.05 8.62 293.15 232.86 123.18 4 10 9 5201.1 21.37 272.08

DIFFERENTIAL CORRECTIONS

TDE -.3373 TRA 2.9278 TC3-7.5597 BAU 1.4200
RDE .0189 RRA -.4270 RC3 .6680 FAU .14964
FDE 1.0779 FRA 5.3151 FC3-9.2561 BSP 13190
BDE .3378 BRA 2.9588 BC3 7.5891 FSP 1836

MID-COURSE EXECUTION ACCURACY

SGT 7687.2 SGR 906.3 SG3 1019.1
RRR -.9697 RRF -.9839 RTF .9599
SGB 7740.5 R23 .2144 R13 -.9606
SGI 7737.4 SG2 220.1 THA 173.47

ORBIT DETERMINATION ACCURACY

ST 82.3 SR 11.4 SS 48.6
CRT -.9807 CRS .7931 CST -.6614
LSA 90.3 MSA 33.5 SSA .4
EL1 83.1 EL2 2.2 ALF 172.23

LAUNCH DATE MAY 20 1971 FLIGHT TIME 272.00 ARRIVAL DATE FEB 16 1972

MELIOCENTRIC CONIC DISTANCE 621.673 EARTH TO MARS
 RL 151.38 LAL -.00 LOL 238.35 VL 32.440 GAL -1.90 AZL 93.19 HCA 191.97 SMA 189.30 ECC .20295 INC 3.1925 V1 29.433
 RP 227.72 LAP .66 LOP 70.30 VP 21.553 GAP -.17 AZP 86.88 TAL 348.70 TAP 180.67 RCA 150.88 APO 227.72 V2 24.153
 RC 239.859 GL -28.93 GP 8.75 ZAL 112.40 ZAP 47.78 ETS 187.34 ZAE 84.12 ETE 181.36 ZAC 110.86 ETC 273.23 LVI -19.54

PLANETOCENTRIC CONIC
 C3 13.934 VHL 3.733 DLA -28.64 RAL 7.25 RAD 6640.0 VEL 11.576 PTH 6.62 VHP 3.451 DPA -13.75 RAP 298.22 ECC 1.2293
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 57 37 2456.34 -3.22 64.57 221.97 137.36 18 38 33 1456.3 13.13 48.73
 60.00 19 17 40 2243.37 .17 50.56 227.14 130.30 19 55 4 1243.4 16.02 32.22
 70.00 21 3 51 1931.08 6.18 29.78 231.67 123.66 21 36 2 931.1 19.30 9.15
 80.00 23 25 45 1486.70 12.95 .09 235.69 117.14 23 50 32 486.7 23.02 337.22
 85.27 1 23 2 121.94 18.86 336.00 238.50 111.96 1 41 44 121.9 26.27 311.33
 100.00 2 12 33 6249.21 12.95 299.36 235.69 117.14 3 56 42 5249.2 23.02 276.50
 110.00 2 7 14 6265.93 6.18 296.80 231.67 123.66 3 51 40 5265.9 19.30 275.97

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2686 TRA 3.0037 TC3-7.7257 BAU 1.4435 SGT 7812.3 SGR 832.0 SG3 1005.2 ST 81.9 SR 10.7 SS 49.2
 RDE .0256 RRA -.3998 RC3 .6019 FAU .14676 RRT -.9663 RRF -.9783 RTF .9597 CRT -.9966 CRS .7326 CST -.6830
 FDE 1.1482 FRA 5.2995 FC3-9.1184 BSP 13387 SGB 7856.5 R23 .1952 R13 -.9802 LSA 90.4 MSA 32.8 SSA .4
 BDE .2699 BRA 3.0302 BC3 7.7491 FSP 1808 SG1 7853.6 SG2 213.2 THA 174.12 EL1 82.6 EL2 .9 ALF 172.59

LAUNCH DATE MAY 20 1971 FLIGHT TIME 274.00 ARRIVAL DATE FEB 16 1972

MELIOCENTRIC CONIC DISTANCE 625.729 EARTH TO MARS
 RL 151.38 LAL -.00 LOL 238.35 VL 32.450 GAL -1.99 AZL 93.08 HCA 193.01 SMA 189.48 ECC .20393 INC 3.0797 V1 29.433
 RP 228.10 LAP .69 LOP 71.34 VP 21.522 GAP -.31 AZP 87.00 TAL 348.20 TAP 181.22 RCA 150.84 APO 228.12 V2 24.112
 RC 242.511 GL -27.83 GP 8.00 ZAL 113.26 ZAP 46.96 ETS 186.86 ZAE 83.10 ETE 181.42 ZAC 110.08 ETC 273.30 LVI -18.96

PLANETOCENTRIC CONIC
 C3 13.928 VHL 3.732 DLA -27.38 RAL 7.33 RAD 6640.0 VEL 11.575 PTH 6.62 VHP 3.471 DPA -14.43 RAP 298.68 ECC 1.2292
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 51 10 2485.05 -6.65 65.78 221.69 137.22 18 32 35 1485.0 11.72 49.99
 60.00 19 8 11 2280.17 -1.45 52.32 228.67 130.28 19 46 11 1280.2 14.49 34.12
 70.00 20 48 47 1984.36 4.16 32.58 230.92 123.93 21 21 51 984.4 17.52 12.26
 80.00 22 55 37 1587.32 9.76 5.85 234.32 118.36 23 22 4 587.3 20.58 343.70
 90.00 1 0 11 1198.27 13.07 338.94 236.03 115.30 1 20 10 198.3 22.39 315.78
 100.00 1 42 24 1061.80 9.76 327.22 234.32 118.36 2 0 6 61.8 20.58 305.08
 110.00 1 52 9 1031.18 4.16 321.50 230.92 123.93 2 9 20 31.2 17.52 301.18

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1989 TRA 3.0904 TC3-7.8496 BAU 1.4651 SGT 7935.2 SGR 771.1 SG3 990.4 ST 82.1 SR 10.1 SS 49.9
 RDE .0322 RRA -.3786 RC3 .5419 FAU .14326 RRT -.9614 RRF -.9713 RTF .9592 CRT -.9972 CRS .6642 CST -.7067
 FDE 1.2213 FRA 5.2919 FC3-8.9048 BSP 13633 SGB 7972.6 R23 .1759 R13 -.9597 LSA 91.1 MSA 32.1 SSA .5
 BDE .2015 BRA 3.1135 BC3 7.8663 FSP 1785 SG1 7969.8 SG2 211.2 THA 174.66 EL1 82.7 EL2 .8 ALF 172.97

LAUNCH DATE MAY 20 1971 FLIGHT TIME 276.00 ARRIVAL DATE FEB 20 1972

MELIOCENTRIC CONIC DISTANCE 629.779 EARTH TO MARS
 RL 151.38 LAL -.00 LOL 238.35 VL 32.460 GAL -2.08 AZL 92.98 HCA 194.05 SMA 189.65 ECC .20493 INC 2.9836 V1 29.433
 RP 228.49 LAP .72 LOP 72.38 VP 21.491 GAP -.45 AZP 87.11 TAL 347.71 TAP 181.78 RCA 150.79 APO 228.52 V2 24.071
 RC 245.157 GL -26.86 GP 7.36 ZAL 114.10 ZAP 46.19 ETS 186.44 ZAE 82.10 ETE 181.47 ZAC 109.42 ETC 273.37 LVI -18.49

PLANETOCENTRIC CONIC
 C3 13.965 VHL 3.737 DLA -26.22 RAL 7.48 RAD 6640.0 VEL 11.577 PTH 6.62 VHP 3.492 DPA -15.00 RAP 299.14 ECC 1.2298
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 45 50 2511.49 -7.97 66.91 221.59 137.06 18 27 42 1511.5 10.41 51.14
 60.00 19 0 20 2313.34 -2.91 53.90 226.43 130.21 19 38 54 1313.3 13.09 35.80
 70.00 20 36 39 2030.10 2.42 34.98 230.47 124.08 21 10 29 1030.1 15.95 14.88
 80.00 22 34 59 1659.78 7.39 9.92 233.53 119.01 23 2 38 659.8 18.65 348.22
 90.00 0 29 0 1304.72 9.89 345.14 234.86 116.63 0 50 45 304.7 20.02 322.68
 100.00 1 21 46 1134.25 7.39 331.29 233.53 119.01 1 40 41 134.3 18.65 309.58
 110.00 1 40 1 1076.96 2.42 323.89 230.47 124.08 1 57 58 77.0 15.95 303.80

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1335 TRA 3.1790 TC3-7.9554 BAU 1.4880 SGT 8057.0 SGR 720.1 SG3 974.4 ST 82.6 SR 9.8 SS 50.6
 RDE .0393 RRA -.3612 RC3 .4892 FAU .13973 RRT -.9551 RRF -.9627 RTF .9586 CRT -.9809 CRS .5673 CST -.7289
 FDE 1.2877 FRA 5.2778 FC3-8.6627 BSP 13870 SGB 8089.1 R23 .1569 R13 -.9590 LSA 92.2 MSA 31.4 SSA .5
 BDE .1392 BRA 3.1995 BC3 7.9704 FSP 1762 SG1 8086.3 SG2 212.7 THA 175.12 EL1 83.2 EL2 1.9 ALF 173.39

LAUNCH DATE MAY 20 1971 FLIGHT TIME 278.00 ARRIVAL DATE FEB 22 1972

MELIOCENTRIC CONIC DISTANCE 633.823 EARTH TO MARS
 RL 151.38 LAL -.00 LOL 238.35 VL 32.470 GAL -2.17 AZL 92.90 HCA 195.09 SMA 189.83 ECC .20595 INC 2.9008 V1 29.433
 RP 228.88 LAP .76 LOP 73.42 VP 21.461 GAP -.60 AZP 87.20 TAL 347.21 TAP 182.30 RCA 150.74 APO 228.93 V2 24.030
 RC 247.796 GL -26.00 GP 6.81 ZAL 114.92 ZAP 45.46 ETS 186.09 ZAE 81.13 ETE 181.50 ZAC 108.84 ETC 273.44 LVI -18.10

PLANETOCENTRIC CONIC
 C3 14.036 VHL 3.747 DLA -25.16 RAL 7.70 RAD 6640.1 VEL 11.580 PTH 6.62 VHP 3.514 DPA -15.48 RAP 299.61 ECC 1.2310
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 41 23 2536.10 -9.20 67.96 221.63 136.89 18 23 40 1536.1 9.19 52.20
 60.00 18 53 44 2343.71 -4.25 55.36 226.36 130.11 19 32 48 1343.7 11.80 37.33
 70.00 20 26 36 2070.64 .87 37.09 230.23 124.14 21 1 7 1070.6 14.54 17.16
 80.00 22 19 10 1718.37 5.44 13.18 233.06 119.40 22 47 48 718.4 17.01 351.79
 90.00 0 8 6 1379.68 7.57 349.43 234.22 117.33 0 31 6 379.7 18.17 327.41
 100.00 1 5 57 1192.84 5.44 334.55 233.06 119.40 1 25 50 192.8 17.01 313.16
 110.00 1 29 59 1117.45 .87 326.01 230.23 124.14 1 48 36 117.5 14.54 306.08

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.0719 TRA 3.2689 TC3-8.0473 BAU 1.5124 SGT 8178.0 SGR 677.1 SG3 957.4 ST 83.5 SR 9.5 SS 51.1
 RDE .0469 RRA -.3466 RC3 .4433 FAU .13648 RRT -.9473 RRF -.9524 RTF .9582 CRT -.9476 CRS .5034 CST -.7500
 FDE 1.3436 FRA 5.2533 FC3-8.4178 BSP 14081 SGB 8206.0 R23 .1375 R13 -.9585 LSA 93.5 MSA 30.7 SSA .6
 BDE .0859 BRA 3.2873 BC3 8.0595 FSP 1732 SG1 8203.1 SG2 216.2 THA 175.51 EL1 84.0 EL2 3.0 ALF 173.84

LAUNCH DATE MAY 20 1971

FLIGHT TIME 280.00

ARRIVAL DATE FEB 24 1972

HELIOCENTRIC CONIC

DISTANCE 837.861

EARTH TO MARS

RL 131.36 LAL -.00 LOL 238.33 VL 32.480 GAL -2.27 AZL 92.83 MCA 196.12 SMA 190.01 ECC .20898 INC 2.8286 V1 29.433
 RP 229.27 LAP .78 LOP 74.48 VP 21.431 GAP -.74 AZP 87.28 TAL 346.71 TAP 182.84 RCA 130.68 APO 229.34 V2 23.990
 RC 250.428 GL -29.21 GP 6.33 ZAL 119.72 ZAP 44.75 ETS 185.77 ZAE 80.17 ETE 181.55 ZAC 108.34 ETC 275.52 LVI -17.80

PLANETOCENTRIC CONIC

C3 14.136 VHL 3.780 DLA -24.18 RAL 7.96 RAD 8640.1 VEL 11.584 PTH 6.63 VHP 3.537 DPA -15.88 RAP 300.08 ECC 1.2326
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 37 38 2559.25 -10.34 68.96 221.78 136.70 18 20 17 1559.3 8.04 53.19
 60.00 18 48 6 2371.87 -5.48 56.71 226.42 129.99 19 27 38 1371.9 10.59 58.75
 70.00 20 18 7 2107.21 -.52 39.00 230.16 124.15 20 53 14 1107.2 13.24 19.20
 80.00 22 6 22 1768.42 3.76 15.95 232.83 119.64 22 35 50 768.4 15.55 354.79
 90.00 23 48 11 1440.00 5.67 352.84 233.88 117.75 24 12 11 440.0 16.58 331.12
 100.00 0 53 10 1242.89 3.76 337.31 232.83 119.64 1 13 53 242.9 15.55 316.15
 110.00 1 21 29 1154.03 -.52 327.92 230.16 124.15 1 40 43 154.0 13.24 308.11

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.0106 TRA 3.3649 TC3-8.1182 BAU 1.5381 SGT 8298.2 SGR 641.1 SG3 940.5 ST 84.8 SR 9.4 88 51.7
 RDE .0546 RRA -.3349 RC3 .4016 FAU .13299 RRT -.9378 RRF -.9404 RTF .9576 CRT -.8990 CR8 .4166 C8T -.7703
 PDE 1.3987 FRA 5.2343 FC3-8.1446 BSP 14308 SGB 8323.0 R23 .1203 R13 -.9578 LSA 95.2 NSA 30.0 85A .6
 BDE .0556 BRA 3.3815 BC3 8.1281 PSP 1704 SG1 8320.0 SG2 222.1 THA 175.85 EL1 85.2 EL2 4.1 ALF 174.31

LAUNCH DATE MAY 21 1971

FLIGHT TIME 90.00

ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC

DISTANCE 286.072

EARTH TO MARS

RL 151.41 LAL -.00 LOL 239.31 VL 35.854 GAL -.07 AZL 91.86 HCA 83.19 SMA 271.41 ECC .44214 INC 1.8601 V1 29.427
RP 207.13 LAP -1.85 LOP 322.90 VP 28.151 GAP 22.60 AZP 90.22 TAL 359.77 TAP 82.96 RCA 151.41 APO 391.41 V2 26.443
RC 56.701 GL -10.67 GP -.74 ZAL 93.54 ZAP 177.61 ETS 198.05 ZAE 173.13 ETE 37.60 ZAC 98.99 ETC 278.19 LVI -17.90

PLANETOCENTRIC CONIC

C3 38.818 VHL 6.230 DLA -20.36 RAL 338.94 RAD 6650.3 VEL 12.597 PTH 7.46 VHP 11.339 DPA -17.20 RAP 323.49 ECC 1.6388
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 20 25 2885.22 -25.89 84.33 205.11 131.42 16 8 31 1885.2 -8.30 66.91
60.00 16 24 27 2714.97 -19.96 74.13 210.24 125.77 17 9 41 1715.0 -4.42 55.27
70.00 17 45 28 2476.81 -14.30 58.75 214.17 121.35 18 26 44 1476.8 -.61 38.84
80.00 19 22 8 2174.24 -9.83 38.39 216.79 118.34 19 58 22 1174.2 2.46 17.79
90.00 20 56 53 1868.60 -8.02 16.88 217.75 117.21 21 28 2 868.6 3.72 356.01
100.00 22 5 0 1648.71 -9.83 359.76 216.79 118.34 22 32 29 648.7 2.46 339.16
110.00 22 44 54 1523.62 -14.30 347.66 214.17 121.35 23 10 18 523.6 -.61 327.76

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3553 TRA -.8301 TC3 .0354 BAU .0370 SGT 878.5 SGR 578.7 SG3 89.7 ST 20.4 SR 26.5 SS 8.9
RDE -.5722 RRA .2326 RC3 .0618 FAU .03183 RRT -.0207 RRF .0202 RTF -.5523 CRT .7169 CRS .3262 CST .8852
FDE .0881 FRA .5490 FC3 -.7098 BSP 1096 SGB 1052.0 R23 -.0000 R13 .5924 LSA 31.6 MSA 14.1 S8A 1.1
BDE .6735 BRA .8621 BC3 .0712 FSP 126 SG1 878.6 SG2 578.5 THA 178.62 EL1 31.2 EL2 12.1 ALF 55.18

LAUNCH DATE MAY 21 1971

FLIGHT TIME 92.00

ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC

DISTANCE 267.800

EARTH TO MARS

RL 151.41 LAL -.00 LOL 239.31 VL 35.334 GAL -.02 AZL 91.85 HCA 84.46 SMA 263.01 ECC .42433 INC 1.8529 V1 29.427
RP 207.05 LAP -1.84 LOP 323.76 VP 27.882 GAP 22.07 AZP 90.18 TAL 359.92 TAP 84.38 RCA 151.41 APO 374.62 V2 26.483
RC 57.030 GL -10.96 GP -.76 ZAL 93.39 ZAP 176.72 ETS 193.39 ZAE 172.51 ETE 33.44 ZAC 98.92 ETC 278.26 LVI -16.97

PLANETOCENTRIC CONIC

C3 38.131 VHL 6.011 DLA -20.68 RAL 338.91 RAD 6649.3 VEL 12.491 PTH 7.38 VHP 10.958 DPA -17.11 RAP 323.83 ECC 1.5946
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 21 42 2860.39 -24.77 83.04 204.03 132.02 16 9 23 1860.4 -7.06 65.85
60.00 16 26 13 2688.84 -18.91 72.72 209.16 126.28 17 11 2 1688.8 -3.28 54.02
70.00 17 47 53 2448.75 -13.30 57.19 213.10 121.75 18 28 42 1448.8 .46 37.38
80.00 19 25 20 2143.80 -8.84 36.88 215.74 118.64 20 1 3 1143.8 3.49 16.11
90.00 21 0 29 1836.82 -7.03 15.07 216.72 117.46 21 31 6 836.8 4.73 354.23
100.00 22 8 11 1618.27 -8.84 358.04 215.74 118.64 22 35 9 618.3 3.49 337.48
110.00 22 47 19 1495.57 -13.30 346.10 213.10 121.75 23 12 15 495.6 .46 326.30

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3557 TRA -.8229 TC3 .0532 BAU .0412 SGT 906.6 SGR 583.4 SG3 94.3 ST 21.1 SR 26.7 SS 9.3
RDE -.5560 RRA .2261 RC3 .0667 FAU .03200 RRT -.0157 RRF .0204 RTF -.5798 CRT .7194 CRS .3288 CST .8855
FDE .0920 FRA .5681 FC3 -.7667 BSP 1191 SGB 1078.1 R23 -.0049 R13 .5799 LSA 32.2 MSA 14.4 S8A 1.1
BDE .6601 BRA .8534 BC3 .0853 FSP 101 SG1 906.7 SG2 583.3 THA 179.01 EL1 31.7 EL2 12.3 ALF 54.15

LAUNCH DATE MAY 21 1971

FLIGHT TIME 94.00

ARRIVAL DATE AUG 23 1971

HELIOCENTRIC CONIC

DISTANCE 269.816

EARTH TO MARS

RL 151.41 LAL -.00 LOL 239.31 VL 35.127 GAL .03 AZL 91.85 HCA 85.72 SMA 255.63 ECC .40770 INC 1.8458 V1 29.427
RP 206.97 LAP -1.84 LOP 325.03 VP 27.628 GAP 21.55 AZP 90.14 TAL .09 TAP 85.81 RCA 151.41 APO 359.85 V2 26.462
RC 57.440 GL -11.24 GP -.78 ZAL 93.21 ZAP 175.80 ETS 190.72 ZAE 171.90 ETE 29.99 ZAC 98.86 ETC 278.33 LVI -18.04

PLANETOCENTRIC CONIC

C3 33.693 VHL 5.805 DLA -21.01 RAL 338.85 RAD 6648.4 VEL 12.394 PTH 7.31 VHP 10.588 DPA -17.02 RAP 324.17 ECC 1.5545
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 22 56 2835.79 -23.64 81.78 202.98 132.57 16 10 12 1835.8 -5.83 64.81
60.00 16 27 58 2662.86 -17.86 71.33 208.10 126.75 17 12 20 1662.9 -2.13 52.77
70.00 17 50 19 2420.73 -12.29 55.64 212.05 122.12 18 30 40 1420.7 1.53 35.92
80.00 19 28 35 2113.22 -7.84 34.96 214.72 118.90 20 3 48 1113.2 4.52 14.43
90.00 21 4 12 1804.77 -6.02 13.26 215.70 117.68 21 34 17 804.8 5.75 352.42
100.00 22 11 27 1587.69 -7.84 356.33 214.72 118.90 22 37 54 587.7 4.52 335.80
110.00 22 49 46 1467.55 -12.29 344.56 212.05 122.12 23 14 13 467.6 1.53 324.83

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3341 TRA -.8699 TC3 .0910 BAU .0519 SGT 982.8 SGR 588.8 SG3 109.8 ST 21.5 SR 26.9 SS 10.0
RDE -.5412 RRA .2211 RC3 .0706 FAU .03525 RRT -.0322 RRF .0800 RTF -.5.36 CRT .6769 CRS .0469 CST .7599
FDE .0388 FRA .6734 FC3 -.9056 BSP 1141 SGB 1145.7 R23 -.0029 R13 .6247 LSA 31.9 MSA 15.1 S8A 1.1
BDE .6360 BRA .8975 BC3 .1152 FSP 112 SG1 983.6 SG2 587.6 THA 177.22 EL1 31.7 EL2 13.4 ALF 54.28

LAUNCH DATE MAY 21 1971

FLIGHT TIME 96.00

ARRIVAL DATE AUG 25 1971

HELIOCENTRIC CONIC

DISTANCE 272.065

EARTH TO MARS

RL 151.41 LAL -.00 LOL 239.31 VL 34.932 GAL .08 AZL 91.84 HCA 86.99 SMA 249.09 ECC .39216 INC 1.8387 V1 29.427
RP 206.90 LAP -1.84 LOP 326.30 VP 27.387 GAP 21.03 AZP 90.10 TAL .27 TAP 87.26 RCA 151.41 APO 346.78 V2 26.469
RC 57.930 GL -11.52 GP -.80 ZAL 93.00 ZAP 174.87 ETS 189.01 ZAE 171.31 ETE 27.10 ZAC 98.79 ETC 278.39 LVI -18.10

PLANETOCENTRIC CONIC

C3 31.480 VHL 5.611 DLA -21.35 RAL 338.78 RAD 6647.6 VEL 12.305 PTH 7.24 VHP 10.234 DPA -16.94 RAP 324.50 ECC 1.5181
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 24 6 2811.46 -22.52 80.56 201.95 133.09 16 10 58 1811.5 -4.61 63.78
60.00 16 29 41 2637.08 -16.80 69.97 207.06 127.19 17 13 38 1637.1 -1.00 51.54
70.00 17 52 46 2392.81 -11.27 54.12 211.03 122.46 18 32 39 1392.8 2.59 34.46
80.00 19 31 54 2082.54 -6.82 33.25 213.71 119.14 20 6 37 1082.5 5.54 12.73
90.00 21 8 2 1772.50 -5.00 11.44 214.71 117.87 21 37 34 772.5 6.77 350.60
100.00 22 14 46 1557.01 -6.82 354.61 213.71 119.14 22 40 43 557.0 5.54 334.10
110.00 22 52 12 1439.63 -11.27 343.04 211.03 122.46 23 16 12 439.6 2.59 323.38

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3288 TRA -.7875 TC3 .1024 BAU .0535 SGT 933.5 SGR 591.8 SG3 112.9 ST 21.2 SR 27.1 SS 9.4
RDE -.5258 RRA .2134 RC3 .0754 FAU .03645 RRT -.0218 RRF .0288 RTF -.5936 CRT .7059 CRS .2045 CST .8294
FDE .0683 FRA .6038 FC3 -1.0023 BSP 1239 SGB 1105.3 R23 -.0072 R13 .5938 LSA 32.3 MSA 15.1 S8A 1.2
BDE .6201 BRA .8159 BC3 .1272 FSP 130 SG1 933.7 SG2 591.6 THA 178.68 EL1 31.9 EL2 12.7 ALF 54.64

LAUNCH DATE MAY 21 1971

FLIGHT TIME 98.00

ARRIVAL DATE AUG 27 1971

HELIOCENTRIC CONIC

DISTANCE 274.521

EARTH TO MARS

RL 151.41 LAL -0.00 LOL 239.31 VL 34.750 GAL .13 AZL 91.83 HCA 88.25 SMA 243.28 ECC .37784 INC 1.8316 V1 29.427
 RP 206.85 LAP -1.83 LOP 327.58 VP 27.161 GAP 20.53 AZP 90.06 TAL .47 TAP 88.72 RCA 151.41 APO 335.15 V2 26.476
 RC 58.498 GL -11.81 GP -.82 ZAL 92.77 ZAP 173.92 ETS 187.82 ZAE 170.75 ETE 24.64 ZAC 98.72 ETC 278.45 LVI -18.16

PLANETOCENTRIC CONIC

C3 29.468 VHL 5.428 DLA -21.70 RAL 338.65 RAD 6646.8 VEL 12.223 PTH 7.18 VHP 9.893 DPA -16.86 RAP 324.81 ECC 1.4850
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 25 14 2787.44 -21.39 79.38 200.95 133.57 16 11 41 1787.4 -3.40 62.77
 60.00 16 31 22 2611.56 -15.75 68.64 206.05 127.59 17 14 53 1611.6 .12 50.32
 70.00 17 55 14 2365.02 -10.25 52.61 210.02 122.76 18 34 39 1365.0 3.65 33.00
 80.00 19 35 18 2051.81 -5.80 31.54 212.72 119.34 20 9 30 1051.8 6.57 11.02
 90.00 21 11 58 1740.03 -3.96 9.62 213.74 118.02 21 40 58 740.0 7.79 348.76
 100.00 22 18 10 1526.28 -5.80 352.91 212.72 119.34 22 43 37 526.3 6.57 332.39
 110.00 22 54 40 1411.84 -10.25 341.53 210.02 122.76 23 18 12 411.8 3.65 321.92

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3232 TRA -.7831 TC3 .1149 BAU .0552 SGT 960.8 SGR 595.3 SG3 119.0 ST 21.7 SR 27.2 SS 9.7
 RDE -.5113 RRA .2074 RC3 .0804 FAU .03733 RRT -.0288 RRF .0288 RTF -.6036 CRT .7009 CRS .1991 CST .8305
 FDE .0697 FRA .6250 FC3-1.0967 BSP 1323 SGB 1130.3 R23 -.0036 R13 .6037 LSA 32.6 MSA 15.3 SSA 1.2
 BDE .6049 BRA .8101 BC3 .1402 FSP 147 SG1 961.0 SG2 595.0 THA 178.53 EL1 32.2 EL2 13.0 ALF 54.10

LAUNCH DATE MAY 21 1971

FLIGHT TIME 100.00

ARRIVAL DATE AUG 29 1971

HELIOCENTRIC CONIC

DISTANCE 277.188

EARTH TO MARS

RL 151.41 LAL -0.00 LOL 239.31 VL 34.578 GAL .18 AZL 91.82 HCA 89.52 SMA 238.08 ECC .36405 INC 1.8245 V1 29.427
 RP 206.80 LAP -1.82 LOP 328.83 VP 26.946 GAP 20.03 AZP 90.02 TAL .68 TAP 90.21 RCA 151.41 APO 324.73 V2 26.482
 RC 59.137 GL -12.09 GP -.85 ZAL 92.51 ZAP 172.96 ETS 186.95 ZAE 170.23 ETE 22.54 ZAC 98.65 ETC 278.51 LVI -18.21

PLANETOCENTRIC CONIC

C3 27.638 VHL 5.257 DLA -22.05 RAL 338.51 RAD 6646.1 VEL 12.149 PTH 7.12 VHP 9.565 DPA -16.78 RAP 325.11 ECC 1.4549
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 26 18 2763.79 -20.28 78.24 199.98 134.01 16 12 22 1763.8 -2.22 61.78
 60.00 16 33 1 2586.35 -14.70 67.33 205.08 127.98 17 16 8 1586.3 1.23 49.12
 70.00 17 37 42 2337.42 -9.23 51.13 209.04 123.03 18 36 39 1337.4 4.70 31.98
 80.00 19 38 47 2021.05 -4.77 29.83 211.76 119.51 20 12 28 1021.1 7.59 9.31
 90.00 21 16 2 1707.38 -2.91 7.79 212.79 118.14 21 44 29 707.4 8.80 348.89
 100.00 22 21 39 1495.52 -4.77 351.20 211.76 119.51 22 46 34 495.5 7.59 330.68
 110.00 22 57 8 1384.24 -9.23 340.05 209.04 123.03 23 20 12 384.2 4.70 320.47

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3194 TRA -.7765 TC3 .1345 BAU .0588 SGT 987.4 SGR 598.3 SG3 129.0 ST 22.1 SR 27.3 SS 10.1
 RDE -.4973 RRA .2017 RC3 .0852 FAU .03892 RRT -.0257 RRF .0288 RTF -.6127 CRT .6987 CRS .1810 CST .8219
 FDE .0682 FRA .6486 FC3-1.2192 BSP 1448 SGB 1154.3 R23 -.0040 R13 .6128 LSA 32.9 MSA 15.9 SSA 1.2
 BDE .5911 BRA .8023 BC3 .1592 FSP 157 SG1 987.6 SG2 598.0 THA 178.59 EL1 32.6 EL2 13.3 ALF 53.43

LAUNCH DATE MAY 21 1971

FLIGHT TIME 102.00

ARRIVAL DATE AUG 31 1971

HELIOCENTRIC CONIC

DISTANCE 279.948

EARTH TO MARS

RL 151.41 LAL -0.00 LOL 239.31 VL 34.416 GAL .24 AZL 91.82 HCA 90.79 SMA 233.41 ECC .35135 INC 1.8175 V1 29.427
 RP 206.75 LAP -1.82 LOP 330.10 VP 26.743 GAP 19.54 AZP 89.97 TAL .91 TAP 91.70 RCA 151.40 APO 315.42 V2 26.487
 RC 59.850 GL -12.37 GP -.87 ZAL 92.23 ZAP 171.98 ETS 186.29 ZAE 169.75 ETE 20.72 ZAC 98.59 ETC 278.57 LVI -18.26

PLANETOCENTRIC CONIC

C3 25.972 VHL 5.098 DLA -22.42 RAL 338.35 RAD 6645.4 VEL 12.080 PTH 7.06 VHP 9.250 DPA -16.71 RAP 325.41 ECC 1.4274
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 27 19 2740.55 -19.18 77.13 199.03 134.42 16 12 59 1740.5 -1.05 60.81
 60.00 16 34 39 2561.47 -13.65 66.06 204.09 128.30 17 17 20 1561.5 2.33 47.93
 70.00 18 0 10 2310.04 -8.21 49.66 208.08 123.27 18 38 40 1310.0 5.74 30.12
 80.00 19 42 20 1990.31 -3.74 28.14 210.83 119.64 20 15 30 990.3 8.60 7.58
 90.00 21 20 13 1674.57 -1.86 5.96 211.87 118.22 21 48 8 674.6 9.81 345.01
 100.00 22 25 12 1464.78 -3.74 349.51 210.83 119.64 22 49 37 464.8 8.60 328.95
 110.00 22 59 37 1358.86 -8.21 338.58 208.08 123.27 23 22 14 358.9 5.74 319.03

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3121 TRA -.7643 TC3 .1598 BAU .0637 SGT 1006.9 SGR 601.1 SG3 139.5 ST 22.4 SR 27.4 SS 10.4
 RDE -.4839 RRA .1961 RC3 .0900 FAU .04042 RRT -.0261 RRF .0324 RTF -.6185 CRT .6951 CRS .1510 CST .8077
 FDE .0640 FRA .6770 FC3-1.3475 BSP 1400 SGB 1172.6 R23 -.0068 R13 .6286 LSA 33.1 MSA 16.3 SSA 1.3
 BDE .5758 BRA .7891 BC3 .1834 FSP 173 SG1 1007.0 SG2 600.7 THA 178.61 EL1 32.8 EL2 13.5 ALF 53.16

LAUNCH DATE MAY 21 1971

FLIGHT TIME 104.00

ARRIVAL DATE SEP 2 1971

HELIOCENTRIC CONIC

DISTANCE 282.877

EARTH TO MARS

RL 151.41 LAL -0.00 LOL 239.31 VL 34.265 GAL .29 AZL 91.81 HCA 92.08 SMA 229.21 ECC .33946 INC 1.8103 V1 29.427
 RP 206.72 LAP -1.81 LOP 331.37 VP 26.552 GAP 19.06 AZP 89.93 TAL 1.15 TAP 93.21 RCA 151.40 APO 307.02 V2 26.491
 RC 60.633 GL -12.64 GP -.90 ZAL 91.93 ZAP 170.98 ETS 185.77 ZAE 169.33 ETE 19.12 ZAC 98.52 ETC 278.62 LVI -18.31

PLANETOCENTRIC CONIC

C3 24.454 VHL 4.945 DLA -22.79 RAL 338.16 RAD 6644.8 VEL 12.018 PTH 7.01 VHP 8.946 DPA -16.64 RAP 325.68 ECC 1.4024
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 28 17 2717.74 -18.09 76.06 198.10 134.79 16 13 34 1717.7 .10 59.86
 60.00 16 36 15 2536.98 -12.61 64.83 203.15 128.60 17 18 32 1537.0 3.41 46.76
 70.00 18 2 39 2282.94 -7.20 48.22 207.15 123.48 18 40 42 1282.9 6.76 28.68
 80.00 19 45 58 1959.61 -2.71 26.45 209.92 119.75 20 18 38 959.6 9.59 5.85
 90.00 21 24 33 1641.62 -0.80 4.12 210.98 118.27 21 51 55 641.6 10.81 343.11
 100.00 22 28 50 1434.08 -2.71 347.82 209.92 119.75 22 52 44 434.1 9.59 327.22
 110.00 23 2 6 1329.76 -7.20 337.14 207.15 123.48 23 24 16 329.8 6.76 317.60

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3048 TRA -.7540 TC3 .1824 BAU .0672 SGT 1027.2 SGR 603.4 SG3 148.4 ST 22.7 SR 27.5 SS 10.7
 RDE -.4710 RRA .1907 RC3 .0948 FAU .04207 RRT -.0281 RRF .0354 RTF -.6373 CRT .6905 CRS .1152 CST .7901
 FDE .0576 FRA .7016 FC3-1.4895 BSP 1442 SGB 1191.3 R23 -.0081 R13 .6375 LSA 33.2 MSA 16.7 SSA 1.3
 BDE .5611 BRA .7777 BC3 .2056 FSP 187 SG1 1027.4 SG2 603.0 THA 178.56 EL1 32.9 EL2 13.7 ALF 52.89

LAUNCH DATE MAY 21 1971

FLIGHT TIME 106.00

ARRIVAL DATE SEP 4 1971

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HELIOCENTRIC CONIC                                DISTANCE 285.927                                EARTH TO MARS
RL 151.41 LAL -.00 LOL 239.31 VL 34.122 GAL .35 AZL 91.80 HCA 93.33 SMA 225.41 ECC .32834 INC 1.8032 V1 29.427
RP 206.70 LAP -1.80 LOP 332.64 VP 26.370 GAP 18.59 AZP 89.90 TAL 1.40 TAP 94.72 RCA 151.40 APO 299.42 V2 26.494
RC 61.483 GL -12.92 GP -.93 ZAL 91.61 ZAP 189.98 ETS 185.35 ZAE 189.97 ETE 17.70 ZAC 98.45 ETC 278.67 LVI -18.34

PLANETOCENTRIC CONIC
C3 23.069 VHL 4.803 DLA -23.16 RAL 337.95 RAD 8644.2 VEL 11.961 PTH 6.96 VHP 8.653 DPA -16.59 RAP 325.95 ECC 1.3797
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 29 11 2695.41 -17.01 75.02 197.20 135.13 16 14 7 1695.4 1.22 56.93
60.00 16 37 48 2512.92 -11.59 63.82 202.24 128.87 17 19 41 1512.9 4.46 45.60
70.00 18 5 9 2256.15 -6.19 46.80 206.24 123.66 18 42 45 1256.1 7.77 27.26
80.00 19 49 41 1928.99 -1.67 24.77 209.04 119.82 20 21 50 929.0 10.58 4.12
90.00 21 29 2 1608.53 .27 2.28 210.12 118.28 21 55 51 608.5 11.80 341.18
100.00 22 32 33 1403.46 -1.67 346.13 209.04 119.82 22 55 56 403.5 10.58 325.48
110.00 23 4 35 1302.97 -6.19 335.72 206.24 123.66 23 26 18 303.0 7.77 316.18

DIFFERENTIAL CORRECTIONS                                MID-COURSE EXECUTION ACCURACY                                ORBIT DETERMINATION ACCURACY
TDE -.2974 TRA -.7430 TC3 .2083 BAU .0712                SGT 1046.5 SCR 605.3 SG3 159.1                ST 22.9 SR 27.6 SS 11.0
RDE -.4586 RRA .1855 RC3 .0995 FAU .04379              RRT -.0296 RRF .0383 RTF -.6483                CRT .6858 CRS .0835 CST .7745
PDE .0519 FRA .7286 FC3-1.6434 B8P 1486                SGB 1209.0 R23 -.0095 R13 .6485                LSA 33.3 MSA 17.1 SSA 1.3
BDE .5466 BRA .7658 BC3 .2309 F8P 203                  SGI 1046.8 SG2 604.9 THA 178.53                EL1 33.0 EL2 13.9 ALF 52.66
    
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LAUNCH DATE MAY 21 1971

FLIGHT TIME 106.00

ARRIVAL DATE SEP 6 1971

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HELIOCENTRIC CONIC                                DISTANCE 289.084                                EARTH TO MARS
RL 151.41 LAL -.00 LOL 239.31 VL 33.987 GAL .40 AZL 91.80 HCA 94.60 SMA 221.98 ECC .31792 INC 1.7961 V1 29.427
RP 206.68 LAP -1.79 LOP 333.91 VP 26.198 GAP 18.13 AZP 89.66 TAL 1.66 TAP 96.25 RCA 151.39 APO 292.52 V2 26.498
RC 62.398 GL -13.19 GP -.96 ZAL 91.27 ZAP 189.93 ETS 185.01 ZAE 188.66 ETE 16.44 ZAC 98.39 ETC 278.72 LVI -18.38

PLANETOCENTRIC CONIC
C3 21.804 VHL 4.669 DLA -23.54 RAL 337.72 RAD 8643.6 VEL 11.908 PTH 6.92 VHP 8.370 DPA -16.53 RAP 326.19 ECC 1.3588
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 30 3 2673.59 -15.95 74.02 196.33 135.44 16 14 36 1673.5 2.32 58.01
60.00 16 39 20 2489.27 -10.57 62.44 201.35 129.12 17 20 49 1489.3 5.50 44.46
70.00 18 7 39 2229.66 -5.19 45.41 205.36 123.80 18 44 48 1229.7 8.76 25.85
80.00 19 53 29 1898.41 -.63 23.09 208.19 119.85 20 25 8 898.4 11.56 2.37
90.00 21 33 41 1575.23 1.34 .42 209.29 118.25 21 59 58 575.2 12.78 339.23
100.00 22 36 21 1372.68 -.63 344.45 208.19 119.85 22 59 14 372.9 11.56 323.74
110.00 23 7 5 1276.48 -5.19 334.32 205.36 123.80 23 28 21 276.5 8.76 314.77

DIFFERENTIAL CORRECTIONS                                MID-COURSE EXECUTION ACCURACY                                ORBIT DETERMINATION ACCURACY
TDE -.2810 TRA -.7243 TC3 .2495 BAU .0788                SGT 1034.9 SCR 606.7 SG3 170.3                ST 22.6 SR 27.6 SS 11.3
RDE -.4467 RRA .1804 RC3 .1041 FAU .04564              RRT -.0350 RRF .0399 RTF -.6695                CRT .6733 CRS .0558 CST .7678
PDE .0467 FRA .7539 FC3-1.8123 B8P 1439                SGB 1217.0 R23 -.0049 R13 .6697                LSA 33.1 MSA 17.5 SSA 1.3
BDE .5277 BRA .7484 BC3 .2704 F8P 227                  SGI 1035.3 SG2 606.2 THA 178.28                EL1 32.8 EL2 14.1 ALF 53.48
    
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LAUNCH DATE MAY 21 1971

FLIGHT TIME 110.00

ARRIVAL DATE SEP 8 1971

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HELIOCENTRIC CONIC                                DISTANCE 292.338                                EARTH TO MARS
RL 151.41 LAL -.00 LOL 239.31 VL 33.861 GAL .45 AZL 91.79 HCA 95.86 SMA 218.83 ECC .30817 INC 1.7890 V1 29.427
RP 206.67 LAP -1.78 LOP 335.18 VP 26.035 GAP 17.67 AZP 89.72 TAL 1.92 TAP 97.79 RCA 151.39 APO 286.26 V2 26.496
RC 63.376 GL -13.43 GP -.99 ZAL 90.92 ZAP 187.91 ETS 184.73 ZAE 188.42 ETE 15.29 ZAC 98.33 ETC 278.78 LVI -18.40

PLANETOCENTRIC CONIC
C3 20.650 VHL 4.544 DLA -23.92 RAL 337.48 RAD 8643.1 VEL 11.860 PTH 6.87 VHP 8.098 DPA -16.49 RAP 326.43 ECC 1.3398
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 30 52 2652.28 -14.92 73.06 195.48 135.72 16 15 4 1652.3 3.38 57.12
60.00 16 40 50 2466.19 -9.58 61.30 200.48 129.34 17 21 56 1466.2 6.51 43.35
70.00 18 10 8 2203.64 -4.20 44.04 204.51 123.93 18 46 52 1203.6 9.72 24.45
80.00 19 57 22 1868.04 .40 21.42 207.37 119.86 20 28 30 868.0 12.51 .62
90.00 21 38 29 1541.89 2.42 358.56 208.49 118.18 22 4 11 541.9 13.75 337.26
100.00 22 40 14 1342.51 .40 342.79 207.37 119.86 23 2 37 342.5 12.51 321.99
110.00 23 9 35 1250.46 -4.20 332.96 204.51 123.93 23 30 25 250.5 9.72 313.37

DIFFERENTIAL CORRECTIONS                                MID-COURSE EXECUTION ACCURACY                                ORBIT DETERMINATION ACCURACY
TDE -.2766 TRA -.7174 TC3 .2727 BAU .0810                SGT 1078.0 SCR 607.8 SG3 182.5                ST 22.9 SR 27.7 SS 11.6
RDE -.4352 RRA .1756 RC3 .1084 FAU .04767              RRT -.0364 RRF .0429 RTF -.1.31                CRT .6698 CRS .0184 CST .7466
PDE .0386 FRA .7808 FC3-1.9986 B8P 1523                SGB 1237.6 R23 -.0071 R13 .6733                LSA 33.2 MSA 17.9 SSA 1.4
BDE .5156 BRA .7386 BC3 .2934 F8P 245                  SGI 1078.4 SG2 607.2 THA 178.28                EL1 33.0 EL2 14.3 ALF 52.94
    
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LAUNCH DATE MAY 21 1971

FLIGHT TIME 112.00

ARRIVAL DATE SEP 10 1971

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HELIOCENTRIC CONIC                                DISTANCE 295.677                                EARTH TO MARS
RL 151.41 LAL -.00 LOL 239.31 VL 33.743 GAL .51 AZL 91.78 HCA 97.13 SMA 215.97 ECC .29905 INC 1.7818 V1 29.427
RP 206.68 LAP -1.77 LOP 336.45 VP 25.880 GAP 17.23 AZP 89.78 TAL 2.20 TAP 99.33 RCA 151.38 APO 280.56 V2 26.496
RC 64.414 GL -13.71 GP -1.02 ZAL 90.55 ZAP 186.84 ETS 184.49 ZAE 188.25 ETE 14.25 ZAC 98.26 ETC 278.80 LVI -18.42

PLANETOCENTRIC CONIC
C3 19.595 VHL 4.427 DLA -24.29 RAL 337.21 RAD 8642.7 VEL 11.816 PTH 6.84 VHP 7.836 DPA -16.45 RAP 326.64 ECC 1.3225
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 31 37 2631.58 -13.91 72.13 194.66 135.97 16 15 29 1631.6 4.42 56.25
60.00 16 42 18 2443.63 -8.61 60.20 199.65 129.53 17 23 1 1443.6 7.49 42.25
70.00 18 12 38 2178.04 -3.23 42.70 203.69 124.02 18 48 56 1178.0 10.66 23.07
80.00 20 1 20 1837.81 1.42 19.76 206.58 119.83 20 31 58 837.8 13.45 358.87
90.00 21 43 29 1508.37 3.49 356.68 207.73 118.08 22 8 37 508.4 14.70 335.26
100.00 22 44 12 1312.28 1.42 341.13 206.58 119.83 23 6 4 312.3 13.45 320.24
110.00 23 12 4 1224.86 -3.23 331.62 203.69 124.02 23 32 29 224.9 10.66 311.99

DIFFERENTIAL CORRECTIONS                                MID-COURSE EXECUTION ACCURACY                                ORBIT DETERMINATION ACCURACY
TDE -.2723 TRA -.7091 TC3 .2987 BAU .0836                SGT 1099.2 SCR 608.5 SG3 195.6                ST 23.2 SR 27.7 SS 11.9
RDE -.4241 RRA .1709 RC3 .1126 FAU .04985              RRT -.0368 RRF .0452 RTF -.6783                CRT .6670 CRS -.0125 CST .7284
PDE .0317 FRA .8096 FC3-2.2023 B8P .590                SGB 1256.4 R23 -.0093 R13 .6785                LSA 33.3 MSA 18.3 SSA 1.4
BDE .5040 BRA .7295 BC3 .3192 F8P 266                  SGI 1099.5 SG2 607.9 THA 178.32                EL1 33.1 EL2 14.5 ALF 52.44
    
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LAUNCH DATE MAY 21 1971

FLIGHT TIME 114.00

ARRIVAL DATE SEP 12 1971

HELIOCENTRIC CONIC

DISTANCE 299.093

EARTH TO MARS

RL 151.41 LAL -.00 LOL 239.31 VL 33.631 GAL .56 AZL 91.77 HCA 98.40 SMA 213.36 ECC .29051 INC 1.7745 V1 29.427
RP 206.69 LAP -1.76 LOP 337.72 VP 25.733 GAP 16.80 AZP 89.74 TAL 2.48 TAP 100.88 RCA 151.38 APO 275.35 V2 26.495
RC 65.512 GL -13.96 GP -1.05 ZAL 90.18 ZAP 165.76 ETS 184.28 ZAE 168.14 ETE 13.30 ZAC 98.20 ETC 278.83 LVI -18.43

PLANETOCENTRIC CONIC

C3 18.630 VHL 4.316 DLA -24.67 RAL 336.94 RAD 6642.2 VEL 11.775 PTH 6.80 VHP 7.583 DPA -16.42 RAP 326.84 ECC 1.3068
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 32 20 2811.47 -12.92 71.24 193.86 136.20 16 15 52 1611.5 5.43 55.41
60.00 16 43 43 2421.63 -7.65 59.12 198.84 129.69 17 24 5 1421.6 6.44 41.18
70.00 18 15 7 2152.91 -2.27 41.38 202.89 124.09 18 51 0 1152.9 11.58 21.70
80.00 20 5 24 1807.75 2.44 18.11 205.82 119.77 20 35 32 807.8 14.37 357.11
90.00 21 48 41 1474.66 4.57 354.79 207.00 117.94 22 13 15 474.7 15.64 333.23
100.00 22 48 16 1282.23 2.44 339.48 205.82 119.77 23 9 38 282.2 14.37 318.48
110.00 23 14 33 1199.73 -2.27 330.30 202.89 124.09 23 34 33 199.7 11.58 310.62

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2644 TRA -.6997 TC3 .3260 BAU .0862 SGT 1116.6 SGR 608.8 SG3 209.8 ST 23.3 SR 27.7 SS 12.3
RDE -.4136 RRA .1665 RC3 .1183 FAU .05225 RRT -.0407 RRF .0496 RTF -.6830 CRT .6598 CR8 -.0587 CST .7030
FDE .0199 FRA .8394 FC3-2.4283 BSP 1628 SGB 1271.8 R23 -.0100 R13 .6833 LSA 33.3 MSA 18.7 SSA 1.4
BDE .4909 BRA .7192 BC3 .3461 FSP 286 SGI 1117.0 SG2 608.1 THA 178.19 EL1 33.1 EL2 14.7 ALF 52.36

LAUNCH DATE MAY 21 1971

FLIGHT TIME 116.00

ARRIVAL DATE SEP 14 1971

HELIOCENTRIC CONIC

DISTANCE 302.578

EARTH TO MARS

RL 151.41 LAL -.00 LOL 239.31 VL 33.526 GAL .61 AZL 91.77 HCA 99.67 SMA 210.98 ECC .28252 INC 1.7673 V1 29.427
RP 206.71 LAP -1.74 LOP 338.99 VP 25.594 GAP 16.37 AZP 89.70 TAL 2.76 TAP 102.43 RCA 151.37 APO 270.58 V2 26.493
RC 66.867 GL -14.21 GP -1.09 ZAL 89.80 ZAP 164.66 ETS 184.10 ZAE 168.10 ETE 12.41 ZAC 98.14 ETC 278.86 LVI -18.44

PLANETOCENTRIC CONIC

C3 17.747 VHL 4.213 DLA -25.04 RAL 336.65 RAD 6641.8 VEL 11.738 PTH 6.77 VHP 7.339 DPA -16.39 RAP 327.01 ECC 1.2921
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 33 0 2591.98 -11.96 70.38 193.09 136.40 16 16 12 1592.0 6.41 54.58
60.00 16 45 6 2400.23 -6.72 58.08 198.06 129.83 17 25 6 1400.2 9.37 40.13
70.00 18 17 36 2128.29 -1.33 40.10 202.12 124.13 18 53 4 1128.3 12.48 20.36
80.00 20 9 33 1777.89 3.44 16.47 205.09 119.68 20 39 11 777.9 15.27 355.35
90.00 21 54 6 1440.71 5.65 352.88 206.31 117.76 22 18 6 440.7 16.57 331.17
100.00 22 52 25 1252.36 3.44 337.84 205.09 119.68 23 13 17 252.4 15.27 316.72
110.00 23 17 2 1175.10 -1.33 329.02 202.12 124.13 23 36 37 175.1 12.48 309.27

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2580 TRA -.6908 TC3 .3534 BAU .0885 SGT 1134.4 SGR 608.8 SG3 224.4 ST 23.4 SR 27.7 SS 12.6
RDE -.4034 RRA .1623 RC3 .1198 FAU .05460 RRT -.0435 RRF .0538 RTF -.6883 CRT .6541 CR8 -.0980 CST .6802
FDE .0092 FRA .8708 FC3-2.6635 BSP 1687 SGB 1287.5 R23 -.0118 R13 .6886 LSA 33.3 MSA 19.2 SSA 1.5
BDE .4788 BRA .7096 BC3 .3731 FSP 312 SGI 1134.9 SG2 608.0 THA 178.12 EL1 33.1 EL2 14.8 ALF 52.14

LAUNCH DATE MAY 21 1971

FLIGHT TIME 118.00

ARRIVAL DATE SEP 16 1971

HELIOCENTRIC CONIC

DISTANCE 306.126

EARTH TO MARS

RL 151.41 LAL -.00 LOL 239.31 VL 33.428 GAL .66 AZL 91.78 HCA 100.94 SMA 208.79 ECC .27504 INC 1.7599 V1 29.427
RP 206.73 LAP -1.73 LOP 340.26 VP 25.461 GAP 15.95 AZP 89.67 TAL 3.04 TAP 103.98 RCA 151.36 APO 266.21 V2 26.489
RC 67.877 GL -14.44 GP -1.12 ZAL 89.41 ZAP 163.54 ETS 183.95 ZAE 168.14 ETE 11.57 ZAC 98.08 ETC 278.89 LVI -18.44

PLANETOCENTRIC CONIC

C3 16.938 VHL 4.118 DLA -25.40 RAL 336.38 RAD 6641.4 VEL 11.704 PTH 6.74 VHP 7.104 DPA -16.38 RAP 327.17 ECC 1.2788
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 33 37 2573.13 -11.03 69.56 192.34 136.58 16 16 30 1573.1 7.35 53.79
60.00 16 46 26 2379.46 -5.81 57.08 197.30 129.95 17 26 6 1379.5 10.26 39.11
70.00 18 20 3 2104.21 -.41 38.84 201.38 124.15 18 55 8 1104.2 13.34 19.03
80.00 20 13 48 1748.24 4.44 14.83 204.40 119.56 20 42 56 748.2 16.14 353.98
90.00 21 59 46 1406.47 6.73 350.95 205.65 117.53 22 23 12 406.5 17.47 329.07
100.00 22 56 39 1222.71 4.44 336.20 204.40 119.56 23 17 2 222.7 16.14 314.95
110.00 23 19 30 1151.03 -.41 327.76 201.38 124.15 23 38 41 151.0 13.34 307.95

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2510 TRA -.6793 TC3 .3852 BAU .0916 SGT 1148.4 SGR 608.3 SG3 240.4 ST 23.5 SR 27.6 SS 13.0
RDE -.3937 RRA .1583 RC3 .1228 FAU .05729 RRT -.0455 RRF .0568 RTF -.6444 CRT .6487 CR8 -.1333 CST .6991
FDE -.0012 FRA .9015 FC3-2.9280 BSP 1709 SGB 1299.5 R23 -.0130 R13 .6947 LSA 33.2 MSA 19.5 SSA 1.5
BDE .4669 BRA .6975 BC3 .4043 FSP 338 SGI 1148.8 SG2 607.4 THA 178.08 EL1 33.1 EL2 15.0 ALF 52.06

LAUNCH DATE MAY 21 1971

FLIGHT TIME 120.00

ARRIVAL DATE SEP 18 1971

HELIOCENTRIC CONIC

DISTANCE 309.731

EARTH TO MARS

RL 151.41 LAL -.00 LOL 239.31 VL 33.338 GAL .70 AZL 91.75 HCA 102.21 SMA 206.78 ECC .26804 INC 1.7525 V1 29.427
RP 206.77 LAP -1.71 LOP 341.53 VP 25.335 GAP 15.55 AZP 89.63 TAL 3.33 TAP 105.54 RCA 151.36 APO 262.21 V2 26.469
RC 89.140 GL -14.67 GP -1.18 ZAL 89.02 ZAP 162.39 ETS 183.81 ZAE 168.24 ETE 10.78 ZAC 98.03 ETC 278.91 LVI -18.43

PLANETOCENTRIC CONIC

C3 16.197 VHL 4.025 DLA -25.76 RAL 336.08 RAD 6641.1 VEL 11.672 PTH 6.71 VHP 6.878 DPA -16.38 RAP 327.30 ECC 1.2666
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 34 12 2554.95 -10.13 68.77 191.62 136.74 16 16 47 1554.9 8.25 53.01
60.00 16 47 44 2359.35 -4.93 56.11 196.57 130.05 17 27 3 1359.4 11.13 38.11
70.00 18 22 30 2080.72 .49 37.62 200.67 124.15 18 57 11 1080.7 14.18 17.73
80.00 20 18 8 1718.81 5.43 13.20 203.74 119.41 20 46 47 718.8 17.00 351.82
90.00 22 5 43 1371.84 7.82 348.98 205.03 117.26 22 28 35 371.8 18.37 326.92
100.00 23 1 0 1193.29 5.43 334.57 203.74 119.41 23 20 53 193.3 17.00 313.18
110.00 23 21 56 1127.54 .49 326.54 200.67 124.15 23 40 44 127.5 14.18 306.64

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2434 TRA -.6695 TC3 .4156 BAU .0940 SGT 1162.8 SGR 607.5 SG3 257.3 ST 23.5 SR 27.6 SS 13.4
RDE -.3843 RRA .1544 RC3 .1253 FAU .06006 RRT -.0496 RRF .0618 RTF -.7000 CRT .6411 CR8 -.1737 CST .6356
FDE -.0141 FRA .9365 FC3-3.2103 BSP 1749 SGB 1312.0 R23 -.0141 R13 .7004 LSA 33.0 MSA 20.0 SSA 1.5
BDE .4549 BRA .6871 BC3 .4341 FSP 364 SGI 1163.4 SG2 606.5 THA 177.96 EL1 33.0 EL2 15.1 ALF 52.06

LAUNCH DATE MAY 21 1971

FLIGHT TIME 122.00

ARRIVAL DATE SEP 20 1971

HELIOCENTRIC CONIC

RL 151.41 LAL -.00 LOL 239.31 VL 33.240 GAL .75 AZL 91.75 HCA 103.40 SMA 204.94 ECC .26149 INC 1.7451 V1 29.427
RP 206.81 LAP -1.70 LOP 342.79 VP 25.216 GAP 15.15 AZP 89.59 TAL 3.61 TAP 107.09 RCA 151.35 APO 258.52 V2 26.480
RC 70.455 GL -14.89 GP -1.20 ZAL 88.64 ZAP 161.22 ETS 183.69 ZAE 166.42 ETE 10.02 ZAC 97.97 ETC 278.93 LVI -18.41

PLANETOCENTRIC CONIC

C3 15.517 VHL 3.939 DLA -26.11 RAL 335.74 RAD 6640.8 VEL 11.643 PTH 6.68 VHP 6.659 DPA -16.38 RAP 327.41 ECC 1.2554
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 34 43 2537.45 -9.26 68.02 190.93 136.88 16 17 1 1537.5 9.12 52.26
60.00 16 48 59 2339.93 -4.08 55.18 195.87 130.13 17 27 59 1339.9 11.96 37.14
70.00 18 24 55 2057.86 1.38 38.42 199.99 124.13 18 59 13 1057.9 14.99 16.45
80.00 20 22 34 1689.64 6.40 11.59 203.11 119.23 20 50 43 689.6 17.82 350.05
90.00 22 12 0 1336.71 8.91 348.98 204.46 116.95 22 34 17 336.7 19.24 324.71
100.00 23 5 26 1164.11 6.40 332.95 203.11 119.23 23 24 50 164.1 17.82 311.41
110.00 23 24 21 1104.68 1.38 323.34 199.99 124.13 23 42 46 104.7 14.99 305.36

DIFFERENTIAL CORRECTIONS

TDE -.2370 TRA -.6586 TC3 .4457 BAU .0962
RDE -.3753 RRA .1508 RC3 .1273 FAU .06304
FDE -.0267 FRA .9711 FC3-3.5173 B8P 1775
BDE .4438 BRA .6756 BC3 .4635 F8P 393

MID-COURSE EXECUTION ACCURACY

S6T 1174.8 SGR 606.4 S63 275.3
RRT -.0923 RRF .0660 RTF -.7046
S6B 1322.1 R23 -.0159 R13 .7050
S61 1175.4 S62 605.2 THA 177.90

ORBIT DETERMINATION ACCURACY

ST 23.5 SR 27.5 SS 13.8
CRT .6357 CRS -.2098 CST .6124
LSA 32.9 MSA 20.4 SSA 1.5
EL1 32.9 EL2 15.2 ALF 51.99

LAUNCH DATE MAY 21 1971

FLIGHT TIME 124.00

ARRIVAL DATE SEP 22 1971

HELIOCENTRIC CONIC

RL 151.41 LAL -.00 LOL 239.31 VL 33.167 GAL .79 AZL 91.74 HCA 104.74 SMA 203.24 ECC .25536 INC 1.7375 V1 29.427
RP 206.87 LAP -1.68 LOP 344.08 VP 25.102 GAP 14.76 AZP 89.56 TAL 3.89 TAP 108.64 RCA 151.34 APO 255.14 V2 26.474
RC 71.818 GL -15.10 GP -1.25 ZAL 88.25 ZAP 160.02 ETS 183.58 ZAE 166.68 ETE 9.29 ZAC 97.92 ETC 278.94 LVI -18.39

PLANETOCENTRIC CONIC

C3 14.894 VHL 3.859 DLA -26.45 RAL 335.43 RAD 6640.5 VEL 11.617 PTH 6.66 VHP 6.448 DPA -16.40 RAP 327.49 ECC 1.2451
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 35 12 2520.66 -8.43 67.30 190.26 137.00 16 17 13 1520.7 9.96 51.54
60.00 16 50 11 2321.21 -3.26 54.28 195.20 130.19 17 28 53 1321.2 12.75 36.20
70.00 18 27 18 2035.67 2.21 35.27 199.34 124.09 19 1 14 1035.7 15.76 15.19
80.00 20 27 5 1860.73 7.36 9.97 202.51 119.02 20 54 46 660.7 18.63 348.27
90.00 22 18 40 1300.88 10.01 344.92 203.92 116.59 22 40 21 300.9 20.11 322.44
100.00 23 9 57 1135.20 7.36 331.34 202.51 119.02 23 28 52 135.2 18.63 309.64
110.00 23 26 44 1082.49 2.21 324.18 199.34 124.09 23 44 47 82.5 15.76 304.11

DIFFERENTIAL CORRECTIONS

TDE -.2301 TRA -.6472 TC3 .4730 BAU .0976
RDE -.3667 RRA .1474 RC3 .1267 FAU .06612
FDE -.0418 FRA 1.0071 FC3-3.8433 B8P 1806
BDE .4329 BRA .6638 BC3 .4902 F8P 427

MID-COURSE EXECUTION ACCURACY

S6T 1184.0 SGR 604.9 S63 294.2
RRT -.0559 RRF .0714 RTF -.7080
S6B 1329.5 R23 -.0179 R13 .7085
S61 1184.6 S62 603.6 THA 177.79

ORBIT DETERMINATION ACCURACY

ST 23.5 SR 27.5 SS 14.3
CRT .6295 CRS -.2493 CST .5863
LSA 32.8 MSA 20.8 SSA 1.6
EL1 32.7 EL2 15.3 ALF 52.03

LAUNCH DATE MAY 21 1971

FLIGHT TIME 126.00

ARRIVAL DATE SEP 24 1971

HELIOCENTRIC CONIC

RL 151.41 LAL -.00 LOL 239.31 VL 33.091 GAL .83 AZL 91.73 HCA 106.01 SMA 201.67 ECC .24964 INC 1.7300 V1 29.427
RP 206.93 LAP -1.66 LOP 345.33 VP 24.993 GAP 14.38 AZP 89.52 TAL 4.17 TAP 110.18 RCA 151.33 APO 252.02 V2 26.466
RC 73.228 GL -15.30 GP -1.29 ZAL 87.87 ZAP 158.80 ETS 183.49 ZAE 169.01 ETE 8.56 ZAC 97.87 ETC 278.95 LVI -18.36

PLANETOCENTRIC CONIC

C3 14.322 VHL 3.784 DLA -26.78 RAL 335.12 RAD 6640.2 VEL 11.592 PTH 6.63 VHP 6.245 DPA -16.43 RAP 327.55 ECC 1.2357
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 35 39 2504.58 -7.63 66.61 189.61 137.11 16 17 23 1504.6 10.75 50.84
60.00 16 51 20 2303.24 -2.47 53.42 194.55 130.24 17 29 44 1303.2 13.52 35.29
70.00 18 29 39 2014.18 3.03 34.14 198.71 124.04 19 3 13 1014.2 16.51 13.97
80.00 20 31 43 1832.10 8.30 8.37 201.94 118.78 20 58 55 632.1 19.40 346.50
90.00 22 25 50 1264.08 11.12 342.79 203.43 116.17 22 46 54 264.1 20.96 320.08
100.00 23 14 34 1106.57 8.30 329.74 201.94 118.78 23 33 1 106.6 19.40 307.87
110.00 23 29 5 1061.00 3.03 323.06 198.71 124.04 23 46 46 61.0 16.51 302.89

DIFFERENTIAL CORRECTIONS

TDE -.2226 TRA -.6368 TC3 .4974 BAU .0984
RDE -.3384 RRA .1442 RC3 .1295 FAU .06941
FDE -.0366 FRA 1.0474 FC3-4.1957 B8P 1823
BDE .4219 BRA .6529 BC3 .5140 F8P 459

MID-COURSE EXECUTION ACCURACY

S6T 1192.3 SGR 603.1 S63 314.5
RRT -.0615 RRF .0780 RTF -.7112
S6B 1336.2 R23 -.0194 R13 .7112
S61 1193.1 S62 601.6 THA 177.61

ORBIT DETERMINATION ACCURACY

ST 23.4 SR 27.4 SS 14.8
CRT .6216 CRS -.2896 CST .5605
LSA 32.6 MSA 21.3 SSA 1.6
EL1 32.5 EL2 15.4 ALF 52.14

LAUNCH DATE MAY 21 1971

FLIGHT TIME 128.00

ARRIVAL DATE SEP 26 1971

HELIOCENTRIC CONIC

RL 151.41 LAL -.00 LOL 239.31 VL 33.019 GAL .87 AZL 91.72 HCA 107.28 SMA 200.23 ECC .24428 INC 1.7222 V1 29.427
RP 207.00 LAP -1.64 LOP 346.59 VP 24.889 GAP 14.01 AZP 89.49 TAL 4.45 TAP 111.72 RCA 151.32 APO 249.15 V2 26.458
RC 74.683 GL -15.49 GP -1.34 ZAL 87.49 ZAP 157.55 ETS 183.40 ZAE 169.41 ETE 7.83 ZAC 97.82 ETC 278.95 LVI -18.31

PLANETOCENTRIC CONIC

C3 13.797 VHL 3.714 DLA -27.10 RAL 334.80 RAD 6639.9 VEL 11.570 PTH 6.61 VHP 6.050 DPA -16.46 RAP 327.58 ECC 1.2271
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 38 3 2489.24 -6.86 65.96 189.00 137.20 16 17 32 1489.2 11.51 50.17
60.00 16 52 26 2286.03 -1.71 52.60 193.93 130.27 17 30 33 1286.0 14.24 34.42
70.00 18 31 57 1993.44 3.82 33.06 198.12 123.97 19 5 10 993.4 17.21 12.78
80.00 20 36 26 1603.76 9.23 6.78 201.41 118.52 21 3 9 603.8 20.15 344.73
90.00 22 33 37 1225.87 12.26 340.56 202.99 115.69 22 54 3 225.9 21.80 317.60
100.00 23 19 18 1078.24 9.23 328.15 201.41 118.52 23 37 16 78.2 20.15 306.10
110.00 23 31 23 1040.26 3.82 321.97 198.12 123.97 23 48 43 40.3 17.21 301.70

DIFFERENTIAL CORRECTIONS

TDE -.2161 TRA -.6252 TC3 .5184 BAU .0986
RDE -.3504 RRA .1411 RC3 .1295 FAU .07283
FDE -.0762 FRA 1.0876 FC3-4.5702 B8P 1837
BDE .4117 BRA .6410 BC3 .5343 F8P 494

MID-COURSE EXECUTION ACCURACY

S6T 1197.1 SGR 601.0 S63 335.7
RRT -.0663 RRF .0846 RTF -.7117
S6B 1339.5 R23 -.0218 R13 .7124
S61 1198.0 S62 599.3 THA 177.46

ORBIT DETERMINATION ACCURACY

ST 23.3 SR 27.3 SS 15.3
CRT .6155 CRS -.3274 CST .5337
LSA 32.4 MSA 21.7 SSA 1.6
EL1 32.4 EL2 15.5 ALF 52.24

LAUNCH DATE MAY 21 1971

FLIGHT TIME 130.00

ARRIVAL DATE SEP 28 1971

Heliocentric Conic: RL 151.41 LAL -.00 LOL 239.31 VL 32.952 GAL .91 AZL 91.71 HCA 108.54 SMA 198.90 ECC .23928 INC 1.7144 V1 29.427
 RP 207.08 LAP -1.83 LOP 347.86 VP 24.790 GAP 13.65 AZP 89.45 TAL 4.71 TAP 113.26 RCA 151.31 APO 246.50 V2 26.449
 RC 76.180 GL -13.87 GP -1.39 ZAL 87.13 ZAP 156.27 ETS 183.31 ZAE 169.89 ETE 7.09 ZAC 97.77 ETC 278.95 LVI -18.26

Planetocentric Conic: C3 13.314 VHL 3.649 DLA -27.40 RAL 334.50 RAD 6639.7 VEL 11.549 PTH 6.59 VHP 5.862 DPA -16.52 RAP 327.59 ECC 1.2191
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 36 24 2474.63 -6.13 65.34 188.41 137.27 16 17 39 1474.6 12.23 49.54
 60.00 16 53 29 2269.59 -.99 51.81 193.34 130.29 17 31 19 1269.6 14.93 33.57
 70.00 18 34 11 1973.49 4.58 32.01 197.55 123.88 19 7 4 973.5 17.89 11.63
 80.00 20 41 15 1575.73 10.13 5.19 200.92 118.24 21 7 30 575.7 20.87 342.96
 90.00 22 42 15 1185.48 13.44 338.18 202.61 115.12 23 2 1 185.5 22.65 314.94
 100.00 23 24 6 1050.20 10.13 326.56 200.92 118.24 23 41 37 50.2 20.87 304.33
 110.00 23 33 37 1020.31 4.58 320.93 197.55 123.88 23 50 38 20.3 17.89 300.55

Differential Corrections: TDE -.2108 TRA -.6145 TC3 .5420 BAU .0992 SGT 1203.1 SGR 598.5 SG3 358.8 ST 23.2 SR 27.2 S8 15.9
 RDE -.3427 RRA .1383 RC3 .1287 FAU .07682 RRT -.0702 RRF .0908 RTF -.7135 CRT .6109 CRS -.3571 CST .5117
 FDE -.0922 FRA 1.1310 FC3-4.9824 BSP 1850 SGB 1343.8 R23 -.0244 R13 .7143 LSA 32.2 MSA 22.1 S8A 1.7
 BDE .4023 BRA .8299 BC3 .5571 FSP 534 SG1 1204.1 SG2 596.6 THA 177.35 EL1 32.2 EL2 15.5 ALF 52.18

LAUNCH DATE MAY 21 1971

FLIGHT TIME 132.00

ARRIVAL DATE SEP 30 1971

Heliocentric Conic: RL 151.41 LAL -.00 LOL 239.31 VL 32.889 GAL .94 AZL 91.71 HCA 109.81 SMA 197.68 ECC .23460 INC 1.7065 V1 29.427
 RP 207.17 LAP -1.61 LOP 349.12 VP 24.695 GAP 13.29 AZP 89.42 TAL 4.97 TAP 114.78 RCA 151.30 APO 244.05 V2 26.439
 RC 77.718 GL -15.84 GP -1.44 ZAL 86.78 ZAP 154.96 ETS 183.24 ZAE 170.44 ETE 6.31 ZAC 97.73 ETC 278.94 LVI -18.20

Planetocentric Conic: C3 12.870 VHL 3.587 DLA -27.69 RAL 334.20 RAD 6639.5 VEL 11.530 PTH 6.58 VHP 5.680 DPA -16.58 RAP 327.56 ECC 1.2118
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 36 43 2460.78 -5.44 64.76 187.85 137.34 16 17 44 1460.8 12.91 48.93
 60.00 16 54 28 2253.96 -.30 51.06 192.78 130.30 17 32 2 1254.0 15.58 32.77
 70.00 18 36 21 1954.36 5.30 31.00 197.01 123.79 19 8 56 954.4 18.53 10.51
 80.00 20 46 9 1548.02 11.02 3.61 200.46 117.93 21 11 57 548.0 21.56 341.19
 90.00 22 52 13 1141.49 14.69 335.56 202.31 114.44 23 11 14 141.5 23.52 312.01
 100.00 23 29 1 1022.49 11.02 324.98 200.46 117.93 23 46 3 22.5 21.56 302.56
 110.00 23 35 48 1001.18 5.30 319.92 197.01 123.79 23 52 29 1.2 18.53 299.43

Differential Corrections: TDE -.2048 TRA -.6027 TC3 .5605 BAU .0989 SGT 1204.3 SGR 595.8 SG3 383.3 ST 23.1 SR 27.0 S8 16.5
 RDE -.3354 RRA .1356 RC3 .1270 FAU .08065 RRT -.0754 RRF .0985 RTF -.7134 CRT .6056 CRS -.3928 CST .4841
 FDE -.1124 FRA 1.1754 FC3-5.4251 BSP 1849 SGB 1343.7 R23 -.0275 R13 .7143 LSA 32.0 MSA 22.6 S8A 1.7
 BDE .3929 BRA .6178 BC3 .5747 FSP 574 SG1 1205.4 SG2 593.6 THA 177.18 EL1 32.0 EL2 15.5 ALF 52.30

LAUNCH DATE MAY 21 1971

FLIGHT TIME 134.00

ARRIVAL DATE OCT 2 1971

Heliocentric Conic: RL 151.41 LAL -.00 LOL 239.31 VL 32.830 GAL .98 AZL 91.70 HCA 111.07 SMA 196.54 ECC .23023 INC 1.6985 V1 29.427
 RP 207.26 LAP -1.58 LOP 350.39 VP 24.605 GAP 12.94 AZP 89.39 TAL 5.23 TAP 116.30 RCA 151.29 APO 241.79 V2 26.428
 RC 79.295 GL -16.00 GP -1.49 ZAL 86.43 ZAP 153.62 ETS 183.17 ZAE 171.06 ETE 5.47 ZAC 97.68 ETC 278.92 LVI -18.13

Planetocentric Conic: C3 12.461 VHL 3.530 DLA -27.96 RAL 333.90 RAD 6639.3 VEL 11.512 PTH 6.56 VHP 5.506 DPA -16.66 RAP 327.51 ECC 1.2051
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 37 0 2447.64 -4.78 64.21 187.31 137.39 16 17 48 1447.6 13.56 48.34
 60.00 16 55 24 2239.09 .36 50.35 192.24 130.30 17 32 43 1239.1 16.20 32.00
 70.00 18 38 27 1936.02 6.00 30.04 196.49 123.69 19 10 43 936.0 19.13 9.44
 80.00 20 51 11 1520.48 11.89 2.04 200.02 117.59 21 16 31 520.5 22.23 339.42
 90.00 23 4 40 1090.00 16.12 332.46 202.11 113.55 23 22 50 90.0 24.45 308.52
 100.00 23 34 2 6282.99 11.89 301.31 200.02 117.59 25 18 45 5283.0 22.23 278.70
 110.00 23 37 54 6270.87 6.00 296.86 196.49 123.69 25 22 25 5270.9 19.13 276.26

Differential Corrections: TDE -.1861 TRA -.5792 TC3 .6138 BAU .1043 SGT 1188.3 SGR 592.9 SG3 409.6 ST 22.0 SR 26.9 S8 17.1
 RDE -.3284 RRA .1331 RC3 .1240 FAU .08507 RRT -.0871 RRF .1081 RTF -.7116 CRT .5816 CRS -.4409 CST .4639
 FDE -.1410 FRA 1.2177 FC3-5.9101 BSP 1705 SGB 1328.0 R23 -.0236 R13 .7326 LSA 31.2 MSA 22.9 S8A 1.7
 BDE .3774 BRA .5943 BC3 .6262 FSP 611 SG1 1189.8 SG2 589.9 THA 176.70 EL1 31.1 EL2 15.5 ALF 54.63

LAUNCH DATE MAY 21 1971

FLIGHT TIME 136.00

ARRIVAL DATE OCT 4 1971

Heliocentric Conic: RL 151.41 LAL -.00 LOL 239.31 VL 32.775 GAL 1.01 AZL 91.69 HCA 112.33 SMA 195.50 ECC .22616 INC 1.6903 V1 29.427
 RP 207.37 LAP -1.56 LOP 351.65 VP 24.518 GAP 12.61 AZP 89.36 TAL 5.47 TAP 117.80 RCA 151.28 APO 239.71 V2 26.415
 RC 80.909 GL -16.14 GP -1.55 ZAL 86.11 ZAP 152.25 ETS 183.10 ZAE 171.76 ETE 4.54 ZAC 97.64 ETC 278.90 LVI -18.05

Planetocentric Conic: C3 12.086 VHL 3.476 DLA -28.22 RAL 333.62 RAD 6639.1 VEL 11.496 PTH 6.54 VHP 5.338 DPA -16.75 RAP 327.42 ECC 1.1989
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 37 15 2435.33 -4.16 63.69 186.80 137.44 16 17 50 1435.3 14.16 47.79
 60.00 16 56 16 2225.14 .97 49.69 191.73 130.29 17 33 21 1225.1 16.77 31.27
 70.00 18 40 28 1918.71 6.65 29.12 196.00 123.58 19 12 26 918.7 19.70 8.41
 80.00 20 56 15 1493.51 12.74 .48 199.63 117.23 21 21 9 493.5 22.86 337.67
 90.00 23 24 28 1015.47 18.09 327.87 202.18 112.11 23 41 23 15.5 25.64 303.39
 100.00 23 39 7 6256.02 12.74 299.75 199.63 117.23 25 23 23 5256.0 22.86 276.94
 110.00 23 39 54 6253.57 6.65 295.95 196.00 123.58 25 24 8 5253.6 19.70 275.24

Differential Corrections: TDE -.1870 TRA -.5728 TC3 .6064 BAU .0999 SGT 1191.9 SGR 589.7 SG3 436.6 ST 22.3 SR 26.7 S8 17.8
 RDE -.3215 RRA .1309 RC3 .1206 FAU .08939 RRT -.0905 RRF .1168 RTF -.7206 CRT .5863 CRS -.4658 CST .4337
 FDE -.1606 FRA 1.2696 FC3-6.4036 BSP 1767 SGB 1329.8 R23 -.0309 R13 .7218 LSA 31.3 MSA 23.3 S8A 1.7
 BDE .3719 BRA .5876 BC3 .6183 FSP 661 SG1 1193.5 SG2 586.5 THA 176.62 EL1 31.2 EL2 15.5 ALF 53.72

LAUNCH DATE MAY 21 1971

FLIGHT TIME 138.00

ARRIVAL DATE OCT 6 1971

HELIOCENTRIC CONIC
 RL 151.41 LAL -.00 LOL 239.31 VL 32.724 GAL 1.04 AZL 91.68 HCA 113.59 SMA 194.53 ECC .22237 INC 1.6820 V1 29.427
 RP 207.48 LAP -1.54 LOP 352.91 VP 24.435 GAP 12.28 AZP 89.33 TAL 5.69 TAP 119.28 RCA 151.27 APO 237.79 V2 26.402
 RC 82.560 GL -16.28 GP -1.61 ZAL 85.81 ZAP 150.85 ETS 183.03 ZAE 172.52 ETE 3.46 ZAC 97.61 ETC 278.87 LVI -17.96

PLANETOCENTRIC CONIC
 C3 11.740 VHL 3.426 DLA -28.46 RAL 333.35 RAD 6638.9 VEL 11.481 PTH 6.53 VHP 5.177 DPA -16.85 RAP 327.30 ECC 1.1932
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 37 28 2423.78 -3.58 63.20 106.32 137.47 16 17 52 1423.8 14.73 47.28
 60.00 16 57 4 2212.03 1.55 49.06 191.25 130.28 17 33 56 1212.0 17.31 30.58
 70.00 18 42 22 1902.33 7.26 28.25 195.55 123.46 19 14 4 902.3 20.23 7.44
 80.00 21 1 25 1466.88 13.56 358.93 199.26 116.86 21 25 52 466.9 23.46 335.92
 86.68 23 11 39 1047.36 19.66 330.86 202.09 111.00 23 29 6 47.4 26.99 303.94
 100.00 23 44 17 6229.39 13.56 298.21 199.26 116.86 25 28 7 5229.4 23.46 275.19
 110.00 23 41 48 6237.19 7.26 295.08 195.55 123.46 25 25 46 5237.2 20.23 274.26

DIFFERENTIAL CORRECTIONS
 TDE -.1866 TRA -.5646 TC3 .5982 BAW .0956
 RDE -.3148 RRA .1288 RC3 .1162 FAU .09388
 FDE -.1776 FRA 1.3247 FC3-6.9226 BSP 1799
 BDE .3660 BRA .5791 BC3 .6094 FSP 711

MID-COURSE EXECUTION ACCURACY
 SGT 1191.1 SGR 586.1 S63 464.8
 RRT -.0949 RRF .1256 RTF -.7113
 SGB 1327.5 R23 -.0371 R13 .7127
 S61 1192.8 S62 582.6 THA 176.49

ORBIT DETERMINATION ACCURACY
 ST 22.4 SR 26.6 SS 18.4
 CRT .5896 CRS -.4831 CST .4122
 LSA 31.4 MSA 23.7 SSA 1.8
 EL1 31.2 EL2 15.5 ALF 93.05

LAUNCH DATE MAY 21 1971

FLIGHT TIME 140.00

ARRIVAL DATE OCT 8 1971

HELIOCENTRIC CONIC
 RL 151.41 LAL -.00 LOL 239.31 VL 32.676 GAL 1.06 AZL 91.67 HCA 114.85 SMA 193.64 ECC .21883 INC 1.6735 V1 29.427
 RP 207.60 LAP -1.52 LOP 354.17 VP 24.356 GAP 11.96 AZP 89.30 TAL 5.91 TAP 120.78 RCA 151.26 APO 236.01 V2 26.388
 RC 84.247 GL -16.40 GP -1.67 ZAL 85.52 ZAP 149.41 ETS 182.97 ZAE 173.36 ETE 2.15 ZAC 97.57 ETC 278.84 LVI -17.85

PLANETOCENTRIC CONIC
 C3 11.422 VHL 3.380 DLA -28.68 RAL 333.09 RAD 6638.8 VEL 11.468 PTH 6.52 VHP 5.022 DPA -16.97 RAP 327.15 ECC 1.1880
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 37 39 2413.00 -3.04 62.75 185.87 137.50 16 17 52 1413.0 15.25 46.79
 60.00 16 57 48 2199.77 2.09 48.48 190.80 130.26 17 34 28 1199.8 17.81 29.93
 70.00 18 44 10 1886.94 7.84 27.44 195.11 123.35 19 15 37 886.9 20.72 6.51
 80.00 21 6 40 1440.61 14.37 357.40 198.93 116.46 21 30 41 440.6 24.03 334.18
 85.03 22 56 57 1085.88 19.95 333.80 201.50 111.04 23 15 2 85.9 26.86 308.82
 100.00 23 49 32 6203.12 14.37 296.67 198.93 116.46 25 32 55 5203.1 24.03 273.45
 110.00 23 43 36 6221.80 7.84 294.26 195.11 123.35 25 27 18 5221.8 20.72 273.34

DIFFERENTIAL CORRECTIONS
 TDE -.1840 TRA -.5536 TC3 .5916 BAW .0919
 RDE -.3084 RRA .1270 RC3 .1106 FAU .09873
 FDE -.2023 FRA 1.3794 FC3-7.4836 BSP 1802
 BDE .3591 BRA .5680 BC3 .6018 FSP 764

MID-COURSE EXECUTION ACCURACY
 SGT 1183.9 SGR 582.4 S63 494.9
 RRT -.1008 RRF .1364 RTF -.7030
 SGB 1319.4 R23 -.0435 R13 .7047
 S61 1185.9 S62 578.5 THA 176.27

ORBIT DETERMINATION ACCURACY
 ST 22.4 SR 26.4 SS 19.2
 CRT .5900 CRS -.5099 CST .3832
 LSA 31.4 MSA 24.0 SSA 1.8
 EL1 31.0 EL2 15.4 ALF 92.85

LAUNCH DATE MAY 21 1971

FLIGHT TIME 142.00

ARRIVAL DATE OCT 10 1971

HELIOCENTRIC CONIC
 RL 151.41 LAL -.00 LOL 239.31 VL 32.631 GAL 1.08 AZL 91.68 HCA 116.11 SMA 192.81 ECC .21553 INC 1.6649 V1 29.427
 RP 207.73 LAP -1.50 LOP 355.43 VP 24.279 GAP 11.64 AZP 89.27 TAL 6.11 TAP 122.22 RCA 151.26 APO 234.37 V2 26.373
 RC 85.969 GL -16.51 GP -1.74 ZAL 85.25 ZAP 147.94 ETS 182.91 ZAE 174.28 ETE .47 ZAC 97.54 ETC 278.80 LVI -17.74

PLANETOCENTRIC CONIC
 C3 11.128 VHL 3.336 DLA -28.88 RAL 332.85 RAD 6638.6 VEL 11.455 PTH 6.51 VHP 4.873 DPA -17.10 RAP 326.96 ECC 1.1831
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 37 48 2402.98 -2.54 62.33 185.45 137.52 16 17 50 1403.0 15.74 46.34
 60.00 16 58 27 2188.38 2.59 47.93 190.37 130.23 17 34 56 1188.4 18.28 29.32
 70.00 18 45 50 1872.58 8.38 26.67 194.71 123.23 19 17 3 872.6 21.17 5.65
 80.00 21 12 0 1414.75 15.14 355.87 198.64 116.04 21 35 35 414.7 24.57 332.45
 83.89 22 46 42 1110.47 20.21 335.72 200.95 111.08 23 5 13 110.5 27.11 310.68
 100.00 23 54 52 6177.26 15.14 295.15 198.64 116.04 25 37 49 5177.3 24.57 271.72
 110.00 23 45 16 6207.43 8.38 293.49 194.71 123.23 25 28 44 5207.4 21.17 272.47

DIFFERENTIAL CORRECTIONS
 TDE -.1814 TRA -.5424 TC3 .5799 BAW .0876
 RDE -.3022 RRA .1253 RC3 .1039 FAU .10383
 FDE -.2261 FRA 1.4389 FC3-8.0775 BSP 1790
 BDE .3525 BRA .5567 BC3 .5891 FSP 820

MID-COURSE EXECUTION ACCURACY
 SGT 1174.2 SGR 578.5 S63 526.7
 RRT -.1074 RRF .1479 RTF -.6139
 SGB 1309.0 R23 -.0302 R13 .6960
 S61 1176.4 S62 574.1 THA 176.02

ORBIT DETERMINATION ACCURACY
 ST 22.3 SR 26.2 SS 19.9
 CRT .5907 CRS -.5319 CST .3584
 LSA 31.4 MSA 24.4 SSA 1.8
 EL1 30.8 EL2 15.3 ALF 92.67

LAUNCH DATE MAY 21 1971

FLIGHT TIME 144.00

ARRIVAL DATE OCT 12 1971

HELIOCENTRIC CONIC
 RL 151.41 LAL -.00 LOL 239.31 VL 32.589 GAL 1.10 AZL 91.66 HCA 117.36 SMA 192.05 ECC .21247 INC 1.6561 V1 29.427
 RP 207.86 LAP -1.47 LOP 356.68 VP 24.206 GAP 11.33 AZP 89.24 TAL 6.30 TAP 123.66 RCA 151.25 APO 232.86 V2 26.357
 RC 87.725 GL -16.61 GP -1.81 ZAL 85.01 ZAP 146.43 ETS 182.85 ZAE 175.22 ETE 358.14 ZAC 97.51 ETC 278.75 LVI -17.61

PLANETOCENTRIC CONIC
 C3 10.857 VHL 3.295 DLA -29.06 RAL 332.63 RAD 6638.5 VEL 11.443 PTH 6.49 VHP 4.731 DPA -17.25 RAP 326.74 ECC 1.1787
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 37 55 2393.72 -2.07 61.95 185.05 137.54 16 17 48 1393.7 16.19 45.92
 60.00 16 59 3 2177.87 3.05 47.43 189.97 130.20 17 35 21 1177.9 18.70 28.76
 70.00 18 47 22 1859.28 8.87 25.96 194.33 123.12 19 18 21 859.3 21.59 4.84
 80.00 21 17 23 1389.33 15.90 354.36 198.37 115.61 21 40 32 389.3 25.08 330.73
 83.01 22 38 45 1128.19 20.46 337.13 200.44 111.10 22 57 33 128.2 27.34 312.03
 100.00 0 4 10 6151.85 15.90 293.64 198.37 115.61 1 46 42 5151.8 25.08 270.00
 110.00 23 46 48 6194.14 8.87 292.78 194.33 123.12 25 30 3 5194.1 21.59 271.66

DIFFERENTIAL CORRECTIONS
 TDE -.1788 TRA -.5300 TC3 .5626 BAW .0829
 RDE -.2962 RRA .1238 RC3 .0960 FAU .10919
 FDE -.2504 FRA 1.5011 FC3-8.7064 BSP 1761
 BDE .3460 BRA .5443 BC3 .5708 FSP 877

MID-COURSE EXECUTION ACCURACY
 SGT 1160.1 SGR 574.4 S63 560.1
 RRT -.1141 RRF .1602 RTF -.6835
 SGB 1294.6 R23 -.0578 R13 .6861
 S61 1162.6 S62 569.5 THA 175.74

ORBIT DETERMINATION ACCURACY
 ST 22.2 SR 26.0 SS 20.7
 CRT .5926 CRS -.5516 CST .3342
 LSA 31.4 MSA 24.6 SSA 1.9
 EL1 30.6 EL2 15.2 ALF 92.55

LAUNCH DATE MAY 21 1971

FLIGHT TIME 146.00

ARRIVAL DATE OCT 14 1971

HELIOCENTRIC CONIC				DISTANCE 359.996								EARTH TO MARS									
RL	151.41	LAL	-.00	LOL	239.31	VL	32.350	GAL	1.12	AZL	91.65	HCA	118.62	SMA	191.35	ECC	.20962	INC	1.6471	V1	29.427
RP	208.01	LAP	-1.45	LOP	357.94	VP	24.135	GAP	11.04	AZP	89.21	TAL	6.47	TAP	125.09	RCA	151.24	APO	231.46	V2	26.340
RC	89.314	GL	-16.69	GP	1.88	ZAL	84.78	ZAP	144.89	ETS	182.79	ZAE	176.25	ETE	354.53	ZAC	97.48	ETC	278.69	LVI	-17.47
PLANETOCENTRIC CONIC																					
C3	10.608	VHL	3.257	DLA	-29.22	RAL	332.43	RAD	6638.4	VEL	11.432	PTH	6.48	VHP	4.594	DPA	-17.42	RAP	326.48	ECC	1.1746
LNCH AZMTH	LNCH TIME	L-I TIME		INJ LAT		INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG									
50.00	15 38 0	2385.23		-1.65		61.59	184.68	137.55	16 17 43	1385.2	16.60	45.53									
60.00	16 59 34	2168.24		3.47		46.97	189.60	130.18	17 35 42	1168.2	19.09	28.24									
70.00	18 48 45	1847.08		9.33		25.31	193.97	123.01	19 19 32	847.1	21.96	4.09									
80.00	21 22 47	1364.43		16.63		352.87	198.13	115.16	21 45 32	364.4	25.56	329.03									
82.31	22 32 20	1141.45		20.68		338.20	199.96	111.12	22 51 22	141.5	27.55	313.05									
100.00	0 9 35	6126.94		16.63		292.14	198.13	115.16	1 51 42	5126.9	25.56	268.31									
110.00	23 48 12	6181.94		9.33		292.13	193.97	123.01	25 31 14	5181.9	21.96	270.92									
DIFFERENTIAL CORRECTIONS				MID-COURSE EXECUTION ACCURACY								ORBIT DETERMINATION ACCURACY									
TDE	-.1773	TRA	-.5175	TC3	.5389	BAU	.0774	SGT	1143.9	SGR	570.2	SG3	595.1	ST	22.1	SR	25.8	SS		21.4	
RDE	-.2904	RRA	.1225	RC3	.0870	FAU	.11479	RRT	-.1203	RRF	.1733	RTF	-.6709	CRT	.5968	CRS	-.5678	CST		.3106	
FDE	-.2741	FRA	1.5668	FC3	-9.3681	BSP	1721	SGB	1278.1	R23	-.0870	R13	.6740	LSA	31.5	MSA	24.9	SSA		1.9	
BDE	.3402	BRA	.5318	BC3	.5458	F8P	937	SG1	1146.6	SG2	564.7	THA	175.47	EL1	30.5	EL2	15.0	ALF		52.32	

LAUNCH DATE MAY 21 1971

FLIGHT TIME 148.00

ARRIVAL DATE OCT 16 1971

HELIOCENTRIC CONIC				DISTANCE 364.034								EARTH TO MARS									
RL	151.41	LAL	-.00	LOL	231.31	VL	32.514	GAL	1.14	AZL	91.64	HCA	119.87	SMA	190.70	ECC	.20697	INC	1.6379	V1	29.427
RP	208.16	LAP	-1.42	LOP	351.88	VP	24.067	GAP	10.74	AZP	89.18	TAL	6.63	TAP	126.50	RCA	151.24	APO	230.17	V2	26.323
RC	91.337	GL	-16.77	GP	1.91	ZAL	84.59	ZAP	143.30	ETS	182.73	ZAE	177.32	ETE	347.94	ZAC	97.46	ETC	278.62	LVI	-17.31
PLANETOCENTRIC CONIC																					
C3	10.377	VHL	3.221	DLA	-25.27	RAL	332.24	RAD	6638.2	VEL	11.422	PTH	6.47	VHP	4.463	DPA	-17.60	RAP	326.18	ECC	1.1708
LNCH AZMTH	LNCH TIME	L-I TIME		INJ LAT		INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG									
50.00	15 38 4	2377.49		-1.26		61.27	184.34	137.56	16 17 41	1377.5	16.97	45.17									
60.00	17 0 1	2159.50		3.86		46.55	189.25	130.15	17 36 0	1159.5	19.44	27.77									
70.00	18 49 59	1836.03		9.74		24.71	193.63	122.90	19 20 35	836.0	22.30	3.41									
80.00	21 28 13	1340.13		17.32		351.40	197.92	114.71	21 50 33	340.1	26.01	327.37									
81.74	22 27 8	1151.38		20.89		339.02	199.52	111.12	22 46 19	151.7	27.74	313.82									
100.00	0 15 0	6102.64		17.32		290.68	197.92	114.71	1 56 43	5102.7	26.01	266.64									
110.00	23 49 25	6170.89		9.74		291.54	193.63	122.90	25 32 16	5170.7	22.30	270.24									
DIFFERENTIAL CORRECTIONS				MID-COURSE EXECUTION ACCURACY								ORBIT DETERMINATION ACCURACY									
TDE	-.1749	TRA	-.5042	TC3	.5071	BAU	.0712	SGT	1123.5	SGR	566.0	SG3	631.8	ST	21.9	SR	25.6	SS		22.2	
RDE	-.2847	RRA	.1214	RC3	.0767	FAU	.12062	RRT	-.1279	RRF	.1884	RTF	-.6557	CRT	.5999	CRS	-.5870	CST		.2844	
FDE	-.3024	FRA	1.6363	FC3	-10.0628	B8P	1677	SGB	1258.0	R23	-.0774	R13	.6596	LSA	31.6	MSA	25.0	SSA		1.9	
BDE	.3342	BRA	.5186	BC3	.5129	F8P	1004	SG1	1126.6	SG2	559.8	THA	175.10	EL1	30.3	EL2	14.8	ALF		52.27	

LAUNCH DATE MAY 21 1971

FLIGHT TIME 150.00

ARRIVAL DATE OCT 18 1971

HELIOCENTRIC CONIC				DISTANCE 368.087								EARTH TO MARS									
RL	151.41	LAL	-.00	LOL	239.31	VL	32.480	GAL	1.15	AZL	91.63	HCA	121.12	SMA	190.11	ECC	.20451	INC	1.6285	V1	29.427
RP	208.32	LAP	-1.39	LOP	347.44	VP	24.001	GAP	10.46	AZP	89.16	TAL	6.77	TAP	127.89	RCA	151.23	APO	228.99	V2	26.304
RC	93.190	GL	-16.83	GP	2.03	ZAL	84.41	ZAP	141.69	ETS	182.67	ZAE	178.37	ETE	332.14	ZAC	97.43	ETC	278.55	LVI	-17.15
PLANETOCENTRIC CONIC																					
C3	10.165	VHL	3.188	DLA	-29.49	RAL	332.08	RAD	6638.1	VEL	11.413	PTH	6.46	VHP	4.339	DPA	-17.79	RAP	325.84	ECC	1.1673
LNCH AZMTH	LNCH TIME	L-I TIME		INJ LAT		INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG									
50.00	15 38 6	2370.52		-.91		60.98	184.03	137.57	16 17 37	1370.5	17.31	44.85									
60.00	17 0 23	2151.64		4.20		46.17	188.94	130.12	17 36 14	1151.6	19.75	27.34									
70.00	18 51 2	1826.15		10.10		24.18	193.32	122.80	19 21 28	826.2	22.60	2.80									
80.00	21 33 35	1316.60		17.99		349.97	197.74	114.24	21 55 32	316.6	26.42	325.74									
81.28	22 22 53	1158.78		21.07		339.64	199.11	111.12	22 42 12	158.8	27.90	314.40									
100.00	0 20 23	6079.12		17.99		289.25	197.74	114.24	2 1 42	5079.1	26.42	265.01									
110.00	23 50 28	6161.01		10.10		291.00	193.32	122.80	25 33 9	5161.0	22.60	269.63									
DIFFERENTIAL CORRECTIONS				MID-COURSE EXECUTION ACCURACY								ORBIT DETERMINATION ACCURACY									
TDE	-.1740	TRA	-.4899	TC3	.4863	BAU	.0640	SGT	1099.6	SGR	561.5	SG3	669.9	ST	21.8	SR	25.4	SS		23.0	
RDE	-.2792	RRA	.1205	RC3	.0651	FAU	.12672	RRT	-.1334	RRF	.2034	RTF	-.6163	CRT	.6074	CRS	-.6003	CST		.2392	
FDE	-.3271	FRA	1.7061	FC3	-10.7926	B8P	1618	SGB	1234.7	R23	-.0903	R13	.6411	LSA	31.8	MSA	25.1	SSA		1.9	
BDE	.3290	BRA	.5045	BC3	.4706	F8P	1069	SG1	1103.1	SG2	554.8	THA	174.78	EL1	30.1	EL2	14.6	ALF		52.03	

LAUNCH DATE MAY 21 1971

FLIGHT TIME 152.00

ARRIVAL DATE OCT 20 1971

HELIOCENTRIC CONIC				DISTANCE 372.155								EARTH TO MARS									
RL	151.41	LAL	-.00	LOL	239.31	VL	32.449	GAL	1.16	AZL	91.62	HCA	122.37	SMA	189.58	ECC	.20223	INC	1.6189	V1	29.427
RP	208.49	LAP	-1.37	LOP	347.44	VP	23.937	GAP	10.18	AZP	89.13	TAL	6.90	TAP	129.26	RCA	151.22	APO	227.89	V2	26.284
RC	95.074	GL	-16.88	GP	-2.12	ZAL	84.27	ZAP	140.03	ETS	182.61	ZAE	179.02	ETE	321.44	ZAC	97.41	ETC	278.47	LVI	-16.96
PLANETOCENTRIC CONIC																					
C3	9.968	VHL	3.157	DLA	-29.59	RAL	331.95	RAD	6638.0	VEL	11.405	PTH	6.46	VHP	4.219	DPA	-18.01	RAP	325.47	ECC	1.1641
LNCH AZMTH	LNCH TIME	L-I TIME		INJ LAT		INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG									
50.00	15 38 7	2364.28		-.60		60.72	183.75	137.57	16 17 31	1364.3	17.61	44.56									
60.00	17 0 40	2144.68		4.51		45.84	188.64	130.09	17 36 25	1144.7	20.03	26.96									
70.00	18 51 54	1817.48		10.42		23.71	193.04	122.71	19 22 11	817.5	22.86	2.26									
80.00	21 38 49	1294.12		18.61		348.59	197.58	113.78	22 0 23	294.1	26.79	324.17									
80.92	22 19 30	1163.95		21.24		340.09	198.73	111.10	22 38 54	163.9	28.04	314.81									
100.00	0 25 37	6056.63		18.61		287.87	197.58	113.78	2 6 33	5056.6	26.79	263.45									
110.00	23 51 20	6152.34		10.42		290.54	193.04	122.71	25 33 53	5152.3	22.86	269.09									
DIFFERENTIAL CORRECTIONS				MID-COURSE EXECUTION ACCURACY								ORBIT DETERMINATION ACCURACY									
TDE	-.1739	TRA	-.4758	TC3	.4141	BAU	.0556	SGT	1074.2	SGR	557.1	SG3									

LAUNCH DATE MAY 21 1971

FLIGHT TIME 154.00

ARRIVAL DATE OCT 22 1971

HELIOCENTRIC CONIC
 RL 151.41 LAL -.00 LOL 239.31 VL 32.420 GAL 1.17 AZL 91.61 HCA 125.61 SMA 189.05 ECC .20012 INC 1.6089 V1 29.427
 RP 208.67 LAP -1.34 LOP 2.93 VP 23.876 GAP 9.91 AZP 89.11 TAL 7.00 TAP 130.61 RCA 151.22 APO 226.89 V2 26.264
 RC 96.988 GL -16.91 GP -2.20 ZAL 84.14 ZAP 136.34 ETS 182.54 ZAE 178.38 ETE 226.13 ZAC 97.39 ETC 278.38 LVI -16.77

DISTANCE 376.237 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.787 VHL 3.128 DLA -29.67 RAL 331.83 RAD 6637.9 VEL 11.397 PTH 6.45 VHP 4.106 DPA -18.23 RAP 325.06 ECC 1.1611
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 38 6 2398.77 -.32 60.49 183.49 137.58 16 17 25 1350.8 17.87 44.31
 60.00 17 0 52 2138.58 4.77 45.54 188.38 130.07 17 36 31 1138.6 20.27 26.63
 70.00 18 52 35 1809.98 10.70 23.31 192.77 122.63 19 22 45 810.0 23.09 1.80
 80.00 21 43 48 1272.98 19.18 347.29 197.43 113.33 22 5 1 273.0 27.12 322.69
 80.63 22 16 53 1167.21 21.38 340.39 198.39 111.07 22 36 20 167.2 28.16 315.07
 100.00 0 30 36 6035.49 19.18 286.56 197.43 113.33 2 11 12 9035.5 27.12 261.96
 110.00 23 52 1 6144.84 10.70 290.13 192.77 122.63 25 34 26 5144.8 23.09 268.62

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1699 TRA -.4563 TC3 .3718 BAU .0460 SGT 1037.3 SGR 592.7 S63 790.8 ST 21.2 SR 24.9 SS 24.6
 RDE -.2686 RRA .1191 RC3 .0378 FAU .13969 RRT -.1446 RRF .2381 RTF -.5919 CRT .6218 CRS -.6295 CST .2081
 FDE -.3843 FRA 1.8526 FC-12.3589 BSP 1421 SGB 1175.4 R23 -.1210 R13 .5995 LSA 32.4 MSA 24.9 SSA 1.0
 BDE .3178 BRA .4716 BC3 .3737 FSP 1205 S61 1041.6 S62 544.7 THA 173.93 EL1 29.6 EL2 14.0 ALF 52.21

LAUNCH DATE MAY 21 1971

FLIGHT TIME 156.00

ARRIVAL DATE OCT 24 1971

HELIOCENTRIC CONIC
 RL 151.41 LAL -.00 LOL 239.31 VL 32.394 GAL 1.17 AZL 91.80 HCA 124.86 SMA 188.59 ECC .19817 INC 1.5988 V1 29.427
 RP 208.85 LAP -1.31 LOP 4.18 VP 23.816 GAP 9.64 AZP 89.09 TAL 7.09 TAP 131.95 RCA 151.22 APO 225.96 V2 26.243
 RC 98.929 GL -16.94 GP -2.29 ZAL 84.05 ZAP 136.61 ETS 182.47 ZAE 177.15 ETE 208.65 ZAC 97.37 ETC 278.28 LVI -16.88

DISTANCE 380.330 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.620 VHL 3.102 DLA -29.73 RAL 331.74 RAD 6637.8 VEL 11.389 PTH 6.44 VHP 3.998 DPA -18.48 RAP 324.61 ECC 1.1903
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 38 5 2354.03 -.08 60.29 183.27 137.58 16 17 19 1354.0 18.10 44.09
 60.00 17 1 0 2133.41 5.00 45.29 188.14 130.04 17 36 34 1133.4 20.48 26.34
 70.00 18 53 3 1803.80 10.92 22.97 192.53 122.56 19 23 7 803.8 23.27 1.41
 80.00 21 48 8 1254.58 19.68 346.14 197.30 112.92 22 9 3 254.6 27.40 321.39
 80.44 22 15 0 1168.70 21.51 340.55 198.08 111.03 22 34 29 168.7 28.25 315.20
 100.00 0 34 56 6017.09 19.68 285.42 197.30 112.92 2 15 13 5017.1 27.40 260.67
 110.00 23 52 30 6138.66 10.92 289.79 192.53 122.56 25 34 48 5138.7 23.27 268.24

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1744 TRA -.4449 TC3 .2872 BAU .0371 SGT 1015.4 SGR 548.3 S63 793.5 ST 21.5 SR 24.6 SS 25.3
 RDE -.2633 RRA .1189 RC3 .0225 FAU .14629 RRT -.1440 RRF .2569 RTF -.5497 CRT .6393 CRS -.6321 CST .1796
 FDE -.4036 FRA 1.9431 FC-13.1655 BSP 1382 SGB 1194.0 R23 -.1478 R13 .5591 LSA 32.7 MSA 25.2 SSA 1.9
 BDE .3158 BRA .4605 BC3 .2881 FSP 1287 S61 1019.7 S62 540.3 THA 173.81 EL1 29.6 EL2 13.7 ALF 51.04

LAUNCH DATE MAY 21 1971

FLIGHT TIME 158.00

ARRIVAL DATE OCT 26 1971

HELIOCENTRIC CONIC
 RL 151.41 LAL -.00 LOL 239.31 VL 32.369 GAL 1.17 AZL 91.99 HCA 126.10 SMA 188.17 ECC .19637 INC 1.5883 V1 29.427
 RP 209.04 LAP -1.28 LOP 5.42 VP 23.758 GAP 9.38 AZP 89.06 TAL 7.16 TAP 133.26 RCA 151.22 APO 225.12 V2 26.221
 RC 100.898 GL -16.95 GP -2.39 ZAL 83.99 ZAP 134.85 ETS 182.41 ZAE 175.75 ETE 201.64 ZAC 97.35 ETC 278.17 LVI -16.33

DISTANCE 384.434 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.485 VHL 3.077 DLA -29.76 RAL 331.88 RAD 6637.8 VEL 11.383 PTH 6.44 VHP 3.895 DPA -18.73 RAP 324.12 ECC 1.1558
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 38 2 2349.99 .12 60.12 183.07 137.58 16 17 12 1350.0 18.30 43.90
 60.00 17 1 3 2129.11 5.19 45.09 187.93 130.02 17 36 32 1129.1 20.65 26.11
 70.00 18 53 20 1798.84 11.10 22.70 192.31 122.51 19 23 18 798.8 23.42 1.10
 80.00 21 51 25 1240.06 20.06 345.23 197.15 112.59 22 12 5 240.1 27.60 320.36
 80.31 22 13 49 1168.51 21.61 340.58 197.81 110.98 22 33 17 168.5 28.32 315.20
 100.00 0 38 13 6002.57 20.06 284.51 197.15 112.59 2 18 15 5002.6 27.60 259.64
 110.00 23 52 46 6133.70 11.10 289.53 192.31 122.51 25 35 0 5133.7 23.42 267.92

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1767 TRA -.4295 TC3 .1981 BAU .0251 SGT 986.0 SGR 544.0 S63 836.1 ST 21.5 SR 24.3 SS 26.1
 RDE -.2581 RRA .1187 RC3 .0062 FAU .15289 RRT -.1418 RRF .2770 RTF -.5332 CRT .6551 CRS -.6379 CST .1514
 FDE -.4263 FRA 2.0302 FC-13.9841 BSP 1296 SGB 1126.1 R23 -.1771 R13 .5147 LSA 33.1 MSA 25.2 SSA 2.0
 BDE .3128 BRA .4456 BC3 .1982 FSP 1368 S61 990.2 S62 536.2 THA 173.66 EL1 29.6 EL2 13.4 ALF 50.40

LAUNCH DATE MAY 21 1971

FLIGHT TIME 160.00

ARRIVAL DATE OCT 28 1971

HELIOCENTRIC CONIC
 RL 151.41 LAL -.00 LOL 239.31 VL 32.347 GAL 1.17 AZL 91.58 HCA 127.34 SMA 187.78 ECC .19471 INC 1.5775 V1 29.427
 RP 209.24 LAP -1.25 LOP 6.66 VP 23.702 GAP 9.13 AZP 89.04 TAL 7.21 TAP 134.55 RCA 151.21 APO 224.34 V2 26.198
 RC 102.893 GL -16.95 GP -2.48 ZAL 83.95 ZAP 133.04 ETS 182.33 ZAE 174.26 ETE 197.91 ZAC 97.34 ETC 278.06 LVI -16.09

DISTANCE 388.549 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.322 VHL 3.053 DLA -29.78 RAL 331.64 RAD 6637.7 VEL 11.377 PTH 6.43 VHP 3.798 DPA -19.01 RAP 323.59 ECC 1.1534
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 37 58 2346.67 .29 59.98 182.90 137.58 16 17 4 1346.7 18.45 43.74
 60.00 17 1 2 2125.67 5.34 44.92 187.74 130.01 17 36 27 1125.7 20.78 25.92
 70.00 18 53 23 1795.13 11.24 22.50 192.11 122.47 19 23 19 795.1 23.53 .87
 80.00 21 52 56 1231.72 20.28 344.71 196.97 112.40 22 13 28 231.7 27.72 319.77
 80.26 22 13 14 1166.87 21.69 340.49 197.57 110.92 22 32 41 166.9 28.37 315.09
 100.00 0 39 44 5994.24 20.28 283.98 196.97 112.40 2 19 38 4994.2 27.72 259.04
 110.00 23 52 50 6129.99 11.24 289.32 192.11 122.47 25 35 0 5130.0 23.53 267.69

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1784 TRA -.4123 TC3 .1067 BAU .0134 SGT 954.5 SGR 539.9 S63 881.2 ST 21.4 SR 24.1 SS 26.8
 RDE -.2531 RRA .1187 RC3 -.0120 FAU .16001 RRT -.1365 RRF .2983 RTF -.4511 CRT .6713 CRS -.6437 CST .1224
 FDE -.4493 FRA 2.1184 FC-14.8596 BSP 1187 SGB 1096.6 R23 -.2104 R13 .4651 LSA 33.5 MSA 25.1 SSA 2.0
 BDE .3096 BRA .4291 BC3 .1073 FSP 1448 S61 958.6 S62 532.5 THA 173.60 EL1 29.5 EL2 13.0 ALF 49.90

LAUNCH DATE MAY 21 1971

FLIGHT TIME 162.00

ARRIVAL DATE OCT 30 1971

Heliocentric Conic: RL 151.41 LAL -.00 LOL 239.31 VL 32.326 GAL 1.17 AZL 91.57 HCA 128.57 SMA 187.42 ECC .19319 INC 1.5864 V1 29.427
 RP 209.44 LAP -1.22 LOP 7.90 VP 23.648 GAP 8.88 AZP 89.02 TAL 7.24 TAP 135.82 RCA 151.21 APO 223.63 V2 26.174
 RC 104.913 GL -16.94 GP -2.58 ZAL 83.94 ZAP 131.21 ETS 182.26 ZAE 172.71 ETE 195.58 ZAC 97.32 ETC 277.93 LVI -15.84

Distance 392.674 Earth to Mars

Planetocentric Conic: C3 9.191 VHL 3.032 DLA -29.77 RAL 331.62 RAD 6637.6 VEL 11.371 PTH 6.42 VHP 3.705 DPA -19.29 RAP 323.02 ECC 1.1513
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 37 52 2344.04 .42 59.87 182.76 137.57 16 16 56 1344.0 18.58 43.62
 60.00 17 0 55 2123.09 5.45 44.80 187.58 129.99 17 36 10 1123.1 20.88 25.77
 70.00 18 53 15 1792.69 11.33 22.37 191.93 122.44 19 23 7 792.7 23.60 .71
 80.00 21 52 11 1231.21 20.29 344.68 196.75 112.39 22 12 42 231.2 27.73 319.73
 80.28 22 13 21 1163.55 21.75 340.27 197.37 110.84 22 32 45 163.6 28.40 314.85
 100.00 0 38 58 5993.72 20.29 285.95 196.75 112.39 2 18 52 4993.7 27.73 259.01
 110.00 23 52 41 6127.52 11.33 289.19 191.93 122.44 25 34 48 5127.5 23.60 267.54

Differential Corrections: TDE -.1805 TRA -.3942 TC3 .0035 BAU .0039 SGT 923.6 SGR 535.9 SG3 927.0 ST 21.4 SR 23.8 SS 27.5
 RDE -.2481 RRA .1189 RC3 -.0313 FAU .16716 RRT -.1260 RRF .3208 RTF -.3883 CRT .6889 CRS -.6473 CST .0935
 FDE -.4702 FRA 2.2106 FC-15.7462 BSP 1054 SGB 1067.9 R23 -.2494 R13 .4046 LSA 33.9 MSA 25.1 SSA 2.0
 BDE .3068 BRA .4118 BC3 .0315 FSP 1525 SG1 927.3 SG2 529.5 THA 173.79 EL1 29.4 EL2 12.5 ALF 49.38

LAUNCH DATE MAY 21 1971

FLIGHT TIME 164.00

ARRIVAL DATE NOV 1 1971

Heliocentric Conic: RL 151.41 LAL -.00 LOL 239.31 VL 32.307 GAL 1.17 AZL 91.55 HCA 129.81 SMA 187.10 ECC .19179 INC 1.5549 V1 29.427
 RP 209.66 LAP -1.19 LOP 9.13 VP 23.594 GAP 8.64 AZP 89.00 TAL 7.26 TAP 137.07 RCA 151.21 APO 222.98 V2 26.150
 RC 106.958 GL -16.92 GP -2.69 ZAL 83.96 ZAP 129.33 ETS 182.18 ZAE 171.08 ETE 193.96 ZAC 97.30 ETC 277.80 LVI -15.57

Distance 396.807 Earth to Mars

Planetocentric Conic: C3 9.089 VHL 3.011 DLA -29.74 RAL 331.63 RAD 6637.6 VEL 11.365 PTH 6.42 VHP 3.618 DPA -19.60 RAP 322.42 ECC 1.1492
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 37 45 2342.09 .52 59.79 182.64 137.57 16 16 47 1342.1 18.67 43.53
 60.00 17 0 44 2121.34 5.53 44.71 187.44 129.98 17 36 5 1121.3 20.95 25.68
 70.00 18 52 53 1791.41 11.38 22.30 191.76 122.42 19 22 45 791.4 23.63 .63
 80.00 21 49 26 1237.55 20.12 345.08 196.48 112.53 22 10 3 237.5 27.64 320.18
 80.38 22 14 5 1158.75 21.80 339.93 197.19 110.75 22 33 24 158.7 28.40 314.49
 100.00 0 36 13 6000.06 20.12 284.35 196.48 112.53 2 16 13 5000.1 27.64 259.46
 110.00 23 52 20 6126.26 11.38 289.12 191.76 122.42 25 34 26 5126.3 23.63 267.46

Differential Corrections: TDE -.1774 TRA -.3699 TC3 -.0860 BAU .0123 SGT 879.5 SGR 532.5 SG3 976.1 ST 20.8 SR 23.5 SS 28.4
 RDE -.2434 RRA .1190 RC3 -.0534 FAU .17523 RRT -.1141 RRF .3458 RTF -.3241 CRT .7026 CRS -.6433 CST .0530
 FDE -.5073 FRA 2.2906 FC-16.7279 BSP 853 SGB 1028.1 R23 -.2894 R13 .3434 LSA 34.5 MSA 24.4 SSA 2.0
 BDE .3012 BRA .3885 BC3 .1013 FSP 1588 SG1 882.7 SG2 527.1 THA 173.85 EL1 29.0 EL2 12.0 ALF 49.92

LAUNCH DATE MAY 21 1971

FLIGHT TIME 166.00

ARRIVAL DATE NOV 3 1971

Heliocentric Conic: RL 151.41 LAL -.00 LOL 239.31 VL 32.290 GAL 1.16 AZL 91.54 HCA 131.04 SMA 186.80 ECC .19052 INC 1.5430 V1 29.427
 RP 209.87 LAP -1.16 LOP 10.36 VP 23.543 GAP 8.41 AZP 88.99 TAL 7.25 TAP 138.29 RCA 151.22 APO 222.39 V2 26.124
 RC 109.028 GL -16.89 GP -2.80 ZAL 84.01 ZAP 127.43 ETS 182.09 ZAE 169.40 ETE 192.77 ZAC 97.28 ETC 277.66 LVI -15.28

Distance 400.948 Earth to Mars

Planetocentric Conic: C3 8.956 VHL 2.993 DLA -29.69 RAL 331.67 RAD 6637.5 VEL 11.361 PTH 6.41 VHP 3.537 DPA -19.91 RAP 321.78 ECC 1.1474
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 37 38 2340.89 .58 59.74 182.55 137.57 16 16 39 1340.9 18.73 43.47
 60.00 17 0 28 2120.52 5.56 44.67 187.33 129.98 17 35 48 1120.5 20.99 25.63
 70.00 18 52 19 1791.48 11.37 22.30 191.62 122.42 19 22 10 791.5 23.63 .64
 80.00 21 45 7 1249.49 19.81 345.82 196.20 112.81 22 5 56 249.5 27.47 321.03
 80.55 22 15 34 1152.11 21.82 339.45 197.06 110.66 22 34 47 152.1 28.38 314.00
 100.00 0 31 55 6012.00 19.81 285.10 196.20 112.81 2 12 7 5012.0 27.47 260.31
 110.00 23 51 45 6126.34 11.37 289.12 191.62 122.42 25 33 52 5126.3 23.63 267.46

Differential Corrections: TDE -.1881 TRA -.3560 TC3 -.2499 BAU .0312 SGT 880.2 SGR 528.8 SG3 1020.1 ST 21.6 SR 23.1 SS 28.9
 RDE -.2381 RRA .1200 RC3 -.0734 FAU .18144 RRT -.0815 RRF .3895 RTF -.1.92 CRT .7291 CRS -.6478 CST .0533
 FDE -.5038 FRA 2.4126 FC-17.5381 BSP 810 SGB 1026.8 R23 -.3425 R13 .2350 LSA 34.7 MSA 25.1 SSA 2.0
 BDE .3034 BRA .3776 BC3 .2605 FSP 1698 SG1 881.8 SG2 526.1 THA 175.64 EL1 29.4 EL2 11.6 ALF 47.78

LAUNCH DATE MAY 21 1971

FLIGHT TIME 168.00

ARRIVAL DATE NOV 5 1971

Heliocentric Conic: RL 151.41 LAL -.00 LOL 239.31 VL 32.274 GAL 1.15 AZL 91.53 HCA 132.27 SMA 186.54 ECC .18935 INC 1.5307 V1 29.427
 RP 210.10 LAP -1.13 LOP 11.59 VP 23.492 GAP 8.18 AZP 88.97 TAL 7.23 TAP 139.50 RCA 151.22 APO 221.86 V2 26.098
 RC 111.121 GL -16.84 GP -2.91 ZAL 84.08 ZAP 125.50 ETS 182.01 ZAE 167.67 ETE 191.84 ZAC 97.27 ETC 277.51 LVI -14.98

Distance 405.096 Earth to Mars

Planetocentric Conic: C3 8.853 VHL 2.975 DLA -29.62 RAL 331.74 RAD 6637.4 VEL 11.356 PTH 6.41 VHP 3.460 DPA -20.23 RAP 321.11 ECC 1.1497
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 37 29 2340.33 .61 59.72 182.49 137.57 16 16 29 1340.3 18.76 43.44
 60.00 17 0 7 2120.49 5.57 44.67 187.24 129.98 17 35 27 1120.5 20.99 25.63
 70.00 18 51 33 1792.75 11.33 22.37 191.50 122.44 19 21 25 792.7 23.60 .71
 80.00 21 40 8 1264.03 19.42 346.73 195.92 113.13 22 1 12 264.0 27.26 322.06
 80.80 22 17 46 1143.69 21.82 338.83 196.95 110.54 22 36 50 143.7 28.33 313.36
 100.00 0 26 56 6026.54 19.42 286.00 195.92 113.13 2 7 23 5026.5 27.26 261.33
 110.00 23 50 59 6127.56 11.33 289.19 191.50 122.44 25 33 6 5127.6 23.60 267.54

Differential Corrections: TDE -.1925 TRA -.3381 TC3 -.3925 BAU .0478 SGT 867.7 SGR 525.8 SG3 1067.9 ST 21.7 SR 22.8 SS 29.5
 RDE -.2331 RRA .1208 RC3 -.0965 FAU .18877 RRT -.0453 RRF .3953 RTF -.1160 CRT .7504 CRS -.6450 CST .0069
 FDE -.5152 FRA 2.5177 FC-18.4604 BSP 675 SGB 1014.5 R23 -.3872 R13 .1262 LSA 35.0 MSA 25.1 SSA 2.0
 BDE .3023 BRA .3591 BC3 .4041 FSP 1782 SG1 868.2 SG2 524.9 THA 177.52 EL1 29.4 EL2 11.1 ALF 46.93

LAUNCH DATE MAY 21 1971

FLIGHT TIME 170.00

ARRIVAL DATE NOV 7 1971

HELIOCENTRIC CONIC				DISTANCE 409.251				EARTH TO MARS													
RL	151.41	LAL	-0.00	LOL	239.31	VL	32.260	GAL	1.14	AZL	91.32	HCA	133.30	SMA	106.30	ECC	.18629	INC	1.5180	V1	29.427
RP	210.33	LAP	-1.10	LOP	12.82	VP	23.443	GAP	7.95	AZP	88.95	TAL	7.19	TAP	140.68	RCA	151.22	APC	221.38	V2	26.071
RC	113.239	GL	-16.78	GP	-3.03	ZAL	84.19	ZAP	123.54	ETP	181.91	ZAE	163.89	EYE	191.08	ZAC	97.25	ETC	277.36	LVI	-14.66
PLANETOCENTRIC CONIC				PLANETOCENTRIC CONIC				PLANETOCENTRIC CONIC													
C3	8.757	VHL	2.959	DLA	-29.53	RAL	331.83	RAD	6637.4	VEL	11.352	PTH	6.40	VHP	3.388	DPA	-20.57	RAP	320.40	ECC	1.1441
LNCH AZMTH LNCH TIME L-I TIME				LNCH AZMTH LNCH TIME L-I TIME				LNCH AZMTH LNCH TIME L-I TIME													
50.00	15 37 10	2340.44	.60	59.72	182.45	137.57	16 16 19	1340.4	18.75	43.45	70.00	16 59 41	2121.28	5.53	44.71	187.17	129.98	17 35 2	1121.3	20.96	25.67
60.00	16 59 41	2121.28	5.53	44.71	187.17	129.98	17 35 2	1121.3	20.96	25.67	80.00	21 34 45	1280.39	10.90	347.75	195.65	113.49	21 56 6	280.4	27.01	323.21
100.00	0 21 33	6042.90	10.98	287.02	195.65	113.49	2 2 16	5042.9	27.01	262.49	110.00	23 50 1	6129.97	11.24	289.32	191.40	122.47	25 32 11	5130.0	23.53	267.69
DIFFERENTIAL CORRECTIONS				MID-COURSE EXECUTION ACCURACY				ORBIT DETERMINATION ACCURACY													
TDE	-.1964	TRA	-.3171	TC3	-.5488	BAU	.0658	SGT	864.8	SGR	523.2	SG3	1114.7	ST	21.8	SR	22.5	SS	30.1		
RDE	-.2282	RRA	.1218	RC3	-.1204	FAU	.19587	RRT	.0000	RRF	.4223	RTF	-.0006	CRY	.7713	CRS	-.6440	CST	-.0244		
FDE	-.5285	FRA	2.6233	FC-19	3636	BSP	549	SGB	1010.7	R23	.4223	R13	-.0006	LSA	35.4	MSA	25.0	SSA	2.0		
BDE	.3011	BRA	.3396	BC3	.5618	FSP	1870	SG1	864.8	SG2	523.2	THA	.00	EL1	29.4	EL2	10.6	ALF	46.17		

LAUNCH DATE MAY 21 1971

FLIGHT TIME 172.00

ARRIVAL DATE NOV 9 1971

HELIOCENTRIC CONIC				DISTANCE 413.412				EARTH TO MARS													
RL	151.41	LAL	-0.00	LOL	239.31	VL	32.247	GAL	1.12	AZL	91.50	HCA	134.72	SMA	106.08	ECC	.18733	INC	1.5047	V1	29.427
RP	210.57	LAP	-1.07	LOP	14.04	VP	23.395	GAP	7.73	AZP	88.94	TAL	7.13	TAP	141.85	RCA	151.22	APC	220.94	V2	26.044
RC	115.380	GL	-16.71	GP	-3.15	ZAL	84.32	ZAP	121.55	ETP	181.81	ZAE	164.06	ETE	190.45	ZAC	97.22	ETC	277.19	LVI	-14.33
PLANETOCENTRIC CONIC				PLANETOCENTRIC CONIC				PLANETOCENTRIC CONIC													
C3	8.669	VHL	2.944	DLA	-29.41	RAL	331.94	RAD	6637.3	VEL	11.348	PTH	6.40	VHP	3.321	DPA	-20.92	RAP	319.67	ECC	1.1427
LNCH AZMTH LNCH TIME L-I TIME				LNCH AZMTH LNCH TIME L-I TIME				LNCH AZMTH LNCH TIME L-I TIME													
50.00	15 37 7	2341.22	.56	59.75	182.44	137.57	16 16 8	1341.2	18.71	43.49	70.00	16 59 11	2122.89	5.46	44.79	187.13	129.99	17 34 34	1122.9	20.89	25.76
60.00	16 59 11	2122.89	5.46	44.79	187.13	129.99	17 34 34	1122.9	20.89	25.76	80.00	21 29 10	1297.95	10.50	348.83	195.41	113.86	21 50 48	297.9	26.73	324.44
100.00	0 15 58	6060.46	10.50	288.10	195.41	113.86	1 56 58	5060.5	26.73	263.71	110.00	23 48 51	6133.53	11.11	289.52	191.31	122.51	25 31 4	5133.5	23.42	267.91
DIFFERENTIAL CORRECTIONS				MID-COURSE EXECUTION ACCURACY				ORBIT DETERMINATION ACCURACY													
TDE	-.2014	TRA	-.2945	TC3	-.7170	BAU	.0848	SGT	874.5	SGR	520.8	SG3	1161.4	ST	21.9	SR	22.1	SS	30.6		
RDE	-.2232	RRA	.1228	RC3	-.1456	FAU	.20300	RRT	.0567	RRF	.4492	RTF	.1223	CRY	.7935	CRS	-.6382	CST	-.0531		
FDE	-.5323	FRA	2.7274	FC-20	2715	BSP	452	SGB	1017.8	R23	.4390	R13	.1359	LSA	35.7	MSA	25.1	SSA	2.0		
BDE	.3006	BRA	.3191	BC3	.7316	FSP	1953	SG1	875.3	SG2	519.5	THA	2.99	EL1	29.5	EL2	10.0	ALF	45.25		

LAUNCH DATE MAY 21 1971

FLIGHT TIME 174.00

ARRIVAL DATE NOV 11 1971

HELIOCENTRIC CONIC				DISTANCE 417.578				EARTH TO MARS													
RL	151.41	LAL	-0.00	LOL	239.31	VL	32.236	GAL	1.11	AZL	91.49	HCA	135.94	SMA	105.88	ECC	.18647	INC	1.4909	V1	29.427
RP	210.82	LAP	-1.04	LOP	15.26	VP	23.347	GAP	7.51	AZP	88.93	TAL	7.05	TAP	142.99	RCA	151.23	APC	220.55	V2	26.015
RC	117.545	GL	-16.63	GP	-3.27	ZAL	84.48	ZAP	119.54	ETP	181.71	ZAE	162.18	ETE	189.91	ZAC	97.20	ETC	277.02	LVI	-13.99
PLANETOCENTRIC CONIC				PLANETOCENTRIC CONIC				PLANETOCENTRIC CONIC													
C3	8.589	VHL	2.931	DLA	-29.27	RAL	332.08	RAD	6637.3	VEL	11.345	PTH	6.40	VHP	3.259	DPA	-21.27	RAP	318.90	ECC	1.1413
LNCH AZMTH LNCH TIME L-I TIME				LNCH AZMTH LNCH TIME L-I TIME				LNCH AZMTH LNCH TIME L-I TIME													
50.00	15 36 54	2342.64	.49	59.81	182.45	137.57	16 15 57	1342.6	18.65	43.55	70.00	16 58 36	2125.30	5.35	44.90	187.11	130.00	17 34 1	1125.3	20.80	25.80
60.00	16 58 36	2125.30	5.35	44.90	187.11	130.00	17 34 1	1125.3	20.80	25.80	80.00	21 23 28	1316.33	17.99	349.95	195.18	114.24	21 45 25	316.3	26.42	325.72
100.00	0 10 18	6078.84	17.99	289.23	195.18	114.24	1 51 35	5078.8	26.42	264.99	110.00	23 47 29	6138.20	10.94	289.77	191.25	122.56	25 29 48	5138.2	23.28	268.21
DIFFERENTIAL CORRECTIONS				MID-COURSE EXECUTION ACCURACY				ORBIT DETERMINATION ACCURACY													
TDE	-.2057	TRA	-.2706	TC3	-.8938	BAU	.1045	SGT	896.7	SGR	519.2	SG3	1208.5	ST	22.1	SR	21.7	SS	31.1		
RDE	-.2182	RRA	.1242	RC3	-.1721	FAU	.21012	RRT	.1193	RRF	.4777	RTF	.1446	CRY	.8146	CRS	-.6330	CST	-.0823		
FDE	-.5362	FRA	2.8371	FC-21	1799	BSP	425	SGB	1036.2	R23	.4366	R13	.2706	LSA	36.0	MSA	25.0	SSA	2.0		
BDE	.2998	BRA	.2978	BC3	.9102	FSP	2031	SG1	899.9	SG2	513.7	THA	5.87	EL1	29.5	EL2	9.4	ALF	44.44		

LAUNCH DATE MAY 21 1971

FLIGHT TIME 176.00

ARRIVAL DATE NOV 13 1971

HELIOCENTRIC CONIC				DISTANCE 421.749				EARTH TO MARS													
RL	151.41	LAL	-0.00	LOL	239.31	VL	32.225	GAL	1.09	AZL	91.48	HCA	137.16	SMA	105.72	ECC	.18569	INC	1.4764	V1	29.427
RP	211.07	LAP	-1.00	LOP	16.48	VP	23.301	GAP	7.30	AZP	88.92	TAL	6.95	TAP	144.11	RCA	151.23	APC	220.21	V2	25.986
RC	119.734	GL	-16.53	GP	-3.40	ZAL	84.67	ZAP	117.51	ETP	181.60	ZAE	160.27	ETE	189.44	ZAC	97.17	ETC	276.84	LVI	-13.63
PLANETOCENTRIC CONIC				PLANETOCENTRIC CONIC				PLANETOCENTRIC CONIC													
C3	8.515	VHL	2.918	DLA	-29.11	RAL	332.24	RAD	6637.3	VEL	11.341	PTH	6.39	VHP	3.201	DPA	-21.64	RAP	318.11	ECC	1.1401
LNCH AZMTH LNCH TIME L-I TIME				LNCH AZMTH LNCH TIME L-I TIME				LNCH AZMTH LNCH TIME L-I TIME													
50.00	15 36 39	2344.71	.39	59.90	182.48	137.57	16 15 44	1344.7	18.55	43.65	70.00	16 57 56	2128.49	5.21	45.06	187.11	130.02	17 33 24	1128.5	20.67	26.07
60.00	16 57 56	2128.49	5.21	45.06	187.11	130.02	17 33 24	1128.5	20.67	26.07	80.00	21 17 45	1335.32	17.46	351.11	194.98	114.61	21 40 0	335.3	26.09	327.04
100.00	0 4 32	6097.83	17.46	290.39	194.98	114.61	1 46 10	5097.8	26.09	266.31	110.00	23 45 58	6143.95	10.73	290.08	191.20	122.62	25 28 22	5144.0	23.11	268.57
DIFFERENTIAL CORRECTIONS				MID-COURSE EXECUTION ACCURACY				ORBIT DETERMINATION ACCURACY													
TDE	-.2079	TRA	-.2438	TC3	-1.0729	BAU	.1243	SGT	926.8	SGR	518.4	SG3	1255.9	ST	22.0	SR	21.4	SS	31.6		
RDE	-.2134	RRA	.1254	RC3	-.2006	FAU	.21756	RRT	.1873	RRF	.5070	RTF	.3646	CRY	.8350	CRS	-.6347	CST	-.1213		
FDE	-.5488	FRA	2.9330	FC-22	1210	BSP	514	SGB	1061.9	R23	.4159	R13	.3993	LSA	36.4	MSA	24.7	SSA	1.9		
BDE	.2979	BRA	.2741	BC3	1.0915	FSP	2096	SG1	934.0	SG2	505.3	THA	8.48	EL1	29.4	EL2	8.8	ALF	43.97		

LAUNCH DATE MAY 21 1971 FLIGHT TIME 178.00 ARRIVAL DATE NOV 19 1971

MELIOCENTRIC CONIC DISTANCE 425.923 EARTH TO MARS
 RL 151.41 LAL -.00 LOL 239.31 VL 32.217 GAL 1.07 AZL 91.46 HCA 138.38 SMA 185.57 ECC .18501 INC 1.4614 V1 20.427
 RP 211.33 LAP -.97 LOP 17.70 VP 23.256 GAP 7.09 A2P 88.91 TAL 6.84 TAP 145.21 RCA 151.24 APO 219.90 V2 25.957
 RC 121.945 GL -16.42 GP -3.54 ZAL 84.89 ZAP 115.47 ETS 181.49 ZAE 158.33 ETE 189.03 ZAC 97.14 ETC 276.66 LVI -13.26

PLANETOCENTRIC CONIC
 C3 8.447 VML 2.906 DLA -28.93 RAL 332.43 RAD 6637.2 VEL 11.336 PTH 6.39 VHP 3.148 DPA -22.01 RAP 317.30 ECC 1.1390
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 36 24 2347.45 .25 60.01 182.54 137.58 16 15 31 1347.5 18.42 43.78
 60.00 16 57 11 2132.82 5.04 45.25 187.14 130.04 17 32 44 1132.5 20.51 26.29
 70.00 18 44 49 1815.96 10.48 23.63 191.17 122.69 19 15 5 816.0 22.91 2.17
 80.00 21 11 58 1355.01 16.90 352.30 194.81 114.99 21 34 33 355.0 25.74 328.39
 83.64 22 42 59 1062.66 21.54 332.73 196.84 109.79 23 0 42 62.7 27.77 307.28
 100.00 23 54 50 6117.52 16.90 291.58 194.81 114.99 25 36 48 5117.5 25.74 267.66
 110.00 23 44 15 6150.82 10.48 290.45 191.17 122.69 25 26 46 5150.8 22.91 268.99

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2168 TRA -.2220 TC3-1.2967 BAU .1487 SGT 1000.5 SGR 517.4 SG3 1297.5 ST 22.7 SR 20.9 SS 31.9
 RDE -.2079 RRA .1274 RC3 -.2269 FAU .22321 RRT .2530 RRF .5349 RTF .4667 CRT .8546 CRS -.6125 CST -.1301
 FDE -.9222 FRA 3.0633 FC-22.8777 BSP 642 SGB 1126.3 R23 .3899 R13 .5014 LSA 36.5 MSA 25.2 SSA 1.9
 BDE .3004 BRA .2560 BC3 1.3164 FSP 2200 SG1 1011.8 SG2 495.0 THA 9.83 EL1 29.7 EL2 8.3 ALF 42.33

LAUNCH DATE MAY 21 1971 FLIGHT TIME 180.00 ARRIVAL DATE NOV 17 1971

MELIOCENTRIC CONIC DISTANCE 430.102 EARTH TO MARS
 RL 151.41 LAL -.00 LOL 239.31 VL 32.209 GAL 1.04 AZL 91.45 HCA 139.59 SMA 185.44 ECC .18440 INC 1.4456 V1 29.427
 RP 211.60 LAP -.94 LOP 18.91 VP 23.211 GAP 6.89 A2P 88.90 TAL 6.71 TAP 146.30 RCA 151.25 APO 219.64 V2 25.926
 RC 124.177 GL -16.30 GP -3.67 ZAL 85.13 ZAP 113.41 ETS 181.37 ZAE 156.35 ETE 188.66 ZAC 97.10 ETC 276.48 LVI -12.87

PLANETOCENTRIC CONIC
 C3 8.385 VML 2.896 DLA -28.72 RAL 332.64 RAD 6637.2 VEL 11.336 PTH 6.39 VHP 3.100 DPA -22.38 RAP 316.47 ECC 1.1380
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 36 24 2350.82 .08 60.15 182.62 137.58 16 15 17 1350.8 18.26 43.94
 60.00 16 56 22 2137.29 4.83 45.48 187.10 130.06 17 31 59 1137.3 20.32 26.56
 70.00 18 42 57 1823.81 10.19 24.05 191.16 122.78 19 13 21 823.8 22.67 2.66
 80.00 21 6 14 1375.07 16.32 353.51 194.66 115.36 21 29 9 375.1 25.36 329.76
 84.75 22 52 55 1031.94 21.43 330.43 196.89 109.60 23 10 7 31.9 27.58 304.99
 100.00 23 49 6 6137.58 16.32 292.78 194.66 115.36 25 31 23 5137.6 25.36 269.04
 110.00 23 42 24 6158.68 10.19 290.88 191.16 122.78 25 25 2 5158.7 22.67 269.48

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2218 TRA -.1957 TC3-1.5139 BAU .1721 SGT 1075.3 SGR 517.4 SG3 1339.2 ST 23.0 SR 20.5 SS 32.3
 RDE -.2026 RRA .1294 RC3 -.2551 FAU .22911 RRT .3172 RRF .5638 RTF .5568 CRT .8727 CRS -.5985 CST -.1491
 FDE -.5062 FRA 3.1827 FC-23.6562 BSP 835 SGB 1193.3 R23 .3598 R13 .5894 LSA 36.6 MSA 25.4 SSA 1.9
 BDE .3004 BRA .2346 BC3 1.5352 FSP 2280 SG1 1090.9 SG2 483.7 THA 10.83 EL1 29.8 EL2 7.7 ALF 41.32

LAUNCH DATE MAY 21 1971 FLIGHT TIME 182.00 ARRIVAL DATE NOV 19 1971

MELIOCENTRIC CONIC DISTANCE 434.284 EARTH TO MARS
 RL 151.41 LAL -.00 LOL 239.31 VL 32.202 GAL 1.02 AZL 91.43 HCA 140.80 SMA 185.33 ECC .18387 INC 1.4292 V1 29.427
 RP 211.87 LAP -.90 LOP 20.12 VP 23.167 GAP 6.69 A2P 88.89 TAL 6.56 TAP 147.36 RCA 151.26 APO 219.41 V2 25.896
 RC 126.431 GL -16.16 GP -3.82 ZAL 85.41 ZAP 111.34 ETS 181.24 ZAE 154.35 ETE 188.32 ZAC 97.06 ETC 276.28 LVI -12.48

PLANETOCENTRIC CONIC
 C3 8.328 VML 2.886 DLA -28.49 RAL 332.88 RAD 6637.2 VEL 11.333 PTH 6.39 VHP 3.055 DPA -22.76 RAP 315.63 ECC 1.1371
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 35 46 2354.82 -.12 60.32 182.73 137.58 16 15 1 1354.8 18.06 44.12
 60.00 16 55 28 2142.83 4.59 45.75 187.24 130.08 17 31 11 1142.8 20.10 26.86
 70.00 18 40 56 1832.64 9.86 24.53 191.17 122.87 19 11 29 832.6 22.41 3.20
 80.00 21 0 31 1395.54 15.72 354.73 194.54 115.72 21 23 46 395.5 24.96 331.15
 86.37 23 7 8 8275.76 21.29 305.04 196.98 109.40 24 51 44 5275.8 27.38 279.62
 100.00 23 43 23 6158.06 15.72 294.01 194.54 115.72 25 26 1 5158.1 24.96 270.43
 110.00 23 40 22 6167.50 9.86 291.35 191.17 122.87 25 23 10 5167.5 22.41 270.03

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2264 TRA -.1875 TC3-1.7394 BAU .1982 SGT 1163.2 SGR 518.1 SG3 1379.3 ST 23.2 SR 20.1 SS 32.6
 RDE -.1972 RRA .1314 RC3 -.2846 FAU .23494 RRT .3793 RRF .5925 RTF .5442 CRT .8900 CRS -.5860 CST -.1711
 FDE -.4890 FRA 3.2887 FC-24.4226 BSP 1058 SGB 1273.4 R23 .3282 R13 .6827 LSA 36.8 MSA 25.4 SSA 1.9
 BDE .3002 BRA .2129 BC3 1.7625 FSP 2353 SG1 1182.9 SG2 471.4 THA 11.43 EL1 29.9 EL2 7.1 ALF 40.34

LAUNCH DATE MAY 21 1971 FLIGHT TIME 184.00 ARRIVAL DATE NOV 21 1971

MELIOCENTRIC CONIC DISTANCE 438.469 EARTH TO MARS
 RL 151.41 LAL -.00 LOL 239.31 VL 32.198 GAL .99 AZL 91.41 HCA 142.00 SMA 185.24 ECC .18341 INC 1.4118 V1 29.427
 RP 212.14 LAP -.87 LOP 21.32 VP 23.124 GAP 6.50 A2P 88.89 TAL 6.39 TAP 148.40 RCA 151.26 APO 219.21 V2 25.864
 RC 128.706 GL -16.00 GP -3.97 ZAL 85.70 ZAP 109.27 ETS 181.11 ZAE 152.33 ETE 188.01 ZAC 97.01 ETC 276.09 LVI -12.07

PLANETOCENTRIC CONIC
 C3 8.277 VML 2.877 DLA -28.24 RAL 333.13 RAD 6637.1 VEL 11.331 PTH 6.38 VHP 3.015 DPA -23.15 RAP 314.77 ECC 1.1362
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 35 25 2359.46 -.35 60.51 182.85 137.58 16 14 44 1359.5 17.84 44.34
 60.00 16 54 29 2149.14 4.31 46.05 187.33 130.11 17 30 18 1149.1 19.85 27.20
 70.00 18 38 46 1842.44 9.50 25.06 191.20 122.96 19 9 28 842.4 22.11 3.81
 80.00 20 54 49 1416.43 15.09 355.97 194.44 116.07 21 18 26 416.4 24.54 332.56
 90.00 23 23 30 6218.40 20.18 300.42 196.72 110.24 25 9 9 5218.4 26.74 275.31
 100.00 23 37 41 6178.94 15.09 295.25 194.44 116.07 25 20 40 5178.9 24.54 271.83
 110.00 23 38 12 6177.30 9.50 291.88 191.20 122.96 25 21 10 5177.3 22.11 270.63

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2305 TRA -.1383 TC3-1.9753 BAU .2213 SGT 1265.1 SGR 519.6 SG3 1418.1 ST 23.5 SR 19.6 SS 32.9
 RDE -.1918 RRA .1336 RC3 -.3150 FAU .24048 RRT .4365 RRF .6214 RTF .6970 CRT .9056 CRS -.5717 CST -.1901
 FDE -.4669 FRA 3.4000 FC-25.1522 BSP 1298 SGB 1367.6 R23 .3004 R13 .7210 LSA 36.9 MSA 25.5 SSA 1.9
 BDE .2999 BRA .1923 BC3 2.0003 FSP 2425 SG1 1288.3 SG2 459.1 THA 11.67 EL1 29.9 EL2 6.5 ALF 39.37

LAUNCH DATE MAY 21 1971

FLIGHT TIME 186.00

ARRIVAL DATE NOV 23 1971

HELIOCENTRIC CONIC
 RL 151.41 LAL -.00 LOL 239.31 VL 32.182 GAL .96 AZL 91.39 HCA 143.21 SMA 185.16 ECC .18302 INC 1.3935 V1 29.427
 RP 212.43 LAP -.83 LOP 22.93 VP 23.081 GAP 6.31 AZP 88.88 TAL 6.21 TAP 149.42 RCA 151.27 APO 219.05 V2 25.832
 RC 130.999 GL -15.83 GP -4.12 ZAL 86.02 ZAP 107.20 ETS 180.97 ZAE 150.29 ETE 187.73 ZAC 96.95 ETC 275.89 LVI -11.66

DISTANCE 442.656 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 8.231 VHL 2.889 DLA -27.98 RAL 333.40 RAD 6637.1 VEL 11.329 PTH 6.38 VHP 2.979 DPA -23.54 RAP 313.91 ECC 1.1355
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 35 1 2364.74 -.62 60.73 182.99 137.37 16 14 25 1364.7 17.59 44.58
 60.00 16 53 24 2156.21 4.00 46.39 187.43 130.14 17 29 21 1156.2 19.57 27.99
 70.00 18 36 27 1853.16 9.10 25.63 191.24 123.08 19 7 20 853.2 21.78 4.46
 80.00 20 49 9 1437.70 14.45 357.23 194.36 116.41 21 13 7 437.7 24.10 333.98
 90.00 23 2 34 1007.46 18.29 327.38 196.15 111.95 23 19 21 7.5 25.75 302.83
 100.00 23 32 1 6200.21 14.45 296.50 194.36 116.41 25 15 21 5200.2 24.10 273.26
 110.00 23 35 54 6188.02 9.10 292.46 191.24 123.08 25 19 2 5188.0 21.78 271.29

DIFFERENTIAL CORRECTIONS
 TDE -.2341 TRA -.1075 TC3-2.2182 BAU .2470
 RDE -.1862 RRA .1359 RC3 -.3401 FAU .24559
 FDE -.4345 FRA 3.3033 FC-25.8313 BSP 1560
 BDE .2992 BRA .1733 BC3 2.2450 FSP 2487

MID-COURSE EXECUTION ACCURACY
 SGT 1377.6 SGR 521.6 SG3 1453.9
 RRT .4898 RRF .6494 RTF .7482
 SGB 1473.0 R23 .2746 R13 .7679
 SG1 1403.8 SG2 446.3 THA 11.71

ORBIT DETERMINATION ACCURACY
 ST 23.7 SR 19.2 SS 33.1
 CRT .9201 CRS -.5531 CST -.2045
 LSA 37.0 MSA 25.8 SSA 1.9
 EL1 29.9 EL2 6.0 ALF 38.39

LAUNCH DATE MAY 21 1971

FLIGHT TIME 186.00

ARRIVAL DATE NOV 25 1971

HELIOCENTRIC CONIC
 RL 151.41 LAL -.00 LOL 239.31 VL 32.188 GAL .93 AZL 91.37 HCA 144.41 SMA 185.10 ECC .18269 INC 1.3744 V1 29.427
 RP 212.72 LAP -.80 LOP 23.73 VP 23.039 GAP 6.12 AZP 88.88 TAL 6.02 TAP 150.43 RCA 151.28 APO 218.91 V2 25.799
 RC 133.312 GL -19.65 GP -4.28 ZAL 86.37 ZAP 105.13 ETS 180.82 ZAE 148.24 ETE 187.47 ZAC 96.86 ETC 275.69 LVI -11.24

DISTANCE 446.846 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 8.189 VHL 2.862 DLA -27.66 RAL 333.69 RAD 6637.1 VEL 11.327 PTH 6.38 VHP 2.947 DPA -23.92 RAP 313.04 ECC 1.1348
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 34 34 2370.65 -.92 60.98 183.15 137.37 16 14 4 1370.6 17.30 44.86
 60.00 16 52 15 2164.01 3.86 46.76 187.54 130.16 17 28 19 1164.0 19.26 28.01
 70.00 18 34 0 1864.77 8.67 26.25 191.29 123.17 19 5 5 864.8 21.42 5.17
 80.00 20 43 31 1459.34 13.80 358.49 194.30 116.74 21 7 50 459.3 23.63 335.42
 90.00 22 48 58 1054.75 17.07 330.30 195.87 112.90 23 6 33 54.8 25.03 306.11
 100.00 23 26 22 6221.85 13.80 297.77 194.30 116.74 25 10 4 5221.9 23.63 274.69
 110.00 23 33 27 6199.63 8.67 293.08 191.29 123.17 25 16 46 5199.6 21.42 272.00

DIFFERENTIAL CORRECTIONS
 TDE -.2349 TRA -.0734 TC3-2.4596 BAU .2725
 RDE -.1810 RRA .1378 RC3 -.3802 FAU .25122
 FDE -.4226 FRA 3.5811 FC-26.5570 BSP 1854
 BDE .2966 BRA .1562 BC3 2.4689 FSP 2522

MID-COURSE EXECUTION ACCURACY
 SGT 1493.5 SGR 525.1 SG3 1489.7
 RRT .5420 RRF .6777 RTF .7942
 SGB 1583.1 R23 .2468 R13 .8102
 SG1 1522.8 SG2 432.8 THA 11.75

ORBIT DETERMINATION ACCURACY
 ST 23.7 SR 18.7 SS 33.3
 CRT .9343 CRS -.5488 CST -.2389
 LSA 37.2 MSA 25.2 SSA 1.8
 EL1 29.8 EL2 5.3 ALF 37.80

LAUNCH DATE MAY 21 1971

FLIGHT TIME 190.00

ARRIVAL DATE NOV 27 1971

HELIOCENTRIC CONIC
 RL 151.41 LAL -.00 LOL 239.31 VL 32.185 GAL .89 AZL 91.35 HCA 145.60 SMA 185.05 ECC .18243 INC 1.3540 V1 29.427
 RP 213.01 LAP -.76 LOP 24.92 VP 22.998 GAP 5.93 AZP 88.88 TAL 5.81 TAP 151.41 RCA 151.29 APO 218.81 V2 25.766
 RC 135.643 GL -19.45 GP -4.45 ZAL 86.75 ZAP 103.07 ETS 180.67 ZAE 146.18 ETE 187.23 ZAC 96.81 ETC 275.49 LVI -10.81

DISTANCE 451.036 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 8.153 VHL 2.855 DLA -27.33 RAL 334.00 RAD 6637.1 VEL 11.325 PTH 6.38 VHP 2.919 DPA -24.31 RAP 312.18 ECC 1.1342
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 34 4 2377.25 -1.25 61.26 183.33 137.36 16 13 42 1377.2 16.98 45.16
 60.00 16 51 0 2172.63 3.28 47.18 187.68 130.19 17 27 13 1172.6 18.91 28.48
 70.00 18 31 25 1877.34 8.20 26.93 191.37 123.27 19 2 42 877.3 21.02 5.94
 80.00 20 37 52 1481.92 13.11 359.78 194.27 117.07 21 2 33 481.5 23.13 336.88
 90.00 22 37 54 1094.43 16.00 332.72 195.68 113.63 22 56 8 94.4 24.37 308.82
 100.00 23 20 44 6244.03 13.11 299.06 194.27 117.07 25 4 48 5244.0 23.13 276.16
 110.00 23 30 51 6212.20 8.20 293.75 191.37 123.27 25 14 24 5212.2 21.02 272.76

DIFFERENTIAL CORRECTIONS
 TDE -.2400 TRA -.0434 TC3-2.7349 BAU .3014
 RDE -.1746 RRA .1413 RC3 -.4084 FAU .25336
 FDE -.3573 FRA 3.7177 FC-26.9258 BSP 2101
 BDE .2988 BRA .1478 BC3 2.7653 FSP 2613

MID-COURSE EXECUTION ACCURACY
 SGT 1637.3 SGR 528.3 SG3 1515.0
 RRT .5801 RRF .7037 RTF .8.98
 SGB 1720.4 R23 .2381 R13 .8330
 SG1 1667.7 SG2 422.5 THA 11.34

ORBIT DETERMINATION ACCURACY
 ST 24.2 SR 18.2 SS 33.5
 CRT .9440 CRS -.5130 CST -.2271
 LSA 37.1 MSA 25.8 SSA 1.8
 EL1 29.9 EL2 4.9 ALF 36.40

LAUNCH DATE MAY 21 1971

FLIGHT TIME 192.00

ARRIVAL DATE NOV 29 1971

HELIOCENTRIC CONIC
 RL 151.41 LAL -.00 LOL 239.31 VL 32.183 GAL .86 AZL 91.33 HCA 146.80 SMA 185.01 ECC .18223 INC 1.3324 V1 29.427
 RP 213.31 LAP -.73 LOP 26.12 VP 22.957 GAP 5.75 AZP 88.88 TAL 5.58 TAP 152.38 RCA 151.30 APO 218.73 V2 25.732
 RC 137.991 GL -15.23 GP -4.62 ZAL 87.14 ZAP 101.02 ETS 180.51 ZAE 144.12 ETE 187.00 ZAC 96.72 ETC 275.30 LVI -10.37

DISTANCE 455.228 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 8.120 VHL 2.850 DLA -26.98 RAL 334.33 RAD 6637.1 VEL 11.324 PTH 6.38 VHP 2.895 DPA -24.70 RAP 311.32 ECC 1.1336
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 33 31 2384.48 -1.61 61.56 183.52 137.36 16 13 16 1384.5 16.64 45.49
 60.00 16 49 39 2181.99 2.87 47.62 187.83 130.22 17 26 1 1182.0 18.53 28.98
 70.00 18 28 42 1890.76 7.70 27.64 191.46 123.38 19 0 12 890.8 20.60 6.74
 80.00 20 32 14 1504.06 12.41 1.09 194.26 117.38 20 57 18 504.1 22.62 338.36
 90.00 22 28 10 1130.20 15.01 334.88 195.55 114.25 22 47 0 130.2 23.73 311.25
 100.00 23 15 6 6266.57 12.41 300.36 194.26 117.38 24 59 32 5266.6 22.62 277.63
 110.00 23 28 8 6225.62 7.70 294.46 191.46 123.38 25 11 54 5225.6 20.60 273.57

DIFFERENTIAL CORRECTIONS
 TDE -.2413 TRA -.0093 TC3-3.0016 BAU .3293
 RDE -.1684 RRA .1443 RC3 -.4412 FAU .25711
 FDE -.3032 FRA 3.8167 FC-27.4130 BSP 2389
 BDE .2943 BRA .1446 BC3 3.0339 FSP 2651

MID-COURSE EXECUTION ACCURACY
 SGT 1778.3 SGR 532.8 SG3 1542.2
 RRT .6203 RRF .7295 RTF .8456
 SGB 1856.4 R23 .2235 R13 .8564
 SG1 1810.4 SG2 410.5 THA 11.11

ORBIT DETERMINATION ACCURACY
 ST 24.4 SR 17.6 SS 33.7
 CRT .9539 CRS -.4865 CST -.2309
 LSA 37.0 MSA 26.0 SSA 1.8
 EL1 29.8 EL2 4.3 ALF 35.43

LAUNCH DATE MAY 21 1971 FLIGHT TIME 194.00 ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC DISTANCE 459.420 EARTH TO MARS
 RL 131.41 LAL -.00 LOL 239.31 VL 32.182 GAL .82 AZL 91.31 HCA 147.99 SMA 184.99 ECC .18208 INC 1.3095 V1 29.427
 RP 213.61 LAP -.69 LOP 27.30 VP 22.816 GAP 5.58 AZP 88.89 TAL 5.34 TAP 153.33 RCA 151.31 APO 218.67 V2 25.897
 RC 140.356 GL -14.98 GP -4.80 ZAL 87.56 ZAP 96.99 ETS 180.34 ZAE 142.07 ETE 186.79 ZAC 96.62 ETC 275.10 LVI -9.93

PLANETOCENTRIC CONIC
 C3 8.091 VHL 2.845 DLA -26.60 RAL 334.67 RAD 6637.0 VEL 11.323 PTH 6.38 VHP 2.874 DPA -25.09 RAP 310.47 ECC 1.1332
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 32 55 2392.39 -2.01 61.89 183.73 137.54 16 12 47 1392.4 16.25 45.86
 60.00 16 48 12 2192.12 2.42 48.11 187.99 130.24 17 24 44 1192.1 18.12 29.52
 70.00 18 25 50 1905.06 7.16 28.40 191.56 123.48 18 57 35 905.1 20.14 7.60
 80.00 20 26 35 1527.08 11.69 2.41 194.27 117.67 20 52 2 527.1 22.07 339.85
 90.00 22 19 13 1163.86 14.06 336.90 195.46 114.79 22 38 37 163.9 23.08 313.50
 100.00 23 9 27 1001.55 11.69 323.78 194.27 117.67 23 26 9 1.5 22.07 301.22
 110.00 23 25 16 6239.91 7.16 295.22 191.56 123.48 25 9 16 5239.9 20.14 274.42

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2416 TRA .0262 TC3-3.2734 BAU .3578 SGT 1925.7 SGR 538.8 SG3 1967.8 ST 24.5 SR 17.1 SS 34.0
 RDE -.1623 RRA .1474 RC3 -.4754 FAU .26041 RRT .6577 RRF .7550 RTF .8670 CRT .9627 CRS -.4650 CST -.2408
 FDE -.2543 FRA 3.9114 FC-27.8626 BSP 2685 SGB 1999.6 R23 .2113 R13 .8759 LSA 37.0 MSA 26.0 SSA 1.8
 BDE .2911 BRA .1497 BC3 3.3077 FSP 2703 SG1 1959.5 SG2 398.9 THA 10.86 EL1 29.6 EL2 3.8 ALF 34.53

LAUNCH DATE MAY 21 1971 FLIGHT TIME 196.00 ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC DISTANCE 463.613 EARTH TO MARS
 RL 131.41 LAL -.00 LOL 239.31 VL 32.181 GAL .78 AZL 91.29 HCA 149.17 SMA 184.98 ECC .18199 INC 1.2850 V1 29.427
 RP 213.92 LAP -.66 LOP 28.49 VP 22.876 GAP 5.40 AZP 88.90 TAL 5.08 TAP 154.26 RCA 151.32 APO 218.64 V2 25.662
 RC 142.739 GL -14.72 GP -4.99 ZAL 88.01 ZAP 96.98 ETS 180.17 ZAE 140.02 ETE 186.60 ZAC 96.51 ETC 274.91 LVI -9.48

PLANETOCENTRIC CONIC
 C3 8.067 VHL 2.840 DLA -26.19 RAL 335.02 RAD 6637.0 VEL 11.322 PTH 6.37 VHP 2.857 DPA -25.48 RAP 309.63 ECC 1.1328
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 32 14 2400.98 -2.44 62.25 183.96 137.53 16 12 15 1401.0 15.84 46.25
 60.00 16 46 39 2203.04 1.94 48.63 188.17 130.26 17 23 22 1203.0 17.68 30.10
 70.00 18 22 50 1920.23 6.59 29.20 191.67 123.99 18 54 50 920.2 19.65 8.50
 80.00 20 20 56 1550.60 10.94 3.76 194.29 117.96 20 46 46 550.6 21.50 341.36
 90.00 22 10 48 1196.26 13.13 338.82 195.41 115.28 22 30 44 196.3 22.43 315.65
 100.00 23 3 48 1025.07 10.94 325.13 194.29 117.96 23 20 53 25.1 21.50 302.73
 110.00 23 22 16 6255.09 6.59 296.03 191.67 123.59 25 6 32 5255.1 19.65 275.33

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2408 TRA .0626 TC3-3.5508 BAU .3868 SGT 2079.4 SGR 545.2 SG3 1586.7 ST 24.6 SR 16.5 SS 34.2
 RDE -.1558 RRA .1508 RC3 -.5088 FAU .26253 RRT .6909 RRF .7788 RTF .8834 CRT .9700 CRS -.4380 CST -.2439
 FDE -.1926 FRA 4.0020 FC-28.1751 BSP 2979 SGB 2149.7 R23 .2024 R13 .8909 LSA 36.9 MSA 26.0 SSA 1.8
 BDE .2868 BRA .1633 BC3 3.5870 FSP 2727 SG1 2114.5 SG2 387.6 THA 10.63 EL1 29.4 EL2 3.4 ALF 33.62

LAUNCH DATE MAY 21 1971 FLIGHT TIME 198.00 ARRIVAL DATE DEC 5 1971

HELIOCENTRIC CONIC DISTANCE 467.807 EARTH TO MARS
 RL 131.41 LAL -.00 LOL 239.31 VL 32.181 GAL .74 AZL 91.26 HCA 150.36 SMA 184.98 ECC .18194 INC 1.2590 V1 29.427
 RP 214.24 LAP -.62 LOP 29.67 VP 22.837 GAP 5.23 AZP 88.91 TAL 4.82 TAP 155.17 RCA 151.33 APO 218.64 V2 25.627
 RC 145.138 GL -14.43 GP -5.19 ZAL 88.47 ZAP 94.99 ETS 179.98 ZAE 137.98 ETE 186.41 ZAC 96.39 ETC 274.71 LVI -9.02

PLANETOCENTRIC CONIC
 C3 8.046 VHL 2.837 DLA -25.75 RAL 335.39 RAD 6637.0 VEL 11.321 PTH 6.37 VHP 2.843 DPA -25.87 RAP 308.82 ECC 1.1324
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 31 28 2410.29 -2.91 62.64 184.20 137.51 16 11 38 1410.3 15.38 46.67
 60.00 16 44 58 2214.78 1.43 49.19 188.36 130.28 17 21 53 1214.8 17.20 30.72
 70.00 18 19 41 1936.30 5.99 30.05 191.80 123.69 18 51 58 936.3 19.13 9.45
 80.00 20 13 14 1574.66 10.17 5.13 194.33 118.22 20 41 29 574.7 20.90 342.89
 90.00 22 2 45 1227.93 12.20 340.68 195.39 115.71 22 23 13 227.9 21.76 317.73
 100.00 22 58 6 1049.13 10.17 326.50 194.33 118.22 23 15 35 49.1 20.90 304.26
 110.00 23 19 8 6271.16 5.99 296.88 191.80 123.69 25 3 39 5271.2 19.13 276.28

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2384 TRA .1003 TC3-3.8315 BAU .4183 SGT 2237.6 SGR 592.9 SG3 1604.0 ST 24.5 SR 15.9 SS 34.4
 RDE -.1491 RRA .1543 RC3 -.5440 FAU .26454 RRT .7224 RRF .8016 RTF .8775 CRT .9762 CRS -.4084 CST -.2461
 FDE -.1245 FRA 4.0823 FC-28.4646 BSP 3290 SGB 2304.9 R23 .1943 R13 .9038 LSA 36.9 MSA 26.0 SSA 1.7
 BDE .2811 BRA .1840 BC3 3.8699 FSP 2774 SG1 2274.0 SG2 376.2 THA 10.41 EL1 29.1 EL2 2.9 ALF 32.75

LAUNCH DATE MAY 21 1971 FLIGHT TIME 200.00 ARRIVAL DATE DEC 7 1971

HELIOCENTRIC CONIC DISTANCE 472.000 EARTH TO MARS
 RL 131.41 LAL -.00 LOL 239.31 VL 32.182 GAL .70 AZL 91.23 HCA 151.54 SMA 185.00 ECC .18195 INC 1.2308 V1 29.427
 RP 214.55 LAP -.59 LOP 30.85 VP 22.798 GAP 5.06 AZP 88.92 TAL 4.54 TAP 156.07 RCA 151.34 APO 218.66 V2 25.591
 RC 147.555 GL -14.12 GP -5.39 ZAL 88.96 ZAP 93.03 ETS 179.79 ZAE 135.95 ETE 186.24 ZAC 96.25 ETC 274.53 LVI -8.57

PLANETOCENTRIC CONIC
 C3 8.029 VHL 2.834 DLA -25.27 RAL 335.76 RAD 6637.0 VEL 11.320 PTH 6.37 VHP 2.832 DPA -26.26 RAP 308.02 ECC 1.1321
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 30 37 2420.33 -3.41 63.06 184.44 137.48 16 10 57 1420.3 14.89 47.12
 60.00 16 43 10 2227.34 .87 49.79 188.56 130.29 17 20 18 1227.3 16.68 31.38
 70.00 18 16 23 1953.27 5.34 30.95 191.94 123.78 18 48 57 953.3 18.56 10.45
 80.00 20 9 29 1599.32 9.37 6.53 194.39 118.48 20 36 8 599.3 20.27 344.45
 90.00 21 54 56 1259.24 11.27 342.51 195.38 116.11 22 15 55 259.2 21.07 319.77
 100.00 22 52 21 1073.79 9.37 327.89 194.39 118.48 23 10 14 73.8 20.27 305.82
 110.00 23 15 50 1000.09 5.34 319.86 191.94 123.78 23 32 30 .1 18.56 299.37

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2346 TRA .1388 TC3-4.1131 BAU .4458 SGT 2398.9 SGR 561.2 SG3 1613.9 ST 24.4 SR 15.3 SS 34.7
 RDE -.1421 RRA .1583 RC3 -.5773 FAU .26494 RRT .7493 RRF .8227 RTF .9077 CRT .9811 CRS -.3801 CST -.2468
 FDE -.0500 FRA 4.1673 FC-28.5677 BSP 3591 SGB 2463.6 R23 .1906 R13 .9132 LSA 36.9 MSA 26.0 SSA 1.7
 BDE .2743 BRA .2106 BC3 4.1534 FSP 2787 SG1 2436.3 SG2 365.9 THA 10.17 EL1 28.7 EL2 2.5 ALF 31.89

LAUNCH DATE MAY 21 1971

FLIGHT TIME 202.00

ARRIVAL DATE DEC 9 1971

Heliocentric Conic: RL 181.41 LAL -.00 LOL 239.31 VL 32.183 GAL .65 AZL 91.20 HCA 152.71 SMA 185.02 ECC .18200 INC 1.2009 V1 29.427
 RP 214.88 LAP -.35 LOP 32.03 VP 22.739 GAP 4.89 AZP 88.93 TAL 4.24 TAP 156.95 RCA 151.35 APO 218.69 V2 25.554
 RC 149.988 GL -13.78 GP -5.62 ZAL 89.47 ZAP 91.10 ETS 179.59 ZAE 133.95 ETE 186.07 ZAC 96.10 ETC 274.35 LVI -8.10

Distance 476.192 Earth to Mars

Planetary Conic: C3 8.015 VHL 2.831 DLA -24.77 RAL 336.14 RAD 6637.0 VEL 11.319 PTH 6.37 VHP 2.825 DPA -26.66 RAP 307.25 ECC 1.1319
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 29 39 2431.13 -3.95 63.51 184.70 137.45 16 10 10 1431.1 14.37 47.61
 60.00 16 41 14 2240.78 .28 50.43 186.77 130.30 17 18 34 1240.8 16.13 32.08
 70.00 18 12 55 1971.19 4.66 31.89 192.09 123.87 18 45 47 971.2 17.97 11.50
 80.00 20 3 39 1624.64 8.54 7.95 194.46 118.72 20 30 44 624.6 19.60 346.04
 90.00 21 47 16 1290.47 10.32 344.32 195.40 116.47 22 8 46 290.5 20.35 321.77
 100.00 22 46 31 1099.11 8.54 329.32 194.46 118.72 23 4 50 99.1 19.60 307.41
 110.00 23 12 22 1018.01 4.66 320.81 192.09 123.87 23 29 20 18.0 17.97 300.41

Differential Corrections: TDE -.2287 TRA .1792 TC3-4.3980 BAU .4758 SGT 2563.1 SGR 571.9 SG3 1625.4 ST 24.2 SR 14.7 SS 35.2
 RDE -.1349 RRA .1827 RC3 -.6143 FAU .26577 RRT .7756 RRF .8434 RTF .9170 CRT .9850 CR8 -.3523 CST -.2511
 FDE .0282 FRA 4.2498 FC-28.7064 BSP 3909 SGB 2626.1 R23 .1872 R13 .9217 LSA 37.1 MSA 25.8 S8A 1.7
 BDE .2655 BRA .2421 BC3 4.4387 FSP 2814 SG1 2601.9 SG2 355.6 THA 10.01 EL1 28.2 EL2 2.2 ALF 31.11

LAUNCH DATE MAY 21 1971

FLIGHT TIME 204.00

ARRIVAL DATE DEC 11 1971

Heliocentric Conic: RL 151.41 LAL -.00 LOL 239.31 VL 32.185 GAL .61 AZL 91.17 HCA 153.88 SMA 185.05 ECC .18210 INC 1.1685 V1 29.427
 RP 215.21 LAP -.51 LOP 33.20 VP 22.720 GAP 4.73 AZP 88.95 TAL 3.94 TAP 157.82 RCA 151.35 APO 218.75 V2 25.518
 RC 192.438 GL -13.41 GP -5.85 ZAL 90.00 ZAP 89.20 ETS 179.37 ZAE 131.96 ETE 185.92 ZAC 95.92 ETC 274.17 LVI -7.63

Distance 480.384 Earth to Mars

Planetary Conic: C3 8.005 VHL 2.829 DLA -24.23 RAL 336.53 RAD 6637.0 VEL 11.319 PTH 6.37 VHP 2.820 DPA -27.06 RAP 306.52 ECC 1.1317
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 28 35 2442.75 -4.53 64.00 184.97 137.41 16 9 17 1442.8 13.80 48.13
 60.00 16 39 7 2255.13 -.35 51.12 188.99 130.30 17 16 43 1255.1 15.53 32.83
 70.00 18 9 17 1990.08 3.95 32.88 192.24 123.95 18 42 27 990.1 17.33 12.59
 80.00 19 57 43 1650.69 7.69 9.41 194.54 118.94 20 25 14 650.7 18.90 347.65
 90.00 21 39 41 1321.85 9.37 346.12 195.44 116.81 22 1 43 321.8 19.61 323.77
 100.00 22 40 35 1125.16 7.69 330.78 194.54 118.94 22 59 20 125.2 18.90 309.02
 110.00 23 8 43 1036.90 3.95 321.80 192.24 123.95 23 26 0 36.9 17.33 301.51

Differential Corrections: TDE -.2213 TRA .2202 TC3-4.6787 BAU .5055 SGT 2729.3 SGR 583.6 SG3 1630.6 ST 23.9 SR 14.1 SS 35.6
 RDE -.1276 RRA .1672 RC3 -.6513 FAU .26566 RRT .7993 RRF .8623 RTF .9248 CRT .9878 CR8 -.3314 CST -.2640
 FDE .1010 FRA 4.3155 FC-28.7310 BSP 4229 SGB 2791.0 R23 .1848 R13 .9290 LSA 37.3 MSA 25.4 S8A 1.7
 BDE .2555 BRA .2765 BC3 4.7238 FSP 2831 SG1 2769.5 SG2 345.6 THA 9.85 EL1 27.7 EL2 1.9 ALF 30.36

LAUNCH DATE MAY 21 1971

FLIGHT TIME 206.00

ARRIVAL DATE DEC 13 1971

Heliocentric Conic: RL 151.41 LAL -.00 LOL 239.31 VL 32.188 GAL .56 AZL 91.13 HCA 155.05 SMA 185.09 ECC .18224 INC 1.1331 V1 29.427
 RP 215.54 LAP -.48 LOP 34.37 VP 22.682 GAP 4.56 AZP 88.97 TAL 3.62 TAP 158.67 RCA 151.36 APO 218.83 V2 25.480
 RC 154.904 GL -13.01 GP -6.10 ZAL 90.55 ZAP 87.33 ETS 179.15 ZAE 129.99 ETE 185.77 ZAC 95.73 ETC 274.00 LVI -7.16

Distance 484.575 Earth to Mars

Planetary Conic: C3 7.998 VHL 2.828 DLA -23.65 RAL 336.92 RAD 6637.0 VEL 11.319 PTH 6.37 VHP 2.818 DPA -27.46 RAP 305.81 ECC 1.1316
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 27 22 2455.23 -5.16 64.53 185.24 137.36 16 8 17 1455.2 13.19 48.68
 60.00 18 36 31 2270.45 -1.03 51.85 189.21 130.29 17 14 41 1270.4 14.89 33.62
 70.00 18 5 26 2010.01 3.19 33.92 192.41 124.02 18 38 56 1010.0 16.65 13.73
 80.00 19 51 40 1677.55 6.80 10.91 194.64 119.14 20 19 37 677.6 18.16 349.31
 90.00 21 32 7 1353.57 8.39 347.94 195.49 117.11 21 54 40 353.6 18.83 323.77
 100.00 22 34 31 1152.02 6.80 332.28 194.64 119.14 22 53 43 152.0 18.16 310.67
 110.00 23 4 52 1056.83 3.19 322.84 192.41 124.02 23 22 29 56.8 16.65 302.65

Differential Corrections: TDE -.2114 TRA .2617 TC3-4.9641 BAU .5359 SGT 2898.6 SGR 597.2 SG3 1634.8 ST 23.5 SR 13.4 SS 36.1
 RDE -.1198 RRA .1721 RC3 -.6914 FAU .26556 RRT .8216 RRF .8801 RTF .9314 CRT .9892 CR8 -.3056 CST -.2723
 FDE .1903 FRA 4.3724 FC-28.7459 BSP 4537 SGB 2959.5 R23 .1833 R13 .9352 LSA 37.6 MSA 24.9 S8A 1.7
 BDE .2430 BRA .3132 BC3 5.0120 FSP 2829 SG1 2940.4 SG2 335.6 THA 9.74 EL1 27.0 EL2 1.7 ALF 29.60

LAUNCH DATE MAY 21 1971

FLIGHT TIME 208.00

ARRIVAL DATE DEC 15 1971

Heliocentric Conic: RL 151.41 LAL -.00 LOL 239.31 VL 32.191 GAL .51 AZL 91.10 HCA 156.22 SMA 185.15 ECC .18243 INC 1.0950 V1 29.427
 RP 215.87 LAP -.44 LOP 35.53 VP 22.644 GAP 4.40 AZP 89.00 TAL 3.29 TAP 159.51 RCA 151.37 APO 218.92 V2 25.443
 RC 157.385 GL -12.57 GP -6.37 ZAL 91.12 ZAP 85.51 ETS 178.91 ZAE 128.06 ETE 185.64 ZAC 95.51 ETC 273.84 LVI -6.67

Distance 488.764 Earth to Mars

Planetary Conic: C3 7.994 VHL 2.827 DLA -23.02 RAL 337.31 RAD 6637.0 VEL 11.319 PTH 6.37 VHP 2.818 DPA -27.88 RAP 305.14 ECC 1.1316
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 26 0 2468.64 -5.83 65.09 185.52 137.30 16 7 8 1468.6 12.53 49.27
 60.00 16 34 22 2286.80 -1.75 52.63 189.44 130.27 17 12 29 1286.8 14.21 34.46
 70.00 18 1 22 2031.06 2.39 35.02 192.57 124.08 18 35 13 1031.1 15.92 14.93
 80.00 19 45 26 1705.34 5.88 12.46 194.74 119.33 20 13 51 705.3 17.38 351.00
 90.00 21 24 30 1385.83 7.38 349.78 195.55 117.38 21 47 36 385.8 18.01 327.79
 100.00 22 28 18 1179.82 5.88 333.83 194.74 119.33 22 47 58 179.8 17.38 312.37
 110.00 23 0 48 1077.87 2.39 323.94 192.57 124.08 23 18 46 77.9 15.92 303.85

Differential Corrections: TDE -.1984 TRA .3050 TC3-5.2442 BAU .5659 SGT 3067.0 SGR 612.4 SG3 1634.5 ST 22.9 SR 12.7 SS 36.9
 RDE -.1113 RRA .1776 RC3 -.7318 FAU .26444 RRT .8414 RRF .8964 RTF .9366 CRT .9892 CR8 -.2810 CST -.2852
 FDE .2915 FRA 4.4334 FC-28.6389 BSP 4859 SGB 3127.5 R23 .1839 R13 .9400 LSA 38.2 MSA 24.2 S8A 1.6
 BDE .2275 BRA .3529 BC3 5.2950 FSP 2831 SG1 3110.5 SG2 326.4 THA 9.64 EL1 26.2 EL2 1.6 ALF 28.90

LAUNCH DATE MAY 21 1971 FLIGHT TIME 210.00 ARRIVAL DATE DEC 17 1971

Heliocentric Conic: RL 151.41 LAL -.00 LOL 239.31 VL 32.194 GAL .46 AZL 91.05 HCA 157.30 SMA 185.21 ECC .18265 INC 1.0532 V1 29.427
 RP 216.21 LAP -.41 LOP 36.89 VP 22.806 GAP 4.25 AZP 89.03 TAL 2.95 TAP 160.33 RCA 151.38 APO 219.03 V2 25.405
 RC 159.881 GL -12.08 GP -6.67 ZAL 91.71 ZAP 83.72 ETS 178.66 ZAE 126.15 ETE 185.52 ZAC 95.27 ETC 273.68 LVI -6.18

Distance 492.952 Earth to Mars

Planetary Corrections: C3 7.993 VHL 2.827 DLA -22.35 RAL 337.70 RAD 6637.0 VEL 11.319 PTH 6.37 VHP 2.821 DPA -28.30 RAP 304.52 ECC 1.1315
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 24 27 2483.05 -6.55 65.70 185.80 137.23 16 5 50 1483.1 11.82 49.90
 60.00 16 31 40 2304.27 -2.51 53.47 189.67 130.24 17 10 4 1304.3 13.47 35.35
 70.00 17 57 2 2053.30 1.54 36.19 192.75 124.12 18 31 16 1053.3 15.15 16.19
 80.00 19 39 0 1734.19 4.91 14.06 194.84 119.49 20 7 54 734.2 16.55 352.74
 90.00 21 16 46 1418.43 6.34 351.65 195.62 117.62 21 40 25 418.8 17.15 329.83
 100.00 22 21 32 1208.66 4.91 335.42 194.84 119.49 22 42 1 208.7 16.55 314.11
 110.00 22 56 29 1100.12 1.54 325.10 192.75 124.12 23 14 49 100.1 15.15 305.11

Differential Corrections: TDE -.1832 TRA .3485 TC3-5.5237 BAU .5960 SGT 3236.7 SGR 629.8 SG3 1630.5 ST 22.3 SR 12.0 SS 37.6
 RDE -.1025 RRA .1836 RC3 -.7740 FAU .26280 RRT .8592 RRF .9114 RTF .9410 CRT .9874 CRS -.2656 CST -.3092
 FDE .3907 FRA 4.4821 FC-28.4637 BSP 5181 SGB 3297.4 R23 .1857 R13 .9441 LSA 38.9 MSA 23.4 SSA 1.6
 BDE .2100 BRA .3939 BC3 5.5777 F8P 2828 SG1 3282.1 SG2 317.8 THA 9.58 EL1 25.3 EL2 1.7 ALF 28.17

LAUNCH DATE MAY 21 1971 FLIGHT TIME 212.00 ARRIVAL DATE DEC 19 1971

Heliocentric Conic: RL 151.41 LAL -.00 LOL 239.31 VL 32.199 GAL .40 AZL 91.01 HCA 158.54 SMA 185.27 ECC .18291 INC 1.0067 V1 29.427
 RP 216.56 LAP -.37 LOP 37.85 VP 22.569 GAP 4.09 AZP 89.06 TAL 2.61 TAP 161.14 RCA 151.38 APO 219.16 V2 25.366
 RC 162.390 GL -11.55 GP -6.99 ZAL 92.31 ZAP 81.98 ETS 178.38 ZAE 124.26 ETE 185.40 ZAC 94.99 ETC 273.54 LVI -5.67

Distance 497.139 Earth to Mars

Planetary Corrections: C3 7.995 VHL 2.828 DLA -21.63 RAL 338.09 RAD 6637.0 VEL 11.319 PTH 6.37 VHP 2.827 DPA -28.74 RAP 303.93 ECC 1.1316
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 22 41 2498.57 -7.33 66.36 186.08 137.14 16 4 19 1498.6 11.05 50.58
 60.00 16 28 42 2322.98 -3.34 54.36 189.91 130.19 17 7 25 1323.0 12.68 36.29
 70.00 17 52 25 2076.88 .64 37.42 192.92 124.15 18 27 2 1076.9 14.32 17.51
 80.00 19 32 19 1764.24 3.90 15.71 194.95 119.62 20 1 43 764.2 15.67 354.54
 90.00 21 8 52 1452.80 5.27 353.56 195.70 117.82 21 33 5 452.8 16.24 331.90
 100.00 22 15 11 1238.71 3.90 337.08 194.95 119.62 22 35 50 238.7 15.67 315.91
 110.00 22 51 52 1123.70 .64 326.33 192.92 124.15 23 10 35 123.7 14.32 306.43

Differential Corrections: TDE -.1664 TRA .3911 TC3-5.8025 BAU .6264 SGT 3407.1 SGR 649.2 SG3 1621.8 ST 21.7 SR 11.4 SS 38.4
 RDE -.0937 RRA .1897 RC3 -.8187 FAU .26066 RRT .8752 RRF .9248 RTF .9449 CRT .9836 CRS -.2622 CST -.3459
 FDE .4815 FRA 4.5093 FC-28.2240 BSP 5480 SGB 3468.4 R23 .1880 R13 .9478 LSA 39.6 MSA 22.4 SSA 1.6
 BDE .1910 BRA .4347 BC3 5.8599 F8P 2805 SG1 3454.6 SG2 309.8 THA 9.55 EL1 24.5 EL2 1.8 ALF 27.39

LAUNCH DATE MAY 21 1971 FLIGHT TIME 214.00 ARRIVAL DATE DEC 21 1971

Heliocentric Conic: RL 151.41 LAL -.00 LOL 239.31 VL 32.203 GAL .35 AZL 90.96 HCA 159.69 SMA 185.35 ECC .18320 INC .9560 V1 29.427
 RP 216.91 LAP -.33 LOP 39.01 VP 22.532 GAP 3.93 AZP 89.10 TAL 2.25 TAP 161.94 RCA 151.39 APO 219.30 V2 25.327
 RC 164.912 GL -10.96 GP -7.34 ZAL 92.94 ZAP 80.28 ETS 178.09 ZAE 122.41 ETE 185.29 ZAC 94.69 ETC 273.40 LVI -5.15

Distance 501.323 Earth to Mars

Planetary Corrections: C3 8.001 VHL 2.829 DLA -20.85 RAL 338.46 RAD 6637.0 VEL 11.319 PTH 6.37 VHP 2.835 DPA -29.20 RAP 303.39 ECC 1.1317
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 20 40 2515.32 -8.16 67.07 186.36 137.04 16 2 36 1515.3 10.22 51.31
 60.00 16 25 27 2343.06 -4.22 55.33 190.13 130.12 17 4 30 1343.1 11.82 37.30
 70.00 17 47 28 2101.93 -.32 38.72 193.09 124.15 18 22 30 1101.9 13.43 18.90
 80.00 19 25 20 1795.66 2.84 17.45 195.06 119.73 19 55 15 795.7 14.73 356.40
 90.00 21 0 43 1487.95 4.15 355.54 195.78 118.00 21 25 31 488.0 15.27 334.03
 100.00 22 8 11 1270.15 2.84 338.81 195.06 119.73 22 29 21 270.1 14.73 317.77
 110.00 22 46 54 1148.75 -.32 327.64 193.09 124.15 23 6 3 148.8 13.43 307.82

Differential Corrections: TDE -.1448 TRA .4362 TC3-6.0759 BAU .6565 SGT 3576.9 SGR 672.3 SG3 1612.9 ST 21.0 SR 10.7 SS 39.5
 RDE -.0838 RRA .1971 RC3 -.8671 FAU .25827 RRT .8898 RRF .9372 RTF .9481 CRT .9770 CRS -.2650 CST -.3545
 FDE .5926 FRA 4.5462 FC-27.9469 BSP 5808 SGB 3639.6 R23 .1917 R13 .9509 LSA 40.8 MSA 21.1 SSA 1.6
 BDE .1673 BRA .4787 BC3 6.1375 F8P 2801 SG1 3627.0 SG2 302.6 THA 9.56 EL1 23.5 EL2 2.0 ALF 26.54

LAUNCH DATE MAY 21 1971 FLIGHT TIME 216.00 ARRIVAL DATE DEC 23 1971

Heliocentric Conic: RL 151.41 LAL -.00 LOL 239.31 VL 32.208 GAL .29 AZL 90.90 HCA 160.84 SMA 185.43 ECC .18353 INC .8992 V1 29.427
 RP 217.26 LAP -.30 LOP 40.16 VP 22.495 GAP 3.78 AZP 89.15 TAL 1.88 TAP 162.72 RCA 151.40 APO 219.46 V2 25.288
 RC 167.446 GL -10.30 GP -7.72 ZAL 93.58 ZAP 78.63 ETS 177.78 ZAE 120.59 ETE 185.20 ZAC 94.34 ETC 273.27 LVI -4.61

Distance 505.505 Earth to Mars

Planetary Corrections: C3 8.009 VHL 2.830 DLA -20.00 RAL 338.82 RAD 6637.0 VEL 11.319 PTH 6.37 VHP 2.845 DPA -29.69 RAP 302.89 ECC 1.1318
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 18 22 2533.45 -9.06 67.85 186.64 136.91 16 0 36 1533.4 9.32 52.09
 60.00 16 21 50 2364.68 -5.17 56.37 190.36 130.02 17 1 15 1364.7 10.90 38.58
 70.00 17 42 7 2128.88 -1.34 40.12 193.25 124.13 18 17 36 1128.7 12.46 20.58
 80.00 19 17 57 1828.74 1.73 19.26 195.17 119.81 19 48 26 828.7 13.73 358.34
 90.00 20 52 15 1524.57 2.97 357.59 195.86 118.14 21 17 39 524.6 14.24 336.23
 100.00 22 0 49 1303.21 1.73 340.63 195.17 119.81 22 22 32 303.2 13.73 313.71
 110.00 22 41 33 1175.48 -1.34 329.04 193.25 124.13 23 1 9 175.5 12.46 309.30

Differential Corrections: TDE -.1213 TRA .4809 TC3-6.3411 BAU .6860 SGT 3743.7 SGR 697.7 SG3 1597.0 ST 20.5 SR 10.0 SS 40.5
 RDE -.0739 RRA .2032 RC3 -.9160 FAU .25465 RRT .9019 RRF .9479 RTF .9506 CRT .9674 CRS -.2888 CST -.4631
 FDE .6868 FRA 4.5705 FC-27.5270 BSP 6104 SGB 3808.1 R23 .1971 R13 .9533 LSA 42.1 MSA 19.8 SSA 1.6
 BDE .1420 BRA .5228 BC3 6.4070 F8P 2766 SG1 3796.5 SG2 297.1 THA 9.60 EL1 22.7 EL2 2.3 ALF 25.58

LAUNCH DATE MAY 21 1971

FLIGHT TIME 218.00

ARRIVAL DATE DEC 25 1971

HELIOCENTRIC CONIC

RL 151.41 LAL -.00 LOL 239.31 VL 32.213 GAL .23 AZL 90.84 MCA 181.99 SMA 185.52 ECC .18390 INC .8362 V1 29.427
RP 217.61 LAP -.28 LOP 41.30 VP 22.488 GAP 3.63 AZP 89.20 TAL 1.51 TAP 163.49 RCA 151.40 APO 219.63 V2 25.249
RC 189.992 GL -9.36 GP -8.15 ZAL 94.23 ZAP 77.02 ETS 177.43 ZAE 118.80 ETE 185.11 ZAC 93.94 ETC 273.15 LVI -4.03

PLANETOCENTRIC CONIC

C3 8.020 VHL 2.832 DLA -19.08 RAL 339.17 RAD 6637.0 VEL 11.320 PTH 6.37 VHP 2.858 DPA -30.21 RAP 302.45 ECC 1.1320
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 15 43 2533.17 -10.04 68.70 186.91 136.76 15 58 17 1553.2 8.34 52.93
60.00 16 17 48 2388.07 -8.19 97.49 190.58 129.90 16 57 36 1388.1 9.69 39.53
70.00 17 36 18 2137.32 -2.44 41.61 193.41 124.08 18 12 15 1157.3 11.42 21.94
80.00 19 10 6 1863.73 .54 21.18 195.27 119.85 19 41 10 863.7 12.65 .37
90.00 20 43 20 1563.00 1.74 359.74 195.93 118.23 21 9 23 563.0 13.14 338.51
100.00 21 52 58 1338.20 .54 342.55 195.27 119.85 22 15 16 338.2 12.65 321.74
110.00 22 35 44 1204.14 -2.44 330.53 193.41 124.08 22 55 48 204.1 11.42 310.86

DIFFERENTIAL CORRECTIONS

TDE -.0915 TRA .5280 TC3-6.6105 BAU .7164
RDE -.0624 RRA .2151 RC3-.9754 FAU .25211
FDE .8066 FRA 4.6050 FC-27.2146 BSP 6444
BDE .1108 BRA .5701 BC3 6.6621 FSP 2759

MID-COURSE EXECUTION ACCURACY

SGT 3915.4 SGR 730.2 SG3 1587.1
RRT .9137 RRF .9579 RTF .9531
SGB 3982.9 R23 .2021 R13 .9557
SG1 3972.1 SG2 292.5 THA 9.72

ORBIT DETERMINATION ACCURACY

ST 20.1 SR 9.4 SS 42.1
CRT .9535 CRS -.3277 CST -.5486
LSA 44.0 MSA 18.2 SSA 1.6
EL1 22.1 EL2 2.6 ALF 24.36

LAUNCH DATE MAY 21 1971

FLIGHT TIME 220.00

ARRIVAL DATE DEC 27 1971

HELIOCENTRIC CONIC

RL 151.41 LAL -.00 LOL 239.31 VL 32.219 GAL .17 AZL 90.77 HCA 163.13 SMA 185.61 ECC .18429 INC .7644 V1 29.427
RP 217.97 LAP -.22 LOP 42.44 VP 22.422 GAP 3.48 AZP 89.27 TAL 1.12 TAP 164.25 RCA 151.40 APO 219.82 V2 25.209
RC 172.547 GL -8.74 GP -8.63 ZAL 94.91 ZAP 75.47 ETS 177.05 ZAE 117.04 ETE 185.03 ZAC 93.49 ETC 273.04 LVI -3.43

PLANETOCENTRIC CONIC

C3 8.034 VHL 2.834 DLA -18.06 RAL 339.49 RAD 6637.0 VEL 11.320 PTH 6.37 VHP 2.873 DPA -30.77 RAP 302.06 ECC 1.1322
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 12 40 2574.72 -11.11 69.63 187.16 136.57 15 55 35 1574.7 7.27 53.85
60.00 16 13 17 2413.51 -7.30 58.73 190.78 129.75 16 53 31 1413.5 8.80 40.78
70.00 17 29 55 2188.23 -3.81 43.23 193.56 123.99 18 6 23 1188.2 10.29 23.62
80.00 19 1 41 1901.01 -.72 23.23 195.36 119.85 19 33 22 901.0 11.47 2.52
90.00 20 33 52 1603.64 .43 2.00 196.00 118.28 21 0 36 603.6 11.95 340.90
100.00 21 44 33 1375.48 -.72 344.60 195.36 119.85 22 7 29 375.5 11.47 323.89
110.00 22 29 22 1235.05 -3.61 332.15 193.56 123.99 22 49 57 235.0 10.29 312.54

DIFFERENTIAL CORRECTIONS

TDE -.0598 TRA .5695 TC3-6.8769 BAU .7470
RDE -.0509 RRA .2241 RC3-1.0389 FAU .24877
FDE .9069 FRA 4.5798 FC-26.8063 BSP 6731
BDE .0785 BRA .6120 BC3 6.9549 FSP 2714

MID-COURSE EXECUTION ACCURACY

SGT 4084.0 SGR 764.5 SG3 1567.4
RRT .9241 RRF .9662 RTF .9558
SGB 4154.9 R23 .2056 R13 .9583
SG1 4145.0 SG2 287.9 THA 9.86

ORBIT DETERMINATION ACCURACY

ST 20.0 SR 8.9 SS 43.2
CRT .9374 CRS -.3846 CST -.6413
LSA 45.5 MSA 16.5 SSA 1.6
EL1 21.7 EL2 2.6 ALF 22.94

LAUNCH DATE MAY 21 1971

FLIGHT TIME 222.00

ARRIVAL DATE DEC 29 1971

HELIOCENTRIC CONIC

RL 151.41 LAL -.00 LOL 239.31 VL 32.225 GAL .11 AZL 90.68 HCA 164.27 SMA 185.71 ECC .18472 INC .6845 V1 29.427
RP 218.33 LAP -.19 LOP 43.58 VP 22.385 GAP 3.33 AZP 89.34 TAL .73 TAP 165.00 RCA 151.41 APO 220.02 V2 25.169
RC 175.114 GL -7.80 GP -9.17 ZAL 95.59 ZAP 75.96 ETS 176.63 ZAE 115.32 ETE 184.96 ZAC 92.98 ETC 272.94 LVI -2.78

PLANETOCENTRIC CONIC

C3 8.052 VHL 2.838 DLA -16.94 RAL 339.77 RAD 6637.0 VEL 11.321 PTH 6.37 VHP 2.890 DPA -31.38 RAP 301.73 ECC 1.1325
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 9 6 2598.46 -12.28 70.67 187.41 136.34 15 52 25 1598.5 6.08 54.86
60.00 16 8 10 2441.38 -8.51 60.09 190.98 129.54 16 48 52 1441.4 7.59 42.15
70.00 17 22 52 2221.81 -4.89 44.99 193.69 123.84 17 59 54 1221.8 9.05 25.43
80.00 18 52 34 1941.05 -2.08 25.43 193.44 119.79 19 24 55 941.1 10.19 4.80
90.00 20 23 43 1647.01 -.97 4.42 196.05 118.26 20 51 10 647.0 10.65 343.42
100.00 21 35 26 1415.52 -2.08 346.80 195.44 119.79 21 59 1 415.5 10.19 326.17
110.00 22 22 18 1268.62 -4.89 333.91 193.69 123.84 22 43 27 268.6 9.05 314.35

DIFFERENTIAL CORRECTIONS

TDE -.0221 TRA .6181 TC3-7.1413 BAU .7781
RDE -.0366 RRA .2363 RC3-1.1194 FAU .24632
FDE 1.0050 FRA 4.5866 FC-26.4829 BSP 7043
BDE .0445 BRA .6598 BC3 7.2279 FSP 2668

MID-COURSE EXECUTION ACCURACY

SGT 4256.6 SGR 809.7 SG3 1534.6
RRT .9336 RRF .9737 RTF .9585
SGB 4333.0 R23 .2086 R13 .9611
SG1 4323.3 SG2 285.6 THA 10.11

ORBIT DETERMINATION ACCURACY

ST 20.6 SR 8.5 SS 44.6
CRT .9194 CRS -.4701 CST -.7474
LSA 47.6 MSA 14.6 SSA 1.6
EL1 22.0 EL2 3.1 ALF 21.24

LAUNCH DATE MAY 21 1971

FLIGHT TIME 224.00

ARRIVAL DATE DEC 31 1971

HELIOCENTRIC CONIC

RL 151.41 LAL -.00 LOL 239.31 VL 32.231 GAL .05 AZL 90.59 HCA 165.41 SMA 185.82 ECC .18516 INC .5907 V1 29.427
RP 218.69 LAP -.15 LOP 44.72 VP 22.349 GAP 3.18 AZP 89.43 TAL .33 TAP 165.74 RCA 151.41 APO 220.23 V2 25.129
RC 177.690 GL -6.73 GP -9.79 ZAL 96.30 ZAP 72.51 ETS 176.16 ZAE 113.63 ETE 184.90 ZAC 92.38 ETC 272.85 LVI -2.07

PLANETOCENTRIC CONIC

C3 8.074 VHL 2.842 DLA -15.69 RAL 340.01 RAD 6637.0 VEL 11.322 PTH 6.38 VHP 2.910 DPA -32.06 RAP 301.46 ECC 1.1329
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 13 4 56 2624.81 -13.58 71.83 187.64 136.05 15 48 41 1624.8 4.76 55.97
60.00 16 2 20 2472.17 -9.84 61.60 191.15 129.28 16 43 32 1472.2 6.24 43.64
70.00 17 14 59 2258.62 -6.28 46.93 193.81 123.64 17 52 37 1258.6 7.67 27.39
80.00 18 42 33 1984.50 -3.54 27.82 195.50 119.67 19 15 38 984.5 8.79 7.26
90.00 20 12 40 1693.77 -2.48 7.03 196.09 118.18 20 40 54 693.8 9.22 346.11
100.00 21 25 25 1458.97 -3.54 349.19 195.50 119.67 21 49 44 459.0 8.79 328.63
110.00 22 14 25 1305.44 -6.28 335.85 193.81 123.64 22 36 10 305.4 7.67 316.31

DIFFERENTIAL CORRECTIONS

TDE -.0273 TRA .6418 TC3-7.3407 BAU .8024
RDE -.0214 RRA .2426 RC3-1.1680 FAU .23703
FDE 1.1768 FRA 4.4211 FC-25.4148 BSP 7305
BDE .0348 BRA .6861 BC3 7.4330 FSP 2603

MID-COURSE EXECUTION ACCURACY

SGT 4383.3 SGR 837.0 SG3 1496.5
RRT .9403 RRF .9787 RTF .9593
SGB 4462.5 R23 .2145 R13 .9618
SG1 4453.7 SG2 280.5 THA 10.22

ORBIT DETERMINATION ACCURACY

ST 21.3 SR 8.0 SS 46.3
CRT .9056 CRS -.5610 CST -.8332
LSA 50.0 MSA 12.5 SSA 1.7
EL1 22.5 EL2 3.2 ALF 19.15

LAUNCH DATE MAY 21 1971

FLIGHT TIME 226.00

ARRIVAL DATE JAN 2 1972

Heliocentric Conic

RL 151.41 LAL -.00 LOL 239.31 VL 32.230 GAL -.01 AZL 90.48 HCA 166.54 SMA 185.93 ECC .18566 INC .4810 V1 29.427
 RP 219.08 LAP -.11 LOP 45.85 VP 22.313 GAP 3.04 AZP 89.53 TAL 359.92 TAP 166.46 RCA 151.41 APO 220.45 V2 25.089
 RC 180.273 GL -3.49 GP -10.51 ZAL 97.01 ZAP 71.12 ETS 175.63 ZAE 111.97 ETE 184.88 ZAC 91.68 ETC 272.76 LVI -1.28

Planetocentric Conic

C3 8.102 VHL 2.846 DLA -14.28 RAL 340.20 RAD 6637.0 VEL 11.323 PTH 6.38 VHP 2.932 DPA -32.83 RAP 301.25 ECC 1.1333
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 0 0 2654.39 -15.02 73.16 187.85 135.69 15 44 15 1654.4 3.28 57.21
 60.00 15 55 35 2506.56 -11.32 63.30 191.31 128.94 16 37 22 1506.6 4.74 45.30
 70.00 17 6 3 2299.41 -7.81 49.10 193.90 123.35 17 44 23 1299.4 6.14 29.55
 80.00 18 31 26 2032.17 -5.15 30.45 195.54 119.45 19 5 18 1032.2 7.22 9.93
 90.00 20 0 30 1744.82 -4.11 9.89 196.11 118.00 20 29 35 744.8 7.64 349.03
 100.00 21 14 18 1506.64 -5.15 351.82 195.54 119.45 21 39 24 506.6 7.22 331.30
 110.00 22 5 30 1346.22 -7.81 338.01 193.90 123.35 22 27 56 346.2 6.14 318.47

Differential Corrections

TDE .0900 TRA .7294 TC3-7.4595 BAU .8181
 RDE .0007 RRA .2781 RC3-1.1886 FAU .22054
 FDE 1.4035 FRA 4.7869 FC-23.5662 BSP 8435
 BDE .0900 BRA .7806 BC3 7.5536 FSP 3125

Mid-Course Execution Accuracy

SGT 4512.3 SGR 889.7 SG3 1463.2
 RRT .9338 RRF .9839 RTF .9493
 SGB 4599.2 R23 .2604 R13 .9527
 SG1 4588.5 SG2 313.0 THA 10.48

Orbit Determination Accuracy

ST 25.3 SR 8.7 SS 52.3
 CRT .9251 CRS -.7345 CST -.9193
 LSA 57.8 MSA 10.4 SSA 1.8
 EL1 26.6 EL2 3.2 ALF 17.97

LAUNCH DATE MAY 21 1971

FLIGHT TIME 228.00

ARRIVAL DATE JAN 4 1972

Heliocentric Conic

RL 151.41 LAL -.00 LOL 239.31 VL 32.245 GAL -.08 AZL 90.36 HCA 167.67 SMA 186.05 ECC .18618 INC .3553 V1 29.427
 RP 219.43 LAP -.08 LOP 46.98 VP 22.278 GAP 2.89 AZP 89.65 TAL 359.51 TAP 167.17 RCA 151.41 APO 220.68 V2 25.048
 RC 182.871 GL -4.04 GP -11.35 ZAL 97.74 ZAP 69.79 ETS 175.02 ZAE 110.34 ETE 184.83 ZAC 90.86 ETC 272.69 LVI -4.40

Planetocentric Conic

C3 8.136 VHL 2.852 DLA -12.67 RAL 340.32 RAD 6637.1 VEL 11.325 PTH 6.38 VHP 2.958 DPA -33.71 RAP 301.12 ECC 1.1339
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 54 7 2688.00 -16.65 74.60 188.04 135.24 15 38 55 1688.0 1.99 58.62
 60.00 15 47 43 2545.45 -12.97 65.25 191.45 128.50 16 30 8 1545.5 3.03 47.16
 70.00 16 55 50 2345.21 -9.52 51.55 193.98 122.96 17 34 55 1345.2 4.41 31.96
 80.00 18 10 53 2085.22 -6.91 33.40 195.56 119.12 18 53 38 1085.2 5.46 12.88
 90.00 19 46 52 1801.35 -5.91 13.07 196.11 117.71 20 16 54 801.3 5.86 352.23
 100.00 21 1 45 1559.70 -6.91 354.76 195.56 119.12 21 27 45 559.7 5.46 334.25
 110.00 21 55 16 1392.03 -9.52 340.46 193.98 122.96 22 18 28 392.0 4.41 320.88

Differential Corrections

TDE .1471 TRA .7544 TC3-7.8108 BAU .8623
 RDE .0175 RRA .2893 RC3-1.3547 FAU .22730
 FDE 1.4820 FRA 4.5981 FC-24.1847 BSP 8071
 BDE .1481 BRA .8079 BC3 7.9274 FSP 2610

Mid-Course Execution Accuracy

SGT 4728.1 SGR 976.3 SG3 1468.4
 RRT .9487 RRF .9887 RTF .9590
 SGB 4827.9 R23 .2377 R13 .9620
 SG1 4818.4 SG2 303.0 THA 11.13

Orbit Determination Accuracy

ST 28.4 SR 9.2 SS 52.8
 CRT .9284 CRS -.8192 CST -.9620
 LSA 60.1 MSA 8.2 SSA 2.0
 EL1 29.7 EL2 3.3 ALF 16.92

LAUNCH DATE MAY 21 1971

FLIGHT TIME 230.00

ARRIVAL DATE JAN 6 1972

Heliocentric Conic

RL 151.41 LAL -.00 LOL 239.31 VL 32.252 GAL -.14 AZL 90.21 HCA 168.79 SMA 186.17 ECC .18672 INC .2047 V1 29.427
 RP 219.80 LAP -.04 LOP 48.10 VP 22.242 GAP 2.75 AZP 89.80 TAL 359.09 TAP 167.88 RCA 151.41 APO 220.93 V2 25.007
 RC 185.475 GL -2.32 GP -12.34 ZAL 98.47 ZAP 68.54 ETS 174.31 ZAE 108.73 ETE 184.81 ZAC 89.89 ETC 272.63 LVI .61

Planetocentric Conic

C3 8.182 VHL 2.860 DLA -10.80 RAL 340.34 RAD 6637.1 VEL 11.327 PTH 6.38 VHP 2.988 DPA -34.73 RAP 301.08 ECC 1.1347
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 46 59 2728.80 -18.52 78.48 188.21 134.65 15 32 26 1726.8 -.36 60.24
 60.00 15 38 22 2590.14 -14.85 67.53 191.57 127.91 16 21 33 1590.1 1.07 49.30
 70.00 16 43 54 2397.46 -11.44 54.37 194.04 122.40 17 23 52 1397.5 2.42 34.70
 80.00 18 4 29 2145.25 -8.89 36.76 195.57 118.62 18 40 14 1145.2 3.44 16.19
 90.00 19 31 20 1865.03 -7.91 16.68 196.09 117.24 20 2 25 865.0 3.83 355.81
 100.00 20 47 21 1619.72 -8.89 358.13 195.57 118.62 21 14 20 619.7 3.44 337.56
 110.00 21 43 21 1444.28 -11.44 343.29 194.04 122.40 22 7 25 444.3 2.42 323.62

Differential Corrections

TDE .2275 TRA .7896 TC3-8.0063 BAU .8903
 RDE .0434 RRA .3098 RC3-1.4625 FAU .22058
 FDE 1.6819 FRA 4.5110 FC-23.3388 BSP 8373
 BDE .2316 BRA .8482 BC3 8.1388 FSP 2537

Mid-Course Execution Accuracy

SGT 4876.4 SGR 1052.0 SG3 1430.1
 RRT .9531 RRF .9919 RTF .9500
 SGB 4988.6 R23 .2419 R13 .9832
 SG1 4978.9 SG2 312.0 THA 11.66

Orbit Determination Accuracy

ST 33.9 SR 10.5 SS 56.1
 CRT .9453 CRS -.9020 CST -.9889
 LSA 66.0 MSA 5.9 SSA 2.2
 EL1 35.3 EL2 3.3 ALF 16.46

LAUNCH DATE MAY 21 1971

FLIGHT TIME 232.00

ARRIVAL DATE JAN 8 1972

Heliocentric Conic

RL 151.41 LAL -.00 LOL 239.31 VL 32.259 GAL -.21 AZL 90.02 HCA 189.91 SMA 186.29 ECC .18728 INC .0171 V1 29.427
 RP 220.18 LAP -.00 LOP 49.22 VP 22.207 GAP 2.60 AZP 89.98 TAL 358.67 TAP 168.57 RCA 151.40 APO 221.18 V2 24.966
 RC 188.089 GL -.25 GP -13.54 ZAL 99.20 ZAP 67.36 ETS 173.47 ZAE 107.15 ETE 184.82 ZAC 88.71 ETC 272.57 LVI 1.80

Planetocentric Conic

C3 8.245 VHL 2.871 DLA -8.61 RAL 340.23 RAD 6637.1 VEL 11.330 PTH 6.38 VHP 3.023 DPA -35.94 RAP 301.13 ECC 1.1357
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 38 13 2772.44 -20.69 78.65 188.38 133.85 15 24 28 1772.4 -2.65 62.15
 60.00 15 27 6 2642.45 -17.02 70.25 191.68 127.10 16 11 8 1642.4 -1.24 51.80
 70.00 16 29 45 2458.23 -13.64 57.71 194.08 121.62 17 10 43 1458.2 .10 37.87
 80.00 17 47 36 2214.52 -11.12 40.69 195.55 117.89 18 24 31 1214.5 1.10 20.00
 90.00 19 13 14 1938.24 -10.17 20.87 196.05 116.53 19 45 32 938.2 1.48 359.90
 100.00 20 30 28 1688.99 -11.12 2.05 195.55 117.89 20 58 37 689.0 1.10 341.37
 110.00 21 29 12 1505.05 -13.64 346.63 194.08 121.62 21 54 17 505.0 .10 326.79

Differential Corrections

TDE .3158 TRA .8161 TC3-8.2421 BAU .9260
 RDE .0702 RRA .3313 RC3-1.6268 FAU .21843
 FDE 1.7923 FRA 4.3596 FC-22.9360 BSP 8571
 BDE .3235 BRA .8808 BC3 8.4011 FSP 2387

Mid-Course Execution Accuracy

SGT 5051.0 SGR 1157.3 SG3 1402.6
 RRT .9599 RRF .9945 RTF .9643
 SGB 5181.9 R23 .2326 R13 .9676
 SG1 5172.2 SG2 316.8 THA 12.45

Orbit Determination Accuracy

ST 40.7 SR 12.3 SS 58.1
 CRT .9555 CRS -.9485 CST -.9959
 LSA 71.8 MSA 4.0 SSA 2.7
 EL1 42.3 EL2 3.5 ALF 16.25

LAUNCH DATE MAY 21 1971

FLIGHT TIME 234.00

ARRIVAL DATE JAN 10 1972

HELIOCENTRIC CONIC
 RL 151.41 LAL -.00 LOL 239.31 VL 32.267 GAL -.20 AZL 89.79 HCA 171.02 SMA 186.42 ECC .18788 INC .1874 V1 29.427
 RP 220.55 LAP .03 LOP 50.34 VP 22.172 GAP 2.46 AZP 90.20 TAL 358.23 TAP 169.26 RCA 151.40 APO 221.45 V2 24.925
 RC 190.711 GL 2.30 GP -15.00 ZAL 99.93 ZAP 66.29 ETS 172.47 ZAE 109.59 ETE 184.84 ZAC 87.25 ETC 272.53 LVI 3.22

DISTANCE 543.009 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 8.337 VHL 2.887 DLA -5.97 RAL 339.96 RAD 6637.2 VEL 11.334 PTH 6.39 VHP 3.065 DPA -37.41 RAP 301.31 ECC 1.1372
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 27 16 2827.50 -23.26 81.37 188.57 132.75 15 14 23 1827.5 -5.41 64.46
 60.00 15 13 13 2705.27 -19.57 73.61 191.82 125.96 15 58 18 1705.3 -4.00 54.80
 70.00 16 12 34 2530.76 -16.18 61.79 194.15 120.49 16 54 45 1530.8 -2.67 41.66
 80.00 17 27 21 2298.64 -13.69 45.43 195.56 116.80 18 5 38 1296.6 -1.68 24.51
 90.00 18 51 37 2024.74 -12.75 25.91 196.03 115.46 19 25 22 1024.7 -1.31 4.73
 100.00 20 10 13 1771.11 -13.69 6.80 195.56 116.80 20 39 44 771.1 -1.68 345.88
 110.00 21 12 1 1577.58 -16.18 350.70 194.15 120.49 21 38 18 577.6 -2.67 330.58

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .4265 TRA .8350 TC3-8.4375 BAU .9613 SGT 5218.5 SGR 1279.0 SG3 1360.7 ST 49.7 SR 15.5 SS 62.3
 RDE .1101 RRA .3616 RC3-1.7894 FAU .21158 RRT .9821 RRF .9964 RTF .9642 CRT .9689 CRS -.9780 CST -.9971
 FDE 1.9899 FRA 4.2366 FC-21.9706 BSP 8774 SGB 5373.0 R23 .2376 R13 .9679 LSA 81.1 MSA 3.9 SSA 2.2
 BDE .4405 BRA .9100 BC3 8.6252 FSP 2295 SG1 5362.2 SG2 339.5 THA 13.32 EL1 51.9 EL2 3.7 ALF 18.85

LAUNCH DATE MAY 21 1971

FLIGHT TIME 236.00

ARRIVAL DATE JAN 12 1972

HELIOCENTRIC CONIC
 RL 151.41 LAL -.00 LOL 239.31 VL 32.275 GAL -.35 AZL 89.50 HCA 172.14 SMA 186.56 ECC .18849 INC .4927 V1 29.427
 RP 220.93 LAP .07 LOP 51.45 VP 22.137 GAP 2.32 AZP 90.49 TAL 357.80 TAP 169.93 RCA 151.39 APO 221.72 V2 24.884
 RC 193.341 GL 5.52 GP -16.85 ZAL 100.64 ZAP 65.36 ETS 171.23 ZAE 104.05 ETE 184.90 ZAC 85.42 ETC 272.51 LVI 4.98

DISTANCE 547.157 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 8.481 VHL 2.912 DLA -2.70 RAL 339.45 RAD 6637.2 VEL 11.340 PTH 6.39 VHP 3.118 DPA -39.23 RAP 301.65 ECC 1.1396
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 13 13 2895.81 -26.37 84.89 188.86 131.15 15 1 29 1895.8 -8.82 67.36
 60.00 14 55 40 2782.91 -22.61 77.91 192.05 124.29 15 42 3 1782.9 -7.39 58.55
 70.00 15 51 5 2619.92 -19.19 66.95 194.30 118.81 16 34 45 1619.9 -6.06 46.34
 80.00 17 2 17 2397.03 -16.68 51.37 195.64 115.13 17 42 14 1397.0 -5.07 30.04
 90.00 18 24 58 2130.20 -15.74 32.20 196.09 113.80 19 0 29 1130.2 -4.69 10.63
 100.00 19 45 8 1871.50 -16.68 12.74 195.64 113.13 20 16 20 871.5 -5.07 351.41
 110.00 20 50 32 1666.74 -19.19 355.87 194.30 118.81 21 18 18 666.7 -6.06 335.26

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .5790 TRA .8591 TC3-8.5255 BAU .9921 SGT 5368.3 SGR 1432.0 SG3 1309.9 ST 62.8 SR 20.2 SS 67.9
 RDE .1648 RRA .4027 RC3-1.9699 FAU .20237 RRT .9638 RRF .9978 RTF .9642 CRT .9769 CRS -.9918 CST -.9952
 FDE 2.2343 FRA 4.1175 FC-20.6583 BSP 9165 SGB 5556.0 R23 .2401 R13 .9685 LSA 94.5 MSA 5.4 SSA 1.2
 BDE .6020 BRA .9488 BC3 8.7501 FSP 2231 SG1 5543.6 SG2 369.9 THA 14.48 EL1 65.8 EL2 4.1 ALF 17.30

LAUNCH DATE MAY 21 1971

FLIGHT TIME 238.00

ARRIVAL DATE JAN 14 1972

HELIOCENTRIC CONIC
 RL 151.41 LAL -.00 LOL 239.31 VL 32.283 GAL -.42 AZL 89.12 HCA 173.24 SMA 186.69 ECC .18913 INC .8807 V1 29.427
 RP 221.31 LAP .10 LOP 52.56 VP 22.102 GAP 2.18 AZP 90.88 TAL 357.35 TAP 170.60 RCA 151.38 APO 222.00 V2 24.842
 RC 195.978 GL 9.69 GP -19.22 ZAL 101.28 ZAP 64.63 ETS 169.69 ZAE 102.53 ETE 185.00 ZAC 83.06 ETC 272.49 LVI 7.21

DISTANCE 551.301 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 8.724 VHL 2.954 DLA 1.44 RAL 338.58 RAD 6637.4 VEL 11.350 PTH 6.40 VHP 3.189 DPA -41.56 RAP 302.24 ECC 1.1436
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 54 38 2983.73 -30.21 89.74 189.41 128.68 14 44 21 1983.7 -13.17 71.18
 60.00 14 32 41 2882.50 -26.31 83.74 192.54 121.70 15 20 43 1882.5 -11.69 63.46
 70.00 15 23 13 2733.87 -22.78 73.84 194.68 116.17 16 8 47 1733.9 -10.31 52.42
 80.00 16 29 57 2524.87 -20.20 59.23 195.93 112.46 17 12 2 1524.9 -9.29 37.18
 90.00 17 50 43 2264.27 -19.24 40.49 196.34 111.13 18 28 27 1264.3 -8.90 18.22
 100.00 19 12 49 1999.34 -20.20 20.60 195.93 112.46 19 46 9 999.3 -9.29 358.54
 110.00 20 22 39 1780.69 -22.78 2.76 194.68 116.17 20 52 20 780.7 -10.31 341.34

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .7821 TRA .8647 TC3-8.5123 BAU 1.0247 SGT 5513.9 SGR 1625.0 SG3 1243.8 ST 80.3 SR 27.2 SS 74.6
 RDE .2445 RRA .4513 RC3-2.1737 FAU .19103 RRT .9649 RRF .9987 RTF .5339 CRT .9827 CRS -.9975 CST -.9929
 FDE 2.5271 FRA 3.9174 FC-18.9584 BSP 9534 SGB 5748.4 R23 .2416 R13 .9690 LSA 112.7 MSA 7.3 SSA .7
 BDE .8194 BRA .9734 BC3 8.7855 FSP 2127 SG1 5733.8 SG2 410.2 THA 15.96 EL1 84.6 EL2 4.8 ALF 18.46

LAUNCH DATE MAY 21 1971

FLIGHT TIME 240.00

ARRIVAL DATE JAN 16 1972

HELIOCENTRIC CONIC
 RL 151.41 LAL -.00 LOL 239.31 VL 32.291 GAL -.49 AZL 88.58 HCA 174.35 SMA 186.83 ECC .18980 INC 1.4126 V1 29.427
 RP 221.69 LAP .14 LOP 53.66 VP 22.087 GAP 2.03 AZP 91.41 TAL 356.91 TAP 171.26 RCA 151.37 APO 222.29 V2 24.801
 RC 198.821 GL 15.27 GP -22.37 ZAL 101.78 ZAP 64.20 ETS 167.71 ZAE 101.00 ETE 185.15 ZAC 79.91 ETC 272.51 LVI 10.14

DISTANCE 555.440 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.174 VHL 3.029 DLA 6.90 RAL 337.17 RAD 6637.6 VEL 11.370 PTH 6.42 VHP 3.289 DPA -44.63 RAP 303.21 ECC 1.1510
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 28 57 3102.16 -35.03 96.93 190.66 124.53 14 20 39 2102.2 -18.91 76.58
 60.00 14 1 9 3016.51 -30.82 92.22 193.67 117.37 14 51 25 2016.5 -17.30 70.33
 70.00 14 45 7 2887.15 -27.02 83.72 195.65 111.73 15 33 14 1887.1 -15.81 60.89
 80.00 15 45 51 2696.93 -24.26 70.39 196.75 107.95 16 30 48 1696.9 -14.70 47.08
 90.00 17 3 59 2444.81 -23.23 52.21 197.10 106.60 17 44 43 1444.8 -14.27 28.76
 100.00 18 28 43 2171.40 -24.26 31.76 196.75 107.95 19 4 54 1171.4 -14.70 8.45
 110.00 19 44 33 1933.97 -27.02 12.63 195.65 111.73 20 16 47 934.0 -15.81 349.81

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.0545 TRA .8366 TC3-8.3561 BAU 1.0665 SGT 5669.5 SGR 1881.5 SG3 1158.2 ST 102.8 SR 37.4 SS 82.0
 RDE .3640 RRA .5084 RC3-2.4078 FAU .17803 RRT .9657 RRF .9992 RTF .9631 CRT .9865 CRS -.9994 CST -.9913
 FDE 2.8439 FRA 3.6044 FC-16.8012 BSP 9879 SGB 5973.5 R23 .2419 R13 .9695 LSA 136.4 MSA 9.4 SSA .4
 BDE 1.1156 BRA .9790 BC3 8.6961 FSP 1992 SG1 5955.4 SG2 465.2 THA 17.88 EL1 109.3 EL2 5.8 ALF 19.81

LAUNCH DATE MAY 21 1971 FLIGHT TIME 242.00 ARRIVAL DATE JAN 18 1972

Heliocentric Conic: RL 151.41 LAL -.00 LOL 239.31 VL 32.300 GAL -.57 AZL 87.80 MCA 175.45 SMA 186.98 ECC .19048 INC 2.1988 V1 29.427
 RP 222.07 LAP .17 LOP 54.76 VP 22.033 GAP 1.89 AZP 92.20 TAL 356.46 TAP 171.91 RCA 151.36 APO 222.59 V2 24.759
 RC 201.270 GL 23.00 GP -26.72 ZAL 101.98 ZAP 64.30 ETS 165.14 ZAE 99.46 ETE 185.40 ZAC 75.55 ETC 272.56 LVI 14.14

PLANETOCENTRIC CONIC: C3 10.098 VHL 3.178 DLA 14.32 RAL 334.87 RAD 6638.1 VEL 11.410 PTH 6.46 VHP 3.448 DPA -48.84 RAP 304.87 ECC 1.1662
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 12 51 14 3271.20 -40.92 108.78 193.77 116.77 13 45 45 2271.2 -26.73 85.04
 60.00 13 14 45 3208.61 -36.04 105.81 196.43 109.41 14 8 14 2208.6 -24.81 81.01
 70.00 13 48 41 3108.73 -31.64 99.29 198.00 103.60 14 40 30 2108.7 -23.00 74.04
 80.00 14 39 49 2948.53 -28.39 87.91 198.77 99.65 15 28 57 1948.5 -21.63 62.54
 90.00 15 53 34 2710.47 -27.16 70.63 198.99 98.21 16 38 45 1710.5 -21.10 45.25
 100.00 17 22 41 2423.01 -28.39 49.28 198.77 99.65 18 3 4 1423.0 -21.63 23.91
 110.00 18 48 8 2155.55 -31.64 28.21 198.00 103.60 19 24 3 1155.5 -23.00 2.95

Differential Corrections: TDE 1.4590 TRA .7560 TC3-7.8625 BAU 1.1188 SGT 5819.8 SGR 2222.3 SG3 1034.1 ST 133.4 SR 53.4 SS 89.7
 RDE .5645 RRA .5721 RC3-2.6184 FAU .16028 RRT .9658 RRF .9995 RTF .9615 CRT .9895 CRS -.9999 CST -.9909
 FDE 3.1953 FRA 3.1236 FC-13.7405 BSP 10111 SGB 6229.7 R23 .2422 R13 .9698 LSA 169.1 MSA 11.3 SSA .2
 BDE 1.5644 BRA .9480 BC3 8.2871 FSP 1754 SG1 6206.2 SG2 540.4 THA 20.40 EL1 143.5 EL2 7.2 ALF 21.66

LAUNCH DATE MAY 21 1971 FLIGHT TIME 244.00 ARRIVAL DATE JAN 20 1972

Heliocentric Conic: RL 151.41 LAL -.00 LOL 239.31 VL 32.309 GAL -.64 AZL 86.52 MCA 176.54 SMA 187.13 ECC .19119 INC 3.4794 V1 29.427
 RP 222.48 LAP .21 LOP 55.86 VP 21.999 GAP 1.75 AZP 93.48 TAL 356.01 TAP 172.59 RCA 151.35 APO 222.90 V2 24.717
 RC 203.922 GL 34.02 GP -33.00 ZAL 101.54 ZAP 65.38 ETS 161.80 ZAE 97.93 ETE 185.82 ZAC 69.27 ETC 272.72 LVI 19.84

PLANETOCENTRIC CONIC: C3 12.312 VHL 3.509 DLA 24.74 RAL 330.92 RAD 6639.2 VEL 11.506 PTH 6.55 VHP 3.740 DPA -54.81 RAP 308.03 ECC 1.2026
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 11 50 0 3531.63 -46.68 131.04 201.77 100.47 12 48 52 2531.6 -37.35 100.78
 60.00 11 57 39 3511.24 -40.19 130.29 202.85 93.34 12 56 11 2511.2 -34.47 100.76
 70.00 12 10 31 3473.31 -34.06 127.27 202.90 87.34 13 8 25 2473.3 -31.59 98.81
 80.00 12 36 31 3391.76 -29.03 120.58 202.38 82.68 13 33 3 2391.8 -29.13 93.15
 90.00 13 35 52 3200.05 -26.82 106.13 202.01 80.67 14 29 12 2200.1 -28.04 79.19
 100.00 15 19 23 2866.23 -29.03 81.95 202.38 82.68 16 7 9 1866.2 -29.13 54.52
 110.00 17 9 58 2520.13 -34.06 56.19 202.90 87.34 17 51 58 1520.1 -31.59 27.73

Differential Corrections: TDE 2.1383 TRA .5836 TC3-6.7169 BAU 1.1896 SGT 5959.2 SGR 2688.8 SG3 846.7 ST 175.4 SR 79.9 SS 96.1
 RDE .9551 RRA .6327 RC3-2.6670 FAU .13384 RRT .9650 RRF .9995 RTF .9578 CRT .9921 CRS -1.0000 CST -.9915
 FDE 3.5531 FRA 2.4089 FC3-9.4109 BSP 10452 SGB 6537.7 R23 .2447 R13 .9694 LSA 215.0 MSA 13.1 SSA .1
 BDE 2.3420 BRA .8608 BC3 7.2270 FSP 1440 SG1 6505.7 SG2 646.1 THA 23.78 EL1 192.5 EL2 9.1 ALF 24.37

LAUNCH DATE MAY 21 1971 FLIGHT TIME 246.00 ARRIVAL DATE JAN 22 1972

Heliocentric Conic: RL 151.41 LAL -.00 LOL 239.31 VL 32.317 GAL -.71 AZL 84.07 MCA 177.63 SMA 187.28 ECC .19191 INC 5.9287 V1 29.427
 RP 222.84 LAP .25 LOP 56.95 VP 21.965 GAP 1.61 AZP 95.93 TAL 355.56 TAP 173.19 RCA 151.34 APO 223.22 V2 24.675
 RC 206.578 GL 49.85 GP -42.37 ZAL 99.80 ZAP 68.40 ETS 157.85 ZAE 96.50 ETE 186.70 ZAC 59.87 ETC 273.17 LVI 28.15

PLANETOCENTRIC CONIC: C3 19.093 VHL 4.370 DLA 39.29 RAL 323.44 RAD 6642.4 VEL 11.794 PTH 6.82 VHP 4.400 DPA -63.40 RAP 315.52 ECC 1.3142
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 9 46 26 3990.76 -43.37 173.70 215.37 68.12 10 52 56 2990.8 -47.46 139.50
 60.00 8 40 53 4187.14 -29.36 181.16 207.14 61.05 9 50 20 3167.1 -38.51 154.21
 61.50 7 47 3 4319.86 -22.71 189.58 202.70 57.03 8 59 3 3319.9 -34.19 165.45
 61.50 7 47 3 4319.86 -22.71 189.58 202.70 57.03 8 59 3 3319.9 -34.19 165.45
 61.50 7 47 3 4319.86 -22.71 189.58 202.70 57.03 8 59 3 3319.9 -34.19 165.45
 61.50 7 47 3 4319.86 -22.71 189.58 202.70 57.03 8 59 3 3319.9 -34.19 165.45

Differential Corrections: TDE 3.4609 TRA .1890 TC3-4.8021 BAU 1.3119 SGT 6072.3 SGR 3329.2 SG3 555.8 ST 227.0 SR 123.5 SS 90.9
 RDE 1.8678 RRA .6158 RC3-2.2881 FAU .09348 RRT .9641 RRF .9988 RTF .5.01 CRT .9944 CRS -.9999 CST -.9924
 FDE 3.6084 FRA 1.3322 FC3-4.2387 BSP 10755 SGB 6925.0 R23 .2532 R13 .9673 LSA 273.6 MSA 14.3 SSA .1
 BDE 3.9327 BRA .6440 BC3 5.1395 FSP 937 SG1 6880.9 SG2 780.4 THA 28.26 EL1 258.2 EL2 11.5 ALF 28.47

LAUNCH DATE MAY 21 1971 FLIGHT TIME 256.00 ARRIVAL DATE FEB 1 1972

Heliocentric Conic: RL 151.41 LAL -.00 LOL 239.31 VL 32.364 GAL -1.12 AZL 87.79 MCA 183.08 SMA 188.07 ECC .19588 INC 7.7867 V1 29.427
 RP 224.79 LAP .42 LOP 62.36 VP 21.798 GAP .92 AZP 82.22 TAL 353.13 TAP 176.20 RCA 151.23 APO 224.91 V2 24.466
 RC 219.888 GL -57.35 GP 34.55 ZAL 100.80 ZAP 61.50 ETS 201.12 ZAE 93.39 ETE 178.32 ZAC 136.62 ETC 274.35 LVI -42.73

PLANETOCENTRIC CONIC: C3 27.115 VHL 5.207 DLA -54.21 RAL 24.86 RAD 6645.9 VEL 12.127 PTH 7.10 VHP 3.999 DPA 11.59 RAP 293.27 ECC 1.4462
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 41.62 22 37 3 1947.78 25.26 48.65 274.96 139.71 23 9 31 947.8 42.71 28.07
 41.62 22 37 3 1947.78 25.26 48.65 274.96 139.71 23 9 31 947.8 42.71 28.07
 41.62 22 37 3 1947.78 25.26 48.65 274.96 139.71 23 9 31 947.8 42.71 28.07
 41.62 22 37 3 1947.78 25.26 48.65 274.96 139.71 23 9 31 947.8 42.71 28.07
 41.62 22 37 3 1947.78 25.26 48.65 274.96 139.71 23 9 31 947.8 42.71 28.07
 41.62 22 37 3 1947.78 25.26 48.65 274.96 139.71 23 9 31 947.8 42.71 28.07

Differential Corrections: TDE -.8952 TRA 2.8780 TC3-3.6646 BAU 1.4203 SGT 6697.3 SGR 2901.9 SG3 696.7 ST 95.2 SR 39.4 SS 41.6
 RDE -.2117 RRA -1.3322 RC3 1.3865 FAU .11920 RRT -.9700 RRF -.9975 RTF .9513 CRT -.6644 CRS .9738 CST -.4770
 FDE 1.1053 FRA 3.6763 FC3-3.8059 BSP 12168 SGB 7298.9 R23 .2709 R13 -.9623 LSA 102.0 MSA 44.0 SSA .1
 BDE .9199 BRA 3.1714 BC3 3.9181 FSP 1257 SG1 7269.9 SG2 649.7 THA 157.01 EL1 99.0 EL2 28.3 ALF 163.20

LAUNCH DATE MAY 21 1971

FLIGHT TIME 258.00

ARRIVAL DATE FEB 3 1972

HELIOCENTRIC CONIC
 RL 151.41 LAL -.00 LOL 239.31 VL 32.373 GAL -1.21 AZL 96.25 HCA 184.15 SMA 188.23 ECC .19672 INC 6.2434 V1 29.427
 RP 225.18 LAP .45 LOP 63.43 VP 21.765 GAP .78 AZP 83.77 TAL 352.65 TAP 178.80 RCA 151.20 APO 225.26 V2 24.424
 RC 222.551 GL -50.20 GP 27.19 ZAL 102.89 ZAP 57.77 ETS 198.11 ZAE 91.97 ETE 179.57 ZAC 129.31 ETC 273.71 LVI -36.06

PLANETOCENTRIC CONIC
 C3 20.999 VHL 4.502 DLA -48.63 RAL 17.68 RAD 8643.3 VEL 11.874 PTH 6.89 VHP 3.682 DPA 4.28 RAP 294.22 ECC 1.3456
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 48.64 22 30 9 1835.19 26.17 37.90 262.02 132.57 23 0 44 835.2 41.02 14.80
 48.64 22 30 9 1835.19 26.17 37.90 262.02 132.57 23 0 44 835.2 41.02 14.80
 48.64 22 30 9 1835.19 26.17 37.90 262.02 132.57 23 0 44 835.2 41.02 14.80
 48.64 22 30 9 1835.19 26.17 37.90 262.02 132.57 23 0 44 835.2 41.02 14.80
 48.64 22 30 9 1835.19 26.17 37.90 262.02 132.57 23 0 44 835.2 41.02 14.80
 48.64 22 30 9 1835.19 26.17 37.90 262.02 132.57 23 0 44 835.2 41.02 14.80

DIFFERENTIAL CORRECTIONS
 TDE -.9872 TRA 2.7502 TC3-4.7212 BAU 1.3793 SGT 6878.4 SGR 2329.3 SG3 894.1 ST 99.7 SR 29.7 SS 42.3
 RDE -.0454 RRA-1.0396 RC3 1.3604 FAU 1.13914 RRT -.9710 RRF -.9977 RTF .9548 CRT -.7225 CRS .9681 CST -.9262
 FDE .7281 FRA 4.3989 FC3-5.7364 BSP 12044 SGB 7282.1 R23 .2722 R13 -.9616 LSA 105.2 MSA 38.4 SSA .1
 BDE .9883 BRA 2.9401 BC3 4.9133 FSP 1542 SG1 7242.8 SG2 529.2 THA 161.70 EL1 102.1 EL2 20.1 ALF 167.36

LAUNCH DATE MAY 21 1971

FLIGHT TIME 260.00

ARRIVAL DATE FEB 5 1972

HELIOCENTRIC CONIC
 RL 151.41 LAL -.00 LOL 239.31 VL 32.383 GAL -1.29 AZL 95.34 HCA 185.21 SMA 188.40 ECC .19758 INC 5.3359 V1 29.427
 RP 225.57 LAP .48 LOP 64.50 VP 21.732 GAP .84 AZP 84.69 TAL 352.17 TAP 177.38 RCA 151.18 APO 225.63 V2 24.382
 RC 225.217 GL -45.05 GP 22.18 ZAL 104.55 ZAP 55.27 ETS 195.64 ZAE 90.65 ETE 180.27 ZAC 124.31 ETC 273.44 LVI -31.51

PLANETOCENTRIC CONIC
 C3 18.101 VHL 4.255 DLA -44.22 RAL 13.77 RAD 8642.0 VEL 11.753 PTH 6.78 VHP 3.544 DPA -.68 RAP 295.01 ECC 1.2979
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 30 42 2069.50 14.09 48.14 243.28 135.93 21 5 11 1069.5 31.01 29.33
 54.47 22 35 37 1746.52 25.66 29.05 254.16 127.33 23 4 43 746.5 38.57 4.85
 54.47 22 35 37 1746.52 25.66 29.05 254.16 127.33 23 4 43 746.5 38.57 4.85
 54.47 22 35 37 1746.52 25.66 29.05 254.16 127.33 23 4 43 746.5 38.57 4.85
 54.47 22 35 37 1746.52 25.66 29.05 254.16 127.33 23 4 43 746.5 38.57 4.85
 54.47 22 35 37 1746.52 25.66 29.05 254.16 127.33 23 4 43 746.5 38.57 4.85
 54.47 22 35 37 1746.52 25.66 29.05 254.16 127.33 23 4 43 746.5 38.57 4.85

DIFFERENTIAL CORRECTIONS
 TDE -.8960 TRA 2.7333 TC3-5.4655 BAU 1.3571 SGT 7033.0 SGR 1928.5 SG3 937.4 ST 98.1 SR 24.1 SS 43.4
 RDE -.0106 RRA -.8544 RC3 1.2557 FAU 1.14799 RRT -.9730 RRF -.9973 RTF .9579 CRT -.7698 CRS .9605 CST -.5619
 FDE .6456 FRA 4.7804 FC3-7.0779 BSP 12401 SGB 7292.6 R23 .2677 R13 -.9623 LSA 103.5 MSA 37.2 SSA .1
 BDE .8960 BRA 2.8637 BC3 5.6079 FSP 1701 SG1 7279.9 SG2 429.9 THA 165.01 EL1 99.9 EL2 15.1 ALF 169.02

LAUNCH DATE MAY 21 1971

FLIGHT TIME 262.00

ARRIVAL DATE FEB 7 1972

HELIOCENTRIC CONIC
 RL 151.41 LAL -.00 LOL 239.31 VL 32.392 GAL -1.37 AZL 94.74 HCA 186.27 SMA 188.57 ECC .19846 INC 4.7356 V1 29.427
 RP 225.96 LAP .52 LOP 65.56 VP 21.700 GAP .90 AZP 85.29 TAL 351.69 TAP 177.96 RCA 151.15 APO 225.99 V2 24.340
 RC 227.883 GL -41.16 GP 18.61 ZAL 105.95 ZAP 53.44 ETS 193.71 ZAE 89.41 ETE 180.71 ZAC 120.75 ETC 273.32 LVI -28.29

PLANETOCENTRIC CONIC
 C3 16.509 VHL 4.063 DLA -40.70 RAL 11.45 RAD 8641.2 VEL 11.685 PTH 6.72 VHP 3.479 DPA -4.18 RAP 295.68 ECC 1.2717
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 37 44 2177.62 8.76 52.86 235.18 136.96 20 14 2 1177.6 26.31 35.34
 59.42 22 46 55 1869.39 24.69 21.50 249.13 123.45 23 14 45 669.4 36.17 356.85
 59.42 22 46 55 1869.39 24.69 21.50 249.13 123.45 23 14 45 669.4 36.17 356.85
 59.42 22 46 55 1869.39 24.69 21.50 249.13 123.45 23 14 45 669.4 36.17 356.85
 59.42 22 46 55 1869.39 24.69 21.50 249.13 123.45 23 14 45 669.4 36.17 356.85
 59.42 22 46 55 1869.39 24.69 21.50 249.13 123.45 23 14 45 669.4 36.17 356.85
 59.42 22 46 55 1869.39 24.69 21.50 249.13 123.45 23 14 45 669.4 36.17 356.85

DIFFERENTIAL CORRECTIONS
 TDE -.8069 TRA 2.7263 TC3-6.0869 BAU 1.3667 SGT 7174.7 SGR 1637.4 SG3 980.2 ST 95.3 SR 20.3 SS 44.3
 RDE -.0010 RRA -.7284 RC3 1.1380 FAU 1.15130 RRT -.9725 RRF -.9965 RTF .9570 CRT -.7997 CRS .9469 CST -.5643
 FDE .6799 FRA 4.9892 FC3-7.9445 BSP 12429 SGB 7359.2 R23 .2716 R13 -.9601 LSA 100.6 MSA 36.7 SSA .2
 BDE .8069 BRA 2.8214 BC3 6.1924 FSP 1787 SG1 7349.7 SG2 372.2 THA 167.45 EL1 96.7 EL2 12.0 ALF 170.17

LAUNCH DATE MAY 21 1971

FLIGHT TIME 264.00

ARRIVAL DATE FEB 9 1972

HELIOCENTRIC CONIC
 RL 151.41 LAL -.00 LOL 239.31 VL 32.402 GAL -1.46 AZL 94.31 HCA 187.33 SMA 188.74 ECC .19936 INC 4.3112 V1 29.427
 RP 226.35 LAP .55 LOP 66.62 VP 21.668 GAP .96 AZP 85.72 TAL 351.21 TAP 178.54 RCA 151.11 APO 226.37 V2 24.299
 RC 230.548 GL -38.13 GP 15.97 ZAL 107.18 ZAP 51.98 ETS 192.20 ZAE 88.23 ETE 181.01 ZAC 118.10 ETC 273.26 LVI -25.93

PLANETOCENTRIC CONIC
 C3 15.557 VHL 3.944 DLA -37.84 RAL 10.02 RAD 8640.8 VEL 11.645 PTH 6.68 VHP 3.450 DPA -6.76 RAP 296.28 ECC 1.2560
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 5 42 2250.09 5.14 55.94 230.53 137.36 19 43 12 1250.1 23.01 39.07
 60.00 21 9 29 1919.87 14.20 34.75 239.00 128.12 21 41 28 919.9 28.37 13.81
 63.74 23 1 38 1597.61 23.61 14.75 245.76 120.47 23 28 16 597.6 34.01 349.94
 63.74 23 1 38 1597.61 23.61 14.75 245.76 120.47 23 28 16 597.6 34.01 349.94
 63.74 23 1 38 1597.61 23.61 14.75 245.76 120.47 23 28 16 597.6 34.01 349.94
 63.74 23 1 38 1597.61 23.61 14.75 245.76 120.47 23 28 16 597.6 34.01 349.94
 63.74 23 1 38 1597.61 23.61 14.75 245.76 120.47 23 28 16 597.6 34.01 349.94

DIFFERENTIAL CORRECTIONS
 TDE -.7080 TRA 2.7552 TC3-6.5474 BAU 1.3785 SGT 7308.7 SGR 1418.2 SG3 998.5 ST 92.1 SR 17.5 SS 44.7
 RDE .0057 RRA -.6324 RC3 1.0286 FAU 1.15327 RRT -.9738 RRF -.9952 RTF .9588 CRT -.8422 CRS .9279 CST -.5807
 FDE .7242 FRA 5.0763 FC3-8.5294 BSP 12606 SGB 7445.0 R23 .2626 R13 -.9610 LSA 97.6 MSA 35.6 SSA .2
 BDE .7080 BRA 2.8268 BC3 6.6277 FSP 1798 SG1 7438.3 SG2 316.8 THA 169.28 EL1 93.3 EL2 9.3 ALF 170.82

LAUNCH DATE MAY 21 1971

FLIGHT TIME 266.00

ARRIVAL DATE FEB 11 1972

HELIOCENTRIC CONIC

DISTANCE 606.860

EARTH TO MARS

RL 151.41 LAL -.00 LOL 239.31 VL 32.412 GAL -1.55 AZL 93.99 HCA 188.39 SMA 188.91 ECC .20028 INC 3.9940 V1 29.427
RP 226.74 LAP .58 LOP 67.68 VP 21.636 GAP .22 AZP 86.03 TAL 350.72 TAP 179.10 RCA 151.08 APO 226.75 V2 24.257
RC 233.212 GL -35.70 GP 13.95 ZAL 106.30 ZAP 90.75 ETS 190.99 ZAE 87.08 ETE 181.21 ZAC 116.07 ETC 273.25 LVI -24.15

PLANETOCENTRIC CONIC

C3 14.962 VHL 3.868 DLA -35.45 RAL 9.12 RAD 6640.5 VEL 11.620 PTH 6.66 VHP 3.440 DPA -8.72 RAP 296.83 ECC 1.2462
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 43 40 2306.17 2.32 58.29 227.59 137.53 19 22 6 1306.2 20.38 41.82
60.00 20 29 3 2025.45 9.70 40.04 234.59 129.31 21 2 49 1025.5 24.62 20.22
67.67 23 18 58 1527.11 22.53 8.41 243.47 118.13 23 44 25 527.1 32.09 343.56
67.67 23 18 58 1527.11 22.53 8.41 243.47 118.13 23 44 25 527.1 32.09 343.56
67.67 23 18 58 1527.11 22.53 8.41 243.47 118.13 23 44 25 527.1 32.09 343.56
67.67 23 18 58 1527.11 22.53 8.41 243.47 118.13 23 44 25 527.1 32.09 343.56
67.67 23 18 58 1527.11 22.53 8.41 243.47 118.13 23 44 25 527.1 32.09 343.56

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6150 TRA 2.8017 TC3-6.9123 BAU 1.3949 SGT 7441.7 SGR 1251.3 SG3 1005.3 ST 89.3 SR 15.5 SS 45.4
RDE .0091 RRA -.5649 RC3 .9237 FAU .15253 RRT -.9736 RRF -.9933 RTF .9589 CRT -.8811 CRS .9024 CST -.5918
FDE .8068 FRA 5.1395 FC3-8.8255 BSP 12799 SGB 7546.1 R23 .2555 R13 -.9605 LSA 95.1 MSA 35.2 SSA .3
BDE .6150 BRA 2.8581 BC3 6.9738 FSP 1807 SG1 7540.9 SG2 281.8 THA 170.69 EL1 90.4 EL2 7.2 ALF 171.27

LAUNCH DATE MAY 21 1971

FLIGHT TIME 268.00

ARRIVAL DATE FEB 13 1972

HELIOCENTRIC CONIC

DISTANCE 612.939

EARTH TO MARS

RL 151.41 LAL -.00 LOL 239.31 VL 32.422 GAL -1.63 AZL 93.75 HCA 189.44 SMA 189.09 ECC .20121 INC 3.7484 V1 29.427
RP 227.13 LAP .81 LOP 68.73 VP 21.604 GAP .08 AZP 86.30 TAL 350.23 TAP 179.67 RCA 151.04 APO 227.13 V2 24.215
RC 235.874 GL -33.70 GP 12.35 ZAL 109.33 ZAP 49.66 ETS 190.01 ZAE 85.98 ETE 181.36 ZAC 114.46 ETC 273.27 LVI -22.78

PLANETOCENTRIC CONIC

C3 14.585 VHL 3.819 DLA -33.42 RAL 8.58 RAD 6640.3 VEL 11.603 PTH 6.65 VHP 3.442 DPA -10.24 RAP 297.34 ECC 1.2400
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 27 30 2352.42 .00 60.22 225.66 137.58 19 6 42 1352.4 18.18 44.01
60.00 20 2 54 2098.46 6.53 43.61 231.91 129.86 20 37 53 1098.5 21.85 24.40
70.00 22 36 46 1644.66 16.58 14.12 239.09 120.29 23 4 10 644.7 27.58 351.06
71.41 23 38 55 1454.20 21.51 2.13 241.89 116.22 24 3 9 454.2 30.39 337.31
71.41 23 38 55 1454.20 21.51 2.13 241.89 116.22 24 3 9 454.2 30.39 337.31
71.41 23 38 55 1454.20 21.51 2.13 241.89 116.22 24 3 9 454.2 30.39 337.31
110.00 3 40 8 5979.51 16.58 280.94 239.09 120.29 5 19 47 4979.5 27.58 257.89

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5229 TRA 2.8640 TC3-7.1884 BAU 1.4109 SGT 7567.1 SGR 1118.8 SG3 1003.0 ST 87.0 SR 13.9 SS 46.2
RDE .0121 RRA -.5135 RC3 .8273 FAU .15027 RRT -.9728 RRF -.9907 RTF .9588 CRT -.9196 CRS .8699 CST -.6069
FDE .9016 FRA 5.1745 FC3-8.9201 BSP 13076 SGB 7649.4 R23 .2453 R13 -.9600 LSA 93.2 MSA 34.8 SSA .3
BDE .5231 BRA 2.9097 BC3 7.2359 FSP 1812 SG1 7645.1 SG2 256.6 THA 171.81 EL1 87.9 EL2 5.4 ALF 171.61

LAUNCH DATE MAY 21 1971

FLIGHT TIME 270.00

ARRIVAL DATE FEB 15 1972

HELIOCENTRIC CONIC

DISTANCE 617.003

EARTH TO MARS

RL 151.41 LAL -.00 LOL 239.31 VL 32.432 GAL -1.72 AZL 93.55 HCA 190.49 SMA 189.26 ECC .20215 INC 3.5520 V1 29.427
RP 227.92 LAP .65 LOP 69.78 VP 21.573 GAP -.06 AZP 86.51 TAL 349.73 TAP 180.22 RCA 151.00 APO 227.52 V2 24.174
RC 238.532 GL -32.02 GP 11.07 ZAL 110.31 ZAP 48.69 ETS 189.20 ZAE 84.90 ETE 181.47 ZAC 113.16 ETC 273.30 LVI -21.69

PLANETOCENTRIC CONIC

C3 14.350 VHL 3.788 DLA -31.65 RAL 8.27 RAD 6640.2 VEL 11.593 PTH 6.64 VHP 3.451 DPA -11.46 RAP 297.84 ECC 1.2362
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 15 8 2392.05 -1.99 61.88 224.39 137.54 18 55 0 1392.1 16.27 45.84
60.00 19 43 56 2155.76 4.02 46.37 230.15 130.13 20 19 52 1155.8 19.59 27.56
70.00 21 50 46 1782.41 11.70 21.81 235.82 122.32 22 20 28 782.4 23.90 .07
75.15 0 6 9 1374.45 20.55 355.54 240.81 114.62 0 29 4 374.5 28.88 350.77
75.15 0 6 9 1374.45 20.55 355.54 240.81 114.62 0 29 4 374.5 28.88 350.77
75.15 0 6 9 1374.45 20.55 355.54 240.81 114.62 0 29 4 374.5 28.88 350.77
110.00 2 54 8 6117.26 11.70 288.63 235.82 122.32 4 36 5 5117.3 23.90 266.89

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4433 TRA 2.9288 TC3-7.4271 BAU 1.4320 SGT 7693.5 SGR 1012.2 SG3 995.5 ST 85.4 SR 12.7 SS 46.8
RDE .0173 RRA -.4724 RC3 .7457 FAU .14818 RRT -.9714 RRF -.9872 RTF .589 CRT -.9545 CRS .8283 CST -.6249
FDE .9801 FRA 5.1790 FC3-8.9394 BSP 13276 SGB 7759.8 R23 .2306 R13 -.9598 LSA 92.0 MSA 34.3 SSA .4
BDE .4438 BRA 2.9665 BC3 7.4644 FSP 1793 SG1 7756.2 SG2 238.3 THA 172.71 EL1 86.2 EL2 3.7 ALF 171.91

LAUNCH DATE MAY 21 1971

FLIGHT TIME 272.00

ARRIVAL DATE FEB 17 1972

HELIOCENTRIC CONIC

DISTANCE 621.063

EARTH TO MARS

RL 151.41 LAL -.00 LOL 239.31 VL 32.442 GAL -1.81 AZL 93.39 HCA 191.53 SMA 189.44 ECC .20312 INC 3.3912 V1 29.427
RP 227.91 LAP .68 LOP 70.82 VP 21.542 GAP -.20 AZP 86.68 TAL 349.24 TAP 180.77 RCA 150.96 APO 227.92 V2 24.133
RC 241.186 GL -30.58 GP 10.01 ZAL 111.24 ZAP 47.79 ETS 188.53 ZAE 83.85 ETE 181.55 ZAC 112.09 ETC 273.35 LVI -20.83

PLANETOCENTRIC CONIC

C3 14.215 VHL 3.770 DLA -30.10 RAL 8.14 RAD 6640.1 VEL 11.588 PTH 6.63 VHP 3.464 DPA -12.45 RAP 298.33 ECC 1.2339
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 5 24 2426.96 -3.74 63.34 223.55 137.46 18 45 51 1427.0 14.57 47.42
60.00 19 29 22 2203.57 1.92 48.66 228.99 130.26 20 6 5 1203.6 17.66 30.13
70.00 21 23 43 1867.12 8.58 26.38 233.97 123.19 21 54 50 867.1 21.34 5.32
79.25 0 35 6 1279.16 19.65 347.96 240.08 113.26 0 56 25 279.2 27.52 323.25
79.25 0 35 6 1279.16 19.65 347.96 240.08 113.26 0 56 25 279.2 27.52 323.25
79.25 0 35 6 1279.16 19.65 347.96 240.08 113.26 0 56 25 279.2 27.52 323.25
110.00 2 27 6 6201.97 8.58 293.20 233.97 123.19 4 10 28 5202.0 21.34 272.14

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3717 TRA 2.9991 TC3-7.6274 BAU 1.4551 SGT 7819.8 SGR 925.4 SG3 984.9 ST 84.4 SR 11.8 SS 47.4
RDE .0232 RRA -.4402 RC3 .6728 FAU .14546 RRT -.9688 RRF -.9827 RTF .9585 CRT -.9810 CRS .7778 CST -.6440
FDE 1.0529 FRA 5.1797 FC3-8.8588 BSP 13448 SGB 7874.4 R23 .2150 R13 -.9592 LSA 91.5 MSA 33.8 SSA .4
BDE .3724 BRA 3.0313 BC3 7.6571 FSP 1771 SG1 7871.1 SG2 227.9 THA 173.45 EL1 85.1 EL2 2.3 ALF 172.21

LAUNCH DATE MAY 21 1971

FLIGHT TIME 274.00

ARRIVAL DATE FEB 19 1972

Heliocentric Conic: RL 151.41 LAL -0.00 LOL 239.31 VL 32.482 GAL -1.90 AZL 93.26 HCA 192.97 SMA 189.61 ECC .20410 INC 3.2576 V1 29.427
 RP 228.30 LAP .71 LOP 71.87 VP 21.511 GAP -.34 AZP 86.82 TAL 348.74 TAP 181.32 RCA 150.92 APO 229.31 V2 24.092
 RC 243.834 GL -29.34 GP 9.13 ZAL 112.13 ZAP 46.95 ETS 187.96 ZAE 82.83 ETE 181.61 ZAC 111.18 ETC 273.41 LVI -20.193

Planetocentric Conic: C3 14.151 VHL 3.762 DLA -28.70 RAL 8.13 RAD 6640.1 VEL 11.585 PTH 6.63 VHP 3.481 DPA -13.26 RAP 298.81 ECC 1.2329
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 57 33 2450.34 -5.32 64.66 223.03 137.35 18 38 31 1458.3 13.03 48.82
 60.00 19 17 45 2244.96 .10 50.63 228.23 130.30 19 55 10 1245.0 15.95 32.30
 70.00 21 4 14 1931.78 6.16 29.81 232.79 123.66 21 36 26 931.8 19.27 9.19
 80.00 23 27 10 1484.17 13.03 359.94 236.88 117.10 23 51 54 484.2 23.07 337.06
 84.88 1 19 26 1135.69 18.81 336.99 239.63 112.08 1 38 22 135.7 26.27 312.34
 100.00 2 13 57 6246.68 13.03 299.21 236.88 117.10 3 58 4 5246.7 23.07 276.33
 110.00 2 7 37 6266.64 6.16 296.64 232.79 123.66 3 52 3 9266.6 19.27 276.01

Differential Corrections: TDE -.2958 TRA 3.0819 TC3-7.7759 BAU 1.4756
 RDE .0286 RRA -.4148 RC3 .6062 FAU .14203
 FDE 1.1364 FRA 5.1811 FC3-8.6890 BSP 13719
 BDE .2972 BRA 3.1097 BC3 7.7995 FSP 1760

Mid-Course Execution Accuracy: SGT 7941.6 SGR 853.6 SG3 972.4
 RRT -.9851 RRF -.9770 RTF .9578
 SGB 7987.4 R23 .1980 R13 -.9584
 SG1 7984.3 SG2 222.4 THA 174.07

Orbit Determination Accuracy: ST 83.8 SR 11.0 SS 48.3
 CRT -.9963 CRS .7196 CST -.8661
 LSA 91.5 MSA 33.3 S5A .5
 EL1 84.6 EL2 .9 ALF 172.52

LAUNCH DATE MAY 21 1971

FLIGHT TIME 276.00

ARRIVAL DATE FEB 21 1972

Heliocentric Conic: RL 151.41 LAL -0.00 LOL 239.31 VL 32.482 GAL -1.99 AZL 93.14 HCA 193.61 SMA 189.79 ECC .20509 INC 3.1442 V1 29.427
 RP 228.69 LAP .74 LOP 72.90 VP 21.480 GAP -.48 AZP 86.94 TAL 348.23 TAP 181.86 RCA 150.87 APO 226.72 V2 24.051
 RC 246.477 GL -28.24 GP 8.38 ZAL 113.00 ZAP 46.16 ETS 187.47 ZAE 81.83 ETE 181.86 ZAC 110.41 ETC 273.48 LVI -19.58

Planetocentric Conic: C3 14.142 VHL 3.761 DLA -27.44 RAL 8.21 RAD 6640.1 VEL 11.585 PTH 6.63 VHP 3.500 DPA -13.93 RAP 299.30 ECC 1.2327
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 51 6 2486.98 -6.75 65.87 222.75 137.21 18 32 33 1487.0 11.62 50.08
 60.00 19 8 17 2281.71 -1.52 52.39 227.76 130.28 19 46 18 1281.7 14.42 34.20
 70.00 20 49 8 1985.16 4.13 32.62 232.04 123.93 21 22 13 985.2 17.50 12.30
 80.00 22 56 31 1586.33 9.79 5.79 235.48 118.35 23 22 58 586.3 20.60 343.63
 90.00 1 2 2 1194.26 13.18 338.70 237.22 115.25 1 21 56 194.3 22.47 315.52
 100.00 1 43 19 1060.80 9.79 327.16 235.48 118.35 2 1 0 60.8 20.60 305.00
 110.00 1 52 30 1031.97 4.13 321.54 232.04 123.93 2 9 42 32.0 17.50 301.22

Differential Corrections: TDE -.2318 TRA 3.1620 TC3-7.9152 BAU 1.5001
 RDE .0357 RRA -.3932 RC3 .5496 FAU .13910
 FDE 1.1951 FRA 5.1631 FC3-8.5151 BSP 13899
 BDE .2346 BRA 3.1863 BC3 7.9342 FSP 1730

Mid-Course Execution Accuracy: SGT 8064.1 SGR 793.4 SG3 957.8
 RRT -.9803 RRF -.9700 RTF .9575
 SGB 8103.1 R23 .1785 R13 -.9579
 SG1 8100.1 SG2 220.3 THA 174.60

Orbit Determination Accuracy: ST 83.8 SR 10.5 SS 48.8
 CRT -.9977 CRS .6512 CST -.6878
 LSA 91.9 MSA 32.6 S5A .5
 EL1 84.4 EL2 .7 ALF 172.87

LAUNCH DATE MAY 21 1971

FLIGHT TIME 278.00

ARRIVAL DATE FEB 23 1972

Heliocentric Conic: RL 151.41 LAL -0.00 LOL 239.31 VL 32.473 GAL -2.09 AZL 93.05 HCA 194.65 SMA 189.97 ECC .20610 INC 3.0470 V1 29.427
 RP 229.07 LAP .77 LOP 73.94 VP 21.450 GAP -.62 AZP 87.05 TAL 347.75 TAP 182.39 RCA 150.82 APO 229.13 V2 24.010
 RC 249.113 GL -27.27 GP 7.74 ZAL 113.84 ZAP 45.41 ETS 187.05 ZAE 80.85 ETE 181.69 ZAC 109.75 ETC 273.55 LVI -19.10

Planetocentric Conic: C3 14.176 VHL 3.765 DLA -26.28 RAL 8.37 RAD 6640.1 VEL 11.586 PTH 6.63 VHP 3.520 DPA -14.50 RAP 299.78 ECC 1.2333
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 45 45 2513.47 -8.07 66.99 222.65 137.05 18 27 39 1513.5 10.31 51.23
 60.00 19 0 23 2314.99 -2.99 53.98 227.51 130.21 19 38 57 1315.0 13.02 35.89
 70.00 20 36 54 2031.19 2.38 35.03 231.57 124.08 21 10 45 1031.2 15.92 14.94
 80.00 22 35 35 1659.67 7.39 9.92 234.66 119.01 23 3 13 659.7 18.66 348.21
 90.00 0 29 59 1303.43 9.93 345.07 236.01 116.62 0 51 43 303.4 20.60 322.60
 100.00 1 22 23 1134.15 7.39 331.28 234.66 119.01 1 41 17 134.1 18.66 309.58
 110.00 1 40 16 1078.01 2.38 323.95 231.57 124.08 1 58 14 78.0 15.92 303.86

Differential Corrections: TDE -.1661 TRA 3.2496 TC3-8.0255 BAU 1.5239
 RDE .0426 RRA -.3759 RC3 .4984 FAU .13587
 FDE 1.2601 FRA 5.1499 FC3-8.2976 BSP 14116
 BDE .1715 BRA 3.2713 BC3 8.0409 FSP 1706

Mid-Course Execution Accuracy: SGT 8185.6 SGR 743.0 SG3 943.0
 RRT -.9541 RRF -.9615 RTF .9568
 SGB 8219.3 R23 .1599 R13 -.9572
 SG1 8216.3 SG2 221.6 THA 175.05

Orbit Determination Accuracy: ST 84.2 SR 10.1 SS 49.5
 CRT -.9835 CRS .5765 CST -.7097
 LSA 92.8 MSA 32.0 S5A .6
 EL1 84.8 EL2 1.8 ALF 173.25

LAUNCH DATE MAY 21 1971

FLIGHT TIME 280.00

ARRIVAL DATE FEB 25 1972

Heliocentric Conic: RL 151.41 LAL -0.00 LOL 239.31 VL 32.483 GAL -2.18 AZL 92.96 HCA 195.68 SMA 190.15 ECC .20712 INC 2.9625 V1 29.427
 RP 229.46 LAP .80 LOP 74.97 VP 21.420 GAP -.76 AZP 87.15 TAL 347.25 TAP 182.93 RCA 150.77 APO 229.54 V2 23.969
 RC 251.742 GL -26.40 GP 7.18 ZAL 114.67 ZAP 44.69 ETS 186.68 ZAE 79.89 ETE 181.72 ZAC 109.17 ETC 273.63 LVI -18.72

Planetocentric Conic: C3 14.244 VHL 3.774 DLA -25.21 RAL 8.58 RAD 6640.2 VEL 11.589 PTH 6.63 VHP 3.542 DPA -14.97 RAP 300.27 ECC 1.2344
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 41 15 2538.22 -9.30 68.05 222.68 136.87 18 23 33 1538.2 9.09 52.29
 60.00 18 53 41 2345.55 -4.33 55.45 227.43 130.11 19 32 47 1345.6 11.72 37.42
 70.00 20 26 43 2072.03 .82 37.16 231.32 124.15 21 1 15 1072.0 14.49 17.24
 80.00 22 19 31 1718.99 5.42 13.21 234.10 119.41 22 48 10 719.0 16.99 351.83
 90.00 0 8 40 1379.68 7.57 349.43 235.35 117.33 0 31 39 379.7 18.17 327.41
 100.00 1 6 19 1193.46 5.42 334.58 234.10 119.41 1 26 12 193.5 16.99 313.19
 110.00 1 30 6 1118.85 .82 326.08 231.32 124.15 1 48 44 118.8 14.49 306.16

Differential Corrections: TDE -.1041 TRA 3.3392 TC3-8.1199 BAU 1.5486
 RDE .0500 RRA -.3614 RC3 .4529 FAU .13271
 FDE 1.3166 FRA 5.1297 FC3-8.0658 BSP 14307
 BDE .1155 BRA 3.3587 BC3 8.1325 FSP 1677

Mid-Course Execution Accuracy: SGT 8305.7 SGR 700.3 SG3 927.2
 RRT -.9465 RRF -.9514 RTF .9563
 SGB 8335.2 R23 .1415 R13 -.9566
 SG1 8332.2 SG2 225.2 THA 175.43

Orbit Determination Accuracy: ST 84.9 SR 9.9 SS 50.0
 CRT -.9536 CRS .4956 CST -.7307
 LSA 94.0 MSA 31.3 S5A .6
 EL1 85.4 EL2 3.0 ALF 173.67

LAUNCH DATE MAY 22 1971 FLIGHT TIME 90.00 ARRIVAL DATE AUG 20 1971

HELIOCENTRIC CONIC DISTANCE 264.469 EARTH TO MARS
RL 131.44 LAL -.00 LOL 240.27 VL 35.480 GAL .15 AZL 91.86 HCA 82.86 SMA 268.70 ECC .43841 INC 1.8602 V1 29.421
RP 207.09 LAP -1.85 LOP 323.13 VP 28.068 GAP 22.43 AZP 90.23 TAL .51 TAP 83.37 RCA 151.44 APO 385.96 V2 26.448
RC 56.836 GL -10.78 GP -.82 ZAL 92.23 ZAP 177.32 ETS 197.82 ZAE 172.71 ETE 34.16 ZAC 98.86 ETC 278.26 LVI -17.92

PLANETOCENTRIC CONIC
C3 37.888 VHL 6.158 DLA -20.60 RAL 338.62 RAD 6649.9 VEL 12.561 PTH 7.43 VHP 11.206 DPA -17.16 RAP 323.87 ECC 1.6235
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 16 17 2874.06 -25.39 83.75 204.42 131.69 16 4 11 1874.1 -7.74 66.43
60.00 16 20 41 2702.83 -19.47 73.47 209.57 126.01 17 5 43 1702.8 -3.89 54.69
70.00 17 42 11 2463.22 -13.81 57.99 213.52 121.55 18 23 14 1463.2 -.09 38.13
80.00 19 19 26 2158.87 -9.33 37.53 216.17 118.49 19 55 25 1158.9 2.98 16.94
90.00 20 54 30 1852.23 -7.51 15.95 217.14 117.34 21 25 22 852.2 4.24 355.09
100.00 22 2 18 1633.34 -9.33 358.89 216.17 118.49 22 29 31 633.3 2.98 338.31
110.00 22 41 37 1510.04 -13.81 346.91 213.52 121.55 23 6 47 510.0 -.09 327.05

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3410 TRA -.8095 TC3 .0584 BAU .0425 SGT 868.1 SGR 579.4 SG3 91.7 ST 19.9 SR 26.6 SS 8.4
RDE -.5661 RRA .2296 RC3 .0621 FAU .03268 RRT -.0223 RRF .0215 RTF -.5520 CRT .7111 CR8 .2771 CST .8638
FDE .0742 FRA .5279 FC3 -.7468 B8P 1136 SGB 1043.7 R23 -.0008 R13 .5521 LSA 31.3 M8A 14.0 S8A 1.1
BDE .6609 BRA .8414 BC3 .0839 F8P 104 SG1 868.3 SG2 579.1 THA 178.46 EL1 31.0 EL2 12.0 ALF 56.13

LAUNCH DATE MAY 22 1971 FLIGHT TIME 92.00 ARRIVAL DATE AUG 22 1971

HELIOCENTRIC CONIC DISTANCE 266.305 EARTH TO MARS
RL 131.44 LAL -.00 LOL 240.27 VL 35.263 GAL .20 AZL 91.85 HCA 84.13 SMA 260.61 ECC .41892 INC 1.8523 V1 29.421
RP 207.01 LAP -1.84 LOP 324.40 VP 27.802 GAP 21.90 AZP 90.19 TAL .67 TAP 84.80 RCA 151.44 APO 369.78 V2 26.457
RC 57.225 GL -11.06 GP -.84 ZAL 92.05 ZAP 176.42 ETS 193.60 ZAE 172.09 ETE 30.54 ZAC 98.79 ETC 278.33 LVI -17.99

PLANETOCENTRIC CONIC
C3 35.290 VHL 5.940 DLA -20.93 RAL 338.57 RAD 6649.0 VEL 12.457 PTH 7.35 VHP 10.827 DPA -17.07 RAP 324.20 ECC 1.5806
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 17 30 2849.17 -24.26 82.46 203.34 132.27 16 4 59 1849.2 -6.50 65.37
60.00 16 22 24 2676.59 -18.41 72.06 208.48 126.50 17 7 0 1676.6 -2.74 53.43
70.00 17 44 35 2434.99 -12.80 56.43 212.44 121.94 18 25 10 1435.0 .98 36.66
80.00 19 22 39 2129.13 -8.33 35.79 215.11 118.78 19 58 7 1128.1 4.02 15.25
90.00 20 58 8 1820.06 -6.50 14.13 216.09 117.58 21 28 28 820.1 5.27 353.28
100.00 22 5 30 1602.60 -8.33 357.16 215.11 118.78 22 32 12 602.6 4.02 336.62
110.00 22 44 1 1481.80 -12.80 345.34 212.44 121.94 23 8 43 481.8 .98 325.58

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3400 TRA -.8033 TC3 .0682 BAU .0450 SGT 895.7 SGR 584.2 SG3 98.7 ST 20.6 SR 26.8 SS 8.7
RDE -.5504 RRA .2233 RC3 .0666 FAU .03389 RRT -.0205 RRF .0263 RTF -.5616 CRT .7118 CR8 .2397 CST .8438
FDE .0698 FRA .5518 FC3 -.8316 B8P 1180 SGB 1069.4 R23 -.0063 R13 .5618 LSA 31.7 M8A 14.4 S8A 1.1
BDE .6470 BRA .8337 BC3 .0953 F8P 113 SG1 895.9 SG2 584.0 THA 178.67 EL1 31.4 EL2 12.3 ALF 55.24

LAUNCH DATE MAY 22 1971 FLIGHT TIME 94.00 ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC DISTANCE 268.408 EARTH TO MARS
RL 131.44 LAL -.00 LOL 240.27 VL 35.059 GAL .24 AZL 91.84 HCA 85.39 SMA 253.48 ECC .40259 INC 1.8445 V1 29.421
RP 206.94 LAP -1.84 LOP 325.66 VP 27.552 GAP 21.37 AZP 90.15 TAL .85 TAP 86.24 RCA 151.43 APO 355.33 V2 26.466
RC 57.675 GL -11.34 GP -.86 ZAL 91.85 ZAP 175.49 ETS 191.08 ZAE 171.48 ETE 27.51 ZAC 98.72 ETC 278.39 LVI -18.05

PLANETOCENTRIC CONIC
C3 32.914 VHL 5.737 DLA -21.26 RAL 338.48 RAD 6648.1 VEL 12.362 PTH 7.28 VHP 10.462 DPA -16.99 RAP 324.53 ECC 1.5417
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 18 40 2824.53 -23.12 81.22 202.28 132.82 16 5 44 1824.5 -5.26 64.33
60.00 16 24 5 2650.53 -17.35 70.67 207.41 126.96 17 8 16 1650.5 -1.59 52.18
70.00 17 47 0 2406.82 -11.78 54.88 211.39 122.29 18 27 6 1406.8 2.06 35.19
80.00 19 25 54 2097.27 -7.31 34.07 214.07 119.03 20 0 51 1097.3 5.05 13.55
90.00 21 1 53 1787.65 -5.48 12.30 215.07 117.79 21 31 41 787.6 6.29 351.45
100.00 22 8 46 1571.74 -7.31 355.44 214.07 119.03 22 34 58 571.7 5.05 334.91
110.00 22 46 26 1453.64 -11.78 343.80 211.39 122.29 23 10 40 453.6 2.06 324.11

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3304 TRA -.7918 TC3 .0839 BAU .0484 SGT 915.5 SGR 588.7 SG3 105.9 ST 20.8 SR 27.0 SS 9.0
RDE -.5353 RRA .2170 RC3 .0712 FAU .03509 RRT -.0242 RRF .0276 RTF -.5.41 CRT .7081 CR8 .2179 CST .8363
FDE .0675 FRA .5717 FC3 -.9229 B8P 1213 SGB 1088.4 R23 -.0039 R13 .5742 LSA 32.0 M8A 14.8 S8A 1.2
BDE .6290 BRA .8210 BC3 .1100 F8P 127 SG1 915.7 SG2 588.4 THA 178.48 EL1 31.7 EL2 12.6 ALF 55.12

LAUNCH DATE MAY 22 1971 FLIGHT TIME 96.00 ARRIVAL DATE AUG 26 1971

HELIOCENTRIC CONIC DISTANCE 270.738 EARTH TO MARS
RL 131.44 LAL -.00 LOL 240.27 VL 34.868 GAL .29 AZL 91.84 HCA 86.86 SMA 247.17 ECC .38733 INC 1.8367 V1 29.421
RP 206.87 LAP -1.83 LOP 326.93 VP 27.315 GAP 20.88 AZP 90.11 TAL 1.04 TAP 87.70 RCA 151.43 APO 342.90 V2 26.473
RC 58.203 GL -11.82 GP -.89 ZAL 91.62 ZAP 174.55 ETS 189.41 ZAE 170.90 ETE 24.94 ZAC 98.66 ETC 278.45 LVI -18.10

PLANETOCENTRIC CONIC
C3 30.787 VHL 5.547 DLA -21.61 RAL 338.37 RAD 6647.3 VEL 12.276 PTH 7.22 VHP 10.112 DPA -16.91 RAP 324.85 ECC 1.5063
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 19 46 2800.20 -21.99 80.01 201.25 133.32 16 6 26 1800.2 -4.04 63.31
60.00 16 25 45 2624.72 -16.29 69.32 206.37 127.39 17 9 30 1624.7 -4.46 50.95
70.00 17 49 25 2378.77 -10.78 53.36 210.35 122.81 18 29 3 1378.8 3.13 33.72
80.00 19 29 14 2066.34 -6.29 32.34 213.06 119.25 20 3 41 1066.3 6.09 11.83
90.00 21 5 45 1755.03 -4.44 10.46 214.07 117.96 21 35 0 755.0 7.32 349.61
100.00 22 12 6 1540.81 -6.29 353.71 213.06 119.25 22 37 47 540.8 6.09 333.20
110.00 22 48 51 1425.59 -10.78 342.27 210.35 122.81 23 12 37 425.6 3.13 322.64

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3244 TRA -.7795 TC3 .1052 BAU .0533 SGT 935.9 SGR 592.6 SG3 113.7 ST 21.2 SR 27.1 SS 9.2
RDE -.5206 RRA .2109 RC3 .0758 FAU .03646 RRT -.0233 RRF .0293 RTF -.5876 CRT .7042 CR8 .1888 CST .8213
FDE .0636 FRA .5910 FC3 -1.0258 B8P 1251 SGB 1107.8 R23 -.0064 R13 .5877 LSA 32.2 M8A 15.1 S8A 1.2
BDE .6134 BRA .8075 BC3 .1296 F8P 137 SG1 936.1 SG2 592.4 THA 178.59 EL1 32.0 EL2 12.8 ALF 54.72

LAUNCH DATE MAY 22 1971 FLIGHT TIME 98.00 ARRIVAL DATE AUG 28 1971

Heliocentric Conic: RL 151.44 LAL -0.00 LOL 240.27 VL 34.688 GAL .34 AZL 91.83 MCA 87.93 SMA 241.54 ECC .37307 INC 1.8289 V1 29.421
 RP 206.82 LAP -1.83 LOP 328.20 VP 27.091 GAP 20.36 AZP 90.07 TAL 1.25 TAP 89.18 RCA 151.43 APO 331.66 V2 26.479
 RC 58.807 GL -11.90 GP -.91 ZAL 91.37 ZAP 173.60 ETS 186.23 ZAE 170.36 ETE 22.75 ZAC 98.59 ETC 278.51 LVI -16.16

Planeto-centric Conic: C3 28.818 VHL 5.368 DLA -21.96 RAL 338.23 RAD 8646.5 VEL 12.197 PTH 7.15 VHP 9.775 DPA -16.83 RAP 325.16 ECC 1.4742
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 20 49 2776.22 -20.87 78.84 200.24 133.78 16 7 5 1776.2 -2.84 62.30
 60.00 16 27 23 2599.19 -15.23 68.00 205.34 127.77 17 10 42 1599.2 .67 49.73
 70.00 17 51 50 2350.90 -9.73 51.85 209.34 122.90 18 31 1 1350.9 4.19 32.26
 80.00 19 32 39 2035.38 -5.25 30.63 212.07 119.43 20 6 35 1035.4 7.11 10.11
 90.00 21 9 45 1722.22 -3.39 8.62 213.09 118.09 21 38 27 722.2 8.34 347.74
 100.00 22 15 31 1509.85 -5.25 352.00 212.07 119.43 22 40 41 509.9 7.11 331.48
 110.00 22 51 17 1397.72 -9.73 340.77 209.34 122.90 23 14 34 397.7 4.19 321.16

Differential Corrections: TDE -.3177 TRA -.7704 TC3 .1261 BAU .0576 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.5063 RRA .2051 RC3 .0803 FAU .03785 SGT 958.9 SGR 596.2 SG3 122.0 ST 21.5 SR 27.3 SS 9.9
 FDE .0624 FRA .6136 FC3-1.1372 B8P 1301 SGB 1129.1 R23 -.0055 R13 .8013 CRT .7000 CRS .1718 CST .0152
 BDE .5979 BRA .7972 BC3 .1496 F8P 149 SG1 959.0 SG2 595.9 THA 178.56 LSA 32.5 MSA 15.5 SSA 1.2
 EL1 32.2 EL2 13.0 ALF 54.36

LAUNCH DATE MAY 22 1971 FLIGHT TIME 100.00 ARRIVAL DATE AUG 30 1971

Heliocentric Conic: RL 151.44 LAL -0.00 LOL 240.27 VL 34.519 GAL .39 AZL 91.82 MCA 89.19 SMA 236.51 ECC .35975 INC 1.8212 V1 29.421
 RP 206.77 LAP -1.82 LOP 329.47 VP 26.880 GAP 19.86 AZP 90.03 TAL 1.48 TAP 90.67 RCA 151.43 APO 321.59 V2 26.485
 RC 59.485 GL -12.18 GP -.94 ZAL 91.09 ZAP 172.63 ETS 187.36 ZAE 169.85 ETE 20.88 ZAC 98.52 ETC 278.57 LVI -18.21

Planeto-centric Conic: C3 27.041 VHL 5.200 DLA -22.32 RAL 338.06 RAD 8645.8 VEL 12.124 PTH 7.10 VHP 9.450 DPA -16.76 RAP 325.45 ECC 1.4480
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 21 48 2752.64 -19.75 77.70 199.26 134.21 16 7 41 1752.6 -1.86 61.32
 60.00 16 28 59 2574.00 -14.18 66.70 204.39 128.13 17 11 53 1574.0 1.78 48.53
 70.00 17 54 16 2323.25 -8.70 50.37 208.35 123.16 18 33 0 1323.2 5.24 30.81
 80.00 19 36 9 2004.42 -4.22 28.92 211.10 119.59 20 9 33 1004.4 8.13 8.38
 90.00 21 13 51 1689.26 -2.33 6.78 212.14 118.19 21 42 1 689.3 9.36 345.85
 100.00 22 19 0 1478.90 -4.22 350.28 211.10 119.59 22 43 39 478.9 8.13 329.75
 110.00 22 53 43 1370.06 -8.70 339.29 208.35 123.16 23 16 33 370.1 5.24 319.73

Differential Corrections: TDE -.3096 TRA -.7599 TC3 .1459 BAU .0611 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.4929 RRA .1994 RC3 .0852 FAU .03933 RRT -.0277 RRF .0334 RTF -.6117 ST 21.8 SR 27.4 SS 9.8
 FDE .0567 FRA .6377 FC3-1.2592 B8P 1371 SGB 1148.0 R23 -.0064 R13 .6119 CRT .6948 CRS .1358 CST .7983
 BDE .5821 BRA .7857 BC3 .1689 F8P 164 SG1 979.4 SG2 599.0 THA 178.45 LSA 32.7 MSA 15.9 SSA 1.2
 EL1 32.4 EL2 13.3 ALF 54.16

LAUNCH DATE MAY 22 1971 FLIGHT TIME 102.00 ARRIVAL DATE SEP 1 1971

Heliocentric Conic: RL 151.44 LAL -0.00 LOL 240.27 VL 34.360 GAL .44 AZL 91.81 MCA 90.46 SMA 231.99 ECC .34728 INC 1.8134 V1 29.421
 RP 206.74 LAP -1.81 LOP 330.73 VP 26.680 GAP 19.38 AZP 89.99 TAL 1.72 TAP 92.18 RCA 151.42 APO 312.55 V2 26.489
 RC 60.233 GL -12.45 GP -.97 ZAL 90.78 ZAP 171.64 ETS 186.69 ZAE 169.41 ETE 19.20 ZAC 98.45 ETC 278.62 LVI -18.25

Planeto-centric Conic: C3 25.426 VHL 5.042 DLA -22.69 RAL 337.87 RAD 8645.2 VEL 12.058 PTH 7.04 VHP 9.138 DPA -16.70 RAP 325.74 ECC 1.4184
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 22 45 2729.48 -18.65 76.61 198.30 134.60 16 8 14 1729.5 -.49 60.35
 60.00 16 30 32 2549.18 -13.13 65.44 203.37 128.45 17 13 1 1549.2 2.87 47.34
 70.00 17 56 43 2295.85 -7.68 48.91 207.38 123.38 18 34 58 1295.8 6.27 29.37
 80.00 19 39 42 1973.51 -3.17 27.21 210.16 119.70 20 12 36 973.5 9.14 6.64
 90.00 21 18 6 1656.14 -1.26 4.93 211.22 118.25 21 45 42 656.1 10.37 343.95
 100.00 22 22 34 1447.98 -3.17 348.58 210.16 119.70 22 46 42 448.0 9.14 328.01
 110.00 22 56 9 1342.67 -7.68 337.83 207.38 123.38 23 18 32 342.7 6.27 318.28

Differential Corrections: TDE -.3031 TRA -.7490 TC3 .1704 BAU .0655 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.4798 RRA .1939 RC3 .0898 FAU .04099 RRT -.0282 RRF .0344 RTF -.5.27 ST 22.1 SR 27.5 SS 10.1
 FDE .0531 FRA .6599 FC3-1.3958 B8P 1395 SGB 1166.8 R23 -.0068 R13 .6229 CRT .6913 CRS .1111 CST .7863
 BDE .5675 BRA .7737 BC3 .1926 F8P 177 SG1 999.7 SG2 601.7 THA 178.47 LSA 32.9 MSA 16.2 SSA 1.3
 EL1 32.6 EL2 13.5 ALF 53.85

LAUNCH DATE MAY 22 1971 FLIGHT TIME 104.00 ARRIVAL DATE SEP 3 1971

Heliocentric Conic: RL 151.44 LAL -0.00 LOL 240.27 VL 34.211 GAL .49 AZL 91.81 MCA 91.73 SMA 227.91 ECC .33562 INC 1.8056 V1 29.421
 RP 206.71 LAP -1.80 LOP 332.00 VP 26.491 GAP 18.90 AZP 89.95 TAL 1.97 TAP 93.70 RCA 151.42 APO 304.40 V2 26.492
 RC 61.050 GL -12.72 GP -.99 ZAL 90.46 ZAP 170.64 ETS 186.15 ZAE 169.01 ETE 17.73 ZAC 98.38 ETC 278.67 LVI -18.29

Planeto-centric Conic: C3 23.955 VHL 4.894 DLA -23.08 RAL 337.66 RAD 8644.6 VEL 11.997 PTH 6.99 VHP 8.837 DPA -16.64 RAP 326.01 ECC 1.3942
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 23 38 2706.80 -17.56 75.55 197.37 134.96 16 8 44 1706.8 .65 59.40
 60.00 16 32 4 2524.78 -12.09 64.21 202.43 128.74 17 14 9 1524.8 3.94 46.17
 70.00 17 59 9 2268.76 -6.66 47.47 206.45 123.57 18 36 58 1268.8 7.29 27.93
 80.00 19 43 21 1942.66 -2.13 25.52 209.25 119.79 20 15 44 942.7 10.14 4.89
 90.00 21 22 29 1622.89 -.19 3.08 210.33 118.28 21 49 32 622.9 11.37 342.02
 100.00 22 26 13 1417.13 -2.13 346.88 209.25 119.79 22 49 50 417.1 10.14 326.26
 110.00 22 58 36 1315.58 -6.66 336.39 206.45 123.57 23 20 31 315.6 7.29 316.85

Differential Corrections: TDE -.2941 TRA -.7394 TC3 .1986 BAU .0698 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.4673 RRA .1886 RC3 .0944 FAU .04273 SGT 1020.1 SGR 604.5 SG3 150.8 ST 22.3 SR 27.6 SS 10.3
 FDE .0456 FRA .6843 FC3-1.5443 B8P 1433 RRT -.0319 RRF .0380 RTF -.6338 CRT .6840 CRS .0705 CST .7671
 BDE .5522 BRA .7631 BC3 .2181 F8P 193 SGB 1185.8 R23 -.0069 R13 .6340 LSA 32.9 MSA 16.7 SSA 1.3
 EL1 32.7 EL2 13.7 ALF 53.77

LAUNCH DATE MAY 22 1971

FLIGHT TIME 106.00

ARRIVAL DATE SEP 5 1971

Heliocentric Conic

RL 151.44 LAL -.00 LOL 240.27 VL 34.071 GAL .55 AZL 91.80 HCA 93.00 SMA 224.22 ECC .32472 INC 1.7978 V1 20.421
 RP 206.69 LAP -1.80 LOP 333.27 VP 26.312 GAP 18.43 AZP 89.91 TAL 2.23 TAP 95.22 RCA 151.41 APO 297.03 V2 26.495
 RC 61.933 GL -12.99 GP -1.03 ZAL 90.12 ZAP 169.62 ETS 185.72 ZAE 168.68 ETE 16.42 ZAC 98.31 ETC 278.72 LVI -18.32

DISTANCE 284.801

EARTH TO MARS

Planetocentric Conic

C3 22.613 VHL 4.755 DLA -23.44 RAL 337.43 RAD 6644.0 VEL 11.942 PTH 6.94 VHP 8.548 DPA -16.58 RAP 326.26 ECC 1.3722
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 24 27 2684.62 -16.49 74.53 196.46 135.29 16 9 12 1684.6 1.76 38.48
 60.00 16 33 34 2500.84 -11.07 63.02 201.51 129.00 17 15 14 1500.8 4.99 45.02
 70.00 18 1 36 2242.02 -9.66 46.06 205.53 123.74 18 38 58 1242.0 8.30 26.51
 80.00 19 47 4 1911.91 -1.09 23.83 208.37 119.84 20 18 56 911.9 11.13 3.14
 90.00 21 27 2 1589.50 .88 1.21 209.46 118.27 21 53 32 589.5 12.36 340.07
 100.00 22 29 56 1386.38 -1.09 345.20 208.37 119.84 22 53 3 386.4 11.13 324.51
 110.00 23 1 2 1288.83 -9.65 334.98 205.53 123.74 23 22 31 288.8 8.30 315.43

Differential Corrections

TDE -.2874 TRA -.7282 TC3 .2228 BAU .0737
 RDE -.4352 RRA .1835 RC3 .0988 FAU .04452
 FDE .0400 FRA .7093 FC3-1.7044 BSP 1489
 BDE .5384 BRA .7509 BC3 .2437 FSP 212

Mid-Course Execution Accuracy

SGT 1038.8 SGR 606.4 SG3 161.6
 RRT -.0327 RRF .0403 RTF -.6438
 SGB 1202.9 R23 -.0084 R13 .6440
 SG1 1039.1 SG2 605.9 TMA 178.34

Orbit Determination Accuracy

ST 22.5 SR 27.7 SS 10.6
 CRT .6801 CRS .0400 CST .7509
 LSA 33.0 MSA 17.0 SSA 1.3
 EL1 32.8 EL2 13.9 ALF 53.52

LAUNCH DATE MAY 22 1971

FLIGHT TIME 108.00

ARRIVAL DATE SEP 7 1971

Heliocentric Conic

RL 151.44 LAL -.00 LOL 240.27 VL 33.939 GAL .60 AZL 91.79 HCA 94.27 SMA 220.87 ECC .31450 INC 1.7901 V1 29.421
 RP 206.68 LAP -1.79 LOP 334.54 VP 26.142 GAP 17.97 AZP 89.87 TAL 2.50 TAP 96.76 RCA 151.40 APO 290.33 V2 26.496
 RC 62.879 GL -13.25 GP -1.06 ZAL 89.76 ZAP 168.58 ETS 185.37 ZAE 168.40 ETE 15.24 ZAC 98.25 ETC 278.77 LVI -18.34

DISTANCE 288.078

EARTH TO MARS

Planetocentric Conic

C3 21.388 VHL 4.625 DLA -23.81 RAL 337.17 RAD 6643.5 VEL 11.891 PTH 6.90 VHP 8.268 DPA -16.54 RAP 326.50 ECC 1.3520
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 25 14 2662.95 -15.44 73.54 195.58 135.58 16 9 37 1663.0 2.85 57.57
 60.00 16 35 1 2477.36 -10.06 61.85 200.61 129.23 17 16 18 1477.4 6.02 43.89
 70.00 18 4 3 2215.62 -4.66 44.67 204.65 123.87 18 40 58 1215.6 9.28 25.10
 80.00 19 50 53 1881.23 -.05 22.14 207.51 119.86 20 22 14 881.2 12.10 1.38
 90.00 21 31 45 1555.92 1.97 359.34 208.63 118.22 21 57 41 555.9 13.34 338.09
 100.00 22 33 45 1355.70 -.05 343.51 207.51 119.86 22 56 21 355.7 12.10 322.75
 110.00 23 3 29 1262.44 -4.66 333.59 204.65 123.87 23 24 31 262.4 9.28 314.01

Differential Corrections

TDE -.2715 TRA -.7106 TC3 .2651 BAU .0813
 RDE -.4436 RRA .1788 RC3 .1031 FAU .04638
 FDE .0316 FRA .7349 FC3-1.8774 BSP 1430
 BDE .5201 BRA .7327 BC3 .2844 FSP 230

Mid-Course Execution Accuracy

SGT 1048.5 SGR 608.0 SG3 173.0
 RRT -.0385 RRF .0440 RTF -.6654
 SGB 1212.0 R23 -.0055 R13 .6657
 SG1 1048.9 SG2 607.3 TMA 178.08

Orbit Determination Accuracy

ST 22.2 SR 27.7 SS 10.9
 CRT .6670 CRS .0002 CST .7364
 LSA 32.8 MSA 17.4 SSA 1.3
 EL1 32.6 EL2 14.0 ALF 54.34

LAUNCH DATE MAY 22 1971

FLIGHT TIME 110.00

ARRIVAL DATE SEP 9 1971

Heliocentric Conic

RL 151.44 LAL -.00 LOL 240.27 VL 33.815 GAL .65 AZL 91.78 HCA 95.54 SMA 217.82 ECC .30496 INC 1.7822 V1 29.421
 RP 206.67 LAP -1.77 LOP 335.81 VP 25.981 GAP 17.52 AZP 89.83 TAL 2.77 TAP 98.31 RCA 151.40 APO 284.25 V2 26.496
 RC 63.888 GL -13.51 GP -1.09 ZAL 89.39 ZAP 167.53 ETS 185.07 ZAE 168.20 ETE 14.16 ZAC 98.18 ETC 278.81 LVI -18.36

DISTANCE 291.367

EARTH TO MARS

Planetocentric Conic

C3 20.271 VHL 4.502 DLA -24.19 RAL 336.90 RAD 6643.0 VEL 11.844 PTH 6.86 VHP 7.999 DPA -16.50 RAP 326.72 ECC 1.3336
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 25 37 2641.89 -14.41 72.59 194.72 135.85 16 9 59 1641.9 3.91 56.69
 60.00 16 36 26 2454.46 -9.07 60.73 199.74 129.44 17 17 20 1454.5 7.02 42.78
 70.00 18 6 29 2189.71 -3.67 43.31 203.79 123.98 18 42 59 1189.7 10.24 23.70
 80.00 19 54 47 1850.78 .98 20.47 206.69 119.84 20 25 37 850.8 13.05 359.62
 90.00 21 36 38 1522.27 3.05 357.46 207.83 118.13 22 2 0 522.3 14.31 336.09
 100.00 22 37 38 1325.25 .98 341.84 206.69 119.84 22 59 44 325.3 13.05 320.99
 110.00 23 5 55 1236.53 -3.67 332.23 203.79 123.98 23 26 32 236.5 10.24 312.62

Differential Corrections

TDE -.2868 TRA -.7034 TC3 .2893 BAU .0836
 RDE -.4325 RRA .1739 RC3 .1070 FAU .04894
 FDE .0236 FRA .7803 FC3-2.0729 BSP 1510
 BDE .5082 BRA .7245 BC3 .3084 FSP 249

Mid-Course Execution Accuracy

SGT 1070.5 SGR 609.1 SG3 185.5
 RRT -.0400 RRF .0485 RTF -.6688
 SGB 1231.7 R23 -.0071 R13 .6690
 SG1 1070.9 SG2 608.4 TMA 178.08

Orbit Determination Accuracy

ST 22.5 SR 27.8 SS 11.2
 CRT .6632 CRS -.0360 CST .7151
 LSA 32.9 MSA 17.8 SSA 1.4
 EL1 32.7 EL2 14.3 ALF 53.89

LAUNCH DATE MAY 22 1971

FLIGHT TIME 112.00

ARRIVAL DATE SEP 11 1971

Heliocentric Conic

RL 151.44 LAL -.00 LOL 240.27 VL 33.888 GAL .70 AZL 91.77 HCA 96.81 SMA 215.05 ECC .29602 INC 1.7743 V1 29.421
 RP 206.68 LAP -1.78 LOP 337.08 VP 25.829 GAP 17.08 AZP 89.79 TAL 3.05 TAP 99.86 RCA 151.39 APO 278.71 V2 26.496
 RC 64.986 GL -13.76 GP -1.13 ZAL 89.01 ZAP 166.45 ETS 184.82 ZAE 168.05 ETE 13.17 ZAC 98.12 ETC 278.84 LVI -18.38

DISTANCE 294.739

EARTH TO MARS

Planetocentric Conic

C3 19.249 VHL 4.387 DLA -24.56 RAL 336.82 RAD 6642.5 VEL 11.801 PTH 6.82 VHP 7.740 DPA -16.47 RAP 326.93 ECC 1.3168
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 26 38 2621.43 -13.41 71.68 193.90 136.09 16 10 19 1621.4 4.93 55.83
 60.00 16 37 49 2432.12 -8.11 59.63 198.90 129.61 17 18 21 1432.1 7.99 41.69
 70.00 18 8 53 2164.27 -2.70 41.98 202.96 124.06 18 44 59 1164.3 11.17 22.32
 80.00 19 58 45 1820.50 2.01 18.81 205.89 119.80 20 29 6 820.5 13.98 357.86
 90.00 21 41 42 1488.45 4.13 355.56 207.07 118.00 22 6 31 488.4 15.26 334.06
 100.00 22 41 37 1294.97 2.01 340.18 205.89 119.80 23 3 12 295.0 13.98 319.23
 110.00 23 8 21 1211.08 -2.70 330.90 202.96 124.06 23 28 32 211.1 11.17 311.24

Differential Corrections

TDE -.2617 TRA -.6946 TC3 .3153 BAU .0860
 RDE -.4218 RRA .1694 RC3 .1108 FAU .05072
 FDE .0139 FRA .7874 FC3-2.2811 BSP 1569
 BDE .4964 BRA .7150 BC3 .3342 FSP 271

Mid-Course Execution Accuracy

SGT 1090.0 SGR 609.9 SG3 198.6
 RRT -.0412 RRF .0502 RTF -.6734
 SGB 1249.0 R23 -.0098 R13 .6737
 SG1 1090.4 SG2 609.2 TMA 178.08

Orbit Determination Accuracy

ST 22.7 SR 27.8 SS 11.5
 CRT .6594 CRS -.0759 CST .6904
 LSA 33.0 MSA 18.2 SSA 1.4
 EL1 32.9 EL2 14.4 ALF 53.54

LAUNCH DATE MAY 22 1971

FLIGHT TIME 114.00

ARRIVAL DATE SEP 13 1971

HELIOCENTRIC CONIC

RL 151.44 LAL -.00 LOL 240.27 VL 33.889 GAL .75 AZL 91.77 HCA 98.08 SMA 212.51 ECC .28766 INC 1.7664 V1 29.421
 RP 206.70 LAP -1.75 LOP 338.35 VP 25.684 GAP 16.85 AZP 89.75 TAL 3.34 TAP 101.41 RCA 151.38 APO 273.64 V2 26.494
 RC 66.082 GL -14.00 GP -1.16 ZAL 88.62 ZAP 165.36 ETS 184.60 ZAE 167.98 ETE 12.26 ZAC 98.05 ETC 278.88 LVI -18.38

PLANETOCENTRIC CONIC

C3 18.316 VHL 4.280 DLA -24.94 RAL 338.32 RAD 8642.1 VEL 11.762 PTH 6.79 VHP 7.490 DPA -16.44 RAP 327.11 ECC 1.3014
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 27 15 2601.58 -12.44 70.81 193.09 136.31 16 10 37 1601.6 5.93 54.99
 60.00 16 39 9 2410.37 -7.16 58.58 198.09 129.77 17 19 19 1410.4 8.93 40.63
 70.00 18 11 20 2139.32 -1.75 40.67 202.16 124.11 18 47 0 1139.3 12.08 20.96
 80.00 20 2 49 1790.42 3.02 17.16 205.13 119.72 20 32 40 790.4 14.89 356.09
 90.00 21 47 0 1454.41 5.22 353.65 206.34 117.83 22 11 14 454.4 16.20 332.00
 100.00 22 45 41 1264.88 3.02 338.52 205.13 119.72 23 6 46 264.9 14.89 317.46
 110.00 23 10 47 1186.14 -1.75 329.59 202.16 124.11 23 30 33 186.1 12.08 309.88

DIFFERENTIAL CORRECTIONS

TDE -.2548 TRA -.6846 TC3 .3422 BAU .0883
 RDE -.4115 RRA .1651 RC3 .1142 FAU .05310
 FDE .0029 FRA .8157 FC3-2.5098 BSP 1618
 BDE .4840 BRA .7042 BC3 .3607 FSP 293

MID-COURSE EXECUTION ACCURACY

SGT 1106.3 SGR 610.3 SG3 212.8
 RRT -.0441 RRF .0542 RTF -.6782
 SGB 1263.4 R23 -.0112 R13 .6785
 SG1 1106.7 SG2 609.5 THA 178.00

ORBIT DETERMINATION ACCURACY

ST 22.8 SR 27.8 SS 11.9
 CRT .6535 CRS -.1182 CST .6651
 LSA 33.0 MSA 18.6 SSA 1.4
 EL1 32.9 EL2 14.6 ALF 53.43

LAUNCH DATE MAY 22 1971

FLIGHT TIME 116.00

ARRIVAL DATE SEP 15 1971

HELIOCENTRIC CONIC

RL 151.44 LAL -.00 LOL 240.27 VL 33.486 GAL .79 AZL 91.76 HCA 99.34 SMA 210.19 ECC .27984 INC 1.7585 V1 29.421
 RP 206.72 LAP -1.74 LOP 339.62 VP 25.548 GAP 16.22 AZP 89.71 TAL 3.63 TAP 102.97 RCA 151.37 APO 269.01 V2 26.491
 RC 87.265 GL -14.23 GP -1.20 ZAL 88.23 ZAP 164.25 ETS 184.42 ZAE 167.98 ETE 11.39 ZAC 97.99 ETC 278.91 LVI -18.38

PLANETOCENTRIC CONIC

C3 17.461 VHL 4.179 DLA -25.30 RAL 336.01 RAD 8641.7 VEL 11.726 PTH 6.76 VHP 7.249 DPA -16.43 RAP 327.26 ECC 1.2874
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 27 49 2582.38 -11.49 69.97 192.31 136.50 16 10 52 1582.4 6.88 34.18
 60.00 16 40 26 2389.25 -6.24 57.55 197.30 129.90 17 20 16 1389.3 9.84 39.59
 70.00 18 13 45 2114.93 -.82 39.40 201.39 124.15 18 48 59 1114.9 12.96 19.62
 80.00 20 6 58 1760.54 4.03 15.51 204.40 119.61 20 36 19 760.5 15.78 354.32
 90.00 21 52 32 1420.10 6.30 351.72 205.65 117.63 22 16 12 420.1 17.11 329.91
 100.00 22 49 50 1235.01 4.03 336.88 204.40 119.61 23 10 25 235.0 15.78 315.69
 110.00 23 13 11 1161.75 -.82 328.32 201.39 124.15 23 32 33 161.7 12.96 308.54

DIFFERENTIAL CORRECTIONS

TDE -.2480 TRA -.6753 TC3 .3732 BAU .0913
 RDE -.4017 RRA .1610 RC3 .1171 FAU .05563
 FDE -.0080 FRA .8461 FC3-2.7581 BSP 1652
 BDE .4721 BRA .6942 BC3 .3911 FSP 316

MID-COURSE EXECUTION ACCURACY

SGT 1123.3 SGR 610.3 SG3 227.9
 RRT -.0471 RRF .0583 RTF -.6848
 SGB 1278.4 R23 -.0126 R13 .6852
 SG1 1123.8 SG2 609.4 THA 177.92

ORBIT DETERMINATION ACCURACY

ST 22.9 SR 27.8 SS 12.3
 CRT .6471 CRS -.1567 CST .6421
 LSA 32.9 MSA 19.0 SSA 1.5
 EL1 32.8 EL2 14.8 ALF 53.32

LAUNCH DATE MAY 22 1971

FLIGHT TIME 118.00

ARRIVAL DATE SEP 17 1971

HELIOCENTRIC CONIC

RL 151.44 LAL -.00 LOL 240.27 VL 33.390 GAL .84 AZL 91.75 HCA 100.61 SMA 208.06 ECC .27252 INC 1.7505 V1 29.421
 RP 206.73 LAP -1.72 LOP 340.89 VP 25.416 GAP 15.81 AZP 89.68 TAL 3.92 TAP 104.53 RCA 151.36 APO 264.77 V2 26.487
 RC 68.502 GL -14.46 GP -1.24 ZAL 87.83 ZAP 163.11 ETS 184.25 ZAE 168.05 ETE 10.57 ZAC 97.93 ETC 278.93 LVI -18.38

PLANETOCENTRIC CONIC

C3 16.679 VHL 4.084 DLA -25.66 RAL 335.70 RAD 8641.3 VEL 11.693 PTH 6.73 VHP 7.016 DPA -16.42 RAP 327.42 ECC 1.2745
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 28 21 2363.85 -10.57 69.16 191.56 136.67 16 11 5 1563.9 7.81 53.39
 60.00 16 41 41 2368.80 -5.35 56.56 196.54 130.00 17 21 10 1368.8 10.72 38.58
 70.00 18 16 8 2091.12 .09 38.16 200.65 124.15 18 50 59 1091.1 13.81 18.30
 80.00 20 11 13 1730.90 5.02 13.87 203.71 119.47 20 40 4 730.9 16.65 352.54
 90.00 21 58 20 1385.45 7.39 349.76 205.00 117.37 22 21 25 385.5 18.02 327.76
 100.00 22 54 5 1205.37 5.02 335.24 203.71 119.47 23 14 10 205.4 16.65 313.91
 110.00 23 15 34 1137.94 .09 327.08 200.65 124.15 23 34 32 137.9 13.81 307.22

DIFFERENTIAL CORRECTIONS

TDE -.2402 TRA -.6651 TC3 .4017 BAU .0934
 RDE -.3922 RRA .1571 RC3 .1196 FAU .05831
 FDE -.0222 FRA .8775 FC3-3.0267 BSP 1693
 BDE .4599 BRA .6834 BC3 .4191 FSP 342

MID-COURSE EXECUTION ACCURACY

SGT 1137.0 SGR 610.0 SG3 244.0
 RRT -.0314 RRF .0636 RTF -.5193
 SGB 1290.3 R23 -.0139 R13 .6900
 SG1 1137.6 SG2 608.9 THA 177.78

ORBIT DETERMINATION ACCURACY

ST 22.9 SR 27.8 SS 12.7
 CRT .6393 CRS -.2027 CST .6139
 LSA 32.8 MSA 19.4 SSA 1.5
 EL1 32.8 EL2 14.9 ALF 53.39

LAUNCH DATE MAY 22 1971

FLIGHT TIME 120.00

ARRIVAL DATE SEP 19 1971

HELIOCENTRIC CONIC

RL 151.44 LAL -.00 LOL 240.27 VL 33.299 GAL .88 AZL 91.74 HCA 101.88 SMA 206.11 ECC .26567 INC 1.7424 V1 29.421
 RP 206.79 LAP -1.71 LOP 342.18 VP 25.292 GAP 15.41 AZP 89.64 TAL 4.21 TAP 106.09 RCA 151.35 APO 260.87 V2 26.483
 RC 69.791 GL -14.88 GP -1.29 ZAL 87.43 ZAP 161.95 ETS 184.11 ZAE 168.19 ETE 9.79 ZAC 97.87 ETC 278.95 LVI -18.38

PLANETOCENTRIC CONIC

C3 15.962 VHL 3.995 DLA -26.01 RAL 335.37 RAD 8641.0 VEL 11.662 PTH 6.70 VHP 6.792 DPA -16.42 RAP 327.54 ECC 1.2627
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 28 49 2548.01 -9.69 68.39 190.84 136.81 16 11 15 1546.0 8.70 52.63
 60.00 16 42 53 2349.03 -4.48 55.61 195.80 130.09 17 22 2 1349.0 11.57 37.60
 70.00 18 18 29 2067.93 .98 36.95 199.93 124.14 18 52 57 1067.9 14.63 17.01
 80.00 20 15 33 1701.52 6.01 12.25 203.04 119.30 20 43 55 701.5 17.49 350.77
 90.00 22 4 27 1350.35 8.49 347.76 204.38 117.08 22 26 57 350.3 18.91 325.57
 100.00 22 58 25 1175.99 6.01 333.61 203.04 119.30 23 18 1 176.0 17.49 312.14
 110.00 23 17 56 1114.75 .98 325.87 199.93 124.14 23 36 30 114.8 14.63 305.93

DIFFERENTIAL CORRECTIONS

TDE -.2335 TRA -.6532 TC3 .4317 BAU .0957
 RDE -.3832 RRA .1534 RC3 .1215 FAU .06118
 FDE -.0351 FRA .9075 FC3-3.3181 BSP 1715
 BDE .4487 BRA .6710 BC3 .4484 FSP 370

MID-COURSE EXECUTION ACCURACY

SGT 1147.9 SGR 609.3 SG3 261.1
 RRT -.0538 RRF .0677 RTF -.6941
 SGB 1299.6 R23 -.0158 R13 .6946
 SG1 1148.5 SG2 608.1 THA 177.73

ORBIT DETERMINATION ACCURACY

ST 22.9 SR 27.7 SS 13.0
 CRT .6339 CRS -.2406 CST .5803
 LSA 32.7 MSA 19.8 SSA 1.5
 EL1 32.7 EL2 15.0 ALF 53.41

LAUNCH DATE MAY 22 1971

FLIGHT TIME 122.00

ARRIVAL DATE SEP 21 1971

HELIOCENTRIC CONIC

DISTANCE 312.575

EARTH TO MARS

RL 151.44 LAL -.00 LOL 240.27 VL 33.214 GAL .93 AZL 91.73 HCA 103.15 SMA 204.31 ECC .25927 INC 1.7343 V1 29.421
RP 206.84 LAP -1.69 LOP 343.43 VP 25.173 GAP 15.01 AZP 89.61 TAL 4.50 TAP 107.65 RCA 151.34 APO 257.29 V2 26.477
RC 71.130 GL -14.89 GP -1.33 ZAL 87.03 ZAP 160.77 ETS 183.98 ZAE 168.41 ETE 9.02 ZAC 97.82 ETC 278.97 LVI -18.34

PLANETOCENTRIC CONIC

C3 19.305 VHL 3.912 DLA -26.36 RAL 335.04 RAD 6640.7 VEL 11.634 PTH 6.67 VHP 6.577 DPA -16.44 RAP 327.64 ECC 1.2519
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 29 15 2528.88 -8.84 87.65 190.14 136.94 16 11 24 1528.9 9.55 51.89
60.00 16 44 2 2329.97 -3.64 54.70 195.10 130.16 17 22 52 1330.0 12.38 36.64
70.00 18 20 49 2043.42 1.84 35.77 199.25 124.11 18 54 54 1045.4 15.42 15.74
80.00 20 19 59 1672.41 6.97 10.63 202.41 119.11 20 47 51 672.4 18.30 348.99
90.00 22 10 56 1314.63 9.59 345.71 203.81 116.73 22 32 50 314.6 19.78 323.32
100.00 23 2 51 1146.89 6.97 331.99 202.41 119.11 23 21 58 146.9 18.30 310.36
110.00 23 20 15 1092.23 1.84 324.69 199.25 124.11 23 38 27 92.2 15.42 304.66

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2266 TRA -.6434 TC3 .4590 BAU .0972 SGT 1159.7 SGR 608.3 SG3 279.1 ST 22.9 SR 27.7 SS 13.9
RDE -.3745 RRA .1499 RC3 .1229 FAU .06413 RRT -.0583 RRF .0737 RTF -.6981 CRT .6267 CRS -.2813 CST .5615
FDE -.0502 FRA .9427 FC3-3.6278 BSP 1746 SGB 1309.6 R23 -.0177 R13 .6986 LSA 32.6 MSA 20.2 SSA 1.6
BDE .4377 BRA .6606 BC3 .4751 FSP 401 SG1 1160.4 SG2 606.9 THA 177.59 EL1 32.6 EL2 15.2 ALF 53.48

LAUNCH DATE MAY 22 1971

FLIGHT TIME 124.00

ARRIVAL DATE SEP 23 1971

HELIOCENTRIC CONIC

DISTANCE 316.297

EARTH TO MARS

RL 151.44 LAL -.00 LOL 240.27 VL 33.134 GAL .97 AZL 91.73 HCA 104.42 SMA 202.66 ECC .25328 INC 1.7260 V1 29.421
RP 206.90 LAP -1.67 LOP 344.70 VP 25.061 GAP 14.62 AZP 89.57 TAL 4.79 TAP 109.20 RCA 151.33 APO 253.99 V2 26.470
RC 72.517 GL -15.09 GP -1.38 ZAL 86.64 ZAP 159.56 ETS 183.86 ZAE 168.70 ETE 8.27 ZAC 97.76 ETC 278.97 LVI -18.30

PLANETOCENTRIC CONIC

C3 14.702 VHL 3.834 DLA -26.69 RAL 334.71 RAD 6640.4 VEL 11.608 PTH 6.65 VHP 6.369 DPA -16.46 RAP 327.71 ECC 1.2420
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 29 38 2512.47 -8.02 66.95 189.46 137.06 16 11 31 1512.5 10.36 51.18
60.00 16 45 8 2311.66 -2.84 53.82 194.42 130.22 17 23 40 1311.7 13.16 35.72
70.00 18 23 6 2023.60 2.67 34.64 198.59 124.06 18 56 50 1023.6 16.18 14.51
80.00 20 24 30 1643.60 7.92 9.02 201.82 118.88 20 51 54 643.6 19.09 347.22
90.00 22 17 51 1278.05 10.70 343.60 203.29 116.33 22 39 9 278.0 20.64 320.98
100.00 23 7 22 1118.07 7.92 330.38 201.82 118.88 23 26 0 118.1 19.09 308.58
110.00 23 22 32 1070.42 2.67 323.55 198.59 124.06 23 40 23 70.4 16.18 303.43

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2197 TRA -.6330 TC3 .4880 BAU .0989 SGT 1169.8 SGR 607.0 SG3 298.8 ST 22.8 SR 27.6 SS 14.0
RDE -.3661 RRA .1466 RC3 .1235 FAU .06742 RRT -.0627 RRF .0801 RTF -.7020 CRT .6196 CRS -.3226 CST .5330
FDE -.0672 FRA .9793 FC3-3.9699 BSP 1765 SGB 1317.9 R23 -.0200 R13 .7027 LSA 32.4 MSA 20.7 SSA 1.6
BDE .4270 BRA .6497 BC3 .5034 FSP 432 SG1 1170.7 SG2 605.3 THA 177.46 EL1 32.4 EL2 15.3 ALF 53.54

LAUNCH DATE MAY 22 1971

FLIGHT TIME 126.00

ARRIVAL DATE SEP 25 1971

HELIOCENTRIC CONIC

DISTANCE 320.080

EARTH TO MARS

RL 151.44 LAL -.00 LOL 240.27 VL 33.059 GAL 1.01 AZL 91.72 HCA 105.68 SMA 201.14 ECC .24768 INC 1.7177 V1 29.421
RP 206.96 LAP -1.65 LOP 345.96 VP 24.954 GAP 14.25 AZP 89.54 TAL 5.07 TAP 110.75 RCA 151.32 APO 250.96 V2 26.462
RC 73.950 GL -15.27 GP -1.43 ZAL 86.25 ZAP 158.32 ETS 183.76 ZAE 169.07 ETE 7.51 ZAC 97.71 ETC 278.98 LVI -18.26

PLANETOCENTRIC CONIC

C3 14.149 VHL 3.762 DLA -27.01 RAL 334.39 RAD 6640.1 VEL 11.585 PTH 6.63 VHP 6.168 DPA -16.50 RAP 327.76 ECC 1.2329
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 29 59 2496.79 -7.24 66.28 188.82 137.15 16 11 36 1496.8 11.14 50.50
60.00 16 46 11 2294.11 -2.07 52.98 193.77 130.26 17 24 25 1294.1 13.90 34.83
70.00 18 25 20 2002.54 3.47 33.53 197.96 124.00 18 58 43 1002.5 16.90 13.31
80.00 20 29 7 1615.08 8.86 7.42 201.25 118.63 20 56 2 240.2 21.49 318.53
90.00 22 25 21 1240.22 11.83 341.40 202.81 115.87 22 46 2 240.2 21.49 318.53
100.00 23 11 59 1089.55 8.86 328.78 201.25 118.63 23 30 8 89.6 19.85 306.81
110.00 23 24 47 1049.36 3.47 322.45 197.96 124.00 23 42 16 49.4 16.90 302.22

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2131 TRA -.6218 TC3 .5129 BAU .0990 SGT 1176.6 SGR 605.3 SG3 319.3 ST 22.8 SR 27.5 SS 14.5
RDE -.3581 RRA .1435 RC3 .1235 FAU .07082 RRT -.0672 RRF .0864 RTF -.543 CRT .6131 CRS -.3600 CST .5060
FDE -.0843 FRA 1.0159 FC3-4.3332 BSP 1791 SGB 1323.2 R23 -.0222 R13 .7050 LSA 32.3 MSA 21.1 SSA 1.6
BDE .4187 BRA .6382 BC3 .5275 FSP 468 SG1 1177.6 SG2 603.4 THA 177.31 EL1 32.2 EL2 15.3 ALF 53.66

LAUNCH DATE MAY 22 1971

FLIGHT TIME 128.00

ARRIVAL DATE SEP 27 1971

HELIOCENTRIC CONIC

DISTANCE 323.862

EARTH TO MARS

RL 151.44 LAL -.00 LOL 240.27 VL 32.989 GAL 1.04 AZL 91.71 HCA 106.95 SMA 199.74 ECC .24245 INC 1.7093 V1 29.421
RP 207.04 LAP -1.64 LOP 347.23 VP 24.851 GAP 13.88 AZP 89.50 TAL 5.35 TAP 112.29 RCA 151.31 APO 248.16 V2 26.454
RC 75.426 GL -15.45 GP -1.48 ZAL 85.87 ZAP 157.05 ETS 183.66 ZAE 169.51 ETE 6.74 ZAC 97.66 ETC 278.98 LVI -18.21

PLANETOCENTRIC CONIC

C3 13.641 VHL 3.693 DLA -27.32 RAL 334.06 RAD 6639.9 VEL 11.563 PTH 6.61 VHP 5.975 DPA -16.55 RAP 327.78 ECC 1.2245
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 30 17 2481.86 -6.49 65.65 188.19 137.24 16 11 39 1481.9 11.88 49.85
60.00 16 47 10 2277.35 -1.33 52.18 193.15 130.28 17 25 7 1277.3 14.60 33.97
70.00 18 27 31 1982.26 4.24 32.47 197.36 123.92 19 0 33 982.3 17.59 12.14
80.00 20 33 49 1586.89 9.77 5.82 200.72 118.35 21 0 16 586.9 20.59 343.67
90.00 22 33 38 1200.53 13.00 339.07 202.39 115.34 22 53 38 200.5 22.34 315.93
100.00 23 16 41 1061.36 9.77 327.19 200.72 118.35 23 34 22 61.4 20.59 305.04
110.00 23 26 57 1029.08 4.24 321.39 197.36 123.92 23 44 7 29.1 17.59 301.06

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2070 TRA -.6109 TC3 .5342 BAU .1000 SGT 1181.8 SGR 603.3 SG3 341.1 ST 22.7 SR 27.4 SS 15.1
RDE -.3504 RRA .1406 RC3 .1226 FAU .07440 RRT -.0722 RRF .0933 RTF -.7054 CRT .6071 CRS -.3941 CST .4807
FDE -.1019 FRA 1.0551 FC3-4.7216 BSP 1802 SGB 1326.8 R23 -.0246 R13 .7062 LSA 32.1 MSA 21.5 SSA 1.7
BDE .4070 BRA .6269 BC3 .5401 FSP 504 SG1 1182.8 SG2 601.2 THA 177.15 EL1 32.1 EL2 15.4 ALF 53.76

LAUNCH DATE MAY 22 1971 FLIGHT TIME 130.00 ARRIVAL DATE SEP 29 1971

Heliocentric Conic: RL 151.44 LAL -.00 LOL 240.27 VL 32.923 GAL 1.08 AZL 91.70 HCA 108.21 SMA 198.44 ECC .23757 INC 1.7008 V1 29.421
 RP 207.12 LAP -1.62 LOP 348.49 VP 24.754 GAP 13.52 AZP 89.47 TAL 5.62 TAP 113.83 RCA 151.30 APO 245.59 V2 26.444
 RC 76.944 GL -15.62 GP -1.53 ZAL 85.50 ZAP 155.76 ETS 183.57 ZAE 170.02 ETE 5.93 ZAC 97.61 ETC 278.97 LVI -18.15

Distance 327.698 Earth to Mars

Planeto-centric Conic: C3 13.174 VHL 3.630 DLA -27.61 RAL 333.74 RAD 6639.6 VEL 11.543 PTH 6.59 VHP 5.789 DPA -16.61 RAP 327.77 ECC 1.2168
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 30 32 2467.70 -5.78 65.05 187.60 137.31 16 11 40 1467.7 12.57 49.23
 60.00 16 48 6 2261.39 -.63 51.42 192.55 130.30 17 25 47 1261.4 15.27 33.15
 70.00 18 29 38 1962.81 4.98 31.45 196.79 123.83 19 2 21 962.8 18.25 11.01
 80.00 20 38 37 1539.03 10.67 4.24 200.22 118.05 21 4 36 559.0 21.29 341.90
 90.00 22 43 2 1157.81 14.23 336.54 202.03 114.70 23 2 19 157.8 23.20 313.10
 100.00 23 21 28 1033.50 10.67 325.61 200.22 118.05 23 38 42 33.5 21.29 303.27
 110.00 23 29 4 1009.63 4.98 320.37 196.79 123.83 23 45 54 9.6 18.25 299.93

Differential Corrections: TDE -.2013 TRA -.5993 TC3 .5555 BAU .1001 SGT 1184.6 SGR 601.0 SG3 364.1 ST 22.6 SR 27.3 SS 15.8
 RDE -.3430 RRA .1378 RC3 .1209 FAU .07824 RRT -.0768 RRF .1001 RTF -.7060 CRT .6021 CRS -.4265 CST .4547
 FDE -.1203 FRA 1.0938 FC3-5.1416 BSP 1806 SGB 1328.3 R23 -.0274 R13 .7070 LSA 32.0 MSA 21.8 SSA 1.7
 BDE .3977 BRA .6149 BC3 .5685 FSP 542 SG1 1185.8 SG2 598.6 THA 177.01 EL1 31.9 EL2 15.4 ALF 53.86

LAUNCH DATE MAY 22 1971 FLIGHT TIME 132.00 ARRIVAL DATE OCT 1 1971

Heliocentric Conic: RL 151.44 LAL -.00 LOL 240.27 VL 32.862 GAL 1.11 AZL 91.69 HCA 109.47 SMA 197.25 ECC .23301 INC 1.6922 V1 29.421
 RP 207.21 LAP -1.60 LOP 349.76 VP 24.660 GAP 13.17 AZP 89.44 TAL 5.88 TAP 115.35 RCA 151.29 APO 243.21 V2 26.433
 RC 78.502 GL -15.77 GP -1.59 ZAL 85.15 ZAP 154.44 ETS 183.49 ZAE 170.60 ETE 5.06 ZAC 97.56 ETC 278.96 LVI -18.08

Distance 331.565 Earth to Mars

Planeto-centric Conic: C3 12.745 VHL 3.570 DLA -27.88 RAL 333.43 RAD 6639.4 VEL 11.525 PTH 6.57 VHP 5.610 DPA -16.68 RAP 327.73 ECC 1.2098
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 30 45 2454.29 -5.11 64.49 187.04 137.37 16 11 40 1454.3 13.23 48.64
 60.00 16 48 58 2246.26 .04 50.70 191.98 130.30 17 26 24 1246.3 15.90 32.37
 70.00 18 31 40 1944.22 5.69 30.47 196.24 123.73 19 4 5 944.2 18.86 9.92
 80.00 20 43 29 1531.52 11.55 2.67 199.76 117.73 21 9 1 531.5 21.96 340.13
 90.00 22 54 22 1109.48 15.59 333.64 201.77 113.90 23 12 51 109.5 24.11 309.85
 100.00 23 26 21 1005.99 11.55 324.04 199.76 117.73 23 43 7 6.0 21.96 301.50
 110.00 23 31 7 6279.08 5.69 297.29 196.24 123.73 25 15 46 5279.1 18.86 276.74

Differential Corrections: TDE -.1953 TRA -.5889 TC3 .5722 BAU .0996 SGT 1186.8 SGR 598.5 SG3 389.0 ST 22.4 SR 27.2 SS 16.3
 RDE -.3359 RRA .1353 RC3 .1183 FAU .08232 RRT -.0835 RRF .1094 RTF -.7057 CRT .5954 CRS -.4622 CST .4264
 FDE -.1429 FRA 1.1389 FC3-5.5916 BSP 1817 SGB 1329.2 R23 -.0307 R13 .7068 LSA 31.8 MSA 22.2 SSA 1.7
 BDE .3886 BRA .6042 BC3 .5843 FSP 584 SG1 1188.2 SG2 595.7 THA 176.78 EL1 31.7 EL2 15.5 ALF 54.03

LAUNCH DATE MAY 22 1971 FLIGHT TIME 134.00 ARRIVAL DATE OCT 3 1971

Heliocentric Conic: RL 151.44 LAL -.00 LOL 240.27 VL 32.804 GAL 1.14 AZL 91.68 HCA 110.74 SMA 196.15 ECC .22875 INC 1.6834 V1 29.421
 RP 207.31 LAP -1.57 LOP 351.02 VP 24.571 GAP 12.82 AZP 89.40 TAL 6.13 TAP 116.87 RCA 151.28 APO 241.01 V2 26.422
 RC 80.098 GL -15.91 GP -1.65 ZAL 84.80 ZAP 153.08 ETS 183.41 ZAE 171.26 ETE 4.10 ZAC 97.51 ETC 278.94 LVI -18.00

Distance 335.463 Earth to Mars

Planeto-centric Conic: C3 12.350 VHL 3.514 DLA -28.15 RAL 333.12 RAD 6639.2 VEL 11.508 PTH 6.56 VHP 5.438 DPA -16.77 RAP 327.66 ECC 1.2032
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 30 56 2441.61 -4.48 63.95 186.49 137.42 16 11 38 1441.6 13.85 48.08
 60.00 16 49 46 2231.91 .67 50.01 191.44 130.30 17 26 58 1231.9 16.49 31.62
 70.00 18 33 38 1926.47 6.36 29.53 195.72 123.63 19 5 44 926.5 19.45 8.87
 80.00 20 48 29 1504.24 12.40 1.10 199.33 117.38 21 13 33 504.2 22.61 338.37
 90.00 23 10 28 1046.28 17.29 329.78 201.69 112.73 23 27 55 46.3 25.17 305.52
 100.00 23 31 21 6266.75 12.40 300.37 199.33 117.38 25 15 47 5266.7 22.61 277.64
 110.00 23 33 4 6261.33 6.36 296.36 195.72 123.63 25 17 25 5261.3 19.45 275.70

Differential Corrections: TDE -.1790 TRA -.5661 TC3 .6204 BAU .1042 SGT 1170.9 SGR 595.7 SG3 415.6 ST 21.4 SR 27.1 SS 17.0
 RDE -.3292 RRA .1329 RC3 .1143 FAU .08684 RRT -.0940 RRF .1189 RTF -.7120 CRT .5746 CRS -.5033 CST .4071
 FDE -.1785 FRA 1.1785 FC3-6.0879 BSP 1680 SGB 1313.7 R23 -.0278 R13 .7232 LSA 31.3 MSA 22.4 SSA 1.7
 BDE .3747 BRA .5815 BC3 .6309 FSP 623 SG1 1172.7 SG2 592.2 THA 176.32 EL1 30.9 EL2 15.4 ALF 56.16

LAUNCH DATE MAY 22 1971 FLIGHT TIME 136.00 ARRIVAL DATE OCT 5 1971

Heliocentric Conic: RL 151.44 LAL -.00 LOL 240.27 VL 32.750 GAL 1.17 AZL 91.67 HCA 112.00 SMA 195.13 ECC .22478 INC 1.6745 V1 29.421
 RP 207.42 LAP -1.55 LOP 352.28 VP 24.485 GAP 12.49 AZP 89.37 TAL 6.37 TAP 118.37 RCA 151.27 APO 238.99 V2 26.409
 RC 81.730 GL -16.04 GP -1.71 ZAL 84.48 ZAP 151.69 ETS 183.34 ZAE 171.99 ETE 3.01 ZAC 97.47 ETC 278.92 LVI -17.91

Distance 339.386 Earth to Mars

Planeto-centric Conic: C3 11.987 VHL 3.462 DLA -28.39 RAL 332.83 RAD 6639.1 VEL 11.492 PTH 6.54 VHP 5.273 DPA -16.87 RAP 327.56 ECC 1.1973
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 31 5 2429.77 -3.88 63.45 185.98 137.46 16 11 35 1429.8 14.43 47.55
 60.00 16 50 31 2218.49 1.26 49.37 190.93 130.28 17 27 29 1218.5 17.05 30.92
 70.00 18 35 29 1909.78 6.98 28.65 195.23 123.52 19 7 19 909.8 19.99 7.88
 80.00 20 53 31 1477.54 13.23 359.55 198.93 117.01 21 18 8 477.5 23.22 336.62
 87.43 23 11 54 1031.50 19.51 329.64 201.85 111.04 23 29 5 31.5 26.47 304.75
 100.00 23 36 23 6240.05 13.23 298.83 198.93 117.01 25 20 23 5240.1 23.22 275.89
 110.00 23 34 55 6244.64 6.98 295.47 195.23 123.52 25 19 0 5244.6 19.99 274.71

Differential Corrections: TDE -.1797 TRA -.5597 TC3 .6109 BAU .0995 SGT 1173.0 SGR 592.6 SG3 442.8 ST 21.7 SR 26.9 SS 17.6
 RDE -.3225 RRA .1308 RC3 .1098 FAU .09125 RRT -.0980 RRF .1283 RTF -.7102 CRT .5792 CRS -.5255 CST .3780
 FDE -.1905 FRA 1.2285 FC3-6.5906 BSP 1731 SGB 1314.2 R23 -.0354 R13 .7118 LSA 31.4 MSA 22.8 SSA 1.8
 BDE .3692 BRA .5748 BC3 .6207 FSP 671 SG1 1175.0 SG2 588.8 THA 176.21 EL1 31.0 EL2 15.4 ALF 55.31

LAUNCH DATE MAY 22 1971				FLIGHT TIME 138.00				ARRIVAL DATE OCT 7 1971			
HELIOCENTRIC CONIC				DISTANCE 343.334				EARTH TO MARS			
RL 131.44 LAL	-0.00 LOL 240.27 VL	32.700 GAL	1.19 AZL	91.67 HCA	113.26 SMA	194.19 ECC	.22108 INC	1.6665 V1	29.421		
RP 207.54 LAP	-1.53 LOP 353.54 VP	24.403 GAP	12.16 AZP	89.34 TAL	6.60 TAP	119.85 RCA	151.26 APO	237.12 V2	26.395		
RC 83.399 GL	-16.16 GP	-1.78 ZAL	84.18 ZAP	150.27 ETS	183.27 ZAE	172.78 ETE	1.70 ZAC	97.43 ETC	278.88 LVI	-17.81	
PLANETOCENTRIC CONIC											
C3 11.852 VHL	3.414 DLA	-28.61 RAL	332.56 RAD	6638.9 VEL	11.478 PTH	6.53 VHP	5.114 DPA	-16.99 RAP	327.42 ECC	1.1918	
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG	
50.00	15 31 12	2418.70	-3.33	62.99	185.50	137.49	16 11 31	1418.7	14.97	47.05	
60.00	16 51 11	2205.93	1.81	48.77	190.44	130.27	17 27 57	1205.9	17.56	30.25	
70.00	18 37 13	1894.07	7.57	27.82	194.77	123.40	19 8 47	894.1	20.49	6.94	
80.00	20 58 37	1451.23	14.04	358.02	198.57	116.62	21 22 49	451.2	23.81	334.88	
85.47	22 54 32	1078.20	19.80	333.18	201.23	111.08	23 12 30	78.2	26.75	308.23	
100.00	23 41 29	6213.74	14.04	297.29	198.57	116.62	25 25 3	5213.7	23.81	274.16	
110.00	23 36 40	6228.93	7.57	294.64	194.77	123.40	25 20 29	5228.9	20.49	273.77	
DIFFERENTIAL CORRECTIONS				MID-COURSE EXECUTION ACCURACY				ORBIT DETERMINATION ACCURACY			
TDE -.1785 TRA	-.5510 TC3	.6013 BAU	.0951	SGT 1169.6 SGR	589.3 SG3	471.3	ST	21.8 SR	26.8 SS	18.3	
RDE -.3161 RRA	.1289 RC3	.1043 FAU	.09583	RRT -.1035 RRF	.1387 RTF	-.7004	CRT	.5812 CR5	-.5465 C8T	.3526	
FDE -.2119 FRA	1.2807 FC3-7	1.202 B8P	1752	SG8 1309.7 R23	-.0422 R13	.7023	LSA	31.5 MSA	23.1 S8A	1.8	
BDE .3630 BRA	.5658 BC3	.6103 F8P	722	SG1 1171.7 SG2	585.1 THA	176.02	EL1	30.9 EL2	15.4 ALF	54.85	

LAUNCH DATE MAY 22 1971				FLIGHT TIME 140.00				ARRIVAL DATE OCT 9 1971			
HELIOCENTRIC CONIC				DISTANCE 347.305				EARTH TO MARS			
RL 131.44 LAL	-0.00 LOL 240.27 VL	32.653 GAL	1.22 AZL	91.66 HCA	114.52 SMA	193.32 ECC	.21764 INC	1.6562 V1	29.421		
RP 207.66 LAP	-1.51 LOP 354.80 VP	24.325 GAP	11.84 AZP	89.31 TAL	6.81 TAP	121.33 RCA	151.25 APO	235.40 V2	26.361		
RC 85.104 GL	-16.27 GP	-1.85 ZAL	83.89 ZAP	148.82 ETS	183.20 ZAE	173.65 ETE	.07 ZAC	97.39 ETC	278.84 LVI	-17.69	
PLANETOCENTRIC CONIC											
C3 11.344 VHL	3.368 DLA	-28.82 RAL	332.29 RAD	6638.7 VEL	11.464 PTH	6.51 VHP	4.962 DPA	-17.12 RAP	327.26 ECC	1.1867	
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG	
50.00	15 31 17	2408.40	-2.81	62.56	185.05	137.51	16 11 25	1408.4	15.48	46.58	
60.00	16 51 47	2194.24	2.33	48.21	189.99	130.24	17 28 21	1194.2	18.04	29.63	
70.00	18 38 51	1879.38	8.12	27.03	194.33	123.29	19 10 10	879.4	20.96	6.06	
80.00	21 3 48	1425.36	14.83	356.50	198.24	116.22	21 27 33	425.4	24.36	333.16	
84.22	22 43 16	1105.66	20.07	335.31	200.65	111.12	23 1 41	105.7	27.01	310.30	
100.00	23 46 40	6187.87	14.83	295.77	198.24	116.22	25 29 48	5187.9	24.36	272.43	
110.00	23 38 17	6214.24	8.12	293.86	194.33	123.29	25 21 51	5214.2	20.96	272.88	
DIFFERENTIAL CORRECTIONS				MID-COURSE EXECUTION ACCURACY				ORBIT DETERMINATION ACCURACY			
TDE -.1785 TRA	-.5408 TC3	.5931 BAU	.0912	SGT 1162.5 SGR	585.8 SG3	501.9	ST	21.8 SR	26.6 SS	19.0	
RDE -.3099 RRA	.1271 RC3	.0974 FAU	.10088	RRT -.1094 RRF	.1499 RTF	-.6911	CRT	.5822 CR5	-.5690 C8T	.3252	
FDE -.2361 FRA	1.3328 FC3-7	1.6987 B8P	1749	SG8 1301.8 R23	-.0494 R13	.6934	LSA	31.5 MSA	23.4 S8A	1.8	
BDE .3567 BRA	.5553 BC3	.6011 F8P	775	SG1 1164.8 SG2	581.1 THA	175.80	EL1	30.8 EL2	15.3 ALF	54.59	

LAUNCH DATE MAY 22 1971				FLIGHT TIME 142.00				ARRIVAL DATE OCT 11 1971			
HELIOCENTRIC CONIC				DISTANCE 351.297				EARTH TO MARS			
RL 131.44 LAL	-0.00 LOL 240.27 VL	32.609 GAL	1.24 AZL	91.65 HCA	115.77 SMA	192.52 ECC	.21443 INC	1.6468 V1	29.421		
RP 207.80 LAP	-1.48 LOP 356.05 VP	24.249 GAP	11.53 AZP	89.28 TAL	7.01 TAP	122.78 RCA	151.24 APO	233.80 V2	26.365		
RC 86.843 GL	-16.36 GP	-1.92 ZAL	83.63 ZAP	147.33 ETS	183.13 ZAE	174.58 ETE	357.89 ZAC	97.35 ETC	278.80 LVI	-17.57	
PLANETOCENTRIC CONIC											
C3 11.099 VHL	3.326 DLA	-29.00 RAL	332.05 RAD	6638.6 VEL	11.452 PTH	6.50 VHP	4.815 DPA	-17.27 RAP	327.05 ECC	1.1820	
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG	
50.00	15 31 20	2398.87	-2.33	62.16	184.62	137.53	16 11 19	1398.9	15.94	46.15	
60.00	16 52 19	2183.43	2.80	47.69	189.56	130.22	17 28 43	1183.4	18.48	29.06	
70.00	18 40 20	1885.75	8.63	26.31	193.92	123.17	19 11 25	865.8	21.39	5.23	
80.00	21 9 1	1399.96	15.58	354.99	197.94	115.79	21 32 21	400.0	24.87	331.45	
83.26	22 34 42	1124.86	20.33	336.83	200.10	111.14	22 53 27	124.9	27.24	311.76	
100.00	23 51 53	6162.47	15.58	294.27	197.94	115.79	25 34 35	5162.5	24.87	270.72	
110.00	23 39 48	6200.61	8.63	293.13	193.92	123.17	25 23 7	5200.6	21.39	272.06	
DIFFERENTIAL CORRECTIONS				MID-COURSE EXECUTION ACCURACY				ORBIT DETERMINATION ACCURACY			
TDE -.1742 TRA	-.5292 TC3	.5807 BAU	.0869	SGT 1151.4 SGR	582.2 SG3	534.3	ST	21.7 SR	26.4 SS	18.8	
RDE -.3039 RRA	.1298 RC3	.0893 FAU	.10615	RRT -.1161 RRF	.1624 RTF	-.6116	CRT	.5841 CR5	-.5891 C8T	.3800	
FDE -.2612 FRA	1.3899 FC3-8	3.008 B8P	1737	SG8 1290.2 R23	-.0571 R13	.6844	LSA	31.6 MSA	23.6 S8A	1.9	
BDE .3503 BRA	.5439 BC3	.5873 F8P	832	SG1 1154.1 SG2	576.9 THA	175.52	EL1	30.6 EL2	15.2 ALF	54.48	

LAUNCH DATE MAY 22 1971				FLIGHT TIME 144.00				ARRIVAL DATE OCT 13 1971			
HELIOCENTRIC CONIC				DISTANCE 355.308				EARTH TO MARS			
RL 131.44 LAL	-0.00 LOL 240.27 VL	32.568 GAL	1.25 AZL	91.64 HCA	117.03 SMA	191.78 ECC	.21145 INC	1.6373 V1	29.421		
RP 207.94 LAP	-1.46 LOP 357.31 VP	24.178 GAP	11.22 AZP	89.26 TAL	7.20 TAP	124.22 RCA	151.23 APO	232.33 V2	26.349		
RC 88.618 GL	-16.43 GP	-2.00 ZAL	83.39 ZAP	145.81 ETS	183.07 ZAE	175.57 ETE	354.72 ZAC	97.32 ETC	278.74 LVI	-17.43	
PLANETOCENTRIC CONIC											
C3 10.797 VHL	3.286 DLA	-29.17 RAL	331.82 RAD	6638.5 VEL	11.441 PTH	6.49 VHP	4.675 DPA	-17.43 RAP	326.82 ECC	1.1777	
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG	
50.00	15 31 22	2390.10	-1.89	61.79	184.23	137.55	16 11 12	1390.1	16.36	45.75	
60.00	16 52 47	2173.50	3.24	47.22	189.16	130.19	17 29 0	1173.5	18.88	28.52	
70.00	18 41 40	1853.22	9.10	25.64	193.53	123.06	19 12 33	853.2	21.78	4.47	
80.00	21 14 16	1375.12	16.31	353.51	197.66	115.36	21 37 11	375.1	25.36	329.76	
82.34	22 27 49	1139.20	20.56	337.98	199.59	111.16	22 46 49	139.2	27.46	312.86	
100.00	0 1 4	6137.63	16.31	292.79	197.66	115.36	1 43 21	5137.6	25.36	269.04	
110.00	23 41 7	6188.08	9.10	292.46	193.53	123.06	25 24 15	5188.1	21.78	271.29	
DIFFERENTIAL CORRECTIONS				MID-COURSE EXECUTION ACCURACY				ORBIT DETERMINATION ACCURACY			
TDE -.1721 TRA	-.5188 TC3	.5601 BAU	.0817	SGT 1136.0 SGR	578.4 SG3	587.8	ST	21.6 SR	26.3 SS	20.5	
RDE -.2981 RRA	.1242 RC3	.0802 FAU	.11157	RRT -.1227 RRF	.1755 RTF	-.8698	CRT	.5870 CR5	-.6061 C8T	.2763	
FDE -.2859 FRA	1.4489 FC3-8	9.961 B8P	1709	SG8 1274.8 R23	-.0658 R13	.6732	LSA	31.7 MSA	23.8 S8A	1.9	
BDE .3442 BRA	.5315 BC3	.5658 F8P	891	SG1 1139.0 SG2	572.5 THA	175.21	EL1	30.5 EL2	15.0 ALF	54.33	

LAUNCH DATE MAY 22 1971

FLIGHT TIME 146.00

ARRIVAL DATE OCT 15 1971

HELIOCENTRIC CONIC

RL 151.44 LAL -.00 LOL 240.27 VL 32.531 GAL 1.27 AZL 91.63 HCA 118.28 SMA 191.10 ECC .20888 INC 1.6275 V1 29.421
 RP 208.08 LAP -1.43 LOP 358.56 VP 24.108 GAP 10.93 AZP 89.23 TAL 7.37 TAP 125.84 RCA 151.22 APO 230.98 V2 26.332
 RC 90.421 GL -16.92 GP -2.08 ZAL 83.17 ZAP 144.25 ETS 183.00 ZAE 176.60 ETE 349.55 ZAC 97.29 ETC 278.66 LVI -17.28

PLANETOCENTRIC CONIC

C3 10.555 VHL 3.249 DLA -29.32 RAL 331.62 RAD 6638.3 VEL 11.430 PTH 6.48 VHP 4.541 DPA -17.60 RAP 326.54 ECC 1.1737
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 31 21 2382.11 -1.49 61.46 183.86 137.56 16 11 4 1382.1 16.75 45.39
 60.00 16 53 10 2164.47 3.64 46.79 188.78 130.16 17 29 14 1164.5 19.24 28.04
 70.00 18 42 51 1841.84 9.52 25.02 193.17 122.96 19 13 33 841.6 22.13 3.77
 80.00 21 19 30 1350.95 17.01 352.06 197.42 114.91 21 42 1 350.9 25.81 328.11
 81.94 22 22 15 1149.87 20.77 338.86 199.11 111.17 22 41 25 149.9 27.65 313.69
 100.00 0 6 18 6113.46 17.01 291.33 197.42 114.91 1 48 11 5113.5 25.81 267.39
 110.00 23 42 17 6176.70 9.52 291.85 193.17 122.96 25 25 14 5176.7 22.13 270.59

DIFFERENTIAL CORRECTIONS

TDE -.1709 TRA -.5044 TC3 .5318 BAU .0757
 RDE -.2925 RRA .1230 RC3 .0698 FAU .11724
 FDE -.3126 FRA 1.5105 FC3-9.6157 BSP 1671
 BDE .3386 BRA .5192 BC3 .5364 FSP 956

MID-COURSE EXECUTION ACCURACY

SGT 1118.4 SGR 574.5 SG3 602.8
 RRT -.1294 RRF .1900 RTF -.6550
 SGB 1287.3 R23 -.0764 R13 .6591
 SG1 1121.7 SG2 568.0 THA 174.88

ORBIT DETERMINATION ACCURACY

ST 21.5 SR 26.1 SS 21.3
 CRT .5913 CR8 -.6229 CST .2504
 LSA 31.9 MSA 23.9 SSA 1.9
 EL1 30.3 EL2 14.9 ALF 54.14

LAUNCH DATE MAY 22 1971

FLIGHT TIME 148.00

ARRIVAL DATE OCT 17 1971

HELIOCENTRIC CONIC

RL 151.44 LAL -.00 LOL 240.27 VL 32.496 GAL 1.28 AZL 91.62 HCA 119.53 SMA 190.47 ECC .20810 INC 1.6175 V1 29.421
 RP 208.24 LAP -1.41 LOP 359.81 VP 24.039 GAP 10.64 AZP 89.20 TAL 7.52 TAP 127.05 RCA 151.22 APO 229.73 V2 26.313
 RC 92.259 GL -16.58 GP -2.16 ZAL 82.98 ZAP 142.65 ETS 182.93 ZAE 177.65 ETE 339.44 ZAC 97.26 ETC 278.61 LVI -17.11

PLANETOCENTRIC CONIC

C3 10.332 VHL 3.214 DLA -29.44 RAL 331.44 RAD 6638.2 VEL 11.420 PTH 6.47 VHP 4.412 DPA -17.80 RAP 326.23 ECC 1.1700
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 31 20 2374.86 -1.13 61.16 183.52 137.57 16 10 55 1374.9 17.10 45.05
 60.00 16 53 28 2156.33 3.99 46.39 188.44 130.14 17 29 25 1156.3 19.57 27.59
 70.00 18 43 52 1831.62 9.90 24.47 192.83 122.86 19 14 24 831.6 22.44 3.14
 80.00 21 24 40 1327.60 17.68 350.64 197.20 114.46 21 46 48 327.6 26.23 326.50
 81.45 22 17 43 1157.73 20.96 339.52 198.67 111.16 22 37 1 157.7 27.82 314.31
 100.00 0 11 28 6090.12 17.68 289.92 197.20 114.46 1 52 58 5090.1 26.23 265.78
 110.00 23 43 18 6166.48 9.90 291.30 192.83 122.86 25 26 5 5166.5 22.44 269.96

DIFFERENTIAL CORRECTIONS

TDE -.1694 TRA -.4915 TC3 .4961 BAU .0690
 RDE -.2870 RRA .1221 RC3 .0580 FAU .12315
 FDE -.3389 FRA 1.5767 FC-10.3192 BSP 1612
 BDE .3332 BRA .5065 BC3 .4995 FSP 1017

MID-COURSE EXECUTION ACCURACY

SGT 1097.8 SGR 570.6 SG3 639.5
 RRT -.1358 RRF .2055 RTF -.6375
 SGB 1237.2 R23 -.0887 R13 .6426
 SG1 1101.5 SG2 563.4 THA 174.53

ORBIT DETERMINATION ACCURACY

ST 21.4 SR 25.9 SS 22.1
 CRT .5971 CR8 -.6368 CST .2258
 LSA 32.1 MSA 24.0 SSA 1.9
 EL1 30.1 EL2 14.7 ALF 53.93

LAUNCH DATE MAY 22 1971

FLIGHT TIME 150.00

ARRIVAL DATE OCT 19 1971

HELIOCENTRIC CONIC

RL 151.44 LAL -.00 LOL 240.27 VL 32.463 GAL 1.29 AZL 91.61 HCA 120.78 SMA 189.89 ECC .20371 INC 1.6073 V1 29.421
 RP 208.41 LAP -1.38 LOP 359.16 VP 23.974 GAP 10.35 AZP 89.18 TAL 7.65 TAP 128.43 RCA 151.21 APO 228.58 V2 26.294
 RC 94.128 GL -16.62 GP -2.24 ZAL 82.81 ZAP 141.01 ETS 182.87 ZAE 178.57 ETE 313.66 ZAC 97.23 ETC 278.54 LVI -16.93

PLANETOCENTRIC CONIC

C3 10.125 VHL 3.182 DLA -29.55 RAL 331.28 RAD 6638.1 VEL 11.411 PTH 6.46 VHP 4.290 DPA -18.01 RAP 325.88 ECC 1.1666
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 31 17 2368.38 -.80 60.89 183.21 137.57 16 10 45 1368.4 17.41 44.75
 60.00 16 53 42 2149.08 4.31 46.05 188.12 130.11 17 29 32 1149.1 19.86 27.20
 70.00 18 44 42 1822.60 10.23 23.99 192.52 122.76 19 15 5 822.6 22.71 2.58
 80.00 21 29 41 1305.37 18.30 349.28 197.01 114.01 21 51 26 305.4 26.61 324.96
 81.07 22 14 4 1163.32 21.13 340.00 198.26 111.14 22 33 28 163.3 27.97 314.75
 100.00 0 16 28 6067.88 18.30 288.56 197.01 114.01 1 57 36 5067.9 26.61 264.23
 110.00 23 44 8 6157.46 10.23 290.81 192.52 122.76 25 26 46 5157.5 22.71 269.41

DIFFERENTIAL CORRECTIONS

TDE -.1690 TRA -.4782 TC3 .4493 BAU .0811
 RDE -.2816 RRA .1213 RC3 .0450 FAU .12927
 FDE -.3656 FRA 1.6462 FC-11.0526 BSP 1555
 BDE .3284 BRA .4934 BC3 .4515 FSP 1085

MID-COURSE EXECUTION ACCURACY

SGT 1074.3 SGR 566.6 SG3 677.7
 RRT -.1412 RRF .2222 RTF -.552
 SGB 1214.5 R23 -.1040 R13 .6215
 SG1 1078.4 SG2 558.8 THA 174.17

ORBIT DETERMINATION ACCURACY

ST 21.3 SR 25.6 SS 22.9
 CRT .6053 CR8 -.6491 CST .2000
 LSA 32.4 MSA 24.1 SSA 2.0
 EL1 30.0 EL2 14.5 ALF 53.63

LAUNCH DATE MAY 22 1971

FLIGHT TIME 152.00

ARRIVAL DATE OCT 21 1971

HELIOCENTRIC CONIC

RL 151.44 LAL -.00 LOL 240.27 VL 32.433 GAL 1.30 AZL 91.60 HCA 122.03 SMA 189.36 ECC .20150 INC 1.5968 V1 29.421
 RP 208.58 LAP -1.35 LOP 359.23 VP 23.911 GAP 10.08 AZP 89.15 TAL 7.77 TAP 129.80 RCA 151.21 APO 227.52 V2 26.274
 RC 96.027 GL -16.66 GP -2.33 ZAL 82.67 ZAP 139.34 ETS 182.80 ZAE 178.72 ETE 256.64 ZAC 97.20 ETC 278.45 LVI -16.74

PLANETOCENTRIC CONIC

C3 9.934 VHL 3.152 DLA -29.63 RAL 331.14 RAD 6638.0 VEL 11.403 PTH 6.46 VHP 4.173 DPA -18.23 RAP 325.49 ECC 1.1635
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 31 12 2362.63 -.51 60.65 182.93 137.57 16 10 35 1362.6 17.69 44.49
 60.00 16 53 52 2142.72 4.59 45.74 187.82 130.08 17 29 35 1142.7 20.11 26.85
 70.00 18 45 21 1814.79 10.52 23.57 192.22 122.68 19 15 35 814.8 22.94 2.10
 80.00 21 34 23 1284.71 18.87 348.01 196.83 113.58 21 55 48 284.7 26.94 323.51
 80.77 22 11 13 1166.92 21.28 340.33 197.89 111.11 22 30 40 166.9 28.09 315.04
 100.00 0 21 11 6047.22 18.87 287.29 196.83 113.58 2 1 58 5047.2 26.94 262.79
 110.00 23 44 47 6149.65 10.52 290.39 192.22 122.68 25 27 17 5149.7 22.94 268.92

DIFFERENTIAL CORRECTIONS

TDE -.1685 TRA -.4643 TC3 .3970 BAU .0529
 RDE -.2764 RRA .1207 RC3 .0305 FAU .13573
 FDE -.3952 FRA 1.7180 FC-11.8279 BSP 1483
 BDE .3238 BRA .4797 BC3 .3982 FSP 1154

MID-COURSE EXECUTION ACCURACY

SGT 1048.5 SGR 562.7 SG3 717.8
 RRT -.1463 RRF .2405 RTF -.5895
 SGB 1189.9 R23 -.1220 R13 .5975
 SG1 1053.0 SG2 554.3 THA 173.78

ORBIT DETERMINATION ACCURACY

ST 21.1 SR 25.4 SS 23.7
 CRT .6139 CR8 -.6624 CST .1720
 LSA 32.7 MSA 24.1 SSA 2.0
 EL1 29.8 EL2 14.2 ALF 53.38

LAUNCH DATE MAY 22 1971

FLIGHT TIME 154.00

ARRIVAL DATE OCT 23 1971

HELIOCENTRIC CONIC

DISTANCE 375.604

EARTH TO MARS

RL 151.44 LAL -.00 LOL 240.27 VL 32.405 GAL 1.31 AZL 91.59 HCA 123.27 SMA 188.87 ECC .19946 INC 1.5860 V1 29.421
RP 208.76 LAP -1.33 LOP 3.56 VP 23.850 GAP 9.81 AZP 89.13 TAL 7.87 TAP 131.15 RCA 151.20 APO 226.55 V2 26.254
RC 97.955 GL -16.88 GP -2.43 ZAL 82.56 ZAP 137.63 ETS 182.73 ZAE 177.81 ETE 221.39 ZAC 97.18 ETC 278.36 LVI -16.53

PLANETOCENTRIC CONIC

C3 9.758 VHL 3.124 DLA -29.69 RAL 331.03 RAD 6637.9 VEL 11.395 PTH 6.45 VHP 4.061 DPA -18.47 RAP 325.06 ECC 1.1606
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 31 7 2357.61 -.26 60.44 182.67 137.58 16 10 24 1357.6 17.93 44.25
60.00 16 53 56 2137.24 4.83 45.48 187.56 130.06 17 29 34 1137.2 20.33 26.55
70.00 18 45 48 1808.20 10.76 23.21 191.95 122.61 19 15 56 808.2 23.14 1.69
80.00 21 38 35 1266.26 19.36 346.87 196.66 113.18 21 59 41 266.3 27.22 322.22
80.55 22 9 5 1168.77 21.41 340.52 197.55 111.08 22 28 33 168.8 28.19 315.20
100.00 0 25 22 6028.77 19.37 286.14 196.66 113.18 2 5 51 5028.8 27.22 261.49
110.00 23 45 14 6143.06 10.76 290.03 191.95 122.61 25 27 37 5143.1 23.14 268.51

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1861 TRA -.4465 TC3 .3471 BAU .0453 SGT 1014.1 SGR 558.8 SG3 780.0 ST 20.8 SR 25.2 SS 24.5
RDE -.2714 RRA .1202 RC3 .0142 FAU .14263 RRT -.1511 RRF .2596 RTF -.5646 CRT .6215 CRS -.6751 CST .1453
FDE -.4253 FRA 1.7883 FC-12.6543 BSP 1358 SGB 1157.9 R23 -.1401 R13 .5747 LSA 33.0 MSA 23.9 SSA 2.0
BDE .3182 BRA .4624 BC3 .3474 FSP 1220 SG1 1019.1 SG2 549.7 THA 173.28 EL1 29.6 EL2 13.9 ALF 53.62

LAUNCH DATE MAY 22 1971

FLIGHT TIME 156.00

ARRIVAL DATE OCT 25 1971

HELIOCENTRIC CONIC

DISTANCE 379.703

EARTH TO MARS

RL 151.44 LAL -.00 LOL 240.27 VL 32.379 GAL 1.31 AZL 91.58 HCA 124.52 SMA 188.43 ECC .19757 INC 1.5750 V1 29.421
RP 208.94 LAP -1.30 LOP 4.80 VP 23.791 GAP 9.55 AZP 89.11 TAL 7.95 TAP 132.47 RCA 151.20 APO 225.65 V2 26.232
RC 99.910 GL -16.69 GP -2.53 ZAL 82.47 ZAP 135.89 ETS 182.65 ZAE 176.53 ETE 208.44 ZAC 97.15 ETC 278.26 LVI -16.31

PLANETOCENTRIC CONIC

C3 9.595 VHL 3.098 DLA -29.73 RAL 330.94 RAD 6637.8 VEL 11.388 PTH 6.44 VHP 3.955 DPA -18.73 RAP 324.60 ECC 1.1579
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 31 0 2353.34 -.05 60.26 182.45 137.58 16 10 13 1353.3 18.13 44.05
60.00 16 53 57 2132.67 5.03 45.26 187.32 130.04 17 29 29 1132.7 20.51 26.30
70.00 18 46 2 1802.91 10.95 22.92 191.71 122.55 19 16 5 802.9 23.30 1.36
80.00 21 41 43 1251.77 19.75 345.97 196.49 112.86 22 2 35 251.8 27.44 321.19
80.41 22 7 40 1168.85 21.52 340.57 197.25 111.02 22 27 9 168.9 28.27 315.22
100.00 0 28 31 6014.28 19.75 285.24 196.49 112.86 2 8 45 5014.3 27.44 260.47
110.00 23 45 29 6137.77 10.95 289.75 191.71 122.55 25 27 47 5137.8 23.30 268.18

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1708 TRA -.4350 TC3 .2581 BAU .0331 SGT 991.9 SGR 554.9 SG3 802.0 ST 21.0 SR 24.9 SS 25.2
RDE -.2662 RRA .1201 RC3 -.0025 FAU .14918 RRT -.1485 RRF .2796 RTF -.5184 CRT .6400 CRS -.6768 CST .1192
FDE -.4453 FRA 1.8745 FC-13.4601 BSP 1312 SGB 1136.5 R23 -.1706 R13 .5307 LSA 33.4 MSA 24.1 SSA 2.0
BDE .3163 BRA .4512 BC3 .2581 FSP 1304 SG1 996.8 SG2 546.1 THA 173.20 EL1 29.6 EL2 13.6 ALF 52.44

LAUNCH DATE MAY 22 1971

FLIGHT TIME 158.00

ARRIVAL DATE OCT 27 1971

HELIOCENTRIC CONIC

DISTANCE 383.813

EARTH TO MARS

RL 151.44 LAL -.00 LOL 240.27 VL 32.355 GAL 1.31 AZL 91.56 HCA 125.76 SMA 188.01 ECC .19583 INC 1.5636 V1 29.421
RP 209.14 LAP -1.27 LOP 6.04 VP 23.734 GAP 9.29 AZP 89.09 TAL 8.02 TAP 133.77 RCA 151.20 APO 224.83 V2 26.209
RC 101.892 GL -16.69 GP -2.63 ZAL 82.42 ZAP 134.11 ETS 182.58 ZAE 175.10 ETE 202.31 ZAC 97.13 ETC 278.15 LVI -16.07

PLANETOCENTRIC CONIC

C3 9.444 VHL 3.073 DLA -29.75 RAL 330.88 RAD 6637.8 VEL 11.382 PTH 6.43 VHP 3.855 DPA -19.00 RAP 324.09 ECC 1.1554
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 30 52 2349.77 .13 60.11 182.25 137.58 16 10 2 1349.8 18.31 43.89
60.00 16 53 52 2128.96 5.19 45.08 187.10 130.02 17 29 21 1129.0 20.65 26.10
70.00 18 46 5 1798.85 11.10 22.70 191.48 122.51 19 16 4 798.9 23.42 1.10
80.00 21 43 22 1242.62 19.99 345.39 196.29 112.65 22 4 5 242.6 27.57 320.54
80.34 22 6 54 1167.41 21.61 340.50 196.98 110.96 22 26 22 167.4 28.32 315.12
100.00 0 30 10 6005.13 19.99 284.67 196.29 112.65 2 10 15 5005.1 27.57 259.82
110.00 23 45 31 6133.71 11.10 289.53 191.48 122.51 25 27 45 5133.7 23.42 267.93

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1737 TRA -.4200 TC3 .1674 BAU .0213 SGT 963.8 SGR 551.1 SG3 844.9 ST 21.1 SR 24.7 SS 25.9
RDE -.2612 RRA .1201 RC3 -.0207 FAU .15594 RRT -.1435 RRF .3004 RTF -.4085 CRT .6372 CRS -.6795 CST .0928
FDE -.4659 FRA 1.9579 FC-14.2944 BSP 1220 SGB 1110.2 R23 -.2036 R13 .4832 LSA 33.7 MSA 24.1 SSA 2.0
BDE .3136 BRA .4368 BC3 .1687 FSP 1384 SG1 968.5 SG2 542.7 THA 173.15 EL1 29.6 EL2 13.2 ALF 51.69

LAUNCH DATE MAY 22 1971

FLIGHT TIME 160.00

ARRIVAL DATE OCT 29 1971

HELIOCENTRIC CONIC

DISTANCE 387.932

EARTH TO MARS

RL 151.44 LAL -.00 LOL 240.27 VL 32.333 GAL 1.31 AZL 91.55 HCA 126.99 SMA 187.84 ECC .19422 INC 1.5520 V1 29.421
RP 209.34 LAP -1.24 LOP 7.28 VP 23.678 GAP 9.04 AZP 89.07 TAL 8.06 TAP 135.06 RCA 151.20 APO 224.08 V2 26.188
RC 103.900 GL -16.68 GP -2.73 ZAL 82.39 ZAP 132.29 ETS 182.50 ZAE 173.59 ETE 198.77 ZAC 97.11 ETC 278.03 LVI -15.82

PLANETOCENTRIC CONIC

C3 9.305 VHL 3.050 DLA -29.75 RAL 330.84 RAD 6637.7 VEL 11.376 PTH 6.43 VHP 3.780 DPA -19.28 RAP 323.55 ECC 1.1531
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 30 43 2346.91 .28 59.99 182.08 137.58 16 9 50 1346.9 18.44 43.75
60.00 16 53 43 2126.11 5.32 44.94 186.92 130.01 17 29 9 1126.1 20.77 25.94
70.00 18 45 55 1796.04 11.21 22.55 191.27 122.48 19 15 51 796.0 23.50 .92
80.00 21 43 3 1240.31 20.05 345.25 196.05 112.60 22 3 43 240.3 27.60 320.38
80.35 22 6 49 1164.32 21.68 340.30 196.75 110.89 22 26 14 164.3 28.35 314.90
100.00 0 29 51 6002.82 20.05 284.52 196.05 112.60 2 9 53 5002.8 27.60 259.66
110.00 23 45 21 6130.90 11.21 289.37 191.27 122.48 25 27 32 5130.9 23.50 267.75

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1758 TRA -.4032 TC3 .0683 BAU .0099 SGT 933.7 SGR 547.8 SG3 889.2 ST 21.1 SR 24.4 SS 26.6
RDE -.2563 RRA .1202 RC3 -.0404 FAU .16298 RRT -.1347 RRF .3228 RTF -.4091 CRT .6743 CRS -.6854 CST .0616
FDE -.4907 FRA 2.0401 FC-15.1641 BSP 1109 SGB 1082.4 R23 -.2416 R13 .4266 LSA 34.1 MSA 24.0 SSA 2.0
BDE .3108 BRA .4207 BC3 .0794 FSP 1463 SG1 938.1 SG2 540.1 THA 173.23 EL1 29.6 EL2 12.8 ALF 51.13

LAUNCH DATE MAY 22 1971 FLIGHT TIME 162.00 ARRIVAL DATE OCT 31 1971

HELIOCENTRIC CONIC DISTANCE 392.061 EARTH TO MARS
 RL 151.44 LAL -.00 LOL 240.27 VL 32.313 GAL 1.30 AZL 91.54 HCA 128.23 SMA 187.30 ECC .19275 INC 1.5309 V1 29.421
 RP 209.55 LAP -1.21 LOP 8.51 VP 23.624 GAP 8.79 AZP 89.05 TAL 8.09 TAP 136.32 RCA 151.20 APO 223.40 V2 26.162
 RC 105.933 GL -16.65 GP -2.84 ZAL 82.39 ZAP 130.44 ETS 182.41 ZAE 172.01 ETE 196.45 ZAC 97.08 ETC 277.90 LVI -15.55

PLANETOCENTRIC CONIC
 C3 9.176 VHL 3.029 DLA -29.73 RAL 330.83 RAD 6637.6 VEL 11.370 PTH 6.42 VHP 3.670 DPA -19.58 RAP 322.97 ECC 1.1510
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 30 33 2344.75 .39 59.90 181.94 137.57 16 9 38 1344.7 18.55 43.65
 60.00 16 53 29 2124.12 5.41 44.85 186.75 130.00 17 28 53 1124.1 20.84 25.83
 70.00 18 45 32 1794.45 11.26 22.46 191.09 122.46 19 15 27 794.4 23.54 .83
 80.00 21 40 48 1244.67 19.94 345.52 195.78 112.70 22 1 33 244.7 27.94 320.69
 80.43 22 7 23 1159.71 21.73 339.98 196.55 110.80 22 26 43 159.7 28.36 314.56
 100.00 0 27 36 6007.18 19.94 284.80 195.78 112.70 2 7 43 5007.2 27.94 259.96
 110.00 23 44 59 6129.32 11.26 289.29 191.09 122.46 25 27 8 5129.3 23.54 267.65

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1778 TRA -.3853 TC3 -.0352 BAU .0088 SGT 904.4 SGR 544.5 SG3 935.9 ST 21.0 SR 24.1 SS 27.3
 RDE -.2514 RRA .1205 RC3 -.0621 FAU .17045 RRT -.1207 RRF .3468 RTF -.3424 CRT .6920 CRS -.6898 CST .0311
 FDE -.5145 FRA 2.1277 FC-16.0813 BSP 976 SGB 1055.6 R23 -.2842 R13 .3621 LSA 34.5 MSA 23.9 SSA 2.0
 BDE .3080 BRA .4037 BC3 .0714 FSP 1541 SG1 908.1 SG2 538.3 THA 173.58 EL1 29.5 EL2 12.4 ALF 50.63

LAUNCH DATE MAY 22 1971 FLIGHT TIME 164.00 ARRIVAL DATE NOV 2 1971

HELIOCENTRIC CONIC DISTANCE 396.199 EARTH TO MARS
 RL 151.44 LAL -.00 LOL 240.27 VL 32.295 GAL 1.30 AZL 91.53 HCA 129.48 SMA 186.99 ECC .19140 INC 1.5274 V1 29.421
 RP 209.76 LAP -1.18 LOP 9.75 VP 23.571 GAP 8.55 AZP 89.03 TAL 8.10 TAP 137.56 RCA 151.20 APO 222.77 V2 26.137
 RC 107.990 GL -16.62 GP -2.95 ZAL 82.41 ZAP 128.55 ETS 182.33 ZAE 170.36 ETE 194.80 ZAC 97.06 ETC 277.76 LVI -15.27

PLANETOCENTRIC CONIC
 C3 9.057 VHL 3.009 DLA -29.68 RAL 330.85 RAD 6637.6 VEL 11.365 PTH 6.42 VHP 3.585 DPA -19.90 RAP 322.35 ECC 1.1490
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 30 21 2343.24 .46 59.84 181.82 137.57 16 9 25 1343.2 18.62 43.58
 60.00 16 53 10 2122.94 5.46 44.79 186.61 129.99 17 28 33 1122.9 20.89 25.76
 70.00 18 44 58 1794.03 11.28 22.44 190.92 122.45 19 14 52 794.0 23.56 .80
 80.00 21 37 10 1253.96 19.69 346.10 195.49 112.91 21 58 4 254.0 27.41 321.35
 80.58 22 8 37 1153.43 21.76 339.53 196.38 110.70 22 27 50 153.4 28.34 314.09
 100.00 0 23 58 6016.47 19.69 285.38 195.49 112.91 2 4 14 5016.5 27.41 260.62
 110.00 23 44 24 6128.92 11.28 289.27 190.92 122.45 25 26 33 5128.9 23.56 267.62

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1746 TRA -.3609 TC3 -.1291 BAU .0188 SGT 861.5 SGR 541.9 SG3 984.6 ST 20.4 SR 23.8 SS 28.1
 RDE -.2470 RRA .1206 RC3 -.0861 FAU .17852 RRT -.1044 RRF .3730 RTF -.2715 CRT .7059 CRS -.7059 CST -.0114
 FDE -.5547 FRA 2.2002 FC-17.0650 BSP 769 SGB 1017.7 R23 -.3277 R13 .2939 LSA 35.1 MSA 23.3 SSA 2.0
 BDE .3025 BRA .3805 BC3 .1551 FSP 1600 SG1 864.5 SG2 537.1 THA 173.87 EL1 29.1 EL2 11.9 ALF 51.22

LAUNCH DATE MAY 22 1971 FLIGHT TIME 166.00 ARRIVAL DATE NOV 4 1971

HELIOCENTRIC CONIC DISTANCE 400.343 EARTH TO MARS
 RL 151.44 LAL -.00 LOL 240.27 VL 32.278 GAL 1.29 AZL 91.51 HCA 130.69 SMA 186.70 ECC .19017 INC 1.5146 V1 29.421
 RP 209.99 LAP -1.15 LOP 10.98 VP 23.520 GAP 8.32 AZP 89.01 TAL 8.08 TAP 138.78 RCA 151.20 APO 222.21 V2 26.111
 RC 110.071 GL -16.57 GP -3.07 ZAL 82.48 ZAP 126.64 ETS 182.23 ZAE 168.66 ETE 193.55 ZAC 97.03 ETC 277.62 LVI -14.97

PLANETOCENTRIC CONIC
 C3 8.946 VHL 2.991 DLA -29.62 RAL 330.90 RAD 6637.5 VEL 11.360 PTH 6.41 VHP 3.505 DPA -20.22 RAP 321.70 ECC 1.1472
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 30 10 2342.48 .50 59.81 181.74 137.57 16 9 12 1342.5 18.65 43.55
 60.00 16 52 47 2122.68 5.47 44.78 186.50 129.99 17 28 9 1122.7 20.90 25.75
 70.00 18 44 11 1794.99 11.24 22.49 190.77 122.46 19 14 5 795.0 23.53 .86
 80.00 21 32 28 1267.29 19.34 346.93 195.20 113.20 21 53 35 267.3 27.21 322.29
 80.82 22 10 38 1145.20 21.77 338.92 196.24 110.59 22 29 44 145.2 28.30 313.47
 100.00 0 19 16 6029.80 19.34 286.21 195.20 113.20 1 59 46 5029.8 27.21 261.56
 110.00 23 43 37 6129.86 11.24 289.32 190.77 122.46 25 25 47 5129.9 23.53 267.68

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1870 TRA -.3508 TC3 -.2996 BAU .0381 SGT 870.7 SGR 538.9 SG3 1028.2 ST 21.3 SR 23.5 SS 28.5
 RDE -.2418 RRA .1219 RC3 -.1078 FAU .18471 RRT -.0644 RRF .3971 RTF -.1009 CRT .7359 CRS -.6857 CST -.0237
 FDE -.5442 FRA 2.3232 FC-17.8744 BSP 737 SGB 1024.4 R23 -.3808 R13 .1761 LSA 35.2 MSA 24.1 SSA 2.0
 BDE .3055 BRA .3714 BC3 .3184 FSP 1711 SG1 871.8 SG2 537.1 THA 176.32 EL1 29.6 EL2 11.5 ALF 48.73

LAUNCH DATE MAY 22 1971 FLIGHT TIME 168.00 ARRIVAL DATE NOV 6 1971

HELIOCENTRIC CONIC DISTANCE 404.495 EARTH TO MARS
 RL 151.44 LAL -.00 LOL 240.27 VL 32.263 GAL 1.28 AZL 91.50 HCA 131.92 SMA 186.45 ECC .18905 INC 1.5012 V1 29.421
 RP 210.22 LAP -1.12 LOP 12.21 VP 23.470 GAP 8.09 AZP 89.00 TAL 8.05 TAP 139.97 RCA 151.20 APO 221.70 V2 26.085
 RC 112.177 GL -16.51 GP -3.19 ZAL 82.56 ZAP 124.69 ETS 182.14 ZAE 166.91 ETE 192.57 ZAC 97.01 ETC 277.47 LVI -14.65

PLANETOCENTRIC CONIC
 C3 8.845 VHL 2.974 DLA -29.53 RAL 330.97 RAD 6637.4 VEL 11.356 PTH 6.41 VHP 3.430 DPA -20.56 RAP 321.02 ECC 1.1456
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 29 56 2342.36 .51 59.80 181.68 137.57 16 8 59 1342.4 18.66 43.54
 60.00 16 52 19 2123.21 5.45 44.80 186.41 129.99 17 27 42 1123.2 20.88 25.78
 70.00 18 43 12 1797.05 11.17 22.60 190.65 122.49 19 13 9 797.0 23.47 .99
 80.00 21 27 20 1282.49 18.93 347.88 194.92 113.53 21 48 42 282.5 26.97 323.36
 81.14 22 13 23 1135.09 21.76 338.17 196.14 110.46 22 32 19 135.1 28.24 312.71
 100.00 0 14 8 6045.00 18.93 287.15 194.92 113.53 1 54 53 5045.0 26.97 262.63
 110.00 23 42 38 6131.91 11.17 289.43 190.65 122.49 25 24 50 5131.9 23.47 267.81

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1915 TRA -.3318 TC3 -.4479 BAU .0552 SGT 864.1 SGR 536.9 SG3 1075.2 ST 21.5 SR 23.2 SS 29.1
 RDE -.2367 RRA .1228 RC3 -.1327 FAU .19197 RRT -.0226 RRF .4239 RTF -.0529 CRT .7548 CRS -.6838 CST -.0527
 FDE -.5580 FRA 2.4239 FC-18.7907 BSP 612 SGB 1017.3 R23 -.4220 R13 .0589 LSA 35.5 MSA 24.1 SSA 2.0
 BDE .3045 BRA .3538 BC3 .4671 FSP 1795 SG1 864.3 SG2 536.7 THA 178.69 EL1 29.6 EL2 11.0 ALF 47.84

LAUNCH DATE MAY 22 1971

FLIGHT TIME 170.00

ARRIVAL DATE NOV 8 1971

HELIOCENTRIC CONIC

DISTANCE 408.653

EARTH TO MARS

RL 151.44 LAL -.00 LOL 240.27 VL 32.250 GAL 1.26 AZL 91.49 HCA 133.15 SMA 186.22 ECC .18803 INC 1.4874 V1 29.421
RP 210.45 LAP -1.09 LOP 13.43 VP 23.421 GAP 7.87 AZP 88.98 TAL 8.00 TAP 141.15 RCA 151.21 APO 221.23 V2 26.058
RC 114.307 GL -16.43 GP -3.32 ZAL 82.68 ZAP 122.72 ETS 182.03 ZAE 165.11 ETE 191.76 ZAC 96.98 ETC 277.31 LVI -14.32

PLANETOCENTRIC CONIC

C3 8.750 VHL 2.958 DLA -29.42 RAL 331.06 RAD 6637.4 VEL 11.352 PTH 6.40 VHP 3.361 DPA -20.91 RAP 320.30 ECC 1.1440
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 29 42 2342.90 .48 59.82 181.64 137.57 16 8 45 1342.9 18.63 43.57
60.00 16 51 47 2124.55 5.39 44.87 186.35 130.00 17 27 11 1124.5 20.83 25.85
70.00 18 42 1 1800.26 11.05 22.78 190.54 122.52 19 12 1 800.3 23.37 1.19
80.00 21 21 55 1299.14 18.47 348.90 194.65 113.88 21 43 34 299.1 26.71 324.52
81.55 22 16 59 1122.77 21.73 337.24 196.06 110.33 22 35 42 122.8 28.16 311.78
100.00 0 8 42 6061.65 18.47 288.18 194.65 113.88 1 49 44 5061.6 26.71 263.80
110.00 23 41 28 6135.12 11.05 289.60 190.54 122.52 25 23 43 5135.1 23.37 268.01

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1965 TRA -.3112 TC3 -.6087 BAU .0736 SGT 867.9 SGR 535.2 SG3 1121.8 ST 21.7 SR 22.8 SS 29.6
RDE -.2319 RRA .1239 RC3 -.1588 FAU .19918 RRT .0304 RRF .4510 RTF .0653 CRT .7766 CR8 -.6802 CST -.0823
FDE -.5674 FRA 2.5222 FC-19.7064 BSP 508 SGB 1019.6 R23 .4460 R13 .0737 LSA 35.8 MSA 24.1 SSA 2.0
BDE .3039 BRA .3349 BC3 .6291 FSP 1880 SG1 868.2 SG2 534.8 THA 1.73 EL1 29.7 EL2 10.5 ALF 46.91

LAUNCH DATE MAY 22 1971

FLIGHT TIME 172.00

ARRIVAL DATE NOV 10 1971

HELIOCENTRIC CONIC

DISTANCE 412.816

EARTH TO MARS

RL 151.44 LAL -.00 LOL 240.27 VL 32.238 GAL 1.25 AZL 91.47 HCA 134.37 SMA 186.01 ECC .18710 INC 1.4730 V1 29.421
RP 210.70 LAP -1.05 LOP 14.65 VP 23.373 GAP 7.65 AZP 88.97 TAL 7.93 TAP 142.30 RCA 151.21 APO 220.82 V2 26.030
RC 116.460 GL -16.35 GP -3.45 ZAL 82.82 ZAP 120.72 ETS 181.93 ZAE 163.26 ETE 191.09 ZAC 96.95 ETC 277.14 LVI -13.98

PLANETOCENTRIC CONIC

C3 8.664 VHL 2.943 DLA -29.28 RAL 331.19 RAD 6637.3 VEL 11.348 PTH 6.40 VHP 3.296 DPA -21.27 RAP 319.55 ECC 1.1428
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 29 26 2344.09 .42 59.87 181.63 137.57 16 8 31 1344.1 18.58 43.62
60.00 16 51 10 2126.69 5.29 44.97 186.31 130.01 17 26 36 1126.7 20.74 25.97
70.00 18 40 40 1804.60 10.89 23.01 190.46 122.57 19 10 44 804.6 23.25 1.46
80.00 21 16 20 1316.81 17.98 349.98 194.41 114.25 21 38 16 316.8 26.41 323.75
82.07 22 21 34 1107.69 21.68 336.11 196.02 110.18 22 40 2 107.7 28.05 310.65
100.00 0 3 7 6079.32 17.98 289.26 194.41 114.25 1 44 27 5079.3 26.41 265.03
110.00 23 40 6 6139.46 10.89 289.84 190.46 122.57 25 22 26 5139.5 23.25 268.28

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2013 TRA -.2898 TC3 -.7807 BAU .0929 SGT 884.9 SGR 534.0 SG3 1167.8 ST 21.9 SR 22.5 SS 30.1
RDE -.2269 RRA .1252 RC3 -.1859 FAU .20620 RRT .0904 RRF .4789 RTF .1859 CRT .7976 CR8 -.6750 CST -.1096
FDE -.5733 FRA 2.6248 FC-20.6056 BSP 450 SGB 1033.5 R23 .4540 R13 .2093 LSA 36.1 MSA 24.1 SSA 2.0
BDE .3033 BRA .3156 BC3 .8025 FSP 1963 SG1 886.9 SG2 530.6 THA 4.87 EL1 29.7 EL2 10.0 ALF 45.98

LAUNCH DATE MAY 22 1971

FLIGHT TIME 174.00

ARRIVAL DATE NOV 12 1971

HELIOCENTRIC CONIC

DISTANCE 416.985

EARTH TO MARS

RL 151.44 LAL -.00 LOL 240.27 VL 32.227 GAL 1.23 AZL 91.46 HCA 135.59 SMA 185.83 ECC .18628 INC 1.4581 V1 29.421
RP 210.95 LAP -1.02 LOP 15.87 VP 23.328 GAP 7.43 AZP 88.96 TAL 7.85 TAP 143.44 RCA 151.22 APO 220.45 V2 26.001
RC 118.637 GL -16.25 GP -3.59 ZAL 82.99 ZAP 118.71 ETS 181.81 ZAE 161.37 ETE 190.51 ZAC 96.92 ETC 276.97 LVI -13.82

PLANETOCENTRIC CONIC

C3 8.583 VHL 2.930 DLA -29.13 RAL 331.33 RAD 6637.3 VEL 11.344 PTH 6.40 VHP 3.235 DPA -21.64 RAP 318.78 ECC 1.1413
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 29 10 2345.93 .33 59.95 181.65 137.58 16 8 15 1345.9 18.49 43.71
60.00 16 50 28 2129.62 5.17 45.11 186.29 130.02 17 25 58 1129.6 26.13 26.13
70.00 18 39 8 1810.01 10.89 23.31 190.39 122.63 19 9 18 810.0 23.09 1.80
80.00 21 10 40 1335.24 17.46 351.11 194.19 114.61 21 32 55 335.2 26.09 327.03
82.72 22 27 19 1089.32 21.61 334.72 196.00 110.02 22 45 29 89.3 27.92 309.27
100.00 23 53 32 6097.75 17.46 290.38 194.19 114.61 25 35 10 5097.7 26.09 266.30
110.00 23 38 34 6144.87 10.89 290.13 190.39 122.63 25 20 59 5144.9 23.09 268.62

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2061 TRA -.2865 TC3 -.9634 BAU .1133 SGT 915.0 SGR 533.3 SG3 1213.3 ST 22.1 SR 22.1 SS 30.5
RDE -.2219 RRA .1265 RC3 -.2143 FAU .21319 RRT .1574 RRF .5070 RTF .2555 CRT .8186 CR8 -.6682 CST -.1366
FDE -.5740 FRA 2.7244 FC-21.5022 BSP 478 SGB 1059.1 R23 .4397 R13 .3405 LSA 36.3 MSA 24.1 SSA 2.0
BDE .3029 BRA .2950 BC3 .9869 FSP 2042 SG1 920.7 SG2 523.4 THA 7.77 EL1 29.8 EL2 9.4 ALF 45.07

LAUNCH DATE MAY 22 1971

FLIGHT TIME 176.00

ARRIVAL DATE NOV 14 1971

HELIOCENTRIC CONIC

DISTANCE 421.159

EARTH TO MARS

RL 151.44 LAL -.00 LOL 240.27 VL 32.217 GAL 1.21 AZL 91.44 HCA 136.81 SMA 185.67 ECC .18553 INC 1.4426 V1 29.421
RP 211.20 LAP -.99 LOP 17.09 VP 23.280 GAP 7.22 AZP 88.95 TAL 7.74 TAP 144.55 RCA 151.22 APO 220.12 V2 25.972
RC 120.836 GL -16.14 GP -3.72 ZAL 83.19 ZAP 116.67 ETS 181.69 ZAE 159.44 ETE 190.00 ZAC 96.88 ETC 276.79 LVI -13.25

PLANETOCENTRIC CONIC

C3 8.510 VHL 2.917 DLA -28.95 RAL 331.90 RAD 6637.3 VEL 11.341 PTH 6.39 VHP 3.179 DPA -22.01 RAP 317.98 ECC 1.1400
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 28 51 2348.39 .20 60.05 181.68 137.58 16 8 0 1348.4 18.37 43.82
60.00 16 49 42 2133.33 5.00 45.29 186.29 130.04 17 25 15 1133.3 20.48 26.34
70.00 18 37 28 1816.46 10.46 23.66 190.34 122.70 19 7 42 816.5 22.89 2.20
80.00 21 4 59 1354.24 16.92 352.26 194.00 114.97 21 27 34 354.2 25.75 328.34
83.54 22 34 34 1066.55 21.52 333.01 196.01 109.84 22 52 21 66.6 27.77 307.57
100.00 23 47 51 6116.75 16.92 291.53 194.00 114.97 25 29 48 5116.8 25.75 267.61
110.00 23 36 52 6151.32 10.46 290.48 190.34 122.70 25 19 24 5151.3 22.89 269.03

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2085 TRA -.2404 TC3 -1.1479 BAU .1335 SGT 952.6 SGR 533.7 SG3 1259.6 ST 22.0 SR 21.8 SS 30.9
RDE -.2172 RRA .1279 RC3 -.2448 FAU .22050 RRT .2272 RRF .5365 RTF .4196 CRT .8384 CR8 -.6693 CST -.1739
FDE -.5863 FRA 2.8147 FC-22.4323 BSP 611 SGB 1091.9 R23 .4109 R13 .4609 LSA 36.7 MSA 23.8 SSA 2.0
BDE .3011 BRA .2723 BC3 1.1737 FSP 2104 SG1 963.4 SG2 513.9 THA 10.18 EL1 29.7 EL2 8.8 ALF 44.57

LAUNCH DATE MAY 22 1971 FLIGHT TIME 178.00 ARRIVAL DATE NOV 16 1971

Heliocentric Conic: RL 151.44 LAL -.00 LOL 240.27 VL 32.209 GAL 1.19 AZL 91.43 HCA 138.02 SMA 185.53 ECC .18488 INC 1.4263 V1 29.421
 RP 211.46 LAP -.95 LOP 18.30 VP 23.235 GAP 7.02 AZP 88.94 TAL 7.62 TAP 145.64 RCA 151.23 APO 219.83 V2 25.942
 RC 123.038 GL -16.01 GP -3.87 ZAL 83.42 ZAP 114.62 ETS 181.57 ZAE 157.49 ETE 189.56 ZAC 96.83 ETC 276.61 LVI -12.87

Distance 425.335 EARTH TO MARS

Planetocentric Conic: C3 8.442 VHL 2.906 DLA -28.75 RAL 331.70 RAD 6637.2 VEL 11.338 PTH 6.39 VHP 3.128 DPA -22.39 RAP 317.17 ECC 1.1389
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 28 32 2351.54 .05 60.18 181.75 137.58 16 7 43 1351.5 18.22 43.97
 60.00 16 48 51 2137.85 4.80 45.51 186.31 130.06 17 24 29 1137.8 20.30 26.59
 70.00 18 35 34 1824.01 10.18 24.06 190.31 122.78 19 5 58 824.0 22.67 2.67
 80.00 20 59 16 1373.93 16.35 353.44 193.83 115.34 21 22 10 373.9 25.38 329.68
 84.61 22 44 3 1036.99 21.41 330.80 196.04 109.65 23 1 20 37.0 27.59 305.36
 100.00 23 42 8 6136.44 16.35 292.71 193.83 115.34 25 24 24 5136.4 25.38 268.98
 110.00 23 35 0 6158.87 10.18 290.89 190.31 122.78 25 17 39 5158.9 22.67 269.49

Differential Corrections: TDE -.2182 TRA -.2201 TC3-1.3769 BAU .1584 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.2115 RRA .1302 RC3 -.2727 FAU .22592 SGT 1034.6 SGR 533.7 SG3 1299.9 ST 22.8 SR 21.3 SS 31.1
 FDE -.5514 FRA 2.9422 FC-23.1683 BSP 751 RRT .2923 RRF .5636 RTF .5118 CRT .8572 CRS -.6426 CST -.1744
 BDE .3039 BRA .2557 BC3 1.4037 FSP 2206 SGB 1164.1 R23 .3828 R13 .5503 LSA 36.6 MSA 24.4 SSA 2.0
 SG1 1049.9 SG2 502.9 THA 11.17 EL1 30.1 EL2 8.3 ALF 42.76

LAUNCH DATE MAY 22 1971 FLIGHT TIME 180.00 ARRIVAL DATE NOV 18 1971

Heliocentric Conic: RL 151.44 LAL -.00 LOL 240.27 VL 32.201 GAL 1.16 AZL 91.41 HCA 139.23 SMA 185.41 ECC .18430 INC 1.4093 V1 29.421
 RP 211.73 LAP -.92 LOP 19.51 VP 23.191 GAP 6.82 AZP 88.93 TAL 7.48 TAP 146.71 RCA 151.24 APO 219.58 V2 25.911
 RC 125.302 GL -15.88 GP -4.02 ZAL 83.68 ZAP 112.56 ETS 181.44 ZAE 155.50 ETE 189.16 ZAC 96.79 ETC 276.42 LVI -12.48

Distance 429.516 EARTH TO MARS

Planetocentric Conic: C3 8.380 VHL 2.895 DLA -28.52 RAL 331.92 RAD 6637.2 VEL 11.335 PTH 6.39 VHP 3.082 DPA -22.78 RAP 316.34 ECC 1.1379
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 28 10 2355.30 -.14 60.34 181.83 137.58 16 7 26 1355.3 18.04 44.15
 60.00 16 47 56 2143.11 4.57 45.76 186.36 130.08 17 23 39 1143.1 20.09 26.87
 70.00 18 33 33 1832.50 9.87 24.52 190.30 122.86 19 4 6 832.5 22.41 3.20
 80.00 20 53 35 1393.99 15.78 354.64 193.68 115.69 21 16 49 394.0 24.99 331.05
 86.12 22 57 20 6263.52 21.28 305.61 196.10 109.45 24 42 4 5283.5 27.39 280.19
 100.00 23 36 27 6156.50 15.76 293.91 193.68 115.69 25 19 3 5156.5 24.99 270.32
 110.00 23 32 59 6167.36 9.87 291.35 190.30 122.86 25 15 47 5167.4 22.41 270.02

Differential Corrections: TDE -.2231 TRA -.1944 TC3-1.5967 BAU .1821 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.2064 RRA .1322 RC3 -.3033 FAU .23190 SGT 1114.2 SGR 535.2 SG3 1340.7 ST 23.1 SR 20.9 SS 31.4
 FDE -.5424 FRA 3.0508 FC-23.9577 BSP 956 RRT .3560 RRF .5926 RTF .5950 CRT .8745 CRS -.6328 CST -.1970
 BDE .3039 BRA .2351 BC3 1.6252 FSP 2282 SGB 1236.1 R23 .3513 R13 .6298 LSA 36.8 MSA 24.5 SSA 2.0
 SG1 1134.2 SG2 491.3 THA 11.98 EL1 30.2 EL2 7.8 ALF 41.78

LAUNCH DATE MAY 22 1971 FLIGHT TIME 182.00 ARRIVAL DATE NOV 20 1971

Heliocentric Conic: RL 151.44 LAL -.00 LOL 240.27 VL 32.195 GAL 1.14 AZL 91.39 HCA 140.44 SMA 185.31 ECC .18380 INC 1.3915 V1 29.421
 RP 212.01 LAP -.89 LOP 20.72 VP 23.147 GAP 6.62 AZP 88.93 TAL 7.32 TAP 147.77 RCA 151.25 APO 219.36 V2 25.880
 RC 127.566 GL -15.72 GP -4.17 ZAL 83.96 ZAP 110.50 ETS 181.30 ZAE 153.49 ETE 188.79 ZAC 96.73 ETC 276.23 LVI -12.07

Distance 433.700 EARTH TO MARS

Planetocentric Conic: C3 8.323 VHL 2.885 DLA -28.28 RAL 332.16 RAD 6637.2 VEL 11.333 PTH 6.39 VHP 3.039 DPA -23.17 RAP 315.49 ECC 1.1370
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 27 47 2359.69 -.36 60.52 181.93 137.57 16 7 7 1359.7 17.83 44.35
 60.00 16 46 56 2149.14 4.31 46.05 186.42 130.11 17 22 45 1149.1 19.85 27.20
 70.00 18 31 23 1841.96 9.52 25.03 190.30 122.96 19 2 5 842.0 22.12 3.78
 80.00 20 47 54 1414.49 15.15 355.86 193.57 116.04 21 11 29 414.5 24.58 332.43
 90.00 23 26 28 6190.93 20.82 298.65 196.07 109.58 25 9 39 5190.9 27.03 273.35
 100.00 23 30 46 6177.00 15.15 295.13 193.57 116.04 25 13 43 5177.0 24.58 271.70
 110.00 23 30 50 6176.81 9.52 291.85 190.30 122.96 25 13 47 5176.8 22.12 270.60

Differential Corrections: TDE -.2279 TRA -.1675 TC3-1.8278 BAU .2067 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.2011 RRA .1344 RC3 -.3348 FAU .23756 SGT 1208.1 SGR 537.3 SG3 1379.7 ST 23.4 SR 20.5 SS 31.7
 FDE -.5249 FRA 3.1560 FC-24.7097 BSP 1184 RRT .4158 RRF .8209 RTF .5444 CRT .8907 CRS -.6198 CST -.2155
 BDE .3039 BRA .2148 BC3 1.8580 FSP 2351 SGB 1322.2 R23 .3211 R13 .6942 LSA 36.9 MSA 24.6 SSA 2.0
 SG1 1232.4 SG2 479.0 THA 12.38 EL1 30.2 EL2 7.2 ALF 40.76

LAUNCH DATE MAY 22 1971 FLIGHT TIME 184.00 ARRIVAL DATE NOV 22 1971

Heliocentric Conic: RL 151.44 LAL -.00 LOL 240.27 VL 32.190 GAL 1.11 AZL 91.37 HCA 141.64 SMA 185.22 ECC .18336 INC 1.3729 V1 29.421
 RP 212.29 LAP -.85 LOP 21.93 VP 23.104 GAP 6.43 AZP 88.92 TAL 7.15 TAP 148.80 RCA 151.26 APO 219.18 V2 25.848
 RC 129.850 GL -15.55 GP -4.33 ZAL 84.27 ZAP 108.43 ETS 181.16 ZAE 151.47 ETE 188.46 ZAC 96.67 ETC 276.03 LVI -11.66

Distance 437.886 EARTH TO MARS

Planetocentric Conic: C3 8.271 VHL 2.876 DLA -28.00 RAL 332.42 RAD 6637.1 VEL 11.331 PTH 6.38 VHP 3.001 DPA -23.56 RAP 314.63 ECC 1.1361
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 27 22 2364.72 -.62 60.73 182.06 137.57 16 6 47 1364.7 17.59 44.58
 60.00 16 45 52 2135.92 4.01 46.38 186.50 130.13 17 21 47 1155.9 19.58 27.57
 70.00 18 29 5 1852.34 9.13 25.59 190.33 123.05 18 59 58 852.3 21.80 4.41
 80.00 20 42 15 1435.40 14.52 357.09 193.47 116.38 21 6 11 435.4 24.14 333.83
 90.00 22 57 12 1000.22 18.48 326.92 195.31 111.80 23 13 52 .2 25.85 302.32
 100.00 23 25 7 6197.92 14.52 296.36 193.47 116.38 25 8 25 5197.9 24.14 273.10
 110.00 23 28 32 6187.20 9.13 292.41 190.33 123.05 25 11 39 5187.2 21.80 271.24

Differential Corrections: TDE -.2322 TRA -.1396 TC3-2.0684 BAU .2323 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.1956 RRA .1367 RC3 -.3665 FAU .24261 SGT 1314.8 SGR 539.9 SG3 1415.5 ST 23.7 SR 20.0 SS 31.9
 FDE -.4978 FRA 3.2593 FC-25.3931 BSP 1427 RRT .4704 RRF .6483 RTF .7205 CRT .9055 CRS -.6026 CST -.2284
 BDE .3036 BRA .1954 BC3 2.1006 FSP 2426 SGB 1421.3 R23 .2945 R13 .7452 LSA 36.9 MSA 24.7 SSA 2.0
 SG1 1342.6 SG2 466.6 THA 12.46 EL1 30.3 EL2 6.6 ALF 39.74

LAUNCH DATE MAY 22 1971

FLIGHT TIME 186.00

ARRIVAL DATE NOV 24 1971

MELIOCENTRIC CONIC DISTANCE 442.074 EARTH TO MARS
 RL 131.44 LAL -.00 LOL 240.27 VL 32.106 GAL 1.08 AZL 91.39 HCA 142.85 SMA 185.15 ECC .10300 INC 1.3533 V1 29.421
 RP 212.57 LAP -.82 LOP 23.13 VP 23.062 GAP 6.24 AZP 88.92 TAL 6.96 TAP 149.81 RCA 151.27 APO 219.03 V2 25.815
 RC 132.133 GL -13.37 GP -4.49 ZAL 84.60 ZAP 106.36 ETS 181.00 ZAE 149.42 ETE 188.16 ZAC 96.60 ETC 275.83 LVI -11.23

PLANETOCENTRIC CONIC
 C3 8.224 VHL 2.868 DLA -27.71 RAL 332.70 RAD 6637.1 VEL 11.329 PTH 6.38 VHP 2.967 DPA -23.96 RAP 313.77 ECC 1.1354
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 26 54 2370.38 -.90 60.97 182.20 137.57 16 6 25 1370.4 17.32 44.85
 60.00 16 44 42 2163.46 3.68 46.74 186.61 130.16 17 20 45 1163.5 19.28 27.98
 70.00 18 26 39 1863.63 8.71 26.19 190.37 123.16 18 57 43 863.6 21.45 5.10
 80.00 20 36 37 1456.73 13.87 358.34 193.40 116.71 21 0 54 456.7 23.69 335.25
 90.00 22 43 4 1048.98 17.22 329.95 195.00 112.79 23 0 33 49.0 25.13 305.71
 100.00 23 19 29 6219.24 13.87 297.62 193.40 116.71 25 3 9 5219.2 23.69 274.52
 110.00 23 26 6 6198.49 8.71 293.02 190.37 123.16 25 9 24 5198.5 21.45 271.93

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2359 TRA -.1102 TC3-2.3150 BAU .2583 SGT 1430.7 SGR 543.6 SG3 1451.0 ST 23.9 SR 19.6 SS 32.0
 RDE -.1900 RRA .1393 RC3 -.3999 FAU .24766 RRT .5211 RRF .6758 RTF .7860 CRT .9190 CRS -.5844 CST -.2400
 FDE -.4668 FRA 3.3629 FC-26.0696 BSP 1689 SGB 1530.5 R23 .2710 R13 .7864 LSA 36.9 MSA 24.8 SSA 1.9
 BDE .3029 BRA .1776 BC3 2.3493 FSP 2483 SG1 1461.6 SG2 454.2 THA 12.42 EL1 30.3 EL2 6.1 ALF 38.75

LAUNCH DATE MAY 22 1971

FLIGHT TIME 186.00

ARRIVAL DATE NOV 26 1971

MELIOCENTRIC CONIC DISTANCE 446.265 EARTH TO MARS
 RL 151.44 LAL -.00 LOL 240.27 VL 32.182 GAL 1.04 AZL 91.33 HCA 144.04 SMA 185.09 ECC .18269 INC 1.3326 V1 29.421
 RP 212.86 LAP -.78 LOP 24.32 VP 23.020 GAP 6.05 AZP 88.92 TAL 6.76 TAP 150.81 RCA 151.28 APO 218.91 V2 25.782
 RC 134.475 GL -15.17 GP -4.66 ZAL 84.96 ZAP 104.30 ETS 180.85 ZAE 147.37 ETE 187.88 ZAC 96.53 ETC 275.64 LVI -10.80

PLANETOCENTRIC CONIC
 C3 8.182 VHL 2.860 DLA -27.39 RAL 332.99 RAD 6637.1 VEL 11.327 PTH 6.38 VHP 2.936 DPA -24.35 RAP 312.91 ECC 1.1347
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 26 24 2376.68 -1.22 61.23 182.36 137.56 16 6 0 1376.7 17.01 45.14
 60.00 16 43 27 2171.72 3.32 47.13 186.72 130.19 17 19 38 1171.7 18.95 28.43
 70.00 18 24 5 1875.79 8.26 26.84 190.43 123.26 18 55 21 875.8 21.07 5.84
 80.00 20 31 1 1478.44 13.21 359.61 193.35 117.02 20 55 39 478.4 23.20 336.68
 90.00 22 31 49 1088.87 16.15 332.39 194.78 113.53 22 49 58 88.9 24.47 308.44
 100.00 23 13 53 6240.95 13.21 298.88 193.35 117.02 24 57 54 5240.9 23.20 275.95
 110.00 23 23 31 6210.65 8.26 293.67 190.43 123.26 25 7 2 5210.6 21.07 272.67

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2366 TRA -.0774 TC3-2.5592 BAU .2840 SGT 1548.7 SGR 548.4 SG3 1485.3 ST 23.9 SR 19.1 SS 32.1
 RDE -.1847 RRA .1413 RC3 -.4362 FAU .25311 RRT .5711 RRF .7027 RTF .8078 CRT .9325 CRS -.5760 CST -.2670
 FDE -.4479 FRA 3.4328 FC-26.7820 BSP 1985 SGB 1642.9 R23 .2441 R13 .8242 LSA 36.9 MSA 24.5 SSA 1.9
 BDE .3001 BRA .1611 BC3 2.5961 FSP 2517 SG1 1582.8 SG2 440.5 THA 12.41 EL1 30.1 EL2 5.5 ALF 38.15

LAUNCH DATE MAY 22 1971

FLIGHT TIME 190.00

ARRIVAL DATE NOV 28 1971

MELIOCENTRIC CONIC DISTANCE 450.456 EARTH TO MARS
 RL 151.44 LAL -.00 LOL 240.27 VL 32.180 GAL 1.01 AZL 91.31 HCA 145.24 SMA 185.05 ECC .18245 INC 1.3107 V1 29.421
 RP 213.16 LAP -.73 LOP 25.52 VP 22.979 GAP 5.87 AZP 88.92 TAL 6.54 TAP 151.78 RCA 151.29 APO 218.81 V2 25.749
 RC 136.814 GL -14.95 GP -4.84 ZAL 85.34 ZAP 102.25 ETS 180.68 ZAE 145.31 ETE 187.62 ZAC 96.44 ETC 275.44 LVI -10.36

PLANETOCENTRIC CONIC
 C3 8.144 VHL 2.854 DLA -27.04 RAL 333.31 RAD 6637.1 VEL 11.325 PTH 6.38 VHP 2.910 DPA -24.75 RAP 312.05 ECC 1.1340
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 25 51 2383.66 -1.57 61.52 182.55 137.56 16 5 34 1383.7 16.67 45.46
 60.00 16 42 7 2180.80 2.92 47.57 186.86 130.21 17 18 27 1180.8 18.58 28.92
 70.00 18 21 23 1888.89 7.77 27.54 190.50 123.36 18 52 52 888.9 20.66 6.63
 80.00 20 25 24 1500.70 12.51 .90 193.32 117.33 20 50 24 500.7 22.69 338.14
 90.00 22 21 57 1124.84 15.16 334.56 194.64 114.16 22 40 42 124.8 23.83 310.89
 100.00 23 8 16 6263.21 12.51 300.17 193.32 117.33 24 52 39 5263.2 22.69 277.41
 110.00 23 20 49 6223.75 7.77 294.36 190.50 123.36 25 4 33 5223.7 20.66 273.46

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2419 TRA -.0487 TC3-2.8388 BAU .3132 SGT 1695.0 SGR 552.8 SG3 1510.1 ST 24.5 SR 18.5 SS 32.3
 RDE -.1779 RRA .1451 RC3 -.4668 FAU .25547 RRT .6073 RRF .7272 RTF .8001 CRT .9414 CRS -.5336 CST -.2440
 FDE -.3728 FRA 3.5678 FC-27.1571 BSP 2232 SGB 1782.9 R23 .2367 R13 .8438 LSA 36.6 MSA 25.3 SSA 1.9
 BDE .3003 BRA .1531 BC3 2.8769 FSP 2601 SG1 1730.2 SG2 430.2 THA 11.95 EL1 30.3 EL2 5.1 ALF 36.68

LAUNCH DATE MAY 22 1971

FLIGHT TIME 192.00

ARRIVAL DATE NOV 30 1971

MELIOCENTRIC CONIC DISTANCE 454.649 EARTH TO MARS
 RL 151.44 LAL -.00 LOL 240.27 VL 32.178 GAL .97 AZL 91.29 HCA 146.43 SMA 185.02 ECC .18227 INC 1.2876 V1 29.421
 RP 213.46 LAP -.71 LOP 26.71 VP 22.938 GAP 5.69 AZP 88.93 TAL 6.31 TAP 152.74 RCA 151.30 APO 218.75 V2 25.714
 RC 139.171 GL -14.71 GP -5.02 ZAL 85.75 ZAP 100.21 ETS 180.51 ZAE 143.26 ETE 187.37 ZAC 96.34 ETC 275.24 LVI -9.92

PLANETOCENTRIC CONIC
 C3 8.110 VHL 2.848 DLA -26.86 RAL 333.64 RAD 6637.1 VEL 11.324 PTH 6.38 VHP 2.887 DPA -25.15 RAP 311.20 ECC 1.1335
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 25 14 2391.28 -1.95 61.84 182.74 137.55 16 5 5 1391.3 16.31 45.81
 60.00 16 40 41 2190.62 2.49 48.04 187.01 130.24 17 17 11 1190.6 18.18 29.44
 70.00 18 18 33 1902.82 7.25 28.28 190.59 123.47 18 50 16 902.8 20.21 7.47
 80.00 20 19 47 1523.35 11.80 2.20 193.32 117.63 20 45 10 523.4 22.16 339.61
 90.00 22 12 57 1158.43 14.21 336.57 194.53 114.71 22 32 15 158.4 23.19 313.14
 100.00 23 2 39 6285.86 11.80 301.48 193.32 117.63 24 47 25 5285.9 22.16 278.88
 110.00 23 18 0 6237.68 7.25 295.10 190.59 123.47 25 1 57 5237.7 20.21 274.29

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2428 TRA -.0157 TC3-3.1075 BAU .3413 SGT 1836.5 SGR 559.0 SG3 1535.7 ST 24.6 SR 18.0 SS 32.4
 RDE -.1720 RRA .1481 RC3 -.5016 FAU .25887 RRT .6457 RRF .7518 RTF .8544 CRT .9511 CRS -.5131 CST -.2527
 FDE -.3298 FRA 3.6583 FC-27.6342 BSP 2522 SGB 1919.7 R23 .2223 R13 .8656 LSA 36.5 MSA 25.4 SSA 1.9
 BDE .2976 BRA .1489 BC3 3.1477 FSP 2648 SG1 1873.5 SG2 418.4 THA 11.71 EL1 30.1 EL2 4.5 ALF 35.81

LAUNCH DATE MAY 22 1971

FLIGHT TIME 194.00

ARRIVAL DATE DEC 2 1971

HELIOCENTRIC CONIC
 RL 151.44 LAL -.00 LOL 240.27 VL 32.177 GAL DISTANCE 458.842 EARTH TO MARS
 RP 213.77 LAP -.68 LOP 27.90 VP 22.898 GAP .93 AZL 91.26 HCA 147.62 SMA 185.01 ECC .18214 INC 1.2629 V1 29.421
 RC 141.945 GL -14.45 GP -5.21 ZAL 86.18 ZAP 96.19 ETS 180.33 ZAE 141.20 ETE 187.14 ZAC 96.23 ETC 275.05 LVI -9.47

PLANETOCENTRIC CONIC
 C3 8.080 VHL 2.843 DLA -26.26 RAL 333.99 RAD 6637.0 VEL 11.322 PTH 6.38 VHP 2.868 DPA -25.54 RAP 310.36 ECC 1.1330
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 24 34 2399.58 -2.37 62.19 182.96 137.53 16 4 33 1399.6 15.90 46.18
 60.00 16 39 8 2201.21 2.02 48.54 187.18 130.26 17 15 50 1201.2 17.75 30.00
 70.00 18 15 35 1917.62 6.69 29.06 190.69 123.57 18 47 33 917.6 19.74 8.35
 80.00 20 14 9 1546.50 11.07 3.53 193.33 117.91 20 39 56 546.5 21.60 341.10
 90.00 22 4 30 1190.66 13.29 338.49 194.46 115.19 22 24 20 190.7 22.54 315.28
 100.00 22 57 1 1020.97 11.07 324.90 193.33 117.91 23 14 2 21.0 21.60 302.47
 110.00 23 15 2 6252.48 6.69 295.89 190.69 123.57 24 59 14 5252.5 19.74 275.17

DIFFERENTIAL CORRECTIONS
 TDE -.2429 TRA .0180 TC3-3.3827 BAU .3700 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.1654 RRA .1516 RC3 -.5360 FAU .26130 SGT 1984.8 SGR 565.9 SG3 1557.1 ST 24.7 SR 17.4 SS 32.6
 FDE -.2665 FRA 3.7535 FC-27.9971 BSP 2815 RRT .6795 RRF .7751 RTF .8726 CRT .9592 CRS -.4818 CST -.2477
 BDE .2939 BRA .1527 BC3 3.4249 FSP 2686 SGB 2063.9 R23 .2126 R13 .8820 LSA 36.3 MSA 25.6 SSA 1.9
 SG1 2023.3 SG2 407.3 THA 11.43 EL1 29.9 EL2 4.1 ALF 34.90

LAUNCH DATE MAY 22 1971

FLIGHT TIME 196.00

ARRIVAL DATE DEC 4 1971

HELIOCENTRIC CONIC
 RL 151.44 LAL -.00 LOL 240.27 VL 32.177 GAL DISTANCE 463.036 EARTH TO MARS
 RP 214.08 LAP -.64 LOP 29.08 VP 22.858 GAP 5.34 AZP 88.94 TAL 5.80 TAP 154.60 RCA 151.32 APO 218.68 V2 25.645
 RC 143.936 GL -14.17 GP -5.41 ZAL 86.64 ZAP 96.19 ETS 180.14 ZAE 139.16 ETE 186.93 ZAC 96.11 ETC 274.85 LVI -9.01

PLANETOCENTRIC CONIC
 C3 8.054 VHL 2.838 DLA -25.83 RAL 334.35 RAD 6637.0 VEL 11.321 PTH 6.37 VHP 2.852 DPA -25.94 RAP 309.53 ECC 1.1325
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 23 49 2408.58 -2.82 62.57 183.18 137.51 16 3 57 1408.6 15.47 46.59
 60.00 16 37 30 2212.60 1.52 49.09 187.36 130.28 17 14 22 1212.6 17.29 30.61
 70.00 18 12 29 1933.30 6.10 29.89 190.81 123.67 18 44 43 933.3 19.22 9.28
 80.00 20 8 30 1570.18 10.31 4.88 193.36 118.18 20 34 40 570.2 21.01 342.61
 90.00 21 56 26 1222.10 12.37 340.34 194.42 115.63 22 16 48 222.1 21.88 317.35
 100.00 22 51 22 1044.65 10.31 326.24 193.36 118.18 23 8 47 44.7 21.01 303.98
 110.00 23 11 56 6268.16 6.10 296.72 190.81 123.67 24 56 24 5268.2 19.22 276.10

DIFFERENTIAL CORRECTIONS
 TDE -.2420 TRA .0528 TC3-3.6630 BAU .3992 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.1589 RRA .1549 RC3 -.5719 FAU .26343 SGT 2139.0 SGR 573.6 SG3 1574.7 ST 24.7 SR 16.9 SS 32.7
 FDE -.2075 FRA 3.8273 FC-28.3167 BSP 3113 RRT .7113 RRF .7971 RTF .8884 CRT .9665 CRS -.4550 CST -.2489
 BDE .2895 BRA .1636 BC3 3.7074 FSP 2723 SGB 2214.6 R23 .2030 R13 .8963 LSA 36.1 MSA 25.7 SSA 1.9
 SG1 2178.9 SG2 395.8 THA 11.17 EL1 29.7 EL2 3.6 ALF 34.02

LAUNCH DATE MAY 22 1971

FLIGHT TIME 198.00

ARRIVAL DATE DEC 6 1971

HELIOCENTRIC CONIC
 RL 151.44 LAL -.00 LOL 240.27 VL 32.177 GAL DISTANCE 467.229 EARTH TO MARS
 RP 214.39 LAP -.60 LOP 30.26 VP 22.819 GAP 5.85 AZL 91.21 HCA 149.99 SMA 185.01 ECC .18204 INC 1.2088 V1 29.421
 RC 146.344 GL -13.86 GP -5.62 ZAL 87.11 ZAP 94.21 ETS 179.94 ZAE 137.13 ETE 186.73 ZAC 95.97 ETC 274.67 LVI -8.55

PLANETOCENTRIC CONIC
 C3 8.031 VHL 2.834 DLA -25.37 RAL 334.72 RAD 6637.0 VEL 11.320 PTH 6.37 VHP 2.839 DPA -26.34 RAP 308.73 ECC 1.1322
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 22 59 2418.29 -3.31 62.97 183.42 137.49 16 3 17 1418.3 14.99 47.03
 60.00 16 35 44 2224.80 .98 49.67 187.55 130.29 17 12 49 1224.8 16.79 31.25
 70.00 18 9 15 1949.87 5.47 30.77 190.94 123.77 18 41 44 949.9 18.68 10.25
 80.00 20 2 48 1594.43 9.53 6.25 193.41 118.43 20 29 23 594.4 20.39 344.14
 90.00 21 48 38 1253.12 11.45 342.15 194.41 116.04 22 9 31 253.1 21.20 319.37
 100.00 22 45 40 1068.90 9.53 327.62 193.41 118.43 23 3 29 68.9 20.39 305.51
 110.00 23 8 41 6284.72 5.47 297.59 190.94 123.77 24 53 26 5284.7 18.68 277.08

DIFFERENTIAL CORRECTIONS
 TDE -.2390 TRA .0889 TC3-3.9453 BAU .4288 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.1518 RRA .1588 RC3 -.6081 FAU .26488 SGT 2296.4 SGR 582.4 SG3 1590.0 ST 24.6 SR 16.3 SS 32.9
 FDE -.1271 FRA 3.9136 FC-28.5324 BSP 3415 RRT .7400 RRF .8181 RTF .5005 CRT .9724 CRS -.4172 CST -.2377
 BDE .2831 BRA .1820 BC3 3.9919 FSP 2746 SGB 2369.1 R23 .1969 R13 .9072 LSA 35.8 MSA 25.2 SSA 1.8
 SG1 2337.7 SG2 384.9 THA 10.93 EL1 29.3 EL2 3.2 ALF 33.18

LAUNCH DATE MAY 22 1971

FLIGHT TIME 200.00

ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC
 RL 151.44 LAL -.00 LOL 240.27 VL 32.178 GAL DISTANCE 471.422 EARTH TO MARS
 RP 214.72 LAP -.57 LOP 31.44 VP 22.780 GAP 5.00 AZP 88.97 TAL 5.23 TAP 156.40 RCA 151.34 APO 218.71 V2 25.573
 RC 148.770 GL -13.53 GP -5.84 ZAL 87.81 ZAP 92.27 ETS 179.73 ZAE 135.11 ETE 186.54 ZAC 95.82 ETC 274.48 LVI -8.08

PLANETOCENTRIC CONIC
 C3 8.012 VHL 2.831 DLA -24.87 RAL 335.10 RAD 6637.0 VEL 11.319 PTH 6.37 VHP 2.829 DPA -26.74 RAP 307.95 ECC 1.1319
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 22 4 2428.75 -3.83 63.41 183.67 137.46 16 2 32 1428.7 14.48 47.50
 60.00 16 33 50 2237.85 .41 50.29 187.75 130.30 17 11 8 1237.9 16.25 31.93
 70.00 18 5 51 1967.34 4.81 31.69 191.08 123.85 18 38 38 967.3 18.10 11.27
 80.00 19 57 3 1619.30 8.72 7.65 193.47 118.67 20 24 2 619.3 19.74 345.70
 90.00 21 41 1 1283.99 10.52 343.94 194.42 116.40 22 2 25 284.0 20.50 321.36
 100.00 22 39 55 1093.77 8.72 329.02 193.47 118.67 22 58 8 93.8 19.74 307.07
 110.00 23 5 17 1014.16 4.81 320.60 191.08 123.85 23 22 11 14.2 18.10 300.19

DIFFERENTIAL CORRECTIONS
 TDE -.2347 TRA .1264 TC3-4.2284 BAU .4582 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.1449 RRA .1630 RC3 -.6449 FAU .26565 SGT 2456.7 SGR 593.0 SG3 1601.3 ST 24.4 SR 15.7 SS 33.3
 FDE -.0630 FRA 3.9943 FC-28.7036 BSP 3726 RRT .7660 RRF .8381 RTF .9109 CRT .9777 CRS -.3926 CST -.2425
 BDE .2758 BRA .2063 BC3 4.2773 FSP 2769 SGB 2527.3 R23 .1925 R13 .9167 LSA 35.8 MSA 25.8 SSA 1.8
 SG1 2499.3 SG2 374.7 THA 10.72 EL1 28.9 EL2 2.8 ALF 32.46

LAUNCH DATE MAY 22 1971 FLIGHT TIME 202.00 ARRIVAL DATE DEC 10 1971

Table with columns: HELIOCENTRIC CONIC (RL, RP, RC), PLANETOCENTRIC CONIC (C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG), DIFFERENTIAL CORRECTIONS (TDE, RDE, FDE, BDE), MID-COURSE EXECUTION ACCURACY (SGT, RRT, SGB, SGT), ORBIT DETERMINATION ACCURACY (ST, CRT, LSA, EL1).

LAUNCH DATE MAY 22 1971 FLIGHT TIME 204.00 ARRIVAL DATE DEC 12 1971

Table with columns: HELIOCENTRIC CONIC (RL, RP, RC), PLANETOCENTRIC CONIC (C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG), DIFFERENTIAL CORRECTIONS (TDE, RDE, FDE, BDE), MID-COURSE EXECUTION ACCURACY (SGT, RRT, SGB, SGT), ORBIT DETERMINATION ACCURACY (ST, CRT, LSA, EL1).

LAUNCH DATE MAY 22 1971 FLIGHT TIME 206.00 ARRIVAL DATE DEC 14 1971

Table with columns: HELIOCENTRIC CONIC (RL, RP, RC), PLANETOCENTRIC CONIC (C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG), DIFFERENTIAL CORRECTIONS (TDE, RDE, FDE, BDE), MID-COURSE EXECUTION ACCURACY (SGT, RRT, SGB, SGT), ORBIT DETERMINATION ACCURACY (ST, CRT, LSA, EL1).

LAUNCH DATE MAY 22 1971 FLIGHT TIME 208.00 ARRIVAL DATE DEC 16 1971

Table with columns: HELIOCENTRIC CONIC (RL, RP, RC), PLANETOCENTRIC CONIC (C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG), DIFFERENTIAL CORRECTIONS (TDE, RDE, FDE, BDE), MID-COURSE EXECUTION ACCURACY (SGT, RRT, SGB, SGT), ORBIT DETERMINATION ACCURACY (ST, CRT, LSA, EL1).

LAUNCH DATE MAY 22 1971

FLIGHT TIME 210.00

ARRIVAL DATE DEC 18 1971

Heliocentric Conic

RL 151.44 LAL -.00 LOL 240.27 VL 32.192 GAL .58 AZL 90.99 HCA 157.00 SMA 185.26 ECC .18202 INC .9899 V1 29.421
 RP 216.39 LAP -.39 LOP 37.27 VP 22.589 GAP 4.19 AZP 89.09 TAL 3.62 TAP 160.62 RCA 151.39 APO 219.13 V2 25.388
 RC 161.134 GL -11.36 GP -7.18 ZAL 90.41 ZAP 83.06 ETS 178.51 ZAE 125.37 ETE 185.75 ZAC 94.76 ETC 273.66 LVI -5.07

Planetocentric Conic

C3 7.967 VHL 2.823 DLA -21.02 RAL 337.05 RAD 6637.0 VEL 11.317 PTH 6.37 VHP 2.824 DPA -28.02 RAP 304.94 ECC 1.1311
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 15 29 2493.84 -7.09 66.16 185.05 137.17 15 57 3 1493.8 11.29 50.38
 60.00 16 21 50 2317.42 -3.09 54.10 188.88 130.20 17 0 27 1317.4 12.92 36.01
 70.00 17 45 58 2070.05 .90 37.06 191.90 124.14 18 20 28 1070.1 14.56 17.13
 80.00 19 26 24 1755.76 4.19 15.25 193.95 119.59 19 55 40 755.8 15.92 354.03
 90.00 21 3 15 1443.34 5.97 353.03 194.71 117.77 21 27 19 443.3 16.49 331.35
 100.00 22 9 16 1230.23 4.19 336.62 193.95 119.59 22 29 46 230.2 15.92 315.40
 110.00 22 45 25 1116.87 .90 325.98 191.90 124.14 23 4 2 116.9 14.56 306.05

Differential Corrections

TDE -.1800 TRA .3264 TC3-5.6504 BAU .6086
 RDE -.1040 RRA .1892 RC3 -.8503 FAU .26209
 FDE .3918 FRA 4.2876 FC-28.4791 BSP 5284
 BDE .2078 BRA .3772 BC3 5.7140 FSP 2781

Mid-Course Execution Accuracy

SGT 3289.0 SGR 667.8 SG3 1609.4
 RRT .8665 RRF .9185 RTF .9415
 SGB 3356.1 R23 .1893 R13 .9449
 SG1 3340.0 SG2 328.2 THA 10.08

Orbit Determination Accuracy

ST 21.7 SR 12.3 SS 36.1
 CRT .9867 CRS -.2589 CST -.2782
 LSA 37.2 MSA 23.2 SSA 1.7
 EL1 24.9 EL2 1.7 ALF 29.29

LAUNCH DATE MAY 22 1971

FLIGHT TIME 212.00

ARRIVAL DATE DEC 20 1971

Heliocentric Conic

RL 151.44 LAL -.00 LOL 240.27 VL 32.197 GAL .51 AZL 90.94 HCA 158.15 SMA 185.33 ECC .18308 INC .9412 V1 29.421
 RP 216.73 LAP -.35 LOP 38.43 VP 22.552 GAP 4.04 AZP 89.13 TAL 3.27 TAP 161.42 RCA 151.40 APO 219.26 V2 25.347
 RC 163.649 GL -10.80 GP -7.51 ZAL 91.02 ZAP 81.34 ETS 178.22 ZAE 123.50 ETE 185.63 ZAC 94.47 ETC 273.52 LVI -5.15

Planetocentric Conic

C3 7.968 VHL 2.823 DLA -21.07 RAL 337.44 RAD 6637.0 VEL 11.317 PTH 6.37 VHP 2.830 DPA -29.27 RAP 303.97 ECC 1.1311
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 13 38 2509.91 -7.89 66.84 185.33 137.07 15 55 28 1509.9 10.49 51.07
 60.00 16 18 45 2336.73 -3.94 55.02 189.11 130.14 16 57 42 1336.7 12.09 36.98
 70.00 17 41 14 2094.23 -.03 38.32 192.08 124.15 18 16 9 1094.2 13.70 18.48
 80.00 19 19 39 1786.25 3.16 16.93 194.07 119.71 19 49 25 786.2 15.02 355.84
 90.00 20 55 21 1477.53 4.48 354.95 194.79 117.95 21 19 59 477.5 15.56 333.40
 100.00 22 2 31 1260.72 3.16 338.30 194.07 119.71 22 23 32 260.7 15.02 317.21
 110.00 22 40 41 1141.05 -.03 327.24 192.08 124.15 22 59 42 141.1 13.70 307.39

Differential Corrections

TDE -.1621 TRA .3689 TC3-5.9300 BAU .6389
 RDE -.0950 RRA .1960 RC3 -.8983 FAU .26013
 FDE .4798 FRA 4.3298 FC-28.2646 BSP 5615
 BDE .1879 BRA .4177 BC3 5.9977 FSP 2787

Mid-Course Execution Accuracy

SGT 3458.3 SGR 690.0 SG3 1603.0
 RRT .8814 RRF .9310 RTF .9453
 SGB 3526.4 R23 .1917 R13 .9486
 SG1 3511.8 SG2 320.9 THA 10.06

Orbit Determination Accuracy

ST 21.0 SR 11.6 SS 37.0
 CRT .9836 CRS -.2577 CST -.3209
 LSA 38.1 MSA 22.1 SSA 1.7
 EL1 23.9 EL2 1.8 ALF 28.69

LAUNCH DATE MAY 22 1971

FLIGHT TIME 214.00

ARRIVAL DATE DEC 22 1971

Heliocentric Conic

RL 151.44 LAL -.00 LOL 240.27 VL 32.201 GAL .45 AZL 90.89 HCA 159.31 SMA 185.41 ECC .18339 INC .8875 V1 29.421
 RP 217.08 LAP -.31 LOP 39.58 VP 22.515 GAP 3.88 AZP 89.17 TAL 2.90 TAP 162.21 RCA 151.41 APO 219.41 V2 25.308
 RC 166.178 GL -10.18 GP -7.88 ZAL 91.66 ZAP 79.66 ETS 177.91 ZAE 121.66 ETE 185.51 ZAC 94.15 ETC 273.38 LVI -4.62

Planetocentric Conic

C3 7.971 VHL 2.823 DLA -20.25 RAL 337.82 RAD 6637.0 VEL 11.318 PTH 6.37 VHP 2.839 DPA -29.75 RAP 303.45 ECC 1.1312
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 11 31 2527.23 -8.76 67.58 185.61 136.96 15 53 39 1527.2 9.63 51.82
 60.00 16 19 22 2357.44 -4.85 56.02 189.35 130.06 16 54 40 1357.4 11.21 38.02
 70.00 17 36 10 2119.92 -1.01 39.66 192.25 124.14 18 11 30 1119.9 12.78 19.90
 80.00 19 12 35 1818.17 2.08 18.68 194.18 119.79 19 42 53 818.2 14.05 357.72
 90.00 20 47 12 1512.99 3.35 356.94 194.88 118.10 21 12 25 513.0 14.57 335.54
 100.00 21 55 27 1292.64 2.08 340.05 194.18 119.79 22 16 59 292.6 14.05 319.09
 110.00 22 35 36 1166.74 -1.01 328.58 192.25 124.14 22 53 3 166.7 12.78 308.82

Differential Corrections

TDE -.1399 TRA .4112 TC3-6.2073 BAU .6692
 RDE -.0850 RRA .2033 RC3 -.9494 FAU .25770
 FDE .5846 FRA 4.3561 FC-27.9881 BSP 5916
 BDE .1637 BRA .4587 BC3 6.2795 FSP 2758

Mid-Course Execution Accuracy

SGT 3627.3 SGR 714.5 SG3 1593.0
 RRT .8948 RRF .9421 RTF .5.85
 SGB 3697.0 R23 .1947 R13 .9516
 SG1 3683.6 SG2 314.1 THA 10.07

Orbit Determination Accuracy

ST 20.2 SR 10.9 SS 38.0
 CRT .9772 CRS -.2607 CST -.3733
 LSA 39.2 MSA 20.8 SSA 1.7
 EL1 22.8 EL2 2.0 ALF 28.04

LAUNCH DATE MAY 22 1971

FLIGHT TIME 216.00

ARRIVAL DATE DEC 24 1971

Heliocentric Conic

RL 151.44 LAL -.00 LOL 240.27 VL 32.207 GAL .39 AZL 90.83 HCA 160.45 SMA 185.50 ECC .18373 INC .8279 V1 29.421
 RP 217.43 LAP -.28 LOP 40.73 VP 22.478 GAP 3.73 AZP 89.22 TAL 2.53 TAP 162.98 RCA 151.42 APO 219.58 V2 25.269
 RC 168.717 GL -9.49 GP -8.28 ZAL 92.31 ZAP 78.03 ETS 177.57 ZAE 119.86 ETE 185.40 ZAC 93.78 ETC 273.26 LVI -4.07

Planetocentric Conic

C3 7.978 VHL 2.823 DLA -19.37 RAL 338.18 RAD 6637.0 VEL 11.318 PTH 6.37 VHP 2.850 DPA -30.24 RAP 302.98 ECC 1.1313
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 9 7 2545.99 -9.69 68.39 185.90 136.81 15 51 33 1546.0 8.70 52.63
 60.00 16 11 38 2379.73 -5.82 57.09 189.58 129.95 16 51 18 1379.7 10.25 39.12
 70.00 17 30 42 2147.33 -2.06 41.09 192.43 124.10 18 6 29 1147.3 11.79 21.40
 80.00 19 5 8 1851.78 .95 20.53 194.30 119.84 19 35 59 851.8 13.02 359.68
 90.00 20 38 41 1550.00 2.16 359.01 194.97 118.20 21 4 31 550.0 13.92 337.74
 100.00 21 47 59 1326.25 .95 341.90 194.30 119.84 22 10 6 326.3 13.02 321.05
 110.00 22 30 8 1194.15 -2.06 330.01 192.43 124.10 22 50 2 194.2 11.79 310.32

Differential Corrections

TDE -.1128 TRA .4528 TC3-6.4770 BAU .6990
 RDE -.0737 RRA .2111 RC3-1.0021 FAU .25433
 FDE .7068 FRA 4.3667 FC-27.5997 BSP 6230
 BDE .1347 BRA .4996 BC3 6.5540 FSP 2738

Mid-Course Execution Accuracy

SGT 3793.1 SGR 740.8 SG3 1577.4
 RRT .9065 RRF .9518 RTF .9511
 SGB 3864.8 R23 .1989 R13 .9540
 SG1 3852.5 SG2 308.0 THA 10.11

Orbit Determination Accuracy

ST 19.3 SR 10.1 SS 39.3
 CRT .9660 CRS -.2736 CST -.4417
 LSA 40.7 MSA 19.2 SSA 1.7
 EL1 21.7 EL2 2.3 ALF 27.20

LAUNCH DATE MAY 22 1971 FLIGHT TIME 216.00 ARRIVAL DATE DEC 28 1971

Table with columns for Heliocentric Conic (RL, RP, RC), Planeto-centric Conic (LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG), Differential Corrections (TDE, RDE, FDE, BDE), Mid-course Execution Accuracy (SGT, RRT, SGB, SGI), and Orbit Determination Accuracy (ST, CRT, LSA, EL1).

LAUNCH DATE MAY 22 1971 FLIGHT TIME 220.00 ARRIVAL DATE DEC 28 1971

Table with columns for Heliocentric Conic (RL, RP, RC), Planeto-centric Conic (LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG), Differential Corrections (TDE, RDE, FDE, BDE), Mid-course Execution Accuracy (SGT, RRT, SGB, SGI), and Orbit Determination Accuracy (ST, CRT, LSA, EL1).

LAUNCH DATE MAY 22 1971 FLIGHT TIME 222.00 ARRIVAL DATE DEC 30 1971

Table with columns for Heliocentric Conic (RL, RP, RC), Planeto-centric Conic (LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG), Differential Corrections (TDE, RDE, FDE, BDE), Mid-course Execution Accuracy (SGT, RRT, SGB, SGI), and Orbit Determination Accuracy (ST, CRT, LSA, EL1).

LAUNCH DATE MAY 22 1971 FLIGHT TIME 224.00 ARRIVAL DATE JAN 1 1972

Table with columns for Heliocentric Conic (RL, RP, RC), Planeto-centric Conic (LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG), Differential Corrections (TDE, RDE, FDE, BDE), Mid-course Execution Accuracy (SGT, RRT, SGB, SGI), and Orbit Determination Accuracy (ST, CRT, LSA, EL1).

LAUNCH DATE MAY 22 1971

FLIGHT TIME 226.00

ARRIVAL DATE JAN 3 1972

HELIOCENTRIC CONIC

RL 131.44 LAL -.00 LOL 240.27 VL 32.238 GAL .09 AZL 90.39 HCA 186.14 SMA 186.01 ECC .18588 INC .3936 VI 29.421
 RP 219.25 LAP -.09 LOP 46.41 VP 22.298 GAP 2.99 AZP 89.62 TAL .54 TAP 166.68 RCA 151.44 APO 220.59 V2 25.088
 RC 181.572 GL -4.48 GP -11.15 ZAL 95.79 ZAP 70.66 ETS 175.30 ZAE 111.32 ETE 184.99 ZAC 91.04 ETC 272.77 LVI -.70

PLANETOCENTRIC CONIC

C3 8.071 VHL 2.841 DLA -13.44 RAL 339.95 RAD 6637.0 VEL 11.322 PTH 6.38 VHP 2.942 DPA -33.45 RAP 301.46 ECC 1.1328
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 50 10 2670.66 -15.81 73.89 187.17 135.48 15 34 40 1670.7 2.46 57.89
 60.00 15 44 43 2525.61 -12.13 64.25 190.60 126.73 16 26 48 1525.6 3.90 46.21
 70.00 16 53 57 2322.08 -8.66 50.31 193.16 123.17 17 32 39 1322.1 5.28 30.75
 80.00 18 18 6 2058.67 -6.03 31.92 194.76 119.30 18 52 25 1058.7 6.34 11.40
 90.00 19 46 36 1773.16 -5.02 11.48 195.32 117.87 20 16 9 773.2 6.75 350.64
 100.00 21 0 58 1533.14 -6.03 353.29 194.76 119.30 21 26 31 533.1 6.34 332.77
 110.00 21 53 23 1368.90 -8.66 339.22 193.16 123.17 22 16 12 368.9 5.28 319.67

DIFFERENTIAL CORRECTIONS

TDE .0981 TRA .6627 TC3-7.7481 BAU .8489
 RDE -.0008 RRA .2716 RC3-1.3661 FAU .23391
 FDE 1.3338 FRA 4.3415 FC-25.0894 BSP 7583
 BDE .0981 BRA .7162 BC3 7.8676 FSP 2434

MID-COURSE EXECUTION ACCURACY

SGT 4816.2 SGR 959.0 SG3 1475.2
 RRT .9467 RRF .9852 RTF .9600
 SGB 4714.7 R23 .2249 R13 .9630
 SG1 4705.0 SG2 303.1 THA 11.17

ORBIT DETERMINATION ACCURACY

ST 23.8 SR 8.5 SS 48.7
 CRT .8923 CRS -.7065 CST -.9323
 LSA 54.1 MSA 9.4 SSA 2.0
 EL1 25.0 EL2 3.7 ALF 18.13

LAUNCH DATE MAY 22 1971

FLIGHT TIME 228.00

ARRIVAL DATE JAN 5 1972

HELIOCENTRIC CONIC

RL 151.44 LAL -.00 LOL 240.27 VL 32.245 GAL .02 AZL 90.26 HCA 167.27 SMA 186.13 ECC .18644 INC .2625 V1 29.421
 RP 219.62 LAP -.06 LOP 47.54 VP 22.262 GAP 2.85 AZP 89.74 TAL .13 TAP 167.39 RCA 151.44 APO 220.83 V2 25.028
 RC 184.172 GL -2.99 GP -12.01 ZAL 96.52 ZAP 69.36 ETS 174.66 ZAE 109.70 ETE 184.94 ZAC 90.21 ETC 272.71 LVI .19

PLANETOCENTRIC CONIC

C3 8.109 VHL 2.848 DLA -11.79 RAL 339.66 RAD 6637.1 VEL 11.324 PTH 6.38 VHP 2.969 DPA -34.34 RAP 301.36 ECC 1.1335
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 44 9 2705.15 -17.48 75.47 187.39 134.99 15 29 15 1705.2 .73 59.33
 60.00 15 36 43 2565.39 -13.82 66.26 190.77 128.24 16 19 28 1565.4 2.16 48.12
 70.00 16 43 36 2368.76 -10.39 52.82 193.27 122.72 17 23 4 1368.8 3.51 33.20
 80.00 18 5 28 2112.50 -7.81 34.92 194.82 118.91 18 40 40 1112.5 4.54 14.39
 90.00 19 32 54 1830.39 -6.83 14.71 195.36 117.51 20 3 24 830.4 4.94 353.86
 100.00 20 48 19 1586.97 -7.81 356.29 194.82 118.91 21 14 46 587.0 4.54 335.76
 110.00 21 43 2 1415.58 -10.39 341.73 193.27 122.72 22 6 37 415.6 3.51 322.12

DIFFERENTIAL CORRECTIONS

TDE .1709 TRA .6149 TC3-8.1189 BAU .8960
 RDE .0246 RRA .2491 RC3-1.5445 FAU .24035
 FDE 1.5461 FRA 3.6339 FC-25.6601 BSP 7838
 BDE .1727 BRA .6634 BC3 8.2645 FSP 2362

MID-COURSE EXECUTION ACCURACY

SGT 4805.9 SGR 1018.9 SG3 1443.3
 RRT .9662 RRF .9889 RTF .9727
 SGB 4912.7 R23 .1801 R13 .9747
 SG1 4906.0 SG2 257.3 THA 11.61

ORBIT DETERMINATION ACCURACY

ST 26.5 SR 8.2 SS 49.5
 CRT .9099 CRS -.8076 CST -.9676
 LSA 56.3 MSA 7.2 SSA 2.0
 EL1 27.6 EL2 3.3 ALF 15.89

LAUNCH DATE MAY 22 1971

FLIGHT TIME 230.00

ARRIVAL DATE JAN 7 1972

HELIOCENTRIC CONIC

RL 151.44 LAL -.00 LOL 240.27 VL 32.252 GAL -.05 AZL 90.11 HCA 168.39 SMA 186.26 ECC .18694 INC .1081 V1 29.421
 RP 219.99 LAP -.02 LOP 48.66 VP 22.227 GAP 2.70 AZP 89.89 TAL 359.70 TAP 168.09 RCA 151.44 APO 221.08 V2 24.987
 RC 186.781 GL -1.23 GP -13.01 ZAL 97.26 ZAP 68.14 ETS 173.93 ZAE 108.12 ETE 184.90 ZAC 89.22 ETC 272.65 LVI 1.90

PLANETOCENTRIC CONIC

C3 8.160 VHL 2.857 DLA -9.89 RAL 339.69 RAD 6637.1 VEL 11.326 PTH 6.38 VHP 3.000 DPA -35.36 RAP 301.34 ECC 1.1343
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 36 56 2744.79 -19.38 77.33 187.60 134.35 15 22 41 1744.8 -1.26 60.99
 60.00 15 27 16 2610.94 -15.72 68.60 190.93 127.60 16 10 47 1610.9 .15 50.29
 70.00 16 31 35 2421.86 -12.33 55.71 193.37 122.11 17 11 57 1421.9 1.49 35.98
 80.00 17 51 0 2173.26 -9.80 38.34 194.87 118.35 18 27 13 1173.3 2.49 17.74
 90.00 19 17 20 1894.73 -8.83 18.37 195.38 116.97 19 48 54 894.7 2.88 357.47
 100.00 20 33 52 1647.73 -9.80 359.71 194.87 118.35 21 1 19 647.7 2.49 339.10
 110.00 21 31 1 1468.67 -12.33 344.62 193.37 122.11 21 55 30 468.7 1.49 324.89

DIFFERENTIAL CORRECTIONS

TDE .2591 TRA .7463 TC3-8.0738 BAU .8963
 RDE .0538 RRA .3156 RC3-1.5245 FAU .21448
 FDE 1.7544 FRA 4.3136 FC-22.7559 BSP 8457
 BDE .2647 BRA .8103 BC3 8.2165 FSP 2490

MID-COURSE EXECUTION ACCURACY

SGT 4884.2 SGR 1087.7 SG3 1389.2
 RRT .9506 RRF .9918 RTF .5.68
 SGB 5003.9 R23 .2516 R13 .9605
 SG1 4993.0 SG2 330.4 THA 12.01

ORBIT DETERMINATION ACCURACY

ST 35.3 SR 11.1 SS 57.2
 CRT .9410 CRS -.9146 CST -.9911
 LSA 67.9 MSA 5.2 SSA 2.6
 EL1 36.8 EL2 3.6 ALF 16.70

LAUNCH DATE MAY 22 1971

FLIGHT TIME 232.00

ARRIVAL DATE JAN 9 1972

HELIOCENTRIC CONIC

RL 151.44 LAL -.00 LOL 240.27 VL 32.260 GAL -.11 AZL 89.92 HCA 169.51 SMA 186.39 ECC .18751 INC .0660 V1 29.421
 RP 220.36 LAP .01 LOP 49.78 VP 22.192 GAP 2.56 AZP 90.08 TAL 359.27 TAP 168.78 RCA 151.44 APO 221.34 V2 24.946
 RC 189.399 GL .87 GP -14.21 ZAL 97.99 ZAP 66.99 ETS 173.07 ZAE 106.55 ETE 184.88 ZAC 88.03 ETC 272.60 LVI 2.39

PLANETOCENTRIC CONIC

C3 8.230 VHL 2.869 DLA -7.66 RAL 339.58 RAD 6637.1 VEL 11.329 PTH 6.38 VHP 3.036 DPA -36.58 RAP 301.42 ECC 1.1354
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 28 8 2791.17 -21.57 79.56 187.82 133.50 15 14 39 1791.2 -3.59 62.93
 60.00 15 15 57 2663.99 -17.90 71.39 191.10 126.73 16 0 21 1664.0 -2.18 52.83
 70.00 16 17 24 2483.32 -14.53 59.11 193.47 121.26 16 58 47 1483.3 -.86 39.18
 80.00 17 34 7 2243.12 -12.03 42.33 194.92 117.54 18 11 30 1243.1 .13 21.57
 90.00 18 59 15 1968.45 -11.08 22.62 195.41 116.19 19 32 4 968.5 .51 1.59
 100.00 20 16 59 1717.59 -12.03 3.69 194.92 117.54 20 45 37 717.6 -.13 342.94
 110.00 21 16 50 1530.14 -14.53 348.03 193.47 121.26 21 42 20 530.1 -.86 328.10

DIFFERENTIAL CORRECTIONS

TDE .3382 TRA .7728 TC3-8.3774 BAU .9411
 RDE .0763 RRA .3378 RC3-1.7276 FAU .21753
 FDE 1.7977 FRA 4.1898 FC-22.8832 BSP 8649
 BDE .3467 BRA .8434 BC3 8.5537 FSP 2346

MID-COURSE EXECUTION ACCURACY

SGT 5097.6 SGR 1212.1 SG3 1383.9
 RRT .9593 RRF .9946 RTF .9637
 SGB 5239.7 R23 .2342 R13 .9672
 SG1 5229.1 SG2 335.5 THA 12.90

ORBIT DETERMINATION ACCURACY

ST 41.7 SR 12.8 SS 57.9
 CRT .9473 CRS -.9509 CST -.9964
 LSA 72.3 MSA 4.0 SSA 2.8
 EL1 43.4 EL2 3.9 ALF 16.39

LAUNCH DATE MAY 22 1971

FLIGHT TIME 234.00

ARRIVAL DATE JAN 11 1972

HELIOCENTRIC CONIC

RL 151.44 LAL -.00 LOL 240.27 VL 32.267 GAL -.18 AZL 89.69 HCA 170.62 SMA 186.52 ECC .18810 INC .3041 V1 29.421
RP 220.74 LAP .05 LOP 50.89 VP 22.157 GAP 2.42 AZP 90.30 TAL 358.84 TAP 169.46 RCA 151.43 APO 221.60 V2 24.904
RC 192.025 GL 3.44 GP -15.67 ZAL 98.73 ZAP 65.96 ETS 172.04 ZAE 105.02 ETE 184.87 ZAC 86.58 ETC 272.56 LVI 3.80

DISTANCE 542.421

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 8.332 VHL 2.887 DLA -5.00 RAL 339.32 RAD 6637.2 VEL 11.333 PTH 6.39 VHP 3.079 DPA -38.03 RAP 301.62 ECC 1.1371
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 17 12 2046.70 -24.14 82.34 188.09 132.33 15 4 39 1846.7 -6.37 65.27
60.00 15 2 7 2727.26 -20.44 74.81 191.32 125.52 15 47 34 1727.3 -4.96 55.86
70.00 16 0 17 2556.20 -17.06 63.24 193.62 120.05 16 42 53 1556.2 -3.64 42.99
80.00 17 13 59 2325.46 -14.57 47.12 195.01 116.35 17 52 45 1325.5 -2.66 26.09
90.00 18 37 47 2055.08 -13.63 27.70 195.47 115.02 19 12 2 1055.1 -2.29 6.42
100.00 19 56 51 1799.93 -14.57 8.48 195.01 116.35 20 26 51 799.9 -2.66 347.48
110.00 20 59 44 1603.02 -17.06 352.16 193.62 120.05 21 26 27 603.0 -3.64 331.91

DIFFERENTIAL CORRECTIONS

TDE .4593 TRA .7928 TC3-8.4986 BAU .9692
RDE .1187 RRA .3657 RC3-1.8623 FAU .20782
FDE 2.0179 FRA 4.0558 FC-21.5923 BSP 8916
BDE .4744 BRA .8731 BC3 8.7003 FSP 2255

MID-COURSE EXECUTION ACCURACY

SGT 5234.4 SGR 1320.0 SG3 1329.4
RRT .9611 RRF .9963 RTF .9632
SCB 5398.3 R23 .2398 R13 .9672
SG1 5386.7 SG2 354.1 THA 13.68

ORBIT DETERMINATION ACCURACY

ST 51.9 SR 16.2 SS 62.5
CRT .9638 CRS -.9793 CST -.9960
LSA 82.7 MSA 4.7 SSA 1.9
EL1 54.2 EL2 4.1 ALF 16.80

LAUNCH DATE MAY 22 1971

FLIGHT TIME 236.00

ARRIVAL DATE JAN 13 1972

HELIOCENTRIC CONIC

RL 151.44 LAL -.00 LOL 240.27 VL 32.275 GAL -.25 AZL 89.40 HCA 171.73 SMA 186.66 ECC .18872 INC .5933 V1 29.421
RP 221.12 LAP .09 LOP 52.00 VP 22.122 GAP 2.28 AZP 90.59 TAL 358.40 TAP 170.12 RCA 151.43 APO 221.88 V2 24.863
RC 194.859 GL 6.63 GP -17.47 ZAL 99.44 ZAP 65.06 ETS 170.80 ZAE 103.50 ETE 184.89 ZAC 84.79 ETC 272.54 LVI 5.51

DISTANCE 546.568

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 8.490 VHL 2.914 DLA -1.76 RAL 338.83 RAD 6637.3 VEL 11.340 PTH 6.39 VHP 3.133 DPA -39.82 RAP 301.99 ECC 1.1397
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 3 21 2914.89 -27.22 85.91 188.47 130.66 14 31 56 1914.9 -9.77 68.18
60.00 14 44 48 2804.66 -23.44 79.16 191.65 123.77 15 31 32 1804.7 -8.34 59.61
70.00 15 39 6 2644.97 -20.00 68.44 193.87 118.28 16 23 11 1645.0 -7.00 47.67
80.00 16 49 16 2425.27 -17.49 53.08 195.19 114.59 17 29 41 1425.3 -6.01 31.60
90.00 18 11 31 2159.87 -16.55 34.01 195.63 113.26 18 47 31 1159.9 -5.64 12.30
100.00 19 32 8 1899.74 -17.49 14.45 195.19 114.59 20 3 47 899.7 -6.01 352.97
110.00 20 38 32 1691.79 -20.00 357.35 193.87 118.28 21 6 44 691.8 -7.00 336.58

DIFFERENTIAL CORRECTIONS

TDE .6095 TRA .8071 TC3-8.8063 BAU 1.0040
RDE .1747 RRA .4023 RC3-2.0426 FAU .19969
FDE 2.2571 FRA 3.9196 FC-20.3627 BSP 9244
BDE .6341 BRA .9019 BC3 8.8454 FSP 2186

MID-COURSE EXECUTION ACCURACY

SGT 5395.5 SGR 1470.4 SG3 1281.4
RRT .9629 RRF .9976 RTF .9632
SCB 5592.2 R23 .2425 R13 .9678
SG1 5579.0 SG2 383.8 THA 14.77

ORBIT DETERMINATION ACCURACY

ST 64.9 SR 21.0 SS 67.9
CRT .9742 CRS -.9922 CST -.9938
LSA 96.1 MSA 6.2 SSA 1.1
EL1 68.1 EL2 4.5 ALF 17.54

LAUNCH DATE MAY 22 1971

FLIGHT TIME 238.00

ARRIVAL DATE JAN 15 1972

HELIOCENTRIC CONIC

RL 151.44 LAL -.00 LOL 240.27 VL 32.284 GAL -.33 AZL 89.02 HCA 172.83 SMA 186.80 ECC .18936 INC .9742 V1 29.421
RP 221.50 LAP .12 LOP 53.11 VP 22.087 GAP 2.14 AZP 90.97 TAL 357.95 TAP 170.78 RCA 151.42 APO 222.17 V2 24.821
RC 197.299 GL 10.71 GP -19.76 ZAL 100.09 ZAP 64.35 ETS 169.27 ZAE 102.00 ETE 184.94 ZAC 82.50 ETC 272.53 LVI 7.66

DISTANCE 550.710

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 8.748 VHL 2.958 DLA 2.31 RAL 338.01 RAD 6637.4 VEL 11.351 PTH 6.40 VHP 3.204 DPA -42.06 RAP 302.99 ECC 1.1440
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 13 45 18 3001.40 -30.96 90.76 189.15 128.12 14 35 17 2001.4 -14.03 71.97
60.00 14 22 24 2902.60 -27.02 84.97 192.26 121.12 15 10 47 1902.6 -12.54 64.46
70.00 15 11 56 2756.95 -23.46 75.28 194.38 115.56 15 57 52 1757.0 -11.16 53.67
80.00 16 17 44 2550.85 -20.87 60.87 195.61 111.85 17 0 15 1550.8 -10.13 38.65
90.00 17 38 6 2291.55 -19.90 42.22 196.01 110.52 18 16 17 1291.6 -9.74 19.79
100.00 19 0 36 2025.32 -20.87 22.24 195.61 111.85 19 34 22 1025.3 -10.13 .01
110.00 20 11 22 1803.77 -23.46 4.20 194.38 115.56 20 41 26 803.8 -11.16 342.59

DIFFERENTIAL CORRECTIONS

TDE .8142 TRA .8115 TC3-8.5688 BAU 1.0355
RDE .2547 RRA .4465 RC3-2.2300 FAU .18848
FDE 2.5402 FRA 3.7225 FC-18.6526 BSP 9653
BDE .8532 BRA .9263 BC3 8.8542 FSP 2096

MID-COURSE EXECUTION ACCURACY

SGT 5536.8 SGR 1653.2 SG3 1215.9
RRT .9643 RRF .9985 RTF .9631
SCB 5778.3 R23 .2432 R13 .9685
SG1 5763.0 SG2 420.4 THA 16.15

ORBIT DETERMINATION ACCURACY

ST 82.7 SR 28.0 SS 74.6
CRT .9812 CRS -.9975 CST -.9919
LSA 114.5 MSA 7.9 SSA .6
EL1 87.1 EL2 5.1 ALF 18.42

LAUNCH DATE MAY 22 1971

FLIGHT TIME 240.00

ARRIVAL DATE JAN 17 1972

HELIOCENTRIC CONIC

RL 151.44 LAL -.00 LOL 240.27 VL 32.292 GAL -.40 AZL 88.51 HCA 173.94 SMA 186.94 ECC .19003 INC 1.4875 V1 29.421
RP 221.88 LAP .16 LOP 54.21 VP 22.053 GAP 2.00 AZP 91.48 TAL 357.50 TAP 171.44 RCA 151.42 APO 222.46 V2 24.780
RC 199.945 GL 16.04 GP -22.75 ZAL 100.62 ZAP 63.94 ETS 167.35 ZAE 100.51 ETE 185.03 ZAC 79.51 ETC 272.55 LVI 10.44

DISTANCE 554.847

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 9.205 VHL 3.034 DLA 7.54 RAL 336.70 RAD 6637.6 VEL 11.371 PTH 6.42 VHP 3.303 DPA -44.97 RAP 303.55 ECC 1.1515
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 13 20 45 3115.61 -35.54 97.80 190.52 123.99 14 12 41 2115.6 -19.55 77.22
60.00 13 52 14 3031.84 -31.29 93.24 193.51 116.81 14 42 46 2031.8 -17.93 71.14
70.00 14 35 25 2904.81 -27.46 84.90 195.46 111.15 15 23 50 1904.8 -16.42 61.89
80.00 15 35 24 2716.90 -24.68 71.73 196.54 107.36 16 20 41 1716.9 -15.29 48.27
90.00 16 53 12 2465.83 -23.63 53.62 196.89 106.00 17 34 18 1465.8 -14.87 30.02
100.00 18 18 16 2191.37 -24.68 33.10 196.54 107.36 18 54 48 1191.4 -15.29 9.63
110.00 19 34 51 1951.63 -27.46 13.82 195.46 111.15 20 7 23 951.6 -16.42 350.81

DIFFERENTIAL CORRECTIONS

TDE 1.0937 TRA .7924 TC3-8.3660 BAU 1.0720
RDE .3784 RRA .4998 RC3-2.4299 FAU .17508
FDE 2.8731 FRA 3.4472 FC-16.4671 BSP 10091
BDE 1.1566 BRA .9360 BC3 8.7117 FSP 1978

MID-COURSE EXECUTION ACCURACY

SGT 5684.5 SGR 1893.6 SG3 1134.4
RRT .9652 RRF .9991 RTF .9625
SCB 5991.6 R23 .2434 R13 .9691
SG1 5973.0 SG2 471.0 THA 17.94

ORBIT DETERMINATION ACCURACY

ST 106.0 SR 38.4 SS 82.5
CRT .9862 CRS -.9994 CST -.9911
LSA 139.3 MSA 9.7 SSA .4
EL1 112.6 EL2 6.0 ALF 19.70

LAUNCH DATE MAY 22 1971

FLIGHT TIME 242.00

ARRIVAL DATE JAN 19 1972

HELIOCENTRIC CONIC
 RL 151.44 LAL -.00 LOL 240.27 VL 32.301 GAL -.47 AZL 87.78 HCA 175.03 SMA 187.09 ECC .19071 INC 2.2216 V1 29.421
 RP 222.27 LAP .19 LOP 55.31 VP 22.019 GAP 1.86 AZP 92.22 TAL 357.05 TAP 172.08 RCA 151.41 APO 222.77 V2 24.738
 RC 202.595 GL 23.24 GP -26.79 ZAL 100.90 ZAP 63.99 ETS 164.91 ZAE 99.03 ETE 185.19 ZAC 75.48 ETC 272.61 LVI 14.14

PLANETOCENTRIC CONIC
 C3 10.092 VHL 3.177 DLA 14.47 RAL 334.60 RAD 8638.1 VEL 11.410 PTH 6.46 VHP 3.453 DPA -48.86 RAP 305.12 ECC 1.1661
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 12 45 39 3274.08 -41.01 109.00 193.59 116.62 13 40 13 2274.1 -26.86 85.20
 60.00 13 8 59 3211.98 -36.12 106.06 196.24 109.25 14 2 31 2212.0 -24.94 81.21
 70.00 13 42 42 3112.76 -31.70 99.58 197.80 103.43 14 34 35 2112.8 -23.12 74.29
 80.00 14 33 36 2953.26 -28.44 88.25 198.56 99.48 15 22 49 1953.3 -21.74 62.84
 90.00 15 47 15 2715.53 -27.21 71.00 198.77 98.03 16 32 31 1715.5 -21.21 45.58
 100.00 17 16 28 2427.73 -28.44 49.62 198.56 99.48 17 56 56 1427.7 -21.74 24.21
 110.00 18 42 8 2159.58 -31.70 28.50 197.80 103.43 19 18 8 1159.6 -23.12 3.21

DIFFERENTIAL CORRECTIONS
 TDE 1.4778 TRA .7201 TC3-7.8907 BAU 1.1212 SGT 5834.1 SGR 2204.7 SG3 1018.9 ST 135.0 SR 53.3 SS 89.5
 RDE .5645 RRA .5572 RC3-2.6086 FAU .15816 RRT .9652 RRF .9994 RTF .9607 CRT .9892 CRS -.9999 CST -.9908
 FDE 3.1808 FRA 3.0212 FC-13.5683 BSP 10342 SGB 8236.8 R23 .2450 R13 .9691 LSA 170.1 MSA 11.5 SSA .2
 BDE 1.5819 BRA .9105 BC3 8.3107 FSP 1760 SGI 8213.2 SG2 541.4 THA 20.20 EL1 144.9 EL2 7.3 ALF 21.38

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 22 1971

FLIGHT TIME 244.00

ARRIVAL DATE JAN 21 1972

HELIOCENTRIC CONIC
 RL 151.44 LAL -.00 LOL 240.27 VL 32.310 GAL -.55 AZL 86.63 HCA 176.13 SMA 187.24 ECC .19142 INC 3.3663 V1 29.421
 RP 222.65 LAP .23 LOP 56.41 VP 21.985 GAP 1.72 AZP 93.36 TAL 356.59 TAP 172.72 RCA 151.40 APO 223.08 V2 24.696
 RC 205.250 GL 33.17 GP -32.42 ZAL 100.67 ZAP 64.89 ETS 161.81 ZAE 97.57 ETE 185.47 ZAC 69.84 ETC 272.75 LVI 19.25

PLANETOCENTRIC CONIC
 C3 12.050 VHL 3.471 DLA 23.89 RAL 331.13 RAD 8639.1 VEL 11.495 PTH 6.54 VHP 3.714 DPA -54.22 RAP 307.96 ECC 1.1903
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 11 50 59 3508.56 -46.38 128.90 200.76 102.09 12 49 28 2508.6 -36.51 99.21
 60.00 12 0 14 3483.94 -40.05 127.98 202.06 94.90 12 58 18 2483.9 -33.75 98.81
 70.00 12 15 28 3439.03 -34.14 124.60 202.30 88.92 13 12 47 2439.0 -31.01 96.31
 80.00 12 44 55 3346.65 -29.37 117.27 201.98 84.38 13 40 42 2346.7 -28.72 89.87
 90.00 13 46 44 3147.05 -27.35 102.35 201.71 82.50 14 39 11 2147.1 -27.73 75.35
 100.00 15 27 47 2821.13 -29.37 78.64 201.98 84.38 16 14 48 1821.1 -28.72 51.23
 110.00 17 14 55 2485.85 -34.14 53.51 202.30 88.92 17 56 20 1485.8 -31.01 25.23

DIFFERENTIAL CORRECTIONS
 TDE 2.0814 TRA .5582 TC3-6.9105 BAU 1.1942 SGT 5986.3 SGR 2625.1 SG3 853.2 ST 172.6 SR 76.4 SS 94.7
 RDE .9040 RRA .6059 RC3-2.6826 FAU .13587 RRT .9649 RRF .9995 RTF .9578 CRT .9917 CRS-1.0000 CST -.9912
 FDE 3.4884 FRA 2.3786 FC3-9.7620 BSP 10483 SGB 6536.6 R23 .2464 R13 .9689 LSA 210.8 MSA 13.0 SSA .1
 BDE 2.2692 BRA .8238 BC3 7.4129 FSP 1443 SGI 6505.7 SG2 634.2 THA 23.17 EL1 188.5 EL2 9.0 ALF 23.77

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 22 1971

FLIGHT TIME 246.00

ARRIVAL DATE JAN 23 1972

HELIOCENTRIC CONIC
 RL 151.44 LAL -.00 LOL 240.27 VL 32.319 GAL -.82 AZL 84.60 HCA 177.21 SMA 187.39 ECC .19214 INC 5.4042 V1 29.421
 RP 223.04 LAP .26 LOP 57.90 VP 21.951 GAP 1.57 AZP 95.40 TAL 356.14 TAP 173.35 RCA 151.38 APO 223.39 V2 24.654
 RC 207.907 GL 47.00 GP -40.52 ZAL 99.48 ZAP 67.33 ETS 158.14 ZAE 96.22 ETE 186.07 ZAC 61.71 ETC 273.12 LVI 26.47

PLANETOCENTRIC CONIC
 C3 17.317 VHL 4.161 DLA 36.68 RAL 324.93 RAD 8641.6 VEL 11.720 PTH 6.75 VHP 4.249 DPA -61.70 RAP 314.00 ECC 1.2850
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 10 10 23 3893.55 -45.50 165.33 213.58 74.27 11 15 17 2893.5 -46.62 130.27
 60.00 9 36 4 3985.44 -34.70 168.74 208.77 68.07 10 42 29 2985.4 -40.22 139.10
 65.61 8 9 34 4237.48 -22.14 182.44 201.84 59.98 9 20 12 3237.5 -32.50 157.98
 65.61 8 9 34 4237.48 -22.14 182.44 201.84 59.98 9 20 12 3237.5 -32.50 157.98
 65.61 8 9 34 4237.48 -22.14 182.44 201.84 59.98 9 20 12 3237.5 -32.50 157.98
 65.61 8 9 34 4237.48 -22.14 182.44 201.84 59.98 9 20 12 3237.5 -32.50 157.98

DIFFERENTIAL CORRECTIONS
 TDE 3.2588 TRA .2975 TC3-4.9218 BAU 1.2593 SGT 6097.0 SGR 3185.1 SG3 604.3 ST 224.6 SR 115.8 SS 93.8
 RDE 1.6643 RRA .6318 RC3-2.3168 FAU .09741 RRT .9647 RRF .9989 RTF .522 CRT .9943 CRS -.9999 CST -.9926
 FDE 3.6659 FRA 1.9420 FC3-4.8700 BSP 11689 SGB 6878.8 R23 .2514 R13 .9678 LSA 269.1 MSA 14.0 SSA .1
 BDE 3.6592 BRA .6984 BC3 5.4398 FSP 1086 SGI 6838.0 SG2 748.1 THA 27.10 EL1 252.4 EL2 11.0 ALF 27.19

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 22 1971

FLIGHT TIME 248.00

ARRIVAL DATE JAN 25 1972

HELIOCENTRIC CONIC
 RL 151.44 LAL -.00 LOL 240.27 VL 32.328 GAL -.70 AZL 80.02 HCA 178.29 SMA 187.54 ECC .19289 INC 9.9833 V1 29.421
 RP 223.42 LAP .30 LOP 58.58 VP 21.917 GAP 1.43 AZP 99.98 TAL 355.70 TAP 173.98 RCA 151.37 APO 223.72 V2 24.612
 RC 210.566 GL 65.75 GP -52.00 ZAL 96.79 ZAP 72.63 ETS 155.34 ZAE 95.46 ETE 188.02 ZAC 50.13 ETC 274.30 LVI 26.20

PLANETOCENTRIC CONIC
 C3 37.771 VHL 6.146 DLA 53.11 RAL 311.81 RAD 8649.9 VEL 12.556 PTH 7.43 VHP 5.688 DPA -71.10 RAP 331.40 ECC 1.6216
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 42.97 5 47 43 4666.26 -20.59 219.82 205.45 39.88 7 5 29 3666.3 -38.48 200.81
 42.97 5 47 43 4666.26 -20.59 219.82 205.45 39.88 7 5 29 3666.3 -38.48 200.81
 42.97 5 47 43 4666.26 -20.59 219.82 205.45 39.88 7 5 29 3666.3 -38.48 200.81
 42.97 5 47 43 4666.26 -20.59 219.82 205.45 39.88 7 5 29 3666.3 -38.48 200.81
 42.97 5 47 43 4666.26 -20.59 219.82 205.45 39.88 7 5 29 3666.3 -38.48 200.81
 42.97 5 47 43 4666.26 -20.59 219.82 205.45 39.88 7 5 29 3666.3 -38.48 200.81

DIFFERENTIAL CORRECTIONS
 TDE 5.6521 TRA -.4869 TC3-2.4810 BAU 1.4673 SGT 6134.9 SGR 3950.8 SG3 257.0 ST 263.7 SR 172.5 SS 63.5
 RDE 3.6961 RRA .3404 RC3-1.5125 FAU .04661 RRT .9665 RRF .9941 RTF .9331 CRT .9960 CRS -.9993 CST -.9921
 FDE 2.7604 FRA .4563 FC3-1.0684 BSP 12525 SGB 7297.0 R23 .2885 R13 .9574 LSA 321.2 MSA 14.2 SSA .0
 BDE 6.7533 BRA .5941 BC3 2.9056 FSP 491 SGI 7246.3 SG2 858.4 THA 32.41 EL1 314.9 EL2 12.8 ALF 33.14

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 22 1971 FLIGHT TIME 256.00 ARRIVAL DATE FEB 2 1972

Heliocentric Conic: RL 151.44 LAL -.00 LOL 240.27 VL 32.365 GAL -1.03 AZL 99.39 HCA 182.66 SMA 188.19 ECC .19609 INC 9.3905 V1 29.421
 RP 224.98 LAP .43 LOP 62.90 VP 21.785 GAP .89 AZP 80.62 TAL 353.68 TAP 176.34 RCA 151.29 APO 225.09 V2 24.445
 RC 221.219 GL -63.17 GP 40.60 ZAL 98.93 ZAP 64.21 ETS 203.60 ZAE 93.53 EYE 177.72 ZAC 142.55 ETC 275.34 LVI -48.34

Distance 587.853 Earth to Mars

Planetocentric Conic: C3 35.013 VHL 5.917 DLA -58.06 RAL 32.73 RAD 6648.9 VEL 12.446 PTH 7.35 VHP 4.417 DPA 17.67 RAP 292.95 ECC 1.9762
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 36.92 22 51 35 2038.40 22.96 56.08 287.40 144.94 23 25 34 1038.4 42.23 38.19
 36.92 22 51 35 2038.40 22.96 56.08 287.40 144.94 23 25 34 1038.4 42.23 38.19
 36.92 22 51 35 2038.40 22.96 56.08 287.40 144.94 23 25 34 1038.4 42.23 38.19
 36.92 22 51 35 2038.40 22.96 56.08 287.40 144.94 23 25 34 1038.4 42.23 38.19
 36.92 22 51 35 2038.40 22.96 56.08 287.40 144.94 23 25 34 1038.4 42.23 38.19
 36.92 22 51 35 2038.40 22.96 56.08 287.40 144.94 23 25 34 1038.4 42.23 38.19

Differential Corrections: TDE -.6377 TRA 3.0838 TC3-2.9364 BAU 1.5040 SGT 6657.7 SGR 3334.6 SG3 534.2 ST 90.3 SR 50.4 SS 41.3
 RDE -.5180 RRA-1.5913 RC3 1.3042 FAU .09603 RRT -.9684 RRF -.9961 RTF .9433 CRT -.6452 CRS .9753 CST -.4604
 FDE 1.5137 FRA 2.8999 FC3-2.3745 BSP 12548 SGB 7446.1 R23 .2841 R13 -.9585 LSA 100.5 MSA 48.0 SSA .1
 BDE .8216 BRA 3.4702 BC3 3.2130 FSP 976 SG1 7408.4 SG2 747.9 THA 153.84 EL1 97.0 EL2 35.9 ALF 156.83

LAUNCH DATE MAY 22 1971 FLIGHT TIME 258.00 ARRIVAL DATE FEB 4 1972

Heliocentric Conic: RL 151.44 LAL -.00 LOL 240.27 VL 32.375 GAL -1.13 AZL 97.22 HCA 183.72 SMA 188.36 ECC .19696 INC 7.2161 V1 29.421
 RP 225.37 LAP .47 LOP 63.97 VP 21.752 GAP .78 AZP 82.80 TAL 353.10 TAP 176.82 RCA 151.26 APO 225.46 V2 24.403
 RC 223.884 GL -54.84 GP 31.90 ZAL 101.31 ZAP 59.57 ETS 200.65 ZAE 92.06 ETE 179.34 ZAC 133.94 ETC 274.26 LVI -40.55

Distance 591.788 Earth to Mars

Planetocentric Conic: C3 24.740 VHL 4.974 DLA -52.10 RAL 22.51 RAD 6644.9 VEL 12.030 PTH 7.02 VHP 3.882 DPA 9.03 RAP 294.06 ECC 1.4072
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 44.23 22 31 26 1908.10 25.66 44.81 270.54 137.04 23 3 14 908.1 42.16 23.20
 44.23 22 31 26 1908.10 25.66 44.81 270.54 137.04 23 3 14 908.1 42.16 23.20
 44.23 22 31 26 1908.10 25.66 44.81 270.54 137.04 23 3 14 908.1 42.16 23.20
 44.23 22 31 26 1908.10 25.66 44.81 270.54 137.04 23 3 14 908.1 42.16 23.20
 44.23 22 31 26 1908.10 25.66 44.81 270.54 137.04 23 3 14 908.1 42.16 23.20
 44.23 22 31 26 1908.10 25.66 44.81 270.54 137.04 23 3 14 908.1 42.16 23.20

Differential Corrections: TDE -.2941 TRA 3.6351 TC3-2.9608 BAU .9851 SGT 7433.6 SGR 3552.1 SG3 1041.9 ST 103.7 SR 67.1 SS 85.3
 RDE -.7484 RRA-1.8294 RC3 .3258 FAU .01420 RRT -.9108 RRF -.9963 RTF .8728 CRT -.6510 CRS .9913 CST -.5456
 FDE 3.2347 FRA 6.1061 FC3 -.4969 BSP 24044 SGB 8238.7 R23 .4216 R13 -.9065 LSA 133.7 MSA 68.3 SSA .1
 BDE .8041 BRA 4.0694 BC3 2.9785 FSP 3803 SG1 8128.8 SG2 1341.4 THA 153.78 EL1 114.6 EL2 46.1 ALF 152.30

LAUNCH DATE MAY 22 1971 FLIGHT TIME 260.00 ARRIVAL DATE FEB 6 1972

Heliocentric Conic: RL 151.44 LAL -.00 LOL 240.27 VL 32.385 GAL -1.20 AZL 96.01 HCA 184.78 SMA 188.53 ECC .19779 INC 6.0116 V1 29.421
 RP 225.76 LAP .50 LOP 65.03 VP 21.720 GAP .61 AZP 84.01 TAL 352.73 TAP 177.51 RCA 151.24 APO 225.82 V2 24.361
 RC 226.550 GL -48.89 GP 25.81 ZAL 102.99 ZAP 56.32 ETS 198.04 ZAE 90.54 ETE 180.31 ZAC 127.90 ETC 275.78 LVI -34.98

Distance 596.025 Earth to Mars

Planetocentric Conic: C3 20.254 VHL 4.500 DLA -47.35 RAL 16.98 RAD 6643.0 VEL 11.843 PTH 6.86 VHP 3.661 DPA 2.98 RAP 294.81 ECC 1.3333
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 59 12 1887.04 22.81 39.56 257.12 132.96 22 30 39 887.0 38.09 17.67
 50.00 22 29 7 1812.52 26.00 35.52 260.27 131.08 22 59 19 812.5 40.30 12.08
 50.00 22 29 7 1812.52 26.00 35.52 260.27 131.08 22 59 19 812.5 40.30 12.08
 50.00 22 29 7 1812.52 26.00 35.52 260.27 131.08 22 59 19 812.5 40.30 12.08
 50.00 22 29 7 1812.52 26.00 35.52 260.27 131.08 22 59 19 812.5 40.30 12.08
 50.00 22 29 7 1812.52 26.00 35.52 260.27 131.08 22 59 19 812.5 40.30 12.08

Differential Corrections: TDE -1.0004 TRA 2.8158 TC3-4.9530 BAU 1.3872 SGT 7034.6 SGR 2198.7 SG3 856.3 ST 102.0 SR 28.0 SS 42.0
 RDE -.0267 RRA -.9879 RC3 1.3087 FAU .13762 RRT -.9716 RRF -.9973 RTF .5748 CRT -.7414 CRS .9821 CST -.5304
 FDE .8891 FRA 4.4340 FC3-5.8825 BSP 12628 SGB 7370.2 R23 .2746 R13 -.9607 LSA 107.1 MSA 38.4 SSA .1
 BDE 1.0008 BRA 2.9839 BC3 5.1230 FSP 1573 SG1 7353.4 SG2 497.4 THA 163.03 EL1 104.1 EL2 18.4 ALF 168.14

LAUNCH DATE MAY 22 1971 FLIGHT TIME 262.00 ARRIVAL DATE FEB 8 1972

Heliocentric Conic: RL 151.44 LAL -.00 LOL 240.27 VL 32.394 GAL -1.28 AZL 95.25 HCA 185.84 SMA 188.70 ECC .19867 INC 5.2456 V1 29.421
 RP 226.15 LAP .53 LOP 66.09 VP 21.687 GAP .47 AZP 84.78 TAL 352.24 TAP 178.09 RCA 151.21 APO 226.19 V2 24.319
 RC 229.218 GL -44.40 GP 21.53 ZAL 104.50 ZAP 54.10 ETS 195.84 ZAE 89.25 ETE 180.83 ZAC 123.63 ETC 273.55 LVI -31.11

Distance 600.107 Earth to Mars

Planetocentric Conic: C3 17.910 VHL 4.232 DLA -43.45 RAL 13.82 RAD 6641.9 VEL 11.745 PTH 6.77 VHP 3.554 DPA -1.24 RAP 295.56 ECC 1.2948
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 15 24 2099.91 12.60 49.49 241.91 136.27 20 50 24 1099.9 29.72 31.08
 55.56 22 36 11 1732.66 25.37 27.56 253.74 126.51 23 5 3 732.7 37.99 3.28
 55.56 22 36 11 1732.66 25.37 27.56 253.74 126.51 23 5 3 732.7 37.99 3.28
 55.56 22 36 11 1732.66 25.37 27.56 253.74 126.51 23 5 3 732.7 37.99 3.28
 55.56 22 36 11 1732.66 25.37 27.56 253.74 126.51 23 5 3 732.7 37.99 3.28
 55.56 22 36 11 1732.66 25.37 27.56 253.74 126.51 23 5 3 732.7 37.99 3.28

Differential Corrections: TDE -.9214 TRA 2.7913 TC3-5.6544 BAU 1.3847 SGT 7178.9 SGR 1856.8 SG3 920.8 ST 100.2 SR 23.3 SS 42.9
 RDE -.0028 RRA -.8303 RC3 1.2118 FAU .14438 RRT -.9721 RRF -.9968 RTF .9556 CRT -.7772 CRS .9522 CST -.5479
 FDE .6462 FRA 4.7350 FC3-6.9790 BSP 12730 SGB 7415.1 R23 .2754 R13 -.9597 LSA 105.1 MSA 37.1 SSA .2
 BDE .9214 BRA 2.9122 BC3 5.7828 FSP 1698 SG1 7403.1 SG2 422.4 THA 165.84 EL1 101.8 EL2 14.4 ALF 169.55

LAUNCH DATE MAY 22 1971

FLIGHT TIME 264.00

ARRIVAL DATE FEB 10 1972

HELIOCENTRIC CONIC

RL 151.44 LAL -.00 LOL 240.27 VL 32.404 GAL -1.37 AZL 94.72 HCA 186.90 SMA 188.87 ECC .19956 INC 4.7162 V1 29.421
 RP 226.55 LAP .57 LOP 67.15 VP 21.656 GAP .33 AZP 85.32 TAL 351.76 TAP 178.66 RCA 151.18 APO 226.56 V2 24.278
 RC 231.860 GL -40.91 GP 18.37 ZAL 105.81 ZAP 52.41 ETS 194.09 ZAE 88.02 ETE 181.17 ZAC 120.47 ETC 273.45 LVI -28.28

DISTANCE 604.187

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.540 VHL 4.087 DLA -40.22 RAL 11.87 RAD 6641.3 VEL 11.687 PTH 6.72 VHP 3.501 DPA -4.33 RAP 296.22 ECC 1.2722
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 30 40 2193.21 7.98 53.53 235.12 137.06 20 7 13 1193.2 25.61 36.16
 60.00 22 30 23 1709.92 22.67 23.48 248.11 124.26 22 58 53 709.9 34.67 359.60
 60.11 22 47 47 1661.02 24.42 20.59 249.38 123.01 23 15 28 661.0 35.76 355.95
 60.11 22 47 47 1661.02 24.42 20.59 249.38 123.01 23 15 28 661.0 35.76 355.95
 60.11 22 47 47 1661.02 24.42 20.59 249.38 123.01 23 15 28 661.0 35.76 355.95
 60.11 22 47 47 1661.02 24.42 20.59 249.38 123.01 23 15 28 661.0 35.76 355.95

DIFFERENTIAL CORRECTIONS

TDE -.8249 TRA 2.7999 TC3-6.2025 BAU 1.3933
 RDE .0063 RRA -.7157 RC3 1.1091 FAU .14794
 FDE .6674 FRA 4.8813 FC3-7.7437 BSP 12840
 BDE .8249 BRA 2.8899 BC3 6.3009 FSP 1736

MID-COURSE EXECUTION ACCURACY

SGT 7313.8 SGR 1599.3 SG3 953.1
 RRT -.9732 RRF -.9958 RTF .9571
 SGB 7486.6 R23 .2702 R13 -.9599
 SG1 7478.0 SG2 359.6 THA 167.96

ORBIT DETERMINATION ACCURACY

ST 97.2 SR 19.9 SS 43.4
 CRT -.8142 CRS .9372 CST -.5607
 LSA 102.1 MSA 36.0 SSA .2
 EL1 98.5 EL2 11.4 ALF 170.42

LAUNCH DATE MAY 22 1971

FLIGHT TIME 266.00

ARRIVAL DATE FEB 12 1972

HELIOCENTRIC CONIC

RL 151.44 LAL -.00 LOL 240.27 VL 32.414 GAL -1.46 AZL 94.33 HCA 187.95 SMA 189.04 ECC .20047 INC 4.3277 V1 29.421
 RP 226.94 LAP .60 LOP 68.20 VP 21.624 GAP .20 AZP 85.71 TAL 351.27 TAP 179.22 RCA 151.15 APO 226.94 V2 24.236
 RC 234.543 GL -38.13 GP 15.97 ZAL 106.99 ZAP 51.02 ETS 192.68 ZAE 86.86 ETE 181.40 ZAC 118.07 ETC 273.42 LVI -26.15

DISTANCE 608.260

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.686 VHL 3.961 DLA -37.56 RAL 10.63 RAD 6640.9 VEL 11.650 PTH 6.69 VHP 3.477 DPA -6.66 RAP 296.82 ECC 1.2582
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 1 53 2259.85 4.65 56.35 231.01 137.40 19 39 33 1259.9 22.55 39.56
 60.00 21 2 51 1937.24 13.46 35.64 239.28 128.35 21 35 8 937.2 27.78 14.89
 64.18 23 2 23 1592.93 23.38 14.23 246.39 120.27 23 28 56 592.9 33.73 349.45
 64.18 23 2 23 1592.93 23.38 14.23 246.39 120.27 23 28 56 592.9 33.73 349.45
 64.18 23 2 23 1592.93 23.38 14.23 246.39 120.27 23 28 56 592.9 33.73 349.45
 64.18 23 2 23 1592.93 23.38 14.23 246.39 120.27 23 28 56 592.9 33.73 349.45

DIFFERENTIAL CORRECTIONS

TDE -.7321 TRA 2.8286 TC3-6.6407 BAU 1.4085
 RDE .0106 RRA -.6324 RC3 1.0058 FAU .14866
 FDE .7267 FRA 4.9675 FC3-8.2050 BSP 12979
 BDE .7321 BRA 2.8985 BC3 6.7164 FSP 1756

MID-COURSE EXECUTION ACCURACY

SGT 7445.5 SGR 1402.5 SG3 968.0
 RRT -.9734 RRF -.9943 RTF .9574
 SGB 7576.5 R23 .2649 R13 -.9595
 SG1 7569.9 SG2 316.1 THA 169.59

ORBIT DETERMINATION ACCURACY

ST 94.1 SR 17.4 SS 43.9
 CRT -.8504 CRS .9162 CST -.5667
 LSA 99.1 MSA 35.5 SSA .2
 EL1 95.3 EL2 9.0 ALF 171.00

LAUNCH DATE MAY 22 1971

FLIGHT TIME 268.00

ARRIVAL DATE FEB 14 1972

HELIOCENTRIC CONIC

RL 151.44 LAL -.00 LOL 240.27 VL 32.424 GAL -1.54 AZL 94.03 HCA 189.00 SMA 189.22 ECC .20140 INC 4.0302 V1 29.421
 RP 227.33 LAP .63 LOP 69.25 VP 21.592 GAP .06 AZP 86.02 TAL 350.78 TAP 179.78 RCA 151.11 APO 227.33 V2 24.195
 RC 237.203 GL -35.84 GP 14.09 ZAL 108.08 ZAP 49.84 ETS 191.53 ZAE 85.74 ETE 181.56 ZAC 116.17 ETC 273.42 LVI -24.51

DISTANCE 612.330

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.137 VHL 3.891 DLA -35.29 RAL 9.84 RAD 6640.6 VEL 11.627 PTH 6.67 VHP 3.469 DPA -8.47 RAP 297.37 ECC 1.2491
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 41 28 2312.87 1.99 58.57 228.33 137.54 19 20 1 1312.9 20.06 42.14
 60.00 20 25 58 2034.55 9.30 40.49 235.29 129.39 20 59 52 1034.6 24.28 20.75
 67.94 23 19 26 1925.09 22.35 8.15 244.31 118.05 23 44 51 525.1 31.90 343.34
 67.94 23 19 26 1925.09 22.35 8.15 244.31 118.05 23 44 51 525.1 31.90 343.34
 67.94 23 19 26 1925.09 22.35 8.15 244.31 118.05 23 44 51 525.1 31.90 343.34
 67.94 23 19 26 1925.09 22.35 8.15 244.31 118.05 23 44 51 525.1 31.90 343.34

DIFFERENTIAL CORRECTIONS

TDE -.6478 TRA 2.8684 TC3-7.0082 BAU 1.4298
 RDE .0147 RRA -.5689 RC3 .9127 FAU .14841
 FDE .7955 FRA 5.0094 FC3-8.4880 BSP 13080
 BDE .6480 BRA 2.9243 BC3 7.0654 FSP 1751

MID-COURSE EXECUTION ACCURACY

SGT 7577.4 SGR 1248.4 SG3 972.5
 RRT -.9731 RRF -.9923 RTF .9576
 SGB 7679.5 R23 .2568 R13 -.9591
 SG1 7674.3 SG2 284.0 THA 170.88

ORBIT DETERMINATION ACCURACY

ST 91.5 SR 15.5 SS 44.4
 CRT -.8872 CRS .8884 CST -.5769
 LSA 96.7 MSA 35.1 SSA .3
 EL1 92.5 EL2 7.1 ALF 171.42

LAUNCH DATE MAY 22 1971

FLIGHT TIME 270.00

ARRIVAL DATE FEB 16 1972

HELIOCENTRIC CONIC

RL 151.44 LAL -.00 LOL 240.27 VL 32.434 GAL -1.63 AZL 93.80 HCA 190.05 SMA 189.39 ECC .20234 INC 3.7955 V1 29.421
 RP 227.72 LAP .66 LOP 70.30 VP 21.561 GAP -.08 AZP 86.26 TAL 350.28 TAP 180.33 RCA 151.07 APO 227.72 V2 24.153
 RC 239.859 GL -33.94 GP 12.58 ZAL 109.09 ZAP 48.80 ETS 190.58 ZAE 84.85 ETE 181.67 ZAC 114.65 ETC 273.44 LVI -23.22

DISTANCE 616.392

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.781 VHL 3.845 DLA -33.34 RAL 9.36 RAD 6640.4 VEL 11.612 PTH 6.65 VHP 3.471 DPA -9.91 RAP 297.91 ECC 1.2433
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 26 10 2357.36 -.25 60.43 226.54 137.58 19 5 27 1357.4 17.94 44.24
 60.00 20 1 14 2104.28 6.27 43.89 232.78 129.89 20 36 18 1104.3 21.62 24.73
 70.00 22 33 9 1656.31 16.18 14.79 239.89 120.49 23 0 45 656.3 27.29 351.85
 71.56 23 39 4 1454.18 21.37 2.06 242.84 116.22 24 3 18 454.2 30.27 337.27
 71.56 23 39 4 1454.18 21.37 2.06 242.84 116.22 24 3 18 454.2 30.27 337.27
 71.56 23 39 4 1454.18 21.37 2.06 242.84 116.22 24 3 18 454.2 30.27 337.27
 110.00 3 36 31 5991.16 16.18 281.61 239.89 120.49 5 16 22 4991.2 27.29 258.67

DIFFERENTIAL CORRECTIONS

TDE -.5614 TRA 2.9281 TC3-7.2827 BAU 1.4483
 RDE .0180 RRA -.5208 RC3 .8235 FAU .14639
 FDE .8797 FRA 5.0399 FC3-8.5740 BSP 13297
 BDE .5617 BRA 2.9740 BC3 7.3291 FSP 1749

MID-COURSE EXECUTION ACCURACY

SGT 7703.2 SGR 1124.6 SG3 969.9
 RRT -.9720 RRF -.9895 RTF .9573
 SGB 7784.9 R23 .2465 R13 -.9585
 SG1 7780.5 SG2 261.5 THA 171.91

ORBIT DETERMINATION ACCURACY

ST 89.2 SR 14.0 SS 45.1
 CRT -.9234 CRS .8539 CST -.5898
 LSA 94.7 MSA 34.8 SSA .3
 EL1 90.2 EL2 5.3 ALF 171.71

LAUNCH DATE MAY 22 1971

FLIGHT TIME 272.00

ARRIVAL DATE FEB 18 1972

MELIOCENTRIC CONIC
 RL 151.44 LAL -.00 LOL 240.27 VL 32.445 GAL -1.72 AZL 93.61 HCA 191.09 SMA 189.57 ECC .20330 INC 3.6053 V1 29.421
 RP 228.10 LAP .69 LOP 71.34 VP 21.530 GAP -.22 AZP 86.46 TAL 349.79 TAP 100.88 RCA 151.03 APO 228.11 V2 24.112
 RC 242.511 GL -32.31 GP 11.35 ZAL 110.06 ZAP 47.85 ETS 189.79 ZAE 83.60 ETE 181.76 ZAC 113.40 ETC 273.48 LVI -22.20

PLANETOCENTRIC CONIC
 C3 14.556 VHL 3.815 DLA -31.62 RAL 9.09 RAD 6640.3 VEL 11.602 PTH 6.64 VHP 3.460 DPA -11.07 RAP 298.42 ECC 1.2395
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 14 16 2395.98 -2.19 62.04 225.34 137.54 18 54 12 1396.0 16.08 46.02
 60.00 19 42 57 2159.98 3.83 46.57 231.11 130.15 20 18 57 1160.0 19.42 27.79
 70.00 21 49 28 1787.57 11.52 22.09 236.79 122.38 22 19 15 787.6 23.75 .39
 75.23 0 5 59 1376.02 20.44 355.61 241.82 114.67 0 28 55 376.0 28.00 330.87
 75.23 0 5 59 1376.02 20.44 355.61 241.82 114.67 0 28 55 376.0 28.00 330.87
 75.23 0 5 59 1376.02 20.44 355.61 241.82 114.67 0 28 55 376.0 28.00 330.87
 110.00 P 52 50 6122.43 11.52 288.91 236.79 122.38 4 34 53 5122.4 23.75 267.22

MID-COURSE EXECUTION ACCURACY
 SGT 7826.2 SGR 1023.7 SG3 962.7
 RRT -.9702 RRF -.8899 RTF .9569
 SGB 7892.9 R23 .2332 R13 -.9579
 SGI 7899.0 SG2 246.0 THA 172.76

ORBIT DETERMINATION ACCURACY
 ST 87.5 SR 12.9 SS 45.8
 CRT -.9560 CR3 .8119 CST -.6064
 LSA 93.4 MSA 34.5 SSA .4
 EL1 88.4 EL2 3.0 ALF 171.96

DIFFERENTIAL CORRECTIONS
 TDE -.4794 TRA 2.9965 TC3-7.5060 BAU 1.4678
 RDE .0221 RRA -.4828 RC3 .7436 FAU .14379
 FDE .9631 FRA 5.0547 FC3-8.5524 BSP 13518
 BDE .4799 BRA 3.0352 BC3 7.5427 FSP 1737

LAUNCH DATE MAY 22 1971

FLIGHT TIME 274.00

ARRIVAL DATE FEB 20 1972

MELIOCENTRIC CONIC
 RL 151.44 LAL -.00 LOL 240.27 VL 32.455 GAL -1.81 AZL 93.45 HCA 192.13 SMA 189.75 ECC .20427 INC 3.4480 V1 29.421
 RP 228.49 LAP .72 LOP 72.38 VP 21.500 GAP -.36 AZP 86.63 TAL 349.29 TAP 181.42 RCA 150.99 APO 228.51 V2 24.071
 RC 245.157 GL -30.91 GP 10.33 ZAL 110.99 ZAP 46.97 ETS 189.13 ZAE 82.57 ETE 181.82 ZAC 112.35 ETC 273.53 LVI -21.37

PLANETOCENTRIC CONIC
 C3 14.423 VHL 3.798 DLA -30.09 RAL 8.98 RAD 6640.2 VEL 11.597 PTH 6.64 VHP 3.493 DPA -12.02 RAP 298.93 ECC 1.2374
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 4 47 2430.30 -3.91 63.48 224.54 137.45 18 45 17 1430.3 14.41 47.57
 60.00 19 28 44 2206.94 1.77 48.82 229.99 130.27 20 5 31 1206.9 17.52 30.31
 70.00 21 23 4 1870.58 8.45 26.56 234.99 123.22 21 54 14 870.6 21.24 5.53
 79.26 0 34 37 1282.05 19.56 348.13 241.14 113.33 0 55 59 282.0 27.46 323.45
 79.26 0 34 37 1282.05 19.56 348.13 241.14 113.33 0 55 59 282.0 27.46 323.45
 79.26 0 34 37 1282.05 19.56 348.13 241.14 113.33 0 55 59 282.0 27.46 323.45
 110.00 2 26 26 6205.44 8.45 293.39 234.99 123.22 4 9 52 5205.4 21.24 272.35

MID-COURSE EXECUTION ACCURACY
 SGT 7950.0 SGR 940.5 SG3 952.8
 RRT -.9677 RRF -.9812 RTF .9567
 SGB 8005.5 R23 .2165 R13 -.9575
 SGI 8002.0 SG2 235.5 THA 173.46

ORBIT DETERMINATION ACCURACY
 ST 86.3 SR 12.0 SS 46.5
 CRT -.9814 CR3 .7612 CST -.6256
 LSA 92.7 MSA 34.0 SSA .4
 EL1 87.1 EL2 2.3 ALF 172.21

DIFFERENTIAL CORRECTIONS
 TDE -.4035 TRA 3.0699 TC3-7.6971 BAU 1.4899
 RDE .0272 RRA -.4518 RC3 .6741 FAU .14127
 FDE 1.0385 FRA 5.0544 FC3-8.4795 BSP 13734
 BDE .4044 BRA 3.1029 BC3 7.7265 FSP 1719

LAUNCH DATE MAY 22 1971

FLIGHT TIME 276.00

ARRIVAL DATE FEB 22 1972

MELIOCENTRIC CONIC
 RL 151.44 LAL -.00 LOL 240.27 VL 32.465 GAL -1.90 AZL 93.32 HCA 193.17 SMA 189.93 ECC .20526 INC 3.3154 V1 29.421
 RP 228.88 LAP .76 LOP 73.42 VP 21.469 GAP -.51 AZP 86.77 TAL 348.79 TAP 181.96 RCA 150.93 APO 228.92 V2 24.030
 RC 247.796 GL -29.60 GP 9.46 ZAL 111.88 ZAP 46.16 ETS 188.55 ZAE 81.57 ETE 181.86 ZAC 111.47 ETC 273.59 LVI -20.69

PLANETOCENTRIC CONIC
 C3 14.359 VHL 3.789 DLA -28.71 RAL 8.98 RAD 6640.2 VEL 11.594 PTH 6.64 VHP 3.510 DPA -12.81 RAP 299.44 ECC 1.2363
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 57 3 2461.36 -5.47 64.78 224.04 137.34 18 38 5 1461.4 12.89 48.95
 60.00 19 17 18 2247.91 -.03 50.78 229.25 130.30 19 54 45 1247.9 15.83 32.45
 70.00 21 3 49 1934.60 6.05 29.96 233.83 123.68 21 36 4 934.6 19.18 9.35
 80.00 23 26 54 1486.51 12.96 .07 237.94 117.14 23 51 40 486.5 23.02 337.21
 84.82 1 18 27 1140.36 18.74 337.30 240.70 112.16 1 37 27 140.4 26.24 312.68
 100.00 2 13 41 6249.02 12.96 299.35 237.94 117.14 3 57 50 5249.0 23.02 276.48
 110.00 2 7 12 6269.46 8.05 296.79 233.83 123.68 3 51 41 5269.5 19.18 276.18

MID-COURSE EXECUTION ACCURACY
 SGT 8070.7 SGR 870.8 SG3 940.6
 RRT -.9639 RRF -.9754 RTF .9561
 SGB 8117.5 R23 .1996 R13 -.9567
 SGI 8114.3 SG2 230.6 THA 174.06

ORBIT DETERMINATION ACCURACY
 ST 85.7 SR 11.3 SS 47.2
 CRT -.9961 CR3 .7028 CST -.6466
 LSA 92.6 MSA 33.6 SSA .5
 EL1 86.4 EL2 1.0 ALF 172.49

DIFFERENTIAL CORRECTIONS
 TDE -.3311 TRA 3.1494 TC3-7.8514 BAU 1.5118
 RDE .0329 RRA -.4289 RC3 .6105 FAU .13812
 FDE 1.1117 FRA 5.0523 FC3-8.3275 BSP 13953
 BDE .3328 BRA 3.1782 BC3 7.8751 FSP 1702

LAUNCH DATE MAY 22 1971

FLIGHT TIME 278.00

ARRIVAL DATE FEB 24 1972

MELIOCENTRIC CONIC
 RL 151.44 LAL -.00 LOL 240.27 VL 32.475 GAL -1.99 AZL 93.20 HCA 194.20 SMA 190.11 ECC .20626 INC 3.2024 V1 29.421
 RP 229.27 LAP .79 LOP 74.45 VP 21.439 GAP -.65 AZP 86.90 TAL 348.29 TAP 182.49 RCA 150.90 APO 229.32 V2 23.990
 RC 250.428 GL -28.60 GP 8.72 ZAL 112.75 ZAP 45.39 ETS 188.06 ZAE 80.59 ETE 181.90 ZAC 110.70 ETC 273.67 LVI -20.14

PLANETOCENTRIC CONIC
 C3 14.348 VHL 3.788 DLA -27.45 RAL 9.07 RAD 6640.2 VEL 11.593 PTH 6.64 VHP 3.528 DPA -13.47 RAP 299.94 ECC 1.2361
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 50 40 2489.86 -6.89 65.99 223.76 137.19 18 32 10 1489.9 11.48 50.20
 60.00 19 7 52 2264.51 -1.84 52.52 228.79 130.27 19 45 57 1264.5 14.30 34.34
 70.00 20 48 47 1987.79 4.03 32.78 233.08 123.94 21 21 54 987.8 17.41 12.46
 80.00 22 56 18 1588.57 9.72 5.92 236.54 116.37 23 22 47 588.6 20.54 343.77
 90.00 1 2 2 1195.81 13.14 338.79 238.31 115.27 1 21 57 195.8 22.44 315.62
 100.00 1 43 6 1063.04 9.72 327.29 236.54 116.37 2 0 49 63.0 20.54 305.14
 110.00 1 52 9 1034.61 4.03 321.68 233.08 123.94 2 9 23 34.6 17.41 301.37

MID-COURSE EXECUTION ACCURACY
 SGT 8190.9 SGR 812.2 SG3 927.2
 RRT -.9591 RRF -.9684 RTF .9556
 SGB 8231.1 R23 .1808 R13 -.9561
 SGI 8227.9 SG2 228.8 THA 174.56

ORBIT DETERMINATION ACCURACY
 ST 85.5 SR 10.8 SS 47.9
 CRT -.9979 CR3 .6366 CST -.6693
 LSA 92.9 MSA 33.0 SSA .5
 EL1 86.2 EL2 .7 ALF 172.80

DIFFERENTIAL CORRECTIONS
 TDE -.2614 TRA 3.2341 TC3-7.9797 BAU 1.5344
 RDE .0392 RRA -.4063 RC3 .5544 FAU .13505
 FDE 1.1782 FRA 5.0428 FC3-8.1484 BSP 14177
 BDE .2643 BRA 3.2595 BC3 7.9989 FSP 1678

LAUNCH DATE MAY 22 1971

FLIGHT TIME 280.00

ARRIVAL DATE FEB 26 1972

HELIOCENTRIC CONIC

DISTANCE 636.625

EARTH TO MARS

RL 151.44 LAL -.00 LOL 240.27 VL 32.485 GAL -2.09 AZL 93.10 HCA 195.23 SNA 190.29 ECC .20727 INC 3.1044 V1 29.421
 RP 229.65 LAP .82 LOP 75.48 VP 21.409 GAP -.79 AZP 87.00 TAL 347.79 TAP 183.02 RCA 150.85 APO 229.74 V2 23.949
 RC 253.053 GL -27.62 GP 8.08 ZAL 113.60 ZAP 44.66 ETS 187.63 ZAE 79.63 ETE 181.92 ZAC 110.04 ETC 273.74 LVI -19.68

PLANETOCENTRIC CONIC

C3 14.379 VHL 3.792 DLA -26.30 RAL 9.23 RAD 8640.2 VEL 11.595 PTH 6.64 VHP 3.548 DPA -14.02 RAP 300.48 ECC 1.2386
 LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZNTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 45 19 2316.34 -8.21 67.12 223.66 137.03 18 27 15 1516.3 10.17 81.35
 60.00 18 59 58 2317.78 -3.11 54.11 228.54 130.20 19 38 36 1317.8 12.90 36.03
 70.00 20 36 32 2033.85 2.28 35.17 232.62 124.09 21 10 26 1033.9 15.83 15.09
 80.00 22 35 19 1662.08 7.31 10.05 235.72 119.03 23 3 1 662.1 18.59 348.36
 90.00 0 29 47 1305.58 9.86 345.19 237.08 116.64 0 51 33 305.6 20.00 322.74
 100.00 1 22 6 1136.55 7.31 331.42 239.72 119.03 1 41 3 136.6 18.59 309.73
 110.00 1 39 54 1080.67 2.28 324.09 232.62 124.09 1 57 55 80.7 15.83 304.01

DIFFERENTIAL CORRECTIONS

TDE -.1975 TRA 3.3201 TC3-8.0940 BAW 1.5590
 RDE .0461 RRA -.3891 RC3 .5046 FAU .13203
 FDE 1.2361 FRA 5.0285 FC3-7.9490 B3P 14366
 BDE .2028 BRA 3.3429 BC3 8.1097 F3P 1653

MID-COURSE EXECUTION ACCURACY

SGT 8311.5 SGR 762.5 SG3 913.0
 RRT -.9830 RRF -.9600 RTF .9550
 SGB 8346.4 R23 .1624 R13 -.9554
 SGI 8343.2 SG2 230.1 THA 175.00

ORBIT DETERMINATION ACCURACY

ST 85.7 SR 10.5 SS 48.4
 CRT -.9852 CRS .9633 CST -.6909
 LSA 93.6 MSA 32.4 S8A .6
 EL1 86.4 EL2 1.8 ALF 173.15

LAUNCH DATE MAY 23 1971

FLIGHT TIME 88.00

ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC

DISTANCE 261.252

EARTH TO MARS

RL 151.47 LAL -0.00 LOL 241.23 VL 35.633 GAL .34 AZL 91.87 HCA 81.27 SMA 274.95 ECC .44913 INC 1.8686 V1 29.415
 RP 207.13 LAP -1.85 LOP 322.50 VP 28.283 GAP 22.79 AZP 90.28 TAL 1.10 TAP 82.37 RCA 151.46 APO 398.44 V2 26.443
 RC 56.701 GL -10.61 GP -0.88 ZAL 91.05 ZAP 177.90 ETS 204.68 ZAE 172.92 ETE 34.96 ZAC 98.80 ETC 278.26 LVI -17.87

PLANETOCENTRIC CONIC

C3 39.803 VHL 6.309 DLA -20.53 RAL 338.33 RAD 6650.6 VEL 12.636 PTH 7.49 VHP 11.465 DPA -17.21 RAP 323.89 ECC 1.6551
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 10 52 2888.05 -26.02 84.48 204.84 131.35 15 59 0 1888.1 -8.44 67.03
 60.00 16 15 8 2717.13 -20.04 74.25 210.01 125.73 17 0 25 1717.1 -4.52 55.37
 70.00 17 38 29 2477.96 -14.34 58.81 213.96 121.34 18 17 47 1478.0 -0.66 38.90
 80.00 19 13 34 2174.16 -9.83 38.39 216.61 118.34 19 49 48 1174.2 2.46 17.78
 90.00 20 48 32 1867.83 -8.00 16.84 217.58 117.22 21 19 40 867.8 3.74 355.96
 100.00 21 56 26 1648.63 -9.83 359.76 216.61 118.34 22 23 54 648.6 2.46 339.15
 110.00 22 35 56 1524.78 -14.34 347.73 213.96 121.34 23 1 21 524.8 -0.66 327.82

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3422 TRA -.8065 TC3 .0501 BAU .0409 SGT 844.0 SGR 574.8 SG3 88.5 ST 19.5 SR 26.4 SS 7.9
 RDE -.5763 RRA .2332 RC3 .0382 FAU .03184 RRT -.0198 RRF .0254 RTF -.5366 CRT .7140 CRS .2519 CST .8480
 FDE .0653 FRA .3010 FC3 -.8926 BSP 1078 SGB 1021.1 R23 -.0056 R13 .5368 LSA 30.9 MSA 13.6 SSA 1.1
 BDE .6702 BRA .8395 BC3 .0768 FSP 98 SG1 844.1 SG2 574.6 THA 178.56 EL1 30.6 EL2 11.7 ALF 56.69

LAUNCH DATE MAY 23 1971

FLIGHT TIME 90.00

ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC

DISTANCE 262.894

EARTH TO MARS

RL 151.47 LAL -0.00 LOL 241.23 VL 35.406 GAL .38 AZL 91.86 HCA 82.53 SMA 286.05 ECC .43073 INC 1.8600 V1 29.415
 RP 207.05 LAP -1.84 LOP 323.78 VP 27.985 GAP 22.25 AZP 90.24 TAL 1.26 TAP 83.79 RCA 151.46 APO 380.65 V2 26.453
 RC 57.030 GL -10.89 GP -.90 ZAL 90.89 ZAP 177.02 ETS 197.61 ZAE 172.29 ETE 31.15 ZAC 98.73 ETC 278.33 LVI -17.93

PLANETOCENTRIC CONIC

C3 37.006 VHL 6.083 DLA -20.85 RAL 338.28 RAD 6649.6 VEL 12.526 PTH 7.41 VHP 11.074 DPA -17.13 RAP 324.23 ECC 1.6090
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 12 4 2862.88 -24.88 83.17 203.72 131.96 15 59 47 1862.9 -7.18 65.95
 60.00 16 16 50 2690.63 -18.98 72.81 208.89 126.24 17 1 41 1690.6 -3.36 54.10
 70.00 17 38 51 2449.51 -13.32 57.23 212.86 121.74 18 19 41 1449.5 .43 37.42
 80.00 19 16 43 2143.26 -8.82 36.65 215.52 118.64 19 52 26 1143.3 3.51 16.08
 90.00 20 52 7 1835.54 -6.99 15.00 216.51 117.47 21 22 42 835.5 4.77 354.15
 100.00 21 59 34 1617.73 -8.82 358.01 215.52 118.64 22 26 32 617.7 3.51 337.45
 110.00 22 38 18 1496.33 -13.32 346.15 212.86 121.74 23 3 14 496.3 .43 326.34

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3364 TRA -.7971 TC3 .0636 BAU .0441 SGT 867.1 SGR 580.1 SG3 93.3 ST 19.9 SR 26.6 SS 8.2
 RDE -.5603 RRA .2268 RC3 .0625 FAU .03308 RRT -.0209 RRF .0266 RTF -.5486 CRT .7113 CRS .2303 CST .8384
 FDE .0637 FRA .3208 FC3 -.7738 BSP 1102 SGB 1043.3 R23 -.0059 R13 .5488 LSA 31.2 MSA 14.0 SSA 1.1
 BDE .6536 BRA .8288 BC3 .0892 FSP 108 SG1 867.2 SG2 579.9 THA 178.55 EL1 31.0 EL2 12.0 ALF 56.24

LAUNCH DATE MAY 23 1971

FLIGHT TIME 92.00

ARRIVAL DATE AUG 23 1971

HELIOCENTRIC CONIC

DISTANCE 264.832

EARTH TO MARS

RL 151.47 LAL -0.00 LOL 241.23 VL 35.192 GAL .42 AZL 91.85 HCA 83.80 SMA 298.26 ECC .41355 INC 1.8515 V1 29.415
 RP 208.97 LAP -1.84 LOP 325.03 VP 27.723 GAP 21.72 AZP 90.20 TAL 1.43 TAP 85.23 RCA 151.45 APO 385.06 V2 26.462
 RC 57.440 GL -11.17 GP -.92 ZAL 90.69 ZAP 176.11 ETS 193.77 ZAE 171.66 ETE 27.97 ZAC 98.66 ETC 278.39 LVI -17.99

PLANETOCENTRIC CONIC

C3 34.473 VHL 5.871 DLA -21.18 RAL 338.19 RAD 6648.7 VEL 12.425 PTH 7.33 VHP 10.698 DPA -17.04 RAP 324.56 ECC 1.5673
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 13 13 2837.95 -23.74 81.89 202.63 132.53 16 0 30 1838.0 -5.94 64.90
 60.00 16 18 30 2664.30 -17.92 71.40 207.79 126.72 17 2 55 1664.3 -2.20 52.84
 70.00 17 41 14 2421.11 -12.30 55.68 211.77 122.12 18 21 35 1421.1 1.51 35.94
 80.00 19 19 55 2112.23 -7.81 34.90 214.46 118.91 19 55 7 1112.2 4.55 14.37
 90.00 20 55 48 1802.99 -5.96 13.16 215.46 117.70 21 25 51 803.0 5.81 352.32
 100.00 22 2 47 1586.70 -7.81 356.27 214.46 118.91 22 29 14 586.7 4.55 335.74
 110.00 22 40 40 1467.93 -12.30 344.58 211.77 122.12 23 5 8 467.9 1.51 324.85

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3302 TRA -.7889 TC3 .0789 BAU .0477 SGT 889.2 SGR 585.0 SG3 100.1 ST 20.3 SR 26.8 SS 8.4
 RDE -.5448 RRA .2205 RC3 .0670 FAU .03425 RRT -.0219 RRF .0280 RTF -.5516 CRT .7084 CRS .2088 CST .8289
 FDE .0619 FRA .3405 FC3 -.8801 BSP 1164 SGB 1064.4 R23 -.0063 R13 .5618 LSA 31.6 MSA 14.3 SSA 1.1
 BDE .6372 BRA .8172 BC3 .1035 FSP 116 SG1 889.3 SG2 584.8 THA 178.85 EL1 31.3 EL2 12.3 ALF 55.84

LAUNCH DATE MAY 23 1971

FLIGHT TIME 94.00

ARRIVAL DATE AUG 25 1971

HELIOCENTRIC CONIC

DISTANCE 267.022

EARTH TO MARS

RL 151.47 LAL -0.00 LOL 241.23 VL 34.992 GAL .46 AZL 91.84 HCA 85.06 SMA 291.38 ECC .39752 INC 1.8430 V1 29.415
 RP 206.90 LAP -1.84 LOP 326.30 VP 27.476 GAP 21.20 AZP 90.16 TAL 1.62 TAP 86.69 RCA 151.45 APO 351.31 V2 26.469
 RC 57.930 GL -11.44 GP -.95 ZAL 90.46 ZAP 175.18 ETS 191.38 ZAE 171.06 ETE 25.29 ZAC 98.59 ETC 278.45 LVI -18.05

PLANETOCENTRIC CONIC

C3 32.177 VHL 5.672 DLA -21.52 RAL 338.08 RAD 6647.8 VEL 12.333 PTH 7.26 VHP 10.338 DPA -16.96 RAP 324.89 ECC 1.5296
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 14 18 2813.31 -22.60 80.66 201.57 133.05 16 1 11 1813.3 -4.70 63.86
 60.00 16 20 8 2638.20 -16.85 70.03 206.71 127.17 17 4 7 1638.2 -1.05 51.60
 70.00 17 43 37 2392.81 -11.27 54.12 210.70 122.46 18 23 29 1392.8 2.59 34.46
 80.00 19 23 12 2081.11 -6.78 33.17 213.41 119.15 19 57 54 1081.1 5.59 12.65
 90.00 20 59 35 1770.23 -4.92 11.32 214.43 117.88 21 29 6 770.2 6.84 350.47
 100.00 22 6 4 1555.58 -6.78 354.53 213.41 119.15 22 32 0 555.6 5.59 334.02
 110.00 22 43 3 1439.63 -11.27 343.04 210.70 122.46 23 7 3 439.6 2.59 323.38

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3222 TRA -.7784 TC3 .0961 BAU .0515 SGT 910.2 SGR 589.4 SG3 107.4 ST 20.6 SR 27.0 SS 8.7
 RDE -.5301 RRA .2143 RC3 .0715 FAU .03551 RRT -.0244 RRF .0284 RTF -.5725 CRT .7036 CRS .1864 CST .8199
 FDE .0593 FRA .3570 FC3 -.9354 BSP 1205 SGB 1084.4 R23 -.0043 R13 .5727 LSA 31.8 MSA 14.7 SSA 1.2
 BDE .6203 BRA .8055 BC3 .1198 FSP 128 SG1 910.4 SG2 589.1 THA 178.44 EL1 31.6 EL2 12.5 ALF 55.62

LAUNCH DATE MAY 23 1971

FLIGHT TIME 96.00

ARRIVAL DATE AUG 27 1971

HELIOCENTRIC CONIC

DISTANCE 269.429

EARTH TO MARS

RL 151.47 LAL -.00 LOL 241.23 VL 34.804 GAL .51 AZL 91.83 HCA 86.33 SMA 245.28 ECC .38255 INC 1.8345 V1 29.415
RP 206.85 LAP -1.83 LOP 327.56 VP 27.242 GAP 20.69 AZP 90.12 TAL 1.83 TAP 88.16 RCA 151.45 APO 339.11 V2 26.476
RC 58.496 GL -11.72 GP -.97 ZAL 90.21 ZAP 174.23 ETS 189.77 ZAE 170.50 ETE 23.00 ZAC 98.52 ETC 278.51 LVI -18.10

PLANETOCENTRIC CONIC

C3 30.093 VHL 5.486 DLA -21.87 RAL 337.94 RAD 6647.0 VEL 12.249 PTH 7.20 VHP 9.991 DPA -16.89 RAP 325.20 ECC 1.4853
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 15 19 2789.00 -21.47 79.46 200.52 133.54 16 1 48 1789.0 -3.48 62.84
60.00 16 21 45 2612.36 -15.78 68.68 205.65 127.58 17 5 17 1612.4 .09 50.36
70.00 17 46 0 2364.67 -10.24 52.59 209.66 122.76 18 25 25 1364.7 3.67 32.99
80.00 19 26 34 2049.95 -5.74 31.43 212.39 119.35 20 0 44 1049.9 6.63 10.92
90.00 21 3 30 1737.27 -3.87 9.47 213.42 118.04 21 32 27 737.3 7.87 348.60
100.00 22 9 25 1524.42 -5.74 352.80 212.39 119.35 22 34 50 524.4 6.63 332.29
110.00 22 45 26 1411.49 -10.24 341.51 209.66 122.76 23 8 58 411.5 3.67 321.90

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3152 TRA -.7652 TC3 .1161 BAU .0558
RDE -.5158 RRA .2084 RC3 .0760 FAU .03690
FDE .0547 FRA .5795 FC3-1.0616 BSP 1253
BDE .6045 BRA .7931 BC3 .1367 FSP 140

SGT 930.7 SGR 593.5 SG3 115.4
RRT -.0254 RRF .0317 RTF -.5861
SGB 1103.9 R23 -.0066 R13 .5863
SG1 931.0 SG2 593.2 THA 178.44

ST 20.9 SR 27.2 SS 8.9
CRT .7001 CRS .1522 CST .6030
LSA 32.1 MSA 15.1 SSA 1.2
EL1 31.8 EL2 12.8 ALF 55.34

LAUNCH DATE MAY 23 1971

FLIGHT TIME 98.00

ARRIVAL DATE AUG 29 1971

HELIOCENTRIC CONIC

DISTANCE 272.024

EARTH TO MARS

RL 151.47 LAL -.00 LOL 241.23 VL 34.627 GAL .55 AZL 91.83 HCA 87.60 SMA 239.84 ECC .36856 INC 1.8261 V1 29.415
RP 206.80 LAP -1.82 LOP 328.83 VP 27.022 GAP 20.19 AZP 90.08 TAL 2.05 TAP 89.65 RCA 151.44 APO 328.23 V2 26.482
RC 59.137 GL -11.99 GP -1.00 ZAL 89.93 ZAP 173.27 ETS 188.61 ZAE 169.97 ETE 21.03 ZAC 98.45 ETC 278.57 LVI -18.15

PLANETOCENTRIC CONIC

C3 28.201 VHL 5.310 DLA -22.23 RAL 337.77 RAD 6646.3 VEL 12.172 PTH 7.13 VHP 9.657 DPA -16.82 RAP 325.50 ECC 1.4641
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 16 18 2765.08 -20.34 78.30 199.51 133.99 16 2 23 1765.1 -2.28 61.84
60.00 16 23 19 2586.85 -14.72 67.36 204.62 127.95 17 6 25 1586.9 1.21 49.14
70.00 17 48 23 2336.74 -9.21 51.09 208.64 123.04 18 27 20 1336.7 4.73 31.52
80.00 19 29 59 2018.78 -4.70 29.71 211.40 119.52 20 3 38 1018.8 7.66 9.18
90.00 21 7 32 1704.14 -2.81 7.61 212.44 118.15 21 35 56 704.1 8.90 346.71
100.00 22 12 51 1493.25 -4.70 351.08 211.40 119.52 22 37 44 493.2 7.66 330.55
110.00 22 47 50 1383.56 -9.21 340.01 208.64 123.04 23 10 53 383.6 4.73 320.44

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3077 TRA -.7538 TC3 .1312 BAU .0581
RDE -.5021 RRA .2027 RC3 .0806 FAU .03630
FDE .0509 FRA .6001 FC3-1.1759 BSP 1309
BDE .5889 BRA .7805 BC3 .1540 FSP 154

SGT 949.4 SGR 597.1 SG3 123.8
RRT -.0278 RRF .0334 RTF -.5932
SGB 1121.6 R23 -.0061 R13 .5934
SG1 949.7 SG2 596.8 THA 178.34

ST 21.2 SR 27.3 SS 9.2
CRT .6959 CRS .1246 CST .7899
LSA 32.3 MSA 15.4 SSA 1.2
EL1 32.0 EL2 13.0 ALF 55.12

LAUNCH DATE MAY 23 1971

FLIGHT TIME 100.00

ARRIVAL DATE AUG 31 1971

HELIOCENTRIC CONIC

DISTANCE 274.781

EARTH TO MARS

RL 151.47 LAL -.00 LOL 241.23 VL 34.461 GAL .60 AZL 91.82 HCA 88.87 SMA 234.96 ECC .35549 INC 1.8176 V1 29.415
RP 206.75 LAP -1.82 LOP 330.10 VP 26.813 GAP 19.70 AZP 90.04 TAL 2.29 TAP 91.16 RCA 151.44 APO 318.49 V2 26.487
RC 59.850 GL -12.26 GP -1.03 ZAL 89.63 ZAP 172.28 ETS 187.73 ZAE 169.50 ETE 19.31 ZAC 98.38 ETC 278.63 LVI -18.19

PLANETOCENTRIC CONIC

C3 26.481 VHL 5.146 DLA -22.59 RAL 337.58 RAD 6645.6 VEL 12.101 PTH 7.08 VHP 9.336 DPA -16.75 RAP 325.78 ECC 1.4358
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 17 12 2741.58 -19.22 77.18 198.52 134.40 16 2 54 1741.8 -1.10 60.86
60.00 16 24 50 2561.71 -13.86 66.08 203.62 128.29 17 7 32 1561.7 2.32 47.94
70.00 17 50 47 2309.05 -8.18 49.61 207.64 123.28 18 29 16 1309.1 5.78 30.06
80.00 19 33 29 1987.64 -3.65 27.99 210.42 119.65 20 6 37 987.6 8.68 7.43
90.00 21 11 42 1670.85 -1.74 5.75 211.48 118.23 21 39 33 670.9 9.92 344.80
100.00 22 16 21 1462.11 -3.65 349.36 210.42 119.65 22 40 43 462.1 8.68 328.80
110.00 22 50 13 1355.87 -8.18 338.53 207.64 123.28 23 12 49 355.9 5.78 318.98

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2998 TRA -.7456 TC3 .1602 BAU .0642
RDE -.4889 RRA .1971 RC3 .0850 FAU .03989
FDE .0454 FRA .6218 FC3-1.3043 BSP 1333
BDE .5735 BRA .7712 BC3 .1814 FSP 166

SGT 973.2 SGR 600.4 SG3 132.9
RRT -.0302 RRF .0360 RTF -.593
SGB 1143.5 R23 -.0063 R13 .6096
SG1 973.5 SG2 599.9 THA 178.28

ST 21.5 SR 27.4 SS 9.4
CRT .6895 CRS .0901 CST .7740
LSA 32.4 MSA 15.8 SSA 1.3
EL1 32.2 EL2 13.2 ALF 54.91

LAUNCH DATE MAY 23 1971

FLIGHT TIME 102.00

ARRIVAL DATE SEP 2 1971

HELIOCENTRIC CONIC

DISTANCE 277.681

EARTH TO MARS

RL 151.47 LAL -.00 LOL 241.23 VL 34.305 GAL .65 AZL 91.81 HCA 90.13 SMA 230.58 ECC .34326 INC 1.8092 V1 29.415
RP 206.72 LAP -1.81 LOP 331.37 VP 26.616 GAP 19.21 AZP 90.00 TAL 2.54 TAP 92.67 RCA 151.43 APO 309.73 V2 26.491
RC 60.633 GL -12.53 GP -1.06 ZAL 89.31 ZAP 171.29 ETS 187.05 ZAE 169.07 ETE 17.79 ZAC 98.31 ETC 278.68 LVI -18.23

PLANETOCENTRIC CONIC

C3 24.915 VHL 4.991 DLA -22.96 RAL 337.37 RAD 6645.0 VEL 12.037 PTH 7.02 VHP 9.027 DPA -16.69 RAP 326.06 ECC 1.4100
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 18 4 2718.54 -18.12 76.10 197.55 134.78 16 3 22 1718.5 .06 59.89
60.00 16 26 20 2536.98 -12.61 64.83 202.64 128.60 17 8 37 1537.0 3.41 46.76
70.00 17 53 11 2281.66 -7.15 48.15 206.67 123.49 18 31 12 1281.7 6.81 28.62
80.00 19 37 3 1956.56 -2.60 26.28 209.48 119.75 20 9 40 956.6 9.69 5.68
90.00 21 16 0 1637.44 -.66 3.89 210.56 118.27 21 43 17 637.4 10.94 342.86
100.00 22 19 55 1431.03 -2.60 347.65 209.48 119.75 22 43 46 431.0 9.69 327.05
110.00 22 52 37 1328.48 -7.15 337.07 206.67 123.49 23 14 46 328.5 6.81 317.53

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2925 TRA -.7343 TC3 .1855 BAU .0686
RDE -.4761 RRA .1917 RC3 .0894 FAU .04157
FDE .0395 FRA .6429 FC3-1.4443 BSP 1376
BDE .5588 BRA .7589 BC3 .2059 FSP 183

SGT 992.5 SGR 603.2 SG3 142.6
RRT -.0313 RRF .0382 RTF -.6203
SGB 1161.4 R23 -.0075 R13 .6205
SG1 992.8 SG2 602.7 THA 178.27

ST 21.7 SR 27.6 SS 9.7
CRT .6851 CRS .0560 CST .7561
LSA 32.6 MSA 16.2 SSA 1.3
EL1 32.4 EL2 13.4 ALF 54.72

LAUNCH DATE MAY 23 1971 FLIGHT TIME 104.00 ARRIVAL DATE SEP 4 1971

HELIOCENTRIC CONIC										DISTANCE 280.707										EARTH TO MARS																																													
RL	151.47	LAL	-0.00	LOL	241.23	VL	34.198	GAL	.70	AZL	91.80	HCA	91.40	SMA	226.83	ECC	.33183	INC	1.8007	V1	29.415	RP	206.70	LAP	-1.80	LOP	332.64	VP	26.430	GAP	18.74	AZP	89.96	TAL	2.80	TAP	94.20	RCA	151.42	APO	301.83	V2	26.496	RC	61.483	GL	-12.79	GP	-1.09	ZAL	88.96	ZAP	170.28	ETS	186.51	ZAE	168.71	ETE	16.44	ZAC	98.24	ETC	278.73	LVI	-18.24
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	23.489	VHL	4.847	DLA	-23.34	RAL	337.13	RAD	6644.4	VEL	11.978	PTH	6.98	VHP	8.730	DPA	-16.64	RAP	326.32	ECC	1.3866	ST	21.9	SR	27.7	SS	10.0																																						
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CRS	.6791	CRS	.0203	CST	.7381																																		
50.00	15	18	52	2696.01	-17.04	75.05	196.61	135.12	16	3	48	1696.0	1.19	58.95	RTF	-.6317	SSA	16.6	SSA	1.3																																													
60.00	16	27	47	2512.89	-11.98	63.61	201.68	128.88	17	9	40	1512.7	4.47	45.59	EL1	32.5	EL2	13.7	ALF	54.59																																													
70.00	17	55	35	2254.61	-6.13	46.72	205.73	123.66	18	33	9	1254.6	7.82	27.18																																																			
80.00	19	40	43	1925.58	-1.55	24.58	208.96	119.82	20	12	48	925.6	10.69	3.92																																																			
90.00	21	20	27	1603.86	.42	2.02	209.66	118.28	21	47	11	603.9	11.94	340.91																																																			
100.00	22	23	34	1400.05	-1.55	345.95	208.96	119.82	22	46	55	400.0	10.69	325.29																																																			
110.00	22	55	1	1301.43	-6.13	335.64	205.73	123.66	23	16	42	301.4	7.82	316.10																																																			

LAUNCH DATE MAY 23 1971 FLIGHT TIME 106.00 ARRIVAL DATE SEP 6 1971

HELIOCENTRIC CONIC										DISTANCE 283.844										EARTH TO MARS																																													
RL	151.47	LAL	-0.00	LOL	241.23	VL	34.020	GAL	.75	AZL	91.79	HCA	92.67	SMA	223.04	ECC	.32113	INC	1.7922	V1	29.415	RP	206.68	LAP	-1.79	LOP	333.91	VP	26.253	GAP	18.27	AZP	89.92	TAL	3.07	TAP	95.74	RCA	151.42	APO	294.67	V2	26.496	RC	62.398	GL	-13.05	GP	-1.13	ZAL	88.60	ZAP	169.25	ETS	186.07	ZAE	168.40	ETE	15.22	ZAC	98.17	ETC	278.77	LVI	-18.29
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	22.188	VHL	4.710	DLA	-23.71	RAL	336.86	RAD	6643.8	VEL	11.924	PTH	6.93	VHP	8.443	DPA	-16.59	RAP	326.57	ECC	1.3652	ST	21.4	SR	27.7	SS	10.3																																						
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CRS	.6643	CRS	-.0122	CST	.7299																																		
50.00	15	19	36	2673.97	-15.97	74.04	195.70	135.44	16	4	10	1674.0	2.30	58.03	RTF	-.6597	SSA	16.9	SSA	1.3																																													
60.00	16	29	12	2488.85	-10.56	62.42	200.75	129.12	17	10	41	1488.8	5.52	44.44	EL1	32.2	EL2	13.8	ALF	55.77																																													
70.00	17	57	58	2227.88	-5.12	45.31	204.81	123.81	18	35	6	1227.9	8.82	25.75																																																			
80.00	19	44	27	1894.64	-.51	22.88	207.67	119.85	20	16	2	894.6	11.67	2.15																																																			
90.00	21	25	4	1570.12	1.51	.13	208.79	118.24	21	51	14	570.1	12.93	338.93																																																			
100.00	22	27	19	1369.11	-.51	344.25	207.67	119.85	22	50	8	369.1	11.67	323.52																																																			
110.00	22	57	25	1274.70	-5.12	334.23	204.81	123.81	23	18	39	274.7	8.82	314.67																																																			

LAUNCH DATE MAY 23 1971 FLIGHT TIME 108.00 ARRIVAL DATE SEP 8 1971

HELIOCENTRIC CONIC										DISTANCE 287.080										EARTH TO MARS																																													
RL	151.47	LAL	-0.00	LOL	241.23	VL	33.891	GAL	.79	AZL	91.78	HCA	93.94	SMA	219.79	ECC	.31114	INC	1.7838	V1	29.415	RP	206.67	LAP	-1.78	LOP	335.18	VP	26.086	GAP	17.81	AZP	89.88	TAL	3.35	TAP	97.29	RCA	151.41	APO	288.18	V2	26.496	RC	63.376	GL	-13.31	GP	-1.16	ZAL	88.23	ZAP	168.20	ETS	185.70	ZAE	168.16	ETE	14.11	ZAC	98.10	ETC	278.82	LVI	-18.31
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	21.003	VHL	4.593	DLA	-24.09	RAL	336.59	RAD	6643.3	VEL	11.875	PTH	6.89	VHP	8.167	DPA	-16.55	RAP	326.80	ECC	1.3457	ST	21.8	SR	27.8	SS	10.6																																						
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CRS	.6617	CRS	-.0602	CST	.6988																																		
50.00	15	20	17	2852.56	-14.93	73.07	194.81	135.72	16	4	30	1652.6	3.37	57.13	RTF	-.6607	SSA	17.3	SSA	1.4																																													
60.00	16	30	35	2465.61	-9.56	61.28	199.85	129.34	17	11	41	1485.6	6.53	43.32	EL1	32.5	EL2	14.0	ALF	55.20																																													
70.00	18	0	22	2201.87	-4.13	43.94	203.92	123.93	18	37	3	1201.7	9.79	24.35																																																			
80.00	19	48	16	1863.97	.53	21.20	206.82	119.85	20	19	20	864.0	12.64	.39																																																			
90.00	21	29	51	1536.34	2.60	358.25	207.96	118.17	21	53	27	536.3	13.91	336.93																																																			
100.00	22	31	8	1338.44	.53	342.56	206.82	119.85	22	53	26	338.4	12.64	321.75																																																			
110.00	22	59	46	1248.49	-4.13	332.85	203.92	123.93	23	20	36	248.5	9.79	313.26																																																			

LAUNCH DATE MAY 23 1971 FLIGHT TIME 110.00 ARRIVAL DATE SEP 10 1971

HELIOCENTRIC CONIC										DISTANCE 290.404										EARTH TO MARS																																													
RL	151.47	LAL	-0.00	LOL	241.23	VL	33.769	GAL	.84	AZL	91.78	HCA	95.21	SMA	216.84	ECC	.30179	INC	1.7753	V1	29.415	RP	206.68	LAP	-1.77	LOP	336.45	VP	25.927	GAP	17.38	AZP	89.84	TAL	3.63	TAP	98.84	RCA	151.40	APO	282.27	V2	26.496	RC	64.414	GL	-13.55	GP	-1.20	ZAL	87.84	ZAP	167.14	ETS	185.40	ZAE	167.99	ETE	13.09	ZAC	98.04	ETC	278.85	LVI	-18.32
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	19.921	VHL	4.463	DLA	-24.46	RAL	336.30	RAD	6642.8	VEL	11.829	PTH	6.85	VHP	7.901	DPA	-16.51	RAP	327.01	ECC	1.3278	ST	22.1	SR	27.8	SS	10.9																																						
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CRS	.6579	CRS	-.1000	CST	.6736																																		
50.00	15	20	56	2631.74	-13.92	72.14	193.95	135.97	16	4	47	1631.7	4.42	56.26	RTF	-.6631	SSA	17.7	SSA	1.4																																													
60.00	16	31	55	2442.92	-8.57	60.16	198.98	129.53	17	12	38	1442.9	7.52	42.22	EL1	32.6	EL2	14.2	ALF	54.80																																													
70.00	18	2	44	2175.91	-3.15	42.59	203.06	124.03	18	39	0	1175.9	10.74	22.95																																																			
80.00	19	52	10	1833.46	1.57	19.52	205.99	119.82	20	22	43	833.5	13.58	358.61																																																			
90.00	21	34	49	1502.39	3.69	356.35	207.17	118.06	21	59	51	502.4	14.87	334.90																																																			
100.00	22	35	1	1307.93	1.57	340.89	205.99	119.82	22	56	49	307.9	13.58	319.98																																																			
110.00	23	2	11	1222.73	-3.15	331.50	203.06	124.03	23	22	33	222.7	10.74	311.87																																																			

LAUNCH DATE MAY 23 1971

FLIGHT TIME 112.00

ARRIVAL DATE SEP 12 1971

HELIOCENTRIC CONIC
 RL 151.47 LAL -.00 LOL 241.23 VL 33.654 GAL .89 AZL 91.77 HCA 96.48 SMA 214.14 ECC .29304 INC 1.7668 V1 29.415
 RP 206.69 LAP -1.76 LOP 337.72 VP 25.777 GAP 16.93 AZP 89.80 TAL 3.92 TAP 100.40 RCA 151.39 APO 276.89 V2 26.495
 RC 65.912 GL -13.79 GP -1.24 ZAL 87.45 ZAP 166.05 ETS 185.13 ZAE 167.88 ETE 12.14 ZAC 97.97 ETC 276.89 LVI -18.33

PLANETOCENTRIC CONIC
 C3 18.932 VHL 4.351 DLA -24.84 RAL 335.99 RAD 6642.4 VEL 11.788 PTH 6.81 VHP 7.644 DPA -16.49 RAP 327.20 ECC 1.3116
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 21 30 2611.53 -12.93 71.24 193.12 136.20 16 5 2 1611.5 5.43 55.41
 60.00 16 33 13 2420.83 -7.62 59.08 198.14 129.70 17 13 33 1420.8 8.48 41.14
 70.00 18 5 6 2150.65 -2.18 41.27 202.23 124.09 18 40 57 1150.6 11.67 21.58
 80.00 19 56 8 1803.14 2.59 17.86 205.20 119.76 20 26 12 803.1 14.51 356.84
 90.00 21 39 59 1468.24 4.78 354.43 206.40 117.91 22 4 27 468.2 15.82 332.84
 100.00 22 39 0 1277.62 2.59 339.23 205.20 119.76 23 0 18 277.6 14.51 318.21
 110.00 23 4 33 1197.47 -2.18 330.18 202.23 124.09 23 24 30 197.5 11.67 310.50

DIFFERENTIAL CORRECTIONS
 TDE -.2516 TRA -.6798 TC3 .3322 BAU .0885 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.4198 RRA .1678 RC3 .1087 FAU .05166 SGT 1080.0 SGR 611.4 SG3 2D1.8 ST 22.2 SR 27.9 SS 11.2
 FDE -.0042 FRA .7648 FC3-2.3621 BSP 1552 RRT -.0450 RRF .0552 RTF -.6688 CRT .6520 CR8 -.1440 CST .6462
 BDE .4894 BRA .7002 BC3 .3496 FSP 276 SGB 1241.0 R23 -.0110 R13 .6691 LSA 32.7 MSA 18.1 SSA 1.4
 SG1 1080.5 SG2 610.4 THA 177.85 EL1 32.6 EL2 14.4 ALF 54.68

LAUNCH DATE MAY 23 1971

FLIGHT TIME 114.00

ARRIVAL DATE SEP 14 1971

HELIOCENTRIC CONIC
 RL 151.47 LAL -.00 LOL 241.23 VL 33.547 GAL .93 AZL 91.76 HCA 97.75 SMA 211.67 ECC .28485 INC 1.7582 V1 29.415
 RP 206.71 LAP -1.74 LOP 338.99 VP 25.634 GAP 16.50 AZP 89.76 TAL 4.22 TAP 101.97 RCA 151.38 APO 271.97 V2 26.493
 RC 66.667 GL -14.03 GP -1.28 ZAL 87.04 ZAP 164.95 ETS 184.91 ZAE 167.84 ETE 11.25 ZAC 97.91 ETC 278.92 LVI -18.33

PLANETOCENTRIC CONIC
 C3 18.029 VHL 4.246 DLA -25.20 RAL 335.67 RAD 6641.9 VEL 11.750 PTH 6.78 VHP 7.397 DPA -16.47 RAP 327.38 ECC 1.2967
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 22 2 2591.98 -11.96 70.38 192.31 136.40 16 5 14 1592.0 6.41 54.58
 60.00 16 34 27 2399.37 -6.68 58.04 197.32 129.84 17 14 27 1399.4 9.41 40.09
 70.00 18 7 28 2125.93 -1.24 39.98 201.42 124.13 18 42 53 1125.9 12.56 20.23
 80.00 20 0 12 1773.05 3.61 16.20 204.44 119.66 20 29 46 773.0 15.41 355.06
 90.00 21 45 23 1433.86 5.87 352.49 205.68 117.71 22 9 17 433.9 16.75 330.75
 100.00 22 43 4 1247.52 3.61 337.57 204.44 119.66 23 3 52 247.5 15.41 316.43
 110.00 23 6 54 1172.75 -1.24 328.89 201.42 124.13 23 26 27 172.7 12.56 309.15

DIFFERENTIAL CORRECTIONS
 TDE -.2447 TRA -.6701 TC3 .3596 BAU .0908 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.4098 RRA .1637 RC3 .1116 FAU .05406 RRT -.0483 RRF .0597 RTF -.6741 ST 22.3 SR 27.9 SS 11.6
 FDE -.0156 FRA .7931 FC3-2.5961 BSP 1589 SGB 1255.2 R23 -.0125 R13 .6745 LSA 32.6 MSA 18.5 SSA 1.5
 BDE .4773 BRA .6898 BC3 .3765 FSP 297 SG1 1096.5 SG2 610.8 THA 177.76 EL1 32.6 EL2 14.6 ALF 54.62

LAUNCH DATE MAY 23 1971

FLIGHT TIME 116.00

ARRIVAL DATE SEP 16 1971

HELIOCENTRIC CONIC
 RL 151.47 LAL -.00 LOL 241.23 VL 33.446 GAL .98 AZL 91.75 HCA 99.02 SMA 209.42 ECC .27720 INC 1.7496 V1 29.415
 RP 206.73 LAP -1.73 LOP 340.26 VP 25.499 GAP 16.08 AZP 89.73 TAL 4.51 TAP 103.53 RCA 151.37 APO 267.47 V2 26.489
 RC 67.877 GL -14.25 GP -1.32 ZAL 86.63 ZAP 163.82 ETS 184.71 ZAE 167.88 ETE 10.41 ZAC 97.84 ETC 278.95 LVI -18.32

PLANETOCENTRIC CONIC
 C3 17.202 VHL 4.147 DLA -25.57 RAL 335.34 RAD 6641.6 VEL 11.715 PTH 6.75 VHP 7.159 DPA -16.46 RAP 327.53 ECC 1.2831
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 22 31 2373.10 -11.03 69.56 191.53 136.58 16 5 24 1573.1 7.35 53.78
 60.00 16 35 39 2378.56 -5.77 57.04 196.52 129.96 17 15 18 1378.6 10.30 39.06
 70.00 18 9 47 2101.80 -.32 38.72 200.65 124.15 18 44 49 1101.8 13.43 18.90
 80.00 20 4 22 1743.19 4.61 14.55 203.71 119.53 20 33 25 743.2 16.29 353.28
 90.00 21 51 2 1399.16 6.96 350.53 204.99 117.48 22 14 21 399.2 17.66 328.61
 100.00 22 47 14 1217.66 4.61 335.92 203.71 119.53 23 7 31 217.7 16.29 314.65
 110.00 23 9 14 1148.61 -.32 327.63 200.65 124.15 23 28 22 148.6 13.43 307.81

DIFFERENTIAL CORRECTIONS
 TDE -.2378 TRA -.6603 TC3 .3897 BAU .0934 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.4003 RRA .1597 RC3 .1140 FAU .05668 RRT -.0517 RRF .0647 RTF -.5192 ST 22.4 SR 27.9 SS 11.9
 FDE -.0296 FRA .8207 FC3-2.8525 BSP 1632 SGB 1268.6 R23 -.0144 R13 .6797 CRT .6387 CR8 -.2326 CST .5893
 BDE .4655 BRA .6794 BC3 .4060 FSP 323 SG1 1111.9 SG2 610.8 THA 177.66 LSA 32.6 MSA 18.9 SSA 1.5
 EL1 32.6 EL2 14.7 ALF 54.63

LAUNCH DATE MAY 23 1971

FLIGHT TIME 118.00

ARRIVAL DATE SEP 18 1971

HELIOCENTRIC CONIC
 RL 151.47 LAL -.00 LOL 241.23 VL 33.351 GAL 1.02 AZL 91.74 HCA 100.29 SMA 207.35 ECC .27004 INC 1.7409 V1 29.415
 RP 206.77 LAP -1.71 LOP 341.53 VP 25.370 GAP 15.67 AZP 89.69 TAL 4.81 TAP 105.10 RCA 151.35 APO 263.34 V2 26.485
 RC 69.140 GL -14.47 GP -1.37 ZAL 86.22 ZAP 162.67 ETS 184.54 ZAE 167.99 ETE 9.60 ZAC 97.78 ETC 278.97 LVI -18.31

PLANETOCENTRIC CONIC
 C3 16.445 VHL 4.053 DLA -25.92 RAL 335.00 RAD 6641.2 VEL 11.683 PTH 6.72 VHP 6.929 DPA -16.47 RAP 327.66 ECC 1.2706
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 22 56 2554.91 -10.13 68.77 190.77 136.74 16 5 31 1554.9 8.26 53.01
 60.00 16 36 48 2358.45 -4.89 56.07 195.76 130.05 17 16 7 1358.4 11.17 38.07
 70.00 18 12 5 2078.29 .58 37.49 199.90 124.15 18 46 44 1078.3 14.27 17.59
 80.00 20 8 36 1713.60 5.60 12.92 203.01 119.38 20 37 10 713.6 17.14 351.50
 90.00 21 56 59 1364.06 8.06 348.54 204.34 117.20 22 19 43 364.1 18.56 326.43
 100.00 22 51 28 1188.07 5.60 334.28 203.01 119.38 23 11 16 188.1 17.14 312.87
 110.00 23 11 32 1125.11 .58 326.41 199.90 124.15 23 30 17 125.1 14.27 306.51

DIFFERENTIAL CORRECTIONS
 TDE -.2306 TRA -.6498 TC3 .4197 BAU .0957 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.3912 RRA .1559 RC3 .1159 FAU .05945 RRT -.0551 RRF .0695 RTF -.6844 ST 22.4 SR 27.9 SS 12.3
 FDE -.0429 FRA .8501 FC3-3.1296 BSP 1662 SGB 1279.9 R23 -.0161 R13 .6850 CRT .6320 CR8 -.2728 CST .5624
 BDE .4541 BRA .6682 BC3 .4354 FSP 349 SG1 1125.0 SG2 610.4 THA 177.57 LSA 32.5 MSA 19.3 SSA 1.5
 EL1 32.5 EL2 14.9 ALF 54.69

LAUNCH DATE MAY 23 1971 FLIGHT TIME 120.00 ARRIVAL DATE SEP 20 1971

Heliocentric Conic: RL 151.47 LAL - .00 LOL 241.23 VL 33.263 GAL 1.06 AZL 91.73 HCA 101.55 SMA 205.45 ECC .26335 INC 1.7321 V1 29.415
RP 206.81 LAP -1.70 LOP 342.79 VP 25.248 GAP 15.26 AZP 89.65 TAL 5.11 TAP 106.66 RCA 151.34 APO 259.55 V2 26.480
RC 70.455 GL -14.67 GP -1.41 ZAL 85.81 ZAP 161.50 ETS 184.39 ZAE 168.17 ETE 8.81 ZAC 97.72 ETC 278.98 LVI -18.28

PLANETOCENTRIC CONIC: C3 15.751 VHL 3.989 DLA -26.26 RAL 334.66 RAD 6640.9 VEL 11.653 PTH 6.69 VHP 6.708 DPA -16.48 RAP 327.77 ECC 1.2592
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 23 19 2537.43 -9.26 68.02 190.04 136.88 16 5 36 1537.4 9.13 52.26
60.00 16 37 54 2339.05 -4.04 55.13 195.02 130.13 17 16 53 1339.1 12.00 37.10
70.00 18 14 22 2055.44 1.46 36.30 199.18 124.13 18 48 37 1055.4 15.07 16.31
80.00 20 12 56 1684.29 6.58 11.29 202.34 119.19 20 41 1 684.3 17.97 349.72
90.00 22 3 17 1328.41 9.16 346.50 203.73 116.87 22 25 26 326.4 19.45 324.19
100.00 22 55 48 1158.76 6.58 332.66 202.34 119.19 23 15 7 158.8 17.97 311.09
110.00 23 13 48 1102.26 1.46 325.22 199.18 124.13 23 32 10 102.3 15.07 305.23

Differential Corrections: TDE -.2237 TRA -.6393 TC3 .4476 BAU .0974 SGT 1135.6 SGR 611.2 SG3 265.1 ST 22.3 SR 27.8 SS 12.8
RDE -.3824 RRA .1523 RC3 .1172 FAU .06234 RRT -.0590 RRF .0752 RTF -.6882 CRT .6251 CR8 -.3154 CST .5327
FDE -.0563 FRA .8805 FC3 -3.4284 B8P 1692 SGB 1289.6 R23 -.0181 R13 .6889 LSA 32.4 MSA 19.6 S8A 1.6
BDE .4430 BRA .6571 BC3 .4627 F8P 378 SG1 1136.4 SG2 609.7 THA 177.44 EL1 32.4 EL2 15.0 ALF 54.78

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 23 1971 FLIGHT TIME 122.00 ARRIVAL DATE SEP 22 1971

Heliocentric Conic: RL 151.47 LAL - .00 LOL 241.23 VL 33.179 GAL 1.10 AZL 91.72 HCA 102.82 SMA 203.70 ECC .25709 INC 1.7233 V1 29.418
RP 206.87 LAP -1.68 LOP 344.06 VP 25.131 GAP 14.87 AZP 89.62 TAL 5.40 TAP 108.22 RCA 151.33 APO 256.07 V2 26.474
RC 71.818 GL -14.67 GP -1.46 ZAL 85.41 ZAP 160.30 ETS 184.25 ZAE 168.42 ETE 8.03 ZAC 97.66 ETC 279.00 LVI -18.28

PLANETOCENTRIC CONIC: C3 15.116 VHL 3.888 DLA -26.60 RAL 334.31 RAD 6640.6 VEL 11.628 PTH 6.67 VHP 6.495 DPA -16.50 RAP 327.86 ECC 1.2488
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 23 39 2520.68 -8.43 67.30 189.33 137.00 16 5 40 1520.7 9.96 51.54
60.00 16 38 57 2320.40 -3.22 54.24 194.31 130.19 17 17 37 1320.4 12.79 36.16
70.00 18 16 35 2033.31 2.30 35.14 198.49 124.09 18 50 29 1033.3 15.64 15.06
80.00 20 17 22 1655.27 7.54 9.67 201.71 118.98 20 44 57 655.3 18.78 347.94
90.00 22 10 1 1291.99 10.28 344.41 203.17 116.49 22 31 33 292.0 20.32 321.87
100.00 23 0 13 1129.74 7.54 331.04 201.71 118.98 23 19 3 129.7 18.78 309.31
110.00 23 16 2 1080.13 2.30 324.06 198.49 124.09 23 34 2 80.1 15.84 303.98

Differential Corrections: TDE -.2165 TRA -.6289 TC3 .4759 BAU .0991 SGT 1145.9 SGR 610.3 SG3 283.7 ST 22.3 SR 27.8 SS 13.3
RDE -.3740 RRA .1489 RC3 .1178 FAU .06549 RRT -.0637 RRF .0811 RTF -.6921 CRT .6174 CR8 -.3552 CST .5050
FDE -.0743 FRA .9131 FC3 -3.7509 B8P 1719 SGB 1298.2 R23 -.0197 R13 .6928 LSA 32.3 MSA 20.0 S8A 1.6
BDE .4322 BRA .6463 BC3 .4902 F8P 408 SG1 1146.8 SG2 608.5 THA 177.29 EL1 32.3 EL2 15.1 ALF 54.94

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 23 1971 FLIGHT TIME 124.00 ARRIVAL DATE SEP 24 1971

Heliocentric Conic: RL 151.47 LAL - .00 LOL 241.23 VL 33.101 GAL 1.14 AZL 91.71 HCA 104.09 SMA 202.09 ECC .25124 INC 1.7144 V1 29.415
RP 206.93 LAP -1.66 LOP 345.33 VP 25.020 GAP 14.49 AZP 89.58 TAL 5.69 TAP 109.78 RCA 151.32 APO 252.86 V2 26.462
RC 73.228 GL -15.05 GP -1.51 ZAL 85.01 ZAP 159.08 ETS 184.13 ZAE 168.75 ETE 7.25 ZAC 97.60 ETC 279.00 LVI -18.261

PLANETOCENTRIC CONIC: C3 14.533 VHL 3.812 DLA -26.92 RAL 333.97 RAD 6640.3 VEL 11.601 PTH 6.64 VHP 6.289 DPA -16.53 RAP 327.92 ECC 1.2392
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 23 56 2304.67 -7.63 66.62 188.65 137.11 16 5 41 1504.7 10.75 50.85
60.00 16 39 56 2302.51 -2.44 53.38 193.63 130.24 17 18 19 1302.5 13.55 35.26
70.00 18 18 46 2011.91 3.12 34.02 197.83 124.03 18 52 18 1011.9 16.58 13.84
80.00 20 21 52 1826.57 8.48 8.06 201.12 118.73 20 48 59 626.6 19.55 346.16
90.00 22 17 15 1254.48 11.41 342.23 202.86 116.05 22 38 10 254.5 21.17 319.46
100.00 23 4 44 1101.04 8.48 329.43 201.12 118.73 23 23 5 101.0 19.55 307.53
110.00 23 18 12 1058.73 3.12 322.94 197.83 124.03 23 35 51 58.7 16.58 302.76

Differential Corrections: TDE -.2101 TRA -.6180 TC3 .5023 BAU .1002 SGT 1154.0 SGR 609.0 SG3 303.3 ST 22.2 SR 27.7 SS 13.8
RDE -.3660 RRA .1457 RC3 .1177 FAU .06878 RRT -.0681 RRF .0874 RTF -1.150 CRT .6109 CR8 -.3924 CST .4773
FDE -.0911 FRA .9466 FC3 -4.0974 B8P 1743 SGB 1304.8 R23 -.0220 R13 .6958 LSA 32.2 MSA 20.4 S8A 1.8
BDE .4220 BRA .6350 BC3 .5159 F8P 442 SG1 1155.0 SG2 607.1 THA 177.16 EL1 32.1 EL2 15.2 ALF 55.07

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 23 1971 FLIGHT TIME 126.00 ARRIVAL DATE SEP 26 1971

Heliocentric Conic: RL 151.47 LAL - .00 LOL 241.23 VL 33.028 GAL 1.18 AZL 91.71 HCA 105.35 SMA 200.81 ECC .24577 INC 1.7054 V1 29.415
RP 207.00 LAP -1.64 LOP 346.59 VP 24.914 GAP 14.11 AZP 89.58 TAL 5.98 TAP 111.33 RCA 151.31 APO 249.91 V2 26.458
RC 74.683 GL -15.23 GP -1.57 ZAL 84.61 ZAP 157.83 ETS 184.02 ZAE 169.15 ETE 6.46 ZAC 97.55 ETC 279.00 LVI -18.16

PLANETOCENTRIC CONIC: C3 13.998 VHL 3.741 DLA -27.23 RAL 333.63 RAD 6640.0 VEL 11.578 PTH 6.62 VHP 6.092 DPA -16.58 RAP 327.95 ECC 1.2304
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 24 11 2489.42 -6.87 65.97 188.00 137.20 16 5 40 1489.4 11.50 50.18
60.00 16 40 52 2285.42 -1.68 52.57 192.97 130.27 17 18 58 1285.4 14.27 34.39
70.00 18 20 53 1991.31 3.90 32.94 197.20 123.96 18 54 5 991.3 17.29 12.86
80.00 20 26 28 1598.20 9.41 6.46 200.55 118.47 20 53 6 598.2 20.30 344.38
90.00 22 25 12 1215.34 12.57 339.94 202.19 115.54 22 45 27 215.3 22.03 316.91
100.00 23 9 20 1072.68 9.41 327.83 200.55 118.47 23 27 13 72.7 20.30 305.75
110.00 23 20 20 1038.13 3.90 321.86 197.20 123.96 23 37 38 38.1 17.29 301.58

Differential Corrections: TDE -.2036 TRA -.6075 TC3 .5278 BAU .1012 SGT 1161.0 SGR 607.5 SG3 324.3 ST 22.1 SR 27.7 SS 14.3
RDE -.3582 RRA .1427 RC3 .1168 FAU .07229 RRT -.0731 RRF .0945 RTF -.6977 CRT .6039 CR8 -.4285 CST .4500
FDE -.1093 FRA .9827 FC3 -4.4712 B8P 1755 SGB 1310.3 R23 -.0245 R13 .6986 LSA 32.1 MSA 20.8 S8A 1.7
BDE .4121 BRA .6240 BC3 .5406 F8P 475 SG1 1162.2 SG2 605.2 THA 176.99 EL1 32.0 EL2 15.3 ALF 55.24

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 23 1971

FLIGHT TIME 128.00

ARRIVAL DATE SEP 28 1971

HELIOCENTRIC CONIC

DISTANCE 323.104

EARTH TO MARS

RL 151.47 LAL -.00 LOL 241.23 VL 32.939 GAL 1.21 AZL 91.70 HCA 106.62 SMA 199.25 ECC .24067 INC 1.6983 V1 29.415
 RP 207.08 LAP -1.63 LOP 347.86 VP 24.813 GAP 13.75 AZP 89.91 TAL 6.26 TAP 112.88 RCA 151.29 APO 247.20 V2 26.440
 RC 76.180 GL -15.39 GP -1.62 ZAL 84.23 ZAP 156.95 ETS 183.91 ZAE 169.62 ETE 5.63 ZAC 97.49 ETC 279.00 LVI -18.10

PLANETOCENTRIC CONIC

C3 13.506 VHL 3.675 DLA -27.53 RAL 333.29 RAD 6639.8 VEL 11.557 PTH 6.60 VHP 5.901 DPA -16.64 RAP 327.96 ECC 1.2223
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 24 22 2474.93 -6.15 65.36 187.38 137.27 16 5 37 1474.9 12.22 49.55
 60.00 16 41 45 2269.13 -.97 51.79 192.35 130.29 17 19 34 1269.1 14.95 33.55
 70.00 18 22 57 1971.93 4.65 31.91 196.59 123.87 18 55 48 971.5 17.96 11.52
 80.00 20 31 9 1570.19 10.31 4.88 200.02 118.18 20 57 19 570.2 21.01 342.61
 90.00 22 34 7 1173.62 13.78 337.48 201.79 114.94 22 53 41 173.6 22.89 314.15
 100.00 23 14 1 1044.66 10.31 326.24 200.02 118.18 23 31 26 44.7 21.01 303.98
 110.00 23 22 23 1018.35 4.65 320.82 196.59 123.87 23 39 22 18.4 17.96 300.43

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1975 TRA -.5972 TC3 .5485 BAU .1012 SGT 1166.0 SGR 605.7 SG3 346.4 ST 22.0 SR 27.6 SS 14.9
 RDE -.3508 RRA .1399 RC3 .1152 FAU .07597 RRT -.0790 RRF .1026 RTF -.6983 CRT .5970 CR8 -.4651 CST .4210
 FDE -.1298 FRA 1.0209 FC3-4.0695 BSP 1764 SGB 1313.9 R23 -.0274 R13 .6994 LSA 31.9 MSA 21.1 SSA 1.7
 BDE .4026 BRA .6134 BC3 .5604 FSP 512 SG1 1167.3 SG2 603.1 THA 176.79 EL1 31.8 EL2 15.3 ALF 55.41

LAUNCH DATE MAY 23 1971

FLIGHT TIME 130.00

ARRIVAL DATE SEP 30 1971

HELIOCENTRIC CONIC

DISTANCE 326.954

EARTH TO MARS

RL 151.47 LAL -.00 LOL 241.23 VL 32.895 GAL 1.25 AZL 91.69 HCA 107.88 SMA 197.99 ECC .23590 INC 1.6871 V1 29.415
 RP 207.17 LAP -1.61 LOP 349.12 VP 24.717 GAP 13.39 AZP 89.48 TAL 6.53 TAP 114.41 RCA 151.28 APO 244.69 V2 26.439
 RC 77.718 GL -15.54 GP -1.68 ZAL 83.86 ZAP 155.24 ETS 183.82 ZAE 170.17 ETE 4.74 ZAC 97.44 ETC 278.99 LVI -18.03

PLANETOCENTRIC CONIC

C3 13.055 VHL 3.613 DLA -27.81 RAL 332.96 RAD 6639.6 VEL 11.538 PTH 6.58 VHP 5.718 DPA -16.71 RAP 327.94 ECC 1.2148
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 24 32 2461.22 -5.46 64.78 186.78 137.34 16 5 33 1461.2 12.89 48.94
 60.00 16 42 33 2253.67 -.29 51.05 191.75 130.30 17 20 7 1253.7 15.59 32.75
 70.00 18 24 56 1952.62 5.37 30.91 196.01 123.78 18 57 28 952.6 18.59 10.41
 80.00 20 35 55 1542.54 11.20 3.30 199.52 117.86 21 1 38 542.5 21.70 340.84
 90.00 22 44 40 1127.35 15.09 334.71 201.48 114.20 23 3 27 127.4 23.78 311.05
 100.00 23 18 47 1017.01 11.20 324.67 199.52 117.86 23 35 44 17.0 21.70 302.21
 110.00 23 24 22 6287.48 5.37 297.74 196.01 123.78 25 9 10 5287.5 18.59 277.24

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1925 TRA -.5858 TC3 .5661 BAU .1007 SGT 1167.8 SGR 603.5 SG3 369.8 ST 21.9 SR 27.5 SS 15.5
 RDE -.3437 RRA .1373 RC3 .1125 FAU .07989 RRT -.0836 RRF .1103 RTF -.6979 CRT .5930 CR8 -.4943 CST .3951
 FDE -.1490 FRA 1.0591 FC3-5.2983 BSP 1778 SGB 1314.5 R23 -.0310 R13 .6992 LSA 31.9 MSA 21.4 SSA 1.7
 BDE .3939 BRA .6017 BC3 .5772 FSP 552 SG1 1169.3 SG2 600.6 THA 176.64 EL1 31.7 EL2 15.3 ALF 55.49

LAUNCH DATE MAY 23 1971

FLIGHT TIME 132.00

ARRIVAL DATE OCT 2 1971

HELIOCENTRIC CONIC

DISTANCE 330.835

EARTH TO MARS

RL 151.47 LAL -.00 LOL 241.23 VL 32.835 GAL 1.28 AZL 91.68 HCA 109.14 SMA 196.82 ECC .23146 INC 1.6777 V1 29.415
 RP 207.26 LAP -1.58 LOP 350.39 VP 24.625 GAP 13.04 AZP 89.45 TAL 6.79 TAP 115.94 RCA 151.27 APO 242.38 V2 26.428
 RC 79.295 GL -15.68 GP -1.75 ZAL 83.50 ZAP 153.90 ETS 183.73 ZAE 170.79 ETE 3.77 ZAC 97.39 ETC 278.98 LVI -17.96

PLANETOCENTRIC CONIC

C3 12.639 VHL 3.555 DLA -28.07 RAL 332.63 RAD 6639.4 VEL 11.520 PTH 6.57 VHP 5.541 DPA -16.79 RAP 327.88 ECC 1.2080
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 24 39 2448.28 -4.81 64.23 186.21 137.39 16 5 27 1448.3 13.53 48.37
 60.00 16 43 18 2239.06 .36 50.35 191.17 130.30 17 20 37 1239.1 16.20 31.99
 70.00 18 26 30 1934.62 6.05 29.96 195.47 123.68 18 59 4 934.6 19.18 9.36
 80.00 20 40 46 1515.27 12.06 1.74 199.06 117.52 21 6 1 515.3 22.35 339.08
 90.00 22 58 33 1070.90 16.63 331.29 201.30 113.20 23 16 24 70.9 24.77 307.22
 100.00 23 23 38 6277.78 12.06 301.01 199.06 117.52 25 8 15 5277.8 22.35 278.36
 110.00 23 26 16 6269.48 6.05 296.79 195.47 123.68 25 10 45 5269.5 19.18 276.18

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1866 TRA -.3751 TC3 .5816 BAU .1000 SGT 1168.2 SGR 601.2 SG3 395.0 ST 21.8 SR 27.4 SS 16.2
 RDE -.3368 RRA .1349 RC3 .1089 FAU .08409 RRT -.0906 RRF .1198 RTF -.6972 CRT .5864 CR8 -.5262 CST .3683
 FDE -.1719 FRA 1.1014 FC3-5.7598 BSP 1774 SGB 1313.8 R23 -.0344 R13 .6987 LSA 31.8 MSA 21.8 SSA 1.8
 BDE .3851 BRA .5907 BC3 .5917 FSP 594 SG1 1169.9 SG2 597.8 THA 176.39 EL1 31.4 EL2 15.4 ALF 55.74

LAUNCH DATE MAY 23 1971

FLIGHT TIME 134.00

ARRIVAL DATE OCT 4 1971

HELIOCENTRIC CONIC

DISTANCE 334.745

EARTH TO MARS

RL 151.47 LAL -.00 LOL 241.23 VL 32.778 GAL 1.30 AZL 91.67 HCA 110.41 SMA 195.75 ECC .22730 INC 1.6682 V1 29.415
 RP 207.37 LAP -1.56 LOP 351.65 VP 24.536 GAP 12.70 AZP 89.42 TAL 7.04 TAP 117.45 RCA 151.26 APO 240.25 V2 26.415
 RC 80.909 GL -15.81 GP -1.81 ZAL 83.15 ZAP 152.53 ETS 183.65 ZAE 171.48 ETE 2.67 ZAC 97.34 ETC 278.95 LVI -17.87

PLANETOCENTRIC CONIC

C3 12.257 VHL 3.501 DLA -28.32 RAL 332.32 RAD 6639.2 VEL 11.504 PTH 6.55 VHP 5.372 DPA -16.89 RAP 327.80 ECC 1.2017
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 24 44 2436.08 -4.20 63.72 185.67 137.43 16 5 20 1436.1 14.13 47.83
 60.00 16 43 59 2225.26 .96 49.69 190.63 130.29 17 21 4 1225.3 16.77 31.27
 70.00 18 28 38 1917.50 6.69 29.06 194.94 123.57 19 0 35 917.5 19.74 8.34
 80.00 20 45 42 1488.27 12.90 .18 198.63 117.16 21 10 31 488.3 22.98 337.32
 88.48 23 14 43 1007.71 19.35 327.83 201.63 111.09 23 31 31 7.7 26.34 302.98
 100.00 23 28 34 6250.78 12.90 299.45 198.63 117.16 25 12 45 5250.8 22.98 276.60
 110.00 23 28 4 6252.36 6.69 295.88 194.94 123.57 25 12 17 5252.4 19.74 275.17

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1720 TRA -.5536 TC3 .6236 BAU .1036 SGT 1152.9 SGR 598.6 SG3 421.6 ST 20.9 SR 27.3 SS 16.8
 RDE -.3303 RRA .1326 RC3 .1039 FAU .08868 RRT -.1010 RRF .1298 RTF -.7108 CRT .5672 CR8 -.5649 CST .3471
 FDE -.2002 FRA 1.1370 FC3-6.2633 BSP 1649 SGB 1299.0 R23 -.0322 R13 .7124 LSA 31.4 MSA 21.8 SSA 1.8
 BDE .3724 BRA .5693 BC3 .6322 FSP 634 SG1 1155.0 SG2 594.4 THA 175.91 EL1 30.8 EL2 15.2 ALF 57.71

LAUNCH DATE MAY 23 1971 FLIGHT TIME 136.00 ARRIVAL DATE OCT 6 1971

HELIOCENTRIC CONIC DISTANCE 336.680 EARTH TO MARS
 RL 151.47 LAL -.00 LOL 241.23 VL 32.726 GAL 1.33 AZL 91.66 HCA 111.67 SMA 194.76 ECC .22344 INC 1.6586 V1 29.419
 RP 207.48 LAP -1.34 LOP 352.91 VP 24.452 GAP 12.37 AZP 89.39 TAL 7.28 TAP 118.95 RCA 151.24 APO 236.28 V2 26.402
 RC 82.560 GL -15.93 GP -1.08 ZAL 82.83 ZAP 151.12 ETS 183.57 ZAE 172.24 ETE 1.38 ZAC 97.30 ETC 278.92 LVI -17.77

PLANETOCENTRIC CONIC
 C3 11.905 VHL 3.450 DLA -28.55 RAL 332.02 RAD 6639.0 VEL 11.488 PTH 6.54 VHP 5.209 DPA -17.01 RAP 327.68 ECC 1.1959
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 24 47 2424.72 -3.63 63.24 185.16 137.47 16 5 12 1424.7 14.68 47.32
 60.00 16 44 36 2212.39 1.53 49.08 190.11 130.28 17 21 28 1212.4 17.30 30.60
 70.00 18 30 19 1901.47 7.30 28.21 194.45 123.46 19 2 1 901.5 20.26 7.39
 80.00 20 50 41 1461.90 13.72 358.64 198.23 116.78 21 15 3 461.9 23.57 335.59
 85.95 22 52 25 1069.99 19.85 332.52 200.98 111.13 23 10 15 70.0 26.63 307.60
 100.00 23 33 33 6224.41 13.72 297.92 198.23 116.78 25 17 17 5224.4 23.57 274.86
 110.00 23 29 46 6236.33 7.30 295.03 194.45 123.46 25 13 42 5236.3 20.26 274.21

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1722 TRA -.5469 TC3 .6148 BAU .0991 SGT 1153.5 SGR 593.7 SG3 449.3 ST 21.1 SR 27.1 SS 17.5
 RDE -.3239 RRA .1306 RC3 .0982 FAU .09323 RRT -.1058 RRF .1402 RTF -.6993 CRT .5710 CR8 -.5861 CST .3182
 FDE -.2223 FRA 1.1850 FC3-6.7794 BSP 1700 SGB 1298.2 R23 -.0401 R13 .7013 LSA 31.6 MSA 22.1 SSA 1.8
 BDE .3668 BRA .5623 BC3 .6224 FSP 684 SG1 1155.8 SG2 591.2 THA 175.76 EL1 30.8 EL2 15.3 ALF 57.02

LAUNCH DATE MAY 23 1971 FLIGHT TIME 138.00 ARRIVAL DATE OCT 8 1971

HELIOCENTRIC CONIC DISTANCE 342.639 EARTH TO MARS
 RL 151.47 LAL -.00 LOL 241.23 VL 32.677 GAL 1.35 AZL 91.65 HCA 112.92 SMA 193.85 ECC .21984 INC 1.6489 V1 29.415
 RP 207.60 LAP -1.52 LOP 354.17 VP 24.371 GAP 12.04 AZP 89.36 TAL 7.51 TAP 120.43 RCA 151.23 APO 236.47 V2 26.388
 RC 84.247 GL -16.03 GP -1.95 ZAL 82.53 ZAP 149.69 ETS 183.49 ZAE 173.07 ETE 359.80 ZAC 97.25 ETC 278.89 LVI -17.65

PLANETOCENTRIC CONIC
 C3 11.581 VHL 3.403 DLA -28.75 RAL 331.74 RAD 6638.8 VEL 11.474 PTH 6.52 VHP 5.052 DPA -17.13 RAP 327.54 ECC 1.1906
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 24 48 2414.14 -3.10 62.80 184.67 137.50 16 5 2 1414.1 15.20 46.84
 60.00 16 45 9 2200.40 2.06 48.51 189.63 130.26 17 21 49 1200.4 17.79 29.96
 70.00 18 31 53 1886.46 7.86 27.41 193.98 123.34 19 3 20 886.5 20.74 6.49
 80.00 20 55 43 1435.98 14.51 357.12 197.87 116.39 21 19 39 436.0 24.13 333.87
 84.57 22 39 58 1100.80 19.93 334.89 200.37 111.17 22 58 18 100.8 26.90 309.92
 100.00 23 38 35 6198.49 14.51 296.40 197.87 116.39 25 21 54 5198.5 24.13 273.14
 110.00 23 31 20 6221.31 7.86 294.23 193.98 123.34 25 15 1 5221.3 20.74 273.31

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1710 TRA -.5381 TC3 .6053 BAU .0948 SGT 1149.1 SGR 592.6 SG3 478.5 ST 21.2 SR 27.0 SS 18.2
 RDE -.3177 RRA .1288 RC3 .0914 FAU .09803 RRT -.1115 RRF .1514 RTF -.6891 CRT .5733 CR8 -.6058 CST .2921
 FDE -.2454 FRA 1.2344 FC3-7.3282 BSP 1713 SGB 1292.9 R23 -.0476 R13 .6916 LSA 31.7 MSA 22.4 SSA 1.9
 BDE .3608 BRA .5533 BC3 .6121 FSP 736 SG1 1151.7 SG2 587.6 THA 175.55 EL1 30.7 EL2 15.2 ALF 56.61

LAUNCH DATE MAY 23 1971 FLIGHT TIME 140.00 ARRIVAL DATE OCT 10 1971

HELIOCENTRIC CONIC DISTANCE 346.620 EARTH TO MARS
 RL 151.47 LAL -.00 LOL 241.23 VL 32.631 GAL 1.37 AZL 91.64 HCA 114.18 SMA 193.01 ECC .21649 INC 1.6389 V1 29.415
 RP 207.73 LAP -1.50 LOP 355.43 VP 24.293 GAP 11.72 AZP 89.33 TAL 7.72 TAP 121.90 RCA 151.22 APO 234.79 V2 26.373
 RC 85.969 GL -16.13 GP -2.03 ZAL 82.25 ZAP 148.22 ETS 183.42 ZAE 173.96 ETE 357.76 ZAC 97.21 ETC 278.85 LVI -17.53

PLANETOCENTRIC CONIC
 C3 11.283 VHL 3.359 DLA -28.94 RAL 331.47 RAD 6638.7 VEL 11.462 PTH 6.51 VHP 4.902 DPA -17.28 RAP 327.35 ECC 1.1857
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 24 47 2404.33 -2.61 62.39 184.22 137.52 16 4 52 1404.3 15.67 46.40
 60.00 16 45 37 2189.29 2.55 47.97 189.17 130.23 17 22 7 1189.3 18.24 29.37
 70.00 18 33 20 1872.50 8.38 26.67 193.54 123.23 19 4 32 872.5 21.18 5.64
 80.00 21 0 48 1410.56 15.27 355.62 197.53 115.97 21 24 18 410.6 24.66 332.16
 83.56 22 30 41 1121.86 20.19 336.55 199.79 111.20 22 49 23 121.9 27.14 311.52
 100.00 23 43 40 6173.08 15.27 294.90 197.53 115.97 25 26 33 5173.1 24.66 271.44
 110.00 23 32 46 6207.36 8.38 293.49 193.54 123.23 25 16 14 5207.4 21.18 272.47

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1691 TRA -.5281 TC3 .5931 BAU .0903 SGT 1140.9 SGR 589.4 SG3 509.2 ST 21.1 SR 26.9 SS 19.0
 RDE -.3118 RRA .1272 RC3 .0835 FAU .10308 RRT -.1182 RRF .1642 RTF -.6888 CRT .5746 CR8 -.6272 CST .2644
 FDE -.2720 FRA 1.2862 FC3-7.9093 BSP 1711 SGB 1284.2 R23 -.0559 R13 .6818 LSA 31.8 MSA 22.6 SSA 1.9
 BDE .3547 BRA .5432 BC3 .5989 FSP 790 SG1 1143.8 SG2 583.8 THA 175.27 EL1 30.6 EL2 15.2 ALF 56.40

LAUNCH DATE MAY 23 1971 FLIGHT TIME 142.00 ARRIVAL DATE OCT 12 1971

HELIOCENTRIC CONIC DISTANCE 350.621 EARTH TO MARS
 RL 151.47 LAL -.00 LOL 241.23 VL 32.588 GAL 1.39 AZL 91.63 HCA 115.44 SMA 192.23 ECC .21337 INC 1.6288 V1 29.415
 RP 207.86 LAP -1.47 LOP 356.68 VP 24.219 GAP 11.41 AZP 89.30 TAL 7.92 TAP 123.36 RCA 151.21 APO 233.24 V2 26.357
 RC 87.725 GL -16.21 GP -2.11 ZAL 81.99 ZAP 146.71 ETS 183.34 ZAE 174.91 ETE 354.94 ZAC 97.17 ETC 278.80 LVI -17.39

PLANETOCENTRIC CONIC
 C3 11.007 VHL 3.318 DLA -29.12 RAL 331.23 RAD 6638.6 VEL 11.450 PTH 6.50 VHP 4.758 DPA -17.43 RAP 327.14 ECC 1.1812
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 24 45 2395.29 -2.15 62.01 183.79 137.54 16 4 40 1395.3 16.11 45.99
 60.00 16 46 1 2179.07 3.00 47.48 188.74 130.21 17 22 21 1179.1 18.65 28.82
 70.00 18 34 38 1859.64 8.86 25.98 193.12 123.12 19 5 37 859.6 21.58 4.86
 80.00 21 5 53 1385.74 16.00 354.15 197.23 115.55 21 28 59 385.7 25.15 330.49
 82.77 22 23 22 1137.14 20.43 337.77 199.24 111.21 22 42 20 137.1 27.36 312.69
 100.00 23 48 45 6148.25 16.00 293.42 197.23 115.55 25 31 13 5148.2 25.15 269.76
 110.00 23 34 4 6194.50 8.86 292.80 193.12 123.12 25 17 18 5194.5 21.58 271.68

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1678 TRA -.5169 TC3 .5764 BAU .0855 SGT 1128.8 SGR 586.0 SG3 541.6 ST 21.1 SR 26.7 SS 19.7
 RDE -.3060 RRA .1257 RC3 .0741 FAU .10844 RRT -.1240 RRF .1767 RTF -.6673 CRT .5787 CR8 -.6414 CST .2416
 FDE -.2950 FRA 1.3395 FC3-8.5287 BSP 1687 SGB 1271.9 R23 -.0647 R13 .6709 LSA 32.0 MSA 22.8 SSA 1.9
 BDE .3490 BRA .5320 BC3 .5812 FSP 845 SG1 1132.0 SG2 579.8 THA 175.00 EL1 30.5 EL2 15.1 ALF 56.13

LAUNCH DATE MAY 23 1971 FLIGHT TIME 144.00 ARRIVAL DATE OCT 14 1971

Heliocentric Conic: RL 151.47 LAL -.00 LOL 241.23 VL 32.948 GAL 1.41 AZL 91.62 HCA 116.69 SMA 191.51 ECC .21047 INC 1.6184 V1 29.415
 RP 208.01 LAP -1.45 LOP 357.94 VP 24.147 GAP 11.11 AZP 89.27 TAL 8.10 TAP 124.79 RCA 151.21 APO 231.82 V2 26.340
 RC 89.514 GL -16.28 GP -2.19 ZAL 81.75 ZAP 145.17 ETS 183.27 ZAE 175.91 ETE 350.67 ZAC 97.13 ETC 278.74 LVI -17.24

PLANETOCENTRIC CONIC: C3 10.753 VHL 3.279 DLA -29.27 RAL 331.00 RAD 6638.4 VEL 11.439 PTH 6.49 VHP 4.620 DPA -17.61 RAP 326.88 ECC 1.1770
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 24 41 2387.03 -1.74 61.67 183.40 137.55 16 4 28 1387.0 16.51 45.61
 60.00 16 46 21 2169.74 3.41 47.04 188.34 130.18 17 22 31 1169.7 19.03 28.32
 70.00 18 35 46 1847.91 9.30 25.35 192.73 123.01 19 6 34 847.9 21.94 4.14
 80.00 21 10 58 1361.60 16.71 352.70 196.95 115.11 21 33 39 361.6 25.62 328.84
 82.14 22 17 25 1148.62 20.64 338.71 198.73 111.22 22 36 33 148.6 27.56 313.58
 100.00 23 53 50 6124.11 16.71 291.97 196.95 115.11 25 35 54 5124.1 25.62 268.12
 110.00 23 35 12 6182.77 9.30 292.17 192.73 123.01 25 18 15 5182.8 21.94 270.97

Differential Corrections: TDE -.1661 TRA -.5052 TC3 .5526 BAU .0800 SGT 1113.3 SGR 582.5 S63 575.4 ST 21.0 SR 26.5 S8 20.5
 RDE -.3004 RRA .1245 RC3 .0636 FAU .11398 RRT -.1309 RRF .1912 RTF -.6537 CRT .5820 CRS -.6584 CST .2157
 FDE -.3226 FRA 1.3961 FC3-9.1769 BSP 1654 SGB 1256.5 R23 -.0750 R13 .6580 LSA 32.2 MSA 22.9 S8A 2.0
 BDE .3432 BRA .5203 BC3 .5562 F8P 906 S61 1116.9 S62 575.7 THA 174.66 EL1 30.4 EL2 14.9 ALF 55.98

LAUNCH DATE MAY 23 1971 FLIGHT TIME 146.00 ARRIVAL DATE OCT 16 1971

Heliocentric Conic: RL 151.47 LAL -.00 LOL 241.23 VL 32.512 GAL 1.42 AZL 91.61 HCA 117.94 SMA 190.85 ECC .20777 INC 1.6078 V1 29.415
 RP 208.16 LAP -1.42 LOP 359.19 VP 24.078 GAP 10.82 AZP 89.25 TAL 8.27 TAP 126.21 RCA 151.20 APO 230.50 V2 26.320
 RC 91.337 GL -16.33 GP -2.27 ZAL 81.54 ZAP 143.59 ETS 183.20 ZAE 176.94 ETE 343.33 ZAC 97.10 ETC 278.68 LVI -17.08

PLANETOCENTRIC CONIC: C3 10.518 VHL 3.243 DLA -29.40 RAL 330.79 RAD 6638.3 VEL 11.428 PTH 6.48 VHP 4.488 DPA -17.80 RAP 326.59 ECC 1.1731
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 24 35 2379.52 -1.36 61.35 183.03 137.56 16 4 15 1379.5 16.87 45.27
 60.00 16 46 36 2161.31 3.78 46.63 187.96 130.15 17 22 38 1161.3 19.37 27.86
 70.00 18 36 45 1837.35 9.69 24.78 192.36 122.91 19 7 22 837.4 22.26 3.49
 80.00 21 15 58 1338.33 17.37 351.29 196.70 114.67 21 38 16 338.3 26.04 327.24
 81.62 22 12 34 1157.04 20.84 339.42 198.26 111.21 22 31 51 157.0 27.73 314.24
 100.00 0 2 46 6100.84 17.37 290.57 196.70 114.67 1 44 26 5100.8 26.04 266.52
 110.00 23 36 11 6172.21 9.69 291.61 192.36 122.91 25 19 3 5172.2 22.26 270.32

Differential Corrections: TDE -.1648 TRA -.4930 TC3 .5230 BAU .0739 SGT 1095.1 SGR 579.0 S63 611.1 ST 20.9 SR 26.3 S8 21.3
 RDE -.2949 RRA .1234 RC3 .0517 FAU .11983 RRT -.1374 RRF .2067 RTF -.6380 CRT .5870 CRS -.6724 CST .1911
 FDE -.3497 FRA 1.4561 FC3-9.8632 BSP 1611 SGB 1238.7 R23 -.0869 R13 .6434 LSA 32.4 MSA 23.0 S8A 2.0
 BDE .3379 BRA .5082 BC3 .5255 F8P 968 S61 1099.0 S62 571.4 THA 174.30 EL1 30.2 EL2 14.7 ALF 55.79

LAUNCH DATE MAY 23 1971 FLIGHT TIME 148.00 ARRIVAL DATE OCT 18 1971

Heliocentric Conic: RL 151.47 LAL -.00 LOL 241.23 VL 32.477 GAL 1.43 AZL 91.60 HCA 119.19 SMA 190.24 ECC .20527 INC 1.5971 V1 29.415
 RP 208.32 LAP -1.39 LOP 361.44 VP 24.011 GAP 10.53 AZP 89.22 TAL 8.41 TAP 127.61 RCA 151.19 APO 229.29 V2 26.304
 RC 93.190 GL -16.38 GP -2.36 ZAL 81.35 ZAP 141.98 ETS 183.13 ZAE 177.94 ETE 328.07 ZAC 97.06 ETC 278.60 LVI -16.90

PLANETOCENTRIC CONIC: C3 10.301 VHL 3.210 DLA -29.51 RAL 330.61 RAD 6638.2 VEL 11.419 PTH 6.47 VHP 4.362 DPA -18.00 RAP 326.26 ECC 1.1695
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 24 28 2372.78 -1.02 61.07 182.69 137.57 16 4 1 1372.8 17.20 44.96
 60.00 16 46 47 2133.78 4.11 46.27 187.61 130.13 17 22 41 1133.8 19.67 27.46
 70.00 18 37 33 1827.99 10.03 24.28 192.02 122.82 19 8 1 828.0 22.55 2.92
 80.00 21 20 48 1316.19 18.00 349.95 196.48 114.23 21 42 44 316.2 26.42 325.71
 81.21 22 8 38 1163.09 21.02 339.94 197.82 111.19 22 28 2 163.1 27.89 314.72
 100.00 0 7 36 6078.71 18.00 289.22 196.48 114.23 1 48 55 5078.7 26.42 264.99
 110.00 23 36 59 6162.84 10.03 291.10 192.02 122.82 25 19 42 5162.8 22.55 269.74

Differential Corrections: TDE -.1641 TRA -.4803 TC3 .4827 BAU .0667 SGT 1073.5 SGR 573.5 S63 647.9 ST 20.8 SR 26.1 S8 22.1
 RDE -.2898 RRA .1226 RC3 .0385 FAU .12553 RRT -.1433 RRF .2234 RTF -.1.78 CRT .5940 CRS -.6896 CST .1647
 FDE -.3781 FRA 1.5180 FC-10.5748 BSP 1554 SGB 1218.0 R23 -.1014 R13 .6245 LSA 32.7 MSA 23.0 S8A 2.0
 BDE .3329 BRA .4957 BC3 .4843 F8P 1032 S61 1077.9 S62 567.2 THA 173.92 EL1 30.1 EL2 14.5 ALF 55.55

LAUNCH DATE MAY 23 1971 FLIGHT TIME 150.00 ARRIVAL DATE OCT 20 1971

Heliocentric Conic: RL 151.47 LAL -.00 LOL 241.23 VL 32.446 GAL 1.44 AZL 91.59 HCA 120.44 SMA 189.68 ECC .20296 INC 1.5860 V1 29.415
 RP 208.49 LAP -1.37 LOP 363.19 VP 23.948 GAP 10.25 AZP 89.20 TAL 8.55 TAP 128.99 RCA 151.18 APO 228.18 V2 26.284
 RC 95.074 GL -16.41 GP -2.46 ZAL 81.19 ZAP 140.32 ETS 183.05 ZAE 178.60 ETE 291.14 ZAC 97.03 ETC 278.52 LVI -16.71

PLANETOCENTRIC CONIC: C3 10.100 VHL 3.178 DLA -29.59 RAL 330.45 RAD 6638.1 VEL 11.410 PTH 6.46 VHP 4.242 DPA -18.22 RAP 325.90 ECC 1.1662
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 24 20 2366.78 -.72 60.82 182.38 137.57 16 3 47 1366.8 17.49 44.68
 60.00 16 46 53 2147.14 4.40 45.95 187.29 130.10 17 22 41 1147.1 19.93 27.09
 70.00 18 38 9 1819.83 10.33 23.84 191.70 122.74 19 8 29 819.8 22.79 2.41
 80.00 21 25 21 1295.62 18.57 348.69 196.27 113.81 21 46 56 295.6 26.76 324.28
 80.90 22 5 32 1167.06 21.18 340.30 197.42 111.17 22 24 59 167.1 28.02 315.04
 100.00 0 12 8 6058.13 18.57 287.96 196.27 113.81 1 53 7 5058.1 26.76 263.55
 110.00 23 37 36 6154.69 10.33 290.66 191.70 122.74 25 20 10 5154.7 22.79 269.23

Differential Corrections: TDE -.1640 TRA -.4673 TC3 .4342 BAU .0587 SGT 1050.0 SGR 571.9 S63 686.4 ST 20.7 SR 25.9 S8 22.8
 RDE -.2845 RRA .1219 RC3 .0239 FAU .13211 RRT -.1483 RRF .2411 RTF -.5935 CRT .6028 CRS -.6966 CST .1387
 FDE -.4060 FRA 1.5835 FC-11.3231 BSP 1489 SGB 1195.6 R23 -.1187 R13 .6018 LSA 33.0 MSA 23.0 S8A 2.0
 BDE .3283 BRA .4830 BC3 .4349 F8P 1100 S61 1054.8 S62 563.0 THA 173.53 EL1 29.9 EL2 14.3 ALF 55.24

LAUNCH DATE MAY 23 1971

FLIGHT TIME 152.00

ARRIVAL DATE OCT 22 1971

HELIOCENTRIC CONIC

RL 151.47 LAL -.00 LOL 241.23 VL 32.416 GAL 1.44 AZL 91.57 MCA 121.69 SMA 189.17 ECC .20081 INC 1.5748 V1 29.415
RP 208.67 LAP -1.34 LOP 2.93 VP 23.884 GAP 9.98 AZP 89.17 TAL 8.68 TAP 130.35 RCA 151.18 APO 227.15 V2 26.264
RC 96.988 GL -16.43 GP -2.55 ZAL 81.06 ZAP 138.64 ETS 182.98 ZAE 178.28 ETE 241.97 ZAC 97.00 ETC 278.43 LVI -16.51

PLANETOCENTRIC CONIC

C3 9.915 VHL 3.149 DLA -29.66 RAL 330.32 RAD 8638.0 VEL 11.402 PTH 6.45 VHP 4.127 DPA -18.46 RAP 325.49 ECC 1.1632
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 24 10 2361.52 -.46 80.60 182.10 137.57 16 3 32 1361.5 17.74 44.43
60.00 16 46 55 2141.38 4.65 45.68 187.00 130.08 17 22 36 1141.4 20.16 26.78
70.00 18 38 35 1812.92 10.59 23.46 191.40 122.66 19 8 48 812.9 23.00 1.88
80.00 21 29 22 1277.32 19.07 347.56 196.07 113.42 21 50 39 277.3 27.05 323.00
80.66 22 3 11 1169.19 21.31 340.51 197.05 111.13 22 22 40 169.2 28.12 315.21
100.00 0 16 9 6039.83 19.07 286.83 196.07 113.42 1 56 49 5039.8 27.05 262.27
110.00 23 38 1 6147.77 10.59 290.29 191.40 122.66 25 20 29 5147.8 23.00 268.80

DIFFERENTIAL CORRECTIONS

TDE -.1647 TRA -.4539 TC3 .3761 BAU .0499
RDE -.2794 RRA .1214 RC3 .0079 FAU .13863
FDE -.4323 FRA 1.6330 FC-12.1051 BSP 1416
BDE .3243 BRA .4699 BC3 .3761 FSP 1171

MID-COURSE EXECUTION ACCURACY

SGT 1024.4 SGR 568.4 SG3 726.6
RRT -.1514 RRF .2599 RTF -.5641
SGB 1171.5 R23 -.1396 R13 .5744
SG1 1029.5 SG2 559.0 THA 173.18

ORBIT DETERMINATION ACCURACY

ST 20.7 SR 25.7 SS 23.6
CRT .6141 CRS -.7046 CST .1133
LSA 33.3 MSA 23.0 SSA 2.0
EL1 29.8 EL2 14.1 ALF 54.80

LAUNCH DATE MAY 23 1971

FLIGHT TIME 154.00

ARRIVAL DATE OCT 24 1971

HELIOCENTRIC CONIC

RL 151.47 LAL -.00 LOL 241.23 VL 32.389 GAL 1.45 AZL 91.56 MCA 122.93 SMA 188.69 ECC .19883 INC 1.5631 V1 29.415
RP 208.85 LAP -1.31 LOP 4.18 VP 23.824 GAP 9.71 AZP 89.15 TAL 8.75 TAP 131.69 RCA 151.18 APO 226.21 V2 26.243
RC 98.929 GL -16.44 GP -2.65 ZAL 80.96 ZAP 136.91 ETS 182.90 ZAE 177.21 ETE 218.35 ZAC 96.97 ETC 278.34 LVI -16.29

PLANETOCENTRIC CONIC

C3 9.743 VHL 3.121 DLA -29.71 RAL 330.21 RAD 6637.9 VEL 11.395 PTH 6.45 VHP 4.018 DPA -18.72 RAP 325.05 ECC 1.1603
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 24 0 2356.97 -.23 60.41 181.84 137.58 16 3 17 1357.0 17.96 44.22
60.00 16 46 52 2136.50 4.86 45.44 186.73 130.06 17 22 29 1136.5 20.36 26.51
70.00 18 38 48 1807.22 10.80 23.16 191.13 122.60 19 8 56 807.2 23.17 1.62
80.00 21 32 32 1262.27 19.47 346.62 195.87 113.09 21 53 34 262.3 27.28 321.94
80.50 22 1 31 1169.65 21.43 340.59 196.72 111.08 22 21 0 169.6 28.21 315.26
100.00 0 19 20 6024.78 19.47 285.90 195.87 113.09 1 59 45 5024.8 27.28 261.21
110.00 23 38 15 6142.08 10.80 289.98 191.13 122.60 25 20 37 5142.1 23.17 268.45

DIFFERENTIAL CORRECTIONS

TDE -.1627 TRA -.4364 TC3 .3205 BAU .0418
RDE -.2745 RRA .1209 RC3 -.0100 FAU .14560
FDE -.4655 FRA 1.7165 FC-12.9373 BSP 1294
BDE .3191 BRA .4529 BC3 .3207 FSP 1238

MID-COURSE EXECUTION ACCURACY

SGT 989.9 SGR 565.0 SG3 768.5
RRT -.1546 RRF .2802 RTF -.5345
SGB 1139.8 R23 -.1612 R13 .5475
SG1 995.5 SG2 555.1 THA 172.67

ORBIT DETERMINATION ACCURACY

ST 20.4 SR 25.5 SS 24.4
CRT .6230 CRS -.7180 CST .0827
LSA 33.7 MSA 22.8 SSA 2.1
EL1 29.6 EL2 13.7 ALF 54.98

LAUNCH DATE MAY 23 1971

FLIGHT TIME 156.00

ARRIVAL DATE OCT 26 1971

HELIOCENTRIC CONIC

RL 151.47 LAL -.00 LOL 241.23 VL 32.364 GAL 1.45 AZL 91.55 MCA 124.17 SMA 188.26 ECC .19700 INC 1.5513 V1 29.415
RP 209.04 LAP -1.28 LOP 5.42 VP 23.766 GAP 9.45 AZP 89.13 TAL 8.83 TAP 133.00 RCA 151.17 APO 225.35 V2 26.221
RC 100.896 GL -16.43 GP -2.76 ZAL 80.88 ZAP 135.15 ETS 182.82 ZAE 175.88 ETE 208.15 ZAC 96.94 ETC 278.23 LVI -16.05

PLANETOCENTRIC CONIC

C3 9.584 VHL 3.096 DLA -29.73 RAL 330.13 RAD 6637.8 VEL 11.388 PTH 6.44 VHP 3.914 DPA -18.98 RAP 324.57 ECC 1.1577
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 23 48 2353.17 -.04 60.25 181.62 137.58 16 3 1 1353.2 18.14 44.05
60.00 16 46 45 2132.52 5.04 45.25 186.49 130.04 17 22 17 1132.5 20.51 26.29
70.00 18 38 49 1802.81 10.96 22.92 190.88 122.55 19 8 52 802.8 23.30 1.35
80.00 21 34 18 1252.33 19.74 346.00 195.65 112.87 21 55 10 252.3 27.43 321.23
80.42 22 0 33 1168.45 21.53 340.54 196.42 111.02 22 20 1 168.4 28.26 315.19
100.00 0 21 6 6014.84 19.74 285.28 195.65 112.87 2 1 21 5014.8 27.43 260.51
110.00 23 38 16 6137.67 10.96 289.74 190.88 122.55 25 20 33 5137.7 23.30 268.17

DIFFERENTIAL CORRECTIONS

TDE -.1673 TRA -.4252 TC3 .2284 BAU .0295
RDE -.2695 RRA .1210 RC3 -.0283 FAU .19220
FDE -.4883 FRA 1.7993 FC-13.7477 BSP 1239
BDE .3172 BRA .4421 BC3 .2301 FSP 1319

MID-COURSE EXECUTION ACCURACY

SGT 968.1 SGR 561.8 SG3 810.4
RRT -.1503 RRF .3015 RTF -.4445
SGB 1119.2 R23 -.1953 R13 .5001
SG1 973.5 SG2 552.3 THA 172.63

ORBIT DETERMINATION ACCURACY

ST 20.6 SR 25.2 SS 25.1
CRT .6413 CRS -.7202 CST .0358
LSA 34.1 MSA 23.0 SSA 2.1
EL1 29.7 EL2 13.4 ALF 53.84

LAUNCH DATE MAY 23 1971

FLIGHT TIME 158.00

ARRIVAL DATE OCT 28 1971

HELIOCENTRIC CONIC

RL 151.47 LAL -.00 LOL 241.23 VL 32.341 GAL 1.45 AZL 91.54 MCA 125.41 SMA 187.86 ECC .19531 INC 1.5390 V1 29.415
RP 209.24 LAP -1.25 LOP 6.66 VP 23.709 GAP 9.19 AZP 89.11 TAL 8.89 TAP 134.30 RCA 151.17 APO 224.55 V2 26.188
RC 102.893 GL -16.42 GP -2.87 ZAL 80.83 ZAP 133.35 ETS 182.74 ZAE 174.43 ETE 202.73 ZAC 96.91 ETC 278.12 LVI -15.80

PLANETOCENTRIC CONIC

C3 9.437 VHL 3.072 DLA -29.74 RAL 330.08 RAD 6637.8 VEL 11.382 PTH 6.43 VHP 3.818 DPA -19.27 RAP 324.04 ECC 1.1553
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 23 35 2350.03 .12 60.12 181.42 137.58 16 2 45 1350.0 18.29 43.90
60.00 16 46 32 2129.34 5.18 45.10 186.27 130.02 17 22 2 1129.3 20.64 26.12
70.00 18 38 39 1799.53 11.08 22.74 190.64 122.52 19 8 38 799.5 23.40 1.14
80.00 21 34 29 1247.92 19.85 345.73 195.40 112.77 21 55 17 247.9 27.49 320.92
80.40 22 0 12 1165.75 21.60 340.38 196.15 110.94 22 19 37 165.8 28.30 314.99
100.00 0 21 17 6010.43 19.85 285.00 195.40 112.77 2 1 27 5010.4 27.49 260.19
110.00 23 38 5 6134.41 11.08 289.56 190.64 122.52 25 20 20 5134.4 23.40 267.97

DIFFERENTIAL CORRECTIONS

TDE -.1586 TRA -.3987 TC3 .1870 BAU .0245
RDE -.2652 RRA .1205 RC3 -.0509 FAU .16047
FDE -.5373 FRA 1.8490 FC-14.7215 BSP 995
BDE .3090 BRA .4165 BC3 .1938 FSP 1367

MID-COURSE EXECUTION ACCURACY

SGT 913.3 SGR 559.1 SG3 857.9
RRT -.1545 RRF .3254 RTF -.4571
SGB 1070.8 R23 -.2167 R13 .4780
SG1 919.7 SG2 548.5 THA 171.58

ORBIT DETERMINATION ACCURACY

ST 19.6 SR 25.0 SS 26.1
CRT .6441 CRS -.7436 CST .0174
LSA 34.6 MSA 22.1 SSA 2.1
EL1 29.0 EL2 12.9 ALF 55.51

LAUNCH DATE MAY 23 1971

FLIGHT TIME 160.00

ARRIVAL DATE OCT 30 1971

HELIOCENTRIC CONIC

RL	151.47	LAL	-.00	LQ	241.23	VL	32.320	GAL	1.44	AZL	91.53	HCA	126.65	SMA	187.50	ECC	.19376	INC	1.5264	V1	29.415
RP	209.44	LAP	-1.22	LOP	7.90	VP	23.654	GAP	8.95	AZP	89.09	TAL	8.92	TAP	135.57	RCA	151.17	APO	223.83	V2	26.174
RC	104.913	GL	-16.39	GP	-2.98	ZAL	80.82	ZAP	131.52	ETS	182.65	ZAE	172.90	ETE	199.41	ZAC	96.88	ETC	277.99	LVI	-15.54

DISTANCE 387.314

EARTH TO MARS

PLANETOCENTRIC CONIC

C3	9.301	VHL	3.050	DLA	-29.72	RAL	330.04	RAD	6637.7	VEL	11.376	PTH	6.43	VHP	3.723	DPA	-19.57	RAP	323.49	ECC	1.1531				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG
50.00	15	23	2	2344.67	.24	60.02	181.26	137.58	16	2	30	1347.7	18.41	43.79											
60.00	16	46	16	2127.14	5.27	44.99	186.09	130.01	17	21	43	1127.1	20.73	26.00											
70.00	18	38	15	1797.71	11.14	22.64	190.43	122.49	19	8	13	797.7	23.45	1.03											
80.00	21	32	33	1250.96	19.77	345.92	195.12	112.84	21	53	24	251.0	27.45	321.14											
80.47	22	0	37	1161.24	21.86	340.06	195.93	110.86	22	19	58	161.2	28.32	314.66											
100.00	0	19	21	6013.47	19.77	285.19	195.12	112.84	1	59	34	9013.5	27.45	260.41											
110.00	23	37	42	6132.57	11.14	289.46	190.43	122.49	25	19	54	9132.6	23.45	267.89											

DIFFERENTIAL CORRECTIONS

TDE	-.1736	TRA	-.3952	TC3	.0316	BAU	.0096
RDE	-.2598	RRA	.1214	RC3	-.0700	FAU	.16632
FDE	-.5320	FRA	1.9625	FC	-15.4817	BSP	1032
BDE	.3124	BRA	.4134	BC3	.0768	FSP	1478

MID-COURSE EXECUTION ACCURACY

SGT	915.2	SGR	555.8	SG3	898.7
RRT	-.1299	RRF	.3469	RTF	-.3661
SG8	1070.8	R23	-.2743	R13	.3873
SG1	919.7	SG2	548.5	THA	172.98

ORBIT DETERMINATION ACCURACY

ST	20.7	SR	24.7	SS	26.4
CRT	.6776	CRS	-.7243	CST	.0012
LSA	34.7	MSA	23.0	SSA	2.1
EL1	29.7	EL2	12.7	ALF	52.28

LAUNCH DATE MAY 23 1971

FLIGHT TIME 162.00

ARRIVAL DATE NOV 1 1971

HELIOCENTRIC CONIC

RL	151.47	LAL	-.00	LQ	241.23	VL	32.301	GAL	1.44	AZL	91.51	HCA	127.89	SMA	187.17	ECC	.19234	INC	1.5134	V1	29.415
RP	209.66	LAP	-1.19	LOP	9.13	VP	23.600	GAP	8.70	AZP	89.07	TAL	8.94	TAP	136.83	RCA	151.17	APO	223.17	V2	26.150
RC	106.958	GL	-16.35	GP	-3.10	ZAL	80.83	ZAP	129.65	ETS	182.56	ZAE	171.29	ETE	197.14	ZAC	96.85	ETC	277.86	LVI	-15.26

DISTANCE 391.447

EARTH TO MARS

PLANETOCENTRIC CONIC

C3	9.174	VHL	3.029	DLA	-29.68	RAL	330.04	RAD	6637.6	VEL	11.370	PTH	6.42	VHP	3.635	DPA	-19.88	RAP	322.90	ECC	1.1510				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG
50.00	15	23	8	2345.95	.33	59.95	181.12	137.58	16	2	14	1345.9	18.49	43.71											
60.00	16	45	55	2125.71	5.34	44.92	185.93	130.01	17	21	21	1125.7	20.78	25.92											
70.00	18	37	40	1796.99	11.17	22.60	190.24	122.49	19	7	37	797.0	23.47	.98											
80.00	21	29	18	1258.68	19.57	346.40	194.82	113.01	21	50	17	258.7	27.34	321.68											
80.61	22	1	42	1155.12	21.70	339.62	195.73	110.76	22	20	57	155.1	28.31	314.21											
100.00	0	16	6	6021.20	19.57	285.67	194.82	113.01	1	56	27	5021.2	27.34	260.96											
110.00	23	37	6	6131.85	11.17	289.42	190.24	122.49	25	19	18	5131.9	23.47	267.81											

DIFFERENTIAL CORRECTIONS

TDE	-.1760	TRA	-.3774	TC3	-.0777	BAU	.0149
RDE	-.2550	RRA	.1217	RC3	-.0932	FAU	.17365
FDE	-.5553	FRA	2.0425	FC	-16.3863	BSP	899
BDE	.3099	BRA	.3966	BC3	.1214	FSP	1555

MID-COURSE EXECUTION ACCURACY

SGT	887.9	SGR	553.3	SG3	944.2
RRT	-.1109	RRF	.3714	RTF	-.2924
SG8	1046.2	R23	-.3203	R13	.3150
SG1	891.3	SG2	547.8	THA	173.63

ORBIT DETERMINATION ACCURACY

ST	20.7	SR	24.4	SS	27.1
CRT	.6963	CRS	-.7277	CST	-.0299
LSA	35.1	MSA	22.9	SSA	2.1
EL1	29.6	EL2	12.3	ALF	51.72

LAUNCH DATE MAY 23 1971

FLIGHT TIME 164.00

ARRIVAL DATE NOV 3 1971

HELIOCENTRIC CONIC

RL	151.47	LAL	-.00	LQ	241.23	VL	32.283	GAL	1.43	AZL	91.50	HCA	129.12	SMA	186.87	ECC	.19103	INC	1.5000	V1	29.415
RP	209.87	LAP	-1.16	LOP	10.36	VP	23.548	GAP	8.47	AZP	89.05	TAL	8.94	TAP	138.06	RCA	151.17	APO	222.57	V2	26.124
RC	109.028	GL	-16.30	GP	-3.22	ZAL	80.86	ZAP	127.75	ETS	182.46	ZAE	169.62	ETE	195.48	ZAC	96.82	ETC	277.72	LVI	-14.96

DISTANCE 395.589

EARTH TO MARS

PLANETOCENTRIC CONIC

C3	9.057	VHL	3.009	DLA	-29.61	RAL	330.06	RAD	6637.6	VEL	11.365	PTH	6.42	VHP	3.552	DPA	-20.21	RAP	322.26	ECC	1.1491				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG
50.00	15	22	52	2344.88	.38	59.91	181.01	137.57	16	1	57	1344.9	18.54	43.66											
60.00	16	45	29	2125.09	5.36	44.89	185.79	130.00	17	20	54	1125.1	20.81	25.88											
70.00	18	36	52	1797.43	11.16	22.62	190.07	122.49	19	6	50	797.4	23.46	1.01											
80.00	21	25	6	1269.96	19.27	347.10	194.51	113.26	21	46	15	270.0	27.17	322.48											
80.82	22	3	23	1147.48	21.71	339.06	195.57	110.65	22	22	31	147.5	28.28	313.63											
100.00	0	11	53	6032.47	19.27	286.37	194.51	113.26	1	52	26	5032.5	27.17	261.75											
110.00	23	36	19	6132.29	11.16	289.45	190.07	122.49	25	18	31	5132.3	23.46	267.84											

DIFFERENTIAL CORRECTIONS

TDE	-.1727	TRA	-.3529	TC3	-.1725	BAU	.0254
RDE	-.2508	RRA	.1218	RC3	-.1197	FAU	.18200
FDE	-.5991	FRA	2.1049	FC	-17.3966	BSP	696
BDE	.3045	BRA	.3734	BC3	.2099	FSP	1613

MID-COURSE EXECUTION ACCURACY

SGT	846.3	SGR	551.7	SG3	993.4
RRT	-.0893	RRF	.3986	RTF	-.2.58
SG8	1010.2	R23	-.3661	R13	.2400
SG1	848.7	SG2	547.9	THA	174.27

ORBIT DETERMINATION ACCURACY

ST	20.1	SR	24.2	SS	27.9
CRT	.7107	CRS	-.7445	CST	-.0796
LSA	35.7	MSA	22.2	SSA	2.1
EL1	29.2	EL2	11.7	ALF	52.34

LAUNCH DATE MAY 23 1971

FLIGHT TIME 166.00

ARRIVAL DATE NOV 5 1971

HELIOCENTRIC CONIC

RL	151.47	LAL	-.00	LQ	241.23	VL	32.287	GAL	1.42	AZL	91.49	HCA	130.35	SMA	186.80	ECC	.18985	INC	1.4862	V1	29.415
RP	210.10	LAP	-1.13	LOP	11.59	VP	23.497	GAP	8.23	AZP	89.04	TAL	8.92	TAP	139.27	RCA	151.18	APO	222.03	V2	26.098
RC	111.121	GL	-16.24	GP	-3.35	ZAL	80.94	ZAP	125.83	ETS	182.36	ZAE	167.90	ETE	194.21	ZAC	96.79	ETC	277.58	LVI	-14.65

DISTANCE 399.737

EARTH TO MARS

PLANETOCENTRIC CONIC

C3	8.949	VHL	2.991	DLA	-29.53	RAL	330.11	RAD	6637.5	VEL	11.360	PTH	6.41	VHP	3.475	DPA	-20.54	RAP	321.60	ECC	1.1473				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG
50.00	15	22	37	2344.55	.40	59.89	180.93	137.57	16	1	41	1344.6	18.56	43.64											
60.00	16	45	0	2125.38	5.35	44.91	185.68	130.00	17	20	25	1125.4	20.79	25.90											
70.00	18	35	53	1799.19	11.09	22.72	189.93	122.51	19	5	52	799.2	23.41	1.12											
80.00	21	20	7	1284.32	18.88	347.99	194.22	113.57	21	41	31	284.3	26.95	323.49											
81.13	22	5	59	1137.54	21.71	338.33	195.44	110.52	22	24	57	137.5	28.22	312.89											
100.00	0	6	55	6046.83	18.88	287.26	194.22	113.57	1	47	42	5046.8	26.95	262.76											
110.00	23	35	19	6134.05	11.09	289.54	189.93	122.51	25	17	33	5134.1	23.41	267.95											

DIFFERENTIAL CORRECTIONS

TDE	-.1862	TRA	-.3443	TC3	-.3537	BAU	.0456
RDE	-.2455	RRA	.1233	RC3	-.1425	FAU	.18793
FDE							

LAUNCH DATE MAY 23 1971 FLIGHT TIME 168.00 ARRIVAL DATE NOV 7 1971

Table with columns for Heliocentric Conic, Planetary Conic, Differential Corrections, Mid-course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, and TDE.

LAUNCH DATE MAY 23 1971 FLIGHT TIME 170.00 ARRIVAL DATE NOV 9 1971

Table with columns for Heliocentric Conic, Planetary Conic, Differential Corrections, Mid-course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, and TDE.

LAUNCH DATE MAY 23 1971 FLIGHT TIME 172.00 ARRIVAL DATE NOV 11 1971

Table with columns for Heliocentric Conic, Planetary Conic, Differential Corrections, Mid-course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, and TDE.

LAUNCH DATE MAY 23 1971 FLIGHT TIME 174.00 ARRIVAL DATE NOV 13 1971

Table with columns for Heliocentric Conic, Planetary Conic, Differential Corrections, Mid-course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, and TDE.

LAUNCH DATE MAY 23 1971

FLIGHT TIME 176.00

ARRIVAL DATE NOV 15 1971

HELIOCENTRIC CONIC

DISTANCE 420.566 EARTH TO MARS

RL 151.47 LAL -.00 LOL 241.23 VL 32.209 GAL 1.33 AZL 91.41 HCA 136.45 SMA 185.62 ECC .18540 INC 1.4090 V1 29.419
 RP 211.33 LAP -.97 LOP 17.70 VP 23.260 GAP 7.15 AZP 88.98 TAL 8.54 TAP 144.99 RCA 151.21 APO 220.03 V2 25.957
 RC 121.945 GL -15.74 GP -4.05 ZAL 81.71 ZAP 115.82 ETS 181.77 ZAE 156.60 ETE 190.50 ZAC 96.59 ETC 276.74 LVI -12.88

PLANETOCENTRIC CONIC

C3 8.516 VHL 2.918 DLA -28.78 RAL 330.75 RAD 6637.3 VEL 11.341 PTH 6.39 VHP 3.159 DPA -22.39 RAP 317.84 ECC 1.1402

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	15 21 0	2352.47	-.00	60.22	180.89	137.58	16 0 13	1352.5	18.18	44.01
60.00	16 41 25	2138.57	4.77	45.54	185.47	130.07	17 17 3	1138.6	20.27	26.63
70.00	18 28 16	1824.27	10.17	24.08	189.48	122.78	18 58 41	824.3	22.66	2.69
80.00	20 52 32	1372.45	16.39	353.35	193.03	115.31	21 15 24	372.4	25.41	329.58
84.43	22 34 54	1043.32	21.40	331.25	195.22	109.72	22 52 17	43.3	27.61	305.83
100.00	23 35 24	8134.96	16.39	292.63	193.03	115.31	25 17 39	5135.0	25.41	268.86
110.00	23 27 43	6159.13	10.17	290.90	189.48	122.78	25 10 22	5159.1	22.66	269.51

DIFFERENTIAL CORRECTIONS

TDE -.2097 TRA -.2384 TC3-1.2237 BAU .1432
 RDE -.2213 RRA .1299 RC3 -.2889 FAU .22330
 FDE -.6229 FRA 2.6950 FC-22.7082 B8P 712
 BDE .3049 BRA .2715 BC3 1.2574 F8P 2116

MID-COURSE EXECUTION ACCURACY

SGT 982.2 SGR 549.5 SG3 1262.7
 RRT .2668 RRF .5633 RTF .4699
 SGB 1125.9 R23 .4009 R13 .5163
 SG1 997.3 SG2 521.5 THA 11.74

ORBIT DETERMINATION ACCURACY

ST 22.1 SR 22.2 SS 30.3
 CRT .6418 CRS -.7024 CST -.2259
 LSA 37.0 MSA 22.9 SSA 2.1
 EL1 30.0 EL2 8.8 ALF 45.07

LAUNCH DATE MAY 23 1971

FLIGHT TIME 176.00

ARRIVAL DATE NOV 17 1971

HELIOCENTRIC CONIC

DISTANCE 424.745 EARTH TO MARS

RL 151.47 LAL -.00 LOL 241.23 VL 32.201 GAL 1.31 AZL 91.39 HCA 137.67 SMA 185.49 ECC .18478 INC 1.3915 V1 29.415
 RP 211.80 LAP -.94 LOP 18.91 VP 23.215 GAP 6.94 AZP 88.97 TAL 8.41 TAP 146.07 RCA 151.21 APO 219.76 V2 25.926
 RC 124.177 GL -15.80 GP -4.20 ZAL 81.95 ZAP 113.77 ETS 181.64 ZAE 156.64 ETE 190.03 ZAC 96.54 ETC 276.55 LVI -12.49

PLANETOCENTRIC CONIC

C3 8.448 VHL 2.907 DLA -28.56 RAL 330.96 RAD 6637.2 VEL 11.338 PTH 6.39 VHP 3.109 DPA -22.78 RAP 317.02 ECC 1.1390

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	15 20 37	2355.99	-.18	60.37	180.95	137.58	15 59 53	1356.0	18.01	44.18
60.00	16 40 29	2143.57	4.55	45.78	185.50	130.09	17 16 12	1143.6	20.07	26.90
70.00	18 26 16	1832.44	9.87	24.52	189.45	122.86	18 56 48	832.4	22.41	3.19
80.00	20 46 51	1392.16	15.82	354.53	192.87	115.66	21 10 3	392.2	25.03	330.92
85.84	22 47 16	1004.51	21.28	328.36	195.26	109.51	23 4 0	4.5	27.41	302.95
100.00	23 29 43	6194.68	15.82	293.80	192.87	115.66	25 12 18	5154.7	25.03	270.20
110.00	23 25 42	6167.30	9.87	291.34	189.45	122.86	25 8 30	5167.3	22.41	270.02

DIFFERENTIAL CORRECTIONS

TDE -.2194 TRA -.2194 TC3-1.4570 BAU .1684
 RDE -.2157 RRA .1325 RC3 -.3185 FAU .22865
 FDE -.5925 FRA 2.8242 FC-23.4302 B8P 865
 BDE .3077 BRA .2563 BC3 1.4914 F8P 2215

MID-COURSE EXECUTION ACCURACY

SGT 1070.9 SGR 550.9 SG3 1301.9
 RRT .3293 RRF .5906 RTF .5528
 SGB 1204.3 R23 .3740 R13 .5941
 SG1 1090.6 SG2 510.8 THA 12.37

ORBIT DETERMINATION ACCURACY

ST 22.9 SR 21.7 SS 30.5
 CRT .8591 CRS -.6782 CST -.2260
 LSA 37.0 MSA 23.5 SSA 2.1
 EL1 30.4 EL2 8.4 ALF 43.26

LAUNCH DATE MAY 23 1971

FLIGHT TIME 180.00

ARRIVAL DATE NOV 19 1971

HELIOCENTRIC CONIC

DISTANCE 428.927 EARTH TO MARS

RL 151.47 LAL -.00 LOL 241.23 VL 32.194 GAL 1.28 AZL 91.37 HCA 138.88 SMA 185.37 ECC .18423 INC 1.3734 V1 29.419
 RP 211.87 LAP -.90 LOP 20.12 VP 23.171 GAP 6.75 AZP 88.97 TAL 8.26 TAP 147.14 RCA 151.22 APO 219.53 V2 25.896
 RC 126.431 GL -15.45 GP -4.36 ZAL 82.21 ZAP 111.71 ETS 181.50 ZAE 154.64 ETE 189.60 ZAC 96.48 ETC 276.36 LVI -12.08

PLANETOCENTRIC CONIC

C3 8.386 VHL 2.896 DLA -28.32 RAL 331.18 RAD 6637.2 VEL 11.336 PTH 6.39 VHP 3.064 DPA -23.17 RAP 316.19 ECC 1.1380

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	15 20 13	2360.12	-.39	60.54	181.04	137.57	15 59 33	1360.1	17.81	44.37
60.00	16 39 28	2149.29	4.30	46.06	185.54	130.11	17 15 17	1149.3	19.85	27.21
70.00	18 24 7	1841.53	9.53	25.01	189.44	122.95	18 54 49	841.5	22.14	3.75
80.00	20 41 12	1412.26	15.22	355.72	192.73	116.00	21 4 45	412.3	24.63	332.28
86.46	23 10 3	6220.30	21.13	300.92	195.33	109.30	24 53 43	9220.3	27.20	275.53
100.00	23 24 4	6174.77	15.22	295.00	192.73	116.00	25 6 59	5174.8	24.63	271.55
110.00	23 23 33	6176.39	9.53	291.83	189.44	122.95	25 6 30	5176.4	22.14	270.58

DIFFERENTIAL CORRECTIONS

TDE -.2290 TRA -.1949 TC3-1.6821 BAU .1926
 RDE -.2104 RRA .1346 RC3 -.3509 FAU .23449
 FDE -.5729 FRA 2.9224 FC-24.2077 B8P 1075
 BDE .3080 BRA .2388 BC3 1.7183 F8P 2290

MID-COURSE EXECUTION ACCURACY

SGT 1157.2 SGR 553.2 SG3 1341.3
 RRT .3918 RRF .6181 RTF .6183
 SGB 1282.6 R23 .3417 R13 .6644
 SG1 1181.9 SG2 498.3 THA 12.95

ORBIT DETERMINATION ACCURACY

ST 23.3 SR 21.3 SS 30.8
 CRT .8759 CRS -.6632 CST -.2400
 LSA 37.0 MSA 23.6 SSA 2.1
 EL1 30.5 EL2 7.8 ALF 42.14

LAUNCH DATE MAY 23 1971

FLIGHT TIME 182.00

ARRIVAL DATE NOV 21 1971

HELIOCENTRIC CONIC

DISTANCE 433.113 EARTH TO MARS

RL 151.47 LAL -.00 LOL 241.23 VL 32.188 GAL 1.25 AZL 91.35 HCA 140.08 SMA 185.28 ECC .18375 INC 1.3544 V1 29.415
 RP 212.14 LAP -.87 LOP 21.32 VP 23.127 GAP 6.55 AZP 88.96 TAL 8.10 TAP 148.18 RCA 151.23 APO 219.32 V2 25.884
 RC 128.708 GL -15.28 GP -4.52 ZAL 82.50 ZAP 109.64 ETS 181.35 ZAE 152.62 ETE 189.22 ZAC 96.41 ETC 276.17 LVI -11.67

PLANETOCENTRIC CONIC

C3 8.329 VHL 2.886 DLA -28.05 RAL 331.43 RAD 6637.2 VEL 11.333 PTH 6.39 VHP 3.024 DPA -23.57 RAP 315.34 ECC 1.1371

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	15 19 46	2364.88	-.63	60.74	181.15	137.57	15 59 11	1364.9	17.58	44.59
60.00	16 38 23	2155.77	4.02	46.37	185.61	130.13	17 14 19	1155.0	19.59	27.56
70.00	18 21 50	1851.54	9.16	25.55	189.45	123.05	18 52 42	851.5	21.83	4.37
80.00	20 35 35	1432.79	14.60	356.94	192.62	116.34	20 59 27	432.8	24.20	333.65
90.00	22 52 36	6278.91	18.71	304.24	194.52	111.60	24 37 15	5278.9	25.98	279.58
100.00	23 18 27	6195.30	14.60	296.21	192.62	116.34	25 1 42	5195.3	24.20	272.93
110.00	23 21 16	6186.40	9.16	292.37	189.45	123.05	25 4 23	5186.4	21.83	271.19

DIFFERENTIAL CORRECTIONS

TDE -.2299 TRA -.1691 TC3-1.9164 BAU .2176
 RDE -.2050 RRA .1369 RC3 -.3841 FAU .23995
 FDE -.5537 FRA 3.0221 FC-24.9415 B8P 1308
 BDE .3081 BRA .2176 BC3 1.9545 F8P 2356

MID-COURSE EXECUTION ACCURACY

SGT 1255.6 SGR 556.5 SG3 1378.8
 RRT .4492 RRF .6455 RTF .6907
 SGB 1373.4 R23 .3129 R13 .7211
 SG1 1284.6 SG2 486.0 THA 13.18

ORBIT DETERMINATION ACCURACY

ST 23.6 SR 20.9 SS 30.8
 CRT .8912 CRS -.6492 CST -.2548
 LSA 37.0 MSA 23.7 SSA 2.1
 EL1 30.6 EL2 7.3 ALF 41.09

LAUNCH DATE MAY 23 1971

FLIGHT TIME 184.00

ARRIVAL DATE NOV 23 1971

HELIOCENTRIC CONIC
 RL 151.47 LAL -.00 LOL 241.23 VL 32.184 GAL 1.22 AZL 91.33 HCA 141.28 SMA 185.20 ECC .18334 INC 1.3345 V1 29.415
 RP 212.43 LAP -.83 LOP 22.53 VP 23.085 GAP 6.36 AZP 88.96 TAL 7.92 TAP 149.20 RCA 151.24 APO 219.15 V2 25.832
 RC 130.999 GL -15.10 GP -4.69 ZAL 82.82 ZAP 107.58 ETS 181.19 ZAE 150.59 ETE 188.86 ZAC 96.34 ETC 275.97 LVI -11.24

DISTANCE 437.300 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 8.276 VHL 2.877 DLA -27.76 RAL 331.70 RAD 8637.1 VEL 11.331 PTH 6.38 VHP 2.987 DPA -23.97 RAP 314.48 ECC 1.1362
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 19 18 2370.28 -.90 60.97 181.28 137.57 15 58 48 1370.3 17.32 44.84
 60.00 16 37 13 2162.99 3.70 46.71 185.69 130.16 17 13 16 1163.0 19.30 27.96
 70.00 18 19 25 1862.47 8.75 26.13 189.47 123.15 18 50 28 862.5 21.49 5.03
 80.00 20 29 58 1453.75 13.97 358.17 192.53 116.66 20 54 12 453.7 23.75 335.05
 90.00 22 37 41 1041.87 17.40 329.51 194.17 112.65 22 55 3 41.9 25.24 305.22
 100.00 23 12 50 6216.26 13.97 297.44 192.53 116.66 24 56 26 5216.3 23.75 274.32
 110.00 23 18 51 6197.33 8.75 292.95 189.47 123.15 25 2 9 5197.3 21.49 271.86

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2344 TRA -.1423 TC3-2.1603 BAU .2435 SGT 1365.8 SGR 560.4 SG3 1414.0 ST 23.9 SR 20.4 SS 30.9
 RDE -.1994 RRA .1394 RC3 -.4179 FAU .24494 RRT .5014 RRF .6721 RTF .7407 CRT .9050 CRS -.6291 CST -.2612
 FDE -.5216 FRA 3.1240 FC-25.6219 BSP 1555 SGB 1476.3 R23 .2880 R13 .7658 LSA 36.9 MSA 24.0 SSA 2.0
 BDE .3078 BRA .1992 BC3 2.2003 FSP 2422 SG1 1398.3 SG2 473.6 THA 13.16 EL1 30.7 EL2 6.8 ALF 40.03

LAUNCH DATE MAY 23 1971

FLIGHT TIME 186.00

ARRIVAL DATE NOV 25 1971

HELIOCENTRIC CONIC
 RL 151.47 LAL -.00 LOL 241.23 VL 32.180 GAL 1.19 AZL 91.31 HCA 142.48 SMA 185.14 ECC .18300 INC 1.3135 V1 29.415
 RP 212.72 LAP -.80 LOP 23.73 VP 23.043 GAP 6.17 AZP 88.96 TAL 7.72 TAP 150.20 RCA 151.26 APO 219.01 V2 25.799
 RC 133.312 GL -14.90 GP -4.86 ZAL 83.17 ZAP 105.51 ETS 181.03 ZAE 148.54 ETE 188.54 ZAC 96.26 ETC 275.78 LVI -10.81

DISTANCE 441.490 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 8.228 VHL 2.869 DLA -27.45 RAL 331.99 RAD 8637.1 VEL 11.329 PTH 6.38 VHP 2.955 DPA -24.37 RAP 313.63 ECC 1.1354
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 18 47 2376.30 -1.20 61.22 181.42 137.56 15 58 23 1376.3 17.03 45.12
 60.00 16 35 59 2170.96 3.35 47.10 185.80 130.18 17 12 10 1171.0 18.98 28.39
 70.00 18 18 52 1874.27 8.31 26.76 189.52 123.25 18 48 7 874.3 21.12 5.75
 80.00 20 24 22 1475.13 13.31 359.41 192.46 116.98 20 48 58 475.1 23.28 336.48
 90.00 22 26 7 1082.51 16.32 332.00 193.93 113.42 22 44 10 82.5 24.98 308.01
 100.00 23 7 14 6237.64 13.31 298.69 192.46 116.98 24 51 12 5237.6 23.28 275.74
 110.00 23 16 19 6209.13 8.31 293.59 189.52 123.25 24 59 48 5209.1 21.12 272.57

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2381 TRA -.1141 TC3-2.4106 BAU .2698 SGT 1484.8 SGR 565.2 SG3 1447.3 ST 24.2 SR 19.9 SS 30.9
 RDE -.1937 RRA .1420 RC3 -.4530 FAU .24973 RRT .5497 RRF .6981 RTF .7820 CRT .9178 CRS -.6099 CST -.2691
 FDE -.4886 FRA 3.2170 FC-26.2742 BSP 1819 SGB 1588.7 R23 .2655 R13 .8026 LSA 36.8 MSA 24.1 SSA 2.0
 BDE .3089 BRA .1822 BC3 2.4528 FSP 2474 SG1 1520.4 SG2 461.1 THA 13.04 EL1 30.7 EL2 6.2 ALF 39.04

LAUNCH DATE MAY 23 1971

FLIGHT TIME 188.00

ARRIVAL DATE NOV 27 1971

HELIOCENTRIC CONIC
 RL 151.47 LAL -.00 LOL 241.23 VL 32.177 GAL 1.16 AZL 91.29 HCA 143.68 SMA 185.09 ECC .18272 INC 1.2914 V1 29.415
 RP 213.01 LAP -.76 LOP 24.92 VP 23.001 GAP 5.99 AZP 88.96 TAL 7.51 TAP 151.19 RCA 151.27 APO 218.90 V2 25.766
 RC 135.843 GL -14.68 GP -5.04 ZAL 83.54 ZAP 103.46 ETS 180.86 ZAE 146.49 ETE 188.24 ZAC 96.18 ETC 275.58 LVI -10.37

DISTANCE 445.682 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 8.185 VHL 2.861 DLA -27.11 RAL 332.29 RAD 8637.1 VEL 11.327 PTH 6.38 VHP 2.926 DPA -24.78 RAP 312.77 ECC 1.1347
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 18 13 2382.95 -1.53 61.50 181.59 137.56 15 57 56 1383.0 16.71 45.42
 60.00 16 34 39 2179.68 2.97 47.51 185.92 130.21 17 10 59 1179.7 18.63 28.85
 70.00 18 14 12 1886.93 7.84 27.44 189.57 123.35 18 45 39 886.9 20.72 6.51
 80.00 20 18 48 1496.91 12.63 .68 192.42 117.28 20 43 45 496.9 22.78 337.89
 90.00 22 16 8 1118.53 15.33 334.18 193.76 114.06 22 34 48 118.5 23.94 310.48
 100.00 23 1 40 6259.42 12.63 299.95 192.42 117.28 24 45 59 5259.4 22.78 277.16
 110.00 23 13 39 6221.78 7.84 294.26 189.57 123.35 24 57 20 5221.8 20.72 273.34

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2388 TRA -.0828 TC3-2.6596 BAU .2959 SGT 1806.1 SGR 571.3 SG3 1479.2 ST 24.2 SR 19.5 SS 31.0
 RDE -.1885 RRA .1441 RC3 -.4908 FAU .25475 RRT .5967 RRF .7237 RTF .8.87 CRT .9305 CRS -.6020 CST -.2839
 FDE -.4711 FRA 3.2819 FC-26.9449 BSP 2113 SGB 1704.6 R23 .2406 R13 .8364 LSA 36.8 MSA 23.8 SSA 2.0
 BDE .3042 BRA .1662 BC3 2.7045 FSP 2502 SG1 1644.8 SG2 447.7 THA 12.96 EL1 30.5 EL2 5.7 ALF 38.43

LAUNCH DATE MAY 23 1971

FLIGHT TIME 190.00

ARRIVAL DATE NOV 29 1971

HELIOCENTRIC CONIC
 RL 151.47 LAL -.00 LOL 241.23 VL 32.175 GAL 1.12 AZL 91.27 HCA 144.87 SMA 185.05 ECC .18250 INC 1.2661 V1 29.415
 RP 213.31 LAP -.73 LOP 26.12 VP 22.980 GAP 5.80 AZP 88.96 TAL 7.28 TAP 152.15 RCA 151.28 APO 218.82 V2 25.732
 RC 137.991 GL -14.45 GP -5.22 ZAL 83.93 ZAP 101.41 ETS 180.68 ZAE 144.44 ETE 187.96 ZAC 96.08 ETC 275.38 LVI -9.92

DISTANCE 449.874 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 8.146 VHL 2.854 DLA -26.75 RAL 332.61 RAD 8637.1 VEL 11.325 PTH 6.38 VHP 2.901 DPA -25.18 RAP 311.92 ECC 1.1341
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 17 37 2390.30 -1.90 61.80 181.78 137.55 15 57 27 1390.3 16.35 45.76
 60.00 16 33 14 2189.17 2.55 47.97 186.06 130.23 17 9 43 1189.2 18.24 29.36
 70.00 18 11 24 1900.50 7.33 28.16 189.65 123.45 18 43 5 900.5 20.29 7.33
 80.00 20 13 12 1519.24 11.93 1.96 192.40 117.57 20 38 32 519.2 22.26 339.34
 90.00 22 7 1 1152.21 14.39 336.20 193.64 114.61 22 26 13 152.2 23.31 312.72
 100.00 22 56 4 6281.76 11.93 301.24 192.40 117.57 24 40 46 5281.8 22.26 278.62
 110.00 23 10 51 6235.36 7.33 294.98 189.65 123.45 24 54 46 5235.4 20.29 274.15

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2439 TRA -.0553 TC3-2.9404 BAU .3252 SGT 1752.8 SGR 576.9 SG3 1503.6 ST 24.7 SR 18.9 SS 31.0
 RDE -.1815 RRA .1480 RC3 -.5235 FAU .25723 RRT .6316 RRF .7470 RTF .8401 CRT .9389 CRS -.5565 CST -.2646
 FDE -.3920 FRA 3.4087 FC-27.3389 BSP 2363 SGB 1845.3 R23 .2334 R13 .8539 LSA 36.3 MSA 24.7 SSA 2.0
 BDE .3041 BRA .1580 BC3 2.9866 FSP 2585 SG1 1792.7 SG2 437.3 THA 12.50 EL1 30.6 EL2 5.2 ALF 36.97

LAUNCH DATE MAY 23 1971 FLIGHT TIME 192.00 ARRIVAL DATE DEC 1 1971

HELIOCENTRIC CONIC
 RL 151.47 LAL -.00 LOL 241.23 VL 32.173 GAL 1.08 AZL 91.24 HCA 148.08 SMA 189.03 ECC .10233 INC 1.2435 V1 29.415
 RP 213.61 LAP -.69 LOP 27.31 VP 22.920 GAP 5.63 AZP 88.97 TAL 7.04 TAP 153.10 RCA 151.30 APO 218.77 V2 25.697
 RC 140.356 GL -14.19 GP -5.42 ZAL 84.35 ZAP 99.39 ETS 180.49 ZAE 142.38 ETE 187.70 ZAC 95.97 ETC 275.19 LVI -9.47

PLANETOCENTRIC CONIC
 C3 8.110 VHL 2.848 DLA -26.35 RAL 332.95 RAD 6637.1 VEL 11.324 PTH 6.38 VHP 2.880 DPA -25.59 RAP 311.07 ECC 1.1335
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 16 57 2398.28 -2.30 62.14 181.98 137.53 15 56 55 1398.3 15.97 46.12
 60.00 16 31 43 2199.41 2.10 48.46 186.21 130.26 17 8 23 1199.4 17.83 29.91
 70.00 18 8 29 1914.90 6.79 28.92 189.74 123.55 18 40 24 914.9 19.82 8.19
 80.00 20 7 37 1542.00 11.21 3.27 192.40 117.85 20 33 19 542.0 21.71 340.81
 90.00 21 58 32 1184.33 13.47 330.11 193.55 115.10 22 10 16 184.3 22.67 314.86
 100.00 22 50 29 1016.47 11.21 324.64 192.40 117.85 23 7 26 16.5 21.71 302.18
 110.00 23 7 55 6249.76 6.79 295.74 189.74 123.55 24 52 5 5249.8 19.82 275.01

DIFFERENTIAL CORRECTIONS
 TDE -.2449 TRA -.0240 TC3-3.2128 BAU .3536 SGT 1895.8 SGR 584.4 SG3 1527.3 ST 24.8 SR 18.4 SS 31.1
 RDE -.1754 RRA .1513 RC3 -.5598 FAU .26022 RRT .6870 RRF .7701 RTF .8614 CRT .9478 CRS -.5314 CST -.2645
 FDE -.3431 FRA 3.4981 FC-27.7775 BSP 2651 SGB 1983.9 R23 .2212 R13 .8729 LSA 36.0 MSA 24.8 SSA 2.0
 BDE .3012 BRA .1532 BC3 3.2612 FSP 2631 SG1 1937.6 SG2 426.0 THA 12.22 EL1 30.5 EL2 4.8 ALF 36.09

LAUNCH DATE MAY 23 1971 FLIGHT TIME 194.00 ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC
 RL 151.47 LAL -.00 LOL 241.23 VL 32.173 GAL 1.04 AZL 91.22 HCA 147.25 SMA 185.02 ECC .10222 INC 1.2173 V1 29.415
 RP 213.92 LAP -.66 LOP 28.49 VP 22.880 GAP 5.45 AZP 88.98 TAL 6.78 TAP 154.03 RCA 151.30 APO 218.73 V2 25.682
 RC 142.739 GL -13.91 GP -5.62 ZAL 84.79 ZAP 97.38 ETS 180.30 ZAE 140.34 ETE 187.46 ZAC 95.85 ETC 274.99 LVI -9.01

PLANETOCENTRIC CONIC
 C3 8.079 VHL 2.842 DLA -25.93 RAL 333.30 RAD 6637.0 VEL 11.322 PTH 6.38 VHP 2.862 DPA -25.99 RAP 310.24 ECC 1.1330
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 16 13 2406.95 -2.74 62.50 182.19 137.52 15 56 20 1406.9 15.55 46.52
 60.00 16 30 7 2210.42 1.62 48.98 186.38 130.27 17 6 57 1210.4 17.38 30.49
 70.00 18 5 26 1930.16 6.22 29.73 189.85 123.65 18 37 36 930.2 19.33 9.09
 80.00 20 2 1 1565.27 10.47 4.60 192.42 118.12 20 28 6 565.3 21.13 342.30
 90.00 21 50 27 1215.55 12.56 339.95 193.50 115.55 22 10 43 215.5 22.02 316.92
 100.00 22 44 53 1039.74 10.47 325.96 192.42 118.12 23 2 12 39.7 21.13 303.66
 110.00 23 4 52 6265.01 6.22 296.55 189.85 123.65 24 49 17 5265.0 19.33 275.92

DIFFERENTIAL CORRECTIONS
 TDE -.2447 TRA .0085 TC3-3.4903 BAU .3824 SGT 2044.6 SGR 592.7 SG3 1547.7 ST 24.8 SR 17.8 SS 31.2
 RDE -.1690 RRA .1548 RC3 -.5986 FAU .26265 RRT .6993 RRF .7921 RTF .8787 CRT .9558 CRS -.5032 CST -.2611
 FDE -.2868 FRA 3.5843 FC-28.1461 BSP 2944 SGB 2128.8 R23 .2113 R13 .8884 LSA 35.8 MSA 25.0 SSA 2.0
 BDE .2974 BRA .1550 BC3 3.5409 FSP 2666 SG1 2088.0 SG2 414.9 THA 11.94 EL1 30.3 EL2 4.3 ALF 35.24

LAUNCH DATE MAY 23 1971 FLIGHT TIME 196.00 ARRIVAL DATE DEC 5 1971

HELIOCENTRIC CONIC
 RL 151.47 LAL -.00 LOL 241.23 VL 32.173 GAL 1.00 AZL 91.19 HCA 148.43 SMA 185.02 ECC .10216 INC 1.1895 V1 29.415
 RP 214.24 LAP -.62 LOP 29.87 VP 22.840 GAP 5.28 AZP 88.99 TAL 6.51 TAP 154.95 RCA 151.30 APO 218.73 V2 25.627
 RC 145.136 GL -13.61 GP -5.83 ZAL 85.26 ZAP 95.39 ETS 180.09 ZAE 138.30 ETE 187.23 ZAC 95.72 ETC 274.80 LVI -8.55

PLANETOCENTRIC CONIC
 C3 8.051 VHL 2.837 DLA -25.48 RAL 333.67 RAD 6637.0 VEL 11.321 PTH 6.37 VHP 2.847 DPA -26.39 RAP 309.43 ECC 1.1325
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 15 25 2416.31 -3.21 62.89 182.42 137.49 15 55 42 1416.3 15.09 46.94
 60.00 16 28 23 2222.24 1.10 49.55 186.56 130.29 17 5 26 1222.2 16.89 31.11
 70.00 18 2 15 1946.28 5.61 30.58 189.97 123.75 18 34 41 946.3 18.80 10.04
 80.00 19 56 22 1589.09 9.70 5.95 192.45 118.38 20 22 51 589.1 20.53 343.81
 90.00 21 42 40 1246.28 11.65 341.75 193.47 115.95 22 3 26 246.3 21.36 318.93
 100.00 22 39 14 1063.56 9.70 327.32 192.45 118.38 22 56 58 63.6 20.53 305.18
 110.00 23 1 41 6281.14 5.61 297.40 189.97 123.75 24 46 22 5281.1 18.80 276.87

DIFFERENTIAL CORRECTIONS
 TDE -.2434 TRA .0418 TC3-3.7730 BAU .4118 SGT 2198.8 SGR 601.9 SG3 1564.6 ST 24.8 SR 17.2 SS 31.3
 RDE -.1821 RRA .1584 RC3 -.6341 FAU .26452 RRT .7288 RRF .8127 RTF .9027 CRT .9626 CRS -.4696 CSI -.2515
 FDE -.2193 FRA 3.6647 FC-28.4441 BSP 3242 SGB 2279.7 R23 .2034 R13 .9009 LSA 35.4 MSA 25.3 SSA 1.9
 BDE .2925 BRA .1639 BC3 3.8259 FSP 2703 SG1 2243.7 SG2 403.9 THA 11.67 EL1 30.0 EL2 3.9 ALF 34.38

LAUNCH DATE MAY 23 1971 FLIGHT TIME 198.00 ARRIVAL DATE DEC 7 1971

HELIOCENTRIC CONIC
 RL 151.47 LAL -.00 LOL 241.23 VL 32.174 GAL .96 AZL 91.16 HCA 149.81 SMA 185.03 ECC .10215 INC 1.1597 V1 29.415
 RP 214.55 LAP -.59 LOP 30.85 VP 22.801 GAP 5.11 AZP 89.00 TAL 6.23 TAP 155.84 RCA 151.33 APO 218.74 V2 25.591
 RC 147.555 GL -13.29 GP -6.05 ZAL 85.74 ZAP 93.43 ETS 179.88 ZAE 136.28 ETE 187.01 ZAC 95.57 ETC 274.62 LVI -8.09

PLANETOCENTRIC CONIC
 C3 8.027 VHL 2.833 DLA -25.00 RAL 334.04 RAD 6637.0 VEL 11.320 PTH 6.37 VHP 2.836 DPA -26.80 RAP 308.64 ECC 1.1321
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 14 32 2426.40 -3.71 63.31 182.67 137.47 15 54 58 1426.4 14.60 47.40
 60.00 16 26 33 2234.87 .54 50.15 186.76 130.30 17 3 48 1234.9 16.37 31.78
 70.00 17 58 55 1963.29 4.96 31.47 190.10 123.83 18 31 38 963.3 18.23 11.04
 80.00 19 50 41 1613.50 8.91 7.33 192.51 118.62 20 17 34 613.5 19.90 345.34
 90.00 21 35 5 1276.80 10.74 343.53 193.47 116.32 21 56 21 276.8 20.67 320.90
 100.00 22 33 33 1087.97 8.91 328.69 192.51 118.62 22 51 41 88.0 19.90 306.71
 110.00 22 58 21 1010.11 4.96 320.39 190.10 123.83 23 15 12 10.1 18.23 299.95

DIFFERENTIAL CORRECTIONS
 TDE -.2404 TRA .0762 TC3-4.0577 BAU .4414 SGT 2356.2 SGR 611.9 SG3 1576.7 ST 24.7 SR 16.6 SS 31.5
 RDE -.1551 RRA .1624 RC3 -.6713 FAU .26550 RRT .7552 RRF .8320 RTF .9040 CRT .9686 CRS -.4364 CST -.2430
 FDE -.1493 FRA 3.7410 FC-28.6348 BSP 3543 SGB 2434.3 R23 .1979 R13 .9111 LSA 35.0 MSA 25.4 SSA 1.9
 BDE .2861 BRA .1794 BC3 4.1128 FSP 2725 SG1 2402.3 SG2 393.4 THA 11.40 EL1 29.5 EL2 3.5 ALF 33.62

LAUNCH DATE MAY 23 1971 FLIGHT TIME 200.00 ARRIVAL DATE DEC 9 1971

Heliocentric Conic
 RL 151.47 LAL -.00 LOL 241.23 VL 32.175 GAL .91 AZL 91.13 HCA 150.79 SMA 185.06 ECC .18219 INC 1.1281 V1 29.415
 RP 214.88 LAP -.55 LOP 32.03 VP 22.782 GAP 4.94 AZP 89.02 TAL 5.94 TAP 156.72 RCA 151.34 APO 218.77 V2 25.554
 RC 149.988 GL -12.94 GP -6.28 ZAL 86.25 ZAP 91.50 ETS 179.66 ZAE 134.27 ETE 186.81 ZAC 95.40 ETC 274.44 LVI -7.62

PLANETOCENTRIC CONIC
 C3 8.006 VHL 2.830 DLA -24.48 RAL 334.43 RAD 6637.0 VEL 11.319 PTH 6.37 VHP 2.827 DPA -27.21 RAP 307.88 ECC 1.1310
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 13 33 2437.25 -4.26 63.77 182.92 137.43 15 54 10 1437.2 14.07 47.88
 60.00 16 24 34 2248.36 -.05 50.80 186.96 130.30 17 2 3 1248.4 15.81 32.48
 70.00 17 55 26 1981.21 4.28 32.42 190.24 123.92 18 28 27 981.2 17.63 12.08
 80.00 19 44 35 1638.56 8.09 8.73 192.58 118.84 20 12 14 638.6 19.23 346.90
 90.00 21 27 37 1307.34 9.81 345.29 193.49 116.66 21 49 24 307.3 19.95 322.85
 100.00 22 27 47 1113.03 8.09 330.10 192.58 118.84 22 46 20 113.0 19.23 308.27
 110.00 22 54 53 1028.03 4.28 321.33 190.24 123.92 23 12 1 26.0 17.63 300.99

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2355 TRA .1119 TC3-4.3442 BAU .4712 SGT 2516.6 SGR 623.5 SG3 1587.5 ST 24.4 SR 16.0 S8 31.7
 RDE -.1478 RRA .1667 RC3 -.7103 FAU .26624 RRT .7796 RRF .8505 RTF .9134 CRT .9737 CRS -.4002 CST -.2320
 FDE -.0706 FRA 3.8175 FC-28.7891 BSP 3849 SGB 2592.7 R23 .1939 R13 .9195 LSA 34.7 MSA 25.6 SSA 1.9
 BDE .2780 BRA .2008 BC3 4.4019 FSP 2743 SGI 2564.2 SG2 383.2 THA 11.18 EL1 29.0 EL2 3.1 ALF 32.91

LAUNCH DATE MAY 23 1971 FLIGHT TIME 202.00 ARRIVAL DATE DEC 11 1971

Heliocentric Conic
 RL 151.47 LAL -.00 LOL 241.23 VL 32.177 GAL .87 AZL 91.09 HCA 151.96 SMA 185.09 ECC .18227 INC 1.0941 V1 29.415
 RP 215.21 LAP -.51 LOP 33.20 VP 22.723 GAP 4.78 AZP 89.03 TAL 5.63 TAP 157.59 RCA 151.36 APO 218.83 V2 25.510
 RC 152.438 GL -12.56 GP -6.52 ZAL 86.78 ZAP 89.61 ETS 179.42 ZAE 132.29 ETE 186.62 ZAC 95.22 ETC 274.26 LVI -7.14

PLANETOCENTRIC CONIC
 C3 7.989 VHL 2.826 DLA -23.93 RAL 334.82 RAD 6637.0 VEL 11.318 PTH 6.37 VHP 2.822 DPA -27.62 RAP 307.14 ECC 1.1315
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 12 28 2448.89 -4.84 64.26 183.18 137.39 15 53 16 1448.9 13.50 48.40
 60.00 16 22 27 2262.73 -.69 51.48 187.18 130.30 17 0 10 1262.7 15.22 33.22
 70.00 17 51 47 2000.09 3.57 33.40 190.40 123.99 18 25 8 1000.1 16.99 13.16
 80.00 19 39 4 1664.34 7.24 10.18 192.66 119.05 20 6 48 664.3 18.53 348.50
 90.00 21 20 13 1338.09 8.87 347.06 193.53 116.96 21 42 31 338.1 19.21 324.80
 100.00 22 21 56 1138.82 7.24 331.54 192.66 119.05 22 40 55 138.8 18.53 309.86
 110.00 22 51 14 1046.91 3.57 322.32 190.40 123.99 23 8 41 46.9 16.99 302.08

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2286 TRA .1481 TC3-4.6317 BAU .5011 SGT 2679.1 SGR 635.7 SG3 1592.9 ST 24.0 SR 15.3 S8 32.0
 RDE -.1400 RRA .1712 RC3 -.7494 FAU .26613 RRT .8016 RRF .8674 RTF .9211 CRT .9779 CRS -.3617 CST -.2199
 FDE .0163 FRA 3.8820 FC-28.8404 BSP 4154 SGB 2753.5 R23 .1912 R13 .9265 LSA 34.4 MSA 25.6 SSA 1.9
 BDE .2680 BRA .2263 BC3 4.6919 FSP 2756 SGI 2728.1 SG2 373.2 THA 10.98 EL1 28.3 EL2 2.7 ALF 32.26

LAUNCH DATE MAY 23 1971 FLIGHT TIME 204.00 ARRIVAL DATE DEC 13 1971

Heliocentric Conic
 RL 151.47 LAL -.00 LOL 241.23 VL 32.180 GAL .82 AZL 91.06 HCA 153.13 SMA 185.14 ECC .18239 INC 1.0376 V1 29.415
 RP 215.54 LAP -.48 LOP 34.37 VP 22.685 GAP 4.61 AZP 89.06 TAL 5.31 TAP 158.44 RCA 151.37 APO 218.90 V2 25.480
 RC 154.904 GL -12.14 GP -6.78 ZAL 87.33 ZAP 87.74 ETS 179.18 ZAE 130.32 ETE 186.44 ZAC 95.02 ETC 274.09 LVI -6.66

PLANETOCENTRIC CONIC
 C3 7.975 VHL 2.824 DLA -23.34 RAL 335.22 RAD 6637.0 VEL 11.318 PTH 6.37 VHP 2.819 DPA -28.03 RAP 306.44 ECC 1.1312
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 11 14 2481.37 -5.47 64.78 183.46 137.34 15 52 16 1461.4 12.89 48.95
 60.00 16 20 10 2278.05 -1.36 52.21 187.40 130.28 16 58 8 1278.0 14.58 34.01
 70.00 17 47 58 2019.96 2.81 34.44 190.56 124.05 18 21 38 1020.0 16.31 14.30
 80.00 19 33 6 1690.92 6.36 11.66 192.75 119.23 20 1 17 690.9 17.79 350.12
 90.00 21 12 50 1369.22 7.90 348.83 193.59 117.24 21 35 39 369.2 18.43 326.75
 100.00 22 15 58 1165.39 6.36 333.02 192.75 119.23 22 35 23 165.4 17.79 311.49
 110.00 22 47 24 1066.78 2.81 323.36 190.56 124.05 23 5 11 66.8 16.31 303.22

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2192 TRA .1859 TC3-4.9183 BAU .5311 SGT 2843.0 SGR 649.9 SG3 1596.4 ST 23.4 SR 14.6 S8 32.5
 RDE -.1318 RRA .1762 RC3 -.7902 FAU .26563 RRT .8219 RRF .8833 RTF .5.76 CRT .9814 CRS -.3248 CST -.2120
 FDE .1082 FRA 3.9477 FC-28.8372 BSP 4473 SGB 2916.4 R23 .1899 R13 .9324 LSA 34.3 MSA 25.4 SSA 1.9
 BDE .2558 BRA .2562 BC3 4.9814 FSP 2775 SGI 2893.6 SG2 383.7 THA 10.81 EL1 27.5 EL2 2.4 ALF 31.71

LAUNCH DATE MAY 23 1971 FLIGHT TIME 206.00 ARRIVAL DATE DEC 15 1971

Heliocentric Conic
 RL 151.47 LAL -.00 LOL 241.23 VL 32.183 GAL .77 AZL 91.02 HCA 154.28 SMA 185.19 ECC .18256 INC 1.0179 V1 29.415
 RP 215.87 LAP -.44 LOP 35.53 VP 22.647 GAP 4.45 AZP 89.08 TAL 4.98 TAP 159.28 RCA 151.38 APO 219.99 V2 25.443
 RC 157.385 GL -11.69 GP -7.06 ZAL 87.90 ZAP 85.92 ETS 178.92 ZAE 128.39 ETE 186.27 ZAC 94.80 ETC 273.93 LVI -6.17

PLANETOCENTRIC CONIC
 C3 7.964 VHL 2.822 DLA -22.71 RAL 335.61 RAD 6637.0 VEL 11.317 PTH 6.37 VHP 2.819 DPA -28.45 RAP 305.77 ECC 1.1311
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 9 53 2474.75 -6.14 65.35 183.74 137.27 15 51 8 1474.8 12.23 49.54
 60.00 16 17 43 2294.36 -2.08 52.99 187.63 130.26 16 55 57 1294.4 13.89 34.84
 70.00 17 43 56 2040.90 2.01 35.54 190.73 124.10 18 17 56 1040.9 15.58 15.49
 80.00 19 26 59 1718.38 5.44 13.18 192.86 119.40 19 55 37 718.4 17.01 351.79
 90.00 21 5 25 1400.90 6.91 350.63 193.66 117.49 21 28 46 400.9 17.62 328.72
 100.00 22 9 51 1192.85 5.44 334.55 192.86 119.40 22 29 44 192.8 17.01 313.16
 110.00 22 43 22 1087.72 2.01 324.46 190.73 124.10 23 1 30 87.7 15.58 304.41

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2083 TRA .2235 TC3-5.2049 BAU .5612 SGT 3008.5 SGR 665.4 SG3 1595.6 ST 22.8 SR 13.9 S8 33.0
 RDE -.1236 RRA .1812 RC3 -.8322 FAU .26460 RRT .8404 RRF .8979 RTF .9333 CRT .9839 CRS -.2955 CST -.2139
 FDE .1951 FRA 3.9952 FC-28.7638 BSP 4782 SGB 3081.2 R23 .1892 R13 .9376 LSA 34.4 MSA 24.9 SSA 1.9
 BDE .2422 BRA .2878 BC3 5.2710 FSP 2772 SGI 3060.7 SG2 354.5 THA 10.67 EL1 26.6 EL2 2.1 ALF 31.19

LAUNCH DATE MAY 23 1971

FLIGHT TIME 208.00

ARRIVAL DATE DEC 17 1971

Heliocentric Conic: RL 151.47 LAL -.00 LOL 241.23 VL 32.186 GAL .72 AZL 90.98 HCA 155.46 SMA 185.25 ECC .18276 INC .9752 V1 28.418
 RP 216.21 LAP -.41 LOP 36.69 VP 22.610 GAP 4.30 AZP 89.11 TAL 4.64 TAP 160.10 RCA 151.39 APO 219.10 V2 25.405
 RC 159.881 GL -11.20 GP -7.35 ZAL 88.49 ZAP 84.14 ETS 178.64 ZAE 126.47 ETE 186.11 ZAC 94.55 ETC 273.78 LVI -5.68

Distance 487.606 Earth to Mars

Planeto-centric Conic: C3 7.956 VHL 2.821 DLA -22.03 RAL 336.01 RAD 6637.0 VEL 11.317 PTH 6.37 VHP 2.822 DPA -28.88 RAP 305.14 ECC 1.1309
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 8 21 2489.10 -6.85 65.96 184.02 137.20 15 49 50 1489.1 11.52 50.17
 60.00 16 15 3 2311.75 -2.84 53.83 187.87 130.22 16 53 34 1311.8 13.16 35.72
 70.00 17 39 40 2082.99 1.17 36.69 190.91 124.14 18 14 3 1063.0 14.81 16.73
 80.00 19 20 41 1746.83 4.49 14.75 192.97 119.55 19 49 48 746.8 16.18 353.50
 90.00 20 57 53 1433.29 5.89 392.46 193.74 117.71 21 21 47 433.3 16.76 330.71
 100.00 22 3 33 1221.30 4.49 336.12 192.97 119.55 22 23 54 221.3 16.18 314.87
 110.00 22 39 6 1109.80 1.17 325.61 190.91 124.14 22 57 36 109.8 14.81 305.65

Differential Corrections: TDE -.1940 TRA .2633 TC3-5.4903 BAU .5914 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.1148 RRA .1873 RC3 -.8769 FAU .26330 SGT 3175.1 SGR 683.8 SG3 1594.3 ST 22.0 SR 13.2 SS 33.8
 FDE .2920 FRA 4.0545 FC-28.6502 BSP 5091 RRT .8572 RRF .9117 RTF .9379 CRT .9853 CRS -.2691 CST -.2233
 BDE .2255 BRA .3232 BC3 5.5599 FSP 2764 SGB 3247.9 R23 .1904 R13 .9419 LSA 34.9 MSA 24.1 S5A 1.9
 SG1 3229.4 SG2 346.3 THA 10.58 EL1 25.6 EL2 1.9 ALF 30.77

LAUNCH DATE MAY 23 1971

FLIGHT TIME 210.00

ARRIVAL DATE DEC 19 1971

Heliocentric Conic: RL 151.47 LAL -.00 LOL 241.23 VL 32.190 GAL .66 AZL 90.93 HCA 156.61 SMA 185.32 ECC .18300 INC .9284 V1 29.415
 RP 216.56 LAP -.137 LOP 37.85 VP 22.572 GAP 4.14 AZP 89.15 TAL 4.29 TAP 160.90 RCA 151.40 APO 219.23 V2 25.366
 RC 162.390 GL -10.66 GP -7.67 ZAL 89.10 ZAP 82.40 ETS 178.35 ZAE 124.59 ETE 185.96 ZAC 94.28 ETC 273.63 LVI -5.17

Distance 491.794 Earth to Mars

Planeto-centric Conic: C3 7.952 VHL 2.820 DLA -21.30 RAL 336.41 RAD 6637.0 VEL 11.317 PTH 6.37 VHP 2.827 DPA -29.32 RAP 304.55 ECC 1.1309
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 6 38 2504.50 -7.62 66.61 184.31 137.11 15 48 23 1504.5 10.76 50.84
 60.00 16 12 8 2330.31 -3.66 54.71 188.11 130.16 16 50 59 1330.3 12.37 36.66
 70.00 17 35 8 2086.32 .28 37.91 191.09 124.15 18 9 55 1086.3 13.98 18.04
 80.00 19 14 10 1776.41 3.49 16.39 193.09 119.67 19 43 46 776.4 15.31 355.26
 90.00 20 50 13 1466.58 4.83 354.34 193.83 117.90 21 14 40 466.6 15.86 332.74
 100.00 21 57 2 1250.88 3.49 337.75 193.09 119.67 22 17 52 250.9 15.31 316.63
 110.00 22 34 35 1133.14 .28 326.83 191.09 124.15 22 53 28 133.1 13.98 306.95

Differential Corrections: TDE -.1771 TRA .3025 TC3-5.7733 BAU .6215 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.1055 RRA .1933 RC3 -.9233 FAU .26141 SGT 3341.6 SGR 703.4 SG3 1588.1 ST 21.1 SR 12.5 SS 34.6
 FDE .3932 FRA 4.0901 FC-28.4610 BSP 5397 RRT .8725 RRF .9241 RTF .9420 CRT .9850 CRS -.2474 CST -.2418
 BDE .2061 BRA .3590 BC3 5.8466 FSP 2749 SGB 3414.8 R23 .1917 R13 .9457 LSA 35.5 MSA 23.1 S5A 1.9
 SG1 3398.0 SG2 338.0 THA 10.51 EL1 24.4 EL2 1.9 ALF 30.38

LAUNCH DATE MAY 23 1971

FLIGHT TIME 212.00

ARRIVAL DATE DEC 21 1971

Heliocentric Conic: RL 151.47 LAL -.00 LOL 241.23 VL 32.195 GAL .61 AZL 90.88 HCA 157.77 SMA 185.39 ECC .18328 INC .8772 V1 29.415
 RP 216.91 LAP -.33 LOP 39.01 VP 22.535 GAP 3.99 AZP 89.19 TAL 3.93 TAP 161.70 RCA 151.41 APO 219.37 V2 25.327
 RC 164.912 GL -10.07 GP -8.02 ZAL 89.72 ZAP 80.70 ETS 178.04 ZAE 122.74 ETE 185.82 ZAC 93.98 ETC 273.49 LVI -4.65

Distance 495.979 Earth to Mars

Planeto-centric Conic: C3 7.950 VHL 2.820 DLA -20.52 RAL 336.79 RAD 6637.0 VEL 11.317 PTH 6.37 VHP 2.834 DPA -29.78 RAP 304.01 ECC 1.1308
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 4 42 2521.06 -8.45 67.32 184.60 137.00 15 46 43 1521.1 9.94 51.56
 60.00 16 8 58 2350.16 -4.53 55.67 188.35 130.09 16 48 8 1350.2 11.52 37.65
 70.00 17 30 19 2111.03 -.67 39.20 191.27 124.15 18 5 30 1111.0 13.10 19.41
 80.00 19 7 22 1807.28 2.45 18.08 193.22 119.77 19 37 29 807.3 14.38 357.08
 90.00 20 42 20 1500.97 3.73 356.27 193.92 118.05 21 7 21 501.0 14.91 334.82
 100.00 21 50 14 1281.75 2.45 339.45 193.22 119.77 22 11 36 281.8 14.38 318.45
 110.00 22 29 45 1157.85 -.67 328.12 191.27 124.15 22 49 3 157.9 13.10 308.32

Differential Corrections: TDE -.1567 TRA .3433 TC3-6.0534 BAU .6517 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.0954 RRA .2005 RC3 -.9721 FAU .25902 SGT 3508.5 SGR 726.2 SG3 1580.3 ST 20.1 SR 11.7 SS 35.7
 FDE .5018 FRA 4.1349 FC-28.2031 BSP 5713 RRT .8859 RRF .9354 RTF .5.52 CRT .9824 CRS -.2560 CST -.2774
 BDE .1835 BRA .3976 BC3 6.1309 FSP 2740 SGB 3582.9 R23 .1951 R13 .9487 LSA 36.6 MSA 21.8 S5A 1.9
 SG1 3567.5 SG2 331.2 THA 10.48 EL1 23.2 EL2 1.9 ALF 30.00

LAUNCH DATE MAY 23 1971

FLIGHT TIME 214.00

ARRIVAL DATE DEC 23 1971

Heliocentric Conic: RL 151.47 LAL -.00 LOL 241.23 VL 32.200 GAL .55 AZL 90.82 HCA 158.92 SMA 185.47 ECC .18359 INC .8206 V1 29.415
 RP 217.28 LAP -.30 LOP 40.16 VP 22.499 GAP 3.83 AZP 89.23 TAL 3.56 TAP 162.48 RCA 151.42 APO 219.52 V2 25.288
 RC 167.446 GL -9.42 GP -8.40 ZAL 90.37 ZAP 79.05 ETS 177.71 ZAE 120.92 ETE 185.69 ZAC 93.64 ETC 273.36 LVI -4.12

Distance 500.162 Earth to Mars

Planeto-centric Conic: C3 7.952 VHL 2.820 DLA -19.88 RAL 337.17 RAD 6637.0 VEL 11.317 PTH 6.37 VHP 2.844 DPA -30.26 RAP 303.51 ECC 1.1309
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 2 31 2538.92 -9.34 68.08 184.89 136.87 15 44 50 1538.9 9.05 52.32
 60.00 16 5 29 2371.44 -5.46 56.69 188.59 129.99 16 45 1 1371.4 10.61 38.71
 70.00 17 25 9 2137.29 -1.67 40.57 191.45 124.12 18 0 46 1137.3 12.15 20.85
 80.00 19 0 15 1839.63 1.36 19.86 193.34 119.83 19 30 55 839.6 13.39 358.97
 90.00 20 34 10 1536.70 2.58 358.27 194.03 118.17 20 59 46 536.7 13.90 336.95
 100.00 21 43 7 1314.10 1.36 341.23 193.34 119.83 22 5 1 314.1 13.39 320.34
 110.00 22 24 35 1184.11 -1.67 329.49 191.45 124.12 22 44 19 184.1 12.15 309.77

Differential Corrections: TDE -.1337 TRA .3829 TC3-6.3339 BAU .6822 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.0850 RRA .2076 RC3-1.0257 FAU .25661 SGT 3676.7 SGR 751.8 SG3 1569.8 ST 19.2 SR 11.0 SS 36.8
 FDE .6079 FRA 4.1540 FC-27.9358 BSP 6011 RRT .8985 RRF .9457 RTF .9484 CRT .9762 CRS -.2376 CST -.3325
 BDE .1564 BRA .4356 BC3 6.4164 FSP 2714 SGB 3752.8 R23 .1977 R13 .9517 LSA 37.7 MSA 20.4 S5A 1.9
 SG1 3738.7 SG2 324.5 THA 10.49 EL1 22.0 EL2 2.1 ALF 29.51

LAUNCH DATE MAY 23 1971

FLIGHT TIME 216.00

ARRIVAL DATE DEC 25 1971

HELIOCENTRIC CONIC
 RL 151.47 LAL -.00 LOL 241.23 VL 32.205 GAL .49 AZL 90.76 HCA 160.07 SMA 185.96 ECC .18393 INC .7586 V1 29.415
 RP 217.61 LAP -.28 LOP 41.30 VP 22.462 GAP 3.68 AZP 89.29 TAL 3.18 TAP 163.25 RCA 151.43 APO 219.69 V2 25.249
 RC 169.992 GL -8.70 GP -8.81 ZAL 91.03 ZAP 77.44 ETS 177.36 ZAE 119.13 ETE 185.96 ZAC 93.26 ETC 273.24 LVI -3.56

PLANETOCENTRIC CONIC
 C3 7.958 VHL 2.821 DLA -10.77 RAL 337.54 RAD 6637.0 VEL 11.317 PTH 6.37 VHP 2.856 DPA -30.77 RAP 303.06 ECC 1.1310
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 0 1 2558.23 -10.29 68.92 185.18 136.71 15 42 40 1558.2 8.09 53.15
 60.00 16 1 39 2394.33 -6.46 57.80 188.83 129.87 16 41 33 1394.3 9.62 39.84
 70.00 17 19 34 2165.29 -2.74 42.03 191.64 124.06 17 55 39 1165.3 11.13 22.38
 80.00 18 52 44 1873.70 .20 21.73 193.47 119.86 19 23 58 873.7 12.33 .95
 90.00 20 25 30 1574.04 1.38 .35 194.13 118.25 20 51 52 574.0 12.82 339.16
 100.00 21 35 36 1348.17 .20 343.10 193.47 119.86 21 58 4 348.2 12.33 322.32
 110.00 22 19 0 1212.10 -2.74 330.95 191.64 124.06 22 39 12 212.1 11.13 311.30

DIFFERENTIAL CORRECTIONS
 TDE -.1058 TRA .4251 TC3-6.5992 BAU .7114 SGT 3839.3 SGR 779.9 S63 1554.2 ORBIT DETERMINATION ACCURACY
 RDE -.0736 RRA .2165 RC3-1.0786 FAU .25279 RRT .9088 RRF .9547 RTF .9505 CRT .9642 CRS -.2587 CST -.4183
 FDE .7218 FRA 4.1880 FC-27.5014 BSP 6330 SGB 3917.7 R23 .2033 R13 .9537 LSA 39.4 MSA 18.7 SSA 1.9
 BDE .1289 BRA .4770 BC3 6.6867 FSP 2695 S61 3904.6 S62 320.0 THA 10.53 EL1 20.8 EL2 2.4 ALF 28.85

LAUNCH DATE MAY 23 1971

FLIGHT TIME 210.00

ARRIVAL DATE DEC 27 1971

HELIOCENTRIC CONIC
 RL 151.47 LAL -.00 LOL 241.23 VL 32.211 GAL .43 AZL 90.69 HCA 161.21 SMA 185.66 ECC .18431 INC .6886 V1 29.415
 RP 217.97 LAP -.22 LOP 42.44 VP 22.426 GAP 3.53 AZP 89.35 TAL 2.79 TAP 164.00 RCA 151.44 APO 219.88 V2 25.209
 RC 172.547 GL -7.90 GP -9.27 ZAL 91.70 ZAP 75.89 ETS 176.97 ZAE 117.37 ETE 185.45 ZAC 92.83 ETC 273.13 LVI -2.97

PLANETOCENTRIC CONIC
 C3 7.967 VHL 2.823 DLA -17.77 RAL 337.88 RAD 6637.0 VEL 11.317 PTH 6.37 VHP 2.870 DPA -31.31 RAP 302.67 ECC 1.1311
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 57 11 2579.19 -11.33 69.83 185.46 136.53 15 40 10 1579.2 7.04 54.04
 60.00 15 57 23 2419.06 -7.54 59.00 189.06 129.71 16 37 43 1419.1 8.56 41.06
 70.00 17 13 31 2195.28 -3.88 43.60 191.81 123.96 17 50 6 1195.3 10.03 24.00
 80.00 18 44 44 1909.78 -1.02 23.71 193.60 119.84 19 16 34 909.8 11.19 3.02
 90.00 20 16 38 1613.31 .12 2.54 194.23 118.28 20 43 32 613.3 11.66 341.46
 100.00 21 27 36 1384.26 -1.02 345.08 193.60 119.84 21 50 40 384.3 11.19 324.39
 110.00 22 12 57 1242.10 -3.88 332.52 191.81 123.96 22 33 39 242.1 10.03 312.92

DIFFERENTIAL CORRECTIONS
 TDE -.0742 TRA .4642 TC3-6.8718 BAU .7419 SGT 4006.3 SGR 812.7 S63 1538.5 ORBIT DETERMINATION ACCURACY
 RDE -.0612 RRA .2253 RC3-1.1405 FAU .24959 RRT .9187 RRF .9628 RTF .9528 CRT .9450 CRS -.2973 CST -.5226
 FDE .8413 FRA 4.1897 FC-27.1221 BSP 6626 SGB 4087.9 R23 .2074 R13 .9559 LSA 41.2 MSA 16.9 SSA 1.9
 BDE .0962 BRA .5160 BC3 6.9658 FSP 2664 S61 4075.7 S62 315.3 THA 10.62 EL1 19.9 EL2 2.8 ALF 27.72

LAUNCH DATE MAY 23 1971

FLIGHT TIME 220.00

ARRIVAL DATE DEC 29 1971

HELIOCENTRIC CONIC
 RL 151.47 LAL -.00 LOL 241.23 VL 32.217 GAL .37 AZL 90.61 HCA 162.35 SMA 185.78 ECC .18472 INC .6113 V1 29.415
 RP 218.33 LAP -.19 LOP 43.58 VP 22.389 GAP 3.38 AZP 89.42 TAL 2.40 TAP 164.75 RCA 151.45 APO 220.07 V2 25.169
 RC 175.114 GL -7.00 GP -9.78 ZAL 92.39 ZAP 74.39 ETS 176.54 ZAE 115.65 ETE 185.34 ZAC 92.35 ETC 273.03 LVI -2.35

PLANETOCENTRIC CONIC
 C3 7.980 VHL 2.825 DLA -16.68 RAL 338.20 RAD 6637.0 VEL 11.318 PTH 6.37 VHP 2.887 DPA -31.90 RAP 302.33 ECC 1.1313
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 53 54 2602.08 -12.46 70.83 185.74 136.30 15 37 16 1602.1 5.90 55.01
 60.00 15 52 38 2445.92 -8.70 60.31 189.29 129.51 16 33 24 1445.9 7.39 42.37
 70.00 17 6 54 2227.61 -5.11 45.30 191.99 123.82 17 44 1 1227.6 8.83 25.74
 80.00 18 36 9 1948.25 -2.32 25.82 193.72 119.78 19 8 37 948.3 9.96 5.21
 90.00 20 7 5 1654.91 -1.22 4.86 194.33 118.26 20 34 39 654.9 10.41 343.88
 100.00 21 19 1 1422.72 -2.32 347.19 193.72 119.78 21 42 43 422.7 9.96 326.58
 110.00 22 6 20 1274.42 -5.11 334.22 191.99 123.82 22 27 34 274.4 8.83 314.66

DIFFERENTIAL CORRECTIONS
 TDE -.0368 TRA .5053 TC3-7.1263 BAU .7710 SGT 4166.6 SGR 848.9 S63 1517.5 ORBIT DETERMINATION ACCURACY
 RDE -.0477 RRA .2337 RC3-1.2035 FAU .24514 RRT .9269 RRF .9697 RTF .9545 CRT .9166 CRS -.3652 CST -.6527
 FDE .9856 FRA 4.1941 FC-26.5948 BSP 6923 SGB 4252.2 R23 .2130 R13 .9576 LSA 43.5 MSA 14.9 SSA 2.0
 BDE .0601 BRA .5578 BC3 7.2272 FSP 2623 S61 4240.7 S62 313.0 THA 10.75 EL1 19.4 EL2 3.2 ALF 25.87

LAUNCH DATE MAY 23 1971

FLIGHT TIME 222.00

ARRIVAL DATE DEC 31 1971

HELIOCENTRIC CONIC
 RL 151.47 LAL -.00 LOL 241.23 VL 32.224 GAL .31 AZL 90.52 HCA 163.48 SMA 185.87 ECC .18515 INC .5236 V1 29.415
 RP 218.69 LAP -.15 LOP 44.72 VP 22.353 GAP 3.24 AZP 89.50 TAL 2.00 TAP 165.48 RCA 151.45 APO 220.28 V2 25.129
 RC 177.690 GL -5.99 GP -10.35 ZAL 93.10 ZAP 72.93 ETS 176.08 ZAE 113.96 ETE 185.25 ZAC 91.80 ETC 272.94 LVI -1.68

PLANETOCENTRIC CONIC
 C3 7.998 VHL 2.828 DLA -15.48 RAL 338.48 RAD 6637.0 VEL 11.319 PTH 6.37 VHP 2.906 DPA -32.53 RAP 302.04 ECC 1.1316
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 50 8 2627.22 -13.69 71.94 186.01 136.02 15 33 55 1627.2 4.64 56.07
 60.00 15 47 16 2475.29 -9.97 61.75 189.51 129.25 16 28 31 1475.3 6.11 43.79
 70.00 16 59 35 2262.67 -6.43 47.15 192.15 123.61 17 37 18 1262.7 7.52 27.61
 80.00 18 26 50 1989.58 -3.72 28.10 193.83 119.65 19 0 0 989.6 8.62 7.54
 90.00 19 56 48 1699.36 -2.66 7.34 194.42 118.17 20 25 7 699.4 9.05 346.43
 100.00 21 9 42 1464.05 -3.72 349.47 193.83 119.65 21 34 6 464.1 8.62 328.91
 110.00 21 59 2 1309.49 -6.43 336.07 192.15 123.61 22 20 51 309.5 7.52 316.53

DIFFERENTIAL CORRECTIONS
 TDE .0047 TRA .5469 TC3-7.3906 BAU .8020 SGT 4335.4 SGR 895.3 S63 1501.6 ORBIT DETERMINATION ACCURACY
 RDE -.0337 RRA .2480 RC3-1.2813 FAU .24188 RRT .9347 RRF .9760 RTF .9566 CRT .8870 CRS -.4631 CST -.7802
 FDE 1.0749 FRA 4.2013 FC-26.1826 BSP 7230 SGB 4426.9 R23 .2172 R13 .9597 LSA 46.1 MSA 12.9 SSA 2.0
 BDE .0340 BRA .6005 BC3 7.5008 FSP 2586 S61 4415.9 S62 312.5 THA 10.98 EL1 19.9 EL2 3.7 ALF 23.40

LAUNCH DATE MAY 23 1971

FLIGHT TIME 224.00

ARRIVAL DATE JAN 2 1972

HELIOCENTRIC CONIC

RL 131.47 LAL -.00 LOL 241.23 VL 32.230 GAL .25 AZL 90.42 HCA 164.61 SMA 185.98 ECC .18562 INC .4234 V1 29.415
 RP 219.06 LAP -.11 LOP 45.85 VP 22.318 GAP 3.09 AZP 89.59 TAL 1.59 TAP 166.20 RCA 151.46 APO 220.50 V2 25.089
 RC 180.273 GL -4.84 GP -11.01 ZAL 93.82 ZAP 71.54 ETS 175.56 ZAE 112.30 ETE 185.16 ZAC 91.17 ETC 272.86 LVI -.96

DISTANCE 521.037

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 8.021 VHL 2.832 DLA -14.15 RAL 338.72 RAD 6637.0 VEL 11.320 PTH 6.37 VHP 2.927 DPA -33.24 RAP 301.82 ECC 1.1320
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 45 45 2655.06 -15.03 73.19 186.28 135.69 15 30 0 1655.1 3.25 57.24
 60.00 15 41 11 2507.64 -11.36 63.36 169.73 128.93 16 22 58 1507.6 4.69 45.35
 70.00 16 51 28 2301.04 -7.68 49.18 192.31 123.34 17 29 49 1301.0 6.08 29.64
 80.00 18 16 39 2034.38 -5.22 30.57 193.94 119.44 18 50 33 1034.4 7.15 10.05
 90.00 19 43 38 1747.31 -4.19 10.03 194.50 117.99 20 14 45 747.3 7.56 349.17
 100.00 20 59 31 1508.85 -5.22 351.94 193.94 119.44 21 24 40 508.0 7.15 331.42
 110.00 21 50 54 1347.86 -7.88 338.10 192.31 123.34 22 13 22 347.9 6.08 318.56

DIFFERENTIAL CORRECTIONS

TDE .0544 TRA .5866 TC3-7.6497 BAU .8334
 RDE -.0171 RRA .2615 RC3-1.3685 FAU .23839
 FDE 1.2067 FRA 4.1879 FC-25.7290 BSP 7543
 BDE .0570 BRA .6422 BC3 7.7712 FSP 2553

MID-COURSE EXECUTION ACCURACY

SGT 4504.0 SGR 948.5 SG3 1483.2
 RRT .9416 RRF .9814 RTF .9585
 SGB 4602.8 R23 .2210 R13 .9616
 SG1 4592.1 SG2 313.2 THA 11.27

ORBIT DETERMINATION ACCURACY

ST 20.2 SR 8.4 SS 45.8
 CRT .8678 CR8 -.5825 CST -.8819
 LSA 49.4 MSA 10.8 SSA 2.1
 EL1 21.6 EL2 3.9 ALF 20.62

LAUNCH DATE MAY 23 1971

FLIGHT TIME 226.00

ARRIVAL DATE JAN 4 1972

HELIOCENTRIC CONIC

RL 131.47 LAL -.00 LOL 241.23 VL 32.237 GAL .18 AZL 90.31 HCA 165.74 SMA 186.10 ECC .18611 INC .3053 V1 29.415
 RP 219.43 LAP -.08 LOP 46.98 VP 22.282 GAP 2.95 AZP 89.70 TAL 1.17 TAP 166.91 RCA 151.46 APO 220.73 V2 25.048
 RC 182.871 GL -3.92 GP -11.75 ZAL 94.55 ZAP 70.20 ETS 174.98 ZAE 110.68 ETE 185.08 ZAC 90.44 ETC 272.78 LVI -.16

DISTANCE 525.203

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 8.053 VHL 2.838 DLA -12.66 RAL 338.91 RAD 6637.0 VEL 11.321 PTH 6.37 VHP 2.952 DPA -34.02 RAP 301.67 ECC 1.1325
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 40 36 2686.17 -16.56 74.60 186.53 135.27 15 25 22 1686.2 1.68 58.54
 60.00 15 34 12 2543.64 -12.90 65.16 189.93 129.52 16 16 36 1543.6 3.11 47.08
 70.00 16 42 18 2343.42 -9.45 51.45 192.46 122.97 17 21 22 1343.4 4.47 31.87
 80.00 18 5 21 2083.45 -6.85 33.30 194.04 119.13 18 40 5 1083.5 5.51 12.78
 90.00 19 33 21 1799.58 -5.86 12.97 194.58 117.72 20 3 20 799.6 5.92 352.13
 100.00 20 48 13 1557.92 -6.85 354.66 194.04 119.13 21 14 11 557.9 5.51 334.15
 110.00 21 41 45 1390.23 -9.45 340.37 192.46 122.97 22 4 55 390.2 4.47 320.79

DIFFERENTIAL CORRECTIONS

TDE .1112 TRA .6203 TC3-7.8701 BAU .8615
 RDE .0018 RRA .2754 RC3-1.4477 FAU .23160
 FDE 1.3434 FRA 4.1372 FC-24.8999 BSP 7847
 BDE .1112 BRA .6787 BC3 8.0021 FSP 2518

MID-COURSE EXECUTION ACCURACY

SGT 4652.8 SGR 999.9 SG3 1446.7
 RRT .9462 RRF .9855 RTF .9591
 SGB 4759.0 R23 .2280 R13 .9623
 SG1 4748.5 SG2 317.0 THA 11.55

ORBIT DETERMINATION ACCURACY

ST 23.3 SR 8.6 SS 47.9
 CRT .8699 CR8 -.7074 CST -.9457
 LSA 53.2 MSA 8.6 SSA 2.3
 EL1 24.5 EL2 4.0 ALF 18.42

LAUNCH DATE MAY 23 1971

FLIGHT TIME 228.00

ARRIVAL DATE JAN 6 1972

HELIOCENTRIC CONIC

RL 131.47 LAL -.00 LOL 241.23 VL 32.245 GAL .12 AZL 90.18 HCA 166.86 SMA 186.22 ECC .18663 INC .1742 V1 29.415
 RP 219.80 LAP -.04 LOP 48.10 VP 22.247 GAP 2.80 AZP 89.83 TAL .75 TAP 167.61 RCA 151.47 APO 220.98 V2 25.007
 RC 185.475 GL -2.00 GP -12.61 ZAL 95.29 ZAP 68.93 ETS 174.31 ZAE 109.08 ETE 185.01 ZAC 89.60 ETC 272.72 LVI .73

DISTANCE 529.365

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 8.094 VHL 2.845 DLA -10.98 RAL 339.03 RAD 6637.0 VEL 11.323 PTH 6.38 VHP 2.980 DPA -34.92 RAP 301.59 ECC 1.1332
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 34 32 2721.33 -18.26 76.23 186.78 134.75 15 19 53 1721.3 -.08 60.01
 60.00 15 26 7 2584.14 -14.60 67.22 190.14 127.99 16 9 11 1584.1 1.33 49.01
 70.00 16 31 53 2390.79 -11.20 54.01 192.60 122.48 17 11 44 1390.8 2.67 34.35
 80.00 17 52 40 2137.89 -8.65 36.34 194.13 118.69 18 28 18 1137.9 3.69 15.79
 90.00 19 19 37 1857.35 -7.67 16.24 194.66 117.30 19 30 35 857.3 4.08 355.38
 100.00 20 35 32 1612.36 -8.65 357.71 194.13 118.69 21 2 25 612.4 3.69 337.16
 110.00 21 31 19 1437.61 -11.20 342.93 192.60 122.48 21 55 17 437.6 2.67 323.27

DIFFERENTIAL CORRECTIONS

TDE .1822 TRA .8529 TC3-8.0971 BAU .8922
 RDE .0245 RRA .2907 RC3-1.5558 FAU .22714
 FDE 1.4998 FRA 4.0616 FC-24.2986 BSP 8125
 BDE .1838 BRA .7146 BC3 8.2452 FSP 2438

MID-COURSE EXECUTION ACCURACY

SGT 4811.8 SGR 1068.4 SG3 1418.8
 RRT .9521 RRF .9891 RTF .9513
 SGB 4929.0 R23 .2284 R13 .9645
 SG1 4918.6 SG2 319.6 THA 11.99

ORBIT DETERMINATION ACCURACY

ST 28.1 SR 9.4 SS 50.7
 CRT .8899 CR8 -.8216 CST -.9804
 LSA 58.3 MSA 6.5 SSA 2.6
 EL1 29.3 EL2 4.1 ALF 16.89

LAUNCH DATE MAY 23 1971

FLIGHT TIME 230.00

ARRIVAL DATE JAN 8 1972

HELIOCENTRIC CONIC

RL 131.47 LAL -.00 LOL 241.23 VL 32.252 GAL .05 AZL 90.02 HCA 167.98 SMA 186.35 ECC .18718 INC .0099 V1 29.415
 RP 220.18 LAP -.00 LOP 49.22 VP 22.212 GAP 2.66 AZP 89.98 TAL .32 TAP 168.30 RCA 151.47 APO 221.23 V2 24.966
 RC 188.089 GL -.21 GP -13.62 ZAL 96.03 ZAP 67.74 ETS 173.56 ZAE 107.51 ETE 184.95 ZAC 88.60 ETC 272.67 LVI 1.74

DISTANCE 533.523

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 8.149 VHL 2.855 DLA -9.04 RAL 339.05 RAD 6637.1 VEL 11.325 PTH 6.38 VHP 3.011 DPA -35.95 RAP 301.60 ECC 1.1341
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 27 16 2761.62 -20.18 78.13 187.04 134.05 15 13 17 1761.6 -2.11 61.89
 60.00 15 16 37 2630.33 -16.52 69.61 190.34 127.30 16 0 28 1630.3 -.70 51.22
 70.00 16 19 50 2444.50 -13.14 56.95 192.75 121.81 17 0 34 1444.5 .62 37.16
 80.00 17 38 12 2199.16 -10.63 39.81 194.23 118.07 18 14 51 1199.2 1.62 19.16
 90.00 19 4 4 1922.14 -9.68 19.94 194.73 116.70 19 36 6 922.1 2.00 359.00
 100.00 20 21 4 1673.63 -10.63 1.18 194.23 118.07 20 48 58 673.6 1.62 340.53
 110.00 21 19 16 1491.31 -13.14 345.87 192.75 121.81 21 44 8 491.3 .62 326.07

DIFFERENTIAL CORRECTIONS

TDE .2422 TRA .6992 TC3-8.3435 BAU .9276
 RDE .0397 RRA .3172 RC3-1.6959 FAU .22451
 FDE 1.5018 FRA 4.0944 FC-23.8511 BSP 8300
 BDE .2434 BRA .7678 BC3 8.5141 FSP 2307

MID-COURSE EXECUTION ACCURACY

SGT 4994.7 SGR 1165.9 SG3 1403.2
 RRT .9560 RRF .9923 RTF .9635
 SGB 5128.9 R23 .2285 R13 .9669
 SG1 5118.1 SG2 333.9 THA 12.63

ORBIT DETERMINATION ACCURACY

ST 33.1 SR 10.6 SS 51.2
 CRT .8964 CR8 -.8844 CST -.9932
 LSA 61.6 MSA 4.9 SSA 3.0
 EL1 34.5 EL2 4.5 ALF 16.24

LAUNCH DATE MAY 23 1971										FLIGHT TIME 232.00										ARRIVAL DATE JAN 10 1972																																																																																				
HELIOCENTRIC CONIC										DISTANCE 537.678										EARTH TO MARS																																																																																				
RL	151.47	LAL	-.00	LOL	241.23	VL	32.260	GAL	-.02	AZL	89.83	HCA	169.10	SMA	186.46	ECC	.18775	INC	.1599	V1	29.415	RP	220.55	LAP	.03	LOP	50.34	VP	22.177	GAP	2.52	AZP	90.17	TAL	359.89	TAP	168.99	RCA	151.47	APO	221.49	V2	24.925	RC	190.711	GL	1.91	GP	-14.82	ZAL	96.77	ZAP	66.62	ETS	172.67	ZAE	105.97	ETE	184.91	ZAC	87.42	ETC	272.62	LVI	2.92																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	8.226	VHL	2.868	DLA	-6.79	RAL	338.96	RAD	6637.1	VEL	11.329	PTH	6.38	VHP	3.049	DPA	-37.15	RAP	301.70	ECC	1.1354	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																									
50.00	14	18	27	2808.50	-22.38	80.42	187.31	133.15	15	5	15	1808.5	-4.46	63.66	60.00	15	5	18	2683.88	-18.71	72.45	190.56	126.37	15	50	2	1663.9	-3.06	53.78	70.00	16	5	40	2506.39	-15.34	60.41	192.91	120.90	16	47	26	1506.4	-1.74	40.59	80.00	17	21	23	2269.34	-12.85	43.84	194.34	117.19	17	59	13	1269.3	-.76	23.01	90.00	18	46	4	1996.10	-11.91	24.23	194.82	115.84	19	19	20	996.1	-.39	3.13	100.00	20	4	15	1743.81	-12.85	5.21	194.34	117.19	20	33	19	743.8	-.76	344.38	110.00	21	5	6	1553.21	-15.34	349.32	192.91	120.90	21	31	0	553.2	-1.74	329.30
TDE	.3362	TRA	.7435	TC3	-8.5002	BAU	.9560	SGT	5144.2	SGR	1265.9	SG3	1367.9	ST	41.0	SR	12.7	SS	54.8	RDE	.0698	RRA	.3498	RC3	-1.8183	FAU	.21657	RRT	.9570	RRF	.9946	RTF	.9623	CRT	.9215	CR8	-.9417	CST	-.9949	FDE	1.6564	FRA	4.1224	FC	-22.7925	BSP	8870	SG8	5297.6	R23	.2384	R13	.9663	LSA	69.4	MSA	4.9	SSA	2.5	BDE	.3433	BRA	.8216	BC3	8.6925	FSP	2377	SG1	5285.6	SG2	357.6	THA	13.31	EL1	42.7	EL2	4.8	ALF	16.16																									

LAUNCH DATE MAY 23 1971										FLIGHT TIME 234.00										ARRIVAL DATE JAN 12 1972																																																																																				
HELIOCENTRIC CONIC										DISTANCE 541.829										EARTH TO MARS																																																																																				
RL	151.47	LAL	-.00	LOL	241.23	VL	32.268	GAL	-.09	AZL	89.60	HCA	170.21	SMA	186.61	ECC	.18834	INC	.3936	V1	29.415	RP	220.93	LAP	.07	LOP	51.45	VP	22.142	GAP	2.38	AZP	90.39	TAL	359.44	TAP	169.68	RCA	151.47	APO	221.78	V2	24.804	RC	193.341	GL	4.48	GP	-16.26	ZAL	97.52	ZAP	65.62	ETS	171.64	ZAE	104.45	ETE	184.88	ZAC	85.99	ETC	272.59	LVI	4.31																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	8.338	VHL	2.868	DLA	-4.13	RAL	338.71	RAD	6637.2	VEL	11.334	PTH	6.39	VHP	3.093	DPA	-38.58	RAP	301.93	ECC	1.1372	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																									
50.00	14	7	37	2864.24	-24.94	83.24	187.64	131.93	14	55	21	1864.2	-7.25	68.01	60.00	14	51	35	2747.30	-21.23	75.91	190.85	125.10	15	37	22	1747.3	-5.84	56.83	70.00	15	48	42	2579.33	-17.84	64.58	193.13	119.62	16	31	41	1579.3	-4.52	44.20	80.00	17	1	26	2351.60	-15.35	48.66	194.50	115.93	17	40	38	1351.6	-3.54	27.53	90.00	18	24	49	2082.59	-14.42	29.34	194.96	114.59	18	59	31	1082.6	-3.17	7.96	100.00	19	44	18	1826.07	-15.35	10.03	194.50	115.93	20	14	44	826.1	-3.54	348.90	110.00	20	48	8	1626.15	-17.84	353.49	193.13	119.62	21	15	15	626.1	-4.52	333.12
TDE	.4877	TRA	.7443	TC3	-8.5995	BAU	.9825	SGT	5271.9	SGR	1360.1	SG3	1305.8	ST	53.8	SR	16.9	SS	63.2	RDE	.1290	RRA	.3679	RC3	-1.9349	FAU	.20542	RRT	.9596	RRF	.9961	RTF	.9614	CRT	.9612	CR8	-.9810	CST	-.9947	FDE	2.0697	FRA	5.8873	FC	-21.3299	BSP	8947	SG8	5444.5	R23	.2451	R13	.9657	LSA	84.5	MSA	5.4	SSA	1.7	BDE	.5045	BRA	.8303	BC3	8.8145	FSP	2203	SG1	5431.8	SG2	371.3	THA	13.97	EL1	56.2	EL2	4.5	ALF	16.97																									

LAUNCH DATE MAY 23 1971										FLIGHT TIME 236.00										ARRIVAL DATE JAN 14 1972																																																																																				
HELIOCENTRIC CONIC										DISTANCE 545.974										EARTH TO MARS																																																																																				
RL	151.47	LAL	-.00	LOL	241.23	VL	32.276	GAL	-.16	AZL	89.31	HCA	171.32	SMA	186.75	ECC	.18896	INC	.6842	V1	29.415	RP	221.31	LAP	.10	LOP	52.56	VP	22.107	GAP	2.24	AZP	90.68	TAL	359.00	TAP	170.32	RCA	151.46	APO	222.04	V2	24.842	RC	195.978	GL	7.63	GP	-18.02	ZAL	98.23	ZAP	64.75	ETS	170.39	ZAE	102.96	ETE	184.86	ZAC	84.23	ETC	272.57	LVI	5.98																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	8.506	VHL	2.917	DLA	-.91	RAL	338.24	RAD	6637.3	VEL	11.341	PTH	6.39	VHP	3.148	DPA	-40.33	RAP	302.32	ECC	1.1400	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																									
50.00	13	54	0	2932.04	-27.98	86.84	188.12	130.19	14	42	52	1932.0	-10.62	68.92	60.00	14	34	33	2824.18	-24.18	80.29	191.27	123.28	15	21	37	1824.2	-9.18	60.57	70.00	15	27	51	2667.41	-20.72	69.78	193.48	117.78	16	12	19	1667.4	-7.84	48.86	80.00	16	37	7	2450.53	-18.20	54.62	194.78	114.08	17	17	58	1450.5	-6.85	33.01	90.00	17	58	58	2186.40	-17.26	35.63	195.21	112.76	18	35	25	1186.4	-6.47	13.80	100.00	19	19	59	1925.01	-18.20	15.99	194.78	114.08	19	52	4	925.0	-6.85	354.38	110.00	20	27	18	1714.23	-20.72	358.70	193.48	117.78	20	55	52	714.2	-7.84	337.77
TDE	.6365	TRA	.7565	TC3	-8.6854	BAU	1.0164	SGT	5425.9	SGR	1503.9	SG3	1256.3	ST	66.8	SR	21.6	SS	67.8	RDE	.1829	RRA	.4009	RC3	-2.1082	FAU	.19755	RRT	.9620	RRF	.9975	RTF	.9622	CRT	.9714	CR8	-.9924	CST	-.9924	FDE	2.2709	FRA	5.7395	FC	-20.1052	BSP	9258	SG8	5630.4	R23	.2447	R13	.9670	LSA	97.4	MSA	6.9	SSA	1.0	BDE	.6622	BRA	.8561	BC3	8.9376	FSP	2118	SG1	5616.5	SG2	396.5	THA	15.01	EL1	70.0	EL2	4.9	ALF	17.51																									

LAUNCH DATE MAY 23 1971										FLIGHT TIME 238.00										ARRIVAL DATE JAN 16 1972																																																																																				
HELIOCENTRIC CONIC										DISTANCE 550.115										EARTH TO MARS																																																																																				
RL	151.47	LAL	-.00	LOL	241.23	VL	32.284	GAL	-.23	AZL	88.94	HCA	172.42	SMA	186.90	ECC	.18960	INC	1.0533	V1	29.415	RP	221.69	LAP	.14	LOP	53.66	VP	22.073	GAP	2.10	AZP	91.05	TAL	358.55	TAP	170.97	RCA	151.46	APO	222.33	V2	24.801	RC	198.621	GL	11.60	GP	-20.24	ZAL	98.90	ZAP	64.07	ETS	168.88	ZAE	101.49	ETE	184.87	ZAC	82.02	ETC	272.57	LVI	8.05																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	8.776	VHL	2.962	DLA	3.05	RAL	337.47	RAD	6637.4	VEL	11.353	PTH	6.41	VHP	3.218	DPA	-42.49	RAP	302.93	ECC	1.1444	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																									
50.00	13	36	27	3016.93	-31.61	91.67	188.90	127.62	14	26	44	2016.9	-14.79	72.66	60.00	14	12	47	2920.25	-27.64	86.05	191.99	120.58	15	1	27	1920.2	-13.29	65.35	70.00	15	1	25	2777.21	-24.05	76.56	194.09	115.01	15	47	42	1777.2	-11.90	54.77	80.00	16	6	25	2573.64	-21.44	62.33	195.30	111.29	16	49	19	1573.6	-10.86	39.94	90.00	17	26	26	2315.48	-20.46	43.74	195.69	109.96	18	5	1	1315.5	-10.47	21.17	100.00	18	49	17	2048.11	-21.44	23.69	195.30	111.29	19	23	25	1048.1	-10.86	1.31	110.00	20	0	51	1824.03	-24.05	5.48	194.09	115.01	20	31	15	824.0	-11.90	343.69
TDE	.8344	TRA	.7498	TC3	-8.6768	BAU	1.0530	SGT	5580.6	SGR	1681.5	SG3	1194.6	ST	83.9	SR	28.5	SS	74.2	RDE	.2625	RRA	.4386	RC3	-2.2944	FAU	.18762	RRT	.9636	RRF	.9984	RTF	.9621	CRT	.9797	CR8	-.9975	CST	-.9909	FDE	2.5420	FRA	3.5304	FC	-18.5079	BSP	9626	SG8	5828.4	R23	.2456	R13	.9677	LSA	115.3	MSA	8.4	SSA	.6	BDE	.8747	BRA	.8687	BC3	8.9750	FSP	2043	SG1	5812.4	SG2	431.8	THA	16.28	EL1	88.5	EL2	5.4	ALF	18.46																									

LAUNCH DATE MAY 23 1971

FLIGHT TIME 240.00

ARRIVAL DATE JAN 18 1972

HELIOCENTRIC CONIC
 RL 151.47 LAL -.00 LOL 241.23 VL 32.293 GAL -.30 AZL 88.45 HCA 173.52 SMA 187.04 ECC .19027 INC 1.5480 V1 29.415
 RP 222.07 LAP .17 LOP 94.76 VP 22.038 GAP 1.96 AZP 91.54 TAL 358.10 TAP 171.62 RCA 151.45 APO 222.63 V2 24.759
 RC 201.270 GL 16.71 GP -23.08 ZAL 99.46 ZAP 63.66 ETS 167.01 ZAE 100.03 ETE 184.90 ZAC 79.18 ETC 272.60 LVI 10.68

DISTANCE 554.251 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 9.236 VHL 3.039 DLA 8.07 RAL 336.25 RAD 6637.6 VEL 11.373 PTH 6.43 VHP 3.315 DPA -45.25 RAP 303.87 ECC 1.1520
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 13 2 3127.02 -35.98 98.54 190.36 123.53 14 5 9 2127.0 -20.09 77.77
 60.00 13 43 55 3044.83 -31.69 94.12 193.33 116.33 14 34 40 2044.8 -18.46 71.83
 70.00 14 26 25 2919.78 -27.83 85.91 195.27 110.65 15 15 5 1919.8 -16.93 62.75
 80.00 15 25 47 2733.84 -25.02 72.80 196.33 106.85 16 11 21 1733.8 -15.80 49.27
 90.00 16 43 18 2483.67 -23.96 54.82 196.67 105.48 17 24 42 1483.7 -15.37 31.09
 100.00 18 8 39 2208.31 -25.02 34.24 196.33 106.85 18 45 27 1208.3 -15.80 10.64
 110.00 19 25 52 1966.60 -27.83 14.83 195.27 110.65 19 58 38 966.6 -16.93 351.67

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.1023 TRA .7523 TC3-8.4619 BAU 1.0885 SGT 5719.8 SGR 1903.3 SG3 1113.7 ST 106.3 SR 38.2 SS 81.1
 RDE .3768 RRA .4870 RC3-2.4721 FAU .17432 RRT .9648 RRF .9990 RTF .9614 CRT .9848 CRS -.9994 CST -.9902
 FDE 2.8296 FRA 3.2815 FC-16.3404 B8P 9994 SGB 6028.1 R23 .2466 R13 .9681 LSA 138.7 MSA 10.1 SSA .4
 BDE 1.1649 BRA .8795 BC3 8.6156 F8P 1908 SG1 6009.0 SG2 479.8 THA 17.91 EL1 112.8 EL2 6.3 ALF 19.56

LAUNCH DATE MAY 23 1971

FLIGHT TIME 242.00

ARRIVAL DATE JAN 20 1972

HELIOCENTRIC CONIC
 RL 151.47 LAL -.00 LOL 241.23 VL 32.302 GAL -.38 AZL 87.76 HCA 174.62 SMA 187.19 ECC .19095 INC 2.2387 V1 29.415
 RP 222.46 LAP .21 LOP 55.86 VP 22.004 GAP 1.82 AZP 92.23 TAL 357.64 TAP 172.26 RCA 151.45 APO 222.94 V2 24.717
 RC 203.922 GL 23.43 GP -26.82 ZAL 99.82 ZAP 63.68 ETS 164.69 ZAE 98.60 ETE 184.98 ZAC 75.44 ETC 272.65 LVI 14.12

DISTANCE 558.382 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 10.086 VHL 3.176 DLA 14.58 RAL 334.34 RAD 6638.1 VEL 11.410 PTH 6.46 VHP 3.458 DPA -48.86 RAP 305.37 ECC 1.1680
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 12 40 16 3278.09 -41.07 109.16 193.38 116.51 13 34 52 2276.1 -26.95 85.31
 60.00 13 3 28 3214.34 -36.17 106.24 196.03 109.14 13 57 2 2214.3 -25.02 81.35
 70.00 13 37 1 3115.58 -31.74 99.79 197.58 103.32 14 28 57 2115.6 -23.21 74.46
 80.00 14 27 46 2956.57 -28.48 88.49 198.33 99.36 15 17 2 1956.6 -21.83 63.05
 90.00 15 41 21 2719.08 -27.24 71.25 198.55 97.91 16 26 40 1719.1 -21.29 45.81
 100.00 17 10 38 2431.04 -28.48 49.86 198.33 99.36 17 51 9 1431.0 -21.83 24.42
 110.00 18 36 27 2162.39 -31.74 28.71 197.58 103.32 19 12 30 1162.4 -23.21 3.38

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.4805 TRA .6734 TC3-7.9765 BAU 1.1323 SGT 5863.3 SGR 2191.8 SG3 1007.1 ST 135.1 SR 52.6 SS 88.5
 RDE .5582 RRA .5395 RC3-2.6243 FAU .15790 RRT .9647 RRF .9993 RTF .9601 CRT .9886 CRS -.9999 CST -.9904
 FDE 3.1532 FRA 2.9090 FC-13.5536 B8P 10383 SGB 6259.6 R23 .2473 R13 .9684 LSA 169.4 MSA 11.6 SSA .2
 BDE 1.5822 BRA .8629 BC3 8.3971 F8P 1734 SG1 6236.0 SG2 542.9 THA 19.99 EL1 144.8 EL2 7.4 ALF 21.12

LAUNCH DATE MAY 23 1971

FLIGHT TIME 244.00

ARRIVAL DATE JAN 22 1972

HELIOCENTRIC CONIC
 RL 151.47 LAL -.00 LOL 241.23 VL 32.311 GAL -.45 AZL 86.72 HCA 175.71 SMA 187.34 ECC .19166 INC 3.2755 V1 29.415
 RP 222.84 LAP .25 LOP 56.95 VP 21.970 GAP 1.68 AZP 93.27 TAL 357.18 TAP 172.89 RCA 151.44 APO 223.25 V2 24.675
 RC 206.978 GL 32.47 GP -31.92 ZAL 99.77 ZAP 64.43 ETS 161.79 ZAE 97.20 ETE 185.14 ZAC 70.33 ETC 272.79 LVI 18.74

DISTANCE 562.507 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 11.840 VHL 3.441 DLA 23.17 RAL 331.26 RAD 6639.0 VEL 11.486 PTH 6.53 VHP 3.694 DPA -53.70 RAP 307.94 ECC 1.1949
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 11 30 58 3489.31 -46.09 127.13 199.90 103.43 12 49 7 2489.3 -35.79 97.94
 60.00 12 1 30 3461.27 -39.90 126.07 201.36 96.19 12 59 11 2461.3 -33.12 97.21
 70.00 12 18 36 3410.87 -34.15 122.40 201.76 90.22 13 15 27 2410.9 -30.50 94.28
 80.00 12 30 36 3310.48 -29.58 114.60 201.57 85.77 13 45 47 2310.5 -28.33 87.25
 90.00 13 54 6 3105.48 -27.68 99.35 201.38 83.96 14 45 51 2105.5 -27.41 72.35
 100.00 15 33 28 2784.95 -29.58 75.97 201.57 85.77 16 19 53 1785.0 -28.33 48.62
 110.00 17 18 2 2457.69 -34.15 51.31 201.76 90.22 17 59 0 1457.7 -30.50 23.20

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 2.0487 TRA .5412 TC3-7.0384 BAU 1.1916 SGT 6004.9 SGR 2566.7 SG3 856.5 ST 171.4 SR 74.0 SS 94.0
 RDE .8673 RRA .5855 RC3-2.6705 FAU .13622 RRT .9646 RRF .9994 RTF .9676 CRT .9915 CRS -1.0000 CST -.9911
 FDE 3.4925 FRA 2.3588 FC3-9.9807 B8P 10709 SGB 6530.5 R23 .2486 R13 .9683 LSA 205.6 MSA 13.1 SSA .1
 BDE 2.2247 BRA .7974 BC3 7.5280 F8P 1468 SG1 6500.5 SG2 624.9 THA 22.63 EL1 186.4 EL2 8.9 ALF 23.23

LAUNCH DATE MAY 23 1971

FLIGHT TIME 246.00

ARRIVAL DATE JAN 24 1972

HELIOCENTRIC CONIC
 RL 151.47 LAL -.00 LOL 241.23 VL 32.320 GAL -.53 AZL 84.99 HCA 176.79 SMA 187.50 ECC .19238 INC 5.0056 V1 29.415
 RP 223.23 LAP .28 LOP 58.04 VP 21.937 GAP 1.54 AZP 95.00 TAL 356.72 TAP 173.52 RCA 151.43 APO 223.57 V2 24.633
 RC 209.236 GL 44.71 GP -39.04 ZAL 98.98 ZAP 66.44 ETS 158.37 ZAE 95.92 ETE 185.53 ZAC 63.18 ETC 273.09 LVI 25.10

DISTANCE 566.622 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 16.100 VHL 4.012 DLA 34.55 RAL 326.01 RAD 6641.0 VEL 11.668 PTH 6.70 VHP 4.141 DPA -60.30 RAP 312.99 ECC 1.2650
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 10 26 18 3920.83 -46.64 158.68 211.61 79.28 11 29 59 2820.8 -45.47 123.63
 60.00 10 4 54 3878.03 -37.14 160.67 208.47 73.08 11 9 32 2878.0 -40.18 129.97
 69.27 8 30 23 4159.54 -21.50 175.86 201.14 62.28 9 39 43 3159.5 -31.00 151.23
 69.27 8 30 23 4159.54 -21.50 175.86 201.14 62.28 9 39 43 3159.5 -31.00 151.23
 69.27 8 30 23 4159.54 -21.50 175.86 201.14 62.28 9 39 43 3159.5 -31.00 151.23
 69.27 8 30 23 4159.54 -21.50 175.86 201.14 62.28 9 39 43 3159.5 -31.00 151.23
 69.27 8 30 23 4159.54 -21.50 175.86 201.14 62.28 9 39 43 3159.5 -31.00 151.23

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 2.9684 TRA .2310 TC3-5.5110 BAU 1.3009 SGT 6138.9 SGR 3052.3 SG3 637.6 ST 212.1 SR 105.4 SS 92.3
 RDE 1.4611 RRA .5761 RC3-2.4815 FAU .10697 RRT .9634 RRF .9990 RTF .9511 CRT .9935 CRS -.9999 CST -.9918
 FDE 3.5688 FRA 1.5460 FC3-5.7522 B8P 10544 SGB 6855.8 R23 .2580 R13 .9660 LSA 253.8 MSA 14.1 SSA .1
 BDE 3.3085 BRA .6207 BC3 6.0439 F8P 1059 SG1 6816.1 SG2 737.4 THA 25.92 EL1 236.6 EL2 10.8 ALF 26.34

LAUNCH DATE MAY 23 1971

FLIGHT TIME 248.00

ARRIVAL DATE JAN 26 1972

HELIOCENTRIC CONIC
 RL 151.47 LAL -.00 LOL 241.23 VL 32.329 GAL -.60 AZL 81.51 HCA 177.87 SMA 187.66 ECC .19312 INC 8.4791 V1 29.415
 RP 223.62 LAP .31 LOP 59.13 VP 21.903 GAP 1.40 AZP 98.48 TAL 356.27 TAP 174.14 RCA 151.42 APO 223.90 V2 24.992
 RC 211.898 GL 60.98 GP -48.98 ZAL 97.04 ZAP 70.71 ETS 155.26 ZAE 95.07 ETE 186.75 ZAC 53.18 ETC 273.93 LVI 33.65

PLANETOCENTRIC CONIC
 C3 29.761 VHL 5.455 DLA 49.04 RAL 315.85 RAD 6646.9 VEL 12.235 PTH 7.18 VHP 5.191 DPA -68.78 RAP 325.60 ECC 1.4898
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 48.11 6 16 0 4568.95 -22.31 211.70 205.01 45.12 7 32 9 3568.9 -38.31 190.92
 48.11 6 16 0 4568.95 -22.31 211.70 205.01 45.12 7 32 9 3568.9 -38.31 190.92
 48.11 6 16 0 4568.95 -22.31 211.70 205.01 45.12 7 32 9 3568.9 -38.31 190.92
 48.11 6 16 0 4568.95 -22.31 211.70 205.01 45.12 7 32 9 3568.9 -38.31 190.92
 48.11 6 16 0 4568.95 -22.31 211.70 205.01 45.12 7 32 9 3568.9 -38.31 190.92
 48.11 6 16 0 4568.95 -22.31 211.70 205.01 45.12 7 32 9 3568.9 -38.31 190.92

DIFFERENTIAL CORRECTIONS
 TDE 4.7496 TRA -4.600 TC3-3.3188 BAU 1.5149 SGT 6207.9 SGR 3683.0 SG3 335.2 ST 249.7 SR 151.3 SS 71.7
 RDE 2.8766 RRA .3363 RC3-1.8663 FAU .06402 RRT .9643 RRF .9961 RTF .9374 CRT .9952 CRS -.9995 CST -.9918
 FDE 3.0309 FRA .3561 FC3-1.8622 BSP 9823 SGB 7218.2 R23 .2829 R13 .9591 LSA 300.3 MSA 14.5 SSA .0
 BDE 5.5528 BRA .5698 BC3 3.8073 FSP 526 SG1 7168.6 SG2 844.7 THA 30.24 EL1 291.7 EL2 12.6 ALF 31.16

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 23 1971

FLIGHT TIME 258.00

ARRIVAL DATE FEB 5 1972

HELIOCENTRIC CONIC
 RL 151.47 LAL -.00 LOL 241.23 VL 32.377 GAL -1.03 AZL 98.44 HCA 183.30 SMA 188.48 ECC .19716 INC 8.4370 V1 29.415
 RP 225.57 LAP .48 LOP 64.50 VP 21.739 GAP .72 AZP 81.58 TAL 353.77 TAP 177.07 RCA 151.32 APO 225.64 V2 24.382
 RC 225.217 GL -59.83 GP 36.94 ZAL 99.51 ZAP 61.59 ETS 203.18 ZAE 92.04 ETE 179.15 ZAC 138.92 ETC 274.92 LVI -45.21

PLANETOCENTRIC CONIC
 C3 30.190 VHL 5.495 DLA -55.73 RAL 28.34 RAD 6647.1 VEL 12.252 PTH 7.20 VHP 4.181 DPA 14.08 RAP 293.66 ECC 1.4968
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 39.74 22 37 46 1985.77 24.34 51.75 280.38 141.83 23 10 51 985.8 42.55 32.25
 39.74 22 37 46 1985.77 24.34 51.75 280.38 141.83 23 10 51 985.8 42.55 32.25
 39.74 22 37 46 1985.77 24.34 51.75 280.38 141.83 23 10 51 985.8 42.55 32.25
 39.74 22 37 46 1985.77 24.34 51.75 280.38 141.83 23 10 51 985.8 42.55 32.25
 39.74 22 37 46 1985.77 24.34 51.75 280.38 141.83 23 10 51 985.8 42.55 32.25
 39.74 22 37 46 1985.77 24.34 51.75 280.38 141.83 23 10 51 985.8 42.55 32.25

DIFFERENTIAL CORRECTIONS
 TDE -.9575 TRA 3.0135 TC3-3.4651 BAU 1.5018 SGT 6829.8 SGR 3012.7 SG3 603.3 ST 97.6 SR 41.3 SS 38.9
 RDE -.2521 RRA-1.4066 RC3 1.3560 FAU .10839 RRT -.9696 RRF -.9964 RTF .9467 CRT -.6519 CRS .9657 CST -.4326
 FDE 1.1439 FRA 3.2247 FC3-3.1081 BSP 12309 SGB 7464.8 R23 .2836 R13 -.9586 LSA 103.8 MSA 44.4 SSA .1
 BDE .9901 BRA 3.3256 BC3 3.7210 FSP 1068 SG1 7434.0 SG2 676.8 THA 156.64 EL1 101.7 EL2 30.1 ALF 163.06

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 23 1971

FLIGHT TIME 260.00

ARRIVAL DATE FEB 7 1972

HELIOCENTRIC CONIC
 RL 151.47 LAL -.00 LOL 241.23 VL 32.387 GAL -1.11 AZL 96.82 HCA 184.36 SMA 188.65 ECC .19801 INC 8.8191 V1 29.415
 RP 225.96 LAP .52 LOP 65.56 VP 21.707 GAP .58 AZP 83.20 TAL 353.29 TAP 177.64 RCA 151.30 APO 226.01 V2 24.340
 RC 227.883 GL -52.98 GP 29.82 ZAL 101.43 ZAP 57.70 ETS 200.47 ZAE 90.51 ETE 180.31 ZAC 131.85 ETC 274.17 LVI -38.78

PLANETOCENTRIC CONIC
 C3 23.192 VHL 4.816 DLA -50.55 RAL 20.84 RAD 6644.2 VEL 11.966 PTH 6.96 VHP 3.822 DPA 7.01 RAP 294.60 ECC 1.3817
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 46.18 22 26 52 1878.39 25.83 41.90 267.34 135.10 22 58 10 878.4 41.63 19.63
 46.18 22 26 52 1878.39 25.83 41.90 267.34 135.10 22 58 10 878.4 41.63 19.63
 46.18 22 26 52 1878.39 25.83 41.90 267.34 135.10 22 58 10 878.4 41.63 19.63
 46.18 22 26 52 1878.39 25.83 41.90 267.34 135.10 22 58 10 878.4 41.63 19.63
 46.18 22 26 52 1878.39 25.83 41.90 267.34 135.10 22 58 10 878.4 41.63 19.63
 46.18 22 26 52 1878.39 25.83 41.90 267.34 135.10 22 58 10 878.4 41.63 19.63

DIFFERENTIAL CORRECTIONS
 TDE-1.0836 TRA 2.9071 TC3-4.4203 BAU 1.4324 SGT 7030.1 SGR 2485.7 SG3 760.4 ST 104.2 SR 32.1 SS 40.1
 RDE -.0588 RRA-1.1331 RC3 1.3426 FAU .12657 RRT -.9708 RRF -.9971 RTF .5518 CRT -.7136 CRS .9612 CST -.4927
 FDE .7736 FRA 3.9929 FC3-4.7248 BSP 12735 SGB 7456.6 R23 .2796 R13 -.9594 LSA 109.2 MSA 39.8 SSA .1
 BDE 1.0852 BRA 3.1201 BC3 4.6199 FSP 1395 SG1 7433.3 SG2 563.4 THA 160.94 EL1 106.8 EL2 21.9 ALF 167.06

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 23 1971

FLIGHT TIME 262.00

ARRIVAL DATE FEB 9 1972

HELIOCENTRIC CONIC
 RL 151.47 LAL -.00 LOL 241.23 VL 32.397 GAL -1.19 AZL 95.84 HCA 185.41 SMA 188.82 ECC .19888 INC 5.8345 V1 29.415
 RP 226.35 LAP .55 LOP 66.62 VP 21.675 GAP .44 AZP 84.19 TAL 352.80 TAP 178.21 RCA 151.27 APO 226.38 V2 24.299
 RC 230.548 GL -47.84 GP 24.73 ZAL 103.04 ZAP 55.00 ETS 198.07 ZAE 89.14 ETE 180.95 ZAC 126.79 ETC 273.84 LVI -34.19

PLANETOCENTRIC CONIC
 C3 19.737 VHL 4.443 DLA -46.25 RAL 16.58 RAD 6642.7 VEL 11.822 PTH 6.84 VHP 3.653 DPA 1.99 RAP 295.42 ECC 1.3248
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 13 37 1983.09 18.28 44.19 251.71 134.73 21 46 40 983.1 34.52 24.08
 51.74 22 28 42 1793.53 25.77 33.49 259.04 129.84 22 58 36 793.5 39.63 9.83
 51.74 22 28 42 1793.53 25.77 33.49 259.04 129.84 22 58 36 793.5 39.63 9.83
 51.74 22 28 42 1793.53 25.77 33.49 259.04 129.84 22 58 36 793.5 39.63 9.83
 51.74 22 28 42 1793.53 25.77 33.49 259.04 129.84 22 58 36 793.5 39.63 9.83
 51.74 22 28 42 1793.53 25.77 33.49 259.04 129.84 22 58 36 793.5 39.63 9.83

DIFFERENTIAL CORRECTIONS
 TDE-1.0540 TRA 2.8418 TC3-5.2347 BAU 1.4210 SGT 7181.6 SGR 2089.2 SG3 850.2 ST 104.8 SR 26.4 SS 41.0
 RDE -.0044 RRA -.9401 RC3 1.2785 FAU .13718 RRT -.9710 RRF -.9968 RTF .9529 CRT -.7541 CRS .9536 CST -.5214
 FDE .6281 FRA 4.4081 FC3-6.0173 BSP 12682 SGB 7479.3 R23 .2818 R13 -.9582 LSA 109.3 MSA 37.6 SSA .1
 BDE 1.0540 BRA 2.9933 BC3 5.3886 FSP 1558 SG1 7463.9 SG2 480.2 THA 164.16 EL1 106.7 EL2 17.0 ALF 168.98

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 23 1971

FLIGHT TIME 264.00

ARRIVAL DATE FEB 11 1972

Heliocentric Conic: RL 131.47 LAL -.00 LOL 241.23 VL 32.406 GAL -1.28 AZL 95.17 HCA 106.47 SMA 100.00 ECC .19977 INC 5.1744 V1 29.415
 RP 226.74 LAP .58 LOP 87.68 VP 21.643 GAP .30 AZP 84.86 TAL 352.31 TAP 178.78 RCA 151.24 APO 226.75 V2 24.257
 RC 233.212 GL -43.86 GP 21.00 ZAL 104.43 ZAP 53.00 ETS 196.08 ZAE 87.86 ETE 181.35 ZAC 123.06 ETC 273.67 LVI -30.83

Planetocentric Conic: C3 17.782 VHL 4.217 DLA -42.71 RAL 13.97 RAD 6641.8 VEL 11.739 PTH 6.77 VHP 3.567 DPA -1.68 RAP 296.13 ECC 1.2026
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 2 42 2125.51 11.34 50.61 240.94 136.52 20 38 7 1125.5 28.61 32.52
 56.55 22 36 51 1720.21 25.08 26.22 253.50 125.79 23 5 31 720.2 37.44 1.89
 56.55 22 36 51 1720.21 25.08 26.22 253.50 125.79 23 5 31 720.2 37.44 1.89
 56.55 22 36 51 1720.21 25.08 26.22 253.50 125.79 23 5 31 720.2 37.44 1.89
 56.55 22 36 51 1720.21 25.08 26.22 253.50 125.79 23 5 31 720.2 37.44 1.89
 56.55 22 36 51 1720.21 25.08 26.22 253.50 125.79 23 5 31 720.2 37.44 1.89

Differential Corrections: TDE -.9536 TRA 2.8425 TC3-5.8306 BAU 1.4165 MID-COURSE EXECUTION ACCURACY: SGT 7318.8 SGR 1791.4 SG3 899.6 ORBIT DETERMINATION ACCURACY: ST 102.3 SR 22.4 SS 41.8
 RDE .0094 RRA -.8045 RC3 1.1832 FAU .14235 RRT -.9726 RRF -.9962 RTF .9552 CRT -.7916 CRS .9424 CST -.5417
 FDE .6129 FRA 4.6377 FC3-6.9306 B8P 12958 SGB 7534.8 R23 .2765 R13 -.9588 LSA 106.8 MSA 36.2 SSA .2
 BDE .9536 BRA 2.9542 BC3 5.9583 F8P 1645 SGI 7523.9 SG2 405.4 THA 166.57 EL1 103.9 EL2 13.5 ALF 170.01

LAUNCH DATE MAY 23 1971

FLIGHT TIME 266.00

ARRIVAL DATE FEB 13 1972

Heliocentric Conic: RL 151.47 LAL -.00 LOL 241.23 VL 32.417 GAL -1.36 AZL 94.70 HCA 187.52 SMA 109.17 ECC .20067 INC 4.6981 V1 29.415
 RP 227.13 LAP .61 LOP 68.73 VP 21.612 GAP .17 AZP 85.34 TAL 351.82 TAP 179.34 RCA 151.21 APO 227.13 V2 24.215
 RC 235.874 GL -40.69 GP 18.17 ZAL 105.67 ZAP 51.42 ETS 194.46 ZAE 86.67 ETE 181.60 ZAC 120.23 ETC 273.60 LVI -28.31

Planetocentric Conic: C3 16.583 VHL 4.072 DLA -39.76 RAL 12.30 RAD 6641.3 VEL 11.689 PTH 6.72 VHP 3.524 DPA -4.44 RAP 296.78 ECC 1.2729
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 24 0 2208.14 7.24 54.16 235.14 137.15 20 0 48 1208.1 24.93 36.94
 60.00 22 0 35 1788.71 19.58 27.85 246.33 125.96 22 30 24 788.7 32.52 5.17
 60.80 22 48 45 1652.76 24.15 19.70 249.68 122.60 23 16 17 652.8 35.35 355.07
 60.80 22 48 45 1652.76 24.15 19.70 249.68 122.60 23 16 17 652.8 35.35 355.07
 60.80 22 48 45 1652.76 24.15 19.70 249.68 122.60 23 16 17 652.8 35.35 355.07
 60.80 22 48 45 1652.76 24.15 19.70 249.68 122.60 23 16 17 652.8 35.35 355.07
 60.80 22 48 45 1652.76 24.15 19.70 249.68 122.60 23 16 17 652.8 35.35 355.07

Differential Corrections: TDE -.8794 TRA 2.8357 TC3-6.3959 BAU 1.4386 MID-COURSE EXECUTION ACCURACY: SGT 7456.8 SGR 1562.7 SG3 925.3 ORBIT DETERMINATION ACCURACY: ST 99.7 SR 19.3 SS 41.8
 RDE .0190 RRA -.7008 RC3 1.0955 FAU .14612 RRT -.9730 RRF -.9950 RTF .9550 CRT -.8251 CRS .9242 CST -.5470
 FDE .6203 FRA 4.7424 FC3-7.6281 B8P 12807 SGB 7618.8 R23 .2727 R13 -.9585 LSA 104.1 MSA 35.3 SSA .2
 BDE .8796 BRA 2.9210 BC3 6.4891 F8P 1651 SGI 7610.6 SG2 353.4 THA 168.45 EL1 101.0 EL2 10.8 ALF 170.81

LAUNCH DATE MAY 23 1971

FLIGHT TIME 268.00

ARRIVAL DATE FEB 15 1972

Heliocentric Conic: RL 151.47 LAL -.00 LOL 241.23 VL 32.427 GAL -1.45 AZL 94.34 HCA 188.57 SMA 109.35 ECC .20159 INC 4.3412 V1 29.415
 RP 227.52 LAP .65 LOP 69.78 VP 21.581 GAP .03 AZP 85.71 TAL 351.33 TAP 179.89 RCA 151.18 APO 227.52 V2 24.174
 RC 238.532 GL -38.10 GP 15.97 ZAL 106.81 ZAP 50.11 ETS 193.14 ZAE 85.92 ETE 181.78 ZAC 118.02 ETC 273.58 LVI -26.37

Planetocentric Conic: C3 15.811 VHL 3.978 DLA -37.26 RAL 11.23 RAD 6640.9 VEL 11.656 PTH 6.69 VHP 3.504 DPA -6.57 RAP 297.39 ECC 1.2602
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 57 56 2289.94 4.14 56.77 231.47 137.44 19 35 46 1269.9 22.08 40.06
 60.00 20 56 10 1954.70 12.72 36.52 239.54 128.57 21 28 45 954.7 27.17 15.97
 64.66 23 3 17 1587.59 23.15 13.65 247.00 120.05 23 29 45 587.6 33.43 348.90
 64.66 23 3 17 1587.59 23.15 13.65 247.00 120.05 23 29 45 587.6 33.43 348.90
 64.66 23 3 17 1587.59 23.15 13.65 247.00 120.05 23 29 45 587.6 33.43 348.90
 64.66 23 3 17 1587.59 23.15 13.65 247.00 120.05 23 29 45 587.6 33.43 348.90
 64.66 23 3 17 1587.59 23.15 13.65 247.00 120.05 23 29 45 587.6 33.43 348.90

Differential Corrections: TDE -.7653 TRA 2.8919 TC3-6.7550 BAU 1.4432 MID-COURSE EXECUTION ACCURACY: SGT 7582.3 SGR 1386.2 SG3 938.6 ORBIT DETERMINATION ACCURACY: ST 96.3 SR 17.2 SS 43.0
 RDE .0170 RRA -.6308 RC3 .9874 FAU .14481 RRT -.9728 RRF -.9934 RTF .9550 CRT -.8580 CRS .9028 CST -.5541
 FDE .7184 FRA 4.8526 FC3-7.9291 B8P 13236 SGB 7708.0 R23 .2675 R13 -.9578 LSA 100.8 MSA 35.3 SSA .3
 BDE .7655 BRA 2.9599 BC3 6.8276 F8P 1704 SGI 7701.5 SG2 315.9 THA 169.90 EL1 97.4 EL2 8.7 ALF 171.21

LAUNCH DATE MAY 23 1971

FLIGHT TIME 270.00

ARRIVAL DATE FEB 17 1972

Heliocentric Conic: RL 151.47 LAL -.00 LOL 241.23 VL 32.437 GAL -1.34 AZL 94.06 HCA 189.61 SMA 109.53 ECC .20253 INC 4.0611 V1 29.415
 RP 227.91 LAP .68 LOP 70.82 VP 21.550 GAP -.11 AZP 86.00 TAL 350.83 TAP 180.44 RCA 151.14 APO 227.91 V2 24.133
 RC 241.186 GL -35.93 GP 14.21 ZAL 107.87 ZAP 48.97 ETS 192.05 ZAE 84.42 ETE 181.90 ZAC 116.25 ETC 273.58 LVI -24.86

Planetocentric Conic: C3 13.302 VHL 3.912 DLA -35.10 RAL 10.54 RAD 6640.7 VEL 11.634 PTH 6.67 VHP 3.498 DPA -8.25 RAP 297.96 ECC 1.2518
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 38 56 2320.28 1.62 58.88 229.03 137.56 19 17 37 1320.3 19.71 42.49
 60.00 20 22 22 2044.80 8.86 40.99 235.92 129.48 20 56 27 1044.8 23.90 21.34
 68.28 23 20 11 1521.75 22.17 7.78 245.09 117.94 23 45 33 521.8 31.69 343.00
 68.28 23 20 11 1521.75 22.17 7.78 245.09 117.94 23 45 33 521.8 31.69 343.00
 68.28 23 20 11 1521.75 22.17 7.78 245.09 117.94 23 45 33 521.8 31.69 343.00
 68.28 23 20 11 1521.75 22.17 7.78 245.09 117.94 23 45 33 521.8 31.69 343.00
 68.28 23 20 11 1521.75 22.17 7.78 245.09 117.94 23 45 33 521.8 31.69 343.00

Differential Corrections: TDE -.6825 TRA 2.9322 TC3-7.1028 BAU 1.4646 MID-COURSE EXECUTION ACCURACY: SGT 7709.6 SGR 1242.7 SG3 940.8 ORBIT DETERMINATION ACCURACY: ST 93.6 SR 15.5 SS 43.4
 RDE .0205 RRA -.5719 RC3 .8993 FAU .14415 RRT -.9723 RRF -.9912 RTF .9557 CRT -.8928 CRS .8729 CST -.5603
 FDE .7861 FRA 4.8862 FC3-8.1559 B8P 13329 SGB 7809.1 R23 .2594 R13 -.9572 LSA 98.3 MSA 35.0 SSA .3
 BDE .6828 BRA 2.9875 BC3 7.1595 F8P 1697 SGI 7803.8 SG2 287.2 THA 171.08 EL1 94.7 EL2 6.9 ALF 171.57

LAUNCH DATE MAY 23 1971 FLIGHT TIME 272.00 ARRIVAL DATE FEB 10 1972

HELIOCENTRIC CONIC DISTANCE 619.834 EARTH TO MARS

RL 151.47 LAL -.00 LOL 241.23 VL 32.447 GAL -1.63 AZL 93.84 HCA 190.65 SMA 189.71 ECC .20348 INC 3.8367 V1 29.415
 RP 228.30 LAP .71 LOP 71.87 VP 21.519 GAP -.25 AZP 86.23 TAL 350.33 TAP 180.99 RCA 151.10 APO 228.31 V2 24.092
 RC 243.834 GL -34.13 GP 12.78 ZAL 108.87 ZAP 47.96 ETS 191.13 ZAE 83.36 ETE 181.98 ZAC 114.80 ETC 273.61 LVI -23.85

PLANETOCENTRIC CONIC

C3 14.966 VHL 3.869 DLA -33.22 RAL 10.11 RAD 8640.5 VEL 11.620 PTH 6.66 VHP 3.500 DPA -9.60 RAP 298.51 ECC 1.2483

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	18 24 26	2363.17	-.54	60.67	227.36	137.57	19 3 49	1363.2	17.66	44.51
60.00	19 59 0	2111.43	5.96	44.23	233.58	129.93	20 34 12	1111.4	21.34	25.13
70.00	22 28 10	1671.69	15.65	15.66	240.56	120.75	22 56 1	671.7	26.91	352.88
71.80	23 39 40	1452.25	21.22	1.83	243.74	116.18	24 3 52	452.3	30.12	337.08
71.80	23 39 40	1452.25	21.22	1.83	243.74	116.18	24 3 52	452.3	30.12	337.08
71.80	23 39 40	1452.25	21.22	1.83	243.74	116.18	24 3 52	452.3	30.12	337.08
110.00	3 31 32	8006.54	15.65	282.48	240.56	120.75	5 11 38	5006.5	26.91	259.70

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.5951 TRA 2.9950 TC3-7.3675 BAU 1.4831 SGT 7834.7 SGR 1127.5 SG3 938.5 ST 91.3 SR 14.1 SS 44.2
 RDE .0230 RRA -.5275 RC3 .8154 FAU .14214 RRT -.9710 RRF -.9882 RTF .9554 CRT -.9270 CRS .8373 CST -.5722
 FDE .8709 FRA 4.9198 FC3-8.2224 BSP 13551 SGB 7915.4 R23 .2487 R13 -.9566 LSA 96.3 MSA 34.9 SSA .4
 BDE .5955 BRA 3.0411 BC3 7.4124 F8P 1693 SGI 7910.9 SG2 266.9 THA 172.04 EL1 92.3 EL2 5.3 ALF 171.80

LAUNCH DATE MAY 23 1971 FLIGHT TIME 274.00 ARRIVAL DATE FEB 21 1972

HELIOCENTRIC CONIC DISTANCE 623.884 EARTH TO MARS

RL 151.47 LAL -.00 LOL 241.23 VL 32.457 GAL -1.72 AZL 93.65 HCA 191.69 SMA 189.89 ECC .20445 INC 3.6524 V1 29.415
 RP 228.69 LAP .74 LOP 72.90 VP 21.488 GAP -.39 AZP 86.42 TAL 349.83 TAP 181.53 RCA 151.06 APO 228.71 V2 24.051
 RC 246.477 GL -32.56 GP 11.60 ZAL 109.83 ZAP 47.04 ETS 190.36 ZAE 82.33 ETE 182.05 ZAC 113.60 ETC 273.66 LVI -22.67

PLANETOCENTRIC CONIC

C3 14.750 VHL 3.841 DLA -31.54 RAL 9.88 RAD 8640.4 VEL 11.611 PTH 6.65 VHP 3.509 DPA -10.71 RAP 299.04 ECC 1.2428

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	18 13 0	2400.80	-2.43	62.24	226.23	137.53	18 53 1	1400.8	15.84	46.24
60.00	19 41 26	2165.50	3.59	46.83	232.00	130.17	20 17 31	1165.5	19.20	28.09
70.00	21 47 11	1795.33	11.23	22.51	237.66	122.47	22 17 6	795.3	23.52	.88
75.41	0 6 29	1374.95	20.31	355.46	242.78	114.67	0 29 24	374.9	28.68	330.75
75.41	0 6 29	1374.95	20.31	355.46	242.78	114.67	0 29 24	374.9	28.68	330.75
75.41	0 6 29	1374.95	20.31	355.46	242.78	114.67	0 29 24	374.9	28.68	330.75
110.00	2 50 33	6130.20	11.23	289.33	237.66	122.47	4 32 44	5130.2	23.52	267.70

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.5135 TRA 3.0635 TC3-7.5856 BAU 1.5029 SGT 7955.8 SGR 1031.6 SG3 931.3 ST 89.5 SR 13.1 SS 44.8
 RDE .0289 RRA -.4913 RC3 .7397 FAU .13986 RRT -.9691 RRF -.9844 RTF .9550 CRT -.9579 CRS .7940 CST -.5878
 FDE .9501 FRA 4.9315 FC3-8.1973 BSP 13773 SGB 8022.4 R23 .2349 R13 -.9560 LSA 94.9 MSA 34.6 SSA .4
 BDE .5142 BRA 3.1026 BC3 7.6216 F8P 1693 SGI 8018.4 SG2 252.4 THA 172.83 EL1 90.4 EL2 3.7 ALF 172.02

LAUNCH DATE MAY 23 1971 FLIGHT TIME 276.00 ARRIVAL DATE FEB 23 1972

HELIOCENTRIC CONIC DISTANCE 627.929 EARTH TO MARS

RL 151.47 LAL -.00 LOL 241.23 VL 32.467 GAL -1.81 AZL 93.50 HCA 192.73 SMA 190.07 ECC .20543 INC 3.4981 V1 29.415
 RP 229.07 LAP .77 LOP 73.94 VP 21.458 GAP -.53 AZP 86.59 TAL 349.33 TAP 182.06 RCA 151.02 APO 229.11 V2 24.010
 RC 249.113 GL -31.19 GP 10.60 ZAL 110.75 ZAP 46.19 ETS 189.70 ZAE 81.32 ETE 182.09 ZAC 112.58 ETC 273.72 LVI -21.80

PLANETOCENTRIC CONIC

C3 14.622 VHL 3.824 DLA -30.04 RAL 9.79 RAD 8640.3 VEL 11.605 PTH 6.65 VHP 3.522 DPA -11.62 RAP 299.57 ECC 1.2406

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	18 3 47	8434.53	-4.12	63.65	225.47	137.44	18 44 22	1434.5	14.20	47.78
60.00	19 27 35	2211.56	1.57	49.04	230.93	130.28	20 4 27	1211.6	17.33	30.55
70.00	21 21 36	1876.18	8.24	26.86	235.93	123.26	21 52 52	876.2	21.06	5.86
79.42	0 35 5	1281.32	19.45	348.03	242.13	113.36	0 56 27	281.3	27.37	323.37
79.42	0 35 5	1281.32	19.45	348.03	242.13	113.36	0 56 27	281.3	27.37	323.37
79.42	0 35 5	1281.32	19.45	348.03	242.13	113.36	0 56 27	281.3	27.37	323.37
110.00	2 24 58	6211.04	8.24	293.69	235.93	123.26	4 8 29	5211.0	21.06	272.69

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.4380 TRA 3.1375 TC3-7.7715 BAU 1.5248 SGT 8077.5 SGR 951.9 SG3 921.8 ST 88.3 SR 12.3 SS 45.8
 RDE .0317 RRA -.4620 RC3 .6724 FAU .13701 RRT -.9663 RRF -.9798 RTF .9545 CRT -.9819 CRS .7430 CST -.6082
 FDE 1.0234 FRA 4.9358 FC3-8.1121 BSP 13986 SGB 8133.4 R23 .2192 R13 -.9553 LSA 94.0 MSA 34.3 SSA .4
 BDE .4392 BRA 3.1713 BC3 7.8006 F8P 1668 SGI 8129.8 SG2 243.4 THA 173.50 EL1 89.1 EL2 2.3 ALF 172.23

LAUNCH DATE MAY 23 1971 FLIGHT TIME 278.00 ARRIVAL DATE FEB 25 1972

HELIOCENTRIC CONIC DISTANCE 631.969 EARTH TO MARS

RL 151.47 LAL -.00 LOL 241.23 VL 32.478 GAL -1.90 AZL 93.37 HCA 193.78 SMA 190.25 ECC .20642 INC 3.3671 V1 29.415
 RP 229.46 LAP .80 LOP 74.97 VP 21.428 GAP -.67 AZP 86.73 TAL 348.83 TAP 182.59 RCA 150.98 APO 229.52 V2 23.969
 RC 251.742 GL -29.98 GP 9.75 ZAL 111.64 ZAP 45.40 ETS 189.13 ZAE 80.34 ETE 182.12 ZAC 111.71 ETC 273.78 LVI -21.23

PLANETOCENTRIC CONIC

C3 14.559 VHL 3.816 DLA -28.88 RAL 9.80 RAD 8640.3 VEL 11.602 PTH 6.64 VHP 3.538 DPA -12.39 RAP 300.09 ECC 1.2398

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	17 56 13	2465.24	-5.66	64.95	224.99	137.32	18 37 18	1465.2	12.70	49.12
60.00	19 16 21	2252.03	-.22	50.97	230.22	130.30	19 53 53	1252.0	15.66	32.67
70.00	21 2 43	1939.24	5.87	30.21	234.81	123.71	21 35 2	939.2	19.03	9.63
80.00	23 25 10	1493.07	12.75	.45	238.90	117.23	23 50 3	493.1	22.87	337.64
85.05	1 19 37	1137.53	18.64	337.05	241.71	112.19	1 38 35	137.5	26.16	312.45
100.00	2 11 58	6255.58	12.75	299.73	238.90	117.23	3 56 14	5255.6	22.87	276.91
110.00	2 6 5	6274.10	5.87	297.03	234.81	123.71	3 50 39	5274.1	19.03	276.45

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.3660 TRA 3.2151 TC3-7.9298 BAU 1.5480 SGT 8197.7 SGR 884.5 SG3 910.2 ST 87.5 SR 11.6 SS 46.2
 RDE .0372 RRA -.4375 RC3 .6124 FAU .13429 RRT -.9626 RRF -.9737 RTF .9541 CRT -.9961 CRS .6841 CST -.6261
 FDE 1.0925 FRA 4.9286 FC3-7.9859 BSP 14165 SGB 8245.3 R23 .2014 R13 -.9547 LSA 93.6 MSA 33.9 SSA .5
 BDE .3679 BRA 3.2448 BC3 7.9534 F8P 1642 SGI 8241.8 SG2 238.3 THA 174.07 EL1 86.2 EL2 1.0 ALF 172.48

LAUNCH DATE MAY 23 1971

FLIGHT TIME 290.00

ARRIVAL DATE FEB 27 1972

HELIOCENTRIC CONIC												DISTANCE 636.00E												EARTH TO MARS																																																																																
RL	151.47	LAL	-.00	LOL	241.23	VL	32.488	GAL	-2.00	AZL	93.25	HCA	194.78	SMA	190.43	ECC	.20743	INC	3.2543	V1	29.419	RP	229.85	LAP	.83	LOP	76.00	VP	21.399	GAP	-.81	AZP	86.85	TAL	348.33	TAP	183.11	RCA	150.93	APO	229.93	V2	23.929	RC	254.363	GL	-28.90	GP	9.03	ZAL	112.92	ZAP	44.85	ETA	188.63	ZAE	79.37	ETE	182.14	ZAC	110.95	ETC	273.86	LVI	-20.69																																							
PLANETOCENTRIC CONIC																																																																																																								
C3	14.547	VHL	3.814	OLA	-27.42	RAL	9.90	RAD	6840.3	VEL	11.802	PTH	6.64	VHP	3.958	DPA	-13.03	RAP	300.62	ECC	1.2394	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CGT	TIME	INJ	2	LAT	INJ	2	LONG																																																									
50.00	17	49	54	2493.56	-7.08	66.15	224.73	137.17	18	31	28	1493.6	11.30	90.36	60.00	19	7	2	2288.38	-1.82	52.71	229.77	130.27	19	45	11	1288.4	14.14	34.94	70.00	20	47	50	1992.01	3.87	32.98	234.07	123.96	21	21	2	992.0	17.26	12.70	80.00	22	55	5	1593.61	9.56	6.20	237.53	118.42	23	21	39	593.6	20.41	344.09	90.00	1	0	22	1202.27	12.95	339.17	239.29	115.36	1	20	25	202.3	22.30	316.09	100.00	1	41	53	1068.08	9.56	327.57	237.53	118.42	1	59	41	68.1	20.41	305.46	110.00	1	51	12	1038.82	3.87	321.90	234.07	123.96	2	8	31	38.8	17.26	301.62
DIFFERENTIAL CORRECTIONS												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																																																																																
TDE	-.2968	TRA	3.2989	TC3	-8.0591	BAU	1.5711	SGT	8316.4	SGR	827.2	SG3	897.4	ST	87.2	SR	11.1	SS	46.8	RDE	.0433	RRA	-.4175	RC3	.5576	FAU	.13124	RRT	-.9577	RRF	-.9666	RTF	.9534	CRT	-.9981	CRS	.6186	CST	-.6478	PDE	1.1574	FRA	4.9206	FC3	-7.8106	BSP	14390	SG8	8357.5	R23	.1836	R13	-.9539	LSA	93.8	MSA	33.4	MSA	.9	BDE	.2998	BRA	3.3253	BC3	8.0784	FSP	1625	SG1	8354.1	SG2	237.1	THA	174.55	EL1	87.9	EL2	.7	ALP	172.75																									

LAUNCH DATE MAY 24 1971		FLIGHT TIME 88.00		ARRIVAL DATE AUG 20 1971								
HELIOCENTRIC CONIC			DISTANCE 259.592			EARTH TO MARS						
RL	131.50 LAL	-.00 LOL	242.20 VL	35.955 GAL	.57 AZL	91.87 HCA	80.94 SMA	272.03 ECC	.44318 INC	1.8691 V1	29.409	
RP	207.09 LAP	-1.85 LOP	323.13 VP	28.176 GAP	22.61 AZP	90.29 TAL	1.85 TAP	82.79 RCA	151.47 APO	392.59 V2	28.448	
RC	56.856 GL	-10.72 GP	-1.96 ZAL	89.71 ZAP	177.60 ETS	203.55 ZAE	172.49 ETE	31.82 ZAC	98.68 ETC	278.33 LVI	-17.88	
PLANETOCENTRIC CONIC			MID-COURSE EXECUTION ACCURACY			ORBIT DETERMINATION ACCURACY						
C3	36.886 VHL	6.236 DLA	-20.78 RAL	337.98 RAD	6650.3 VEL	12.600 PTH	7.46 VHP	11.330 DPA	-17.18 RAP	324.26 ECC	1.8400	
LNCH	AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG	
50.00	15 6 37	2876.95	-25.52	83.90	204.13	131.62	15 54 34	1876.9	-7.88	66.55		
60.00	16 11 16	2704.99	-19.56	73.59	209.32	125.97	16 56 21	1705.0	-3.99	54.79		
70.00	17 33 9	2464.32	-13.85	58.05	213.29	121.53	18 14 13	1464.3	-.14	38.19		
80.00	19 10 49	2158.63	-9.32	37.51	215.96	118.49	19 46 48	1158.6	2.99	16.93		
90.00	20 46 7	1851.23	-7.48	15.89	216.95	117.35	21 16 58	851.2	4.27	355.03		
100.00	21 53 41	1633.11	-9.32	358.88	215.96	118.49	22 20 54	633.1	2.99	338.30		
110.00	22 32 35	1511.14	-13.85	346.97	213.29	121.53	22 57 46	511.1	-.14	327.11		
DIFFERENTIAL CORRECTIONS			MID-COURSE EXECUTION ACCURACY			ORBIT DETERMINATION ACCURACY						
YDE	-.3326 TRA	-.7923 TC3	.0575 BAU	.0427	SGT	839.5 SGR	575.5 SG3	87.8	ST	19.2 SR	26.4 SS	7.7
RDE	-.5704 RRA	.2303 RC3	.0386 FAU	.03216	RRT	-.0224 RRF	.0253 RTF	-.5345	CRT	.7099 CRS	.2312 CST	.8393
FDE	.0601 FRA	.4903 FC3	-.7160 BSP	1035	SG8	1017.8 R23	-.0027 R13	.5347	LSA	30.7 MSA	13.5 SSA	1.1
BDE	.6603 BRA	.8251 BC3	.0821 F8P	101	SG1	839.7 SG2	575.2 THA	178.35	EL1	30.5 EL2	11.7 ALF	57.23

LAUNCH DATE MAY 24 1971		FLIGHT TIME 90.00		ARRIVAL DATE AUG 22 1971								
HELIOCENTRIC CONIC			DISTANCE 261.347			EARTH TO MARS						
RL	131.50 LAL	-.00 LOL	242.20 VL	35.332 GAL	.60 AZL	91.86 HCA	82.20 SMA	263.47 ECC	.42511 INC	1.8598 V1	29.409	
RP	207.01 LAP	-1.84 LOP	324.40 VP	27.902 GAP	22.08 AZP	90.25 TAL	2.02 TAP	84.23 RCA	151.47 APO	375.48 V2	26.457	
RC	57.225 GL	-10.99 GP	-.98 ZAL	89.52 ZAP	176.71 ETS	197.42 ZAE	171.86 ETE	28.48 ZAC	98.60 ETC	278.39 LVI	-17.94	
PLANETOCENTRIC CONIC			MID-COURSE EXECUTION ACCURACY			ORBIT DETERMINATION ACCURACY						
C3	36.169 VHL	6.014 DLA	-21.10 RAL	337.90 RAD	6649.3 VEL	12.492 PTH	7.38 VHP	10.943 DPA	-17.09 RAP	324.59 ECC	1.5933	
LNCH	AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG	
50.00	15 7 45	2851.72	-24.37	82.59	203.01	132.22	15 55 17	1851.7	-6.62	65.48		
60.00	16 12 55	2678.40	-18.49	72.16	208.18	126.47	16 57 34	1678.4	-2.82	53.52		
70.00	17 35 29	2435.69	-12.83	56.47	212.18	121.93	18 16 5	1435.7	.96	36.70		
80.00	19 13 59	2127.44	-8.30	35.76	214.87	118.78	19 49 26	1127.4	4.04	15.21		
90.00	20 49 44	1818.56	-6.45	14.04	215.87	117.59	21 20 3	818.6	5.31	353.20		
100.00	21 56 50	1601.91	-8.30	357.12	214.87	118.78	22 23 32	601.9	4.04	336.58		
110.00	22 34 55	1482.51	-12.83	345.38	212.18	121.93	22 59 38	482.5	.96	325.62		
DIFFERENTIAL CORRECTIONS			MID-COURSE EXECUTION ACCURACY			ORBIT DETERMINATION ACCURACY						
YDE	-.3285 TRA	-.7834 TC3	.0722 BAU	.0463	SGT	862.7 SGR	580.8 SG3	94.5	ST	19.6 SR	26.6 SS	7.9
RDE	-.5548 RRA	.2239 RC3	.0629 FAU	.03341	RRT	-.0238 RRF	.0264 RTF	-.5456	CRT	.7065 CRS	.2051 CST	.8274
FDE	.0573 FRA	.5071 FC3	-.7998 BSP	1101	SG8	1040.0 R23	-.0027 R13	.5457	LSA	31.1 MSA	13.9 SSA	1.1
BDE	.6437 BRA	.8148 BC3	.0957 F8P	110	SG1	862.9 SG2	580.5 THA	178.32	EL1	30.9 EL2	12.0 ALF	56.84

LAUNCH DATE MAY 24 1971		FLIGHT TIME 92.00		ARRIVAL DATE AUG 24 1971								
HELIOCENTRIC CONIC			DISTANCE 263.382			EARTH TO MARS						
RL	131.50 LAL	-.00 LOL	242.20 VL	35.122 GAL	.64 AZL	91.85 HCA	83.47 SMA	255.98 ECC	.40825 INC	1.8505 V1	29.409	
RP	206.94 LAP	-1.84 LOP	325.66 VP	27.643 GAP	21.55 AZP	90.21 TAL	2.21 TAP	85.68 RCA	151.46 APO	360.45 V2	26.466	
RC	57.675 GL	-11.26 GP	-1.01 ZAL	89.30 ZAP	175.79 ETS	193.91 ZAE	171.24 ETE	25.67 ZAC	98.53 ETC	278.46 LVI	-17.99	
PLANETOCENTRIC CONIC			MID-COURSE EXECUTION ACCURACY			ORBIT DETERMINATION ACCURACY						
C3	33.710 VHL	5.806 DLA	-21.44 RAL	337.79 RAD	6648.4 VEL	12.394 PTH	7.31 VHP	10.571 DPA	-17.02 RAP	324.92 ECC	1.5548	
LNCH	AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG	
50.00	15 8 49	2826.77	-23.23	81.33	201.91	132.77	15 55 36	1826.8	-5.38	64.43		
60.00	16 14 32	2652.01	-17.41	70.75	207.07	126.94	16 58 44	1652.0	-1.66	52.25		
70.00	17 37 49	2407.15	-11.79	54.90	211.08	122.29	18 17 57	1407.2	2.05	35.21		
80.00	19 17 12	2096.13	-7.27	34.00	213.80	119.04	19 52 8	1096.1	5.09	13.48		
90.00	20 53 28	1785.65	-5.41	12.18	214.81	117.80	21 23 13	785.7	6.36	351.34		
100.00	22 0 4	1570.60	-7.27	355.37	213.80	119.04	22 26 15	570.6	5.09	334.85		
110.00	22 37 16	1453.97	-11.79	343.82	211.08	122.29	23 1 30	454.0	2.05	324.13		
DIFFERENTIAL CORRECTIONS			MID-COURSE EXECUTION ACCURACY			ORBIT DETERMINATION ACCURACY						
YDE	-.3207 TRA	-.7721 TC3	.0888 BAU	.0502	SGT	883.8 SGR	585.8 SG3	101.5	ST	20.0 SR	26.9 SS	8.1
RDE	-.5398 RRA	.2177 RC3	.0672 FAU	.03465	RRT	-.0237 RRF	.0295 RTF	-.5380	CRT	.7045 CRS	.1705 CST	.8093
FDE	.0529 FRA	.5260 FC3	-.8898 BSP	1150	SG8	1060.1 R23	-.0059 R13	.5582	LSA	31.4 MSA	14.2 SSA	1.2
BDE	.6279 BRA	.8022 BC3	.1113 F8P	120	SG1	883.8 SG2	585.5 THA	178.39	EL1	31.2 EL2	12.2 ALF	56.45

LAUNCH DATE MAY 24 1971		FLIGHT TIME 94.00		ARRIVAL DATE AUG 26 1971								
HELIOCENTRIC CONIC			DISTANCE 265.658			EARTH TO MARS						
RL	131.50 LAL	-.00 LOL	242.20 VL	34.925 GAL	.68 AZL	91.84 HCA	84.74 SMA	249.32 ECC	.39252 INC	1.8413 V1	29.409	
RP	206.87 LAP	-1.83 LOP	326.93 VP	27.400 GAP	21.03 AZP	90.17 TAL	2.42 TAP	87.15 RCA	151.46 APO	347.18 V2	26.473	
RC	58.203 GL	-11.54 GP	-1.03 ZAL	89.05 ZAP	174.85 ETS	191.65 ZAE	170.65 ETE	23.29 ZAC	98.46 ETC	278.52 LVI	-18.05	
PLANETOCENTRIC CONIC			MID-COURSE EXECUTION ACCURACY			ORBIT DETERMINATION ACCURACY						
C3	31.482 VHL	5.611 DLA	-21.79 RAL	337.65 RAD	6647.6 VEL	12.305 PTH	7.24 VHP	10.214 DPA	-16.94 RAP	325.23 ECC	1.5181	
LNCH	AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG	
50.00	15 9 50	2802.14	-22.08	80.10	200.83	133.28	15 56 32	1802.1	-4.14	63.39		
60.00	16 16 7	2625.88	-16.34	69.38	205.99	127.37	16 59 52	1625.9	-.51	51.01		
70.00	17 40 10	2378.75	-10.76	53.36	210.00	122.61	18 19 49	1378.8	3.13	33.72		
80.00	19 20 30	2064.77	-6.23	32.26	212.74	119.26	19 54 55	1064.8	6.14	11.74		
90.00	20 57 18	1752.54	-4.36	10.32	213.77	117.97	21 26 30	752.5	7.40	349.47		
100.00	22 3 22	1539.24	-6.23	353.63	212.74	119.26	22 29 1	539.2	6.14	333.11		
110.00	22 39 37	1425.57	-10.76	342.27	210.00	122.61	23 3 22	425.6	3.13	322.64		
DIFFERENTIAL CORRECTIONS			MID-COURSE EXECUTION ACCURACY			ORBIT DETERMINATION ACCURACY						
YDE	-.3127 TRA	-.7617 TC3	.1079 BAU	.0545	SGT	904.6 SGR	590.3 SG3	108.9	ST	20.3 SR	27.0 SS	8.3
RDE	-.5253 RRA	.2117 RC3	.0716 FAU	.03594	RRT	-.0261 RRF	.0314 RTF	-.5709	CRT	.6995 CRS	.1400 CST	.7954
FDE	.0489 FRA	.5438 FC3	-.9882 BSP	1200	SG8	1080.1 R23	-.0055 R13	.5711	LSA	31.6 MSA	14.6 SSA	1.2
BDE	.6114 BRA	.7905 BC3	.1295 F8P	131	SG1	904.8 SG2	589.9 THA	178.30	EL1	31.4 EL2	12.5 ALF	56.26

LAUNCH DATE MAY 24 1971

FLIGHT TIME 96.00

ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC

RL 151.50 LAL -.00 LOL 242.20 VL 34.740 GAL .72 AZL 91.83 HCA 86.00 SMA 243.42 ECC .37783 INC 1.8322 V1 29.409
 RP 206.82 LAP -1.83 LOP 320.20 VP 27.170 GAP 20.52 AZP 90.13 TAL 2.64 TAP 88.64 RCA 151.45 APO 335.40 V2 26.479
 RC 58.807 GL -11.81 GP -1.06 ZAL 88.77 ZAP 173.90 ETS 190.09 ZAE 170.11 ETE 21.24 ZAC 98.39 ETC 278.57 LVI -18.09

PLANETOCENTRIC CONIC

C3 29.480 VHL 5.428 DLA -22.14 RAL 337.48 RAD 6646.8 VEL 12.223 PTH 7.17 VHP 9.871 DPA -16.87 RAP 325.53 ECC 1.4848
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 10 47 2777.88 -20.94 78.92 199.78 133.75 15 57 5 1777.9 -2.92 62.37
 60.00 16 17 39 2600.05 -15.27 88.04 204.92 127.78 17 0 59 1600.1 .63 49.77
 70.00 17 42 31 2350.54 -9.72 91.83 208.95 122.90 18 21 42 1350.5 4.20 32.24
 80.00 19 23 52 2033.39 -5.19 30.52 211.71 119.44 19 57 45 1033.4 7.18 10.00
 90.00 21 1 15 1719.24 -3.29 8.46 212.76 118.10 21 29 54 719.2 8.43 347.57
 100.00 22 6 43 1507.86 -5.19 351.89 211.71 119.44 22 31 51 507.9 7.18 331.37
 110.00 22 41 58 1397.36 -9.72 340.75 208.95 122.90 23 5 15 397.4 4.20 321.16

DIFFERENTIAL CORRECTIONS

TDE -.3058 TRA -.7507 TC3 .1287 BAU .0588
 RDE -.5114 RRA .2059 RC3 .0759 FAU .03738
 FDE .0440 FRA .5642 FC3-1.0985 BSP 1250
 BDE .5959 BRA .7785 BC3 .1494 FSP 143

MID-COURSE EXECUTION ACCURACY

SGT 925.1 SGR 594.4 SG3 117.1
 RRT -.0272 RRF .0341 RTF -.5835
 SGB 1099.6 R23 -.0071 R13 .5837
 SG1 925.3 SG2 594.0 THA 178.29

ORBIT DETERMINATION ACCURACY

ST 20.6 SR 27.2 SS 8.6
 CRT .6957 CRS .1053 CST .7775
 LSA 31.9 MSA 15.0 SSA 1.2
 EL1 31.7 EL2 12.7 ALF 56.01

LAUNCH DATE MAY 24 1971

FLIGHT TIME 98.00

ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC

RL 151.50 LAL -.00 LOL 242.20 VL 34.566 GAL .77 AZL 91.82 HCA 87.27 SMA 238.16 ECC .36410 INC 1.8230 V1 29.409
 RP 206.77 LAP -1.82 LOP 329.47 VP 26.952 GAP 20.02 AZP 90.09 TAL 2.87 TAP 90.14 RCA 151.45 APO 324.88 V2 26.485
 RC 59.485 GL -12.08 GP -1.09 ZAL 88.47 ZAP 172.92 ETS 188.94 ZAE 169.60 ETE 19.45 ZAC 98.32 ETC 278.63 LVI -18.14

PLANETOCENTRIC CONIC

C3 27.625 VHL 5.256 DLA -22.50 RAL 337.28 RAD 6646.1 VEL 12.148 PTH 7.12 VHP 9.541 DPA -16.80 RAP 325.83 ECC 1.4546
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 11 40 2754.04 -19.82 77.77 198.76 134.19 15 57 34 1754.0 -1.73 61.38
 60.00 16 19 9 2574.58 -14.20 66.73 203.89 128.12 17 2 3 1574.6 1.75 48.58
 70.00 17 44 52 2322.57 -8.68 50.33 207.92 123.16 18 23 35 1322.6 5.27 30.77
 80.00 19 27 18 2002.03 -4.13 28.78 210.71 119.60 20 0 40 1002.0 8.21 8.24
 90.00 21 5 20 1685.79 -2.22 6.59 211.77 118.20 21 33 26 685.8 9.47 345.66
 100.00 22 10 10 1476.50 -4.13 350.15 210.71 119.60 22 34 46 476.5 8.21 329.61
 110.00 22 44 19 1369.39 -8.68 339.25 207.92 123.16 23 7 8 369.4 5.27 319.69

DIFFERENTIAL CORRECTIONS

TDE -.2923 TRA -.7449 TC3 .1528 BAU .0638
 RDE -.4981 RRA .2003 RC3 .0803 FAU .03889
 FDE .0380 FRA .5850 FC3-1.2188 BSP 1286
 BDE .5775 BRA .7714 BC3 .1726 FSP 156

MID-COURSE EXECUTION ACCURACY

SGT 948.6 SGR 598.1 SG3 125.8
 RRT -.0373 RRF .0373 RTF -.5979
 SGB 1121.5 R23 -.0003 R13 .5981
 SG1 949.1 SG2 597.4 THA 177.77

ORBIT DETERMINATION ACCURACY

ST 20.7 SR 27.4 SS 8.8
 CRT .6813 CR8 .0674 CST .7659
 LSA 31.9 MSA 15.4 SSA 1.2
 EL1 31.7 EL2 13.1 ALF 56.32

LAUNCH DATE MAY 24 1971

FLIGHT TIME 100.00

ARRIVAL DATE SEP 1 1971

HELIOCENTRIC CONIC

RL 151.50 LAL -.00 LOL 242.20 VL 34.403 GAL .81 AZL 91.81 HCA 88.54 SMA 233.44 ECC .35128 INC 1.8139 V1 29.409
 RP 206.74 LAP -1.81 LOP 330.73 VP 26.747 GAP 19.53 AZP 90.05 TAL 3.12 TAP 91.66 RCA 151.44 APO 315.45 V2 26.489
 RC 60.233 GL -12.34 GP -1.12 ZAL 88.15 ZAP 171.93 ETS 188.07 ZAE 169.15 ETE 17.88 ZAC 98.24 ETC 278.68 LVI -18.17

PLANETOCENTRIC CONIC

C3 25.956 VHL 5.095 DLA -22.87 RAL 337.06 RAD 6645.4 VEL 12.080 PTH 7.06 VHP 9.223 DPA -16.74 RAP 326.11 ECC 1.4272
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 12 30 2730.66 -18.70 76.66 197.76 134.58 15 58 1 1730.7 -.55 60.40
 60.00 16 20 37 2549.52 -13.14 65.46 202.87 128.45 17 3 6 1549.5 2.85 47.36
 70.00 17 47 14 2294.88 -7.65 48.86 206.92 123.39 18 25 28 1294.9 6.31 29.31
 80.00 19 30 48 1970.72 -3.08 27.06 209.74 119.71 20 3 39 970.7 9.23 6.48
 90.00 21 9 33 1652.20 -1.14 4.71 210.81 118.26 21 37 5 652.2 10.49 343.72
 100.00 22 13 40 1445.19 -3.08 348.43 209.74 119.71 22 37 45 445.2 9.23 327.85
 110.00 22 46 40 1341.70 -7.65 337.77 206.92 123.39 23 9 2 341.7 6.31 318.23

DIFFERENTIAL CORRECTIONS

TDE -.2899 TRA -.7298 TC3 .1748 BAU .0673
 RDE -.4851 RRA .1948 RC3 .0846 FAU .04048
 FDE .0328 FRA .6043 FC3-1.3301 BSP 1317
 BDE .5651 BRA .7554 BC3 .1940 FSP 170

MID-COURSE EXECUTION ACCURACY

SGT 965.1 SGR 601.4 SG3 134.9
 RRT -.0321 RRF .0390 RTF -.1664
 SGB 1137.1 R23 -.0073 R13 .6067
 SG1 965.4 SG2 600.9 THA 178.13

ORBIT DETERMINATION ACCURACY

ST 21.1 SR 27.5 SS 9.1
 CRT .6846 CR8 .0355 CST .7424
 LSA 32.2 MSA 15.7 SSA 1.3
 EL1 32.1 EL2 13.2 ALF 55.75

LAUNCH DATE MAY 24 1971

FLIGHT TIME 102.00

ARRIVAL DATE SEP 3 1971

HELIOCENTRIC CONIC

RL 151.50 LAL -.00 LOL 242.20 VL 34.249 GAL .86 AZL 91.80 HCA 89.81 SMA 229.20 ECC .33930 INC 1.8048 V1 29.409
 RP 206.71 LAP -1.80 LOP 332.00 VP 26.553 GAP 19.05 AZP 90.01 TAL 3.38 TAP 93.19 RCA 151.43 APO 306.96 V2 26.492
 RC 61.050 GL -12.60 GP -1.16 ZAL 87.80 ZAP 170.93 ETS 187.39 ZAE 168.76 ETE 16.49 ZAC 98.17 ETC 278.73 LVI -18.21

PLANETOCENTRIC CONIC

C3 24.439 VHL 4.944 DLA -23.24 RAL 336.82 RAD 6644.8 VEL 12.017 PTH 7.01 VHP 8.917 DPA -16.69 RAP 326.37 ECC 1.4022
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 13 16 2707.77 -17.81 75.60 196.79 134.95 15 58 24 1707.8 .60 59.44
 60.00 16 22 2 2524.90 -12.10 64.22 201.89 128.74 17 4 7 1524.9 3.94 48.18
 70.00 17 49 35 2267.53 -6.62 47.40 205.95 123.58 18 27 22 1267.5 7.34 27.87
 80.00 19 34 23 1939.51 -2.03 25.34 208.79 119.80 20 6 43 939.5 10.24 4.71
 90.00 21 13 55 1618.49 -.05 2.83 209.88 118.28 21 40 53 618.5 11.50 341.78
 100.00 22 17 15 1413.98 -2.03 346.71 208.79 119.80 22 40 49 414.0 10.24 326.08
 110.00 22 48 1 1314.35 -6.62 336.32 205.95 123.58 23 10 53 314.3 7.34 316.78

DIFFERENTIAL CORRECTIONS

TDE -.2833 TRA -.7199 TC3 .1995 BAU .0713
 RDE -.4728 RRA .1895 RC3 .0888 FAU .04217
 FDE .0263 FRA .6253 FC3-1.4939 BSP 1370
 BDE .5511 BRA .7445 BC3 .2184 FSP 185

MID-COURSE EXECUTION ACCURACY

SGT 985.6 SGR 604.2 SG3 144.7
 RRT -.0334 RRF .0417 RTF -.6166
 SGB 1156.0 R23 -.0087 R13 .6169
 SG1 985.9 SG2 603.7 THA 178.12

ORBIT DETERMINATION ACCURACY

ST 21.3 SR 27.6 SS 9.3
 CRT .6802 CR8 -.0009 CST .7220
 LSA 32.3 MSA 16.1 SSA 1.3
 EL1 32.2 EL2 13.4 ALF 55.52

LAUNCH DATE MAY 24 1971

FLIGHT TIME 104.00

ARRIVAL DATE SEP 5 1971

HELIOCENTRIC CONIC

DISTANCE 279.638

EARTH TO MARS

RL 151.50 LAL -.00 LOL 242.20 VL 34.105 GAL .90 AZL 91.80 HCA 91.08 SMA 225.36 ECC .32810 INC 1.7957 V1 29.409
 RP 206.69 LAP -1.80 LOP 333.27 VP 26.369 GAP 18.58 AZP 89.97 TAL 3.65 TAP 94.73 RCA 151.42 APO 299.30 V2 26.495
 RC 61.933 GL -12.86 GP -1.19 ZAL 87.44 ZAP 169.91 ETS 186.84 ZAE 168.42 ETE 15.23 ZAC 98.10 ETC 278.78 LVI -18.23

PLANETOCENTRIC CONIC

C3 23.057 VHL 4.802 DLA -23.62 RAL 336.56 RAD 6644.2 VEL 11.980 PTH 6.96 VHP 8.623 DPA -16.64 RAP 326.62 ECC 1.3795
 LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZNTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 13 59 2885.41 -16.53 74.57 195.85 135.28 15 58 44 1685.4 1.72 58.51
 60.00 16 23 25 2500.76 -11.07 63.01 200.93 129.00 17 5 5 1500.8 4.99 45.02
 70.00 17 51 55 2240.55 -5.60 45.98 205.00 123.75 18 29 16 1240.5 8.35 26.43
 80.00 19 38 3 1908.41 -.97 23.64 207.87 119.84 20 9 51 908.4 11.24 2.94
 90.00 21 18 26 1584.65 1.04 .94 208.99 118.26 21 44 50 584.6 12.51 339.78
 100.00 22 20 55 1382.89 -.97 345.00 207.87 119.84 22 43 57 382.9 11.24 324.31
 110.00 22 51 22 1287.37 -5.60 334.90 205.00 123.75 23 12 49 287.4 8.35 315.35

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2749 TRA -.7087 TC3 .2268 BAU .0755 SGT 1003.4 SGR 606.7 SG3 155.3 ST 21.5 SR 27.7 SS 9.6
 RDE -.4609 RRA .1845 RC3 .0928 FAU .04400 RRT -.0361 RRF .0449 RTF -.6272 CRT .6738 CRS -.0414 CST .6998
 FDE .0185 FRA .6475 FC3-1.6522 BSP 1400 SGB 1172.6 R23 -.0093 R13 .6275 LSA 32.4 MSA 16.4 SSA 1.3
 BDE .5366 BRA .7323 BC3 .2449 FSP 201 SG1 1003.8 SG2 606.1 THA 178.03 EL1 32.3 EL2 13.6 ALF 55.52

LAUNCH DATE MAY 24 1971

FLIGHT TIME 106.00

ARRIVAL DATE SEP 7 1971

HELIOCENTRIC CONIC

DISTANCE 282.816

EARTH TO MARS

RL 151.50 LAL -.00 LOL 242.20 VL 33.970 GAL .95 AZL 91.79 HCA 92.35 SMA 221.88 ECC .31761 INC 1.7866 V1 29.409
 RP 206.68 LAP -1.79 LOP 334.54 VP 26.194 GAP 18.11 AZP 89.93 TAL 3.93 TAP 96.28 RCA 151.41 APO 292.36 V2 26.496
 RC 62.879 GL -13.11 GP -1.23 ZAL 87.06 ZAP 168.87 ETS 186.39 ZAE 168.15 ETE 14.09 ZAC 98.03 ETC 278.82 LVI -18.25

PLANETOCENTRIC CONIC

C3 21.796 VHL 4.669 DLA -23.99 RAL 336.27 RAD 6643.6 VEL 11.908 PTH 6.92 VHP 8.339 DPA -16.60 RAP 326.86 ECC 1.3587
 LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZNTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 14 38 2663.58 -15.47 73.57 194.92 135.58 15 59 1 1663.6 2.82 57.60
 60.00 16 24 45 2477.10 -10.05 61.84 199.99 129.24 17 6 2 1477.1 6.03 43.88
 70.00 17 54 16 2213.93 -4.59 44.58 204.07 123.88 18 31 10 1213.9 9.34 25.01
 80.00 19 41 47 1877.40 .08 21.93 206.97 119.86 20 13 5 877.4 12.22 1.16
 90.00 21 23 7 1550.59 2.14 359.04 208.12 118.21 21 48 58 550.6 13.90 337.77
 100.00 22 24 39 1351.87 .08 343.30 206.97 119.86 22 47 11 351.9 12.22 322.53
 110.00 22 53 42 1260.75 -4.59 333.50 204.07 123.88 23 14 43 260.8 9.34 313.92

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2575 TRA -.6888 TC3 .2721 BAU .0841 SGT 1010.2 SGR 608.8 SG3 166.4 ST 21.0 SR 27.8 SS 9.9
 RDE -.4495 RRA .1798 RC3 .0966 FAU .04588 RRT -.0423 RRF .0479 RTF -.6535 CRT .6590 CRS -.0749 CST .6903
 FDE .0118 FRA .6715 FC3-1.8224 BSP 1322 SGB 1179.5 R23 -.0046 R13 .6538 LSA 32.1 MSA 16.8 SSA 1.3
 BDE .5160 BRA .7118 BC3 .2888 FSP 221 SG1 1010.8 SG2 608.0 THA 177.71 EL1 32.1 EL2 13.7 ALF 56.63

LAUNCH DATE MAY 24 1971

FLIGHT TIME 108.00

ARRIVAL DATE SEP 9 1971

HELIOCENTRIC CONIC

DISTANCE 286.090

EARTH TO MARS

RL 151.50 LAL -.00 LOL 242.20 VL 33.842 GAL .99 AZL 91.78 HCA 93.62 SMA 218.73 ECC .30782 INC 1.7774 V1 29.409
 RP 206.67 LAP -1.77 LOP 335.81 VP 26.030 GAP 17.66 AZP 89.89 TAL 4.22 TAP 97.83 RCA 151.40 APO 286.06 V2 26.496
 RC 63.888 GL -13.35 GP -1.27 ZAL 86.67 ZAP 167.81 ETS 186.02 ZAE 167.94 ETE 13.04 ZAC 97.96 ETC 278.86 LVI -18.27

PLANETOCENTRIC CONIC

C3 20.648 VHL 4.544 DLA -24.37 RAL 335.97 RAD 6643.1 VEL 11.860 PTH 6.87 VHP 8.066 DPA -16.56 RAP 327.08 ECC 1.3398
 LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZNTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 15 14 2642.40 -14.44 72.62 194.03 135.84 15 59 16 1642.4 3.88 56.71
 60.00 16 26 2 2454.07 -9.06 60.71 199.09 129.44 17 6 56 1454.1 7.03 42.76
 70.00 17 56 35 2187.86 -3.60 43.21 203.18 123.99 18 33 3 1187.9 10.30 23.60
 80.00 19 45 37 1846.66 1.12 20.25 206.12 119.84 20 16 23 846.7 13.18 359.38
 90.00 21 27 58 1516.51 3.23 357.14 207.29 118.11 21 53 15 516.5 14.47 335.75
 100.00 22 28 28 1321.13 1.12 341.62 206.12 119.84 22 50 30 321.1 13.18 320.75
 110.00 22 56 2 1234.68 -3.60 332.13 203.18 123.99 23 16 36 234.7 10.30 312.52

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2937 TRA -.6825 TC3 .2950 BAU .0880 SGT 1032.8 SGR 610.5 SG3 178.4 ST 21.4 SR 27.9 SS 10.2
 RDE -.4386 RRA .1749 RC3 .1001 FAU .04799 RRT -.0436 RRF .0517 RTF -.6532 CRT .6557 CRS -.1221 CST .6988
 FDE .0012 FRA .6935 FC3-2.0121 BSP 1414 SGB 1199.7 R23 -.0079 R13 .6556 LSA 32.3 MSA 17.2 SSA 1.4
 BDE .5067 BRA .7045 BC3 .3115 FSP 239 SG1 1033.3 SG2 609.6 THA 177.74 EL1 32.2 EL2 14.0 ALF 56.17

LAUNCH DATE MAY 24 1971

FLIGHT TIME 110.00

ARRIVAL DATE SEP 11 1971

HELIOCENTRIC CONIC

DISTANCE 289.448

EARTH TO MARS

RL 151.50 LAL -.00 LOL 242.20 VL 33.723 GAL 1.04 AZL 91.77 HCA 94.88 SMA 215.86 ECC .29867 INC 1.7682 V1 29.409
 RP 206.68 LAP -1.76 LOP 337.08 VP 25.873 GAP 17.21 AZP 89.85 TAL 4.51 TAP 99.40 RCA 151.39 APO 280.33 V2 26.496
 RC 64.956 GL -13.59 GP -1.31 ZAL 86.26 ZAP 166.74 ETS 185.70 ZAE 167.80 ETE 12.06 ZAC 97.89 ETC 278.90 LVI -18.27

PLANETOCENTRIC CONIC

C3 19.601 VHL 4.427 DLA -24.74 RAL 335.65 RAD 6642.7 VEL 11.816 PTH 6.84 VHP 7.803 DPA -16.54 RAP 327.28 ECC 1.3226
 LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZNTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 15 46 2621.84 -13.43 71.70 193.17 136.09 15 59 28 1621.8 4.91 55.85
 60.00 16 27 17 2431.63 -8.09 59.61 198.21 129.62 17 7 49 1431.6 8.01 41.67
 70.00 17 58 54 2162.28 -2.63 41.87 202.31 124.06 18 34 57 1162.3 11.24 22.21
 80.00 19 49 31 1816.12 2.15 18.57 205.29 119.79 20 19 47 816.1 14.11 357.60
 90.00 21 33 2 1482.25 4.33 355.22 206.49 117.97 21 57 44 482.3 15.43 333.69
 100.00 22 32 22 1290.59 2.15 339.94 205.29 119.79 22 53 53 290.6 14.11 318.97
 110.00 22 58 21 1209.10 -2.63 330.79 202.31 124.06 23 18 30 209.1 11.24 311.13

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2486 TRA -.6743 TC3 .3197 BAU .0880 SGT 1052.1 SGR 611.9 SG3 191.4 ST 21.6 SR 27.9 SS 10.5
 RDE -.4281 RRA .1705 RC3 .1033 FAU .05025 RRT -.0454 RRF .0559 RTF -.6581 CRT .6514 CRS -.1696 CST .6263
 FDE -.0104 FRA .7168 FC3-2.2193 BSP 1480 SGB 1217.1 R23 -.0108 R13 .6585 LSA 32.4 MSA 17.5 SSA 1.4
 BDE .4951 BRA .6956 BC3 .3360 FSP 260 SG1 1052.7 SG2 610.9 THA 177.72 EL1 32.4 EL2 14.2 ALF 55.88

LAUNCH DATE MAY 24 1971

FLIGHT TIME 112.00

ARRIVAL DATE SEP 13 1971

HELIOCENTRIC CONIC

DISTANCE 292.883

EARTH TO MARS

RL 151.50 LAL -.00 LOL 242.20 VL 33.611 GAL 1.08 AZL 91.76 HCA 96.15 SMA 213.24 ECC .29010 INC 1.7590 V1 29.409
 RP 206.70 LAP -1.75 LOP 338.35 VP 25.725 GAP 16.77 AZP 89.81 TAL 4.81 TAP 100.96 RCA 151.38 APO 275.10 V2 26.494
 RC 66.082 GL -13.82 GP -1.35 ZAL 85.85 ZAP 165.64 ETS 185.43 ZAE 167.73 ETE 11.15 ZAC 97.83 ETC 278.93 LVI -10.27

PLANETOCENTRIC CONIC

C3 18.643 VHL 4.318 DLA -25.11 RAL 335.32 RAD 6642.2 VEL 11.776 PTH 6.80 VHP 7.550 DPA -16.52 RAP 327.47 ECC 1.3068
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 16 15 2601.93 -12.45 70.82 192.32 136.30 15 59 37 1601.9 5.91 55.01
 60.00 16 28 29 2409.82 -7.14 58.55 197.36 129.77 17 8 39 1409.8 8.96 40.60
 70.00 18 1 12 2137.24 -1.67 40.57 201.48 124.12 18 36 49 1137.2 12.15 20.85
 80.00 19 53 30 1785.80 3.18 16.90 204.49 119.70 20 23 15 785.0 15.03 355.82
 90.00 21 38 18 1447.77 5.43 353.28 205.73 117.80 22 2 26 447.8 16.38 351.60
 100.00 22 36 21 1260.27 3.18 338.27 204.49 119.70 22 57 22 260.3 15.03 317.18
 110.00 23 0 38 1184.06 -1.67 329.48 201.48 124.12 23 20 22 184.1 12.15 309.77

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2422 TRA -.6657 TC3 .3476 BAW .0906 SGT 1070.1 SGR 612.8 S63 205.0 ST 21.7 SR 28.0 SS 10.9
 RDE -.4181 RRA .1662 RC3 .1062 FAU .05260 RRT -.0485 RRF .0599 RTF -.6634 CRT .6451 CRS -.2111 CST .5995
 FDE -.0214 FRA .7418 FC3-2.4424 BSP 1532 SGB 1233.1 R23 -.0121 R13 .6639 LSA 32.4 MSA 17.9 SSA 1.5
 BDE .4832 BRA .6861 BC3 .3635 F8P 280 S61 1070.7 S62 611.7 THA 177.64 EL1 32.4 EL2 14.3 ALF 55.79

LAUNCH DATE MAY 24 1971

FLIGHT TIME 114.00

ARRIVAL DATE SEP 15 1971

HELIOCENTRIC CONIC

DISTANCE 296.385

EARTH TO MARS

RL 151.50 LAL -.00 LOL 242.20 VL 33.505 GAL 1.12 AZL 91.75 HCA 97.42 SMA 210.84 ECC .28210 INC 1.7498 V1 29.409
 RP 206.72 LAP -1.74 LOP 339.62 VP 25.584 GAP 16.35 AZP 89.77 TAL 5.11 TAP 102.53 RCA 151.36 APO 270.32 V2 26.491
 RC 67.265 GL -14.04 GP -1.39 ZAL 85.44 ZAP 164.52 ETS 185.20 ZAE 167.73 ETE 10.28 ZAC 97.76 ETC 278.96 LVI -10.27

PLANETOCENTRIC CONIC

C3 17.768 VHL 4.215 DLA -25.47 RAL 334.98 RAD 6641.8 VEL 11.739 PTH 6.77 VHP 7.305 DPA -16.51 RAP 327.83 ECC 1.2924
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 16 41 2582.70 -11.50 69.98 191.51 136.49 15 59 44 1582.7 6.87 54.19
 60.00 16 29 38 2388.67 -6.21 57.52 196.53 129.90 17 9 27 1388.7 9.87 39.56
 70.00 18 3 29 2112.78 -.74 39.29 200.67 124.15 18 38 41 1112.8 13.04 19.50
 80.00 19 57 34 1755.72 4.19 15.24 203.73 119.59 20 26 49 755.7 15.92 354.03
 90.00 21 43 49 1413.02 6.53 351.32 205.01 117.58 22 7 22 413.0 17.30 329.47
 100.00 22 40 25 1230.19 4.19 336.61 203.73 119.59 23 0 56 230.2 15.92 315.40
 110.00 23 2 55 1159.60 -.74 328.21 200.67 124.15 23 22 14 159.6 13.04 308.42

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2355 TRA -.6558 TC3 .3756 BAW .0929 SGT 1085.2 SGR 613.4 S63 219.5 ST 21.8 SR 28.0 SS 11.3
 RDE -.4085 RRA .1622 RC3 .1086 FAU .05507 RRT -.0515 RRF .0651 RTF -.6681 CRT .6388 CRS -.2588 CST .5664
 FDE -.0351 FRA .7676 FC3-2.6834 BSP 1576 SGB 1246.6 R23 -.0146 R13 .6687 LSA 32.4 MSA 18.3 SSA 1.5
 BDE .4715 BRA .6755 BC3 .3910 F8P 304 S61 1085.9 S62 612.2 THA 177.55 EL1 32.4 EL2 14.5 ALF 55.78

LAUNCH DATE MAY 24 1971

FLIGHT TIME 116.00

ARRIVAL DATE SEP 17 1971

HELIOCENTRIC CONIC

DISTANCE 299.950

EARTH TO MARS

RL 151.50 LAL -.00 LOL 242.20 VL 33.406 GAL 1.17 AZL 91.74 HCA 98.69 SMA 208.65 ECC .27461 INC 1.7405 V1 29.409
 RP 206.75 LAP -1.72 LOP 340.89 VP 25.451 GAP 15.93 AZP 89.74 TAL 5.42 TAP 104.11 RCA 151.35 APO 265.94 V2 26.487
 RC 68.502 GL -14.26 GP -1.44 ZAL 85.02 ZAP 163.38 ETS 185.00 ZAE 167.80 ETE 9.45 ZAC 97.69 ETC 278.98 LVI -10.25

PLANETOCENTRIC CONIC

C3 18.968 VHL 4.119 DLA -25.83 RAL 334.83 RAD 6641.5 VEL 11.705 PTH 6.74 VHP 7.070 DPA -16.51 RAP 327.77 ECC 1.2793
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 17 4 2564.16 -10.59 69.17 190.72 136.66 15 59 40 1564.2 7.79 53.40
 60.00 16 30 45 2368.21 -5.32 56.54 195.73 130.01 17 10 13 1368.2 10.75 38.55
 70.00 18 5 43 2088.95 .18 38.05 199.89 124.15 18 40 32 1088.9 13.89 18.18
 80.00 20 1 43 1725.91 5.19 13.60 203.00 119.44 20 30 29 725.9 16.79 352.24
 90.00 21 49 37 1377.90 7.63 349.33 204.33 117.31 22 12 35 377.9 18.21 327.29
 100.00 22 44 35 1200.38 5.19 334.97 203.00 119.44 23 4 35 200.4 16.79 313.61
 110.00 23 5 10 1135.77 .18 326.96 199.89 124.15 23 24 5 135.8 13.89 307.10

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2284 TRA -.6461 TC3 .4053 BAW .0953 SGT 1099.7 SGR 613.6 S63 235.1 ST 21.8 SR 28.0 SS 11.6
 RDE -.3993 RRA .1583 RC3 .1104 FAU .05775 RRT -.0554 RRF .0699 RTF -.6733 CRT .6314 CRS -.3006 CST .9382
 FDE -.0484 FRA .7943 FC3-2.9466 BSP 1619 SGB 1259.3 R23 -.0159 R13 .6739 LSA 32.3 MSA 18.7 SSA 1.5
 BDE .4600 BRA .6653 BC3 .4201 F8P 330 S61 1100.5 S62 612.2 THA 177.43 EL1 32.3 EL2 14.7 ALF 55.86

LAUNCH DATE MAY 24 1971

FLIGHT TIME 118.00

ARRIVAL DATE SEP 19 1971

HELIOCENTRIC CONIC

DISTANCE 303.570

EARTH TO MARS

RL 151.50 LAL -.00 LOL 242.20 VL 33.313 GAL 1.21 AZL 91.73 HCA 99.96 SMA 206.83 ECC .26761 INC 1.7311 V1 29.409
 RP 206.79 LAP -1.71 LOP 342.16 VP 25.324 GAP 15.52 AZP 89.70 TAL 5.72 TAP 105.68 RCA 151.34 APO 261.93 V2 26.483
 RC 69.791 GL -14.46 GP -1.49 ZAL 84.59 ZAP 162.22 ETS 184.82 ZAE 167.94 ETE 8.64 ZAC 97.63 ETC 279.00 LVI -10.23

PLANETOCENTRIC CONIC

C3 18.236 VHL 4.029 DLA -26.17 RAL 334.28 RAD 6641.1 VEL 11.674 PTH 6.71 VHP 6.843 DPA -16.52 RAP 327.90 ECC 1.2672
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 17 24 2546.34 -9.70 68.40 189.96 136.81 15 59 50 1546.3 8.68 52.64
 60.00 16 31 47 2348.47 -4.45 55.59 194.96 130.10 17 10 56 1348.5 11.59 37.57
 70.00 18 7 56 2065.78 1.06 36.84 199.14 124.14 18 42 22 1065.8 14.71 16.89
 80.00 20 5 57 1696.38 6.18 11.96 202.30 119.27 20 34 14 696.4 17.63 350.46
 90.00 21 55 45 1342.29 8.74 347.30 203.68 117.00 22 18 7 342.3 19.11 325.06
 100.00 22 48 49 1170.85 6.18 333.33 202.30 119.27 23 8 20 170.9 17.63 311.82
 110.00 23 7 22 1112.60 1.06 325.76 199.14 124.14 23 25 55 112.6 14.71 305.81

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2212 TRA -.6357 TC3 .4361 BAW .0977 SGT 1112.2 SGR 613.5 S63 251.8 ST 21.8 SR 28.0 SS 12.1
 RDE -.3904 RRA .1548 RC3 .1117 FAU .06062 RRT -.0593 RRF .0754 RTF -.6789 CRT .6240 CRS -.3422 CST .5090
 FDE -.0631 FRA .8229 FC3-3.2323 BSP 1640 SGB 1270.2 R23 -.0177 R13 .6796 LSA 32.3 MSA 19.0 SSA 1.6
 BDE .4488 BRA .6542 BC3 .4502 F8P 356 S61 1113.1 S62 611.9 THA 177.31 EL1 32.3 EL2 14.8 ALF 56.01

LAUNCH DATE MAY 24 1971

FLIGHT TIME 120.00

ARRIVAL DATE SEP 21 1971

Heliocentric Conic: RL 151.50 LAL -.00 LOL 242.20 VL 33.226 GAL 1.25 AZL 91.72 HCA 101.23 SMA 204.79 ECC .26107 INC 1.7217 V1 29.409
 RP 206.84 LAP -1.69 LOP 343.43 VP 25.203 GAP 15.12 AZP 89.66 TAL 6.02 TAP 107.25 RCA 151.32 APO 258.25 V2 26.477
 RC 71.130 GL -14.65 GP -1.54 ZAL 84.10 ZAP 161.04 ETS 184.66 ZAE 168.16 ETE 7.84 ZAC 97.57 ETC 279.02 LVI -18.20

Distance 307.241 Earth to Mars

Planetocentric Conic: C3 15.565 VHL 3.945 DLA -26.51 RAL 333.92 RAD 6640.0 VEL 11.645 PTH 6.68 VHP 6.625 DPA -16.54 RAP 327.99 ECC 1.2562
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 17 41 2529.25 -8.86 67.67 189.22 138.94 15 59 50 1529.2 9.53 51.91
 60.00 16 32 47 2329.47 -3.82 54.67 194.22 130.17 17 11 37 1329.5 12.40 36.62
 70.00 18 10 6 2043.32 1.92 35.67 198.42 124.11 18 44 10 1043.3 15.50 15.63
 80.00 20 10 17 1667.16 7.15 10.33 201.64 119.07 20 38 4 667.2 18.45 348.67
 90.00 22 2 16 1305.99 9.85 345.21 203.08 116.64 22 24 2 306.0 19.99 322.77
 100.00 22 53 9 1141.64 7.15 331.70 201.64 119.07 23 12 10 141.6 18.45 310.04
 110.00 23 9 33 1090.13 1.92 324.58 198.42 124.11 23 27 43 90.1 15.50 304.54

Differential Corrections: TDE -.2142 TRA -.6249 TC3 .4630 BAU .0993 SGT 1122.2 SGR 613.0 SG3 269.3 ST 21.8 SR 28.0 SS 12.8
 RDE -.3820 RRA .1511 RC3 .1123 FAU .06361 RRT -.0836 RRF .0816 RTF -.6824 CRT .6166 CRS -.3862 CST .4760
 FDE -.0801 FRA .8514 FC3 -3.5379 BSP 1667 SGB 1278.7 R23 -.0200 R13 .6832 LSA 32.2 MSA 19.4 SSA 1.6
 BDE .4380 BRA .6429 BC3 .4773 FSP 385 SG1 1123.2 SG2 611.3 THA 177.17 EL1 32.2 EL2 14.9 ALF 56.19

LAUNCH DATE MAY 24 1971

FLIGHT TIME 122.00

ARRIVAL DATE SEP 23 1971

Heliocentric Conic: RL 151.50 LAL -.00 LOL 242.20 VL 33.145 GAL 1.28 AZL 91.71 HCA 102.49 SMA 203.09 ECC .25495 INC 1.7122 V1 29.409
 RP 206.90 LAP -1.67 LOP 344.70 VP 25.088 GAP 14.73 AZP 89.63 TAL 6.32 TAP 108.81 RCA 151.31 APO 254.87 V2 26.470
 RC 72.517 GL -14.84 GP -1.59 ZAL 83.76 ZAP 159.82 ETS 184.51 ZAE 168.45 ETE 7.05 ZAC 97.50 ETC 279.02 LVI -18.16

Distance 310.958 Earth to Mars

Planetocentric Conic: C3 14.950 VHL 3.866 DLA -26.84 RAL 333.56 RAD 6640.5 VEL 11.619 PTH 6.66 VHP 6.414 DPA -16.57 RAP 328.07 ECC 1.2460
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 17 54 2512.91 -8.04 66.97 188.51 137.05 15 59 47 1512.9 10.34 51.20
 60.00 16 33 43 2311.25 -2.82 53.80 193.51 130.22 17 12 15 1311.2 13.18 35.70
 70.00 18 12 14 2021.60 2.75 34.53 197.72 124.06 18 45 55 1021.6 16.25 14.39
 80.00 20 14 41 1638.27 8.10 8.72 201.01 118.84 20 42 0 638.3 19.24 346.89
 90.00 22 9 17 1268.73 10.98 343.06 202.53 116.22 22 30 26 268.7 20.85 320.38
 100.00 22 57 33 1112.75 8.10 330.09 201.01 118.84 23 16 6 112.7 19.24 308.25
 110.00 23 11 40 1068.42 2.75 323.45 197.72 124.06 23 29 28 68.4 16.25 303.31

Differential Corrections: TDE -.2075 TRA -.8146 TC3 .4913 BAU .1007 SGT 1131.6 SGR 612.2 SG3 288.1 ST 21.7 SR 27.9 SS 13.0
 RDE -.3739 RRA .1479 RC3 .1123 FAU .06681 RRT -.0683 RRF .0880 RTF -.6856 CRT .6093 CRS -.4254 CST .4463
 FDE -.0972 FRA .8816 FC3 -3.8690 BSP 1687 SGB 1286.6 R23 -.0221 R13 .6865 LSA 32.1 MSA 19.7 SSA 1.6
 BDE .4276 BRA .6321 BC3 .5040 FSP 415 SG1 1132.7 SG2 610.2 THA 177.02 EL1 32.0 EL2 15.0 ALF 56.38

LAUNCH DATE MAY 24 1971

FLIGHT TIME 124.00

ARRIVAL DATE SEP 25 1971

Heliocentric Conic: RL 151.50 LAL -.00 LOL 242.20 VL 33.068 GAL 1.32 AZL 91.70 HCA 103.76 SMA 201.52 ECC .24924 INC 1.7026 V1 29.409
 RP 206.96 LAP -1.65 LOP 345.96 VP 24.979 GAP 14.35 AZP 89.59 TAL 6.62 TAP 110.37 RCA 151.30 APO 251.75 V2 26.462
 RC 73.950 GL -15.01 GP -1.65 ZAL 83.35 ZAP 158.59 ETS 184.38 ZAE 168.81 ETE 6.23 ZAC 97.44 ETC 279.03 LVI -18.11

Distance 314.717 Earth to Mars

Planetocentric Conic: C3 14.386 VHL 3.793 DLA -27.15 RAL 333.20 RAD 6640.2 VEL 11.595 PTH 6.64 VHP 6.211 DPA -16.61 RAP 328.11 ECC 1.2368
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 18 5 2497.33 -7.26 66.31 187.83 137.15 15 59 43 1497.3 11.11 50.53
 60.00 16 34 36 2293.82 -2.05 52.97 192.82 130.26 17 12 50 1293.8 13.91 34.81
 70.00 18 14 18 2000.67 3.54 33.44 197.06 123.99 18 47 38 1000.7 16.97 13.20
 80.00 20 19 11 1609.73 9.03 7.11 200.41 118.58 20 46 1 609.7 19.99 345.11
 90.00 22 16 55 1230.04 12.13 340.80 202.03 115.74 22 37 25 230.0 21.71 317.87
 100.00 23 2 3 1084.20 9.03 328.48 200.41 118.58 23 20 7 84.2 19.99 306.47
 110.00 23 13 44 1047.49 3.54 322.35 197.06 123.99 23 31 11 47.5 16.97 302.12

Differential Corrections: TDE -.2010 TRA -.6040 TC3 .5180 BAU .1019 SGT 1139.3 SGR 611.1 SG3 308.1 ST 21.8 SR 27.9 SS 13.6
 RDE -.3661 RRA .1448 RC3 .1114 FAU .07024 RRT -.0731 RRF .0951 RTF -.6804 CRT .6021 CRS -.4635 CST .4159
 FDE -.1160 FRA .9134 FC3 -4.2269 BSP 1712 SGB 1292.9 R23 -.0247 R13 .6894 LSA 32.0 MSA 20.0 SSA 1.7
 BDE .4177 BRA .6211 BC3 .5298 FSP 449 SG1 1140.5 SG2 608.8 THA 176.86 EL1 31.9 EL2 15.1 ALF 56.59

LAUNCH DATE MAY 24 1971

FLIGHT TIME 126.00

ARRIVAL DATE SEP 27 1971

Heliocentric Conic: RL 151.50 LAL -.00 LOL 242.20 VL 32.996 GAL 1.35 AZL 91.69 HCA 105.02 SMA 200.08 ECC .24391 INC 1.6929 V1 29.409
 RP 207.04 LAP -1.64 LOP 347.23 VP 24.874 GAP 13.98 AZP 89.56 TAL 6.90 TAP 111.93 RCA 151.28 APO 248.89 V2 26.454
 RC 75.426 GL -15.17 GP -1.71 ZAL 82.95 ZAP 157.32 ETS 184.26 ZAE 169.25 ETE 5.39 ZAC 97.39 ETC 279.03 LVI -18.06

Distance 318.515 Earth to Mars

Planetocentric Conic: C3 13.888 VHL 3.724 DLA -27.45 RAL 332.84 RAD 6640.0 VEL 11.573 PTH 6.62 VHP 6.016 DPA -16.67 RAP 328.13 ECC 1.2282
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 18 14 2482.52 -6.52 65.68 187.18 137.23 15 59 36 1482.5 11.84 49.88
 60.00 16 35 25 2277.20 -1.32 52.17 192.16 130.28 17 13 22 1277.2 14.61 33.97
 70.00 18 16 18 1980.56 4.31 32.38 196.42 123.91 18 49 18 980.6 17.65 12.04
 80.00 20 23 45 1581.54 9.95 5.52 199.85 118.30 20 50 7 581.5 20.72 343.33
 90.00 22 25 27 1189.13 13.33 338.40 201.59 115.17 22 45 16 189.1 22.58 315.18
 100.00 23 6 37 1056.01 9.95 326.89 199.85 118.30 23 24 13 56.0 20.72 304.70
 110.00 23 15 44 1027.38 4.31 321.30 196.42 123.91 23 32 51 27.4 17.65 300.96

Differential Corrections: TDE -.1950 TRA -.5936 TC3 .5391 BAU .1020 SGT 1144.7 SGR 609.7 SG3 329.1 ST 21.5 SR 27.8 SS 14.1
 RDE -.3587 RRA .1419 RC3 .1097 FAU .07377 RRT -.0785 RRF .1024 RTF -.6896 CRT .5956 CRS -.4950 CST .3905
 FDE -.1341 FRA .9478 FC3 -4.6055 BSP 1717 SGB 1296.9 R23 -.0272 R13 .6907 LSA 32.0 MSA 20.4 SSA 1.7
 BDE .4083 BRA .6103 BC3 .5502 FSP 483 SG1 1146.0 SG2 607.1 THA 176.67 EL1 31.8 EL2 15.2 ALF 56.78

LAUNCH DATE MAY 24 1971

FLIGHT TIME 120.00

ARRIVAL DATE SEP 29 1971

HELIOCENTRIC CONIC

DISTANCE 322.347

EARTH TO MARS

RL 131.50 LAL -.00 LOL 242.20 VL 32.029 GAL 1.38 AZL 91.60 HCA 106.29 SMA 198.76 ECC .23893 INC 1.6832 V1 29.409
 RP 207.12 LAP -1.62 LOP 348.49 VP 24.775 GAP 13.62 AZP 89.53 TAL 7.19 TAP 113.47 RCA 151.27 APO 246.24 V2 26.444
 RC 78.944 GL -15.32 GP -1.77 ZAL 82.57 ZAP 156.03 ETS 184.16 ZAE 169.76 ETE 4.49 ZAC 97.33 ETC 279.02 LVI -17.89

PLANETOCENTRIC CONIC

C3 13.392 VHL 3.660 DLA -27.73 RAL 332.49 RAD 6639.7 VEL 11.552 PTH 6.60 VHP 5.028 DPA -16.74 RAP 329.13 ECC 1.2204
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 18 20 2468.49 -5.82 65.08 186.55 137.30 15 59 28 1468.5 12.54 49.27
 60.00 16 36 10 2261.42 -.63 51.42 191.53 130.30 17 13 52 1261.4 15.27 33.15
 70.00 18 18 13 1961.33 5.04 31.37 195.81 123.82 18 50 55 961.3 18.30 10.92
 80.00 20 28 25 1553.73 10.84 3.94 199.32 117.99 20 54 19 553.7 21.42 341.56
 90.00 22 35 20 1144.44 14.61 335.74 201.22 114.49 22 54 24 144.4 23.46 312.20
 100.00 23 11 17 1026.21 10.84 325.31 199.32 117.99 23 28 25 28.2 21.42 302.93
 110.00 23 17 40 1006.15 5.04 320.29 195.81 123.82 23 34 28 8.1 18.30 299.84

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1892 TRA -.5830 TC3 .5597 BAU .1020 SGT 1148.4 SGR 608.0 SG3 351.7 ST 21.4 SR 27.8 SS 14.8
 RDE -.3515 RRA .1392 RC3 .1070 FAU .07762 RRT -.0842 RRF .1109 RTF -.6898 CRT .5893 CR8 -.5298 CST .3802
 FDE -.1957 FRA .9828 FC3-5.0179 BSP 1729 SGB 1299.4 R23 -.0306 R13 .6912 LSA 31.9 MSA 20.7 SSA 1.8
 BDE .3992 BRA .5994 BC3 .5699 FSP 522 SGI 1150.0 SG2 605.0 THA 176.47 EL1 31.6 EL2 15.2 ALF 57.00

LAUNCH DATE MAY 24 1971

FLIGHT TIME 130.00

ARRIVAL DATE OCT 1 1971

HELIOCENTRIC CONIC

DISTANCE 326.212

EARTH TO MARS

RL 151.50 LAL -.00 LOL 242.20 VL 32.866 GAL 1.41 AZL 91.67 HCA 107.55 SMA 197.53 ECC .23428 INC 1.6732 V1 29.409
 RP 207.21 LAP -1.60 LOP 349.76 VP 24.680 GAP 13.26 AZP 89.50 TAL 7.46 TAP 115.01 RCA 151.25 APO 243.81 V2 26.433
 RC 78.502 GL -15.46 GP -1.84 ZAL 82.19 ZAP 154.70 ETS 184.05 ZAE 170.34 ETE 3.51 ZAC 97.27 ETC 279.01 LVI -17.91

PLANETOCENTRIC CONIC

C3 12.955 VHL 3.599 DLA -28.00 RAL 332.15 RAD 6639.5 VEL 11.534 PTH 6.58 VHP 5.847 DPA -16.82 RAP 328.09 ECC 1.2132
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 18 23 2455.24 -5.16 64.53 185.95 137.36 15 59 19 1455.2 13.19 48.68
 60.00 16 36 52 2246.49 .03 50.71 190.93 130.30 17 14 18 1246.5 15.89 32.38
 70.00 18 20 4 1943.00 5.73 30.41 195.23 123.75 18 52 27 943.0 18.90 9.85
 80.00 20 33 9 1526.33 11.71 2.37 198.82 117.66 20 58 35 526.3 22.09 339.80
 90.00 22 47 48 1092.05 16.06 332.58 200.97 113.59 23 6 0 92.1 24.41 308.66
 100.00 23 16 1 1000.80 11.71 323.74 198.82 117.66 23 32 41 .8 22.09 301.17
 110.00 23 19 30 6277.86 5.73 297.23 195.23 123.75 25 4 8 5277.9 18.90 276.67

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1836 TRA -.5725 TC3 .5768 BAU .1015 SGT 1150.3 SGR 606.1 SG3 375.3 ST 21.3 SR 27.7 SS 15.4
 RDE -.3447 RRA .1367 RC3 .1034 FAU .08165 RRT -.0905 RRF .1202 RTF -.6894 CRT .5830 CR8 -.5611 CST .3324
 FDE -.1782 FRA 1.0203 FC3-5.4560 BSP 1737 SGB 1300.2 R23 -.0343 R13 .6910 LSA 31.9 MSA 20.9 SSA 1.8
 BDE .3905 BRA .5886 BC3 .5860 FSP 561 SGI 1152.1 SG2 602.7 THA 176.24 EL1 31.4 EL2 15.2 ALF 57.23

LAUNCH DATE MAY 24 1971

FLIGHT TIME 132.00

ARRIVAL DATE OCT 3 1971

HELIOCENTRIC CONIC

DISTANCE 330.106

EARTH TO MARS

RL 151.50 LAL -.00 LOL 242.20 VL 32.807 GAL 1.44 AZL 91.66 HCA 108.81 SMA 196.40 ECC .22995 INC 1.6632 V1 29.409
 RP 207.31 LAP -1.57 LOP 351.02 VP 24.589 GAP 12.91 AZP 89.46 TAL 7.72 TAP 116.53 RCA 151.24 APO 241.56 V2 26.422
 RC 80.098 GL -15.59 GP -1.90 ZAL 81.83 ZAP 153.35 ETS 183.96 ZAE 170.99 ETE 2.41 ZAC 97.22 ETC 278.99 LVI -17.82

PLANETOCENTRIC CONIC

C3 12.553 VHL 3.543 DLA -28.25 RAL 331.82 RAD 6639.3 VEL 11.516 PTH 6.56 VHP 5.473 DPA -16.91 RAP 328.02 ECC 1.2066
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 18 25 2442.78 -4.54 64.00 185.38 137.41 15 59 7 1442.8 13.80 48.13
 60.00 16 37 29 2232.42 .65 50.04 190.36 130.30 17 14 42 1232.4 16.47 31.65
 70.00 18 21 49 1925.62 6.39 29.49 194.68 123.62 18 53 54 925.6 19.48 8.82
 80.00 20 37 57 1499.35 12.56 .82 198.36 117.31 21 2 56 499.3 22.73 338.05
 90.00 23 9 36 1010.15 18.23 327.54 201.05 112.00 23 26 26 10.1 25.71 303.02
 100.00 23 20 49 6261.86 12.56 300.09 198.36 117.31 25 5 11 5261.9 22.73 277.32
 110.00 23 21 15 6260.48 6.39 296.31 194.68 123.62 25 5 35 5260.5 19.48 275.65

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1788 TRA -.5615 TC3 .5898 BAU .1003 SGT 1149.2 SGR 603.9 SG3 400.7 ST 21.2 SR 27.6 SS 16.1
 RDE -.3381 RRA .1344 RC3 .0988 FAU .08589 RRT -.0966 RRF .1298 RTF -.1.76 CRT .5788 CR8 -.5880 CST .3062
 FDE -.2008 FRA 1.0395 FC3-5.9237 BSP 1738 SGB 1280.2 R23 -.0387 R13 .6895 LSA 31.9 MSA 21.2 SSA 1.8
 BDE .3824 BRA .5774 BC3 .5979 FSP 606 SGI 1151.3 SG2 600.0 THA 176.01 EL1 31.3 EL2 15.2 ALF 57.40

LAUNCH DATE MAY 24 1971

FLIGHT TIME 134.00

ARRIVAL DATE OCT 5 1971

HELIOCENTRIC CONIC

DISTANCE 334.028

EARTH TO MARS

RL 151.50 LAL -.00 LOL 242.20 VL 32.752 GAL 1.47 AZL 91.65 HCA 110.08 SMA 195.36 ECC .22590 INC 1.6530 V1 29.409
 RP 207.42 LAP -1.55 LOP 352.28 VP 24.502 GAP 12.57 AZP 89.43 TAL 7.97 TAP 118.05 RCA 151.23 APO 239.49 V2 26.409
 RC 81.730 GL -15.70 GP -1.97 ZAL 81.49 ZAP 151.96 ETS 183.87 ZAE 171.72 ETE 1.15 ZAC 97.17 ETC 278.96 LVI -17.73

PLANETOCENTRIC CONIC

C3 12.183 VHL 3.490 DLA -28.48 RAL 331.49 RAD 6639.2 VEL 11.500 PTH 6.55 VHP 5.306 DPA -17.02 RAP 327.93 ECC 1.2005
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 18 23 2431.07 -3.95 63.51 184.83 137.45 15 58 54 1431.1 14.37 47.60
 60.00 16 38 3 2219.18 1.23 49.40 189.81 130.29 17 15 2 1219.2 17.02 30.95
 70.00 18 23 27 1909.17 7.01 28.62 194.15 123.51 18 55 16 909.2 20.01 7.85
 80.00 20 42 50 1472.69 13.38 359.27 197.92 116.94 21 7 23 472.7 23.33 336.30
 90.00 22 50 47 1080.58 19.48 331.76 200.78 111.19 23 8 27 60.6 26.51 306.89
 100.00 23 25 42 6235.20 13.38 298.95 197.92 116.94 25 9 37 5235.2 23.33 275.58
 110.00 23 22 54 6244.03 7.01 295.44 194.15 123.51 25 6 58 5244.0 20.01 274.67

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1649 TRA -.5414 TC3 .6274 BAU .1033 SGT 1134.7 SGR 601.5 SG3 428.0 ST 20.3 SR 27.5 SS 16.8
 RDE -.3318 RRA .1322 RC3 .0927 FAU .09064 RRT -.1080 RRF .1410 RTF -.6997 CRT .5591 CR8 -.6247 CST .2847
 FDE -.2313 FRA 1.0941 FC3-6.4408 BSP 1614 SGB 1284.2 R23 -.0367 R13 .7018 LSA 31.6 MSA 21.1 SSA 1.8
 BDE .3706 BRA .5573 BC3 .6342 FSP 644 SGI 1137.2 SG2 596.7 THA 175.47 EL1 30.7 EL2 15.1 ALF 59.33

LAUNCH DATE MAY 24 1971

FLIGHT TIME 136.00

ARRIVAL DATE OCT 7 1971

HELIOCENTRIC CONIC

DISTANCE 337.975

EARTH TO MARS

RL 151.50 LAL -.00 LOL 242.20 VL 32.701 GAL 1.49 AZL 91.64 HCA 111.33 SMA 194.40 ECC .22214 INC 1.6427 V1 29.409
 RP 207.54 LAP -1.53 LOP 333.54 VP 24.418 GAP 12.24 AZP 89.40 TAL 8.21 TAP 119.54 RCA 151.21 APO 237.58 V2 26.395
 RC 83.399 GL -15.80 GP -2.05 ZAL 81.17 ZAP 150.54 ETS 183.79 ZAE 172.51 ETE 359.62 ZAC 97.12 ETC 276.93 LVI -17.62

PLANETOCENTRIC CONIC

C3 11.843 VHL 3.441 DLA -28.69 RAL 331.19 RAD 6639.0 VEL 11.486 PTH 6.53 VHP 5.146 DPA -17.15 RAP 327.80 ECC 1.1949
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 18 21 2420.21 -3.40 63.05 184.32 137.48 15 58 41 1420.2 14.90 47.12
 60.00 16 38 32 2206.89 1.77 48.82 189.29 130.27 17 15 19 1206.9 17.52 30.30
 70.00 18 24 58 1893.84 7.58 27.80 193.66 123.40 18 56 32 893.8 20.50 6.93
 80.00 20 47 44 1446.71 14.18 357.75 197.53 116.55 21 11 51 446.7 23.90 334.58
 84.93 22 36 48 1095.87 19.77 334.47 200.12 111.23 22 55 4 95.9 26.78 309.53
 100.00 23 30 36 6209.22 14.18 297.03 197.53 116.55 23 14 5 5209.2 23.90 273.86
 110.00 23 24 25 6228.69 7.58 294.63 193.66 123.40 25 0 14 5228.7 20.50 273.75

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1649 TRA -.5348 TC3 .6158 BAU .0984 SGT 1133.8 SGR 598.9 SG3 455.8 ST 20.5 SR 27.4 SS 17.6
 RDE -.3257 RRA .1303 RC3 .0860 FAU .09824 RRT -.1136 RRF .1527 RTF -.6875 CRT .5625 CR8 -.6447 CST .2558
 FDE -.2555 FRA 1.1406 FC3 -6.9622 BSP 1655 SGB 1282.3 R23 -.0454 R13 .6901 LSA 31.9 MSA 21.4 SSA 1.9
 BDE .3650 BRA .5505 BC3 .6218 FSP 694 SG1 1136.6 SG2 593.6 THA 175.28 EL1 30.7 EL2 15.1 ALF 58.73

LAUNCH DATE MAY 24 1971

FLIGHT TIME 138.00

ARRIVAL DATE OCT 9 1971

HELIOCENTRIC CONIC

DISTANCE 341.944

EARTH TO MARS

RL 151.50 LAL -.00 LOL 242.20 VL 32.893 GAL 1.51 AZL 91.63 HCA 112.59 SMA 193.51 ECC .21864 INC 1.6322 V1 29.409
 RP 207.66 LAP -1.51 LOP 354.80 VP 24.338 GAP 11.92 AZP 89.37 TAL 8.43 TAP 121.03 RCA 151.20 APO 235.82 V2 26.381
 RC 85.104 GL -15.89 GP -2.13 ZAL 80.87 ZAP 149.09 ETS 183.70 ZAE 173.38 ETE 357.71 ZAC 97.07 ETC 278.89 LVI -17.49

PLANETOCENTRIC CONIC

C3 11.529 VHL 3.395 DLA -28.89 RAL 330.90 RAD 6638.8 VEL 11.472 PTH 6.52 VHP 4.991 DPA -17.29 RAP 327.63 ECC 1.1897
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 18 16 2410.12 -2.90 62.63 183.84 137.51 15 58 26 1410.1 15.39 46.86
 60.00 16 38 57 2195.48 2.27 48.27 188.81 130.25 17 15 33 1195.5 17.99 29.70
 70.00 18 26 22 1879.55 8.12 27.04 193.19 123.29 18 57 42 879.6 20.95 6.07
 80.00 20 52 41 1421.25 14.95 356.26 197.16 116.15 21 16 22 421.2 24.44 332.88
 83.85 22 26 49 1118.83 20.04 336.26 199.50 111.25 22 45 27 118.8 27.03 311.27
 100.00 23 35 33 6183.78 14.95 295.53 197.16 116.15 23 18 37 5183.8 24.44 272.16
 110.00 23 25 48 6214.41 8.12 293.87 193.19 123.29 25 9 23 5214.4 20.95 272.89

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1647 TRA -.5297 TC3 .6054 BAU .0941 SGT 1128.1 SGR 596.0 SG3 485.3 ST 20.6 SR 27.2 SS 18.2
 RDE -.3197 RRA .1286 RC3 .0780 FAU .10019 RRT -.1181 RRF .1639 RTF -.6765 CRT .5676 CR8 -.6596 CST .2306
 FDE -.2775 FRA 1.1864 FC3 -7.5238 BSP 1664 SGB 1275.9 R23 -.0542 R13 .6796 LSA 32.0 MSA 21.6 SSA 1.9
 BDE .3586 BRA .5412 BC3 .6104 FSP 746 SG1 1131.1 SG2 590.3 THA 175.09 EL1 30.6 EL2 15.1 ALF 58.23

LAUNCH DATE MAY 24 1971

FLIGHT TIME 140.00

ARRIVAL DATE OCT 11 1971

HELIOCENTRIC CONIC

DISTANCE 345.934

EARTH TO MARS

RL 151.50 LAL -.00 LOL 242.20 VL 32.809 GAL 1.53 AZL 91.62 HCA 113.85 SMA 192.69 ECC .21537 INC 1.6215 V1 29.409
 RP 207.80 LAP -1.48 LOP 356.05 VP 24.262 GAP 11.61 AZP 89.34 TAL 8.64 TAP 122.49 RCA 151.19 APO 234.19 V2 26.365
 RC 86.843 GL -15.97 GP -2.21 ZAL 80.59 ZAP 147.60 ETS 183.62 ZAE 174.28 ETE 355.17 ZAC 97.03 ETC 278.85 LVI -17.36

PLANETOCENTRIC CONIC

C3 11.239 VHL 3.352 DLA -29.06 RAL 330.64 RAD 6638.7 VEL 11.460 PTH 6.51 VHP 4.844 DPA -17.44 RAP 327.43 ECC 1.1850
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 18 10 2400.82 -2.43 62.24 183.38 137.53 15 58 10 1400.8 15.84 46.24
 60.00 16 39 18 2184.96 2.74 47.77 188.34 130.22 17 15 43 1185.0 18.41 29.14
 70.00 18 27 37 1886.36 8.61 26.34 192.74 123.18 18 58 44 866.4 21.37 5.27
 80.00 20 57 38 1396.39 15.69 354.78 196.83 115.73 21 20 55 396.4 24.95 331.21
 83.01 22 18 58 1135.35 20.28 337.58 198.93 111.27 22 37 54 135.3 27.26 312.54
 100.00 23 40 30 6158.90 15.69 294.06 196.83 115.73 23 23 9 5158.9 24.95 270.48
 110.00 23 27 4 6201.22 8.61 293.16 192.74 123.18 23 10 25 5201.2 21.37 272.09

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1831 TRA -.5180 TC3 .5911 BAU .0894 SGT 1119.2 SGR 593.1 SG3 516.5 ST 20.6 SR 27.1 SS 19.0
 RDE -.3139 RRA .1271 RC3 .0687 FAU .10538 RRT -.1249 RRF .1773 RTF -.6153 CRT .5695 CR8 -.6770 CST .2094
 FDE -.3040 FRA 1.2364 FC3 -8.1173 BSP 1660 SGB 1266.6 R23 -.0631 R13 .6691 LSA 32.2 MSA 21.6 SSA 2.0
 BDE .3538 BRA .5314 BC3 .5951 FSP 802 SG1 1122.6 SG2 586.7 THA 174.78 EL1 30.5 EL2 15.0 ALF 58.01

LAUNCH DATE MAY 24 1971

FLIGHT TIME 142.00

ARRIVAL DATE OCT 13 1971

HELIOCENTRIC CONIC

DISTANCE 349.944

EARTH TO MARS

RL 151.50 LAL -.00 LOL 242.20 VL 32.567 GAL 1.54 AZL 91.61 HCA 115.10 SMA 191.94 ECC .21234 INC 1.6106 V1 29.409
 RP 207.94 LAP -1.46 LOP 357.31 VP 24.188 GAP 11.30 AZP 89.32 TAL 8.84 TAP 123.94 RCA 151.18 APO 232.69 V2 26.349
 RC 88.816 GL -16.04 GP -2.29 ZAL 80.34 ZAP 146.07 ETS 183.54 ZAE 175.25 ETE 351.53 ZAC 96.99 ETC 278.79 LVI -17.21

PLANETOCENTRIC CONIC

C3 10.972 VHL 3.312 DLA -29.22 RAL 330.39 RAD 6638.5 VEL 11.448 PTH 6.50 VHP 4.702 DPA -17.61 RAP 327.20 ECC 1.1806
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 18 1 2392.28 -2.00 61.88 182.95 137.54 15 57 54 1392.3 16.26 45.85
 60.00 16 39 34 2175.34 3.16 47.31 187.91 130.20 17 15 50 1175.3 18.80 28.62
 70.00 18 28 43 1854.30 9.06 25.69 192.32 123.07 18 59 37 854.3 21.74 4.53
 80.00 21 2 34 1372.24 16.40 353.34 196.52 115.51 21 25 26 372.2 25.41 329.57
 82.34 22 12 38 1147.59 20.51 338.58 198.38 111.28 22 31 46 147.6 27.46 313.48
 100.00 23 45 26 6134.76 16.40 292.61 196.52 115.51 23 27 41 5134.8 25.41 268.64
 110.00 23 28 10 6189.16 9.06 292.52 192.32 123.07 25 11 19 5189.2 21.74 271.36

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1612 TRA -.5053 TC3 .5706 BAU .0841 SGT 1106.1 SGR 590.1 SG3 549.0 ST 20.5 SR 26.9 SS 19.8
 RDE -.3084 RRA .1258 RC3 .0582 FAU .11078 RRT -.1323 RRF .1919 RTF -.6523 CRT .5716 CR8 -.6939 CST .1798
 FDE -.3324 FRA 1.2679 FC3 -8.7407 BSP 1633 SGB 1253.7 R23 -.0730 R13 .6569 LSA 32.4 MSA 21.9 SSA 2.0
 BDE .3480 BRA .5207 BC3 .5735 FSP 858 SG1 1109.9 SG2 582.9 THA 174.42 EL1 30.4 EL2 14.9 ALF 57.90

LAUNCH DATE MAY 24 1971

FLIGHT TIME 144.00

ARRIVAL DATE OCT 15 1971

HELIOCENTRIC CONIC

RL 151.50 LAL -.00 LOL 242.20 VL 32.528 GAL 1.58 AZL 91.60 HCA 116.36 SMA 191.24 ECC .20952 INC 1.5995 V1 29.409
RP 208.08 LAP -1.43 LOP 359.58 VP 24.117 GAP 11.00 AZP 89.29 TAL 9.02 TAP 125.37 RCA 151.17 APO 231.31 V2 26.332
RC 90.421 GL -16.09 GP -2.38 ZAL 80.11 ZAP 144.51 ETS 183.47 ZAE 176.26 ETE 345.78 ZAC 96.94 ETC 278.73 LVI -17.05

PLANETOCENTRIC CONIC

C3 10.725 VHL 3.275 DLA -29.35 RAL 330.16 RAD 6630.4 VEL 11.437 PTH 6.49 VHP 4.566 DPA -17.80 RAP 326.93 ECC 1.1765
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 17 52 2384.51 -1.61 61.56 182.96 137.56 15 57 37 1384.5 16.63 45.50
60.00 16 39 46 2168.62 3.54 46.89 187.51 130.17 17 15 53 1166.6 19.15 28.15
70.00 18 29 39 1843.40 9.46 25.11 191.92 122.97 19 0 23 843.4 22.08 3.87
80.00 21 7 25 1348.98 17.07 351.94 196.24 114.87 21 29 54 349.0 25.85 327.98
81.80 22 7 27 1156.66 20.72 339.33 197.88 111.27 22 26 44 156.7 27.65 314.19
100.00 23 50 17 6111.49 17.07 291.21 196.24 114.87 25 32 9 5111.5 25.85 267.25
110.00 23 29 6 6178.26 9.46 291.93 191.92 122.97 25 12 4 5178.3 22.08 270.69

DIFFERENTIAL CORRECTIONS

TDE -.1599 TRA -.4937 TC3 .5448 BAU .0784
RDE -.3030 RRA .1246 RC3 .0463 FAU .11647
FDE -.3609 FRA 1.3404 FC3-9.4016 BSP 1597
BDE .3426 BRA .5091 BC3 .5467 FSP 919

MID-COURSE EXECUTION ACCURACY

SGT 1089.7 SGR 586.9 SG3 583.2
RRT -.1387 RRF .2072 RTF -.6372
SGB 1237.7 R23 -.0847 R13 .6428
SG1 1093.9 SG2 579.0 THA 174.06

ORBIT DETERMINATION ACCURACY

ST 20.4 SR 26.8 SS 20.5
CRT .5763 CRS -.7087 CST .1537
LSA 32.7 NSA 22.0 SSA 2.0
EL1 30.3 EL2 14.8 ALF 57.73

LAUNCH DATE MAY 24 1971

FLIGHT TIME 146.00

ARRIVAL DATE OCT 17 1971

HELIOCENTRIC CONIC

RL 151.50 LAL -.00 LOL 242.20 VL 32.492 GAL 1.57 AZL 91.59 HCA 117.61 SMA 190.60 ECC .20691 INC 1.5892 V1 29.409
RP 208.24 LAP -1.41 LOP 359.81 VP 24.049 GAP 10.71 AZP 89.26 TAL 9.18 TAP 126.78 RCA 151.16 APO 230.04 V2 26.313
RC 92.259 GL -16.13 GP -2.47 ZAL 79.90 ZAP 142.92 ETS 183.39 ZAE 177.26 ETE 335.41 ZAC 96.90 ETC 278.67 LVI -16.88

PLANETOCENTRIC CONIC

C3 10.497 VHL 3.240 DLA -29.47 RAL 329.99 RAD 6638.3 VEL 11.428 PTH 6.48 VHP 4.437 DPA -18.00 RAP 326.62 ECC 1.1728
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 17 41 2377.51 -1.26 61.27 182.19 137.56 15 57 19 1377.5 16.97 45.17
60.00 16 39 54 2158.80 3.89 46.51 187.13 130.14 17 15 53 1158.8 19.47 27.73
70.00 18 30 25 1833.68 9.82 24.59 191.55 122.88 19 0 59 833.7 22.37 3.27
80.00 21 12 7 1326.86 17.70 350.60 195.98 114.45 21 34 14 326.9 26.24 326.45
81.36 22 3 14 1163.18 20.90 339.89 197.41 111.26 22 22 38 163.2 27.80 314.71
100.00 23 54 59 6089.37 17.70 289.87 195.98 114.45 25 36 28 5089.4 26.24 265.72
110.00 23 29 52 6168.54 9.82 291.41 191.55 122.88 25 12 40 5168.5 22.37 270.09

DIFFERENTIAL CORRECTIONS

TDE -.1594 TRA -.4819 TC3 .5112 BAU .0719
RDE -.2977 RRA .1236 RC3 .0330 FAU .12244
FDE -.3876 FRA 1.3970 FC-10.0981 BSP 1546
BDE .3377 BRA .4975 BC3 .5123 FSP 981

MID-COURSE EXECUTION ACCURACY

SGT 1071.1 SGR 583.7 SG3 619.1
RRT -.1445 RRF .2233 RTF -.6192
SGB 1219.8 R23 -.0984 R13 .6261
SG1 1075.8 SG2 575.1 THA 173.69

ORBIT DETERMINATION ACCURACY

ST 20.4 SR 26.6 SS 21.3
CRT .5832 CRS -.7194 CST .1298
LSA 33.0 NSA 22.0 SSA 2.0
EL1 30.1 EL2 14.6 ALF 57.43

LAUNCH DATE MAY 24 1971

FLIGHT TIME 148.00

ARRIVAL DATE OCT 19 1971

HELIOCENTRIC CONIC

RL 151.50 LAL -.00 LOL 242.20 VL 32.459 GAL 1.58 AZL 91.58 HCA 118.86 SMA 190.01 ECC .20448 INC 1.5786 V1 29.409
RP 208.41 LAP -1.38 LOP 1.08 VP 23.983 GAP 10.43 AZP 89.24 TAL 9.32 TAP 128.18 RCA 151.16 APO 228.86 V2 26.294
RC 94.128 GL -16.16 GP -2.57 ZAL 79.72 ZAP 141.29 ETS 183.31 ZAE 178.14 ETE 313.26 ZAC 96.87 ETC 278.59 LVI -16.69

PLANETOCENTRIC CONIC

C3 10.286 VHL 3.207 DLA -29.58 RAL 329.77 RAD 6638.2 VEL 11.418 PTH 6.47 VHP 4.313 DPA -18.22 RAP 326.28 ECC 1.1693
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 17 29 2371.25 -.95 61.01 181.85 137.57 15 57 0 1371.3 17.27 44.89
60.00 16 39 57 2151.87 4.19 46.18 186.78 130.12 17 15 49 1151.9 19.74 27.35
70.00 18 31 0 1825.18 10.14 24.13 191.21 122.79 19 1 26 825.2 22.63 2.74
80.00 21 16 31 1306.27 18.27 349.34 195.74 114.03 21 38 18 306.3 26.59 325.02
81.02 21 59 52 1167.59 21.06 340.29 196.98 111.23 22 19 19 167.6 27.94 315.06
100.00 0 3 19 6068.78 18.27 288.61 195.74 114.03 1 44 28 5068.8 26.59 264.29
110.00 23 30 27 6160.04 10.14 290.95 191.21 122.79 25 13 7 5160.0 22.63 269.57

DIFFERENTIAL CORRECTIONS

TDE -.1597 TRA -.4898 TC3 .4865 BAU .0642
RDE -.2925 RRA .1229 RC3 .0184 FAU .12854
FDE -.4136 FRA 1.4564 FC-10.8188 BSP 1494
BDE .3333 BRA .4856 BC3 .4869 FSP 1048

MID-COURSE EXECUTION ACCURACY

SGT 1049.8 SGR 580.5 SG3 656.0
RRT -.1491 RRF .2403 RTF -.5162
SGB 1199.6 R23 -.1151 R13 .6047
SG1 1054.8 SG2 571.2 THA 173.32

ORBIT DETERMINATION ACCURACY

ST 20.3 SR 26.4 SS 22.0
CRT .5925 CRS -.7280 CST .1058
LSA 33.2 NSA 22.0 SSA 2.1
EL1 30.1 EL2 14.4 ALF 57.03

LAUNCH DATE MAY 24 1971

FLIGHT TIME 152.00

ARRIVAL DATE OCT 23 1971

HELIOCENTRIC CONIC

RL 151.50 LAL -.00 LOL 242.20 VL 32.400 GAL 1.39 AZL 91.35 HCA 121.35 SMA 188.97 ECC .20015 INC 1.5527 V1 29.409
RP 208.76 LAP -1.33 LOP 3.56 VP 23.857 GAP 9.88 AZP 89.19 TAL 9.55 TAP 130.90 RCA 151.15 APO 226.79 V2 26.254
RC 97.955 GL -16.19 GP -2.77 ZAL 79.44 ZAP 137.91 ETS 183.15 ZAE 177.76 ETE 233.11 ZAC 96.79 ETC 278.41 LVI -16.27

PLANETOCENTRIC CONIC

C3 9.910 VHL 3.148 DLA -29.68 RAL 329.48 RAD 6638.0 VEL 11.402 PTH 6.45 VHP 4.082 DPA -18.70 RAP 325.47 ECC 1.1631
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 17 1 2380.92 -.43 60.57 181.26 137.57 15 56 22 1360.9 17.77 44.41
60.00 16 39 49 2140.83 4.68 45.64 186.16 130.07 17 15 30 1140.6 20.19 26.74
70.00 18 31 37 1811.79 10.63 23.40 190.58 122.65 19 1 48 811.8 23.03 1.91
80.00 21 23 41 1272.10 19.21 347.23 195.29 113.31 21 44 53 272.1 27.13 322.63
80.59 21 55 20 1170.93 21.33 340.65 196.21 111.14 22 14 51 170.9 28.14 315.35
100.00 0 10 29 6034.61 19.21 286.51 195.29 113.31 1 51 3 5034.6 27.13 261.90
110.00 23 31 3 6146.85 10.63 290.23 190.58 122.65 25 13 30 5146.6 23.03 268.73

DIFFERENTIAL CORRECTIONS

TDE -.1494 TRA -.4323 TC3 .4003 BAU .0531
RDE -.2831 RRA .1214 RC3 -.0172 FAU .14251
FDE -.4912 FRA 1.5622 FC-12.4503 BSP 1207
BDE .3201 BRA .4490 BC3 .4006 FSP 1164

MID-COURSE EXECUTION ACCURACY

SGT 978.5 SGR 574.7 SG3 738.0
RRT -.1653 RRF .2807 RTF -.5619
SGB 1134.8 R23 -.1434 R13 .5757
SG1 985.4 SG2 562.8 THA 171.75

ORBIT DETERMINATION ACCURACY

ST 19.2 SR 26.0 SS 23.8
CRT .5962 CRS -.7626 CST .0489
LSA 34.0 NSA 21.3 SSA 2.1
EL1 29.3 EL2 13.7 ALF 58.67

LAUNCH DATE MAY 24 1971

FLIGHT TIME 154.00

ARRIVAL DATE OCT 25 1971

HELIOCENTRIC CONIC
 RL 151.50 LAL -.00 LOL 242.20 VL 32.373 GAL 1.59 AZL 91.54 HCA 122.59 SMA 188.51 ECC .19823 INC 1.5403 V1 29.409
 RP 208.94 LAP -1.30 LOP 4.80 VP 23.798 GAP 9.61 AZP 89.17 TAL 9.64 TAP 132.23 RCA 151.14 APO 225.00 V2 26.232
 RC 99.910 GL -16.18 GP -2.88 ZAL 79.35 ZAP 136.17 ETS 183.06 ZAE 178.59 ETE 216.18 ZAC 96.76 ETC 278.31 LVI -18.04

PLANETOCENTRIC CONIC
 C3 9.742 VHL 3.121 DLA -29.71 RAL 329.38 RAD 6637.9 VEL 11.395 PTH 6.45 VHP 3.975 DPA -18.97 RAP 325.02 ECC 1.1603
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 16 47 2356.89 -.22 60.41 181.02 137.58 15 56 3 1356.9 17.96 44.22
 60.00 16 39 38 2136.40 4.87 45.44 185.90 130.06 17 15 16 1136.4 20.36 26.51
 70.00 18 31 37 1807.07 10.80 23.15 190.30 122.60 19 1 44 807.1 23.17 1.62
 80.00 21 25 32 1261.52 19.49 346.57 195.05 113.08 21 46 33 261.5 27.29 321.88
 80.49 21 54 12 1169.90 21.43 340.61 195.89 111.08 22 13 41 169.9 28.21 315.28
 100.00 0 12 20 6024.03 19.49 285.85 195.05 113.08 1 52 44 9024.0 27.29 261.16
 110.00 23 31 3 6141.93 10.80 289.97 190.30 122.60 25 13 25 5141.9 23.17 268.44

DIFFERENTIAL CORRECTIONS
 TDE -.1601 TRA -.4281 TC3 .2890 BAU .0379 SGT 988.3 SGR 571.6 SG3 776.7 ST 20.0 SR 25.8 SS 24.3
 RDE -.2779 RRA .1216 RC3 -.0346 FAU .14846 RRT -.1562 RRF .3006 RTF -.5014 CRT .6250 CRS -.7560 CST .0227
 FDE -.5041 FRA 1.6475 FC-13.1940 BSP 1229 SGB 1124.4 R23 -.1844 R13 .5177 LSA 34.3 MSA 21.8 SSA 2.1
 BDE .3207 BRA .4450 BC3 .2911 FSP 1252 SGI 974.5 SG2 561.0 THA 172.10 EL1 29.7 EL2 13.6 ALF 56.17

LAUNCH DATE MAY 24 1971

FLIGHT TIME 156.00

ARRIVAL DATE OCT 27 1971

HELIOCENTRIC CONIC
 RL 151.50 LAL -.00 LOL 242.20 VL 32.349 GAL 1.59 AZL 91.53 HCA 123.83 SMA 188.09 ECC .19646 INC 1.5276 V1 29.409
 RP 209.14 LAP -1.27 LOP 6.04 VP 23.740 GAP 9.35 AZP 89.15 TAL 9.71 TAP 133.54 RCA 151.14 APO 225.05 V2 26.209
 RC 101.892 GL -16.17 GP -3.00 ZAL 79.29 ZAP 134.39 ETS 182.97 ZAE 175.22 ETE 207.82 ZAC 96.72 ETC 278.20 LVI -15.79

PLANETOCENTRIC CONIC
 C3 9.587 VHL 3.096 DLA -29.72 RAL 329.30 RAD 6637.8 VEL 11.388 PTH 6.44 VHP 3.874 DPA -19.25 RAP 324.52 ECC 1.1578
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 16 31 2353.56 -.06 60.27 180.80 137.58 15 55 44 1353.6 18.12 44.06
 60.00 16 39 25 2133.01 5.02 45.27 185.66 130.04 17 14 58 1133.0 20.49 26.32
 70.00 18 31 25 1803.54 10.93 22.96 190.05 122.56 19 1 28 803.5 23.28 1.40
 80.00 21 25 51 1256.33 19.63 346.25 194.78 112.96 21 46 48 256.3 27.37 321.52
 80.47 21 53 42 1167.35 21.52 340.46 195.60 111.01 22 13 9 167.4 28.25 315.10
 100.00 0 12 39 6018.84 19.63 285.53 194.78 112.96 1 52 58 5018.8 27.37 260.79
 110.00 23 30 51 6138.40 10.93 289.78 190.05 122.56 25 13 9 5138.4 23.28 268.22

DIFFERENTIAL CORRECTIONS
 TDE -.1651 TRA -.4165 TC3 .1946 BAU .0259 SGT 946.3 SGR 568.8 SG3 818.7 ST 20.3 SR 25.6 SS 25.0
 RDE -.2730 RRA .1216 RC3 -.0347 FAU .15523 RRT -.1482 RRF .3221 RTF -.4470 CRT .6451 CRS -.7562 CST -.0040
 FDE -.5247 FRA 1.7232 FC-14.0178 BSP 1168 SGB 1104.1 R23 -.2221 R13 .4663 LSA 34.6 MSA 22.0 SSA 2.1
 BDE .3190 BRA .4339 BC3 .2021 FSP 1334 SGI 952.1 SG2 559.1 THA 172.21 EL1 29.8 EL2 13.3 ALF 54.87

LAUNCH DATE MAY 24 1971

FLIGHT TIME 158.00

ARRIVAL DATE OCT 29 1971

HELIOCENTRIC CONIC
 RL 151.50 LAL -.00 LOL 242.20 VL 32.327 GAL 1.59 AZL 91.51 HCA 125.07 SMA 187.71 ECC .19483 INC 1.5144 V1 29.409
 RP 209.34 LAP -1.24 LOP 7.28 VP 23.684 GAP 9.10 AZP 89.13 TAL 9.78 TAP 134.83 RCA 151.14 APO 224.28 V2 26.186
 RC 103.900 GL -16.14 GP -3.11 ZAL 79.25 ZAP 132.58 ETS 182.88 ZAE 173.74 ETE 203.00 ZAC 96.69 ETC 278.08 LVI -15.53

PLANETOCENTRIC CONIC
 C3 9.443 VHL 3.073 DLA -29.70 RAL 329.25 RAD 6637.8 VEL 11.382 PTH 6.43 VHP 3.778 DPA -19.55 RAP 323.99 ECC 1.1554
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 16 14 2350.89 .08 60.16 180.60 137.58 15 55 25 1350.9 18.25 43.94
 60.00 16 39 5 2130.44 5.13 45.15 185.45 130.03 17 14 36 1130.4 20.59 26.18
 70.00 18 31 1 1801.21 11.02 22.83 189.81 122.53 19 1 2 801.2 23.35 1.25
 80.00 21 24 32 1256.92 19.61 346.29 194.49 112.97 21 45 29 256.9 27.36 321.56
 80.51 21 53 50 1163.24 21.58 340.18 195.34 110.92 22 13 14 163.2 28.27 314.80
 100.00 0 11 20 6019.43 19.61 285.56 194.49 112.97 1 51 39 5019.4 27.36 260.83
 110.00 23 30 27 6136.07 11.02 289.65 189.81 122.53 25 12 43 5136.1 23.35 268.07

DIFFERENTIAL CORRECTIONS
 TDE -.1643 TRA -.3982 TC3 .1155 BAU .0176 SGT 910.8 SGR 566.5 SG3 863.5 ST 20.0 SR 25.3 SS 25.7
 RDE -.2685 RRA .1216 RC3 -.0774 FAU .16274 RRT -.1417 RRF .3460 RTF -.5066 CRT .6583 CRS -.7663 CST -.0375
 FDE -.5589 FRA 1.7888 FC-14.9200 BSP 1020 SGB 1072.6 R23 -.2578 R13 .4202 LSA 35.1 MSA 21.7 SSA 2.1
 BDE .3148 BRA .4183 BC3 .1391 FSP 1403 SGI 916.4 SG2 557.4 THA 171.98 EL1 29.6 EL2 12.9 ALF 55.01

LAUNCH DATE MAY 24 1971

FLIGHT TIME 160.00

ARRIVAL DATE OCT 31 1971

HELIOCENTRIC CONIC
 RL 151.50 LAL -.00 LOL 242.20 VL 32.307 GAL 1.58 AZL 91.50 HCA 126.31 SMA 187.38 ECC .19333 INC 1.5010 V1 29.409
 RP 209.55 LAP -1.21 LOP 8.51 VP 23.629 GAP 8.85 AZP 89.11 TAL 9.79 TAP 136.09 RCA 151.14 APO 223.59 V2 26.162
 RC 105.933 GL -16.10 GP -3.23 ZAL 79.24 ZAP 130.73 ETS 182.79 ZAE 172.18 ETE 199.88 ZAC 96.65 ETC 277.96 LVI -15.25

PLANETOCENTRIC CONIC
 C3 9.309 VHL 3.051 DLA -29.67 RAL 329.23 RAD 6637.7 VEL 11.376 PTH 6.43 VHP 3.687 DPA -19.86 RAP 323.42 ECC 1.1532
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 15 58 2348.93 .18 60.08 180.44 137.58 15 55 5 1348.9 18.35 43.85
 60.00 16 38 42 2128.76 5.20 45.07 185.26 130.02 17 14 11 1128.8 20.66 26.09
 70.00 18 30 25 1800.16 11.06 22.77 189.60 122.52 19 0 25 800.2 23.38 1.18
 80.00 21 21 38 1263.17 19.45 346.68 194.18 113.11 21 42 41 263.2 27.27 322.00
 80.64 21 54 42 1157.43 21.62 339.76 195.12 110.82 22 14 0 157.4 28.27 314.37
 100.00 0 8 26 6025.68 19.45 285.95 194.18 113.11 1 48 51 5025.7 27.27 261.27
 110.00 23 29 51 6135.02 11.06 289.60 189.60 122.52 25 12 6 5135.0 23.38 268.01

DIFFERENTIAL CORRECTIONS
 TDE -.1722 TRA -.3879 TC3 -.0093 BAU .0125 SGT 898.5 SGR 564.3 SG3 906.9 ST 20.5 SR 25.1 SS 26.2
 RDE -.2635 RRA .1222 RC3 -.0999 FAU .16953 RRT -.1204 RRF .3696 RTF -.3184 CRT .6824 CRS -.7595 CST -.0594
 FDE -.5704 FRA 1.8789 FC-15.7654 BSP 961 SGB 1061.0 R23 -.3086 R13 .3428 LSA 35.3 MSA 22.0 SSA 2.2
 BDE .3148 BRA .4067 BC3 .1003 FSP 1493 SGI 902.7 SG2 557.6 THA 172.99 EL1 29.8 EL2 12.6 ALF 53.28

LAUNCH DATE MAY 24 1971

FLIGHT TIME 162.00

ARRIVAL DATE NOV 2 1971

Heliocentric Conic: RL 151.50 LAL -.00 LOL 242.20 VL 32.208 GAL 1.57 AZL 91.49 HCA 127.84 SMA 187.09 ECC .18196 INC 1.4872 V1 29.409
 RP 209.78 LAP -1.18 LOP 9.75 VP 23.976 GAP 8.61 AZP 89.09 TAL 9.80 TAP 137.34 RCA 151.14 APO 222.95 V2 26.137
 RC 107.990 GL -16.08 GP -3.38 ZAL 79.26 ZAP 129.85 ETS 189.60 ZAE 170.56 ETE 197.68 ZAC 96.61 ETC 277.82 LVI -14.96

Planetocentric Conic: C3 9.185 VHL 3.031 DLA -29.61 RAL 329.23 RAD 6637.6 VEL 11.371 PTH 6.42 VHP 3.601 DPA -20.18 RAP 322.81 ECC 1.1312
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 15 38 2347.66 .24 60.02 180.31 137.58 15 54 46 1347.7 18.41 43.79
 60.00 16 38 15 2127.89 5.24 45.03 185.10 130.02 17 13 42 1127.9 20.70 26.04
 70.00 18 29 37 1800.27 11.05 22.78 189.40 122.52 18 59 37 800.3 23.37 1.19
 80.00 21 17 42 1273.21 19.18 347.30 193.86 113.33 21 38 55 273.2 27.12 322.71
 80.83 21 56 14 1149.98 21.84 339.22 194.93 110.72 22 15 24 150.0 28.25 313.81
 100.00 0 4 30 6035.73 19.18 286.98 193.86 113.33 1 45 6 5035.7 27.12 261.98
 110.00 23 29 3 6135.13 11.05 289.60 189.40 122.52 25 11 18 5135.1 23.37 268.01

Differential Corrections: TDE -.1746 TRA -.3705 TC3 -.1225 BAU .0215 SGT 873.9 SGR 562.6 SG3 952.3 ST 20.5 SR 24.8 SS 26.9
 RDE -.2590 RRA 1.227 RC3 -.1248 FAU .17692 RRT -.0971 RRF .3952 RTF -.2389 CRT .7009 CRS -.7636 CST -.0917
 FDE -.5967 FRA 1.9541 FC-16.6746 BSP 830 SGB 1039.3 R23 -.3569 R13 .2634 LSA 35.7 MSA 21.8 SSA 2.2
 BDE .3123 BRA .3903 BC3 .1749 FSP 1573 SG1 876.8 SG2 558.1 THA 173.97 EL1 29.8 EL2 12.2 ALF 52.73

LAUNCH DATE MAY 24 1971

FLIGHT TIME 164.00

ARRIVAL DATE NOV 4 1971

Heliocentric Conic: RL 151.50 LAL -.00 LOL 242.20 VL 32.271 GAL 1.56 AZL 91.47 HCA 128.77 SMA 186.78 ECC .19070 INC 1.4728 V1 29.409
 RP 209.99 LAP -3.15 LOP 10.98 VP 23.525 GAP 8.38 AZP 89.08 TAL 9.79 TAP 138.56 RCA 151.14 APO 222.37 V2 26.111
 RC 110.071 GL -15.98 GP -3.49 ZAL 79.31 ZAP 126.94 ETS 182.58 ZAE 168.86 ETE 196.03 ZAC 96.58 ETC 277.68 LVI -14.88

Planetocentric Conic: C3 9.070 VHL 3.012 DLA -29.53 RAL 329.26 RAD 6637.6 VEL 11.366 PTH 6.42 VHP 3.520 DPA -20.52 RAP 322.16 ECC 1.1493
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 15 18 2347.01 .27 59.99 180.19 137.58 15 54 26 1347.0 18.44 43.78
 60.00 16 37 42 2127.80 5.24 45.02 184.96 130.02 17 13 10 1127.8 20.70 26.03
 70.00 18 28 38 1801.52 11.01 22.85 189.23 122.54 18 58 39 801.5 23.34 1.27
 80.00 21 13 7 1285.87 18.83 348.08 193.55 113.60 21 34 32 285.9 26.92 323.60
 81.11 21 58 30 1140.61 21.85 338.53 194.76 110.59 22 17 31 140.6 28.20 313.11
 100.00 23 55 58 6048.38 18.83 287.36 193.55 113.60 25 36 47 5048.4 26.92 262.87
 110.00 23 28 4 6136.38 11.01 289.67 189.23 122.54 25 10 21 5136.4 23.34 268.09

Differential Corrections: TDE -.1711 TRA -.3459 TC3 -.2192 BAU .0324 SGT 834.0 SGR 561.9 SG3 1001.3 ST 19.8 SR 24.6 SS 27.7
 RDE -.2549 RRA 1.228 RC3 -.1533 FAU .16531 RRT -.0705 RRF .4231 RTF -.1573 CRT .7155 CRS -.7791 CST -.1370
 FDE -.6413 FRA 2.0097 FC-17.6875 BSP 623 SGB 1005.6 R23 -.4032 R13 .1809 LSA 36.3 MSA 21.1 SSA 2.2
 BDE .3070 BRA .3671 BC3 .2675 FSP 1621 SG1 835.7 SG2 559.4 THA 175.06 EL1 29.4 EL2 11.6 ALF 53.40

LAUNCH DATE MAY 24 1971

FLIGHT TIME 166.00

ARRIVAL DATE NOV 6 1971

Heliocentric Conic: RL 151.50 LAL -.00 LOL 242.20 VL 32.256 GAL 1.55 AZL 91.46 HCA 130.00 SMA 186.50 ECC .18956 INC 1.4581 V1 29.409
 RP 210.22 LAP -1.12 LOP 12.21 VP 23.474 GAP 8.15 AZP 89.06 TAL 9.76 TAP 139.76 RCA 151.15 APO 221.85 V2 26.085
 RC 112.177 GL -15.91 GP -3.63 ZAL 79.39 ZAP 125.00 ETS 182.48 ZAE 167.12 ETE 194.75 ZAC 96.54 ETC 277.53 LVI -14.33

Planetocentric Conic: C3 8.963 VHL 2.994 DLA -29.43 RAL 329.32 RAD 6637.5 VEL 11.361 PTH 6.41 VHP 3.445 DPA -20.87 RAP 321.49 ECC 1.1475
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 14 59 2347.10 .27 60.00 180.12 137.58 15 54 6 1347.1 18.43 43.76
 60.00 16 37 7 2128.63 5.21 45.06 184.86 130.02 17 12 35 1128.6 20.67 26.08
 70.00 18 27 27 1804.06 10.91 22.98 189.08 122.57 18 57 31 804.1 23.26 1.43
 80.00 21 7 57 1301.01 18.42 349.02 193.25 113.92 21 29 30 301.0 26.68 324.65
 81.48 22 1 42 1128.92 21.83 337.66 194.64 110.46 22 20 30 128.9 28.13 312.23
 100.00 23 50 49 6063.53 18.42 288.29 193.25 113.92 25 31 52 5063.5 26.68 263.93
 110.00 23 26 53 6138.92 10.91 289.81 189.08 122.57 25 9 12 5138.9 23.26 268.25

Differential Corrections: TDE -.1860 TRA -.3393 TC3 -.4090 BAU .0534 SGT 861.7 SGR 560.5 SG3 1042.2 ST 21.0 SR 24.2 SS 27.9
 RDE -.2495 RRA 1.245 RC3 -.1773 FAU .19107 RRT -.0167 RRF .4478 RTF -.1548 CRT .7443 CRS -.7571 CST -.1448
 FDE -.6258 FRA 2.1328 FC-18.4551 BSP 619 SGB 1027.9 R23 -.4468 R13 .0402 LSA 36.3 MSA 22.0 SSA 2.2
 BDE .3112 BRA .3614 BC3 .4456 FSP 1740 SG1 861.8 SG2 560.3 THA 178.92 EL1 30.0 EL2 11.3 ALF 50.41

LAUNCH DATE MAY 24 1971

FLIGHT TIME 168.00

ARRIVAL DATE NOV 8 1971

Heliocentric Conic: RL 151.50 LAL -.00 LOL 242.20 VL 32.248 GAL 1.54 AZL 91.44 HCA 131.23 SMA 186.27 ECC .18852 INC 1.4428 V1 29.409
 RP 210.45 LAP -1.09 LOP 13.43 VP 23.425 GAP 7.92 AZP 89.05 TAL 9.71 TAP 140.94 RCA 151.15 APO 221.38 V2 26.058
 RC 114.307 GL -15.82 GP -3.76 ZAL 79.50 ZAP 123.03 ETS 182.36 ZAE 165.33 ETE 193.71 ZAC 96.50 ETC 277.37 LVI -13.99

Planetocentric Conic: C3 8.864 VHL 2.977 DLA -29.31 RAL 329.41 RAD 6637.5 VEL 11.357 PTH 6.41 VHP 3.374 DPA -21.23 RAP 320.78 ECC 1.1459
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 14 39 2347.80 .23 60.03 180.06 137.58 15 53 47 1347.8 18.40 43.79
 60.00 16 36 26 2130.20 5.14 45.14 184.77 130.03 17 11 57 1130.2 20.60 26.17
 70.00 18 26 6 1807.64 10.78 23.18 188.95 122.61 18 56 14 807.6 23.16 1.65
 80.00 21 2 36 1317.22 17.97 350.01 192.97 114.25 21 24 33 317.2 26.41 325.78
 81.96 22 5 43 1114.96 21.60 336.61 194.55 110.31 22 24 18 115.0 28.03 311.18
 100.00 23 45 28 6079.73 17.97 289.28 192.97 114.25 25 26 47 5079.7 26.41 265.06
 110.00 23 25 32 6142.50 10.78 290.00 188.95 122.61 25 7 55 5142.5 23.16 268.48

Differential Corrections: TDE -.1917 TRA -.3214 TC3 -.5660 BAU .0714 SGT 867.7 SGR 560.0 SG3 1087.8 ST 21.3 SR 23.9 SS 28.3
 RDE -.2447 RRA 1.256 RC3 -.2059 FAU .19833 RRT .0378 RRF .4747 RTF -.0791 CRT .7660 CRS -.7524 CST -.1710
 FDE -.6347 FRA 2.2191 FC-19.3709 BSP 530 SGB 1032.7 R23 .4698 R13 .0918 LSA 36.5 MSA 22.1 SSA 2.2
 BDE .3108 BRA .3451 BC3 .6023 FSP 1820 SG1 868.1 SG2 559.3 THA 2.39 EL1 30.1 EL2 10.9 ALF 49.30

LAUNCH DATE MAY 24 1971

FLIGHT TIME 170.00

ARRIVAL DATE NOV 10 1971

HELIOCENTRIC CONIC

DISTANCE 407.451

EARTH TO MARS

RL 151.90 LAL -.00 LOL 242.20 VL 32.230 GAL 1.52 AZL 91.43 HCA 132.45 SMA 186.06 ECC .18758 INC 1.4289 V1 29.409
RP 210.70 LAP -1.05 LOP 14.65 VP 23.377 GAP 7.70 AZP 89.04 TAL 9.65 TAP 142.10 RCA 151.16 APO 220.96 V2 26.030
RC 118.460 GL -15.72 GP -3.91 ZAL 79.63 ZAP 121.04 ETS 182.24 ZAE 163.49 ETE 192.85 ZAC 96.45 ETC 277.21 LVI -13.64

PLANETOCENTRIC CONIC

C3 8.772 VHL 2.962 DLA -29.17 RAL 329.52 RAD 6637.4 VEL 11.353 PTH 6.41 VHP 3.308 DPA -21.60 RAP 320.05 ECC 1.1444
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 14 17 2349.14 .17 60.08 180.04 137.58 15 53 26 1349.1 18.34 43.86
60.00 16 35 42 2132.56 5.04 45.25 184.71 130.04 17 11 15 1132.6 20.51 26.30
70.00 18 24 35 1812.32 10.61 23.43 188.84 122.66 18 54 47 812.3 23.02 1.94
80.00 20 57 6 1334.43 17.48 351.06 192.71 114.59 21 19 21 334.4 26.11 326.97
82.55 22 10 52 1097.83 21.54 335.33 194.48 110.15 22 29 10 97.8 27.92 309.90
100.00 23 39 58 6006.95 17.48 290.33 192.71 114.59 25 21 35 5096.9 26.11 266.23
110.00 23 24 1 6147.18 10.61 290.26 188.84 122.66 25 6 28 5147.2 23.02 268.77

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1976 TRA -.3028 TC3 -.7380 BAU .0906 SGT 886.7 SGR 580.3 S63 1132.9 ST 21.8 SR 23.8 S8 28.7
RDE -.2308 RRA .1270 RC3 -.2356 FAU .20539 RRT .0995 RRF .5024 RTF .1954 CRT .7870 CRS -.7458 CST -.1944
FDE -.6400 FRA 2.3122 FC-20.2705 B8P 492 SGB 1048.9 R23 .4717 R13 .2263 LSA 36.7 MSA 22.2 S8A 2.2
BDE .3107 BRA .3284 BC3 .7728 F8P 1907 S61 889.6 S62 555.7 THA 5.91 EL1 30.2 EL2 10.4 ALF 48.17

LAUNCH DATE MAY 24 1971

FLIGHT TIME 172.00

ARRIVAL DATE NOV 12 1971

HELIOCENTRIC CONIC

DISTANCE 411.820

EARTH TO MARS

RL 151.90 LAL -.00 LOL 242.20 VL 32.219 GAL 1.50 AZL 91.41 HCA 133.87 SMA 185.87 ECC .18673 INC 1.4106 V1 29.409
RP 210.95 LAP -1.02 LOP 15.87 VP 23.330 GAP 7.49 AZP 89.03 TAL 9.56 TAP 143.23 RCA 151.17 APO 220.98 V2 26.001
RC 118.637 GL -15.61 GP -4.06 ZAL 79.80 ZAP 119.03 ETS 182.11 ZAE 161.61 ETE 192.12 ZAC 96.41 ETC 277.04 LVI -13.27

PLANETOCENTRIC CONIC

C3 8.686 VHL 2.947 DLA -29.00 RAL 329.86 RAD 6637.4 VEL 11.349 PTH 6.40 VHP 3.247 DPA -21.98 RAP 319.28 ECC 1.1430
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 13 55 2351.11 .07 60.17 180.03 137.58 15 53 8 1381.1 18.24 43.95
60.00 16 34 54 2135.69 4.90 45.40 184.67 130.05 17 10 29 1135.7 20.39 28.47
70.00 18 22 53 1818.05 10.40 23.74 188.76 122.72 18 53 11 818.0 22.85 2.30
80.00 20 51 32 1352.42 16.97 352.15 192.48 114.94 21 14 4 352.4 25.78 328.21
83.29 22 17 23 1076.76 21.47 333.74 194.44 109.98 22 35 20 76.8 27.78 308.32
100.00 23 34 23 6114.94 16.97 291.42 192.48 114.94 25 18 18 6114.9 25.78 287.49
110.00 23 22 20 6152.91 10.40 290.57 188.76 122.72 25 4 53 5152.9 22.85 289.12

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2031 TRA -.2833 TC3 -.9174 BAU .1109 SGT 919.2 SGR 561.3 S63 1178.0 ST 21.9 SR 23.2 S8 29.1
RDE -.2350 RRA .1285 RC3 -.2665 FAU .21239 RRT .1656 RRF .5308 RTF .3090 CRT .8067 CRS -.7400 CST -.2184
FDE -.6454 FRA 2.4073 FC-21.1677 B8P 525 SGB 1077.0 R23 .4555 R13 .3528 LSA 37.0 MSA 22.2 S8A 2.2
BDE .3106 BRA .3111 BC3 .9553 F8P 1986 S61 926.5 S62 549.2 THA 8.94 EL1 30.4 EL2 9.9 ALF 47.12

LAUNCH DATE MAY 24 1971

FLIGHT TIME 174.00

ARRIVAL DATE NOV 14 1971

HELIOCENTRIC CONIC

DISTANCE 415.794

EARTH TO MARS

RL 151.90 LAL -.00 LOL 242.20 VL 32.209 GAL 1.48 AZL 91.39 HCA 134.88 SMA 185.71 ECC .18597 INC 1.3936 V1 29.409
RP 211.20 LAP -.99 LOP 17.09 VP 23.284 GAP 7.28 AZP 89.02 TAL 9.46 TAP 144.35 RCA 151.17 APO 220.25 V2 25.972
RC 120.836 GL -15.48 GP -4.21 ZAL 79.99 ZAP 117.00 ETS 181.98 ZAE 159.70 ETE 191.49 ZAC 96.36 ETC 276.86 LVI -12.89

PLANETOCENTRIC CONIC

C3 8.607 VHL 2.934 DLA -28.81 RAL 329.82 RAD 6637.3 VEL 11.345 PTH 6.40 VHP 3.191 DPA -22.37 RAP 318.50 ECC 1.1417
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 13 31 2353.72 -.06 60.27 180.05 137.58 15 52 45 1353.7 18.12 44.07
60.00 16 34 1 2139.59 4.73 45.59 184.65 130.07 17 9 40 1139.6 20.23 26.68
70.00 18 21 3 1824.79 10.15 24.11 188.69 122.79 18 51 28 824.8 22.64 2.72
80.00 20 45 55 1371.04 16.43 353.27 192.27 115.28 21 8 46 371.0 25.44 329.49
84.25 22 25 44 1050.21 21.38 331.75 194.43 109.79 22 43 14 50.2 27.62 306.34
100.00 23 28 47 6133.55 16.43 292.54 192.27 115.28 25 11 0 6133.6 25.44 268.76
110.00 23 20 29 6159.65 10.15 290.93 188.69 122.79 25 3 9 5159.7 22.64 269.54

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2081 TRA -.2618 TC3 -1.1079 BAU .1320 SGT 963.4 SGR 562.9 S63 1220.9 ST 22.1 SR 22.9 S8 29.4
RDE -.2302 RRA .1301 RC3 -.2982 FAU .21904 RRT .2348 RRF .5987 RTF .1.64 CRT .8262 CRS -.7337 CST -.2427
FDE -.6473 FRA 2.4970 FC-22.0317 B8P 638 SGB 1115.8 R23 .4257 R13 .4660 LSA 37.1 MSA 22.2 S8A 2.2
BDE .3103 BRA .2923 BC3 1.1473 F8P 2056 S61 976.5 S62 539.8 THA 11.30 EL1 30.4 EL2 9.4 ALF 46.16

LAUNCH DATE MAY 24 1971

FLIGHT TIME 176.00

ARRIVAL DATE NOV 16 1971

HELIOCENTRIC CONIC

DISTANCE 419.972

EARTH TO MARS

RL 151.90 LAL -.00 LOL 242.20 VL 32.200 GAL 1.46 AZL 91.38 HCA 136.10 SMA 185.87 ECC .18529 INC 1.3758 V1 29.409
RP 211.46 LAP -.95 LOP 18.30 VP 23.238 GAP 7.07 AZP 89.01 TAL 9.34 TAP 145.44 RCA 151.18 APO 219.95 V2 25.942
RC 123.058 GL -15.34 GP -4.36 ZAL 80.21 ZAP 114.96 ETS 181.84 ZAE 157.74 ETE 190.93 ZAC 96.30 ETC 276.68 LVI -12.50

PLANETOCENTRIC CONIC

C3 8.534 VHL 2.921 DLA -28.60 RAL 330.00 RAD 6637.3 VEL 11.342 PTH 6.40 VHP 3.139 DPA -22.78 RAP 317.69 ECC 1.1404
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 13 7 2356.94 -.23 60.41 180.10 137.58 15 52 23 1356.9 17.96 44.22
60.00 16 33 4 2144.23 4.53 45.81 184.66 130.09 17 8 48 1144.2 20.05 26.94
70.00 18 19 3 1832.51 9.87 24.52 188.64 122.86 18 49 36 832.5 22.41 3.20
80.00 20 40 18 1390.17 15.87 354.41 192.08 115.62 21 3 28 390.2 25.07 330.79
85.54 22 37 3 1014.44 21.26 329.08 194.45 109.59 22 53 57 14.4 27.43 303.68
100.00 23 27 10 6152.68 15.87 293.69 192.08 115.62 25 5 43 6152.7 25.07 270.06
110.00 23 18 30 6167.37 9.87 291.35 188.64 122.86 25 1 17 5167.4 22.41 270.02

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2110 TRA -.2375 TC3 -1.3005 BAU .1532 SGT 1015.0 SGR 565.7 S63 1265.4 ST 22.2 SR 22.6 S8 29.8
RDE -.2257 RRA .1315 RC3 -.3328 FAU .22622 RRT .3049 RRF .5878 RTF .5164 CRT .8447 CRS -.7359 CST -.2794
FDE -.6626 FRA 2.5725 FC-22.9497 B8P 821 SGB 1162.0 R23 .3877 R13 .5662 LSA 37.5 MSA 21.9 S8A 2.2
BDE .3090 BRA .2715 BC3 1.3424 F8P 2115 S61 1034.9 S62 528.4 THA 13.12 EL1 30.4 EL2 8.8 ALF 45.57

LAUNCH DATE MAY 24 1971

FLIGHT TIME 176.00

ARRIVAL DATE NOV 16 1971

Heliocentric Conic: RL 151.50 LAL -.00 LOL 242.20 VL 32.193 GAL 1.43 AZL 91.36 MCA 137.31 SMA 185.44 ECC .18470 INC 1.3572 V1 29.409
 RP 211.73 LAP -.92 LOP 19.51 VP 23.194 GAP 6.87 AZP 89.00 TAL 9.20 TAP 146.51 RCA 151.19 APO 219.69 V2 25.911
 RC 125.302 GL -15.19 GP -4.52 ZAL 80.46 ZAP 112.90 ETS 181.69 ZAE 155.77 ETE 190.44 ZAC 96.24 ETC 276.49 LVI -12.10

Planetocentric Conic: C3 8.466 VHL 2.910 DLA -28.37 RAL 330.22 RAD 6637.2 VEL 11.339 PTH 6.39 VHP 3.092 DPA -23.16 RAP 316.87 ECC 1.1393
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 12 41 2360.82 -.42 60.57 180.17 137.57 15 52 2 1360.8 17.78 44.40
 60.00 16 32 3 2149.67 4.29 46.08 184.69 130.11 17 7 53 1149.7 19.83 27.23
 70.00 18 16 56 1841.25 9.54 24.99 188.61 122.95 18 47 37 841.3 22.14 3.73
 80.00 20 34 40 1409.93 15.29 355.59 191.93 115.96 20 58 10 409.9 24.67 332.12
 87.69 22 55 50 6242.91 21.13 302.57 194.50 109.38 24 39 53 5242.9 27.23 277.19
 100.00 23 17 32 6172.44 15.29 294.86 191.93 115.96 25 0 24 5172.4 24.67 271.40
 110.00 23 16 22 6176.11 9.54 291.82 188.61 122.95 24 59 18 5176.1 22.14 270.56

Differential Corrections: TDE -.2215 TRA -.2198 TC3-1.5390 BAU .1790 SGT 1110.9 SGR 967.7 S63 1302.2 ST 23.1 SR 22.1 SS 29.7
 RDE -.2198 RRA .1342 RC3 -.3634 FAU .23115 RRT .3653 RRF -.6137 RTF .5903 CRT .8613 CRS -.7066 CST -.2698
 FDE -.6204 FRA 2.6975 FC-23.6379 BSP 980 SGB 1247.6 R23 .3614 R13 .6330 LSA 37.2 MSA 22.6 S5A 2.2
 BDE .3120 BRA .2575 BC3 1.5813 FSP 2218 S61 1135.4 S62 517.1 THA 13.40 EL1 30.8 EL2 8.4 ALF 43.60

Mid-Course Execution Accuracy: SGT 1110.9 SGR 967.7 S63 1302.2
 RRT .3653 RRF -.6137 RTF .5903
 SGB 1247.6 R23 .3614 R13 .6330
 S61 1135.4 S62 517.1 THA 13.40

Orbit Determination Accuracy: ST 23.1 SR 22.1 SS 29.7
 CRT .8613 CRS -.7066 CST -.2698
 LSA 37.2 MSA 22.6 S5A 2.2
 EL1 30.8 EL2 8.4 ALF 43.60

LAUNCH DATE MAY 24 1971

FLIGHT TIME 180.00

ARRIVAL DATE NOV 20 1971

Heliocentric Conic: RL 151.50 LAL -.00 LOL 242.20 VL 32.187 GAL 1.40 AZL 91.34 MCA 138.52 SMA 185.34 ECC .18418 INC 1.3379 V1 29.409
 RP 212.01 LAP -.89 LOP 20.72 VP 23.150 GAP 6.67 AZP 89.00 TAL 9.04 TAP 147.56 RCA 151.20 APO 219.47 V2 25.880
 RC 127.966 GL -15.02 GP -4.69 ZAL 80.74 ZAP 110.84 ETS 181.54 ZAE 153.76 ETE 189.99 ZAC 96.17 ETC 276.30 LVI -11.69

Planetocentric Conic: C3 8.403 VHL 2.899 DLA -28.11 RAL 330.45 RAD 6637.2 VEL 11.336 PTH 6.39 VHP 3.048 DPA -23.57 RAP 316.03 ECC 1.1383
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 12 13 2365.30 -.65 60.76 180.26 137.57 15 51 39 1365.3 17.56 44.61
 60.00 16 30 58 2155.83 4.02 46.37 184.74 130.13 17 6 54 1155.8 19.59 27.57
 70.00 18 14 40 1850.88 9.19 25.51 188.60 123.04 18 45 31 850.9 21.85 4.32
 80.00 20 29 4 1430.06 14.69 356.78 191.80 116.29 20 52 54 430.1 24.26 333.47
 90.00 22 48 51 6267.27 19.00 303.51 193.79 111.35 24 33 18 5267.3 26.14 278.76
 100.00 23 11 56 6192.57 14.69 296.05 191.80 116.29 24 55 8 5192.6 24.26 272.75
 110.00 23 14 6 6185.74 9.19 292.33 188.60 123.04 24 57 12 5185.7 21.85 271.15

Differential Corrections: TDE -.2272 TRA -.1963 TC3-1.7664 BAU .2034 SGT 1201.6 SGR 571.3 S63 1341.9 ST 23.5 SR 21.7 SS 29.7
 RDE -.2144 RRA .1364 RC3 -.3984 FAU .23719 RRT .4260 RRF -.6406 RTF .6585 CRT .8772 CRS -.6897 CST -.2790
 FDE -.5968 FRA 2.7907 FC-24.4368 BSP 1197 SGB 1330.5 R23 .3300 R13 .6951 LSA 37.1 MSA 22.8 S5A 2.2
 BDE .3124 BRA .2390 BC3 1.8108 FSP 2289 S61 1231.2 S62 504.4 THA 13.81 EL1 30.9 EL2 7.9 ALF 42.44

Mid-Course Execution Accuracy: SGT 1201.6 SGR 571.3 S63 1341.9
 RRT .4260 RRF -.6406 RTF .6585
 SGB 1330.5 R23 .3300 R13 .6951
 S61 1231.2 S62 504.4 THA 13.81

Orbit Determination Accuracy: ST 23.5 SR 21.7 SS 29.7
 CRT .8772 CRS -.6897 CST -.2790
 LSA 37.1 MSA 22.8 S5A 2.2
 EL1 30.9 EL2 7.9 ALF 42.44

LAUNCH DATE MAY 24 1971

FLIGHT TIME 182.00

ARRIVAL DATE NOV 22 1971

Heliocentric Conic: RL 151.50 LAL -.00 LOL 242.20 VL 32.181 GAL 1.37 AZL 91.32 MCA 139.72 SMA 185.25 ECC .18373 INC 1.3177 V1 29.409
 RP 212.29 LAP -.85 LOP 21.93 VP 23.107 GAP 6.48 AZP 88.99 TAL 8.87 TAP 148.59 RCA 151.22 APO 219.29 V2 25.848
 RC 129.850 GL -14.84 GP -4.86 ZAL 81.04 ZAP 108.78 ETS 181.38 ZAE 151.74 ETE 189.59 ZAC 96.10 ETC 276.11 LVI -11.26

Planetocentric Conic: C3 8.345 VHL 2.889 DLA -27.83 RAL 330.71 RAD 6637.2 VEL 11.334 PTH 6.39 VHP 3.009 DPA -23.97 RAP 315.18 ECC 1.1373
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 11 44 2370.40 -.90 60.97 180.37 137.57 15 51 15 1370.4 17.31 44.89
 60.00 16 29 49 2162.73 3.71 46.70 184.81 130.16 17 5 51 1162.7 19.31 27.94
 70.00 18 12 16 1861.41 8.79 26.07 188.61 123.14 18 43 18 861.4 21.52 4.97
 80.00 20 23 29 1450.62 14.06 357.98 191.69 116.81 20 47 40 450.6 23.82 334.84
 90.00 22 32 46 1033.67 17.62 329.00 193.38 112.48 22 50 0 33.7 25.36 304.65
 100.00 23 6 21 6213.13 14.06 297.26 191.69 116.81 24 49 54 5213.1 23.82 274.12
 110.00 23 11 43 6196.27 8.79 292.90 188.61 123.14 24 54 59 5196.3 21.52 271.79

Differential Corrections: TDE -.2323 TRA -.1717 TC3-2.0036 BAU .2287 SGT 1304.0 SGR 575.6 S63 1378.0 ST 23.8 SR 21.2 SS 29.8
 RDE -.2090 RRA .1387 RC3 -.4334 FAU .24290 RRT .4809 RRF .8670 RTF .7.46 CRT .8916 CRS -.6745 CST -.2898
 FDE -.5748 FRA 2.8827 FC-25.1571 BSP 1435 SGB 1425.4 R23 .3025 R13 .7451 LSA 37.1 MSA 22.9 S5A 2.1
 BDE .3124 BRA .2207 BC3 2.0500 FSP 2356 S61 1337.9 S62 491.9 THA 13.90 EL1 31.0 EL2 7.4 ALF 41.36

Mid-Course Execution Accuracy: SGT 1304.0 SGR 575.6 S63 1378.0
 RRT .4809 RRF .8670 RTF .7.46
 SGB 1425.4 R23 .3025 R13 .7451
 S61 1337.9 S62 491.9 THA 13.90

Orbit Determination Accuracy: ST 23.8 SR 21.2 SS 29.8
 CRT .8916 CRS -.6745 CST -.2898
 LSA 37.1 MSA 22.9 S5A 2.1
 EL1 31.0 EL2 7.4 ALF 41.36

LAUNCH DATE MAY 24 1971

FLIGHT TIME 184.00

ARRIVAL DATE NOV 24 1971

Heliocentric Conic: RL 151.50 LAL -.00 LOL 242.20 VL 32.177 GAL 1.34 AZL 91.30 MCA 140.92 SMA 185.18 ECC .18334 INC 1.2965 V1 29.409
 RP 212.57 LAP -.82 LOP 23.13 VP 23.065 GAP 6.29 AZP 88.99 TAL 8.68 TAP 149.61 RCA 151.23 APO 219.13 V2 25.815
 RC 132.153 GL -14.64 GP -5.04 ZAL 81.37 ZAP 106.72 ETS 181.21 ZAE 149.70 ETE 189.22 ZAC 96.02 ETC 275.91 LVI -10.83

Planetocentric Conic: C3 8.292 VHL 2.880 DLA -27.52 RAL 330.98 RAD 6637.2 VEL 11.332 PTH 6.38 VHP 2.975 DPA -24.38 RAP 314.33 ECC 1.1365
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 11 13 2376.13 -1.19 61.21 180.51 137.56 15 50 49 1376.1 17.04 45.11
 60.00 16 28 34 2170.36 3.38 47.07 184.90 130.18 17 4 45 1170.4 19.00 28.35
 70.00 18 9 45 1872.82 8.37 26.68 188.63 123.23 18 40 58 872.8 21.17 5.66
 80.00 20 17 55 1471.62 13.42 359.21 191.61 116.92 20 42 26 471.6 23.36 336.23
 90.00 22 20 48 1075.31 16.52 331.56 193.11 113.29 22 38 44 75.3 24.70 307.52
 100.00 23 0 47 6234.13 13.42 298.48 191.61 116.92 24 44 41 5234.1 23.36 275.50
 110.00 23 9 12 6207.68 8.37 293.51 188.63 123.23 24 52 39 5207.7 21.17 272.49

Differential Corrections: TDE -.2367 TRA -.1462 TC3-2.2506 BAU .2549 SGT 1417.6 SGR 581.0 S63 1412.2 ST 24.1 SR 20.8 SS 29.9
 RDE -.2035 RRA .1415 RC3 -.4689 FAU .24734 RRT .5301 RRF .6930 RTF .7594 CRT .9045 CRS -.6563 CST -.2957
 FDE -.5466 FRA 2.9826 FC-25.8235 BSP 1683 SGB 1532.0 R23 .2801 R13 .7845 LSA 37.0 MSA 23.1 S5A 2.1
 BDE .3121 BRA .2034 BC3 2.2990 FSP 2414 S61 1454.9 S62 480.0 THA 13.79 EL1 31.1 EL2 6.9 ALF 40.31

Mid-Course Execution Accuracy: SGT 1417.6 SGR 581.0 S63 1412.2
 RRT .5301 RRF .6930 RTF .7594
 SGB 1532.0 R23 .2801 R13 .7845
 S61 1454.9 S62 480.0 THA 13.79

Orbit Determination Accuracy: ST 24.1 SR 20.8 SS 29.9
 CRT .9045 CRS -.6563 CST -.2957
 LSA 37.0 MSA 23.1 S5A 2.1
 EL1 31.1 EL2 6.9 ALF 40.31

LAUNCH DATE MAY 24 1971

FLIGHT TIME 186.00

ARRIVAL DATE NOV 26 1971

Heliocentric Conic: RL 151.90 LAL -.00 LOL 242.20 VL 32.174 GAL 1.31 AZL 91.27 HCA 142.12 SMA 185.12 ECC .18302 INC 1.2743 V1 29.409
 RP 212.86 LAP -.78 LOP 24.33 VP 23.023 GAP 6.10 AZP 88.99 TAL 8.48 TAP 150.60 RCA 151.24 APO 219.00 V2 25.782
 RC 134.475 GL -14.43 GP -5.22 ZAL 81.73 ZAP 104.66 ETS 181.04 ZAE 147.66 ETE 188.88 ZAC 95.93 ETC 275.71 LVI -10.39

Planetocentric Conic: CS 8.243 VHL 2.871 DLA -27.19 RAL 331.28 RAD 6637.1 VEL 11.329 PTH 6.38 VHP 2.944 DPA -24.79 RAP 313.47 ECC 1.1357
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 10 39 2382.50 -1.51 61.48 180.66 137.56 15 50 22 1382.5 16.73 45.40
 60.00 16 27 16 2178.73 3.01 47.47 185.00 130.21 17 3 34 1178.7 18.67 28.80
 70.00 18 7 7 1885.09 7.91 27.34 188.68 123.33 18 38 32 885.1 20.78 6.40
 80.00 20 12 22 1493.04 12.75 .45 191.55 117.23 20 37 15 493.0 22.87 337.64
 90.00 22 10 36 1111.75 15.52 333.77 192.92 113.94 22 29 8 111.7 24.06 310.00
 100.00 22 55 14 6255.55 12.75 299.73 191.55 117.23 24 39 29 5255.6 22.87 276.91
 110.00 23 6 34 6219.95 7.91 294.16 188.68 123.33 24 50 14 5220.0 20.78 273.23

Differential Corrections: TDE -.2403 TRA -.1194 TC3-2.5053 BAU .2817 SGT 1539.9 SGR 587.1 SG3 1444.1 ST 24.4 SR 20.3 SS 29.9
 RDE -.1978 RRA .1442 RC3 -.5056 FAU .25190 RRT .5755 RRF .7179 RTF .7965 CRT .9164 CRS -.6370 CST -.3005
 FDE -.5137 FRA 3.0727 FC-26.4558 BSP 1948 SGB 1648.0 R23 .2597 R13 .6171 LSA 36.8 MSA 23.3 SSA 2.1
 BDE .3112 BRA .1872 BC3 2.5558 FSP 2469 SG1 1580.2 SG2 467.9 THA 13.59 EL1 31.1 EL2 6.4 ALF 39.32

LAUNCH DATE MAY 24 1971

FLIGHT TIME 188.00

ARRIVAL DATE NOV 28 1971

Heliocentric Conic: RL 151.90 LAL -.00 LOL 242.20 VL 32.171 GAL 1.27 AZL 91.25 HCA 143.32 SMA 185.08 ECC .18276 INC 1.2510 V1 29.409
 RP 213.16 LAP -.75 LOP 25.52 VP 22.982 GAP 5.92 AZP 89.00 TAL 8.28 TAP 151.58 RCA 151.25 APO 218.90 V2 25.749
 RC 136.814 GL -14.20 GP -5.41 ZAL 82.10 ZAP 102.61 ETS 180.95 ZAE 145.60 ETE 188.56 ZAC 95.83 ETC 275.52 LVI -9.94

Planetocentric Conic: CS 8.198 VHL 2.863 DLA -26.83 RAL 331.59 RAD 6637.1 VEL 11.327 PTH 6.38 VHP 2.916 DPA -25.20 RAP 312.61 ECC 1.1349
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 10 3 2389.49 -1.86 61.77 180.83 137.55 15 49 52 1389.5 16.39 45.72
 60.00 16 25 52 2187.83 2.61 47.90 185.13 130.23 17 2 19 1187.8 18.30 29.29
 70.00 18 4 22 1898.19 7.42 28.03 188.74 123.43 18 36 0 898.2 20.36 7.19
 80.00 20 6 49 1514.88 12.07 1.71 191.51 117.52 20 32 4 514.9 22.36 339.06
 90.00 22 1 24 1145.35 14.58 335.79 192.77 114.50 22 20 30 145.4 23.48 312.26
 100.00 22 49 41 6277.39 12.07 300.99 191.51 117.52 24 34 18 5277.4 22.36 278.33
 110.00 23 3 48 6233.05 7.42 294.86 188.74 123.43 24 47 41 5233.0 20.36 274.01

Differential Corrections: TDE -.2412 TRA -.0894 TC3-2.7566 BAU .3080 SGT 1662.9 SGR 594.7 SG3 1475.5 ST 24.4 SR 19.9 SS 29.9
 RDE -.1924 RRA .1464 RC3 -.5456 FAU .25685 RRT .6201 RRF .7425 RTF .8305 CRT .9284 CRS -.6273 CST -.3203
 FDE -.4935 FRA 3.1352 FC-27.1231 BSP 2241 SGB 1766.0 R23 .2364 R13 .8473 LSA 36.8 MSA 23.1 SSA 2.1
 BDE .3086 BRA .1715 BC3 2.8101 FSP 2492 SG1 1706.5 SG2 454.6 THA 13.48 EL1 31.0 EL2 5.8 ALF 38.69

LAUNCH DATE MAY 24 1971

FLIGHT TIME 190.00

ARRIVAL DATE NOV 30 1971

Heliocentric Conic: RL 151.90 LAL -.00 LOL 242.20 VL 32.169 GAL 1.24 AZL 91.23 HCA 144.51 SMA 185.05 ECC .18256 INC 1.2262 V1 29.409
 RP 213.46 LAP -.71 LOP 26.71 VP 22.941 GAP 5.74 AZP 89.00 TAL 8.02 TAP 152.53 RCA 151.27 APO 218.83 V2 25.714
 RC 139.171 GL -13.95 GP -5.60 ZAL 82.91 ZAP 100.58 ETS 180.66 ZAE 143.55 ETE 188.27 ZAC 95.73 ETC 275.32 LVI -9.49

Planetocentric Conic: CS 8.158 VHL 2.856 DLA -26.45 RAL 331.92 RAD 6637.1 VEL 11.326 PTH 6.38 VHP 2.893 DPA -25.61 RAP 311.77 ECC 1.1343
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 9 24 2397.16 -2.23 62.09 181.02 137.54 15 49 21 1397.2 16.02 46.07
 60.00 16 24 23 2197.73 2.18 48.38 185.27 130.25 17 1 1 1197.7 17.90 29.82
 70.00 18 1 29 1912.20 6.89 28.78 188.82 123.53 18 33 22 912.2 19.91 8.03
 80.00 20 1 16 1537.28 11.36 3.00 191.50 117.80 20 26 53 537.3 21.83 340.51
 90.00 21 52 51 1177.46 13.67 337.71 192.67 115.00 22 12 28 117.5 22.81 314.41
 100.00 22 44 8 1011.76 11.36 324.37 191.50 117.80 23 1 0 11.8 21.83 301.67
 110.00 23 0 56 6247.05 6.89 295.60 188.82 123.53 24 45 3 5247.1 19.91 274.85

Differential Corrections: TDE -.2461 TRA -.0633 TC3-3.0405 BAU .3376 SGT 1811.2 SGR 600.7 SG3 1495.6 ST 24.9 SR 19.3 SS 29.8
 RDE -.1833 RRA .1504 RC3 -.5782 FAU .25860 RRT .6520 RRF .7838 RTF .885 CRT .9361 CRS -.5796 CST -.2854
 FDE -.4117 FRA 3.2553 FC-27.4436 BSP 2493 SGB 1908.3 R23 .2306 R13 .8625 LSA 36.1 MSA 23.9 SSA 2.1
 BDE .3081 BRA .1632 BC3 3.0950 FSP 2578 SG1 1855.8 SG2 444.5 THA 12.96 EL1 31.0 EL2 5.4 ALF 37.25

LAUNCH DATE MAY 24 1971

FLIGHT TIME 192.00

ARRIVAL DATE DEC 2 1971

Heliocentric Conic: RL 151.90 LAL -.00 LOL 242.20 VL 32.169 GAL 1.20 AZL 91.20 HCA 145.70 SMA 185.04 ECC .18242 INC 1.2002 V1 29.409
 RP 213.77 LAP -.68 LOP 27.80 VP 22.901 GAP 5.58 AZP 89.01 TAL 7.77 TAP 153.47 RCA 151.28 APO 218.79 V2 25.680
 RC 141.545 GL -13.67 GP -5.80 ZAL 82.94 ZAP 98.58 ETS 180.46 ZAE 141.50 ETE 187.99 ZAC 95.61 ETC 275.13 LVI -9.03

Planetocentric Conic: CS 8.121 VHL 2.850 DLA -26.04 RAL 332.26 RAD 6637.1 VEL 11.324 PTH 6.38 VHP 2.873 DPA -26.02 RAP 310.94 ECC 1.1337
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 8 41 2405.48 -2.66 62.44 181.22 137.52 15 48 47 1405.5 15.62 46.45
 60.00 16 22 48 2208.36 1.71 48.89 185.43 130.27 16 59 37 1208.4 17.46 30.38
 70.00 17 58 29 1927.01 6.34 29.56 188.91 123.63 18 30 37 927.0 19.43 8.91
 80.00 19 55 43 1560.12 10.63 4.30 191.51 118.06 20 21 43 560.1 21.26 341.97
 90.00 21 44 44 1208.50 12.77 339.54 192.61 115.45 22 4 53 208.5 22.17 316.46
 100.00 22 38 34 1034.60 10.63 325.67 191.51 118.06 22 55 49 34.6 21.26 303.34
 110.00 22 57 56 6261.87 6.34 296.39 188.91 123.63 24 42 18 5261.9 19.43 275.73

Differential Corrections: TDE -.2469 TRA -.0334 TC3-3.3155 BAU .3661 SGT 1955.2 SGR 608.8 SG3 1516.3 ST 25.0 SR 18.7 SS 29.8
 RDE -.1788 RRA .1538 RC3 -.6150 FAU .26105 RRT .6848 RRF .7852 RTF .8675 CRT .9444 CRS -.5476 CST -.2742
 FDE -.3533 FRA 3.3416 FC-27.8290 BSP 2780 SGB 2047.8 R23 .2199 R13 .8792 LSA 35.7 MSA 24.2 SSA 2.1
 BDE .3049 BRA .1574 BC3 3.3721 FSP 2615 SG1 2001.4 SG2 433.4 THA 12.64 EL1 30.8 EL2 5.0 ALF 36.35

LAUNCH DATE MAY 24 1971

FLIGHT TIME 194.00

ARRIVAL DATE DEC 4 1971

HELIOCENTRIC CONIC

RL 151.50 LAL -.00 LOL 242.20 VL 32.168 GAL 1.16 AZL 91.17 HCA 146.88 SMA 185.03 ECC .18232 INC 1.1725 V1 29.409
 RP 214.08 LAP -.64 LOP 29.08 VP 22.861 GAP 5.39 AZP 89.02 TAL 7.51 TAP 154.39 RCA 151.30 APO 218.77 V2 25.645
 RC 143.938 GL -13.38 GP -6.01 ZAL 83.39 ZAP 96.57 ETS 180.25 ZAE 139.46 ETE 187.73 ZAC 95.48 ETC 274.94 LVI -8.57

DISTANCE 457.677

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 8.008 VHL 2.844 DLA -25.60 RAL 332.62 RAD 6637.0 VEL 11.323 PTH 6.38 VHP 2.856 DPA -26.43 RAP 310.12 ECC 1.1331
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 7 55 2414.40 -3.12 62.81 181.44 137.50 15 48 9 1414.5 15.18 46.86
 60.00 16 21 7 2219.76 1.21 49.43 185.60 130.29 16 58 7 1219.8 16.99 30.98
 70.00 17 55 22 1942.67 5.74 30.39 189.02 123.73 18 27 45 942.7 18.92 9.83
 80.00 19 50 8 1583.49 9.88 5.63 191.53 118.32 20 16 31 583.5 20.67 343.45
 90.00 21 36 57 1236.96 11.87 341.33 192.57 115.86 21 57 36 239.0 21.52 318.45
 100.00 22 32 59 1057.96 9.88 327.00 191.53 118.32 22 50 37 58.0 20.67 304.82
 110.00 22 54 48 6277.53 5.74 297.21 189.02 123.73 24 39 26 5277.5 18.92 276.65

DIFFERENTIAL CORRECTIONS

TDE -.2465 TRA -.0024 TC3-3.5949 BAU .3951
 RDE -.1724 RRA .1573 RC3 -.6548 FAU .26366
 FDE -.2985 FRA 3.4190 FC-28.2216 BSP 3071
 BDE .3008 BRA .1573 BC3 3.6540 FSP 2644

MID-COURSE EXECUTION ACCURACY

SGT 2104.2 SGR 618.6 S63 1536.8
 RRT .7180 RRF .8061 RTF .8839
 SGB 2193.3 R23 .2099 R13 .8937
 S61 2152.2 S62 422.2 THA 12.37

ORBIT DETERMINATION ACCURACY

ST 25.0 SR 18.2 SS 29.8
 CRT .9521 CRS -.5192 CST -.2683
 LSA 35.3 MSA 24.4 SSA 2.1
 EL1 30.6 EL2 4.5 ALF 35.54

LAUNCH DATE MAY 24 1971

FLIGHT TIME 196.00

ARRIVAL DATE DEC 6 1971

HELIOCENTRIC CONIC

RL 151.50 LAL -.00 LOL 242.20 VL 32.169 GAL 1.11 AZL 91.14 HCA 148.06 SMA 185.04 ECC .18228 INC 1.1431 V1 29.409
 RP 214.39 LAP -.60 LOP 30.26 VP 22.821 GAP 5.22 AZP 89.03 TAL 7.23 TAP 155.30 RCA 151.31 APO 218.77 V2 25.609
 RC 146.344 GL -13.07 GP -6.23 ZAL 83.67 ZAP 94.59 ETS 180.04 ZAE 137.43 ETE 187.49 ZAC 95.33 ETC 274.75 LVI -8.10

DISTANCE 461.872

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 8.059 VHL 2.859 DLA -25.13 RAL 332.99 RAD 6637.0 VEL 11.321 PTH 6.37 VHP 2.843 DPA -26.84 RAP 309.32 ECC 1.1326
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 7 4 2424.19 -3.60 63.22 181.68 137.47 15 47 28 1424.2 14.71 47.30
 60.00 16 19 20 2231.96 .87 50.01 185.78 130.30 16 56 32 1232.0 16.49 31.62
 70.00 17 52 7 1959.19 5.12 31.26 189.15 123.81 18 24 46 959.2 18.37 10.80
 80.00 19 44 30 1607.43 9.11 6.98 191.58 118.56 20 11 18 607.4 20.06 344.96
 90.00 21 29 24 1269.15 10.97 343.08 192.56 116.23 21 50 33 269.1 20.84 320.40
 100.00 22 27 22 1081.90 9.11 328.35 191.58 118.56 22 45 24 81.9 20.06 306.33
 110.00 22 51 33 1006.01 5.12 320.18 189.15 123.81 23 8 19 6.0 18.37 299.72

DIFFERENTIAL CORRECTIONS

TDE -.2447 TRA .0294 TC3-3.8795 BAU .4246
 RDE -.1852 RRA .1612 RC3 -.6929 FAU .26507
 FDE -.2230 FRA 3.5001 FC-28.4761 BSP 3368
 BDE .2952 BRA .1638 BC3 3.9409 FSP 2678

MID-COURSE EXECUTION ACCURACY

SGT 2258.2 SGR 628.5 S63 1551.5
 RRT .7431 RRF .8252 RTF .8962
 SGB 2344.1 R23 .2036 R13 .9046
 S61 2307.7 S62 411.6 THA 12.07

ORBIT DETERMINATION ACCURACY

ST 24.9 SR 17.5 SS 29.9
 CRT .9584 CRS -.4785 CST -.2476
 LSA 34.7 MSA 24.8 SSA 2.1
 EL1 30.2 EL2 4.1 ALF 34.72

LAUNCH DATE MAY 24 1971

FLIGHT TIME 198.00

ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC

RL 151.50 LAL -.00 LOL 242.20 VL 32.170 GAL 1.07 AZL 91.11 HCA 149.24 SMA 185.06 ECC .18228 INC 1.1118 V1 29.409
 RP 214.72 LAP -.57 LOP 31.44 VP 22.782 GAP 5.05 AZP 89.04 TAL 6.94 TAP 156.18 RCA 151.33 APO 218.79 V2 25.573
 RC 148.770 GL -12.72 GP -6.46 ZAL 84.36 ZAP 92.65 ETS 179.81 ZAE 135.42 ETE 187.26 ZAC 95.17 ETC 274.57 LVI -7.63

DISTANCE 466.068

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 8.033 VHL 2.834 DLA -24.63 RAL 333.37 RAD 6637.0 VEL 11.320 PTH 6.37 VHP 2.833 DPA -27.25 RAP 308.54 ECC 1.1322
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 6 8 2434.62 -4.13 63.66 181.92 137.44 15 46 42 1434.6 14.20 47.76
 60.00 16 17 26 2244.99 .10 50.64 185.98 130.30 16 54 51 1245.0 15.95 32.30
 70.00 17 48 43 1976.60 4.46 32.17 189.28 123.90 18 21 40 976.6 17.78 11.81
 80.00 19 38 50 1631.98 8.30 8.36 191.64 118.78 20 6 2 632.0 19.41 346.49
 90.00 21 21 59 1299.28 10.06 344.83 192.57 116.57 21 43 38 299.3 20.14 322.34
 100.00 22 21 42 1106.45 8.30 329.73 191.64 118.78 22 40 8 106.4 19.41 307.86
 110.00 22 48 9 1023.42 4.46 321.09 189.28 123.90 23 5 13 23.4 17.78 300.73

DIFFERENTIAL CORRECTIONS

TDE -.2414 TRA .0820 TC3-4.1878 BAU .4544
 RDE -.1581 RRA .1651 RC3 -.7337 FAU .26648
 FDE -.1540 FRA 3.5686 FC-28.7203 BSP 3667
 BDE .2886 BRA .1763 BC3 4.2317 FSP 2701

MID-COURSE EXECUTION ACCURACY

SGT 2416.2 SGR 640.3 S63 1585.0
 RRT .7687 RRF .8436 RTF .9172
 SGB 2499.6 R23 .1976 R13 .9145
 S61 2467.2 S62 401.1 THA 11.83

ORBIT DETERMINATION ACCURACY

ST 24.7 SR 16.9 SS 30.0
 CRT .9642 CRS -.4437 CST -.2591
 LSA 34.1 MSA 25.0 SSA 2.0
 EL1 29.7 EL2 3.7 ALF 34.01

LAUNCH DATE MAY 24 1971

FLIGHT TIME 200.00

ARRIVAL DATE DEC 10 1971

HELIOCENTRIC CONIC

RL 151.50 LAL -.00 LOL 242.20 VL 32.172 GAL 1.02 AZL 91.08 HCA 150.41 SMA 185.09 ECC .18233 INC 1.0784 V1 29.409
 RP 215.04 LAP -.53 LOP 32.61 VP 22.744 GAP 4.88 AZP 89.06 TAL 6.64 TAP 157.06 RCA 151.34 APO 218.84 V2 25.536
 RC 151.211 GL -12.35 GP -6.70 ZAL 84.88 ZAP 90.74 ETS 179.57 ZAE 133.43 ETE 187.05 ZAC 95.00 ETC 274.39 LVI -7.16

DISTANCE 470.259

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 8.010 VHL 2.830 DLA -24.09 RAL 333.76 RAD 6637.0 VEL 11.319 PTH 6.37 VHP 2.826 DPA -27.66 RAP 307.79 ECC 1.1318
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 5 6 2445.83 -4.69 64.13 182.18 137.40 15 45 51 1445.8 13.65 48.26
 60.00 16 15 23 2258.87 -.52 51.30 186.19 130.30 16 53 2 1258.9 15.38 33.02
 70.00 17 45 10 1994.92 3.76 33.13 189.43 123.97 18 18 25 994.9 17.16 12.87
 80.00 19 33 5 1657.20 7.47 9.78 191.71 118.99 20 0 42 657.2 18.72 348.06
 90.00 21 14 40 1329.56 9.13 346.57 192.60 116.88 21 36 49 329.6 19.42 324.26
 100.00 22 15 56 1131.67 7.47 331.15 191.71 118.99 22 34 48 131.7 18.72 309.42
 110.00 22 44 36 1041.74 3.76 322.05 189.43 123.97 23 1 58 41.7 17.16 301.79

DIFFERENTIAL CORRECTIONS

TDE -.2360 TRA .0960 TC3-4.4558 BAU .4843
 RDE -.1505 RRA .1696 RC3 -.7735 FAU .26675
 FDE -.0707 FRA 3.6421 FC-28.8306 BSP 3971
 BDE .2799 BRA .1949 BC3 4.5224 FSP 2718

MID-COURSE EXECUTION ACCURACY

SGT 2575.8 SGR 652.6 S63 1573.3
 RRT .7911 RRF .8605 RTF .9157
 SGB 2657.2 R23 .1944 R13 .9220
 S61 2628.3 S62 391.2 THA 11.59

ORBIT DETERMINATION ACCURACY

ST 24.4 SR 16.3 SS 30.2
 CRT .9692 CRS -.4017 CST -.2154
 LSA 33.6 MSA 25.3 SSA 2.0
 EL1 29.1 EL2 3.4 ALF 33.35

LAUNCH DATE MAY 24 1971 FLIGHT TIME 202.00 ARRIVAL DATE DEC 12 1971

HELIOCENTRIC CONIC												DISTANCE 474.452												EARTH TO MARS																																																																																
RL	151.50	LAL	-0.00	LQ	242.20	VL	32.174	GAL	.98	AZL	91.04	HCA	151.58	SMA	185.13	ECC	.18243	INC	1.0426	V1	29.409	RP	215.37	LAP	-.50	LOP	33.78	VP	22.706	GAP	4.72	AZP	89.08	TAL	6.33	TAP	157.91	RCA	151.31	APO	218.90	V2	25.499	RC	153.689	GL	-11.95	GP	-6.95	ZAL	85.42	ZAP	88.86	ETS	179.32	ZAE	131.45	ETE	186.84	ZAC	94.81	ETC	274.22	LVI	-6.68																																							
PLANETOCENTRIC CONIC												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																																																																																
C3	7.991	VHL	2.827	DLA	-23.52	RAL	334.16	RAD	6637.0	VEL	11.318	PTH	6.37	VHP	2.822	DPA	-28.07	RAP	307.07	ECC	1.1315	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																									
50.00	15	3	37	2457.83	-5.29	64.63	182.45	137.35	15	44	55	1457.8	13.06	48.79	60.00	16	13	12	2273.65	-1.17	52.00	186.41	130.29	16	51	6	1273.7	14.76	33.78	70.00	17	41	27	2014.20	3.03	34.14	189.59	124.04	18	15	1	1014.2	16.51	13.97	80.00	19	27	14	1683.17	6.62	11.23	191.80	119.10	19	55	17	683.2	18.01	349.65	90.00	21	7	23	1360.14	8.18	348.32	192.65	117.16	21	30	3	360.1	18.66	326.19	100.00	22	10	5	1157.64	6.62	332.59	191.80	119.18	22	29	23	157.6	18.01	311.02	110.00	22	40	54	1061.01	3.03	323.06	189.59	124.04	22	58	35	61.0	16.51	302.89
TDE	-.2263	TRA	.1306	TC3	-4.7435	BAU	.5142	SGT	2736.7	SGR	665.6	SG3	1576.8	ST	23.9	SR	15.6	SS	30.5	RDE	-.1424	RRA	.1741	RC3	-.8136	FAU	.26633	RRT	.8116	RRF	.8761	RTF	.9229	CRT	.9735	CRS	-.3587	CST	-.1965	FDE	.0182	FRA	3.7019	FC	-28.8542	BSP	4277	SG8	2816.5	R23	.1921	R13	.9285	LSA	33.0	MSA	25.4	SSA	2.0	BDE	.2691	BRA	.2176	BC3	4.8128	F8P	2729	SG1	2790.5	SG2	381.4	TMA	11.38	EL1	28.3	EL2	3.0	ALF	32.81																									

LAUNCH DATE MAY 24 1971 FLIGHT TIME 204.00 ARRIVAL DATE DEC 14 1971

HELIOCENTRIC CONIC												DISTANCE 478.644												EARTH TO MARS																																																																																
RL	151.50	LAL	-0.00	LQ	242.20	VL	32.177	GAL	.93	AZL	91.00	HCA	152.75	SMA	185.17	ECC	.18256	INC	1.0042	V1	29.409	RP	215.71	LAP	-.46	LOP	34.95	VP	22.668	GAP	4.56	AZP	89.11	TAL	6.00	TAP	158.75	RCA	151.37	APO	218.98	V2	25.461	RC	156.143	GL	-11.52	GP	-7.22	ZAL	85.98	ZAP	87.02	ETS	179.06	ZAE	129.50	ETE	186.65	ZAC	94.60	ETC	274.05	LVI	-6.20																																							
PLANETOCENTRIC CONIC												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																																																																																
C3	7.975	VHL	2.824	DLA	-22.91	RAL	334.56	RAD	6637.0	VEL	11.318	PTH	6.37	VHP	2.820	DPA	-28.49	RAP	306.39	ECC	1.1312	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																									
50.00	15	2	41	2470.69	-5.93	65.18	182.73	137.29	15	43	51	1470.7	12.43	49.36	60.00	16	10	51	2289.38	-1.86	52.76	186.64	130.27	16	49	0	1289.4	14.10	34.59	70.00	17	37	33	2034.48	2.26	35.20	189.76	124.09	18	11	28	1034.5	15.80	15.13	80.00	19	21	15	1709.95	5.72	12.71	191.91	119.35	19	49	45	709.9	17.25	351.28	90.00	21	0	5	1391.19	7.21	350.08	192.72	117.42	21	23	16	391.2	17.87	328.12	100.00	22	4	7	1184.42	5.72	334.08	191.91	119.35	22	23	51	184.4	17.25	312.65	110.00	22	37	0	1081.30	2.26	324.12	189.76	124.09	22	55	1	81.3	15.80	304.04
TDE	-.2187	TRA	.1664	TC3	-5.0323	BAU	.5442	SGT	2899.9	SGR	680.8	SG3	1579.0	ST	23.3	SR	14.9	SS	31.0	RDE	-.1343	RRA	.1791	RC3	-.8559	FAU	.26565	RRT	.8304	RRF	.8909	RTF	.9290	CRT	.9772	CRS	-.3217	CST	-.1864	FDE	.1051	FRA	3.7624	FC	-28.8378	BSP	4586	SG8	2978.8	R23	.1911	R13	.9341	LSA	32.8	MSA	25.3	SSA	2.0	BDE	.2567	BRA	.2445	BC3	5.1045	F8P	2736	SG1	2955.4	SG2	372.2	TMA	11.21	EL1	27.5	EL2	2.7	ALF	32.34																									

LAUNCH DATE MAY 24 1971 FLIGHT TIME 206.00 ARRIVAL DATE DEC 16 1971

HELIOCENTRIC CONIC												DISTANCE 482.834												EARTH TO MARS																																																																																
RL	151.50	LAL	-0.00	LQ	242.20	VL	32.180	GAL	.87	AZL	90.96	HCA	153.91	SMA	185.23	ECC	.18274	INC	.9628	V1	29.409	RP	216.04	LAP	-.42	LOP	36.11	VP	22.630	GAP	4.40	AZP	89.14	TAL	5.87	TAP	159.58	RCA	151.38	APO	219.08	V2	25.424	RC	158.631	GL	-11.05	GP	-7.91	ZAL	86.56	ZAP	85.22	ETS	178.79	ZAE	127.58	ETE	186.47	ZAC	94.36	ETC	273.90	LVI	-5.71																																							
PLANETOCENTRIC CONIC												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																																																																																
C3	7.962	VHL	2.822	DLA	-22.25	RAL	334.96	RAD	6637.0	VEL	11.317	PTH	6.37	VHP	2.821	DPA	-28.92	RAP	305.74	ECC	1.1310	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																									
50.00	15	1	16	2484.46	-6.62	65.78	183.01	137.22	15	42	40	1484.5	11.75	49.97	60.00	16	8	19	2306.12	-2.60	53.56	186.87	130.23	16	46	45	1306.1	13.39	35.44	70.00	17	33	27	2055.83	1.44	36.32	189.93	124.13	18	7	43	1055.0	15.06	16.33	80.00	19	15	5	1737.64	4.80	14.26	192.02	119.50	19	44	2	737.6	16.45	352.96	90.00	20	52	43	1422.86	6.22	351.87	192.80	117.64	21	16	26	422.9	17.04	330.07	100.00	21	57	59	1212.11	4.80	335.61	192.02	119.50	22	18	11	212.1	16.45	314.32	110.00	22	32	54	1102.65	1.44	325.24	189.93	124.13	22	51	16	102.7	15.06	305.25
TDE	-.2084	TRA	.2033	TC3	-5.3182	BAU	.5741	SGT	3063.1	SGR	697.4	SG3	1577.4	ST	22.5	SR	14.1	SS	31.6	RDE	-.1296	RRA	.1846	RC3	-.8988	FAU	.26425	RRT	.8473	RRF	.9044	RTF	.9340	CRT	.9801	CRS	-.2849	CST	-.1797	FDE	.2009	FRA	3.8200	FC	-28.7319	BSP	4895	SG8	3141.5	R23	.1915	R13	.9388	LSA	32.9	MSA	24.9	SSA	2.0	BDE	.2416	BRA	.2746	BC3	5.3936	F8P	2733	SG1	3120.4	SG2	363.7	TMA	11.07	EL1	26.4	EL2	2.4	ALF	31.88																									

LAUNCH DATE MAY 24 1971 FLIGHT TIME 208.00 ARRIVAL DATE DEC 18 1971

HELIOCENTRIC CONIC												DISTANCE 487.023												EARTH TO MARS																																																																																
RL	151.50	LAL	-0.00	LQ	242.20	VL	32.184	GAL	.82	AZL	90.92	HCA	155.07	SMA	185.30	ECC	.18295	INC	.9176	V1	29.409	RP	216.39	LAP	-.39	LOP	37.27	VP	22.592	GAP	4.24	AZP	89.17	TAL	5.32	TAP	160.39	RCA	151.40	APO	219.20	V2	25.385	RC	161.134	GL	-10.53	GP	-7.81	ZAL	87.16	ZAP	83.46	ETS	178.50	ZAE	125.68	ETE	186.30	ZAC	94.10	ETC	273.75	LVI	-5.21																																							
PLANETOCENTRIC CONIC												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																																																																																
C3	7.953	VHL	2.820	DLA	-21.55	RAL	335.36	RAD	6637.0	VEL	11.317	PTH	6.37	VHP	2.825	DPA	-29.35	RAP	305.13	ECC	1.1309	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																									
50.00	14	59	40	2499.22	-7.36	66.39	183.30	137.14	15	41	20	1499.2	11.02	50.61	60.00	16	5	35	2323.96	-3.38	54.41	187.11	130.18	16	44	18	1324.0	12.64	36.34	70.00	17	29	7	2078.35	.58	37.49	190.12	124.15	18	3	46	1078.4	14.26	17.59	80.00	19	8	49	1766.36	3.83	15.83	192.14	119.63	19	38	15	766.4	15.61	354.66	90.00	20	45	15	1455.31	5.19	353.70	192.89	117.84	21	9	30	455.3	16.17	332.06	100.00	21	51	40	1240.83	3.83	337.20	192.14	119.63	22	12	21	240.8	15.61	316.03	110.00	22	28	34	1125.17	.58	326.41	190.12	124.15	22	47	19	125.2	14.26	306.51
TDE	-.1917	TRA	.2404	TC3	-5.6075	BAU	.6046	SGT	3229.6	SGR	716.5	SG3	1574.9	ST	21.5	SR	13.4	SS	32.4	RDE	-.1164	RRA	.1905	RC3	-.9453	FAU	.26285	RRT	.8630	RRF	.9171	RTF	.9384	CRT	.9818	CRS	-.2528	CST	-.1812	FDE	.3013	FRA	3.8690	FC	-28.6133	BSP	5201	SG8	3308.1	R23	.1926	R13	.9426	LSA	33.3	MSA	24.1	SSA	2.0	BDE	.2242	BRA	.3068	BC3	5.6867	F8P	2730	SG1	3289.0	SG2	355.5	TMA	10.97	EL1	25.3	EL2	2.2	ALF	31.66																									

LAUNCH DATE MAY 24 1971

FLIGHT TIME 210.00

ARRIVAL DATE DEC 20 1971

HELIOCENTRIC CONIC
 RL 151.50 LAL -.00 LOL 242.20 VL 32.189 GAL .77 AZL 90.87 HCA 156.23 SMA 185.37 ECC .18320 INC .8665 V1 28.409
 RP 216.73 LAP -.35 LOP 38.43 VP 22.555 GAP 4.09 AZP 89.20 TAL 4.96 TAP 161.19 RCA 151.41 APO 219.33 V2 25.347
 RC 163.640 GL -.97 GP -8.14 ZAL 87.77 ZAP 81.74 ETS 178.19 ZAE 123.82 ETE 186.14 ZAC 93.82 ETC 273.60 LVI -4.70

PLANETOCENTRIC CONIC
 C3 7.947 VHL 2.819 DLA -20.80 RAL 335.76 RAD 6637.0 VEL 11.316 PTH 6.37 VHP 2.831 DPA -29.80 RAP 304.56 ECC 1.1308
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 57 54 2515.04 -8.15 67.06 183.60 137.04 15 39 49 1515.0 10.24 51.30
 60.00 16 2 36 2342.98 -4.21 55.32 187.36 130.12 16 41 39 1343.0 11.03 37.30
 70.00 17 24 31 2102.14 -.33 38.73 190.30 124.15 17 59 34 1102.1 13.42 18.92
 80.00 19 2 16 1796.23 2.83 17.46 192.27 119.74 19 32 12 796.2 14.72 356.43
 90.00 20 37 36 1488.72 4.12 355.58 192.99 118.00 21 2 25 468.7 15.25 334.08
 100.00 21 45 8 1270.71 2.83 338.85 192.27 119.74 22 6 18 270.7 14.72 317.60
 110.00 22 23 58 1148.96 -.33 327.65 190.30 124.15 22 43 7 149.0 13.42 307.83

DIFFERENTIAL CORRECTIONS
 TDE -.1748 TRA .2773 TC3-5.8952 BAU .6352 SGT 3396.6 SGR 737.8 SG3 1569.0 ST 20.6 SR 12.7 SS 33.1
 RDE -.1071 FRA .1965 RC3 -.9945 FAU .26111 RRT .8774 RRF .9286 RTF .9425 CRT .9823 CRS -.2334 CST -.2012
 FDE .3934 FRA 3.9008 FC-28.4461 BSP 5504 SGB 3475.8 R23 .1937 R13 .9464 LSA 33.9 MSA 23.0 SSA 2.0
 BDE .2050 BRA .3399 BC3 5.9785 FSP 2714 SGI 3458.4 SG2 347.7 THA 10.90 EL1 24.1 EL2 2.0 ALF 31.43

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 24 1971

FLIGHT TIME 212.00

ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC
 RL 151.50 LAL -.00 LOL 242.20 VL 32.193 GAL .71 AZL 90.82 HCA 157.38 SMA 185.45 ECC .18348 INC .8154 V1 29.409
 RP 217.08 LAP -.31 LOP 39.58 VP 22.518 GAP 3.93 AZP 89.25 TAL 4.60 TAP 161.98 RCA 151.42 APO 219.47 V2 25.308
 RC 166.178 GL -9.36 GP -8.50 ZAL 88.41 ZAP 80.07 ETS 177.86 ZAE 121.98 ETE 185.98 ZAC 93.50 ETC 273.47 LVI -4.17

PLANETOCENTRIC CONIC
 C3 7.944 VHL 2.818 DLA -20.00 RAL 336.15 RAD 6637.0 VEL 11.316 PTH 6.37 VHP 2.839 DPA -30.27 RAP 304.04 ECC 1.1307
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 55 54 2532.05 -8.99 67.79 183.89 136.92 15 38 6 1532.1 9.39 52.03
 60.00 15 59 21 2363.31 -5.11 56.30 187.61 130.03 16 38 44 1363.3 10.96 38.31
 70.00 17 19 36 2127.32 -1.29 40.05 190.49 124.13 17 55 5 1127.3 12.51 20.30
 80.00 18 55 27 1827.44 1.77 19.19 192.41 119.81 19 25 54 827.4 13.77 358.26
 90.00 20 29 44 1523.29 3.02 357.52 193.10 118.13 20 55 7 523.3 14.28 336.15
 100.00 21 38 18 1301.91 1.77 340.56 192.41 119.81 22 0 0 301.9 13.77 319.63
 110.00 22 19 4 1174.14 -1.29 328.97 190.49 124.13 22 38 38 174.1 12.51 309.22

DIFFERENTIAL CORRECTIONS
 TDE -.1522 TRA .3172 TC3-6.1714 BAU .6647 SGT 3559.3 SGR 760.8 SG3 1559.4 ST 19.3 SR 11.8 SS 34.5
 RDE -.0963 RRA .2040 RC3-1.0433 FAU .25822 RRT .8896 RRF .9390 RTF .9453 CRT .9802 CRS -.2146 CST -.2336
 FDE .5151 FRA 3.9501 FC-28.1411 BSP 5824 SGB 3639.7 R23 .1977 R13 .9490 LSA 35.1 MSA 21.6 SSA 2.0
 BDE .1801 BRA .3771 BC3 6.2590 FSP 2706 SGI 3623.6 SG2 341.3 THA 10.87 EL1 22.6 EL2 2.0 ALF 31.31

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 24 1971

FLIGHT TIME 214.00

ARRIVAL DATE DEC 24 1971

HELIOCENTRIC CONIC
 RL 151.50 LAL -.00 LOL 242.20 VL 32.199 GAL .65 AZL 90.76 HCA 158.53 SMA 185.53 ECC .18380 INC .7566 V1 29.409
 RP 217.43 LAP -.28 LOP 40.73 VP 22.482 GAP 3.78 AZP 89.30 TAL 4.22 TAP 162.75 RCA 151.43 APO 219.64 V2 25.269
 RC 168.717 GL -8.68 GP -8.89 ZAL 89.06 ZAP 78.44 ETS 177.51 ZAE 120.18 ETE 185.84 ZAC 93.15 ETC 273.35 LVI -3.63

PLANETOCENTRIC CONIC
 C3 7.944 VHL 2.819 DLA -19.13 RAL 336.53 RAD 6637.0 VEL 11.316 PTH 6.37 VHP 2.849 DPA -30.76 RAP 303.57 ECC 1.1307
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 53 38 2550.38 -9.90 68.58 184.19 136.78 15 36 9 1550.4 8.48 52.82
 60.00 15 55 47 2385.08 -6.06 57.35 187.86 129.92 16 35 33 1385.1 10.02 39.39
 70.00 17 14 23 2154.06 -2.31 41.44 190.69 124.08 17 50 17 1154.1 11.54 21.77
 80.00 18 48 17 1860.15 .66 20.99 192.54 119.85 19 19 17 860.1 12.76 .17
 90.00 20 21 34 1559.24 1.86 359.53 193.21 118.22 20 47 33 559.2 13.25 338.29
 100.00 21 31 9 1334.62 .66 342.36 192.54 119.85 21 53 24 334.6 12.76 321.53
 110.00 22 13 49 1200.88 -2.31 330.36 190.69 124.08 22 33 50 200.9 11.54 310.68

DIFFERENTIAL CORRECTIONS
 TDE -.1287 TRA .3552 TC3-6.4489 BAU .6948 SGT 3724.0 SGR 786.9 SG3 1546.7 ST 18.2 SR 11.1 SS 35.3
 RDE -.0859 RRA .2112 RC3-1.0967 FAU .25529 RRT .9010 RRF .9484 RTF .5.82 CRT .9743 CRS -.2195 CST -.2974
 FDE .6124 FRA 3.9701 FC-27.8203 BSP 6117 SGB 3806.2 R23 .2007 R13 .9518 LSA 36.3 MSA 20.0 SSA 2.0
 BDE .1347 BRA .4133 BC3 6.5415 FSP 2674 SGI 3791.5 SG2 335.3 THA 10.87 EL1 21.2 EL2 2.1 ALF 31.06

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 24 1971

FLIGHT TIME 216.00

ARRIVAL DATE DEC 26 1971

HELIOCENTRIC CONIC
 RL 151.50 LAL -.00 LOL 242.20 VL 32.204 GAL .60 AZL 90.69 HCA 159.68 SMA 185.63 ECC .18415 INC .6914 V1 29.409
 RP 217.79 LAP -.24 LOP 41.87 VP 22.445 GAP 3.63 AZP 89.35 TAL 3.84 TAP 163.51 RCA 151.44 APO 219.81 V2 25.229
 RC 171.268 GL -7.93 GP -9.31 ZAL 89.73 ZAP 76.86 ETS 177.14 ZAE 118.40 ETE 185.70 ZAC 92.76 ETC 273.23 LVI -3.07

PLANETOCENTRIC CONIC
 C3 7.949 VHL 2.819 DLA -18.18 RAL 336.90 RAD 6637.0 VEL 11.317 PTH 6.37 VHP 2.862 DPA -31.27 RAP 303.14 ECC 1.1308
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 51 4 2570.18 -10.89 69.43 184.49 136.61 15 33 55 1570.2 7.49 53.66
 60.00 15 51 52 2408.50 -7.08 58.48 188.11 129.78 16 32 1 1408.5 9.01 40.54
 70.00 17 8 43 2182.57 -3.40 42.94 190.88 124.00 17 45 6 1182.6 10.50 23.32
 80.00 18 40 44 1894.61 -.51 22.88 192.68 119.85 19 12 18 894.6 11.68 2.15
 90.00 20 13 2 1596.85 .65 1.62 193.32 118.27 20 39 39 596.9 12.15 340.50
 100.00 21 23 36 1369.08 -.51 344.25 192.68 119.85 21 46 25 369.1 11.68 323.52
 110.00 22 8 10 1229.39 -3.40 331.85 190.88 124.00 22 28 39 229.4 10.50 312.23

DIFFERENTIAL CORRECTIONS
 TDE -.1001 TRA .3939 TC3-6.7270 BAU .7253 SGT 3890.9 SGR 817.4 SG3 1534.4 ST 17.2 SR 10.3 SS 37.1
 RDE -.0739 RRA .2197 RC3-1.1558 FAU .25237 RRT .9114 RRF .9570 RTF .9506 CRT .9615 CRS -.2373 CST -.3869
 FDE .7305 FRA 3.9926 FC-27.4876 BSP 6424 SGB 3975.8 R23 .2048 R13 .9540 LSA 37.9 MSA 18.2 SSA 2.0
 BDE .1244 BRA .4511 BC3 6.8256 FSP 2655 SGI 3962.1 SG2 330.4 THA 10.92 EL1 19.9 EL2 2.5 ALF 30.58

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 24 1971

FLIGHT TIME 218.00

ARRIVAL DATE DEC 28 1971

HELIOCENTRIC CONIC												DISTANCE 507.934												EARTH TO MARS																																																																																
RL	151.50	LAL	-.00	LOL	242.20	VL	32.210	GAL	.54	AZL	90.62	HCA	160.82	SMA	185.73	ECC	.18454	INC	.6204	V1	29.409	RP	218.15	LAP	-.20	LOP	43.01	VP	22.409	GAP	3.48	AZP	89.41	TAL	3.44	TAP	164.26	RCA	151.45	APO	220.00	V2	25.109	RC	173.829	GL	-7.10	GP	-9.78	ZAL	90.41	ZAP	75.33	ETS	176.73	ZAE	116.67	ETE	185.57	ZAC	92.32	ETC	273.10	LVI	-2.48																																							
PLANETOCENTRIC CONIC																																																																																																								
C3	7.957	VHL	2.821	DLA	-17.16	RAL	337.24	RAD	6637.0	VEL	11.317	PTH	6.37	VHP	2.877	DPA	-31.82	RAP	302.77	ECC	1.1309	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																									
50.00	14	48	9	2591.66	-11.95	70.37	184.79	136.41	15	31	21	1591.7	6.42	54.57	60.00	15	47	32	2433.78	-8.18	59.72	188.35	129.60	16	28	5	1433.8	7.92	41.78	70.00	17	2	35	2213.10	-4.56	44.54	191.07	123.88	17	39	29	1213.1	9.37	24.96	80.00	18	32	41	1931.12	-1.74	24.88	192.82	119.81	19	4	52	931.1	10.51	4.24	90.00	20	4	2	1636.4	-.63	3.83	193.44	118.27	20	31	18	636.4	10.97	342.81	100.00	21	15	33	1405.59	-1.74	346.25	192.82	119.81	21	38	59	405.6	10.51	325.61	110.00	22	2	2	1259.92	-4.56	333.45	191.07	123.88	22	23	2	259.9	9.37	313.88
DIFFERENTIAL CORRECTIONS												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																																																																																
TDE	-.0657	TRA	.4328	TC3	-6.9882	BAU	.7543	SGT	4049.4	SGR	849.4	SG3	1514.7	ST	16.4	SR	9.6	SS	38.7	RDE	-.0611	RRA	.2287	RC3	-1.2150	FAU	.24819	RRT	.9202	RRF	.9643	RTF	.9527	CRY	.9363	CR8	-.2781	CST	-.5149	FDE	.8517	FRA	3.9990	FC	-27.0048	BSP	6740	SG8	4137.6	R23	.2092	R13	.9560	LSA	39.9	MSA	16.2	SSA	2.1	BDE	.0897	BRA	.4895	BC3	7.0911	FSP	2628	SG1	4124.7	SG2	326.4	THA	11.00	EL1	18.8	EL2	3.0	ALF	29.55																									

LAUNCH DATE MAY 24 1971

FLIGHT TIME 220.00

ARRIVAL DATE DEC 30 1971

HELIOCENTRIC CONIC												DISTANCE 512.108												EARTH TO MARS																																																																																
RL	151.50	LAL	-.00	LOL	242.20	VL	32.216	GAL	.47	AZL	90.54	HCA	161.95	SMA	185.83	ECC	.18495	INC	.5399	V1	29.409	RP	218.51	LAP	-.17	LOP	44.15	VP	22.373	GAP	3.34	AZP	89.49	TAL	3.04	TAP	165.00	RCA	151.46	APO	220.20	V2	25.149	RC	176.400	GL	-6.18	GP	-10.31	ZAL	91.11	ZAP	73.85	ETS	176.29	ZAE	114.96	ETE	185.46	ZAC	91.82	ETC	273.03	LVI	-1.88																																							
PLANETOCENTRIC CONIC																																																																																																								
C3	7.969	VHL	2.823	DLA	-16.04	RAL	337.56	RAD	6637.0	VEL	11.317	PTH	6.37	VHP	2.895	DPA	-32.41	RAP	302.45	ECC	1.1312	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																									
50.00	14	44	49	2615.09	-13.10	71.40	185.08	136.16	15	28	24	1615.1	5.25	55.56	60.00	15	42	41	2461.21	-9.37	61.06	188.60	129.38	16	23	42	1461.2	6.72	43.11	70.00	16	55	53	2245.98	-5.80	46.27	191.26	123.72	17	33	19	1246.0	8.15	26.72	80.00	18	24	3	1970.04	-3.06	27.02	192.96	119.72	18	56	53	970.0	9.26	6.44	90.00	19	54	27	1678.41	-1.98	6.17	193.56	118.22	20	22	26	678.4	9.69	345.23	100.00	21	6	55	1444.51	-3.06	348.39	192.96	119.72	21	31	0	444.5	9.26	327.81	110.00	21	55	20	1292.80	-5.80	335.18	191.26	123.72	22	16	53	292.8	8.15	315.64
DIFFERENTIAL CORRECTIONS												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																																																																																
TDE	-.0264	TRA	.4723	TC3	-7.2461	BAU	.7840	SGT	4211.4	SGR	887.6	SG3	1495.9	ST	16.4	SR	9.0	SS	40.8	RDE	-.0467	RRA	.2393	RC3	-1.2814	FAU	.24407	RRT	.9281	RRF	.9709	RTF	.9543	CRY	.8994	CR8	-.3509	CST	-.6631	FDE	.9816	FRA	4.0099	FC	-26.5141	BSP	7023	SG8	4303.9	R23	.2147	R13	.9576	LSA	42.5	MSA	14.2	SSA	2.2	BDE	.0537	BRA	.5295	BC3	7.3586	FSP	2580	SG1	4291.7	SG2	324.4	THA	11.13	EL1	18.4	EL2	3.5	ALF	27.38																									

LAUNCH DATE MAY 24 1971

FLIGHT TIME 222.00

ARRIVAL DATE JAN 1 1972

HELIOCENTRIC CONIC												DISTANCE 516.280												EARTH TO MARS																																																																																
RL	151.50	LAL	-.00	LOL	242.20	VL	32.223	GAL	.41	AZL	90.45	HCA	163.09	SMA	185.94	ECC	.18539	INC	.4488	V1	29.409	RP	218.88	LAP	-.13	LOP	45.28	VP	22.337	GAP	3.19	AZP	89.57	TAL	2.63	TAP	165.72	RCA	151.47	APO	220.64	V2	25.109	RC	178.981	GL	-5.14	GP	-10.89	ZAL	91.83	ZAP	72.43	ETS	175.80	ZAE	113.29	ETE	185.34	ZAC	91.26	ETC	272.94	LVI	-1.19																																							
PLANETOCENTRIC CONIC																																																																																																								
C3	7.987	VHL	2.826	DLA	-14.81	RAL	337.85	RAD	6637.0	VEL	11.318	PTH	6.37	VHP	2.914	DPA	-33.05	RAP	302.19	ECC	1.1315	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																									
50.00	14	40	58	2640.80	-14.36	72.55	185.36	135.86	15	24	59	1640.8	3.96	56.64	60.00	15	37	14	2491.16	-10.66	62.54	188.84	129.10	16	18	45	1491.2	5.41	44.56	70.00	16	48	31	2281.62	-7.15	48.15	191.44	123.49	17	26	32	1281.6	6.81	28.61	80.00	18	14	42	2011.84	-4.46	29.33	193.10	119.55	18	48	14	1011.8	7.89	8.79	90.00	19	44	10	1723.25	-3.42	8.68	193.67	118.09	20	12	53	723.3	8.31	347.80	100.00	20	57	34	1486.31	-4.46	350.69	193.10	119.55	21	22	20	486.3	7.85	330.16	110.00	21	47	57	1328.44	-7.15	337.07	191.44	123.49	22	10	5	328.4	6.81	317.53
DIFFERENTIAL CORRECTIONS												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																																																																																
TDE	.0171	TRA	.5096	TC3	-7.4993	BAU	.8138	SGT	4371.7	SGR	930.8	SG3	1473.5	ST	17.3	SR	8.6	SS	42.7	RDE	-.0316	RRA	.2508	RC3	-1.3540	FAU	.23957	RRT	.9348	RRF	.9786	RTF	.9558	CRY	.8608	CR8	-.4527	CST	-.7995	FDE	1.1018	FRA	4.0019	FC	-25.9664	BSP	7329	SG8	4469.7	R23	.2201	R13	.9591	LSA	45.3	MSA	12.1	SSA	2.3	BDE	.0360	BRA	.5680	BC3	7.6205	FSP	2549	SG1	4457.9	SG2	324.1	THA	11.32	EL1	18.9	EL2	4.0	ALF	24.26																									

LAUNCH DATE MAY 24 1971

FLIGHT TIME 224.00

ARRIVAL DATE JAN 3 1972

HELIOCENTRIC CONIC												DISTANCE 520.448												EARTH TO MARS																																																																																
RL	151.50	LAL	-.00	LOL	242.20	VL	32.230	GAL	.35	AZL	90.35	HCA	164.22	SMA	186.08	ECC	.18586	INC	.3469	V1	29.409	RP	219.25	LAP	-.09	LOP	46.41	VP	22.302	GAP	3.05	AZP	89.87	TAL	2.22	TAP	166.44	RCA	151.48	APO	220.64	V2	25.068	RC	181.572	GL	-3.96	GP	-11.55	ZAL	92.55	ZAP	71.06	ETS	175.26	ZAE	111.65	ETE	185.24	ZAC	90.62	ETC	272.86	LVI	-.48																																							
PLANETOCENTRIC CONIC																																																																																																								
C3	8.012	VHL	2.831	DLA	-13.45	RAL	338.09	RAD	6637.0	VEL	11.319	PTH	6.37	VHP	2.937	DPA	-33.76	RAP	302.00	ECC	1.1319	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																									
50.00	14	36	31	2869.21	-15.74	73.83	185.65	135.50	15	21	0	1669.2	2.53	57.83	60.00	15	31	4	2524.12	-12.07	64.18	189.07	128.75	16	13	8	1524.1	3.97	46.14	70.00	16	40	19	2320.57	-8.60	50.23	191.62	123.18	17	18	59	1320.6	5.34	30.67	80.00	18	4	28	2057.13	-5.98	31.83	193.23	119.31	18	38	46	1057.1	6.39	11.32	90.00	19	32	59	1771.61	-4.97	11.39	193.78	117.88	20	2	30	771.6	6.80	350.55	100.00	20	47	20	1531.60	-5.98	353.20	193.23	119.31	21	12	52	531.6	6.39	332.69	110.00	21	39	45	1367.39	-8.60	339.14	191.62	123.18	22	2	32	367.4	5.34	319.59
DIFFERENTIAL CORRECTIONS												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																																																																																
TDE	.0712	TRA	.5485	TC3	-7.7465	BAU	.8439	SGT	4533.8	SGR	982.8	SG3	1452.8	ST	19.7	SR	8.5	SS	45.4	RDE	-.0133	RRA	.2645	RC3	-1.4374	FAU	.23528	RRT	.9410	RRF	.9816	RTF	.9572	CRY	.8385	CR8	-.5853	CST	-.9042	FDE	1.2515	FRA	3.9974	FC	-25.4215	BSP	7615	SG8	4639.1	R23	.2252	R13	.9606	LSA	49.2	MSA	9.9	SSA	2.4	BDE	.0725	BRA	.6089	BC3	7.8788	FSP	2494	SG1	4627.6	SG2	325.7	THA	11.59	EL1	21.0	EL2	4.3	ALF	20.70																									

LAUNCH DATE MAY 24 1971

FLIGHT TIME 226.00

ARRIVAL DATE JAN 5 1972

HELIOCENTRIC CONIC										DISTANCE 924.612					EARTH TO MARS						
RL	151.50	LAL	-0.00	LQ	242.20	VL	32.237	GAL	2.20	AZL	90.23	HCA	165.34	SMA	186.18	ECC	.18636	INC	.2294	V1	29.409
RP	219.62	LAP	-0.06	LOP	47.54	VP	22.266	GAP	2.90	AZP	89.78	TAL	1.80	TAP	167.14	RCA	151.48	APO	220.88	V2	25.026
RC	184.172	GL	-2.61	GP	-12.30	ZAL	93.29	ZAP	69.75	ETS	174.85	ZAE	110.04	ETE	185.15	ZAC	89.89	ETC	272.79	LVI	.34
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY					ORBIT DETERMINATION ACCURACY						
C3	8.045	VHL	2.836	DLA	-11.93	RAL	338.28	RAD	6637.0	VEL	11.321	PTH	6.37	VHP	2.962	DPA	-34.56	RAP	301.87	ECC	1.1324
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CBT TIM	INJ 2 LAT	INJ 2 LONG											
50.00	14 31 19	2700.90	-17.28	75.28	185.93	135.05	15 16 20	1700.9	.94	59.16											
60.00	15 24 2	2560.71	-13.62	66.03	189.30	128.31	16 6 42	1560.7	2.36	47.89											
70.00	16 31 6	2363.51	-10.20	52.53	191.80	122.77	17 10 30	1363.5	3.71	32.92											
80.00	17 53 9	2106.68	-7.62	34.59	193.36	118.96	18 28 18	1106.7	4.74	14.07											
90.00	19 20 41	1824.30	-6.64	14.37	193.89	117.55	19 51 5	824.3	5.13	353.52											
100.00	20 36 1	1581.15	-7.62	355.96	193.36	118.96	21 2 22	581.2	4.74	335.43											
110.00	21 30 32	1410.33	-10.20	341.45	191.80	122.77	21 54 3	410.3	3.71	321.84											
DIFFERENTIAL CORRECTIONS										MID-COURSE EXECUTION ACCURACY					ORBIT DETERMINATION ACCURACY						
TDE	.1323	TRA	.5822	TC3-7.9827	BAU	.8742	SGT	4692.8	SGR	1041.0	SG3	1426.6	ST	23.4	SR	8.7	SS	48.1			
RDE	.0069	RRA	.2782	RC3-1.5302	FAU	.23096	RRT	.9467	RRF	.9898	RTF	.9588	CRT	.8467	CRS	-.7187	CST	-.9610			
FDE	1.3970	FRA	3.9521	FC-24.8118	BSP	7982	SGB	4808.8	R23	.2284	R13	.9622	LSA	53.6	MSA	7.0	SSA	2.7			
BDE	.1325	BRA	.6453	BC3 8.1280	FSP	2475	SG1	4795.6	SG2	328.0	THA	11.92	EL1	24.6	EL2	4.4	ALF	16.13			

LAUNCH DATE MAY 24 1971

FLIGHT TIME 228.00

ARRIVAL DATE JAN 7 1972

HELIOCENTRIC CONIC										DISTANCE 526.773					EARTH TO MARS						
RL	151.50	LAL	-0.00	LQ	242.20	VL	32.245	GAL	.22	AZL	90.09	HCA	166.46	SMA	186.31	ECC	.18688	INC	.0887	V1	29.409
RP	219.99	LAP	-0.02	LOP	48.66	VP	22.231	GAP	2.76	AZP	89.91	TAL	1.37	TAP	167.03	RCA	151.49	APO	221.12	V2	24.987
RC	186.781	GL	-1.06	GP	-13.17	ZAL	94.04	ZAP	68.31	ETS	173.97	ZAE	108.46	ETE	185.06	ZAC	89.03	ETC	272.74	LVI	1.23
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY					ORBIT DETERMINATION ACCURACY						
C3	8.089	VHL	2.844	DLA	-10.21	RAL	338.40	RAD	6637.0	VEL	11.323	PTH	6.38	VHP	2.990	DPA	-35.45	RAP	301.81	ECC	1.1331
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CBT TIM	INJ 2 LAT	INJ 2 LONG											
50.00	14 25 12	2736.61	-18.99	76.94	186.21	134.49	15 10 48	1736.6	-.05	60.65											
60.00	15 15 54	2601.76	-15.34	68.13	189.54	127.74	15 59 16	1601.8	.56	49.86											
70.00	16 20 38	2411.41	-11.95	55.13	191.98	122.24	17 0 50	1411.4	1.89	35.43											
80.00	17 40 28	2161.55	-9.42	37.68	193.49	118.46	18 16 29	1161.5	2.89	17.09											
90.00	19 6 59	1882.42	-8.45	17.67	194.00	117.09	19 38 21	882.4	3.28	358.78											
100.00	20 23 19	1636.02	-9.42	359.04	193.49	118.46	20 50 36	636.0	2.89	338.46											
110.00	21 20 5	1458.23	-11.95	344.05	191.98	122.24	21 44 23	458.2	1.89	324.33											
DIFFERENTIAL CORRECTIONS										MID-COURSE EXECUTION ACCURACY					ORBIT DETERMINATION ACCURACY						
TDE	.2020	TRA	.6145	TC3-8.1927	BAU	.9032	SGT	4844.1	SGR	1105.5	SG3	1392.8	ST	28.6	SR	9.6	SS	51.0			
RDE	.0299	RRA	.2951	RC3-1.6245	FAU	.22413	RRT	.9505	RRF	.9891	RTF	.9594	CRT	.8763	CRS	-.8317	CST	-.9859			
FDE	1.5422	FRA	3.9097	FC-23.9881	BSP	8205	SGB	4968.6	R23	.2344	R13	.9629	LSA	58.9	MSA	5.9	SSA	3.0			
BDE	.2042	BRA	.6817	BC3 8.3522	FSP	2395	SG1	4937.3	SG2	335.6	THA	12.30	EL1	29.9	EL2	4.5	ALF	16.84			

LAUNCH DATE MAY 24 1971

FLIGHT TIME 230.00

ARRIVAL DATE JAN 9 1972

HELIOCENTRIC CONIC										DISTANCE 532.930					EARTH TO MARS						
RL	151.50	LAL	-0.00	LQ	242.20	VL	32.252	GAL	.15	AZL	89.93	HCA	167.58	SMA	186.44	ECC	.18743	INC	.0504	V1	29.409
RP	220.36	LAP	.01	LOP	49.78	VP	22.196	GAP	2.62	AZP	90.06	TAL	.94	TAP	168.52	RCA	151.49	APO	221.38	V2	24.946
RC	189.399	GL	.74	GP	-14.18	ZAL	94.79	ZAP	67.34	ETS	173.20	ZAE	106.91	ETE	184.98	ZAC	88.04	ETC	272.69	LVI	2.23
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY					ORBIT DETERMINATION ACCURACY						
C3	8.149	VHL	2.855	DLA	-8.26	RAL	338.44	RAD	6637.1	VEL	11.325	PTH	6.38	VHP	3.023	DPA	-36.48	RAP	301.84	ECC	1.1341
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CBT TIM	INJ 2 LAT	INJ 2 LONG											
50.00	14 17 55	2777.37	-20.92	78.89	186.50	133.76	15 4 12	1777.4	-2.90	62.35											
60.00	15 6 24	2640.43	-17.27	70.56	189.79	127.00	15 50 32	1648.4	-1.50	52.08											
70.00	16 8 36	2465.54	-13.90	58.12	192.17	121.52	16 49 41	1465.5	-.18	38.25											
80.00	17 26 2	2223.15	-11.39	41.18	193.63	117.79	18 3 5	1223.2	.81	20.47											
90.00	18 51 28	1947.48	-10.45	21.41	194.13	116.43	19 23 56	947.5	1.18	.42											
100.00	20 8 53	1697.62	-11.39	2.55	193.63	117.79	20 37 11	697.6	.81	341.84											
110.00	21 8 2	1512.36	-13.90	347.04	192.17	121.52	21 33 15	512.4	-.18	327.17											
DIFFERENTIAL CORRECTIONS										MID-COURSE EXECUTION ACCURACY					ORBIT DETERMINATION ACCURACY						
TDE	.2854	TRA	.6438	TC3-8.3898	BAU	.9334	SGT	4997.5	SGR	1184.1	SG3	1359.1	ST	35.4	SR	11.3	SS	54.3			
RDE	.0576	RRA	.3141	RC3-1.7366	FAU	.21803	RRT	.9542	RRF	.9920	RTF	.9503	CRT	.9101	CRS	-.9109	CST	-.9941			
FDE	1.7024	FRA	3.8468	FC-23.1633	BSP	8537	SGB	5135.9	R23	.2382	R13	.9640	LSA	65.6	MSA	4.6	SSA	3.2			
BDE	.2912	BRA	.7163	BC3 8.5674	FSP	2356	SG1	5124.3	SG2	345.4	THA	12.80	EL1	36.9	EL2	4.5	ALF	16.38			

LAUNCH DATE MAY 24 1971

FLIGHT TIME 232.00

ARRIVAL DATE JAN 11 1972

HELIOCENTRIC CONIC										DISTANCE 537.086					EARTH TO MARS						
RL	151.50	LAL	-0.00	LQ	242.20	VL	32.260	GAL	.08	AZL	89.74	HCA	168.70	SMA	186.57	ECC	.18800	INC	.2561	V1	29.409
RP	220.74	LAP	.05	LOP	50.89	VP	22.161	GAP	2.47	AZP	90.25	TAL	.50	TAP	169.20	RCA	151.50	APO	221.65	V2	24.904
RC	192.025	GL	2.88	GP	-15.37	ZAL	95.54	ZAP	66.26	ETS	172.30	ZAE	105.39	ETE	184.91	ZAC	86.86	ETC	272.65	LVI	3.40
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY					ORBIT DETERMINATION ACCURACY						
C3	8.232	VHL	2.869	DLA	-5.99	RAL	338.35	RAD	6637.1	VEL	11.329	PTH	6.38	VHP	3.061	DPA	-37.67	RAP	301.97	ECC	1.1355
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CBT TIM	INJ 2 LAT	INJ 2 LONG											
50.00	14 9 8	2824.56	-23.12	81.22	186.83	132.82	14 56 13	1824.6	-5.27	64.33											
60.00	14 55 7	2702.26	-19.45	73.44	190.07	126.02	15 40 10	1702.3	-3.87	54.66											
70.00	15 54 30	2527.65	-16.08	61.61	192.39	120.55	16 36 38	1527.6	-2.55	41.50											
80.00	17 9 19	2293.43	-13.59	45.24	193.80	116.84	17 47 33	1293.4	-1.58	24.33											
90.00	18 33 36	2021.48	-12.65	25.72	194.27	115.50	19 7 18	1021.5	-1.20	4.55											
100.00	19 52 11	1767.90	-13.59	6.61	193.80	116.84	20 21 39	767.9	-1.58	345.70											
110.00	20 53 57	1574.47	-16.08	350.53	192.39	120.55	21 20 11	574.5	-2.55	330.41											
DIFFERENTIAL CORRECTIONS										MID-COURSE EXECUTION ACCURACY					ORBIT DETERMINATION ACCURACY						
TDE	.3851	TRA	.6656	TC3-8.5880	BAU	.9678	SGT	5163.6	SGR	1286.6	SG3	1330.4	ST	44.0	SR	13.5	SS	57.2			
RDE	.0886	RRA	.3322	RC3-1.8923	FAU	.21471	RRT	.9601	RRF	.9943	RTF	.9641	CRT	.9339	CRS	-.9552	CST	-.9948			
FDE	1.8420	FRA	3.7161	FC-22.5808	BSP	8741	SGB	5321.5	R23	.2302	R13	.9679	LSA	73.2	MSA	5.0	SSA	2.4			
BDE	.3951	BRA	.7439	BC3 8.7940	FSP	2214	SG1	5310.0	SG2	349.8	THA	13.51	EL1	45.8	EL2	4.6	ALF	16.11			

LAUNCH DATE MAY 24 1971

FLIGHT TIME 234.00

ARRIVAL DATE JAN 13 1972

Heliocentric Conic: RL 151.50 LAL -.00 LOL 242.20 VL 32.268 GAL .01 AZL 89.31 HCA 169.81 SMA 186.71 ECC .18860 INC .4031 V1 29.409
 RP 221.12 LAP .09 LOP 52.00 VP 22.127 GAP 2.33 AZP 90.48 TAL .06 TAP 169.86 RCA 151.50 APO 221.92 V2 24.863
 RC 194.659 GL 8.43 GP -16.79 ZAL 96.29 ZAP 65.28 ETS 171.25 ZAE 103.89 ETE 184.85 ZAC 85.45 ETC 272.62 LVI 4.76

Planetocentric Conic: C3 8.352 VHL 2.890 DLA -3.34 RAL 338.12 RAD 6637.2 VEL 11.334 PTH 6.39 VHP 3.106 DPA -39.08 RAP 302.22 ECC 1.1374
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 58 26 2880.30 -25.67 84.07 187.23 131.54 14 46 26 1880.3 -8.05 66.70
 60.00 14 41 33 2765.60 -21.94 76.94 190.42 124.69 15 27 38 1765.6 -6.64 57.71
 70.00 15 37 44 2600.41 -18.54 65.80 192.68 119.21 16 21 4 1600.4 -5.32 45.31
 80.00 16 49 36 2375.37 -16.05 50.08 194.03 115.52 17 29 11 1375.4 -4.34 28.84
 90.00 18 12 36 2107.57 -15.12 30.84 194.48 114.19 18 47 43 1107.6 -3.97 9.36
 100.00 19 32 28 1849.84 -16.05 11.44 194.03 115.32 20 3 18 849.8 -4.34 350.21
 110.00 20 37 10 1647.23 -18.54 354.72 192.68 119.21 21 4 37 647.2 -5.32 334.23

Differential Corrections: TDE .3788 TRA .7954 TC3-8.9498 BAU 1.0282 SGT 5480.6 SGR 1511.0 SG3 1377.2 ST 45.1 SR 13.9 SS 47.9
 RDE .0566 RRA .4212 RC3-2.1684 FAU .2209D RRT .9561 RRF .9967 RTF .9627 CRT .8359 CRS -.9423 CST -.9691
 FDE 1.2374 FRA 4.2991 FC-22.8982 BSP 8832 SGB 5665.8 R23 .2407 R13 .9677 LSA 66.4 MSA 10.0 SSA 1.3
 BDE .3830 BRA .9001 BC3 9.2087 FSP 2060 SGI 5649.6 SG2 427.8 THA 14.91 EL1 46.6 EL2 7.4 ALF 14.81

LAUNCH DATE MAY 24 1971

FLIGHT TIME 236.00

ARRIVAL DATE JAN 15 1972

Heliocentric Conic: RL 151.50 LAL -.00 LOL 242.20 VL 32.277 GAL -.06 AZL 89.23 HCA 170.91 SMA 186.85 ECC .18922 INC .7691 V1 29.409
 RP 221.50 LAP .12 LOP 53.11 VP 22.092 GAP 2.19 AZP 90.76 TAL 359.61 TAP 170.52 RCA 151.50 APO 222.21 V2 24.821
 RC 197.299 GL 8.54 GP -18.51 ZAL 97.02 ZAP 64.44 ETS 170.01 ZAE 102.43 ETE 184.80 ZAC 83.73 ETC 272.61 LVI 6.39

Planetocentric Conic: C3 8.530 VHL 2.921 DLA -.16 RAL 337.68 RAD 6637.3 VEL 11.342 PTH 6.39 VHP 3.162 DPA -40.78 RAP 302.63 ECC 1.1404
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 45 5 2947.49 -28.65 87.69 187.78 129.76 14 34 13 1947.5 -11.38 69.59
 60.00 14 24 50 2841.74 -24.83 81.31 190.93 122.83 15 12 12 1841.7 -9.94 61.43
 70.00 15 17 16 2687.56 -21.36 71.00 193.11 117.31 16 2 3 1687.6 -8.60 49.93
 80.00 16 25 43 2473.20 -18.83 56.02 194.39 113.61 17 6 57 1473.2 -7.60 34.27
 90.00 17 47 14 2210.19 -17.88 37.10 194.82 112.28 18 24 4 1210.2 -7.22 15.14
 100.00 19 8 35 1947.67 -18.83 17.38 194.39 113.61 19 41 3 947.7 -7.60 355.64
 110.00 20 16 42 1734.38 -21.36 359.92 193.11 117.31 20 45 37 734.4 -8.60 336.85

Differential Corrections: TDE .6591 TRA .7080 TC3-8.6846 BAU 1.0195 SGT 5415.1 SGR 1508.6 SG3 1213.6 ST 68.3 SR 21.8 SS 67.0
 RDE .1875 RRA .3956 RC3-2.1235 FAU .19171 RRT .9680 RRF .9927 RTF .9601 CRT .9680 CRS -.9923 CST -.9907
 FDE 2.2567 FRA 3.5508 FC-19.4582 BSP 9525 SGB 5621.3 R23 .2508 R13 .9652 LSA 97.9 MSA 7.6 SSA 1.0
 BDE .8653 BRA .8092 BC3 8.9404 FSP 2146 SGI 5606.5 SG2 408.1 THA 15.05 EL1 71.6 EL2 5.2 ALF 17.29

LAUNCH DATE MAY 24 1971

FLIGHT TIME 238.00

ARRIVAL DATE JAN 17 1972

Heliocentric Conic: RL 151.50 LAL -.00 LOL 242.20 VL 32.288 GAL -.14 AZL 88.87 HCA 172.01 SMA 187.00 ECC .18986 INC 1.1300 V1 29.409
 RP 221.88 LAP .16 LOP 54.21 VP 22.058 GAP 2.06 AZP 91.12 TAL 359.15 TAP 171.17 RCA 151.49 APO 222.50 V2 24.780
 RC 199.945 GL 12.40 GP -20.65 ZAL 97.71 ZAP 63.78 ETS 168.52 ZAE 100.98 ETE 184.77 ZAC 81.60 ETC 272.61 LVI 8.38

Planetocentric Conic: C3 8.808 VHL 2.968 DLA 3.71 RAL 336.96 RAD 6637.4 VEL 11.354 PTH 6.41 VHP 3.232 DPA -42.86 RAP 303.24 ECC 1.1450
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 28 5 3030.62 -32.18 92.48 188.66 127.15 14 18 35 2030.6 -15.46 73.28
 60.00 14 3 43 2935.79 -28.17 87.02 191.74 120.10 14 52 39 1935.8 -13.95 66.14
 70.00 14 51 34 2795.04 -24.56 77.70 193.82 114.52 15 38 9 1795.0 -12.54 55.75
 80.00 15 55 32 2593.69 -21.93 63.61 195.01 110.79 16 39 6 1593.7 -11.50 41.09
 90.00 17 15 34 2336.53 -20.95 45.10 195.40 109.45 17 54 30 1336.5 -11.11 22.39
 100.00 18 38 44 2068.16 -21.93 24.98 195.01 110.79 19 13 12 1068.2 -11.50 2.46
 110.00 19 51 1 1841.86 -24.56 6.61 193.82 114.52 20 21 43 841.9 -12.54 344.67

Differential Corrections: TDE .8693 TRA .7039 TC3-8.6938 BAU 1.0598 SGT 5594.5 SGR 1693.8 SG3 1169.3 ST 86.7 SR 29.3 SS 74.8
 RDE .2735 RRA .4321 RC3-2.3211 FAU .18445 RRT .9627 RRF .9982 RTF .9611 CRT .9791 CRS -.9976 CST -.9904
 FDE 2.5774 FRA 3.3730 FC-18.1301 BSP 9791 SGB 5845.8 R23 .2482 R13 .9668 LSA 117.9 MSA 8.9 SSA .6
 BDE .9113 BRA .8259 BC3 8.9981 FSP 2020 SGI 5829.3 SG2 440.1 THA 16.36 EL1 91.3 EL2 5.7 ALF 18.38

LAUNCH DATE MAY 24 1971

FLIGHT TIME 240.00

ARRIVAL DATE JAN 19 1972

Heliocentric Conic: RL 151.50 LAL -.00 LOL 242.20 VL 32.294 GAL -.21 AZL 88.40 HCA 173.11 SMA 187.15 ECC .19052 INC 1.6030 V1 29.409
 RP 222.27 LAP .19 LOP 55.31 VP 22.024 GAP 1.92 AZP 91.59 TAL 358.70 TAP 171.81 RCA 151.49 APO 222.80 V2 24.738
 RC 202.595 GL 17.28 GP -23.34 ZAL 98.30 ZAP 63.38 ETS 166.70 ZAE 99.56 ETE 184.75 ZAC 78.91 ETC 272.64 LVI 10.87

Planetocentric Conic: C3 9.267 VHL 3.044 DLA 8.52 RAL 335.83 RAD 6637.7 VEL 11.374 PTH 6.43 VHP 3.326 DPA -45.47 RAP 304.17 ECC 1.1525
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 5 43 3136.73 -36.34 99.19 190.20 123.12 13 57 59 2136.7 -20.55 78.23
 60.00 13 36 6 3055.88 -32.02 94.86 193.15 115.91 14 27 1 2055.9 -18.90 72.43
 70.00 14 18 1 2932.53 -28.13 86.78 195.07 110.22 15 6 54 1932.5 -17.37 63.48
 80.00 15 16 51 2748.26 -25.30 73.85 196.12 106.41 16 2 39 1748.3 -16.22 50.13
 90.00 16 34 8 2498.86 -24.23 55.85 196.45 105.04 17 15 47 1498.9 -15.78 32.01
 100.00 17 59 43 2222.73 -25.30 35.22 196.12 106.41 18 36 46 1222.7 -16.22 11.50
 110.00 19 17 28 1979.35 -28.13 15.70 195.07 110.22 19 50 27 979.3 -17.37 352.40

Differential Corrections: TDE 1.1251 TRA .6766 TC3-8.5001 BAU 1.0972 SGT 5738.1 SGR 1901.5 SG3 1090.5 ST 107.9 SR 38.6 SS 81.0
 RDE .3837 RRA .4719 RC3-2.4841 FAU .17193 RRT .9635 RRF .9988 RTF .9604 CRT .9844 CRS -.9993 CST -.9899
 FDE 2.8389 FRA 3.1151 FC-16.0611 BSP 10064 SGB 6045.0 R23 .2497 R13 .9671 LSA 140.0 MSA 10.3 SSA .4
 BDE 1.1887 BRA .8250 BC3 8.8557 FSP 1876 SGI 6025.5 SG2 484.5 THA 17.83 EL1 114.4 EL2 6.4 ALF 19.46

LAUNCH DATE MAY 24 1971

FLIGHT TIME 242.00

ARRIVAL DATE JAN 21 1972

HELIOCENTRIC CONIC
 RL 151.50 LAL -.00 LOL 242.20 VL 32.303 GAL -.28 AZL 87.75 HCA 174.20 SMA 187.30 ECC .19120 INC 2.2943 V1 29.409
 RP 222.63 LAP .23 LOP 56.41 VP 21.990 GAP 1.78 AZP 92.24 TAL 358.24 TAP 172.44 RCA 151.48 APO 223.11 V2 24.696
 RC 205.250 GL 23.59 GP -26.84 ZAL 98.72 ZAP 63.37 ETS 164.47 ZAE 98.17 ETE 184.76 ZAC 75.41 ETC 272.70 LVI 14.07

PLANETOCENTRIC CONIC
 C3 10.082 VHL 3.175 DLA 14.64 RAL 334.08 RAD 8638.1 VEL 11.410 PTH 6.46 VHP 3.463 DPA -48.83 RAP 305.61 ECC 1.1659
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 12 35 2 3277.38 -41.11 109.26 193.16 116.44 13 29 39 2277.4 -27.01 85.38
 60.00 12 58 8 3215.87 -36.20 106.35 195.00 109.07 13 51 44 2215.9 -25.08 81.44
 70.00 13 31 36 3117.40 -31.77 99.93 197.35 103.24 14 23 33 2117.4 -23.26 74.58
 80.00 14 22 14 2958.72 -28.51 88.65 198.10 99.28 15 11 33 1958.7 -21.88 63.19
 90.00 15 35 46 2721.38 -27.26 71.42 198.31 97.83 16 21 8 1721.4 -21.34 45.96
 100.00 17 5 6 2433.19 -28.31 50.01 198.10 99.28 17 45 39 1433.2 -21.88 24.56
 110.00 18 31 2 2164.22 -31.77 28.84 197.35 103.24 19 7 6 1164.2 -23.26 3.50

DIFFERENTIAL CORRECTIONS
 TDE 1.4897 TRA .6339 TC3-8.0105 BAU 1.1356 SGT 5873.8 SGR 2167.3 SG3 991.3 ST 135.8 SR 52.1 SS 87.7
 RDE .5530 RRA .5230 RC3-2.6112 FAU .15603 RRT .9639 RRF .9992 RTF .9592 CRT .9882 CRS -.9999 CST -.9901
 FDE 3.1270 FRA 2.8070 FC-13.3983 BSP 10552 SGB 8260.9 R23 .2504 R13 .9674 LSA 169.4 MSA 11.8 SSA .2
 BDE 1.5890 BRA .0218 BC3 8.4254 FSP 1726 SG1 6237.3 SG2 543.1 THA 19.74 EL1 145.2 EL2 7.5 ALF 20.81

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 24 1971

FLIGHT TIME 244.00

ARRIVAL DATE JAN 23 1972

HELIOCENTRIC CONIC
 RL 151.50 LAL -.00 LOL 242.20 VL 32.312 GAL -.36 AZL 86.80 HCA 175.29 SMA 187.45 ECC .19191 INC 3.2007 V1 29.409
 RP 223.04 LAP .26 LOP 57.50 VP 21.956 GAP 1.64 AZP 93.19 TAL 357.77 TAP 173.07 RCA 151.48 APO 223.42 V2 24.654
 RC 207.907 GL 31.88 GP -31.49 ZAL 98.82 ZAP 63.99 ETS 161.75 ZAE 96.83 ETE 184.83 ZAC 70.75 ETC 272.83 LVI 18.29

PLANETOCENTRIC CONIC
 C3 11.670 VHL 3.416 DLA 22.55 RAL 331.33 RAD 8638.9 VEL 11.478 PTH 6.53 VHP 3.677 DPA -53.25 RAP 307.96 ECC 1.1921
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 11 50 13 3472.86 -45.82 125.64 199.13 104.55 12 48 6 2472.9 -35.16 96.87
 60.00 12 1 49 3441.95 -39.75 124.45 200.72 97.28 12 59 11 2442.0 -32.57 95.87
 70.00 12 20 27 3387.06 -34.13 120.54 201.25 91.31 13 16 54 2387.1 -30.03 92.58
 80.00 12 54 28 3280.40 -29.71 112.38 201.17 86.93 13 49 8 2280.4 -27.96 85.09
 90.00 13 59 12 3071.39 -27.90 96.88 201.03 85.18 14 50 23 2071.4 -27.09 69.90
 100.00 15 37 19 2754.87 -29.71 73.75 201.17 86.93 16 23 14 1754.9 -27.96 46.46
 110.00 17 19 53 2433.88 -34.13 49.46 201.25 91.31 18 0 27 1433.9 -30.03 21.50

DIFFERENTIAL CORRECTIONS
 TDE 2.0263 TRA .5241 TC3-7.1246 BAU 1.1853 SGT 6012.5 SGR 2506.8 SG3 855.2 ST 170.7 SR 72.0 SS 93.5
 RDE .8377 RRA .5671 RC3-2.6383 FAU .13531 RRT .9640 RRF .9993 RTF .9568 CRT .9912 CRS -1.0000 CST -.9911
 FDE 3.4257 FRA 2.3310 FC-10.0386 BSP 11022 SGB 6514.1 R23 .2522 R13 .9673 LSA 207.1 MSA 12.9 SSA .1
 BDE 2.1926 BRA .7722 BC3 7.5974 FSP 1506 SG1 6484.8 SG2 617.9 THA 22.11 EL1 185.0 EL2 8.8 ALF 22.74

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 24 1971

FLIGHT TIME 246.00

ARRIVAL DATE JAN 25 1972

HELIOCENTRIC CONIC
 RL 151.50 LAL -.00 LOL 242.20 VL 32.321 GAL -.43 AZL 85.29 HCA 176.38 SMA 187.61 ECC .19263 INC 4.7061 V1 29.409
 RP 223.42 LAP .30 LOP 58.58 VP 21.923 GAP 1.50 AZP 94.70 TAL 357.31 TAP 173.69 RCA 151.47 APO 223.75 V2 24.612
 RC 210.566 GL 42.84 GP -37.82 ZAL 98.35 ZAP 65.68 ETS 158.55 ZAE 95.61 ETE 185.08 ZAC 64.40 ETC 273.09 LVI 23.95

PLANETOCENTRIC CONIC
 C3 15.215 VHL 3.901 DLA 32.79 RAL 326.81 RAD 8640.6 VEL 11.630 PTH 6.67 VHP 4.060 DPA -59.13 RAP 312.29 ECC 1.2504
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 10 37 16 3763.88 -47.22 153.31 209.73 83.38 11 40 0 2763.9 -44.29 118.65
 60.00 10 23 32 3800.31 -38.30 154.54 207.67 77.04 11 26 53 2800.5 -39.67 123.45
 70.00 9 46 50 3909.27 -27.88 159.47 203.85 69.42 10 51 59 2909.3 -33.72 132.32
 72.67 8 50 37 4082.49 -20.87 169.54 200.55 64.11 9 58 40 3082.5 -29.68 144.84
 72.67 8 50 37 4082.49 -20.87 169.54 200.55 64.11 9 58 40 3082.5 -29.68 144.84
 72.67 8 50 37 4082.49 -20.87 169.54 200.55 64.11 9 58 40 3082.5 -29.68 144.84
 110.00 14 46 16 2956.09 -27.88 88.39 203.85 69.42 15 35 32 1956.1 -33.72 61.24

DIFFERENTIAL CORRECTIONS
 TDE 2.8668 TRA .2885 TC3-5.7065 BAU 1.2648 SGT 6148.5 SGR 2942.8 SG3 664.0 ST 210.8 SR 100.5 SS 93.5
 RDE 1.3521 RRA .5753 RC3-2.4675 FAU .10835 RRT .9638 RRF .9990 RTF .523 CRT .9934 CRS -.9999 CST -.9919
 FDE 3.5765 FRA 1.6482 FC3-8.1654 BSP 11324 SGB 6816.5 R23 .2573 R13 .9661 LSA 251.1 MSA 13.9 SSA .1
 BDE 3.1698 BRA .6436 BC3 6.2171 FSP 1164 SG1 6779.3 SG2 711.5 THA 25.06 EL1 233.3 EL2 10.4 ALF 25.39

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 24 1971

FLIGHT TIME 248.00

ARRIVAL DATE JAN 27 1972

HELIOCENTRIC CONIC
 RL 151.50 LAL -.00 LOL 242.20 VL 32.330 GAL -.51 AZL 82.52 HCA 177.45 SMA 187.77 ECC .19337 INC 7.4745 V1 29.409
 RP 223.81 LAP .33 LOP 59.67 VP 21.889 GAP 1.36 AZP 97.47 TAL 356.86 TAP 174.31 RCA 151.46 APO 224.08 V2 24.571
 RC 213.227 GL 57.15 GP -46.50 ZAL 96.99 ZAP 69.18 ETS 155.39 ZAE 94.72 ETE 185.83 ZAC 55.67 ETC 273.74 LVI 31.48

PLANETOCENTRIC CONIC
 C3 25.071 VHL 5.007 DLA 45.68 RAL 318.63 RAD 8645.0 VEL 12.043 PTH 7.03 VHP 4.870 DPA -66.71 RAP 321.94 ECC 1.4126
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 7 51 45 4301.59 -32.86 195.90 213.08 53.43 9 3 27 3301.6 -44.69 168.64
 52.50 6 38 30 4488.03 -22.98 204.59 204.18 49.36 7 53 18 3488.0 -37.39 182.04
 52.50 6 38 30 4488.03 -22.98 204.59 204.18 49.36 7 53 18 3488.0 -37.39 182.04
 52.50 6 38 30 4488.03 -22.98 204.59 204.18 49.36 7 53 18 3488.0 -37.39 182.04
 52.50 6 38 30 4488.03 -22.98 204.59 204.18 49.36 7 53 18 3488.0 -37.39 182.04
 52.50 6 38 30 4488.03 -22.98 204.59 204.18 49.36 7 53 18 3488.0 -37.39 182.04
 52.50 6 38 30 4488.03 -22.98 204.59 204.18 49.36 7 53 18 3488.0 -37.39 182.04

DIFFERENTIAL CORRECTIONS
 TDE 4.3768 TRA -.2047 TC3-3.7050 BAU 1.4011 SGT 6242.0 SGR 3503.0 SG3 402.1 ST 250.5 SR 141.5 SS 79.3
 RDE 2.4655 RRA .4546 RC3-1.9355 FAU .07025 RRT .9637 RRF .9971 RTF .9411 CRT .9951 CRS -.9999 CST -.9922
 FDE 3.2734 FRA .8009 FC3-2.4260 BSP 11638 SGB 7157.7 R23 .2775 R13 .9606 LSA 298.1 MSA 14.4 SSA .0
 BDE 5.0235 BRA .4985 BC3 4.1802 FSP 718 SG1 7110.5 SG2 821.0 THA 28.83 EL1 287.5 EL2 12.2 ALF 29.40

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 24 1971 FLIGHT TIME 258.00 ARRIVAL DATE FEB 6 1972

HELIOCENTRIC CONIC DISTANCE 590.741 EARTH TO MARS
 RL 131.30 LAL -.00 LOL 242.20 VL 32.379 GAL -.94 AZL 100.02 HCA 182.88 SMA 188.60 ECC .19739 INC10.0159 V1 29.409
 RP 225.76 LAP .50 LOP 65.03 VP 21.726 GAP .69 AZP 79.99 TAL 354.32 TAP 177.20 RCA 151.37 APO 225.83 V2 24.361
 RC 226.550 GL -.63.09 GP 42.39 ZAL 97.87 ZAP 64.26 ETS 205.25 ZAE 92.32 ETE 178.67 ZAC 144.24 ETC 278.00 LVI -50.28

PLANETOCENTRIC CONIC
 C3 38.557 VHL 6.209 DLA -59.07 RAL 35.92 RAD 6650.2 VEL 12.587 PTH 7.45 VHP 4.610 DPA 19.58 RAP 293.43 ECC 1.6346
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 35.70 22 53 20 2068.81 21.85 58.15 292.01 146.38 23 27 49 1068.8 41.60 41.17
 35.70 22 53 20 2068.81 21.85 58.15 292.01 146.38 23 27 49 1068.8 41.60 41.17
 35.70 22 53 20 2068.81 21.85 58.15 292.01 146.38 23 27 49 1068.8 41.60 41.17
 35.70 22 53 20 2068.81 21.85 58.15 292.01 146.38 23 27 49 1068.8 41.60 41.17
 35.70 22 53 20 2068.81 21.85 58.15 292.01 146.38 23 27 49 1068.8 41.60 41.17
 35.70 22 53 20 2068.81 21.85 58.15 292.01 146.38 23 27 49 1068.8 41.60 41.17
 35.70 22 53 20 2068.81 21.85 58.15 292.01 146.38 23 27 49 1068.8 41.60 41.17

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.6828 TRA 3.1880 TC3-2.8427 BAU 1.6054 SGT 6754.2 SGR 3386.4 SG3 460.2 ST 91.6 SR 51.7 SS 38.8
 RDE -.5783 RRA-1.6416 RC3 1.2725 FAU .08722 RRT -.9667 RRF -.9943 RTF .9346 CRT -.6267 CRS .9674 CST -.4089
 FDE 1.5137 FRA 2.5226 FC3-1.9583 BSP 12229 SGB 7555.6 R23 .3067 R13 -.9514 LSA 100.9 MSA 49.0 SSA .1
 BDE .8948 BRA 3.5858 BC3 3.1145 FSP 822 SG1 7515.4 SG2 778.8 THA 153.84 EL1 98.2 EL2 37.6 ALF 156.97

LAUNCH DATE MAY 24 1971 FLIGHT TIME 260.00 ARRIVAL DATE FEB 8 1972

HELIOCENTRIC CONIC DISTANCE 594.818 EARTH TO MARS
 RL 131.30 LAL -.00 LOL 242.20 VL 32.389 GAL -1.02 AZL 97.80 HCA 183.93 SMA 188.77 ECC .19824 INC 7.8024 V1 29.409
 RP 226.15 LAP .53 LOP 66.09 VP 21.694 GAP .55 AZP 82.22 TAL 353.84 TAP 177.78 RCA 151.35 APO 226.20 V2 24.319
 RC 229.216 GL -57.30 GP 34.18 ZAL 99.89 ZAP 59.46 ETS 202.83 ZAE 90.58 ETE 180.25 ZAC 136.15 ETC 274.73 LVI -42.90

PLANETOCENTRIC CONIC
 C3 27.290 VHL 5.224 DLA -53.77 RAL 25.55 RAD 6645.9 VEL 12.134 PTH 7.10 VHP 4.044 DPA 11.40 RAP 294.37 ECC 1.4491
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 42.15 22 29 33 1946.05 25.03 48.16 275.54 139.29 23 1 59 946.0 42.35 27.51
 42.15 22 29 33 1946.05 25.03 48.16 275.54 139.29 23 1 59 946.0 42.35 27.51
 42.15 22 29 33 1946.05 25.03 48.16 275.54 139.29 23 1 59 946.0 42.35 27.51
 42.15 22 29 33 1946.05 25.03 48.16 275.54 139.29 23 1 59 946.0 42.35 27.51
 42.15 22 29 33 1946.05 25.03 48.16 275.54 139.29 23 1 59 946.0 42.35 27.51
 42.15 22 29 33 1946.05 25.03 48.16 275.54 139.29 23 1 59 946.0 42.35 27.51
 42.15 22 29 33 1946.05 25.03 48.16 275.54 139.29 23 1 59 946.0 42.35 27.51

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -1.0801 TRA 3.0450 TC3-3.8260 BAU 1.4773 SGT 7022.7 SGR 2794.9 SG3 652.3 ST 103.6 SR 37.3 SS 38.9
 RDE -.1460 RRA-1.3032 RC3 1.3258 FAU .11176 RRT -.9698 RRF -.9964 RTF .9473 CRT -.6783 CRS .9598 CST -.4448
 FDE .9740 FRA 3.4978 FC3-3.5453 BSP 13084 SGB 7558.4 R23 .2875 R13 -.9572 LSA 108.8 MSA 42.3 SSA .1
 BDE 1.0900 BRA 3.3130 BC3 4.0492 FSP 1211 SG1 7531.7 SG2 635.2 THA 158.74 EL1 106.8 EL2 26.5 ALF 165.38

LAUNCH DATE MAY 24 1971 FLIGHT TIME 262.00 ARRIVAL DATE FEB 10 1972

HELIOCENTRIC CONIC DISTANCE 598.893 EARTH TO MARS
 RL 131.30 LAL -.00 LOL 242.20 VL 32.399 GAL -1.10 AZL 96.53 HCA 184.99 SMA 188.95 ECC .19910 INC 6.5263 V1 29.409
 RP 226.55 LAP .57 LOP 67.15 VP 21.662 GAP .41 AZP 83.50 TAL 353.36 TAP 178.34 RCA 151.33 APO 226.57 V2 24.278
 RC 231.880 GL -51.47 GP 28.23 ZAL 101.58 ZAP 56.18 ETS 200.33 ZAE 89.10 ETE 181.07 ZAC 130.24 ETC 274.20 LVI -37.53

PLANETOCENTRIC CONIC
 C3 22.148 VHL 4.706 DLA -49.16 RAL 19.83 RAD 6643.8 VEL 11.922 PTH 6.93 VHP 3.784 DPA 5.51 RAP 295.25 ECC 1.3645
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 47.95 22 24 39 1853.55 25.80 39.34 265.11 133.42 22 55 33 853.5 40.99 16.60
 47.95 22 24 39 1853.55 25.80 39.34 265.11 133.42 22 55 33 853.5 40.99 16.60
 47.95 22 24 39 1853.55 25.80 39.34 265.11 133.42 22 55 33 853.5 40.99 16.60
 47.95 22 24 39 1853.55 25.80 39.34 265.11 133.42 22 55 33 853.5 40.99 16.60
 47.95 22 24 39 1853.55 25.80 39.34 265.11 133.42 22 55 33 853.5 40.99 16.60
 47.95 22 24 39 1853.55 25.80 39.34 265.11 133.42 22 55 33 853.5 40.99 16.60
 47.95 22 24 39 1853.55 25.80 39.34 265.11 133.42 22 55 33 853.5 40.99 16.60

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -1.1408 TRA 2.9347 TC3-4.7213 BAU 1.4507 SGT 7178.3 SGR 2337.5 SG3 769.1 ST 107.6 SR 29.9 SS 39.5
 RDE -.0238 RRA-1.0669 RC3 1.3088 FAU .12701 RRT -.9708 RRF -.9967 RTF .5006 CRT -.7316 CRS .9536 CST -.4924
 FDE .6880 FRA 4.0448 FC3-4.9648 BSP 12973 SGB 7549.3 R23 .2850 R13 -.9573 LSA 112.0 MSA 38.5 SSA .1
 BDE 1.1411 BRA 3.1226 BC3 4.8994 FSP 1419 SG1 7530.2 SG2 536.1 THA 162.37 EL1 109.9 EL2 20.0 ALF 168.12

LAUNCH DATE MAY 24 1971 FLIGHT TIME 264.00 ARRIVAL DATE FEB 12 1972

HELIOCENTRIC CONIC DISTANCE 602.968 EARTH TO MARS
 RL 131.30 LAL -.00 LOL 242.20 VL 32.409 GAL -1.19 AZL 95.70 HCA 186.04 SMA 189.12 ECC .19999 INC 5.6969 V1 29.409
 RP 226.94 LAP .60 LOP 68.20 VP 21.631 GAP .27 AZP 84.33 TAL 352.87 TAP 178.91 RCA 151.30 APO 226.95 V2 24.236
 RC 234.543 GL -46.97 GP 23.85 ZAL 103.04 ZAP 53.80 ETS 198.16 ZAE 87.76 ETE 181.54 ZAC 125.88 ETC 273.94 LVI -33.59

PLANETOCENTRIC CONIC
 C3 19.365 VHL 4.401 DLA -45.30 RAL 16.38 RAD 6642.6 VEL 11.806 PTH 6.83 VHP 3.653 DPA 1.20 RAP 296.03 ECC 1.3187
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 47 51 2034.39 15.81 46.56 248.81 135.48 21 21 45 1034.4 32.47 27.25
 53.01 22 28 40 1776.92 25.52 31.71 258.17 128.79 22 58 17 776.9 39.00 7.89
 53.01 22 28 40 1776.92 25.52 31.71 258.17 128.79 22 58 17 776.9 39.00 7.89
 53.01 22 28 40 1776.92 25.52 31.71 258.17 128.79 22 58 17 776.9 39.00 7.89
 53.01 22 28 40 1776.92 25.52 31.71 258.17 128.79 22 58 17 776.9 39.00 7.89
 53.01 22 28 40 1776.92 25.52 31.71 258.17 128.79 22 58 17 776.9 39.00 7.89
 53.01 22 28 40 1776.92 25.52 31.71 258.17 128.79 22 58 17 776.9 39.00 7.89
 53.01 22 28 40 1776.92 25.52 31.71 258.17 128.79 22 58 17 776.9 39.00 7.89

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -1.0970 TRA 2.8785 TC3-5.4722 BAU 1.4533 SGT 7322.7 SGR 1994.7 SG3 837.8 ST 107.4 SR 25.0 SS 39.0
 RDE .0193 RRA -.8982 RC3 1.2521 FAU .13686 RRT -.9717 RRF -.9963 RTF .9528 CRT -.7727 CRS .9441 CST -.5204
 FDE .5659 FRA 4.3417 FC3-6.1094 BSP 12822 SGB 7589.5 R23 .2829 R13 -.9575 LSA 111.5 MSA 36.3 SSA .2
 BDE 1.0971 BRA 3.0154 BC3 5.6136 FSP 1512 SG1 7575.8 SG2 455.2 THA 165.12 EL1 109.2 EL2 15.6 ALF 169.58

LAUNCH DATE MAY 24 1971

FLIGHT TIME 266.00

ARRIVAL DATE FEB 14 1972

HELIOCENTRIC CONIC

DISTANCE 607.037

EARTH TO MARS

RL 151.50 LAL -.00 LOL 242.20 VL 32.419 GAL -1.27 AZL 95.12 HCA 187.09 SMA 189.30 ECC .20089 INC 5.1155 V1 29.409
 RP 227.33 LAP .63 LOP 69.25 VP 21.600 GAP .14 AZP 84.92 TAL 352.38 TAP 179.46 RCA 151.27 APO 227.33 V2 24.195
 RC 237.203 GL -43.39 GP 20.55 ZAL 104.34 ZAP 51.97 ETS 196.34 ZAE 86.52 ETE 181.83 ZAC 122.57 ETC 273.81 LVI -30.64

PLANETOCENTRIC CONIC

C3 17.698 VHL 4.207 DLA -42.06 RAL 14.19 RAD 6641.8 VEL 11.736 PTH 6.77 VHP 3.583 DPA -2.03 RAP 296.73 ECC 1.2913
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 51 42 2148.09 10.22 51.99 240.24 136.73 20 27 30 1148.1 27.62 33.76
 57.47 22 37 39 1708.64 24.79 24.97 253.39 125.13 23 6 7 708.6 36.92 .61
 57.47 22 37 39 1708.64 24.79 24.97 253.39 125.13 23 6 7 708.6 36.92 .61
 57.47 22 37 39 1708.64 24.79 24.97 253.39 125.13 23 6 7 708.6 36.92 .61
 57.47 22 37 39 1708.64 24.79 24.97 253.39 125.13 23 6 7 708.6 36.92 .61
 57.47 22 37 39 1708.64 24.79 24.97 253.39 125.13 23 6 7 708.6 36.92 .61
 57.47 22 37 39 1708.64 24.79 24.97 253.39 125.13 23 6 7 708.6 36.92 .61

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9948 TRA 2.8869 TC3-6.0300 BAU 1.4527 SGT 7457.8 SGR 1735.1 S63 878.4 ST 104.7 SR 21.6 SS 40.8
 RDE .0202 RRA -.7834 RC3 1.1553 FAU .13984 RRT -.9721 RRF -.9954 RTF .9534 CRT -.8018 CRS .9310 CST -.5285
 FDE .5898 FRA 4.5477 FC3-6.8407 BSP 13092 SGB 7657.0 R23 .2813 R13 -.9568 LSA 108.7 MSA 35.7 SSA .2
 BDE .9948 BRA 2.9913 BC3 6.1397 FSP 1598 SGI 7646.7 S62 397.1 THA 167.22 EL1 106.1 EL2 12.8 ALF 170.44

LAUNCH DATE MAY 24 1971

FLIGHT TIME 266.00

ARRIVAL DATE FEB 16 1972

HELIOCENTRIC CONIC

DISTANCE 611.080

EARTH TO MARS

RL 151.50 LAL -.00 LOL 242.20 VL 32.429 GAL -1.36 AZL 94.68 HCA 188.13 SMA 189.48 ECC .20180 INC 4.6841 V1 29.409
 RP 227.72 LAP .66 LOP 70.30 VP 21.568 GAP -.00 AZP 85.36 TAL 351.88 TAP 180.01 RCA 151.24 APO 227.72 V2 24.153
 RC 239.859 GL -40.48 GP 17.99 ZAL 105.53 ZAP 50.49 ETS 194.84 ZAE 85.34 ETE 182.02 ZAC 120.00 ETC 273.75 LVI -28.37

PLANETOCENTRIC CONIC

C3 16.635 VHL 4.079 DLA -39.31 RAL 12.76 RAD 6641.3 VEL 11.691 PTH 6.73 VHP 3.546 DPA -4.51 RAP 297.38 ECC 1.2738
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 17 40 2222.52 6.92 54.77 235.21 137.25 19 54 42 1222.5 24.28 37.68
 60.00 21 42 46 1834.48 17.73 30.31 245.50 126.80 22 13 20 834.5 31.14 8.27
 61.47 22 49 45 1644.57 23.88 18.82 250.01 122.20 23 17 10 644.6 34.95 354.21
 61.47 22 49 45 1644.57 23.88 18.82 250.01 122.20 23 17 10 644.6 34.95 354.21
 61.47 22 49 45 1644.57 23.88 18.82 250.01 122.20 23 17 10 644.6 34.95 354.21
 61.47 22 49 45 1644.57 23.88 18.82 250.01 122.20 23 17 10 644.6 34.95 354.21
 61.47 22 49 45 1644.57 23.88 18.82 250.01 122.20 23 17 10 644.6 34.95 354.21

END OF TAPE, CHANGE AND PRESS START

TDE -.9056 TRA 2.9008 TC3-6.5161 BAU 1.4684 SGT 7590.0 SGR 1530.7 S63 899.5 ST 101.7 SR 19.0 SS 41.2
 RDE .0243 RRA -.6938 RC3 1.0653 FAU .14185 RRT -.9723 RRF -.9942 RTF .9539 CRT -.8331 CRS .9117 CST -.5325
 FDE .6264 FRA 4.6527 FC3-7.3823 BSP 13140 SGB 7742.9 R23 .2769 R13 -.9564 LSA 105.7 MSA 35.2 SSA .2
 BDE .9059 BRA 2.9828 BC3 6.6028 FSP 1618 SGI 7734.9 S62 350.9 THA 168.88 EL1 103.0 EL2 10.4 ALF 171.06

LAUNCH DATE MAY 24 1971

FLIGHT TIME 270.00

ARRIVAL DATE FEB 18 1972

HELIOCENTRIC CONIC

DISTANCE 615.161

EARTH TO MARS

RL 151.50 LAL -.00 LOL 242.20 VL 32.439 GAL -1.45 AZL 94.35 HCA 189.17 SMA 189.66 ECC .20273 INC 4.3521 V1 29.409
 RP 228.10 LAP .69 LOP 71.34 VP 21.538 GAP -.14 AZP 85.70 TAL 351.38 TAP 180.56 RCA 151.21 APO 228.11 V2 24.112
 RC 242.511 GL -38.07 GP 15.95 ZAL 106.63 ZAP 49.23 ETS 193.59 ZAE 84.22 ETE 182.15 ZAC 117.96 ETC 273.74 LVI -26.60

PLANETOCENTRIC CONIC

C3 15.932 VHL 3.991 DLA -36.95 RAL 11.82 RAD 6641.0 VEL 11.661 PTH 6.70 VHP 3.530 DPA -6.47 RAP 297.99 ECC 1.2622
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 53 53 2280.27 3.62 57.20 231.92 137.47 19 31 53 1280.3 21.60 40.56
 60.00 20 49 29 1972.12 11.98 37.39 239.80 128.77 21 22 21 972.1 26.55 17.03
 65.16 23 4 20 1581.62 22.92 13.01 247.59 119.81 23 30 41 581.6 33.12 348.30
 65.16 23 4 20 1581.62 22.92 13.01 247.59 119.81 23 30 41 581.6 33.12 348.30
 65.16 23 4 20 1581.62 22.92 13.01 247.59 119.81 23 30 41 581.6 33.12 348.30
 65.16 23 4 20 1581.62 22.92 13.01 247.59 119.81 23 30 41 581.6 33.12 348.30
 65.16 23 4 20 1581.62 22.92 13.01 247.59 119.81 23 30 41 581.6 33.12 348.30

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8045 TRA 2.9459 TC3-6.8840 BAU 1.4807 SGT 7715.6 SGR 1368.3 S63 909.3 ST 98.5 SR 17.0 SS 41.9
 RDE .0242 RRA -.6273 RC3 .9714 FAU .14138 RRT -.9722 RRF -.9924 RTF .541 CRT -.8652 CRS .8874 CST -.5571
 FDE .7044 FRA 4.7285 FC3-7.6827 BSP 13404 SGB 7836.0 R23 .2701 R13 -.9560 LSA 102.6 MSA 35.1 SSA .3
 BDE .8049 BRA 3.0120 BC3 6.9522 FSP 1642 SGI 7829.6 S62 315.7 THA 170.20 EL1 99.6 EL2 8.4 ALF 171.43

LAUNCH DATE MAY 24 1971

FLIGHT TIME 272.00

ARRIVAL DATE FEB 20 1972

HELIOCENTRIC CONIC

DISTANCE 619.215

EARTH TO MARS

RL 151.50 LAL -.00 LOL 242.20 VL 32.449 GAL -1.54 AZL 94.09 HCA 190.21 SMA 189.84 ECC .20368 INC 4.0882 V1 29.409
 RP 228.49 LAP .72 LOP 72.38 VP 21.507 GAP -.28 AZP 85.98 TAL 350.88 TAP 181.10 RCA 151.17 APO 228.50 V2 24.071
 RC 245.157 GL -36.03 GP 14.31 ZAL 107.67 ZAP 48.14 ETS 192.55 ZAE 83.14 ETE 182.23 ZAC 116.29 ETC 273.76 LVI -25.19

PLANETOCENTRIC CONIC

C3 15.458 VHL 3.932 DLA -34.88 RAL 11.21 RAD 6640.7 VEL 11.641 PTH 6.68 VHP 3.525 DPA -8.04 RAP 298.57 ECC 1.2544
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 36 9 2328.25 1.22 59.21 229.68 137.56 19 14 57 1328.2 19.33 42.87
 60.00 20 18 25 2055.92 8.38 41.54 236.50 129.57 20 52 40 1055.9 23.48 21.98
 68.67 23 21 11 1517.30 21.97 7.31 245.85 117.81 23 46 28 517.3 31.46 342.57
 68.67 23 21 11 1517.30 21.97 7.31 245.85 117.81 23 46 28 517.3 31.46 342.57
 68.67 23 21 11 1517.30 21.97 7.31 245.85 117.81 23 46 28 517.3 31.46 342.57
 68.67 23 21 11 1517.30 21.97 7.31 245.85 117.81 23 46 28 517.3 31.46 342.57
 68.67 23 21 11 1517.30 21.97 7.31 245.85 117.81 23 46 28 517.3 31.46 342.57

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7101 TRA 3.0022 TC3-7.1825 BAU 1.4956 SGT 7836.8 SGR 1235.9 S63 910.9 ST 95.6 SR 15.5 SS 42.6
 RDE .0293 RRA -.5752 RC3 .8828 FAU .13966 RRT -.9714 RRF -.9899 RTF .9539 CRT -.8989 CRS .8571 CST -.5454
 FDE .7862 FRA 4.7769 FC3-7.8216 BSP 13660 SGB 7933.6 R23 .2615 R13 -.9554 LSA 99.9 MSA 35.0 SSA .3
 BDE .7105 BRA 3.0568 BC3 7.2366 FSP 1651 SGI 7928.3 S62 289.9 THA 171.28 EL1 96.7 EL2 6.7 ALF 171.69

LAUNCH DATE MAY 24 1971

FLIGHT TIME 274.00

ARRIVAL DATE FEB 22 1972

Heliocentric Conic: RL 151.50 LAL -.00 LOL 242.20 VL 32.480 GAL -1.63 AZL 93.87 HCA 191.25 SMA 190.02 ECC .20464 INC 3.8727 V1 29.409
 RF 228.88 LAP .76 LOP 73.42 VP 21.477 GAP -.42 AZP 86.20 TAL 350.38 TAP 181.63 RCA 151.13 APO 228.90 V2 24.030
 RC 247.796 GL -34.28 GP 12.95 ZAL 108.66 ZAP 47.16 ETS 191.66 ZAE 82.09 ETE 182.30 ZAC 114.92 ETC 273.79 LVI -24.06

Distance 623.263

Planetocentric Conic: C3 15.142 VHL 3.891 DLA -33.06 RAL 10.84 RAD 6640.6 VEL 11.627 PTH 6.67 VHP 3.529 DPA -9.32 RAP 299.14 ECC 1.2492
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 22 23 2369.67 -.87 60.94 228.13 137.57 19 1 53 1369.7 17.35 44.81
 60.00 19 56 20 2119.63 5.60 44.63 234.33 129.98 20 31 39 1119.6 21.02 25.58
 70.00 22 22 17 1689.41 15.03 16.66 241.15 121.04 22 50 27 689.4 26.45 354.05
 72.12 23 40 37 1448.77 21.04 1.47 244.59 116.11 24 4 45 448.8 29.93 336.75
 72.12 23 40 37 1448.77 21.04 1.47 244.59 116.11 24 4 45 448.8 29.93 336.75
 72.12 23 40 37 1448.77 21.04 1.47 244.59 116.11 24 4 45 448.8 29.93 336.75
 110.00 3 25 39 6024.27 15.03 283.48 241.15 121.04 5 6 4 5024.3 26.45 260.88

Differential Corrections: TDE -.6287 TRA 3.0598 TC3-7.4534 BAU 1.5176 SGT 7962.4 SGR 1127.6 SG3 908.1 ST 93.4 SR 14.2 SS 43.2
 RDE .0283 RRA -.5328 RC3 .8062 FAU .13809 RRT -.9701 RRF -.9868 RTF .9535 CRT -.9311 CRS .8193 CST -.5548
 FDE .8611 FRA 4.8000 FC3-7.8954 BSP 13816 SGB 8041.9 R23 .2502 R13 -.9547 LSA 97.9 MSA 34.9 SSA .4
 BDE .6294 BRA 3.1058 BC3 7.4968 FSP 1642 SG1 8037.3 SG2 271.3 THA 172.17 EL1 94.3 EL2 5.1 ALF 171.90

Orbit Determination Accuracy: ST 93.4 SR 14.2 SS 43.2 CRT -.9311 CRS .8193 CST -.5548 LSA 97.9 MSA 34.9 SSA .4 EL1 94.3 EL2 5.1 ALF 171.90

LAUNCH DATE MAY 24 1971

FLIGHT TIME 276.00

ARRIVAL DATE FEB 24 1972

Heliocentric Conic: RL 151.50 LAL -.00 LOL 242.20 VL 32.470 GAL -1.72 AZL 93.69 HCA 192.28 SMA 190.20 ECC .20561 INC 3.6940 V1 29.409
 RP 229.27 LAP .79 LOP 74.45 VP 21.447 GAP -.56 AZP 86.39 TAL 349.88 TAP 182.16 RCA 151.09 APO 229.31 V2 23.990
 RC 250.428 GL -32.76 GP 11.81 ZAL 109.61 ZAP 46.27 ETS 190.90 ZAE 81.08 ETE 182.34 ZAC 113.76 ETC 273.85 LVI -23.13

Distance 627.307

Planetocentric Conic: C3 14.936 VHL 3.865 DLA -31.43 RAL 10.64 RAD 6640.5 VEL 11.618 PTH 6.66 VHP 3.537 DPA -10.37 RAP 299.69 ECC 1.2458
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 11 25 2406.37 -2.71 62.47 227.07 137.52 18 51 31 1406.4 15.57 46.49
 60.00 19 39 27 2172.09 3.30 47.15 232.84 130.19 20 15 39 1172.1 18.93 28.45
 70.00 21 44 7 1805.17 10.87 23.05 238.45 122.58 22 14 12 805.2 23.23 1.50
 75.69 0 7 29 1371.79 20.16 355.15 243.70 114.63 0 30 20 371.8 28.54 330.47
 75.69 0 7 29 1371.79 20.16 355.15 243.70 114.63 0 30 20 371.8 28.54 330.47
 75.69 0 7 29 1371.79 20.16 355.15 243.70 114.63 0 30 20 371.8 28.54 330.47
 110.00 2 47 29 6140.03 10.87 289.87 238.45 122.58 4 29 49 5140.0 23.23 268.32

Differential Corrections: TDE -.5465 TRA 3.1298 TC3-7.6669 BAU 1.5379 SGT 8083.5 SGR 1037.0 SG3 901.5 ST 91.5 SR 13.2 SS 43.9
 RDE .0318 RRA -.4987 RC3 .7346 FAU .13575 RRT -.9680 RRF -.9828 RTF .9531 CRT -.9603 CRS .7750 CST -.5699
 FDE .9385 FRA 4.8138 FC3-7.8687 BSP 14034 SGB 8149.8 R23 .2361 R13 -.9541 LSA 96.3 MSA 34.7 SSA .4
 BDE .5475 BRA 3.1693 BC3 7.7020 FSP 1630 SG1 8145.7 SG2 258.2 THA 172.91 EL1 92.4 EL2 3.7 ALF 172.08

Orbit Determination Accuracy: ST 91.5 SR 13.2 SS 43.9 CRT -.9603 CRS .7750 CST -.5699 LSA 96.3 MSA 34.7 SSA .4 EL1 92.4 EL2 3.7 ALF 172.08

LAUNCH DATE MAY 24 1971

FLIGHT TIME 278.00

ARRIVAL DATE FEB 26 1972

Heliocentric Conic: RL 151.50 LAL -.00 LOL 242.20 VL 32.480 GAL -1.81 AZL 93.54 HCA 193.31 SMA 190.39 ECC .20660 INC 3.5429 V1 29.409
 RP 229.65 LAP .82 LOP 75.48 VP 21.417 GAP -.70 AZP 86.55 TAL 349.38 TAP 182.69 RCA 151.05 APO 229.72 V2 23.949
 RC 253.053 GL -31.42 GP 10.85 ZAL 110.52 ZAP 45.44 ETS 190.25 ZAE 80.09 ETE 182.36 ZAC 112.77 ETC 273.91 LVI -22.37

Distance 631.344

Planetocentric Conic: C3 14.811 VHL 3.849 DLA -29.95 RAL 10.57 RAD 6640.4 VEL 11.613 PTH 6.65 VHP 3.550 DPA -11.25 RAP 300.23 ECC 1.2438
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 2 28 2439.50 -4.37 63.86 226.35 137.42 18 43 7 1439.5 13.96 47.98
 60.00 19 26 1 2217.21 1.32 49.31 231.82 130.28 20 2 58 1217.2 17.10 30.85
 70.00 21 19 27 1883.52 7.97 27.25 236.80 123.32 21 50 50 883.5 20.83 6.31
 79.70 0 36 26 1277.32 19.32 347.67 243.08 113.34 0 57 43 277.3 27.25 323.05
 79.70 0 36 26 1277.32 19.32 347.67 243.08 113.34 0 57 43 277.3 27.25 323.05
 79.70 0 36 26 1277.32 19.32 347.67 243.08 113.34 0 57 43 277.3 27.25 323.05
 110.00 2 22 49 6218.38 7.97 294.08 236.80 123.32 4 6 28 5218.4 20.83 273.13

Differential Corrections: TDE -.4728 TRA 3.2017 TC3-7.8528 BAU 1.5606 SGT 8203.3 SGR 960.3 SG3 892.0 ST 90.2 SR 12.4 SS 44.5
 RDE .0367 RRA -.4702 RC3 .6705 FAU .13328 RRT -.9651 RRF -.9779 RTF .9527 CRT -.9829 CRS .7229 CST -.5872
 FDE 1.0052 FRA 4.8132 FC3-7.7902 BSP 14204 SGB 8259.3 R23 .2199 R13 -.8535 LSA 95.3 MSA 34.4 SSA .5
 BDE .4742 BRA 3.2361 BC3 7.8814 FSP 1608 SG1 8255.6 SG2 249.8 THA 173.55 EL1 91.0 EL2 2.3 ALF 172.27

Orbit Determination Accuracy: ST 90.2 SR 12.4 SS 44.5 CRT -.9829 CRS .7229 CST -.5872 LSA 95.3 MSA 34.4 SSA .5 EL1 91.0 EL2 2.3 ALF 172.27

LAUNCH DATE MAY 24 1971

FLIGHT TIME 280.00

ARRIVAL DATE FEB 28 1972

Heliocentric Conic: RL 151.50 LAL -.00 LOL 242.20 VL 32.491 GAL -1.91 AZL 93.41 HCA 194.34 SMA 190.57 ECC .20760 INC 3.4136 V1 29.409
 RP 230.04 LAP .84 LOP 76.51 VP 21.388 GAP -.84 AZP 86.69 TAL 348.87 TAP 183.21 RCA 151.01 APO 230.13 V2 23.909
 RC 255.671 GL -30.23 GP 10.02 ZAL 111.42 ZAP 44.67 ETS 189.68 ZAE 79.13 ETE 182.38 ZAC 111.91 ETC 273.98 LVI -21.74

Distance 635.378

Planetocentric Conic: C3 14.750 VHL 3.841 DLA -28.60 RAL 10.60 RAD 6640.4 VEL 11.611 PTH 6.65 VHP 3.565 DPA -11.99 RAP 300.78 ECC 1.2427
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 55 4 2469.84 -5.89 65.14 225.90 137.30 18 36 13 1469.8 12.47 49.32
 60.00 19 15 0 2257.13 -.44 51.22 231.13 130.30 19 52 37 1257.1 15.45 32.94
 70.00 21 1 1 1945.41 5.64 30.53 235.72 123.74 21 33 26 945.4 18.83 9.99
 80.00 23 22 15 1503.06 12.44 1.03 239.78 117.36 23 47 18 503.1 22.64 338.29
 85.54 1 22 54 1127.42 18.52 336.25 242.68 112.20 1 41 41 127.4 26.05 311.68
 100.00 2 9 3 6265.57 12.44 300.31 239.78 117.36 3 53 29 5265.6 22.64 277.56
 110.00 2 4 23 6280.27 5.64 297.36 235.72 123.74 3 49 3 5280.3 18.83 276.81

Differential Corrections: TDE -.4002 TRA 3.2815 TC3-8.0057 BAU 1.5833 SGT 8322.4 SGR 895.5 SG3 881.2 ST 89.3 SR 11.8 SS 45.2
 RDE .0419 RRA -.4470 RC3 .6120 FAU .13050 RRT -.9612 RRF -.9719 RTF .9521 CRT -.9963 CRS .6645 CST -.6073
 FDE 1.0718 FRA 4.8118 FC3-7.6595 BSP 14417 SGB 8370.4 R23 .2027 R13 -.9527 LSA 94.8 MSA 34.1 SSA .5
 BDE .4023 BRA 3.3118 BC3 8.0291 FSP 1592 SG1 8366.8 SG2 245.6 THA 174.09 EL1 90.1 EL2 1.0 ALF 172.48

Orbit Determination Accuracy: ST 89.3 SR 11.8 SS 45.2 CRT -.9963 CRS .6645 CST -.6073 LSA 94.8 MSA 34.1 SSA .5 EL1 90.1 EL2 1.0 ALF 172.48

LAUNCH DATE MAY 25 1971 FLIGHT TIME 86.00 ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC DISTANCE 297.965 EARTH TO MARS
 RL 151.52 LAL -.00 LOL 243.16 VL 35.478 GAL .60 AZL 91.87 HCA 80.61 SMA 269.19 ECC .43728 INC 1.8693 V1 29.404
 RP 207.05 LAP -1.84 LOP 323.76 VP 28.088 GAP 22.44 AZP 90.30 TAL 2.62 TAP 83.23 RCA 151.48 APO 386.90 V2 26.453
 RC 57.030 GL -10.82 GP -1.04 ZAL 88.34 ZAP 177.30 ETS 202.62 ZAE 172.06 ETE 29.04 ZAC 98.55 ETC 278.39 LVI -17.88

PLANETOCENTRIC CONIC
 C3 38.018 VHL 6.166 DLA -21.03 RAL 337.59 RAD 6650.0 VEL 12.566 PTH 7.43 VHP 11.196 DPA -17.15 RAP 324.62 ECC 1.6257
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 2 17 2865.86 -25.02 83.32 203.41 131.89 15 50 3 1865.9 -7.33 66.00
 60.00 16 7 20 2692.84 -19.07 72.93 208.61 126.20 16 52 13 1692.8 -3.45 54.21
 70.00 17 29 45 2450.59 -13.36 57.29 212.61 121.73 18 10 35 1450.6 .39 37.47
 80.00 19 8 3 2142.91 -8.81 36.63 215.30 118.64 19 43 46 1142.9 3.52 16.06
 90.00 20 43 42 1834.37 -6.95 14.94 216.30 117.48 21 14 17 834.4 4.81 354.09
 100.00 21 50 55 1617.38 -8.81 357.99 215.30 118.64 22 17 53 617.4 3.52 337.43
 110.00 22 29 11 1497.41 -13.36 346.21 212.61 121.73 22 54 8 497.4 .39 326.39

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3251 TRA -.7789 TC3 .0660 BAW .0450 SGT 836.2 SGR 576.2 SG3 89.1 ST 19.1 SR 26.5 SS 7.4
 RDE -.5648 RRA .2273 RC3 .0509 FAU .03255 RRT -.0228 RRF .0277 RTF -.5305 CRT .7075 CRS .1868 CST .8155
 FDE .0507 FRA .4779 FC3 -.7413 BSP 1034 SGB 1015.4 R23 -.0047 R13 .5307 LSA 30.6 MSA 13.4 SSA 1.1
 BDE .6517 BRA .8114 BC3 .0885 FSP 103 SG1 836.4 SG2 575.9 THA 178.29 EL1 30.4 EL2 11.7 ALF 57.63

LAUNCH DATE MAY 25 1971 FLIGHT TIME 90.00 ARRIVAL DATE AUG 23 1971

HELIOCENTRIC CONIC DISTANCE 259.827 EARTH TO MARS
 RL 151.52 LAL -.00 LOL 243.16 VL 35.258 GAL .83 AZL 91.86 HCA 81.88 SMA 260.95 ECC .41954 INC 1.8593 V1 29.404
 RP 206.97 LAP -1.84 LOP 325.03 VP 27.818 GAP 21.91 AZP 90.26 TAL 2.81 TAP 84.68 RCA 151.47 APO 370.43 V2 26.462
 RC 57.440 GL -11.09 GP -1.06 ZAL 88.12 ZAP 176.40 ETS 197.24 ZAE 171.43 ETE 26.11 ZAC 98.47 ETC 278.46 LVI -17.94

PLANETOCENTRIC CONIC
 C3 35.379 VHL 5.948 DLA -21.36 RAL 337.48 RAD 6649.0 VEL 12.461 PTH 7.36 VHP 10.812 DPA -17.07 RAP 324.94 ECC 1.5823
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 3 20 2840.60 -23.86 82.03 202.27 132.47 15 50 41 1840.6 -6.07 69.01
 60.00 16 8 56 2666.17 -17.99 71.50 207.46 126.69 16 53 22 1666.2 -2.28 52.93
 70.00 17 32 3 2421.81 -12.33 55.70 211.48 122.11 18 12 25 1421.8 1.49 35.97
 80.00 19 11 9 2111.43 -7.78 34.88 214.20 118.92 19 46 20 1111.4 4.56 14.35
 90.00 20 47 22 1801.32 -5.91 13.07 215.21 117.71 21 17 23 801.3 5.86 352.23
 100.00 21 54 5 1585.90 -7.78 356.23 214.20 118.92 22 20 31 585.9 4.56 335.70
 110.00 22 31 29 1468.63 -12.33 344.62 211.48 122.11 22 55 58 468.6 1.49 324.89

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3185 TRA -.7690 TC3 .0815 BAW .0487 SGT 858.0 SGR 581.5 SG3 95.7 ST 19.4 SR 26.7 SS 7.6
 RDE -.5496 RRA .2210 RC3 .0631 FAU .03373 RRT -.0243 RRF .0294 RTF -.5430 CRT .7039 CRS .1595 CST .8025
 FDE .0477 FRA .4948 FC3 -.8253 BSP 1091 SGB 1036.5 R23 -.0050 R13 .5432 LSA 30.9 MSA 13.8 SSA 1.1
 BDE .6352 BRA .8002 BC3 .1030 FSP 111 SG1 858.3 SG2 581.2 THA 178.26 EL1 30.8 EL2 12.0 ALF 57.31

LAUNCH DATE MAY 25 1971 FLIGHT TIME 92.00 ARRIVAL DATE AUG 25 1971

HELIOCENTRIC CONIC DISTANCE 261.956 EARTH TO MARS
 RL 151.52 LAL -.00 LOL 243.16 VL 35.052 GAL .86 AZL 91.85 HCA 83.14 SMA 253.71 ECC .40300 INC 1.8494 V1 29.404
 RP 208.90 LAP -1.84 LOP 326.30 VP 27.564 GAP 21.38 AZP 90.22 TAL 3.01 TAP 86.13 RCA 151.46 APO 355.95 V2 26.469
 RC 57.930 GL -11.36 GP -1.09 ZAL 87.88 ZAP 175.47 ETS 194.01 ZAE 170.82 ETE 23.62 ZAC 98.40 ETC 278.52 LVI -17.98

PLANETOCENTRIC CONIC
 C3 32.992 VHL 5.744 DLA -21.70 RAL 337.35 RAD 6648.1 VEL 12.366 PTH 7.29 VHP 10.445 DPA -16.99 RAP 325.26 ECC 1.5430
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 4 20 2815.66 -22.71 80.77 201.17 133.00 15 51 16 1815.7 -4.82 63.96
 60.00 16 10 29 2639.75 -18.91 70.11 206.35 127.14 16 54 28 1639.7 -1.12 51.67
 70.00 17 34 22 2393.15 -11.28 54.14 210.37 122.45 18 14 15 1393.2 2.50 34.48
 80.00 19 14 28 2079.87 -6.74 33.10 213.12 119.16 19 49 8 1079.9 5.63 12.58
 90.00 20 51 8 1768.05 -4.85 11.19 214.15 117.89 21 20 36 768.1 6.91 350.35
 100.00 21 57 20 1554.34 -6.74 354.47 213.12 119.16 22 23 14 554.3 5.63 333.95
 110.00 22 33 48 1439.97 -11.28 343.06 210.37 122.45 22 57 48 440.0 2.58 323.39

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3113 TRA -.7584 TC3 .0989 BAW .0528 SGT 878.9 SGR 586.5 SG3 103.0 ST 19.8 SR 26.9 SS 7.8
 RDE -.5350 RRA .2149 RC3 .0673 FAU .03507 RRT -.0260 RRF .0313 RTF -.5350 CRT .6999 CRS .1283 CST .7871
 FDE .0438 FRA .5124 FC3 -.9201 BSP 1140 SGB 1056.6 R23 -.0053 R13 .5552 LSA 31.2 MSA 14.2 SSA 1.2
 BDE .6190 BRA .7883 BC3 .1196 FSP 122 SG1 879.1 SG2 586.2 THA 178.21 EL1 31.1 EL2 12.2 ALF 57.07

LAUNCH DATE MAY 25 1971 FLIGHT TIME 94.00 ARRIVAL DATE AUG 27 1971

HELIOCENTRIC CONIC DISTANCE 264.313 EARTH TO MARS
 RL 151.52 LAL -.00 LOL 243.16 VL 34.858 GAL .90 AZL 91.84 HCA 84.41 SMA 247.30 ECC .38757 INC 1.8395 V1 29.404
 RP 208.85 LAP -1.83 LOP 327.56 VP 27.324 GAP 20.86 AZP 90.18 TAL 3.22 TAP 87.63 RCA 151.46 APO 343.15 V2 26.476
 RC 58.496 GL -11.63 GP -1.12 ZAL 87.60 ZAP 174.52 ETS 191.88 ZAE 170.25 ETE 21.49 ZAC 98.33 ETC 278.58 LVI -18.04

PLANETOCENTRIC CONIC
 C3 30.829 VHL 5.552 DLA -22.06 RAL 337.18 RAD 6647.3 VEL 12.278 PTH 7.22 VHP 10.091 DPA -16.92 RAP 325.57 ECC 1.5074
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 5 16 2791.07 -21.56 79.56 200.08 133.50 15 51 47 1791.1 -3.59 62.93
 60.00 16 11 59 2613.61 -15.83 68.74 205.25 127.56 16 55 33 1613.6 .03 50.42
 70.00 17 36 40 2364.67 -10.24 52.59 209.29 122.76 18 16 5 1364.7 3.67 32.99
 80.00 19 17 46 2048.28 -5.88 31.34 212.06 119.36 19 51 54 1048.3 6.69 10.83
 90.00 20 55 1 1734.60 -3.79 9.32 213.10 118.05 21 23 56 734.6 7.96 348.45
 100.00 22 0 38 1522.75 -5.68 352.71 212.06 119.36 22 26 1 522.7 6.69 332.20
 110.00 22 36 7 1411.49 -10.24 341.51 209.29 122.76 22 59 38 411.5 3.67 321.90

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3046 TRA -.7482 TC3 .1184 BAW .0570 SGT 900.0 SGR 591.1 SG3 110.7 ST 20.1 SR 27.1 SS 8.1
 RDE -.5209 RRA .2091 RC3 .0715 FAU .03643 RRT -.0273 RRF .0342 RTF -.5673 CRT .6960 CRS .0907 CST .7671
 FDE .0385 FRA .5307 FC3 -1.0231 BSP 1183 SGB 1076.8 R23 -.0070 R13 .5675 LSA 31.5 MSA 14.5 SSA 1.2
 BDE .6034 BRA .7769 BC3 .1383 FSP 133 SG1 900.3 SG2 590.7 THA 178.20 EL1 31.3 EL2 12.5 ALF 56.81

LAUNCH DATE MAY 25 1971 FLIGHT TIME 96.00 ARRIVAL DATE AUG 20 1971

HELIOCENTRIC CONIC										DISTANCE 266,866										EARTH TO MARS																																																																																				
RL	151.52	LAL	-0.00	LOL	243.16	VL	34.676	GAL	.94	AZL	91.83	HCA	85.68	SMA	241.61	ECC	.37316	INC	1.8297	V1	29.404	RP	206.80	LAP	-1.02	LOP	328.83	VP	27.097	GAP	20.36	AZP	90.14	TAL	3.46	TAP	89.13	RCA	151.45	APO	331.76	V2	26.482	RC	59.137	GL	-11.89	GP	-1.15	ZAL	87.30	ZAP	173.55	ETS	190.37	ZAE	169.73	ETE	19.63	ZAC	98.25	ETC	278.63	LVI	-18.08																																							
PLANETOCENTRIC CONIC																																																																																																								
C3	28.867	VHL	5.373	DLA	-22.42	RAL	336.98	RAD	6646.6	VEL	12.199	PTH	7.16	VHP	9.752	DPA	-16.65	RAP	325.86	ECC	1.4751	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																									
50.00	15	6	8	2766.89	-20.43	78.39	199.03	133.96	15	52	15	1766.9	-2.37	61.91	60.00	16	13	28	2587.82	-14.76	67.41	204.18	127.94	16	56	36	1587.8	1.17	49.19	70.00	17	38	59	2336.41	-9.19	51.07	208.23	123.04	18	17	55	1336.4	4.74	31.50	80.00	19	21	8	2016.70	-4.63	29.59	211.02	119.53	19	54	45	1016.7	7.73	9.06	90.00	20	59	1	1700.9F	-2.71	7.44	212.08	118.16	21	27	22	701.0	9.00	346.53	100.00	22	4	0	1491.1	-4.63	350.96	211.02	119.53	22	28	51	491.2	7.73	330.43	110.00	22	38	25	1383.23	-9.19	339.99	208.23	123.04	23	1	28	383.2	4.74	320.42
DIFFERENTIAL CORRECTIONS										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
TDE	-0.2961	TRA	-0.7369	TC3	.1405	BAU	.0616	SGT	919.3	SGR	595.3	SG3	118.9	ST	20.3	SR	27.3	SS	8.3	RDE	-0.5073	RRA	.2033	RC3	.0757	FAU	.03789	RRT	-0.0297	RRF	.0365	RTF	-.5802	CRT	.6904	CRS	.0556	CST	.7495	FDE	.0334	FRA	.5490	FC3	-1.1362	BSP	1227	SG8	1095.2	R23	-.0069	R13	.9805	LSA	31.6	MSA	14.9	SSA	1.2	BDE	.5874	BRA	.7645	BC3	.1596	FSP	145	SG1	919.6	SG2	594.8	THA	178.10	EL1	31.5	EL2	12.7	ALF	56.74																									

LAUNCH DATE MAY 25 1971 FLIGHT TIME 98.00 ARRIVAL DATE AUG 31 1971

HELIOCENTRIC CONIC										DISTANCE 269,589										EARTH TO MARS																																																																																				
RL	151.52	LAL	-0.00	LOL	243.16	VL	34.505	GAL	.98	AZL	91.82	HCA	86.94	SMA	236.52	ECC	.35970	INC	1.8199	V1	29.404	RP	206.75	LAP	-1.02	LOP	330.10	VP	26.883	GAP	19.86	AZP	90.10	TAL	3.70	TAP	90.65	RCA	151.44	APO	321.59	V2	26.487	RC	59.850	GL	-12.15	GP	-1.19	ZAL	86.98	ZAP	172.57	ETS	189.25	ZAE	169.25	ETE	18.01	ZAC	98.18	ETC	278.69	LVI	-18.12																																							
PLANETOCENTRIC CONIC																																																																																																								
C3	27.087	VHL	5.204	DLA	-22.78	RAL	336.76	RAD	6645.8	VEL	12.126	PTH	7.10	VHP	9.425	DPA	-16.79	RAP	326.15	ECC	1.4458	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																									
50.00	15	6	56	2743.15	-19.30	77.25	198.00	134.37	15	52	39	1743.2	-1.18	60.92	60.00	16	14	54	2562.42	-13.69	66.11	203.14	128.28	16	57	36	1562.4	2.29	47.98	70.00	17	41	17	2308.43	-8.15	49.58	207.20	123.28	18	19	46	1308.4	5.80	30.03	80.00	19	24	35	1985.17	-3.57	27.85	210.02	119.66	19	57	40	985.2	8.76	7.30	90.00	21	3	9	1667.22	-1.62	5.55	211.09	118.24	21	30	56	667.2	10.03	344.59	100.00	22	7	27	1459.64	-3.57	349.22	210.02	119.66	22	31	46	459.6	8.76	328.66	110.00	22	40	44	1355.23	-8.15	338.50	207.20	123.28	23	3	19	355.2	5.80	318.95
DIFFERENTIAL CORRECTIONS										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
TDE	-0.2891	TRA	-0.7260	TC3	.1617	BAU	.0653	SGT	938.7	SGR	599.0	SG3	127.6	ST	20.6	SR	27.4	SS	8.5	RDE	-0.4943	RRA	.1978	RC3	.0799	FAU	.03944	RRT	-0.0312	RRF	.0386	RTF	-.5899	CRT	.6862	CRS	.0209	CST	.7303	FDE	.0279	FRA	.5674	FC3	-1.2606	BSP	1268	SG8	1113.5	R23	-.0076	R13	.5902	LSA	31.8	MSA	15.2	SSA	1.3	BDE	.3726	BRA	.7525	BC3	.1804	FSP	159	SG1	939.0	SG2	598.5	THA	178.08	EL1	31.8	EL2	12.9	ALF	56.56																									

LAUNCH DATE MAY 25 1971 FLIGHT TIME 100.00 ARRIVAL DATE SEP 2 1971

HELIOCENTRIC CONIC										DISTANCE 272,460										EARTH TO MARS																																																																																				
RL	151.52	LAL	-0.00	LOL	243.16	VL	34.345	GAL	1.02	AZL	91.81	HCA	88.21	SMA	231.95	ECC	.34713	INC	1.8100	V1	29.404	RP	206.72	LAP	-1.81	LOP	331.37	VP	26.680	GAP	19.37	AZP	90.06	TAL	3.96	TAP	92.18	RCA	151.43	APO	312.46	V2	26.491	RC	60.633	GL	-12.41	GP	-1.22	ZAL	86.63	ZAP	171.57	ETS	188.39	ZAE	168.83	ETE	18.56	ZAC	98.11	ETC	278.74	LVI	-18.15																																							
PLANETOCENTRIC CONIC																																																																																																								
C3	25.469	VHL	5.047	DLA	-23.15	RAL	336.51	RAD	6645.2	VEL	12.060	PTH	7.04	VHP	9.111	DPA	-16.74	RAP	326.42	ECC	1.4191	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																									
50.00	15	7	41	2719.91	-18.19	76.16	196.99	134.76	15	53	1	1719.9	-0.01	59.95	60.00	16	18	17	2537.46	-12.63	64.85	202.12	128.59	16	58	34	1537.5	3.38	46.78	70.00	17	43	36	2280.77	-7.12	48.11	206.19	123.49	18	21	36	1280.8	6.84	28.57	80.00	19	28	6	1953.72	-2.51	26.12	209.04	119.76	20	0	39	953.7	9.79	5.52	90.00	21	7	26	1633.33	-.93	3.66	210.13	118.28	21	34	39	633.3	11.06	342.63	100.00	22	10	58	1428.19	-2.51	347.49	209.04	119.76	22	34	46	428.2	9.79	326.89	110.00	22	43	2	1327.59	-7.12	337.02	206.19	123.49	23	5	10	327.6	6.84	317.49
DIFFERENTIAL CORRECTIONS										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
TDE	-0.2808	TRA	-0.7158	TC3	.1885	BAU	.0703	SGT	958.4	SGR	602.4	SG3	137.0	ST	20.7	SR	27.6	SS	8.8	RDE	-0.4818	RRA	.1925	RC3	.0840	FAU	.04109	RRT	-0.0337	RRF	.0421	RTF	-.131	CRT	.6799	CRS	-.0217	CST	.7070	FDE	.0203	FRA	.5876	FC3	-1.3969	BSP	1308	SG8	1132.0	R23	-.0085	R13	.6035	LSA	32.0	MSA	15.6	SSA	1.3	BDE	.3577	BRA	.7410	BC3	.2063	FSP	174	SG1	958.8	SG2	601.8	THA	177.99	EL1	31.9	EL2	13.1	ALF	56.52																									

LAUNCH DATE MAY 25 1971 FLIGHT TIME 102.00 ARRIVAL DATE SEP 4 1971

HELIOCENTRIC CONIC										DISTANCE 275,462										EARTH TO MARS																																																																																				
RL	151.52	LAL	-0.00	LOL	243.16	VL	34.194	GAL	1.08	AZL	91.80	HCA	89.48	SMA	227.83	ECC	.33539	INC	1.8003	V1	29.404	RP	206.70	LAP	-1.80	LOP	332.64	VP	26.489	GAP	18.89	AZP	90.02	TAL	4.23	TAP	93.72	RCA	151.42	APO	304.25	V2	26.494	RC	61.483	GL	-12.67	GP	-1.26	ZAL	86.27	ZAP	170.56	ETS	187.71	ZAE	168.46	ETE	15.27	ZAC	98.03	ETC	278.78	LVI	-18.18																																							
PLANETOCENTRIC CONIC																																																																																																								
C3	23.997	VHL	4.899	DLA	-23.52	RAL	336.24	RAD	6644.6	VEL	11.999	PTH	6.99	VHP	8.808	DPA	-16.69	RAP	326.68	ECC	1.3949	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																									
50.00	15	8	22	2697.19	-17.10	75.11	196.01	135.11	15	53	19	1697.2	1.13	59.00	60.00	16	17	37	2512.98	-11.59	63.62	201.12	128.87	16	59	30	1513.0	4.46	45.61	70.00	17	45	54	2253.48	-6.09	46.66	205.21	123.67	18	23	27	1253.5	7.87	27.12	80.00	19	31	41	1922.39	-1.45	24.40	208.08	119.83	20	3	43	922.4	10.79	3.74	90.00	21	11	51	1599.33	.57	1.76	209.20	118.27	21	38	30	599.3	12.07	340.64	100.00	22	14	33	1396.86	-1.45	345.77	208.08	119.83	22	37	50	396.9	10.79	325.11	110.00	22	45	20	1300.30	-6.09	335.58	205.21	123.67	23	7	0	300.3	7.87	316.04
DIFFERENTIAL CORRECTIONS										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
TDE	-0.2732	TRA	-0.7056	TC3	.2130	BAU	.0739	SGT	977.6	SGR	605.3	SG3	146.9	ST	20.9	SR	27.7	SS	9.0	RDE	-0.4697	RRA	.1874	RC3	.0879	FAU	.04282	RRT	-0.0364	RRF	.0450	RTF	-.8126	CRT	.6739	CRS	-.0607	CST	.6851	FDE	.0133	FRA	.6077	FC3	-1.5450	BSP	1344	SG8	1149.9	R23	-.0088	R13	.6130	LSA	32.1	MSA	16.0	SSA	1.3	BDE	.5434	BRA	.7300	BC3	.2304	FSP	188	SG1	978.0	SG2	604.7	THA	177.91	EL1	32.0	EL2	13.4	ALF	56.45																									

LAUNCH DATE MAY 25 1971

FLIGHT TIME 104.00

ARRIVAL DATE SEP 8 1971

HELIOCENTRIC CONIC

DISTANCE 278.579

EARTH TO MARS

RL 151.52 LAL	-.00 LOL 243.16 VL	34.052 GAL	1.11 AZL 91.79 HCA	90.75 SMA 224.11 ECC	.32441 INC 1.7905 V1	29.404
RP 206.68 LAP	-1.79 LOP 333.91 VP	26.307 GAP	18.42 AZP 89.98 TAL	4.52 TAP 95.27 RCA	151.41 APO 296.82 V2	26.496
RC 62.398 GL	-12.91 GP	-1.29 ZAL 85.88 ZAP	189.53 ETS 187.16 ZAE	168.16 ETE	14.09 ZAC 97.96 ETC	278.83 LVI -18.20

PLANETOCENTRIC CONIC

C3 22.658 VHL	4.760 DLA -23.90 RAL	335.95 RAD 6644.0 VEL	11.943 PTH	6.95 VHP 8.517 DPA	-16.65 RAP 326.92 ECC	1.3729
LNCH AZMTH	LNCH TIME L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME
50.00	15 8 59 2675.04	-16.03	74.09	195.06	135.42	15 53 34
60.00	16 18 55 2489.02	-10.56	82.43	200.16	129.12	17 0 24
70.00	17 48 11 2226.61	-5.07	45.25	204.25	123.82	18 25 18
80.00	19 35 21 1891.21	-.39	22.69	207.16	119.86	20 6 52
90.00	21 16 26 1565.20	1.67	359.86	208.30	118.23	21 42 31
100.00	22 18 13 1365.68	-.39	344.06	207.16	119.86	22 40 59
110.00	22 47 37 1273.43	-5.07	334.16	204.25	123.82	23 8 51

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2652 TRA	-.6948 TC3	.2413 BAU	.0782	SGT 995.7 SGR	607.9 SG3	157.6	ST 21.1 SR	27.8 SS	9.3
RDE -.4582 RRA	.1824 RC3	.0917 FAU	.04469	RRT -.0389 RRF	.0485 RTF	-.6230	CRT .6675 CRS	-.1056 CST	.6583
FDE .0043 FRA	.6280 FC3-1.7076 BSP	1390		SGB 1166.6 R23	-.0099 R13	.6234	LSA 32.2 MSA	16.3 SSA	1.4
BDE .5294 BRA	.7184 BC3	.2581 FSP	206	SG1 996.2 SG2	607.1 THA	177.83	EL1 32.1 EL2	13.6 ALF	56.46

LAUNCH DATE MAY 25 1971

FLIGHT TIME 106.00

ARRIVAL DATE SEP 8 1971

HELIOCENTRIC CONIC

DISTANCE 281.798

EARTH TO MARS

RL 151.52 LAL	-.00 LOL 243.16 VL	33.919 GAL	1.15 AZL 91.78 HCA	92.02 SMA 220.74 ECC	.31415 INC 1.7807 V1	29.404
RP 206.67 LAP	-1.78 LOP 335.18 VP	26.136 GAP	17.95 AZP 89.94 TAL	4.81 TAP 96.83 RCA	151.40 APO 290.09 V2	26.496
RC 83.376 GL	-13.16 GP	-1.33 ZAL 85.48 ZAP	168.48 ETS 186.70 ZAE	167.92 ETE	13.01 ZAC 97.89 ETC	278.87 LVI -18.21

PLANETOCENTRIC CONIC

C3 21.437 VHL	4.630 DLA -24.27 RAL	335.64 RAD 6643.5 VEL	11.893 PTH	6.90 VHP 8.237 DPA	-16.61 RAP 327.15 ECC	1.3528
LNCH AZMTH	LNCH TIME L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME
50.00	15 9 32 2653.44	-14.98	73.11	194.13	135.71	15 53 46
60.00	16 20 10 2465.50	-9.55	61.27	199.22	129.34	17 1 16
70.00	17 50 28 2200.14	-4.07	43.86	203.32	123.94	18 27 8
80.00	19 39 6 1860.14	.66	20.99	206.27	119.85	20 10 6
90.00	21 21 12 1530.86	2.77	357.94	207.44	118.15	21 46 42
100.00	22 21 58 1334.61	.66	342.35	206.27	119.85	22 44 12
110.00	22 49 54 1246.96	-4.07	332.77	203.32	123.94	23 10 41

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2489 TRA	-.6761 TC3	.2659 BAU	.0863	SGT 1003.7 SGR	610.1 SG3	169.1	ST 20.7 SR	27.9 SS	9.6
RDE -.4472 RRA	.1776 RC3	.0950 FAU	.04668	RRT -.0450 RRF	.0521 RTF	-.6476	CRT .6528 CRS	-.1444 CST	.6437
FDE -.0040 FRA	.6511 FC3-1.8853 BSP	1322		SGB 1174.6 R23	-.0060 R13	.6480	LSA 31.9 MSA	16.6 SSA	1.4
BDE .5118 BRA	.6991 BC3	.3013 FSP	225	SG1 1004.3 SG2	609.1 THA	177.52	EL1 31.9 EL2	13.7 ALF	57.53

LAUNCH DATE MAY 25 1971

FLIGHT TIME 108.00

ARRIVAL DATE SEP 10 1971

HELIOCENTRIC CONIC

DISTANCE 285.108

EARTH TO MARS

RL 151.52 LAL	-.00 LOL 243.16 VL	33.794 GAL	1.19 AZL 91.77 HCA	93.29 SMA 217.68 ECC	.30456 INC 1.7709 V1	29.404
RP 206.68 LAP	-1.77 LOP 336.45 VP	25.973 GAP	17.50 AZP 89.90 TAL	5.10 TAP 98.39 RCA	151.38 APO 283.98 V2	26.496
RC 64.414 GL	-13.39 GP	-1.38 ZAL 85.08 ZAP	167.41 ETS 186.32 ZAE	167.74 ETE	12.01 ZAC 97.82 ETC	278.91 LVI -18.22

PLANETOCENTRIC CONIC

C3 20.325 VHL	4.508 DLA -24.65 RAL	335.32 RAD 6643.0 VEL	11.846 PTH	6.86 VHP 7.967 DPA	-16.58 RAP 327.36 ECC	1.3345
LNCH AZMTH	LNCH TIME L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME
50.00	15 10 3 2632.53	-13.95	72.18	193.24	135.96	15 53 55
60.00	16 21 23 2442.80	-8.57	60.16	198.31	129.53	17 2 6
70.00	17 52 44 2174.25	-3.08	42.50	202.43	124.03	18 28 58
80.00	19 42 55 1829.37	1.71	19.30	205.41	119.81	20 13 25
90.00	21 26 8 1496.40	3.88	356.01	206.61	118.03	21 51 5
100.00	22 25 47 1303.84	1.71	340.67	205.41	119.81	22 47 31
110.00	22 52 10 1221.06	-3.08	331.42	202.43	124.03	23 12 31

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2447 TRA	-.6690 TC3	.3084 BAU	.0879	SGT 1024.2 SGR	611.8 SG3	181.3	ST 20.9 SR	28.0 SS	9.9
RDE -.4366 RRA	.1731 RC3	.0982 FAU	.04884	RRT -.0465 RRF	.0560 RTF	-.6487	CRT .6492 CRS	-.1928 CST	.6092
FDE -.0153 FRA	.6715 FC3-2.0803 BSP	1400		SGB 1193.1 R23	-.0092 R13	.6492	LSA 32.1 MSA	17.0 SSA	1.4
BDE .5005 BRA	.6910 BC3	.3236 FSP	243	SG1 1024.9 SG2	610.8 THA	177.53	EL1 32.1 EL2	13.9 ALF	57.16

LAUNCH DATE MAY 25 1971

FLIGHT TIME 110.00

ARRIVAL DATE SEP 12 1971

HELIOCENTRIC CONIC

DISTANCE 288.499

EARTH TO MARS

RL 151.52 LAL	-.00 LOL 243.16 VL	33.677 GAL	1.23 AZL 91.76 HCA	94.56 SMA 214.89 ECC	.29560 INC 1.7610 V1	29.404
RP 206.69 LAP	-1.76 LOP 337.72 VP	25.819 GAP	17.06 AZP 89.86 TAL	5.41 TAP 99.96 RCA	151.37 APO 278.41 V2	26.495
RC 65.512 GL	-13.62 GP	-1.42 ZAL 84.66 ZAP	166.32 ETS 186.00 ZAE	167.64 ETE	11.07 ZAC 97.75 ETC	278.94 LVI -18.22

PLANETOCENTRIC CONIC

C3 19.310 VHL	4.394 DLA -25.02 RAL	334.98 RAD 6642.5 VEL	11.804 PTH	6.83 VHP 7.706 DPA	-16.56 RAP 327.55 ECC	1.3178
LNCH AZMTH	LNCH TIME L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME
50.00	15 10 29 2612.26	-12.96	71.28	192.36	136.19	15 54 2
60.00	16 22 32 2420.64	-7.61	59.07	197.42	129.70	17 2 53
70.00	17 54 58 2148.89	-2.11	41.17	201.56	124.10	18 30 47
80.00	19 46 49 1798.81	2.74	17.62	204.58	119.74	20 16 48
90.00	21 31 17 1461.90	4.98	354.07	205.81	117.87	21 55 39
100.00	22 29 41 1273.29	2.74	338.99	204.58	119.74	22 50 54
110.00	22 54 24 1195.70	-2.11	330.09	201.56	124.10	23 14 20

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2389 TRA	-.6609 TC3	.3354 BAU	.0904	SGT 1043.1 SGR	613.2 SG3	194.3	ST 21.1 SR	28.0 SS	10.3
RDE -.4265 RRA	.1687 RC3	.1010 FAU	.05112	RRT -.0492 RRF	.0608 RTF	-.6534	CRT .6434 CRS	-.2413 CST	.5754
FDE -.0276 FRA	.6945 FC3-2.2921 BSP	1462		SGB 1210.1 R23	-.0117 R13	.6539	LSA 32.2 MSA	17.4 SSA	1.5
BDE .4888 BRA	.6821 BC3	.3503 FSP	264	SG1 1043.8 SG2	612.1 THA	177.47	EL1 32.2 EL2	14.1 ALF	57.03

LAUNCH DATE MAY 25 1971

FLIGHT TIME 112.00

ARRIVAL DATE SEP 14 1971

Heliocentric Conic: RL 151.52 LAL -0.00 LOL 243.16 VL 35.567 GAL 1.27 AZL 91.75 HCA 95.83 SMA 212.35 ECC .28722 INC 1.7512 V1 29.404
 RP 206.71 LAP -1.74 LOP 338.99 VP 25.673 GAP 16.82 AZP 89.82 TAL 5.71 TAP 101.34 RCA 151.36 APO 273.34 V2 26.493
 RC 66.667 GL -13.84 GP -1.46 ZAL 84.23 ZAP 165.22 ETS 185.72 ZAE 167.60 ETE 10.19 ZAC 97.68 ETC 278.97 LVI -18.22

Distance 291.964 Earth to Mars

Planocentric Conic: C3 18.383 VHL 4.288 DLA -25.38 RAL 334.63 RAD 6642.1 VEL 11.765 PTH 6.79 VHP 7.456 DPA -16.55 RAP 327.72 ECC 1.3025
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 10 53 2592.67 -12.00 70.42 191.52 136.40 15 54 5 1592.7 6.37 54.61
 60.00 16 23 39 2399.13 -6.67 58.03 196.56 129.84 17 3 38 1399.1 9.42 40.08
 70.00 17 57 11 2124.10 -1.17 39.88 200.72 124.14 18 32 35 1124.1 12.63 20.13
 80.00 19 50 48 1768.51 3.76 15.95 203.78 119.64 20 20 17 768.5 15.55 354.79
 90.00 21 36 40 1427.06 6.08 392.11 205.06 117.67 22 0 28 427.1 16.93 330.33
 100.00 22 33 40 1242.98 3.76 337.32 203.78 119.64 22 54 23 243.0 15.55 316.16
 110.00 22 56 38 1170.92 -1.17 328.80 200.72 124.14 23 16 9 170.9 12.63 309.04

Differential Corrections: TDE -.2325 TRA -.6518 TC3 .3637 BAU .0929 SGT 1059.8 SGR 614.3 SG3 208.3 ST 21.2 SR 28.1 SS 10.6
 RDE -.4168 RRA .1646 RC3 .1033 FAU .05358 RRT -.0522 RRF .0653 RTF -.6581 CRT .6372 CRS -.2870 CST .5430
 FDE -.0403 FRA .7176 FC3-2.5233 BSP 1509 SGB 1225.0 R23 -.0137 R13 .6587 LSA 32.2 MSA 17.7 SSA 1.5
 BDE .4773 BRA .6723 BC3 .3781 FSP 285 SGI 1060.6 SG2 613.0 THA 177.40 EL1 32.2 EL2 14.3 ALF 56.99

LAUNCH DATE MAY 25 1971

FLIGHT TIME 114.00

ARRIVAL DATE SEP 16 1971

Heliocentric Conic: RL 151.52 LAL -0.00 LOL 243.16 VL 33.464 GAL 1.31 AZL 91.74 HCA 97.10 SMA 210.02 ECC .27939 INC 1.7413 V1 29.404
 RP 206.73 LAP -1.73 LOP 340.26 VP 25.534 GAP 16.20 AZP 89.78 TAL 6.02 TAP 103.12 RCA 151.34 APO 268.70 V2 26.489
 RC 67.877 GL -14.05 GP -1.51 ZAL 83.80 ZAP 164.09 ETS 185.48 ZAE 167.63 ETE 9.33 ZAC 97.61 ETC 278.99 LVI -18.20

Distance 295.494 Earth to Mars

Planocentric Conic: C3 17.536 VHL 4.188 DLA -25.74 RAL 334.26 RAD 6641.7 VEL 11.729 PTH 6.76 VHP 7.214 DPA -16.55 RAP 327.87 ECC 1.2886
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 11 13 2573.78 -11.06 69.59 190.70 136.58 15 54 6 1573.8 7.31 53.81
 60.00 16 24 42 2378.33 -5.76 57.02 195.74 129.96 17 4 20 1378.3 10.31 39.05
 70.00 17 59 23 2099.94 -.25 38.62 199.90 124.15 18 34 23 1099.9 13.50 18.79
 80.00 19 54 52 1738.48 4.77 14.29 203.02 119.51 20 23 51 738.5 16.43 353.00
 90.00 21 42 20 1391.91 7.19 350.12 204.34 117.42 22 5 32 391.9 17.85 328.17
 100.00 22 37 44 1212.95 4.77 335.66 203.02 119.51 22 57 57 213.0 16.43 314.37
 110.00 22 58 49 1146.76 -.25 327.54 199.90 124.15 23 17 56 146.8 13.50 307.71

Differential Corrections: TDE -.2260 TRA -.6423 TC3 .3915 BAU .0950 SGT 1074.7 SGR 615.0 SG3 223.0 ST 21.3 SR 28.1 SS 11.0
 RDE -.4075 RRA .1606 RC3 .1092 FAU .05610 RRT -.0556 RRF .0702 RTF -.6629 CRT .6306 CRS -.3289 CST .5129
 FDE -.0534 FRA .7425 FC3-2.7699 BSP 1533 SGB 1238.2 R23 -.0156 R13 .6635 LSA 32.2 MSA 18.1 SSA 1.5
 BDE .4660 BRA .6621 BC3 .4054 FSP 309 SGI 1075.5 SG2 613.5 THA 177.30 EL1 32.2 EL2 14.4 ALF 57.03

LAUNCH DATE MAY 25 1971

FLIGHT TIME 116.00

ARRIVAL DATE SEP 18 1971

Heliocentric Conic: RL 151.52 LAL -0.00 LOL 243.16 VL 33.367 GAL 1.35 AZL 91.73 HCA 98.38 SMA 207.89 ECC .27207 INC 1.7313 V1 29.404
 RP 206.77 LAP -1.71 LOP 341.93 VP 25.403 GAP 15.78 AZP 89.75 TAL 6.33 TAP 104.70 RCA 151.33 APO 264.45 V2 26.488
 RC 69.140 GL -14.25 GP -1.56 ZAL 83.37 ZAP 162.93 ETS 185.27 ZAE 167.74 ETE 8.51 ZAC 97.54 ETC 279.02 LVI -18.18

Distance 299.083 Earth to Mars

Planocentric Conic: C3 16.781 VHL 4.094 DLA -26.08 RAL 333.90 RAD 6641.4 VEL 11.696 PTH 6.73 VHP 6.982 DPA -16.56 RAP 328.01 ECC 1.2758
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 11 29 2555.61 -10.16 68.80 189.90 136.74 15 54 5 1555.6 8.22 53.04
 60.00 16 25 42 2358.24 -4.88 56.06 194.93 130.05 17 5 0 1358.2 11.18 38.06
 70.00 18 1 32 2076.45 .65 37.39 199.12 124.15 18 36 9 1076.4 14.33 17.49
 80.00 19 59 1 1708.74 5.76 12.65 202.29 119.35 20 27 30 708.7 17.28 331.21
 90.00 21 48 18 1356.31 8.30 348.10 203.66 117.13 22 10 54 356.3 18.76 325.95
 100.00 22 41 53 1183.21 5.76 334.01 202.29 119.35 23 1 36 183.2 17.28 312.57
 110.00 23 0 59 1123.27 .65 326.31 199.12 124.15 23 19 42 123.3 14.33 306.40

Differential Corrections: TDE -.2189 TRA -.6318 TC3 .4216 BAU .0974 SGT 1087.4 SGR 615.3 SG3 238.7 ST 21.3 SR 28.1 SS 11.4
 RDE -.3986 RRA .1589 RC3 .1065 FAU .05883 RRT -.0592 RRF .0759 RTF -.6578 CRT .6233 CRS -.3757 CST .4777
 FDE -.0691 FRA .7667 FC3-3.0397 BSP 1586 SGB 1249.4 R23 -.0179 R13 .6685 LSA 32.2 MSA 18.4 SSA 1.6
 BDE .4548 BRA .6510 BC3 .4349 FSP 335 SGI 1088.3 SG2 613.7 THA 177.19 EL1 32.1 EL2 14.6 ALF 57.19

LAUNCH DATE MAY 25 1971

FLIGHT TIME 118.00

ARRIVAL DATE SEP 20 1971

Heliocentric Conic: RL 151.52 LAL -0.00 LOL 243.16 VL 33.276 GAL 1.39 AZL 91.72 HCA 99.63 SMA 205.93 ECC .26523 INC 1.7213 V1 29.404
 RP 206.81 LAP -1.70 LOP 342.79 VP 25.278 GAP 15.38 AZP 89.71 TAL 6.84 TAP 106.27 RCA 151.31 APO 260.55 V2 26.480
 RC 70.455 GL -14.44 GP -1.62 ZAL 82.94 ZAP 181.76 ETS 185.08 ZAE 167.92 ETE 7.69 ZAC 97.48 ETC 279.03 LVI -18.13

Distance 302.726 Earth to Mars

Planocentric Conic: C3 16.052 VHL 4.006 DLA -26.42 RAL 333.52 RAD 6641.0 VEL 11.666 PTH 6.70 VHP 6.758 DPA -16.57 RAP 328.12 ECC 1.2642
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 11 43 2538.18 -9.30 68.05 189.14 136.87 15 54 1 1538.2 9.09 52.29
 60.00 16 26 38 2338.90 -4.04 55.13 194.16 130.13 17 5 37 1338.9 12.00 37.09
 70.00 18 3 39 2053.66 1.52 36.21 198.37 124.12 18 37 53 1053.7 15.13 16.21
 80.00 20 3 15 1679.32 6.74 11.01 201.59 119.16 20 31 14 679.3 18.11 349.41
 90.00 21 54 38 1320.11 9.42 346.02 203.02 116.79 22 16 38 320.1 19.65 323.66
 100.00 22 46 7 1153.79 6.74 332.38 201.59 119.16 23 5 20 153.8 18.11 310.78
 110.00 23 3 5 1100.48 1.52 325.12 198.37 124.12 23 21 26 100.5 15.13 305.13

Differential Corrections: TDE -.2120 TRA -.6219 TC3 .4506 BAU .0994 SGT 1099.3 SGR 615.3 SG3 255.7 ST 21.3 SR 28.1 SS 11.9
 RDE -.3901 RRA .1533 RC3 .1071 FAU .06181 RRT -.0636 RRF .0818 RTF -.6722 CRT .6155 CRS -.4164 CST .4472
 FDE -.0848 FRA .7938 FC3-3.3335 BSP 1613 SGB 1259.8 R23 -.0197 R13 .6730 LSA 32.1 MSA 18.7 SSA 1.6
 BDE .4440 BRA .6405 BC3 .4632 FSP 363 SGI 1100.3 SG2 613.4 THA 177.04 EL1 32.0 EL2 14.7 ALF 57.38

LAUNCH DATE MAY 25 1971

FLIGHT TIME 120.00

ARRIVAL DATE SEP 22 1971

HELIOCENTRIC CONIC
 RL 151.52 LAL -.00 LOL 243.16 VL 33.19D GAL 1.43 AZL 91.71 HCA 100.90 SMA 204.13 ECC .25884 INC 1.7112 V1 29.404
 RP 206.87 LAP -1.88 LOP 344.06 VP 23.139 GAP 14.98 AZP 89.68 TAL 6.95 TAP 107.85 RCA 151.30 APO 256.97 V2 26.474
 RC 71.818 GL -14.62 GP -1.67 ZAL 82.51 ZAP 160.56 ETS 184.91 ZAE 168.17 ETE 6.88 ZAC 97.41 ETC 279.04 LVI -18.11

DISTANCE 306.418 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 15.402 VHL 3.925 DLA -26.75 RAL 333.14 RAD 6640.7 VEL 11.638 PTH 6.68 VHP 6.542 DPA -16.60 RAP 328.20 ECC 1.2535
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 11 54 2521.50 -8.47 67.34 188.40 137.00 15 53 55 1521.5 9.92 51.57
 60.00 16 27 32 2320.34 -3.22 54.24 193.41 130.19 17 6 12 1320.3 12.79 36.16
 70.00 18 5 43 2031.62 2.36 35.05 197.64 124.08 18 39 35 1031.6 15.90 14.96
 80.00 20 7 34 1650.23 7.70 9.39 200.92 118.94 20 35 4 650.2 18.91 347.63
 90.00 22 1 25 1283.05 10.55 343.89 202.43 116.39 22 22 48 283.0 20.32 321.30
 100.00 22 50 25 1124.70 7.70 330.76 200.92 118.94 23 9 10 124.7 18.91 308.99
 110.00 23 5 9 1078.43 2.36 323.97 197.64 124.08 23 23 8 78.4 15.90 303.88

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2050 TRA -.6115 TC3 .4787 BAU .1010 SGT 1109.2 SGR 614.9 SG3 273.6 ST 21.2 SR 28.1 SS 12.4
 RDE -.3820 RRA .1489 RC3 .1070 FAU .06490 RRT -.0684 RRF .0885 RTF -.6760 CRT .6076 CRS -.4577 CST .4147
 FDE -.1025 FRA .8217 FC3-3.6480 BSP 1636 SGB 1268.2 R23 -.0220 R13 .6770 LSA 32.1 MSA 19.1 SSA 1.6
 BDE .4335 BRA .6296 BC3 .4905 FSP 392 SG1 1110.3 SG2 612.9 THA 176.88 EL1 31.9 EL2 14.8 ALF 57.63

LAUNCH DATE MAY 25 1971

FLIGHT TIME 122.00

ARRIVAL DATE SEP 24 1971

HELIOCENTRIC CONIC
 RL 151.52 LAL -.00 LOL 243.16 VL 33.110 GAL 1.46 AZL 91.70 HCA 102.17 SMA 202.48 ECC .25287 INC 1.7011 V1 29.404
 RP 206.93 LAP -1.66 LOP 345.33 VP 25.045 GAP 14.59 AZP 89.64 TAL 7.25 TAP 109.42 RCA 151.28 APO 253.68 V2 26.466
 RC 73.228 GL -14.79 GP -1.73 ZAL 82.09 ZAP 159.33 ETS 184.76 ZAE 168.50 ETE 6.05 ZAC 97.35 ETC 279.05 LVI -18.07

DISTANCE 310.154 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 14.807 VHL 3.848 DLA -27.07 RAL 332.77 RAD 6640.4 VEL 11.613 PTH 6.65 VHP 6.334 DPA -16.64 RAP 328.26 ECC 1.2437
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 12 2 2505.59 -7.68 66.66 187.68 137.10 15 53 47 1505.6 10.70 50.89
 60.00 16 28 21 2302.57 -2.44 53.39 192.70 130.24 17 6 44 1302.6 13.54 35.26
 70.00 18 7 44 2010.36 3.18 33.94 196.94 124.02 18 41 14 1010.4 16.64 13.75
 80.00 20 11 57 1621.50 8.65 7.78 200.29 118.69 20 38 59 621.5 19.68 345.84
 90.00 22 8 47 1244.73 11.70 341.66 201.89 115.93 22 29 32 244.7 21.39 318.82
 100.00 22 54 49 1095.97 8.65 329.14 200.29 118.69 23 13 5 96.0 19.68 307.21
 110.00 23 7 10 1057.18 3.18 322.86 196.94 124.02 23 24 47 57.2 16.64 302.67

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1982 TRA -.6011 TC3 .5060 BAU .1023 SGT 1117.6 SGR 614.3 SG3 292.6 ST 21.1 SR 28.1 SS 12.9
 RDE -.3742 RRA .1468 RC3 .1061 FAU .06821 RRT -.0735 RRF .0954 RTF -.6791 CRT .5997 CRS -.4959 CST .3839
 FDE -.1210 FRA .8500 FC3-3.9879 BSP 1656 SGB 1275.2 R23 -.0242 R13 .6802 LSA 32.0 MSA 19.4 SSA 1.7
 BDE .4234 BRA .6187 BC3 .5170 FSP 423 SG1 1118.9 SG2 611.9 THA 176.70 EL1 31.8 EL2 14.9 ALF 57.91

LAUNCH DATE MAY 25 1971

FLIGHT TIME 124.00

ARRIVAL DATE SEP 26 1971

HELIOCENTRIC CONIC
 RL 151.52 LAL -.00 LOL 243.16 VL 33.035 GAL 1.49 AZL 91.69 HCA 103.43 SMA 200.96 ECC .24730 INC 1.6908 V1 29.404
 RP 207.00 LAP -1.64 LOP 346.59 VP 24.937 GAP 14.22 AZP 89.61 TAL 7.55 TAP 110.98 RCA 151.26 APO 250.66 V2 26.458
 RC 74.683 GL -14.95 GP -1.79 ZAL 81.68 ZAP 158.08 ETS 184.63 ZAE 168.90 ETE 5.20 ZAC 97.29 ETC 279.05 LVI -18.01

DISTANCE 313.931 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 14.261 VHL 3.776 DLA -27.37 RAL 332.39 RAD 6640.2 VEL 11.590 PTH 6.63 VHP 6.134 DPA -16.70 RAP 328.30 ECC 1.2347
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 12 7 2490.46 -6.92 66.01 187.00 137.19 15 53 37 1490.5 11.45 50.23
 60.00 16 29 7 2285.83 -1.69 52.58 192.01 130.27 17 7 12 1285.6 14.26 34.40
 70.00 18 9 40 1989.93 3.95 32.87 196.28 123.95 18 42 50 989.9 17.33 12.58
 80.00 20 16 25 1593.14 9.57 6.18 199.70 118.42 20 42 59 593.1 20.43 344.06
 90.00 22 16 57 1204.49 12.89 339.30 201.41 115.39 22 37 1 204.5 22.26 316.19
 100.00 22 59 17 1067.61 9.57 327.55 199.70 118.42 23 17 5 67.6 20.43 305.43
 110.00 23 9 7 1036.75 3.95 321.79 196.28 123.95 23 26 23 36.7 17.33 301.50

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1925 TRA -.5908 TC3 .5299 BAU .1030 SGT 1124.4 SGR 613.3 SG3 312.9 ST 21.0 SR 28.1 SS 13.5
 RDE -.3667 RRA .1438 RC3 .1048 FAU .07169 RRT -.0782 RRF .1027 RTF -.6810 CRT .5935 CRS -.5286 CST .3957
 FDE -.1395 FRA .8810 FC3-4.3320 BSP 1674 SGB 1280.8 R23 -.0273 R13 .6823 LSA 32.0 MSA 19.6 SSA 1.7
 BDE .4141 BRA .6081 BC3 .5401 FSP 457 SG1 1125.9 SG2 610.6 THA 176.54 EL1 31.7 EL2 15.0 ALF 58.09

LAUNCH DATE MAY 25 1971

FLIGHT TIME 126.00

ARRIVAL DATE SEP 28 1971

HELIOCENTRIC CONIC
 RL 151.52 LAL -.00 LOL 243.16 VL 32.965 GAL 1.53 AZL 91.68 HCA 104.70 SMA 199.56 ECC .24209 INC 1.6804 V1 29.404
 RP 207.08 LAP -1.63 LOP 347.86 VP 24.834 GAP 13.85 AZP 89.57 TAL 7.84 TAP 112.54 RCA 151.25 APO 247.87 V2 26.449
 RC 76.180 GL -15.10 GP -1.85 ZAL 81.28 ZAP 156.80 ETS 184.50 ZAE 169.37 ETE 4.29 ZAC 97.23 ETC 279.05 LVI -17.95

DISTANCE 317.745 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 13.760 VHL 3.709 DLA -27.65 RAL 332.03 RAD 6639.9 VEL 11.568 PTH 6.61 VHP 5.941 DPA -16.76 RAP 328.30 ECC 1.2265
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 12 9 2476.11 -6.20 65.41 186.34 137.27 15 53 25 1476.1 12.16 49.60
 60.00 16 29 49 2269.52 -1.98 51.81 191.35 130.29 17 7 38 1269.5 14.93 33.57
 70.00 18 11 33 1970.37 4.70 31.85 195.64 123.87 18 44 23 970.4 17.99 11.45
 80.00 20 20 58 1565.17 10.47 4.59 199.14 118.12 20 47 4 565.2 21.14 342.29
 90.00 22 26 17 1161.07 14.14 336.73 201.00 114.75 22 45 38 161.1 23.14 313.32
 100.00 23 3 50 1039.64 10.47 325.96 199.14 118.12 23 21 10 39.6 21.14 303.66
 110.00 23 10 59 1017.19 4.70 320.76 195.64 123.87 23 27 56 17.2 17.99 300.37

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1861 TRA -.5805 TC3 .5506 BAU .1030 SGT 1128.7 SGR 612.0 SG3 334.2 ST 20.9 SR 28.0 SS 14.1
 RDE -.3599 RRA .1410 RC3 .1020 FAU .07533 RRT -.0845 RRF .1115 RTF -.6816 CRT .5856 CRS -.5644 CST .3247
 FDE -.1616 FRA .9127 FC3-4.7396 BSP 1682 SGB 1284.0 R23 -.0303 R13 .6831 LSA 31.9 MSA 19.9 SSA 1.8
 BDE .4048 BRA .5974 BC3 .5600 FSP 492 SG1 1130.4 SG2 609.0 THA 176.30 EL1 31.6 EL2 15.1 ALF 58.42

LAUNCH DATE MAY 25 1971

FLIGHT TIME 128.00

ARRIVAL DATE SEP 30 1971

HELIOCENTRIC CONIC

DISTANCE 321.593

EARTH TO MARS

RL 151.52 LAL -.00 LOL 243.16 VL 32.899 GAL 1.56 AZL 91.67 MCA 105.96 SMA 198.27 ECC .23724 INC 1.6699 V1 29.404
 RP 207.17 LAP -1.61 LOP 349.12 VP 24.736 GAP 13.48 AZP 89.54 TAL 8.12 TAP 114.00 RCA 151.23 APO 245.51 V2 26.439
 RC 77.710 GL -15.24 GP -1.92 ZAL 80.89 ZAP 155.49 ETS 184.39 ZAE 169.92 ETE 3.31 ZAC 97.17 ETC 279.04 LVI -17.87

PLANETOCENTRIC CONIC

C3 13.300 VHL 3.647 DLA -27.92 RAL 331.67 RAD 6639.7 VEL 11.548 PTH 6.59 VHP 5.756 DPA -16.84 RAP 328.28 ECC 1.2189
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 12 9 2462.56 -5.53 64.83 185.71 137.33 15 53 11 1462.6 12.83 49.00
 60.00 16 30 27 2254.27 -.31 51.08 190.71 130.30 17 8 1 1254.3 15.57 32.78
 70.00 18 13 20 1951.72 5.40 30.86 195.03 123.78 18 45 52 951.7 18.62 10.36
 80.00 20 25 36 1537.62 11.35 3.02 198.61 117.80 20 51 13 537.6 21.82 340.53
 90.00 22 37 42 1111.57 15.53 333.76 200.69 113.94 22 56 14 111.6 24.07 309.99
 100.00 23 0 27 1012.09 11.35 324.39 198.61 117.80 23 25 20 12.1 21.82 301.90
 110.00 23 12 46 6286.58 5.40 297.69 195.03 123.78 24 57 33 5286.6 18.62 277.18

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1806 TRA -.5698 TC3 .5705 BAU .1029 SGT 1131.5 SGR 610.5 S63 357.1 ST 20.8 SR 27.9 SS 14.7
 RDE -.3527 RRA .1384 RC3 .0984 FAU .07929 RRT -.0902 RRF .1204 RTF -.6816 CRT .5797 CRS -.5955 CST .2952
 FDE -.1839 FRA .9452 FC3-5.1612 BSP 1693 SGB 1285.7 R23 -.0342 R13 .6833 LSA 32.0 MSA 20.1 SSA 1.8
 BDE .3962 BRA .5864 BC3 .5789 FSP 531 SG1 1133.4 S62 607.0 THA 176.09 EL1 31.4 EL2 15.1 ALF 58.67

LAUNCH DATE MAY 25 1971

FLIGHT TIME 130.00

ARRIVAL DATE OCT 2 1971

HELIOCENTRIC CONIC

DISTANCE 325.471

EARTH TO MARS

RL 151.52 LAL -.00 LOL 243.16 VL 32.838 GAL 1.58 AZL 91.66 MCA 107.22 SMA 197.08 ECC .23271 INC 1.6593 V1 29.404
 RP 207.26 LAP -1.58 LOP 350.39 VP 24.642 GAP 13.13 AZP 89.51 TAL 8.40 TAP 115.62 RCA 151.22 APO 242.94 V2 26.428
 RC 79.293 GL -15.36 GP -1.99 ZAL 80.51 ZAP 154.15 ETS 184.28 ZAE 170.53 ETE 2.23 ZAC 97.11 ETC 279.02 LVI -17.78

PLANETOCENTRIC CONIC

C3 12.876 VHL 3.588 DLA -28.18 RAL 331.31 RAD 6639.5 VEL 11.530 PTH 6.58 VHP 5.577 DPA -16.93 RAP 328.23 ECC 1.2119
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 12 6 2449.80 -4.89 64.30 185.11 137.38 15 52 56 1449.8 13.45 48.44
 60.00 16 31 1 2239.88 .32 50.39 190.11 130.30 17 8 21 1239.9 16.16 32.04
 70.00 18 15 1 1934.02 6.07 29.93 194.44 123.67 18 47 15 934.0 19.20 9.32
 80.00 20 30 17 1510.51 12.21 1.46 198.11 117.46 20 55 27 510.5 22.47 338.77
 90.00 22 54 35 1045.07 17.32 329.71 200.59 112.71 23 12 0 45.1 25.19 305.44
 100.00 23 13 9 6273.02 12.21 300.74 198.11 117.46 24 57 42 5273.0 22.47 276.05
 110.00 23 14 28 6266.87 6.07 296.76 194.44 123.67 24 58 57 5266.9 19.20 276.14

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1755 TRA -.5595 TC3 .5853 BAU .1020 SGT 1132.2 SGR 608.7 S63 381.2 ST 20.7 SR 27.9 SS 15.4
 RDE -.3460 RRA .1360 RC3 .0938 FAU .08342 RRT -.0966 RRF .1297 RTF -.6804 CRT .5741 CRS -.6211 CST .2707
 FDE -.2059 FRA .9806 FC3-5.6085 BSP 1698 SGB 1285.5 R23 -.0379 R13 .6824 LSA 32.0 MSA 20.4 SSA 1.8
 BDE .3880 BRA .5758 BC3 .5928 FSP 573 SG1 1134.4 S62 604.7 THA 175.84 EL1 31.2 EL2 15.1 ALF 58.90

LAUNCH DATE MAY 25 1971

FLIGHT TIME 132.00

ARRIVAL DATE OCT 4 1971

HELIOCENTRIC CONIC

DISTANCE 329.379

EARTH TO MARS

RL 151.52 LAL -.00 LOL 243.16 VL 32.780 GAL 1.61 AZL 91.65 MCA 108.48 SMA 195.98 ECC .22848 INC 1.6486 V1 29.404
 RP 207.37 LAP -1.56 LOP 351.65 VP 24.553 GAP 12.79 AZP 89.48 TAL 8.66 TAP 117.14 RCA 151.20 APO 240.76 V2 26.415
 RC 80.909 GL -15.47 GP -2.06 ZAL 80.18 ZAP 152.78 ETS 184.18 ZAE 171.22 ETE .99 ZAC 97.05 ETC 279.00 LVI -17.89

PLANETOCENTRIC CONIC

C3 12.487 VHL 3.534 DLA -28.41 RAL 330.98 RAD 6639.3 VEL 11.514 PTH 6.56 VHP 5.406 DPA -17.04 RAP 328.15 ECC 1.2059
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 12 2 2437.83 -4.29 63.79 184.54 137.43 15 52 39 1437.8 14.04 47.91
 60.00 16 31 31 2226.38 .91 49.75 189.53 130.29 17 8 37 1226.4 16.72 31.33
 70.00 18 16 37 1917.30 6.70 29.05 193.89 123.57 18 48 34 917.3 19.75 8.33
 80.00 20 35 1 1483.87 13.04 359.92 197.65 117.10 20 59 45 483.9 23.08 337.04
 87.13 22 50 10 1048.35 19.31 330.79 200.58 111.25 23 7 39 48.3 26.38 305.96
 100.00 23 17 53 6246.38 13.04 299.20 197.65 117.10 25 2 0 5246.4 23.08 276.31
 110.00 23 16 3 6252.16 6.70 295.87 193.89 123.57 25 0 15 5252.2 19.75 275.15

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1707 TRA -.5487 TC3 .5965 BAU .1007 SGT 1130.2 SGR 606.7 S63 406.8 ST 20.5 SR 27.8 SS 16.1
 RDE -.3397 RRA .1338 RC3 .0881 FAU .08782 RRT -.1032 RRF .1401 RTF -.1.77 CRT .5694 CRS -.6470 CST .2458
 FDE -.2304 FRA 1.0167 FC3-6.0884 BSP 1694 SGB 1282.7 R23 -.0426 R13 .6800 LSA 32.0 MSA 20.5 SSA 1.9
 BDE .3802 BRA .5647 BC3 .6030 FSP 615 SG1 1132.6 S62 602.2 THA 175.57 EL1 31.1 EL2 15.1 ALF 59.15

LAUNCH DATE MAY 25 1971

FLIGHT TIME 134.00

ARRIVAL DATE OCT 6 1971

HELIOCENTRIC CONIC

DISTANCE 333.312

EARTH TO MARS

RL 151.52 LAL -.00 LOL 243.16 VL 32.727 GAL 1.63 AZL 91.64 MCA 109.74 SMA 194.97 ECC .22455 INC 1.6377 V1 29.404
 RP 207.48 LAP -1.54 LOP 352.91 VP 24.467 GAP 12.45 AZP 89.45 TAL 8.91 TAP 118.86 RCA 151.19 APO 238.75 V2 26.402
 RC 82.560 GL -15.57 GP -2.14 ZAL 79.81 ZAP 151.37 ETS 184.09 ZAE 171.97 ETE 359.52 ZAC 97.00 ETC 278.97 LVI -17.58

PLANETOCENTRIC CONIC

C3 12.128 VHL 3.483 DLA -28.63 RAL 330.65 RAD 6639.1 VEL 11.498 PTH 6.55 VHP 5.241 DPA -17.16 RAP 328.04 ECC 1.1996
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ PT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 11 55 2426.63 -3.73 63.32 183.99 137.46 15 52 21 1426.6 14.59 47.41
 60.00 16 31 57 2213.72 1.47 49.14 188.98 130.28 17 8 51 1213.7 17.24 30.67
 70.00 18 18 5 1901.55 7.29 28.21 193.36 123.46 18 49 47 901.5 20.25 7.39
 80.00 20 39 50 1457.62 13.85 358.39 197.22 116.72 21 4 8 457.6 23.67 335.31
 85.32 22 33 55 1090.51 19.61 334.01 199.89 111.29 22 52 6 90.5 26.66 309.12
 100.00 23 22 42 6220.13 13.85 297.67 197.22 116.72 25 6 22 5220.1 23.67 274.58
 110.00 23 17 32 6236.41 7.29 295.04 193.36 123.46 25 1 28 5236.4 20.25 274.22

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1586 TRA -.5298 TC3 .6286 BAU .1028 SGT 1116.2 SGR 604.6 S63 434.3 ST 19.8 SR 27.7 SS 16.8
 RDE -.3337 RRA .1317 RC3 .0809 FAU .09263 RRT -.1143 RRF .1521 RTF -.6879 CRT .5522 CRS -.6780 CST .2236
 FDE -.2609 FRA 1.0508 FC3-6.6119 BSP 1585 SGB 1269.4 R23 -.0419 R13 .6906 LSA 32.0 MSA 20.5 SSA 1.9
 BDE .3695 BRA .5459 BC3 .6338 FSP 656 SG1 1119.2 S62 599.0 THA 175.03 EL1 30.6 EL2 15.0 ALF 60.86

LAUNCH DATE MAY 25 1971

FLIGHT TIME 136.00

ARRIVAL DATE OCT 8 1971

HELIOCENTRIC CONIC
 RL 151.52 LAL -.00 LOL 243.16 VL 32.877 GAL 1.65 AZL 91.63 HCA 111.00 SMA 194.03 ECC .22088 INC 1.6287 V1 29.404
 RP 207.60 LAP -1.52 LOP 354.17 VP 24.384 GAP 12.12 AZP 89.42 TAL 9.15 TAP 120.15 RCA 151.18 APO 236.89 V2 26.388
 RC 84.247 GL -15.66 GP -2.22 ZAL 79.50 ZAP 149.94 ETS 183.99 ZAE 172.79 ETE 357.72 ZAC 96.95 ETC 278.94 LVI -17.46

PLANETOCENTRIC CONIC
 C3 11.798 VHL 3.435 DLA -28.83 RAL 330.34 RAD 8639.0 VEL 11.484 PTH 6.53 VHP 5.083 DPA -17.29 RAP 327.89 ECC 1.1942
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 11 46 2416.27 -3.21 62.89 183.48 137.49 15 52 2 1416.3 15.09 46.94
 60.00 16 32 19 2202.02 1.99 48.58 188.47 130.26 17 9 1 1202.0 17.72 30.05
 70.00 18 19 26 1886.95 7.84 27.44 192.86 123.35 18 50 53 886.9 20.72 6.51
 80.00 20 44 39 1432.10 14.62 356.90 196.82 116.32 21 8 31 432.1 24.21 333.61
 84.15 22 23 4 1115.82 19.88 335.98 199.25 111.32 22 41 39 115.8 26.92 311.03
 100.00 23 27 31 6194.61 14.62 296.17 196.82 116.32 25 10 45 5194.6 24.21 272.88
 110.00 23 18 52 6221.80 7.84 294.26 192.86 123.35 25 2 34 5221.8 20.72 273.34

DIFFERENTIAL CORRECTIONS
 TDE -.1589 TRA -.5229 TC3 .6158 BAU .0978 SGT 1113.7 SGR 602.1 SG3 462.4 ST 20.0 SR 27.8 SS 17.5
 RDE -.3277 RRA .1299 RC3 .0731 FAU .09737 RRT -.1194 RRF .1638 RTF -.6747 CRT .5570 CRS -.6947 CST .1953
 FDE -.2850 FRA 1.0926 FC3-7.1448 BSP 1615 SGB 1266.1 R23 -.0513 R13 .6779 LSA 32.2 MSA 20.7 SSA 1.9
 BDE .3642 BRA .5387 BC3 .6201 FSP 707 SG1 1117.0 SG2 596.1 THA 174.83 EL1 30.6 EL2 15.0 ALF 60.26

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 25 1971

FLIGHT TIME 138.00

ARRIVAL DATE OCT 10 1971

HELIOCENTRIC CONIC
 RL 151.52 LAL -.00 LOL 243.16 VL 32.830 GAL 1.67 AZL 91.62 HCA 112.26 SMA 193.17 ECC .21747 INC 1.6155 V1 29.404
 RP 207.73 LAP -1.50 LOP 355.43 VP 24.305 GAP 11.81 AZP 89.39 TAL 9.37 TAP 121.63 RCA 151.16 APO 235.18 V2 26.373
 RC 85.969 GL -15.74 GP -2.30 ZAL 79.20 ZAP 148.47 ETS 183.91 ZAE 173.67 ETE 355.40 ZAC 96.90 ETC 278.89 LVI -17.33

PLANETOCENTRIC CONIC
 C3 11.494 VHL 3.390 DLA -29.01 RAL 330.05 RAD 8638.8 VEL 11.471 PTH 6.52 VHP 4.931 DPA -17.44 RAP 327.71 ECC 1.1892
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 11 36 2406.69 -2.73 62.49 182.99 137.52 15 51 43 1406.7 15.56 46.51
 60.00 16 32 36 2191.21 2.46 48.07 187.98 130.24 17 9 7 1191.2 18.16 29.47
 70.00 18 20 39 1873.43 8.35 26.72 192.38 123.24 18 51 52 873.4 21.15 5.70
 80.00 20 49 28 1407.20 15.37 355.42 196.45 115.92 21 12 56 407.2 24.73 331.94
 83.25 22 14 40 1133.66 20.13 337.40 198.64 111.34 22 33 34 133.7 27.15 312.39
 100.00 23 32 20 6169.71 15.37 294.70 196.45 115.92 25 15 10 5169.7 24.73 271.21
 110.00 23 20 5 6208.29 8.35 293.54 192.38 123.24 25 3 33 5208.3 21.15 272.52

DIFFERENTIAL CORRECTIONS
 TDE -.1583 TRA -.5145 TC3 .6022 BAU .0931 SGT 1107.5 SGR 599.6 SG3 492.1 ST 20.0 SR 27.3 SS 18.3
 RDE -.3220 RRA .1283 RC3 .0640 FAU .10236 RRT -.1253 RRF .1769 RTF -.6628 CRT .5605 CRS -.7098 CST .1702
 FDE -.3103 FRA 1.1384 FC3-7.7102 BSP 1623 SGB 1259.4 R23 -.0608 R13 .6667 LSA 32.4 MSA 20.9 SSA 2.0
 BDE .3588 BRA .5302 BC3 .6056 FSP 760 SG1 1111.1 SG2 592.9 THA 174.57 EL1 30.5 EL2 14.9 ALF 59.87

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 25 1971

FLIGHT TIME 140.00

ARRIVAL DATE OCT 12 1971

HELIOCENTRIC CONIC
 RL 151.52 LAL -.00 LOL 243.16 VL 32.586 GAL 1.69 AZL 91.60 HCA 113.52 SMA 192.38 ECC .21430 INC 1.6041 V1 29.404
 RP 207.86 LAP -1.47 LOP 356.68 VP 24.230 GAP 11.49 AZP 89.36 TAL 9.58 TAP 123.09 RCA 151.15 APO 233.61 V2 26.357
 RC 87.725 GL -15.80 GP -2.39 ZAL 78.93 ZAP 146.96 ETS 183.82 ZAE 174.61 ETE 352.22 ZAC 96.85 ETC 278.84 LVI -17.18

PLANETOCENTRIC CONIC
 C3 11.213 VHL 3.349 DLA -29.17 RAL 329.78 RAD 8638.7 VEL 11.459 PTH 6.51 VHP 4.786 DPA -17.61 RAP 327.50 ECC 1.1845
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 11 24 2397.89 -2.28 62.12 182.54 137.53 15 51 22 1397.9 15.99 46.11
 60.00 16 32 49 2181.29 2.90 47.59 187.52 130.21 17 9 10 1181.3 18.56 28.94
 70.00 18 21 42 1861.03 8.81 26.05 191.93 123.13 18 52 43 861.0 21.53 4.94
 80.00 20 54 16 1383.02 16.08 353.98 196.11 115.50 21 17 19 383.0 25.21 330.30
 82.54 22 7 54 1146.83 20.37 338.46 198.07 111.34 22 27 1 146.8 27.36 313.41
 100.00 23 37 8 6145.53 16.08 293.26 196.11 115.50 25 19 34 5145.5 25.21 269.58
 110.00 23 21 8 6195.89 8.81 292.88 191.93 123.13 25 4 24 5195.9 21.53 271.77

DIFFERENTIAL CORRECTIONS
 TDE -.1567 TRA -.5044 TC3 .5886 BAU .0883 SGT 1096.9 SGR 596.9 SG3 523.7 ST 20.0 SR 27.3 SS 19.0
 RDE -.3165 RRA .1288 RC3 .0534 FAU .10774 RRT -.1320 RRF .1908 RTF -.5504 CRT .5631 CRS -.7258 CST .1441
 FDE -.3381 FRA 1.1831 FC3-8.3183 BSP 1602 SGB 1248.8 R23 -.0706 R13 .6552 LSA 32.7 MSA 20.9 SSA 2.0
 BDE .3532 BRA .5201 BC3 .5890 FSP 813 SG1 1100.9 SG2 589.5 THA 174.23 EL1 30.4 EL2 14.8 ALF 59.70

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 25 1971

FLIGHT TIME 142.00

ARRIVAL DATE OCT 14 1971

HELIOCENTRIC CONIC
 RL 151.52 LAL -.00 LOL 243.16 VL 32.546 GAL 1.70 AZL 91.59 HCA 114.77 SMA 191.65 ECC .21135 INC 1.5924 V1 29.404
 RP 208.01 LAP -1.45 LOP 357.94 VP 24.157 GAP 11.19 AZP 89.33 TAL 9.77 TAP 124.54 RCA 151.14 APO 232.15 V2 26.340
 RC 89.514 GL -15.85 GP -2.48 ZAL 78.68 ZAP 145.42 ETS 183.74 ZAE 175.59 ETE 347.52 ZAC 96.80 ETC 278.79 LVI -17.03

PLANETOCENTRIC CONIC
 C3 10.953 VHL 3.310 DLA -29.31 RAL 329.53 RAD 8638.5 VEL 11.447 PTH 6.50 VHP 4.647 DPA -17.79 RAP 327.25 ECC 1.1803
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 11 11 2389.86 -1.88 61.78 182.11 137.55 15 51 1 1389.9 16.38 45.74
 60.00 16 32 58 2172.28 3.29 47.16 187.08 130.19 17 9 10 1172.3 18.93 28.46
 70.00 18 22 36 1849.79 9.23 25.45 191.51 123.03 18 53 26 849.8 21.88 4.26
 80.00 20 58 59 1359.73 16.76 352.39 195.80 115.08 21 21 39 359.7 25.65 328.71
 81.97 22 2 24 1156.51 20.58 339.27 197.53 111.34 22 21 41 156.5 27.55 314.16
 100.00 23 41 51 6122.24 16.76 291.86 195.80 115.08 25 23 53 5122.2 25.65 267.99
 110.00 23 22 2 6184.65 9.23 292.28 191.51 123.03 25 5 7 5184.7 21.88 271.08

DIFFERENTIAL CORRECTIONS
 TDE -.1556 TRA -.4940 TC3 .5634 BAU .0827 SGT 1083.3 SGR 594.2 SG3 556.5 ST 20.0 SR 27.2 SS 19.8
 RDE -.3111 RRA .1256 RC3 .0416 FAU .11323 RRT -.1387 RRF .2061 RTF -.6362 CRT .5671 CRS -.7390 CST .1199
 FDE -.3664 FRA 1.2328 FC3-8.9496 BSP 1579 SGB 1235.5 R23 -.0821 R13 .6420 LSA 32.9 MSA 21.0 SSA 2.0
 BDE .3478 BRA .5097 BC3 .5650 FSP 873 SG1 1087.7 SG2 586.0 THA 173.86 EL1 30.3 EL2 14.7 ALF 59.50

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAY 25 1971

FLIGHT TIME 144.00

ARRIVAL DATE OCT 18 1971

Heliocentric Conic

DISTANCE 353.304

EARTH TO MARS

RL 151.52 LAL -.00 LOL 243.16 VL 32.508 GAL 1.71 AZL 91.58 HCA 116.02 SMA 190.97 ECC .20862 INC 1.5808 V1 29.404
 RP 208.16 LAP -1.42 LOP 359.19 VP 24.087 GAP 10.89 AZP 89.31 TAL 9.94 TAP 125.96 RCA 151.13 APO 230.81 V2 26.323
 RC 91.337 GL -15.89 GP -2.58 ZAL 78.45 ZAP 143.84 ETS 183.65 ZAE 176.59 ETE 339.80 ZAC 96.76 ETC 278.72 LVI -16.85

PLANETOCENTRIC CONIC

C3 10.714 VHL 3.273 DLA -29.42 RAL 329.30 RAD 6638.4 VEL 11.437 PTH 6.49 VHP 4.514 DPA -17.99 RAP 326.97 ECC 1.1763
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 15 10 56 2382.59 -1.52 61.48 181.72 137.56 15 50 39 1382.6 16.73 45.41
 60.00 16 33 2 2164.17 3.65 46.77 186.68 130.16 17 9 6 1164.2 19.25 28.02
 70.00 18 23 20 1839.74 9.60 24.91 191.11 122.94 18 54 0 839.7 22.19 3.64
 80.00 21 3 33 1337.57 17.40 351.25 195.51 114.66 21 25 51 337.6 26.05 327.19
 81.51 21 57 54 1163.53 20.77 339.87 197.03 111.32 22 17 17 163.5 27.72 314.71
 100.00 23 46 25 6100.08 17.40 290.92 195.51 114.66 25 28 5 5100.1 26.05 266.46
 110.00 23 22 46 6174.59 9.60 291.74 191.11 122.94 25 5 41 5174.6 22.19 270.46

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1350 TRA -.4830 TC3 .5329 BAU .0764 SGT 1066.5 SGR 591.3 SG3 590.8 ST 19.9 SR 27.0 SS 20.5
 RDE -.3059 RRA .1248 RC3 .0284 FAU .11900 RRT -.1446 RRF .2221 RTF -.6188 CRT .5733 CRS -.7502 CST .0956
 FDE -.3941 FRA 1.2834 FC3-9.6158 BSP 1530 SGB 1219.5 R23 -.0953 R13 .6259 LSA 33.2 MSA 21.1 SSA 2.1
 BDE .3429 BRA .4988 BC3 .5337 FSP 933 SG1 1071.4 SG2 582.5 THA 173.48 EL1 30.2 EL2 14.6 ALF 59.23

LAUNCH DATE MAY 25 1971

FLIGHT TIME 146.00

ARRIVAL DATE OCT 18 1971

Heliocentric Conic

DISTANCE 357.356

EARTH TO MARS

RL 151.52 LAL -.00 LOL 243.16 VL 32.473 GAL 1.72 AZL 91.57 HCA 117.27 SMA 190.35 ECC .20608 INC 1.5686 V1 29.404
 RP 208.32 LAP -1.39 LOP .44 VP 24.019 GAP 10.60 AZP 89.28 TAL 10.10 TAP 127.37 RCA 151.12 APO 229.58 V2 26.304
 RC 93.190 GL -15.92 GP -2.60 ZAL 78.25 ZAP 142.23 ETS 183.57 ZAE 177.54 ETE 325.31 ZAC 96.71 ETC 278.65 LVI -16.67

PLANETOCENTRIC CONIC

C3 10.492 VHL 3.239 DLA -29.52 RAL 329.10 RAD 6638.3 VEL 11.427 PTH 6.48 VHP 4.386 DPA -18.21 RAP 326.64 ECC 1.1727
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 15 10 40 2376.08 -1.19 61.21 181.35 137.56 15 50 16 1376.1 17.04 45.11
 60.00 16 33 2 2156.96 3.97 46.43 186.30 130.14 17 8 59 1157.0 19.54 27.63
 70.00 18 23 53 1830.88 9.93 24.43 190.74 122.85 18 54 24 830.9 22.46 3.10
 80.00 21 7 51 1316.90 17.98 349.99 195.25 114.25 21 29 48 316.9 26.41 325.76
 81.15 21 54 17 1168.27 20.94 340.29 196.57 111.30 22 13 45 168.3 27.86 315.09
 100.00 23 50 43 6079.41 17.98 289.26 195.25 114.25 25 32 2 5079.4 26.41 265.03
 110.00 23 23 20 6165.74 9.93 291.26 190.74 122.85 25 6 5 5165.7 22.46 269.92

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1546 TRA -.4714 TC3 .4957 BAU .0696 SGT 1047.1 SGR 588.6 SG3 626.9 ST 19.8 SR 26.9 SS 21.3
 RDE -.3008 RRA .1237 RC3 .0137 FAU .12507 RRT -.1502 RRF .2395 RTF -.5984 CRT .5805 CRS -.7609 CST .0702
 FDE -.4237 FRA 1.3367 FC-10.3207 BSP 1489 SGB 1201.2 R23 -.1110 R13 .6072 LSA 33.5 MSA 21.1 SSA 2.1
 BDE .3382 BRA .4874 BC3 .4959 FSP 996 SG1 1052.4 SG2 578.9 THA 173.06 EL1 30.1 EL2 14.4 ALF 58.96

LAUNCH DATE MAY 25 1971

FLIGHT TIME 148.00

ARRIVAL DATE OCT 20 1971

Heliocentric Conic

DISTANCE 361.423

EARTH TO MARS

RL 151.52 LAL -.00 LOL 243.16 VL 32.441 GAL 1.73 AZL 91.56 HCA 118.52 SMA 189.78 ECC .20372 INC 1.5562 V1 29.404
 RP 208.49 LAP -1.37 LOP 1.69 VP 23.954 GAP 10.32 AZP 89.26 TAL 10.23 TAP 128.75 RCA 151.12 APO 228.44 V2 26.284
 RC 95.074 GL -15.94 GP -2.78 ZAL 78.08 ZAP 140.58 ETS 183.48 ZAE 178.20 ETE 295.67 ZAC 96.67 ETC 278.57 LVI -16.47

PLANETOCENTRIC CONIC

C3 10.286 VHL 3.207 DLA -29.60 RAL 328.92 RAD 6638.2 VEL 11.418 PTH 6.47 VHP 4.265 DPA -18.44 RAP 326.28 ECC 1.1693
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 15 10 23 2370.62 -.90 60.97 181.02 137.57 15 49 54 1370.3 17.32 44.84
 60.00 16 32 58 2150.64 4.24 46.12 185.95 130.11 17 8 48 1150.6 19.79 27.29
 70.00 18 24 16 1823.26 10.21 24.02 190.39 122.77 18 54 39 823.3 22.69 2.62
 80.00 21 11 41 1298.29 18.49 348.85 194.99 113.87 21 33 19 298.3 26.72 324.46
 80.88 21 51 27 1171.09 21.09 340.56 196.14 111.26 22 10 58 171.1 27.98 315.33
 100.00 23 54 33 6060.80 18.49 288.12 194.99 113.87 25 35 34 5060.8 26.72 263.74
 110.00 23 23 42 6158.11 10.21 290.85 190.39 122.77 25 6 20 5158.1 22.69 269.45

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1546 TRA -.4595 TC3 .4495 BAU .0610 SGT 1025.2 SGR 585.8 SG3 664.3 ST 19.8 SR 26.7 SS 22.1
 RDE -.2959 RRA .1230 RC3 -.0024 FAU .13135 RRT -.1545 RRF .2577 RTF -.5.34 CRT .5898 CRS -.7703 CST .0440
 FDE -.4531 FRA 1.3910 FC-11.0552 BSP 1427 SGB 1180.8 R23 -.1296 R13 .5842 LSA 33.8 MSA 21.0 SSA 2.1
 BDE .3339 BRA .4757 BC3 .4495 FSP 1062 SG1 1031.0 SG2 575.5 THA 172.65 EL1 30.0 EL2 14.2 ALF 58.61

LAUNCH DATE MAY 25 1971

FLIGHT TIME 150.00

ARRIVAL DATE OCT 22 1971

Heliocentric Conic

DISTANCE 365.504

EARTH TO MARS

RL 151.52 LAL -.00 LOL 243.16 VL 32.411 GAL 1.73 AZL 91.54 HCA 119.77 SMA 189.25 ECC .20154 INC 1.5436 V1 29.404
 RP 208.67 LAP -1.34 LOP 2.93 VP 23.891 GAP 10.04 AZP 89.23 TAL 10.35 TAP 130.12 RCA 151.11 APO 227.40 V2 26.264
 RC 96.988 GL -15.94 GP -2.89 ZAL 77.94 ZAP 138.90 ETS 183.40 ZAE 178.08 ETE 254.06 ZAC 96.63 ETC 278.48 LVI -16.26

PLANETOCENTRIC CONIC

C3 10.096 VHL 3.177 DLA -29.65 RAL 328.77 RAD 6638.1 VEL 11.410 PTH 6.46 VHP 4.149 DPA -18.68 RAP 325.88 ECC 1.1662
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 15 10 6 2365.29 -.65 60.76 180.71 137.57 15 49 31 1365.3 17.56 44.61
 60.00 16 32 49 2145.21 4.48 45.86 185.83 130.09 17 8 34 1145.2 20.01 26.99
 70.00 18 24 26 1816.86 10.44 23.68 190.06 122.70 18 54 43 816.9 22.88 2.23
 80.00 21 14 48 1282.58 18.92 347.88 194.74 113.53 21 36 11 282.6 26.97 323.36
 80.69 21 49 20 1172.19 21.22 340.69 195.75 111.21 22 8 52 172.2 28.07 315.43
 100.00 0 1 36 6045.09 18.92 287.16 194.74 113.53 1 42 21 5045.1 26.97 262.64
 110.00 23 23 53 6151.72 10.44 290.50 190.06 122.70 25 6 24 5151.7 22.88 269.05

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.1560 TRA -.4480 TC3 .3917 BAU .0529 SGT 1002.5 SGR 583.2 SG3 703.0 ST 19.8 SR 26.5 SS 22.8
 RDE -.2910 RRA .1225 RC3 -.0199 FAU .13776 RRT -.1570 RRF .2776 RTF -.5427 CRT .6015 CRS -.7771 CST .0185
 FDE -.4820 FRA 1.4532 FC-11.8131 BSP 1364 SGB 1159.8 R23 -.1527 R13 .5560 LSA 34.2 MSA 21.1 SSA 2.1
 BDE .3302 BRA .4644 BC3 .3922 FSP 1132 SG1 1008.7 SG2 572.4 THA 172.28 EL1 30.0 EL2 14.0 ALF 58.08

LAUNCH DATE MAY 25 1971 FLIGHT TIME 152.00 ARRIVAL DATE OCT 24 1971

HELIOCENTRIC CONIC DISTANCE 369.597 EARTH TO MARS
 RL 151.52 LAL -.00 LOL 243.16 VL 32.383 GAL 1.73 AZL 91.53 HCA 121.01 SMA 188.77 ECC .19953 INC 1.5307 V1 29.404
 RP 208.85 LAP -1.31 LOP 4.18 VP 23.830 GAP 9.77 AZP 89.21 TAL 10.46 TAP 131.47 RCA 151.11 APO 226.44 V2 26.243
 RC 98.929 GL -15.94 GP -3.00 ZAL 77.82 ZAP 137.17 ETS 183.31 ZAE 177.18 ETE 227.40 ZAC 96.59 ETC 278.39 LVI -16.03

PLANETOCENTRIC CONIC
 C3 9.919 VHL 3.150 DLA -29.69 RAL 328.64 RAD 6638.0 VEL 11.402 PTH 6.45 VHP 4.038 DPA -18.95 RAP 325.45 ECC 1.1632
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 9 46 2360.95 -.43 60.58 180.43 137.57 15 49 7 1360.9 17.77 44.41
 60.00 16 32 36 2140.60 4.68 45.64 185.34 130.07 17 8 16 1140.6 20.19 26.74
 70.00 18 24 26 1811.64 10.63 23.40 189.75 122.65 18 54 37 811.6 23.04 1.90
 80.00 21 16 58 1270.49 19.25 347.13 194.48 115.27 21 38 8 270.5 27.16 322.51
 80.56 21 47 51 1171.73 21.33 340.71 195.39 111.15 22 7 23 171.7 28.15 315.41
 100.00 0 3 45 6033.00 19.25 286.41 194.48 113.27 1 44 18 5033.0 27.16 261.79
 110.00 23 23 52 6146.50 10.63 290.22 189.75 122.65 25 6 18 5146.5 23.04 268.72

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1473 TRA -.4247 TC3 .3683 BAU .0491 SGT 957.5 SGR 581.0 S63 746.1 ST 18.9 SR 26.4 SS 23.8
 RDE -.2886 RRA .1217 RC3 -.0408 FAU .14538 RRT -.1669 RRF .2997 RTF -.5294 CRT .5988 CRS -.7971 CST -.0111
 FDE -.5284 FRA 1.4930 FC-12.6886 BSP 1156 SGB 1119.9 R23 -.1649 R13 .5468 LSA 34.6 MSA 20.4 SSA 2.2
 BDE .3223 BRA .4418 BC3 .3706 FSP 1182 SG1 965.0 S62 568.3 THA 171.11 EL1 29.5 EL2 13.5 ALF 59.71

LAUNCH DATE MAY 25 1971 FLIGHT TIME 154.00 ARRIVAL DATE OCT 26 1971

HELIOCENTRIC CONIC DISTANCE 373.701 EARTH TO MARS
 RL 151.52 LAL -.00 LOL 243.16 VL 32.358 GAL 1.73 AZL 91.52 HCA 122.25 SMA 188.33 ECC .19767 INC 1.5175 V1 29.404
 RP 209.04 LAP -1.28 LOP 5.42 VP 23.771 GAP 9.51 AZP 89.19 TAL 10.54 TAP 132.79 RCA 151.10 APO 225.56 V2 26.221
 RC 100.898 GL -15.92 GP -3.11 ZAL 77.74 ZAP 135.41 ETS 183.21 ZAE 175.94 ETE 214.48 ZAC 96.55 ETC 278.28 LVI -15.79

PLANETOCENTRIC CONIC
 C3 9.756 VHL 3.123 DLA -29.70 RAL 328.54 RAD 6637.9 VEL 11.395 PTH 6.45 VHP 3.934 DPA -19.23 RAP 324.97 ECC 1.1606
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 9 27 2357.38 -.25 60.43 180.19 137.58 15 48 45 1357.4 17.94 44.24
 60.00 16 32 19 2136.95 4.84 45.46 185.07 130.06 17 7 56 1137.0 20.34 26.54
 70.00 18 24 13 1807.78 10.78 23.19 189.47 122.61 18 54 20 807.8 23.15 1.66
 80.00 21 17 30 1264.22 19.42 346.74 194.20 113.14 21 38 35 264.2 27.25 322.07
 80.52 21 47 11 1169.32 21.42 340.57 195.07 111.08 22 6 41 169.3 28.20 315.24
 100.00 0 4 18 6026.73 19.42 286.02 194.20 113.14 1 44 45 5026.7 27.25 261.35
 110.00 23 23 39 6142.64 10.78 290.01 189.47 122.61 25 6 2 5142.6 23.15 268.48

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1581 TRA -.4204 TC3 .2579 BAU .0345 SGT 947.8 SGR 578.4 S63 785.5 ST 19.7 SR 26.1 SS 24.3
 RDE -.2816 RRA .1220 RC3 -.0600 FAU .15157 RRT -.1550 RRF .2997 RTF -.4666 CRT .6281 CRS -.7893 CST -.0355
 FDE -.5397 FRA 1.5753 FC-13.4502 BSP 1168 SGB 1110.4 R23 -.2091 R13 .4867 LSA 34.9 MSA 20.9 SSA 2.2
 BDE .3229 BRA .4378 BC3 .2648 FSP 1271 SG1 954.4 S62 567.4 THA 171.61 EL1 29.8 EL2 13.4 ALF 57.25

LAUNCH DATE MAY 25 1971 FLIGHT TIME 156.00 ARRIVAL DATE OCT 28 1971

HELIOCENTRIC CONIC DISTANCE 377.816 EARTH TO MARS
 RL 151.52 LAL -.00 LOL 243.16 VL 32.333 GAL 1.73 AZL 91.50 HCA 123.49 SMA 187.93 ECC .19596 INC 1.5040 V1 29.404
 RP 209.24 LAP -1.25 LOP 6.66 VP 23.714 GAP 9.26 AZP 89.17 TAL 10.60 TAP 134.09 RCA 151.10 APO 224.75 V2 26.198
 RC 102.893 GL -15.89 GP -3.23 ZAL 77.68 ZAP 133.62 ETS 183.12 ZAE 174.54 ETE 207.46 ZAC 96.50 ETC 278.17 LVI -15.53

PLANETOCENTRIC CONIC
 C3 9.604 VHL 3.099 DLA -29.69 RAL 328.47 RAD 6637.8 VEL 11.389 PTH 6.44 VHP 3.835 DPA -19.52 RAP 324.46 ECC 1.1581
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 9 7 2354.50 -.10 60.31 179.97 137.58 15 48 22 1354.5 18.08 44.11
 60.00 16 31 57 2134.13 4.97 45.33 184.84 130.05 17 7 31 1134.1 20.45 26.38
 70.00 18 23 48 1805.12 10.87 23.04 189.22 122.58 18 53 53 805.1 23.23 1.49
 80.00 21 16 30 1263.44 19.44 346.69 193.90 113.12 21 37 34 263.4 27.27 322.02
 80.55 21 47 8 1165.52 21.49 340.31 194.78 111.00 22 6 33 165.5 28.22 314.96
 100.00 0 3 18 6025.95 19.44 285.97 193.90 113.12 1 43 44 5026.0 27.27 261.29
 110.00 23 23 14 6139.98 10.87 289.87 189.22 122.58 25 5 34 5140.0 23.23 268.32

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1627 TRA -.4093 TC3 .1585 BAU .0229 SGT 926.8 SGR 576.3 S63 826.6 ST 19.9 SR 25.9 SS 24.9
 RDE -.2789 RRA .1221 RC3 -.0813 FAU .15821 RRT -.1448 RRF .3430 RTF -.571 CRT .6476 CRS -.7912 CST -.0639
 FDE -.5647 FRA 1.6479 FC-14.2618 BSP 1098 SGB 1091.3 R23 -.2506 R13 .4305 LSA 35.3 MSA 21.0 SSA 2.2
 BDE .3212 BRA .4271 BC3 .1782 FSP 1351 SG1 932.7 S62 566.6 THA 171.82 EL1 29.9 EL2 13.1 ALF 56.12

LAUNCH DATE MAY 25 1971 FLIGHT TIME 158.00 ARRIVAL DATE OCT 30 1971

HELIOCENTRIC CONIC DISTANCE 381.940 EARTH TO MARS
 RL 151.52 LAL -.00 LOL 243.16 VL 32.313 GAL 1.73 AZL 91.49 HCA 124.73 SMA 187.58 ECC .19438 INC 1.4901 V1 29.404
 RP 209.44 LAP -1.22 LOP 7.90 VP 23.658 GAP 9.01 AZP 89.15 TAL 10.64 TAP 135.37 RCA 151.10 APO 224.02 V2 26.174
 RC 104.913 GL -15.84 GP -3.36 ZAL 77.65 ZAP 131.79 ETS 183.02 ZAE 173.03 ETE 203.13 ZAC 96.46 ETC 278.05 LVI -15.23

PLANETOCENTRIC CONIC
 C3 9.463 VHL 3.076 DLA -29.66 RAL 328.43 RAD 6637.8 VEL 11.383 PTH 6.44 VHP 3.741 DPA -19.83 RAP 323.91 ECC 1.1557
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 8 47 2352.29 .01 60.21 179.79 137.58 15 47 59 1352.3 18.19 44.00
 60.00 16 31 32 2132.15 5.05 45.23 184.63 130.04 17 7 4 1132.1 20.53 26.27
 70.00 18 23 12 1803.66 10.93 22.96 188.98 122.56 18 53 15 803.7 23.27 1.40
 80.00 21 14 2 1267.87 19.32 346.97 193.57 113.22 21 35 10 267.9 27.20 322.33
 80.66 21 47 46 1160.03 21.54 339.92 194.53 110.90 22 7 6 160.0 28.23 314.56
 100.00 0 0 50 6030.38 19.32 286.24 193.57 113.22 1 41 20 5030.4 27.20 261.60
 110.00 23 22 38 6138.52 10.93 289.79 188.98 122.56 25 4 57 5138.5 23.27 268.23

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1662 TRA -.3954 TC3 .0610 BAU .0154 SGT 903.1 SGR 574.6 S63 870.7 ST 20.0 SR 25.7 SS 25.6
 RDE -.2722 RRA .1222 RC3 -.1050 FAU .16549 RRT -.1308 RRF .3671 RTF -.3445 CRT .6662 CRS -.7928 CST -.0916
 FDE -.5891 FRA 1.7204 FC-15.1401 BSP 989 SGB 1070.4 R23 -.2943 R13 .3709 LSA 35.6 MSA 21.0 SSA 2.2
 BDE .3190 BRA .4139 BC3 .1214 FSP 1426 SG1 908.2 S62 566.4 THA 172.19 EL1 29.9 EL2 12.8 ALF 55.29

LAUNCH DATE MAY 25 1971

FLIGHT TIME 160.00

ARRIVAL DATE NOV 9 1971

HELIOCENTRIC CONIC DISTANCE 402.680 EARTH TO MARS
 RL 151.52 LAL -.00 LOL 243.16 VL 32.232 GAL 1.67 AZL 91.41 HCA 130.88 SMA 186.17 ECC .18830 INC 1.4139 V1 29.404
 RP 210.87 LAP -1.07 LOP 14.04 VP 23.402 GAP 7.84 AZP 89.07 TAL 10.55 TAP 141.43 RCA 151.12 APO 221.23 V2 26.044
 RC 115.360 GL -15.46 GP -4.05 ZAL 77.96 ZAP 122.18 ETS 182.45 ZAE 164.52 ETE 194.15 ZAC 96.24 ETC 277.32 LVI -13.66

PLANETOCENTRIC CONIC
 C3 8.892 VHL 2.982 DLA -29.19 RAL 328.62 RAD 6637.5 VEL 11.358 PTH 6.41 VHP 3.348 DPA -21.57 RAP 320.65 ECC 1.1463
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 8 54 2351.22 .06 60.17 179.27 137.58 15 46 6 1351.2 18.24 43.96
 60.00 16 28 23 2134.48 4.95 45.34 183.96 130.05 17 3 57 1134.5 20.44 26.40
 70.00 18 17 23 1813.88 10.55 23.52 188.12 122.67 18 47 36 813.9 22.97 2.04
 80.00 20 50 29 1334.17 17.49 351.04 192.02 114.59 21 12 43 334.2 26.11 326.96
 82.45 22 2 35 1102.93 21.50 335.68 193.77 110.23 22 20 58 102.9 27.91 310.27
 100.00 23 33 21 6096.68 17.49 290.32 192.02 114.59 25 14 57 5096.7 26.11 266.23
 110.00 23 16 49 6148.74 10.55 290.34 188.12 122.67 24 59 18 5148.7 22.97 268.86

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1922 TRA -.3180 TC3 -.6286 BAU .0801 SGT 875.6 SGR 572.1 SG3 1092.9 ST 21.2 SR 24.3 SS 28.0
 RDE -.2490 RRA .1265 RC3 -.2422 FAU .20132 RRT .0718 RRF .4977 RTF .1443 CRT .7713 CRS -.7827 CST -.2270
 FDE -.6706 FRA 2.1164 FC-19.5998 BSP 518 SGB 1045.9 R23 .4803 R13 .1699 LSA 37.0 MSA 21.1 SSA 2.3
 BDE .3146 BRA .3422 BC3 .6736 FSP 1836 SG1 877.3 SG2 569.6 THA 4.65 EL1 30.4 EL2 10.8 ALF 49.93

LAUNCH DATE MAY 25 1971

FLIGHT TIME 170.00

ARRIVAL DATE NOV 11 1971

HELIOCENTRIC CONIC DISTANCE 406.847 EARTH TO MARS
 RL 151.52 LAL -.00 LOL 243.16 VL 32.220 GAL 1.65 AZL 91.40 HCA 132.10 SMA 185.98 ECC .18739 INC 1.3971 V1 29.404
 RP 210.82 LAP -1.04 LOP 15.26 VP 23.354 GAP 7.62 AZP 89.06 TAL 10.48 TAP 142.58 RCA 151.13 APO 220.83 V2 26.015
 RC 117.545 GL -15.35 GP -4.20 ZAL 78.10 ZAP 120.19 ETS 182.32 ZAE 162.66 ETE 193.28 ZAC 96.19 ETC 277.15 LVI -13.29

PLANETOCENTRIC CONIC
 C3 8.801 VHL 2.967 DLA -29.03 RAL 328.74 RAD 6637.4 VEL 11.354 PTH 6.41 VHP 3.284 DPA -21.95 RAP 319.90 ECC 1.1448
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 8 30 2352.94 -.02 60.24 179.24 137.58 15 45 43 1352.9 18.15 44.04
 60.00 16 27 33 2137.31 4.83 45.48 183.90 130.06 17 3 11 1137.3 20.32 26.56
 70.00 18 15 42 1819.22 10.36 23.81 189.01 122.73 18 46 1 819.2 22.81 2.37
 80.00 20 44 59 1351.59 17.00 352.10 191.77 114.92 21 7 30 351.6 25.80 328.18
 83.16 22 8 42 1082.81 21.43 334.17 193.71 110.06 22 26 45 82.8 27.78 308.77
 100.00 23 27 50 6114.10 17.00 291.37 191.77 114.92 25 9 44 5114.1 25.80 267.43
 110.00 23 15 8 6154.08 10.36 290.63 189.01 122.73 24 57 43 5154.1 22.81 269.20

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1985 TRA -.3002 TC3 -.8022 BAU .0997 SGT 901.8 SGR 573.3 SG3 1137.4 ST 21.6 SR 24.0 SS 28.2
 RDE -.2442 RRA .1279 RC3 -.2736 FAU .20837 RRT .1367 RRF .5253 RTF .2578 CRT .7920 CRS -.7760 CST -.2493
 FDE -.6750 FRA 2.2033 FC-20.4978 BSP 519 SGB 1068.6 R23 .4699 R13 .3006 LSA 37.2 MSA 21.2 SSA 2.3
 BDE .3147 BRA .3264 BC3 .8476 FSP 1915 SG1 907.4 SG2 564.4 THA 8.13 EL1 30.6 EL2 10.3 ALF 48.73

LAUNCH DATE MAY 25 1971

FLIGHT TIME 172.00

ARRIVAL DATE NOV 13 1971

HELIOCENTRIC CONIC DISTANCE 411.019 EARTH TO MARS
 RL 151.52 LAL -.00 LOL 243.16 VL 32.209 GAL 1.63 AZL 91.38 HCA 133.32 SMA 185.80 ECC .18658 INC 1.3798 V1 29.404
 RP 211.07 LAP -1.00 LOP 16.48 VP 23.308 GAP 7.41 AZP 89.05 TAL 10.39 TAP 143.70 RCA 151.13 APO 220.47 V2 25.986
 RC 119.734 GL -15.22 GP -4.35 ZAL 78.28 ZAP 118.17 ETS 182.19 ZAE 160.76 ETE 192.53 ZAC 96.14 ETC 276.98 LVI -12.92

PLANETOCENTRIC CONIC
 C3 8.716 VHL 2.952 DLA -28.85 RAL 328.89 RAD 6637.4 VEL 11.350 PTH 6.40 VHP 3.225 DPA -22.34 RAP 319.13 ECC 1.1434
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 6 5 2355.27 -.14 60.34 179.25 137.58 15 45 20 1355.3 18.04 44.14
 60.00 16 26 40 2140.90 4.67 45.65 183.87 130.08 17 2 21 1140.9 20.18 26.75
 70.00 18 13 53 1825.58 10.12 24.15 187.92 122.79 18 44 18 825.6 22.62 2.77
 80.00 20 39 25 1369.71 16.47 353.19 191.94 115.26 21 2 15 369.7 25.46 329.40
 84.05 22 16 33 1057.58 21.35 332.28 193.68 109.88 22 34 10 57.6 27.63 306.88
 100.00 23 22 17 6132.22 16.47 292.46 191.54 115.26 25 4 29 5132.2 25.46 268.67
 110.00 23 13 19 6160.44 10.12 290.97 187.92 122.79 24 55 59 5160.4 22.62 269.59

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2046 TRA -.2815 TC3 -.9879 BAU .1205 SGT 941.8 SGR 575.1 SG3 1180.7 ST 22.0 SR 23.6 SS 28.5
 RDE -.2394 RRA .1295 RC3 -.3059 FAU .21516 RRT .2045 RRF .5529 RTF .0063 CRT .8115 CRS -.7686 CST -.2701
 FDE -.6765 FRA 2.2916 FC-21.3713 BSP 593 SGB 1103.5 R23 .4445 R13 .4184 LSA 37.4 MSA 21.3 SSA 2.3
 BDE .3149 BRA .3099 BC3 1.0341 FSP 1994 SG1 953.0 SG2 556.3 THA 10.86 EL1 30.7 EL2 9.9 ALF 47.57

LAUNCH DATE MAY 25 1971

FLIGHT TIME 174.00

ARRIVAL DATE NOV 15 1971

HELIOCENTRIC CONIC DISTANCE 415.195 EARTH TO MARS
 RL 151.52 LAL -.00 LOL 243.16 VL 32.200 GAL 1.61 AZL 91.36 HCA 134.53 SMA 185.65 ECC .18586 INC 1.3617 V1 29.404
 RP 211.33 LAP -.97 LOP 17.70 VP 23.262 GAP 7.20 AZP 89.04 TAL 10.27 TAP 144.81 RCA 151.14 APO 220.15 V2 25.957
 RC 121.945 GL -15.09 GP -4.51 ZAL 78.48 ZAP 116.13 ETS 182.04 ZAE 158.83 ETE 191.88 ZAC 96.08 ETC 276.80 LVI -12.53

PLANETOCENTRIC CONIC
 C3 8.637 VHL 2.939 DLA -28.64 RAL 329.06 RAD 6637.3 VEL 11.347 PTH 6.40 VHP 3.170 DPA -22.74 RAP 318.33 ECC 1.1421
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 5 39 2358.23 -.29 60.46 179.27 137.58 15 44 57 1358.2 17.90 44.28
 60.00 16 25 42 2145.24 4.48 45.86 183.85 130.09 17 1 28 1145.2 20.01 26.99
 70.00 18 11 54 1832.91 9.85 24.54 187.85 122.87 18 42 27 832.9 22.40 3.22
 80.00 20 33 50 1388.40 15.93 354.31 191.34 115.59 20 56 59 388.4 25.10 330.67
 85.25 22 26 59 1024.36 21.24 329.80 193.67 109.68 22 44 3 24.4 27.45 304.41
 100.00 23 16 42 6150.91 15.93 293.58 191.34 115.59 24 59 13 5150.9 25.10 269.94
 110.00 23 11 21 6167.77 9.85 291.37 187.85 122.87 24 54 8 5167.8 22.40 270.04

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2097 TRA -.2610 TC3 -1.1808 BAU .1419 SGT 992.5 SGR 578.0 SG3 1224.0 ST 22.2 SR 23.3 SS 28.8
 RDE -.2347 RRA .1311 RC3 -.3399 FAU .22202 RRT .2734 RRF .5811 RTF .4667 CRT .8300 CRS -.7640 CST -.2951
 FDE -.6817 FRA 2.3748 FC-22.2552 BSP 733 SGB 1148.5 R23 .4108 R13 .5210 LSA 37.6 MSA 21.2 SSA 2.3
 BDE .3147 BRA .2921 BC3 1.2288 FSP 2064 SG1 1010.4 SG2 546.1 THA 12.86 EL1 30.8 EL2 9.4 ALF 46.60

LAUNCH DATE MAY 25 1971

FLIGHT TIME 176.00

ARRIVAL DATE NOV 17 1971

HELIOCENTRIC CONIC

DISTANCE 419.375

EARTH TO MARS

RL 151.52 LAL -.00 LOL 243.16 VL 32.192 GAL 1.58 AZL 91.34 HCA 135.74 SMA 185.51 ECC .18521 INC 1.3429 V1 29.404
 RP 211.60 LAP -.94 LOP 18.91 VP 23.217 GAP 6.99 AZP 89.04 TAL 10.15 TAP 145.89 RCA 151.15 APO 219.87 V2 25.926
 RC 124.177 GL -14.94 GP -4.68 ZAL 78.72 ZAP 114.06 ETS 181.89 ZAE 156.87 ETE 191.31 ZAC 96.02 ETC 276.62 LVI -12.12

PLANETOCENTRIC CONIC

C3 8.563 VHL 2.926 DLA -28.42 RAL 329.25 RAD 6637.3 VEL 11.343 PTH 6.40 VHP 3.120 DPA -23.14 RAP 317.52 ECC 1.1409
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 5 11 2361.79 -.47 60.61 179.32 137.57 15 44 33 1361.8 17.73 44.45
 60.00 16 24 41 2150.31 4.26 46.11 183.86 130.11 17 0 31 1150.3 19.81 27.27
 70.00 18 9 48 1841.18 9.54 24.99 187.80 122.95 18 40 29 841.2 22.15 3.73
 80.00 20 28 16 1407.58 15.36 355.45 191.16 115.92 20 51 43 407.6 24.72 331.96
 87.09 22 42 58 6261.55 21.12 303.93 193.69 109.47 24 27 19 5261.6 27.25 278.56
 100.00 23 11 8 6170.09 15.36 294.72 191.16 115.92 24 53 58 5170.1 24.72 271.24
 110.00 23 9 14 6176.04 9.54 291.81 187.80 122.95 24 52 10 5176.0 22.15 270.55

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2132 TRA -.2380 TC3-1.3782 BAU .1636 SGT 1051.4 SGR 581.9 SG3 1267.8 ST 22.4 SR 23.0 SS 29.1
 RDE -.2301 RRA .1328 RC3 -.3764 FAU .22913 RRT .3422 RRF .6095 RTF .5583 CRT .8478 CRS -.7630 CST -.3257
 FDE -.6910 FRA 2.4475 FC-23.1654 BSP 931 SGB 1201.7 R23 .3717 R13 .6098 LSA 37.8 MSA 21.0 SSA 2.3
 BDE .3137 BRA .2724 BC3 1.4287 FSP 2121 SG1 1076.5 SG2 534.0 THA 14.31 EL1 30.8 EL2 8.8 ALF 45.89

LAUNCH DATE MAY 25 1971

FLIGHT TIME 178.00

ARRIVAL DATE NOV 19 1971

HELIOCENTRIC CONIC

DISTANCE 423.557

EARTH TO MARS

RL 151.52 LAL -.00 LOL 243.16 VL 32.185 GAL 1.55 AZL 91.32 HCA 136.95 SMA 185.40 ECC .18464 INC 1.3233 V1 29.404
 RP 211.87 LAP -.90 LOP 20.12 VP 23.173 GAP 6.79 AZP 89.03 TAL 10.00 TAP 146.95 RCA 151.17 APO 219.63 V2 25.896
 RC 126.431 GL -14.77 GP -4.85 ZAL 78.98 ZAP 112.03 ETS 181.74 ZAE 154.88 ETE 190.80 ZAC 95.95 ETC 276.43 LVI -11.71

PLANETOCENTRIC CONIC

C3 8.495 VHL 2.915 DLA -28.17 RAL 329.48 RAD 6637.3 VEL 11.340 PTH 6.39 VHP 3.075 DPA -23.55 RAP 316.70 ECC 1.1398
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 4 43 2366.01 -.68 60.79 179.40 137.57 15 44 9 1366.0 17.53 44.64
 60.00 16 23 36 2156.17 4.00 46.39 183.90 130.14 16 59 32 1156.2 19.57 27.59
 70.00 18 7 34 1850.44 9.20 25.49 187.78 123.04 18 38 24 850.4 21.86 4.30
 80.00 20 22 41 1427.36 14.77 356.62 191.01 116.25 20 46 28 427.4 24.31 333.29
 90.00 22 46 10 6252.62 19.36 302.59 193.12 111.02 24 30 22 5252.6 26.33 277.73
 100.00 23 5 33 6189.88 14.77 295.89 191.01 116.25 24 48 42 5189.9 24.31 272.57
 110.00 23 7 0 6185.30 9.20 292.31 187.78 123.04 24 50 5 5185.3 21.86 271.12

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2237 TRA -.2211 TC3-1.6197 BAU .1897 SGT 1152.3 SGR 584.7 SG3 1302.9 ST 23.2 SR 22.5 SS 28.9
 RDE -.2241 RRA .1354 RC3 -.4083 FAU .23389 RRT .4001 RRF .6344 RTF .6247 CRT .8634 CRS -.7338 CST -.3131
 FDE -.6464 FRA 2.5657 FC-23.8366 BSP 1097 SGB 1292.2 R23 .3467 R13 .6679 LSA 37.5 MSA 21.7 SSA 2.3
 BDE .3188 BRA .2593 BC3 1.6703 FSP 2222 SG1 1181.8 SG2 522.5 THA 14.34 EL1 31.2 EL2 8.4 ALF 43.91

LAUNCH DATE MAY 25 1971

FLIGHT TIME 180.00

ARRIVAL DATE NOV 21 1971

HELIOCENTRIC CONIC

DISTANCE 427.743

EARTH TO MARS

RL 151.52 LAL -.00 LOL 243.16 VL 32.180 GAL 1.52 AZL 91.30 HCA 138.16 SMA 185.30 ECC .18415 INC 1.3029 V1 29.404
 RP 212.14 LAP -.87 LOP 21.32 VP 23.129 GAP 6.60 AZP 89.03 TAL 9.83 TAP 147.99 RCA 151.18 APO 219.42 V2 25.864
 RC 128.706 GL -14.59 GP -5.02 ZAL 79.26 ZAP 109.97 ETS 181.57 ZAE 152.87 ETE 190.33 ZAC 95.88 ETC 276.24 LVI -11.29

PLANETOCENTRIC CONIC

C3 8.431 VHL 2.904 DLA -27.89 RAL 329.72 RAD 6637.2 VEL 11.338 PTH 6.39 VHP 3.033 DPA -23.96 RAP 315.86 ECC 1.1388
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 4 13 2370.82 -.92 60.99 179.49 137.57 15 43 44 1370.8 17.29 44.87
 60.00 16 22 27 2162.72 3.71 46.70 183.95 130.16 16 58 30 1162.7 19.31 27.94
 70.00 18 5 12 1860.56 8.83 26.03 187.77 123.13 18 36 12 860.6 21.55 4.92
 80.00 20 17 7 1447.51 14.16 357.80 190.89 116.57 20 41 15 447.5 23.89 334.84
 90.00 22 28 18 1024.51 17.86 328.44 192.64 112.30 22 45 22 24.5 25.50 304.02
 100.00 22 59 59 6210.03 14.16 297.08 190.89 116.57 24 43 29 5210.0 23.89 273.91
 110.00 23 4 38 6195.42 8.03 292.85 187.77 123.13 24 47 54 5195.4 21.55 271.74

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2294 TRA -.1989 TC3-1.8509 BAU .2148 SGT 1248.0 SGR 589.4 SG3 1339.9 ST 23.6 SR 22.1 SS 28.9
 RDE -.2187 RRA .1378 RC3 -.4438 FAU .23934 RRT .4565 RRF .6806 RTF .6552 CRT .8781 CRS -.7174 CST -.3197
 FDE -.6242 FRA 2.6613 FC-24.5731 BSP 1321 SGB 1380.2 R23 .3187 R13 .7216 LSA 37.4 MSA 21.9 SSA 2.2
 BDE .3170 BRA .2420 BC3 1.9034 FSP 2290 SG1 1282.3 SG2 510.3 THA 14.51 EL1 31.4 EL2 8.0 ALF 42.75

LAUNCH DATE MAY 25 1971

FLIGHT TIME 182.00

ARRIVAL DATE NOV 23 1971

HELIOCENTRIC CONIC

DISTANCE 431.932

EARTH TO MARS

RL 151.52 LAL -.00 LOL 243.16 VL 32.175 GAL 1.49 AZL 91.28 HCA 139.38 SMA 185.22 ECC .18372 INC 1.2816 V1 29.404
 RP 212.43 LAP -.83 LOP 22.53 VP 23.087 GAP 6.41 AZP 89.03 TAL 9.65 TAP 149.01 RCA 151.19 APO 219.25 V2 25.832
 RC 130.999 GL -14.40 GP -5.20 ZAL 79.58 ZAP 107.91 ETS 181.40 ZAE 150.85 ETE 189.91 ZAC 95.79 ETC 276.04 LVI -10.86

PLANETOCENTRIC CONIC

C3 8.373 VHL 2.894 DLA -27.60 RAL 329.98 RAD 6637.2 VEL 11.335 PTH 6.39 VHP 2.996 DPA -24.37 RAP 315.01 ECC 1.1378
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 3 41 2376.25 -1.20 61.22 179.61 137.56 15 43 18 1376.2 17.03 45.12
 60.00 16 21 13 2170.01 3.39 47.05 184.02 130.18 16 57 23 1170.0 19.02 28.33
 70.00 18 2 43 1871.56 8.42 26.62 187.78 123.22 18 33 54 871.6 21.21 5.58
 80.00 20 11 35 1468.10 13.53 359.00 190.79 116.87 20 36 3 468.1 23.44 336.00
 90.00 22 15 48 1067.52 16.73 331.08 192.34 113.74 22 33 36 67.5 24.83 306.98
 100.00 22 54 27 6230.61 13.53 298.28 190.79 116.87 24 38 18 5230.6 23.44 275.27
 110.00 23 2 9 6206.42 8.42 293.44 187.78 123.22 24 45 36 5206.4 21.21 272.41

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2347 TRA -.1758 TC3-2.0926 BAU .2403 SGT 1355.3 SGR 594.6 SG3 1374.6 ST 24.0 SR 21.6 SS 28.9
 RDE -.2132 RRA .1403 RC3 -.4802 FAU .24447 RRT .5083 RRF .6859 RTF .7351 CRT .8915 CRS -.6991 CST -.3234
 FDE -.5957 FRA 2.7498 FC-25.2776 BSP 1559 SGB 1480.0 R23 .2936 R13 .7652 LSA 37.2 MSA 22.1 SSA 2.2
 BDE .3171 BRA .2249 BC3 2.1470 FSP 2354 SG1 1393.8 SG2 498.0 THA 14.46 EL1 31.5 EL2 7.5 ALF 41.60

LAUNCH DATE MAY 25 1971

FLIGHT TIME 104.00

ARRIVAL DATE NOV 25 1971

HELIOCENTRIC CONIC

DISTANCE 436.122

EARTH TO MARS

RL 151.52 LAL -.00 LOL 243.16 VL 32.171 GAL 1.46 AZL 91.26 HCA 140.56 SMA 185.16 ECC .18337 INC 1.2592 V1 29.404
RP 212.72 LAP -.80 LOP 23.73 VP 23.044 GAP 6.22 AZP 89.03 TAL 9.45 TAP 150.02 RCA 151.21 APO 219.11 V2 25.709
RC 133.312 GL -14.18 GP -5.36 ZAL 70.92 ZAP 105.85 ETS 181.22 ZAE 148.81 ETE 189.53 ZAC 95.70 ETC 275.85 LVI -10.42

PLANETOCENTRIC CONIC

C3 8.319 VHL 2.884 DLA -27.28 RAL 330.26 RAD 6637.2 VEL 11.333 PTH 6.39 VHP 2.963 DPA -24.78 RAP 314.16 ECC 1.1369
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 3 8 2382.30 -1.50 61.47 179.75 137.56 15 42 50 1362.3 16.74 45.39
60.00 16 19 55 2178.02 3.04 47.43 184.11 130.21 16 56 13 1178.0 18.69 28.77
70.00 18 0 7 1883.40 7.97 27.25 187.61 123.32 18 31 30 883.4 20.83 6.30
80.00 20 6 4 1489.12 12.88 .23 190.72 117.17 20 30 53 489.1 22.96 337.38
90.00 22 5 21 1104.46 15.72 333.33 192.12 113.81 22 23 49 104.9 24.20 309.51
100.00 22 48 56 6251.63 12.86 299.50 190.72 117.17 24 33 8 5251.6 22.96 278.65
110.00 22 59 33 6218.26 7.97 294.07 187.81 123.32 24 43 12 5218.3 20.83 273.13

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2393 TRA -.1515 TC3-2.3416 BAU .2667 SGT 1471.4 SGR 601.1 S63 1408.0 ST 24.4 SR 21.2 SS 28.9
RDE -.2076 RRA .1430 RC3 -.5177 FAU .24927 RRT .5552 RRF .7108 RTF .7755 CRT .9038 CRS -.6803 CST -.3280
FDE -.5661 FRA 2.8429 FC-25.9424 B8P 1812 SGB 1389.5 R23 .2726 R13 .8004 LSA 37.1 MSA 22.3 SSA 2.2
BDE .3188 BRA .2084 BC3 2.3981 F8P 2410 S61 1513.3 S62 486.1 THA 14.29 EL1 31.5 EL2 7.0 ALF 40.53

LAUNCH DATE MAY 25 1971

FLIGHT TIME 186.00

ARRIVAL DATE NOV 27 1971

HELIOCENTRIC CONIC

DISTANCE 440.314

EARTH TO MARS

RL 151.52 LAL -.00 LOL 243.16 VL 32.168 GAL 1.43 AZL 91.24 HCA 141.76 SMA 185.11 ECC .18307 INC 1.2358 V1 29.404
RP 213.01 LAP -.76 LOP 24.92 VP 23.003 GAP 6.03 AZP 89.03 TAL 9.24 TAP 151.00 RCA 151.22 APO 218.99 V2 25.766
RC 135.643 GL -13.96 GP -5.57 ZAL 80.28 ZAP 103.80 ETS 181.03 ZAE 146.78 ETE 189.17 ZAC 95.61 ETC 275.65 LVI -9.97

PLANETOCENTRIC CONIC

C3 8.269 VHL 2.876 DLA -26.93 RAL 330.57 RAD 6637.1 VEL 11.331 PTH 6.38 VHP 2.933 DPA -25.20 RAP 313.30 ECC 1.1361
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 2 32 2388.97 -1.84 61.73 179.90 137.55 15 42 21 1389.0 16.42 45.70
60.00 16 18 33 2186.77 2.66 47.85 184.22 130.23 16 55 0 1186.8 18.34 29.23
70.00 17 57 24 1896.09 7.50 27.92 187.86 123.42 18 29 0 896.1 20.43 7.06
80.00 20 0 34 1510.58 12.21 1.47 190.67 117.46 20 25 44 510.6 22.46 338.78
90.00 21 56 1 1138.27 14.78 335.37 191.95 114.38 22 14 59 138.3 23.58 311.79
100.00 22 43 26 6273.09 12.21 300.74 190.67 117.46 24 27 59 5273.1 22.46 278.05
110.00 22 56 51 6230.95 7.50 294.75 187.86 123.42 24 40 42 5230.9 20.43 273.89

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2428 TRA -.1257 TC3-2.5978 BAU .2937 SGT 1595.3 SGR 607.8 S63 1437.0 ST 24.7 SR 20.7 SS 28.8
RDE -.2017 RRA .1457 RC3 -.5551 FAU .25335 RRT .5980 RRF .7342 RTF .8089 CRT .9148 CRS -.6573 CST -.3237
FDE -.5264 FRA 2.9265 FC-26.5266 B8P 2078 SGB 1707.2 R23 .2534 R13 .8293 LSA 36.8 MSA 22.3 SSA 2.2
BDE .3156 BRA .1924 BC3 2.6564 F8P 2461 S61 1640.1 S62 473.9 THA 14.03 EL1 31.5 EL2 6.5 ALF 39.54

LAUNCH DATE MAY 25 1971

FLIGHT TIME 188.00

ARRIVAL DATE NOV 29 1971

HELIOCENTRIC CONIC

DISTANCE 444.508

EARTH TO MARS

RL 151.52 LAL -.00 LOL 243.16 VL 32.166 GAL 1.39 AZL 91.21 HCA 142.95 SMA 185.07 ECC .18283 INC 1.2111 V1 29.404
RP 213.31 LAP -.73 LOP 26.12 VP 22.962 GAP 5.85 AZP 89.03 TAL 9.01 TAP 151.97 RCA 151.23 APO 218.91 V2 25.732
RC 137.991 GL -13.71 GP -5.77 ZAL 80.67 ZAP 101.78 ETS 180.84 ZAE 144.71 ETE 188.84 ZAC 95.50 ETC 275.46 LVI -9.52

PLANETOCENTRIC CONIC

C3 8.223 VHL 2.868 DLA -26.56 RAL 330.88 RAD 6637.1 VEL 11.329 PTH 6.38 VHP 2.908 DPA -25.61 RAP 312.46 ECC 1.1353
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 13 1 53 2396.27 -2.20 62.05 180.08 137.54 15 41 49 1396.3 16.06 46.03
60.00 16 17 5 2196.23 2.24 48.31 184.35 130.25 16 53 42 1196.2 17.96 29.74
70.00 17 54 35 1909.59 6.99 28.64 187.92 123.52 18 26 24 909.6 20.00 7.87
80.00 19 55 4 1532.46 11.52 2.72 190.64 117.74 20 20 36 532.5 21.94 340.19
90.00 21 47 24 1170.20 13.80 337.27 191.83 114.89 22 6 54 170.2 22.96 313.92
100.00 22 37 56 1006.93 11.52 324.09 190.64 117.74 22 54 42 6.9 21.94 301.56
110.00 22 54 1 6244.44 6.99 295.46 187.92 123.52 24 38 5 5244.4 20.00 274.70

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2437 TRA -.0974 TC3-2.8519 BAU .3203 SGT 1720.3 SGR 616.9 S63 1467.6 ST 24.7 SR 20.3 SS 28.8
RDE -.1986 RRA .1479 RC3 -.5969 FAU .25820 RRT .6400 RRF .7379 RTF .8402 CRT .9261 CRS -.6319 CST -.3464
FDE -.5140 FRA 2.9830 FC-27.1846 B8P 2372 SGB 1827.6 R23 .2319 R13 .8569 LSA 36.8 MSA 22.2 SSA 2.2
BDE .3131 BRA .1771 BC3 2.9137 F8P 2487 S61 1768.5 S62 461.1 THA 13.89 EL1 31.4 EL2 6.0 ALF 38.94

LAUNCH DATE MAY 25 1971

FLIGHT TIME 190.00

ARRIVAL DATE DEC 1 1971

HELIOCENTRIC CONIC

DISTANCE 448.701

EARTH TO MARS

RL 151.52 LAL -.00 LOL 243.16 VL 32.164 GAL 1.35 AZL 91.19 HCA 144.14 SMA 185.05 ECC .18265 INC 1.1851 V1 29.404
RP 213.61 LAP -.69 LOP 27.31 VP 22.921 GAP 5.67 AZP 89.04 TAL 8.77 TAP 152.91 RCA 151.25 APO 218.85 V2 25.697
RC 140.356 GL -13.45 GP -5.97 ZAL 81.09 ZAP 99.74 ETS 180.63 ZAE 142.66 ETE 188.53 ZAC 95.38 ETC 275.26 LVI -9.06

PLANETOCENTRIC CONIC

C3 8.181 VHL 2.860 DLA -26.16 RAL 331.22 RAD 6637.1 VEL 11.327 PTH 6.38 VHP 2.886 DPA -26.03 RAP 311.62 ECC 1.1346
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 1 12 2404.25 -2.60 62.39 180.27 137.52 15 41 16 1404.3 15.68 46.40
60.00 16 15 33 2206.48 1.79 48.80 184.50 130.27 16 52 20 1206.5 17.54 30.28
70.00 17 51 38 1923.97 6.45 29.40 188.01 123.61 18 23 42 924.0 19.53 8.73
80.00 19 49 33 1554.91 10.80 4.01 190.63 118.01 20 15 28 554.9 21.39 341.64
90.00 21 39 15 1201.15 12.98 339.11 191.75 115.35 21 59 16 201.1 22.33 315.97
100.00 22 32 25 1029.38 10.80 325.37 190.63 118.01 22 49 34 29.4 21.39 303.00
110.00 22 51 5 6258.83 6.45 296.22 188.01 123.61 24 35 23 5258.8 19.53 275.55

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.2483 TRA -.0724 TC3-3.1378 BAU .3501 SGT 1869.6 SGR 624.2 S63 1488.0 ST 25.1 SR 19.6 SS 28.6
RDE -.1891 RRA .1523 RC3 -.6317 FAU .26003 RRT .6702 RRF .7783 RTF .8559 CRT .9331 CRS -.5982 CST -.3008
FDE -.4241 FRA 3.1069 FC-27.5184 B8P 2624 SGB 1971.0 R23 .2277 R13 .8699 LSA 36.0 MSA 23.2 SSA 2.2
BDE .3121 BRA .1687 BC3 3.2007 F8P 2566 S61 1918.7 S62 451.4 THA 13.37 EL1 31.4 EL2 5.7 ALF 37.49

LAUNCH DATE MAY 25 1971 FLIGHT TIME 192.00 ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC DISTANCE 452.006 EARTH TO MARS

RL 151.52 LAL -.00 LOL 243.16 VL 32.164 GAL 1.31 AZL 91.16 HCA 145.33 SMA 185.04 ECC .18252 INC 1.1578 V1 29.404
 RP 213.92 LAP -.66 LOP 26.49 VP 22.881 GAP 5.50 AZP 89.05 TAL 8.51 TAP 153.84 RCA 151.27 APO 218.81 V2 25.662
 RC 142.739 GL -13.16 GP -6.18 ZAL 81.52 ZAP 97.73 ETS 180.42 ZAE 140.62 ETE 188.24 ZAC 95.25 ETC 275.07 LVI -8.60

PLANETOCENTRIC CONIC

C3 8.142 VML 2.853 DLA -25.73 RAL 331.57 RAD 6637.1 VEL 11.325 PTH 6.38 VHP 2.867 DPA -26.44 RAP 310.80 ECC 1.1340

LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

50.00 15 0 27 2412.88 -3.04 62.75 180.48 137.50 15 40 40 1412.9 15.26 46.79
 60.00 16 13 35 2217.47 1.31 49.32 184.66 130.28 16 50 53 1217.5 17.09 30.86
 70.00 17 48 35 1939.15 5.88 30.20 188.11 123.70 18 20 54 939.2 19.03 9.62
 80.00 19 44 2 1577.81 10.07 5.31 190.64 118.26 20 10 19 577.8 20.82 343.09
 90.00 21 31 27 1231.36 12.10 340.88 191.70 115.76 21 51 59 231.4 21.68 317.95
 100.00 22 26 53 1052.28 10.07 326.68 190.64 118.26 22 44 26 52.3 20.82 304.46
 110.00 22 48 1 6274.01 5.88 297.03 188.11 123.70 24 32 35 5274.0 19.03 276.45

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2490 TRA -.0442 TC3-3.4154 BAU .3789 SGT 2014.7 SGR 633.2 SG3 1507.2 ST 25.2 SR 19.1 SS 28.5
 RDE -.1826 RRA .1555 RC3 -.7602 FAU .26239 RRT .7014 RRF .7984 RTF .8737 CRT .9410 CRS -.5675 CST -.2889
 FDE -.3689 FRA 3.1813 FC-27.8981 BSP 2906 SGB 2111.9 R23 .2171 R13 .8854 LSA 35.5 MSA 23.5 SSA 2.2
 BDE .3088 BRA .1617 BC3 3.4806 FSP 2596 SG1 2065.5 SG2 440.3 THA 13.03 EL1 31.2 EL2 5.2 ALF 36.62

LAUNCH DATE MAY 25 1971 FLIGHT TIME 194.00 ARRIVAL DATE DEC 5 1971

HELIOCENTRIC CONIC DISTANCE 457.091 EARTH TO MARS

RL 151.52 LAL -.00 LOL 243.16 VL 32.164 GAL 1.27 AZL 91.13 HCA 146.51 SMA 185.04 ECC .18244 INC 1.1286 V1 29.404
 RP 214.24 LAP -.62 LOP 29.67 VP 22.842 GAP 5.32 AZP 89.06 TAL 8.24 TAP 154.75 RCA 151.28 APO 218.80 V2 25.627
 RC 145.138 GL -12.85 GP -6.40 ZAL 81.99 ZAP 95.75 ETS 180.20 ZAE 138.58 ETE 187.97 ZAC 95.11 ETC 274.88 LVI -8.14

PLANETOCENTRIC CONIC

C3 8.108 VML 2.847 DLA -25.27 RAL 331.94 RAD 6637.1 VEL 11.324 PTH 6.38 VHP 2.852 DPA -26.85 RAP 309.99 ECC 1.1334

LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

50.00 14 59 38 2422.19 -3.50 63.14 180.71 137.48 15 40 0 1422.2 14.80 47.21
 60.00 16 12 11 2229.22 .79 49.88 184.83 130.29 16 49 20 1229.2 16.61 31.48
 70.00 17 45 24 1955.17 5.27 31.05 188.22 123.79 18 17 59 955.2 18.50 10.56
 80.00 19 38 29 1601.26 9.31 6.64 190.68 118.50 20 5 10 601.3 20.22 344.97
 90.00 21 23 55 1261.21 11.21 342.82 191.67 116.13 21 44 56 261.2 21.02 319.89
 100.00 22 21 20 1075.73 9.31 328.00 190.68 118.50 22 39 16 75.7 20.22 305.94
 110.00 22 44 30 1001.99 5.27 319.98 188.22 123.79 23 1 32 2.0 18.50 299.48

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2481 TRA -.0146 TC3-3.6959 BAU .4079 SGT 2163.4 SGR 643.4 SG3 1524.7 ST 25.2 SR 18.5 SS 28.5
 RDE -.1757 RRA .1592 RC3 -.7100 FAU .26440 RRT .7300 RRF .8177 RTF .8882 CRT .9480 CRS -.5299 CST -.2693
 FDE -.3023 FRA 3.2580 FC-28.2329 BSP 3200 SGB 2257.0 R23 .2086 R13 .8982 LSA 34.8 MSA 23.8 SSA 2.2
 BDE .3040 BRA .1598 BC3 3.7635 FSP 2631 SG1 2215.8 SG2 429.3 THA 12.74 EL1 30.8 EL2 4.8 ALF 35.83

LAUNCH DATE MAY 25 1971 FLIGHT TIME 196.00 ARRIVAL DATE DEC 7 1971

HELIOCENTRIC CONIC DISTANCE 461.286 EARTH TO MARS

RL 151.52 LAL -.00 LOL 243.16 VL 32.165 GAL 1.25 AZL 91.10 HCA 147.69 SMA 185.06 ECC .18242 INC 1.0977 V1 29.404
 RP 214.55 LAP -.59 LOP 30.85 VP 22.803 GAP 5.15 AZP 89.07 TAL 7.96 TAP 155.65 RCA 151.30 APO 218.81 V2 25.591
 RC 147.555 GL -12.52 GP -6.62 ZAL 82.47 ZAP 93.80 ETS 179.97 ZAE 136.56 ETE 187.72 ZAC 94.96 ETC 274.70 LVI -7.67

PLANETOCENTRIC CONIC

C3 8.077 VML 2.842 DLA -24.78 RAL 332.32 RAD 6637.0 VEL 11.322 PTH 6.38 VHP 2.840 DPA -27.27 RAP 309.20 ECC 1.1329

LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

50.00 14 58 44 2432.21 -4.01 63.56 180.95 137.45 15 39 17 1432.2 14.31 47.66
 60.00 16 10 20 2241.78 .24 50.48 185.02 130.30 16 47 42 1241.8 16.09 32.14
 70.00 17 42 5 1972.05 4.63 31.93 188.35 123.88 18 14 57 972.1 17.94 11.53
 80.00 19 32 53 1625.28 8.52 7.99 190.73 118.72 19 59 58 625.3 19.58 346.08
 90.00 21 18 33 1290.95 10.31 344.35 191.87 116.48 21 38 4 291.0 20.34 321.81
 100.00 22 15 45 1099.76 8.52 329.36 190.73 118.72 22 34 4 99.8 19.58 307.45
 110.00 22 41 31 1018.87 4.63 320.85 188.35 123.88 22 58 30 18.9 17.94 300.48

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2481 TRA .0158 TC3-3.9827 BAU .4378 SGT 2317.7 SGR 654.8 SG3 1539.8 ST 25.0 SR 17.9 SS 28.5
 RDE -.1686 RRA .1830 RC3 -.7510 FAU .26601 RRT .7561 RRF .8359 RTF .501 CRT .9542 CRS -.4907 CST -.2489
 FDE -.2324 FRA 3.3317 FC-28.5138 BSP 3494 SGB 2408.4 R23 .2021 R13 .9087 LSA 34.2 MSA 24.2 SSA 2.2
 BDE .2983 BRA .1638 BC3 4.0529 FSP 2632 SG1 2371.8 SG2 418.8 THA 12.45 EL1 30.4 EL2 4.4 ALF 35.07

LAUNCH DATE MAY 25 1971 FLIGHT TIME 198.00 ARRIVAL DATE DEC 9 1971

HELIOCENTRIC CONIC DISTANCE 465.480 EARTH TO MARS

RL 151.52 LAL -.00 LOL 243.16 VL 32.166 GAL 1.18 AZL 91.06 HCA 148.87 SMA 185.08 ECC .18244 INC 1.0650 V1 29.404
 RP 214.88 LAP -.55 LOP 32.03 VP 22.764 GAP 4.99 AZP 89.09 TAL 7.66 TAP 156.53 RCA 151.32 APO 218.85 V2 25.554
 RC 149.988 GL -12.18 GP -6.86 ZAL 82.98 ZAP 91.87 ETS 179.73 ZAE 134.56 ETE 187.48 ZAC 94.79 ETC 274.52 LVI -7.19

PLANETOCENTRIC CONIC

C3 8.049 VML 2.837 DLA -24.26 RAL 332.70 RAD 6637.0 VEL 11.321 PTH 6.37 VHP 2.831 DPA -27.68 RAP 308.44 ECC 1.1325

LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

50.00 14 57 46 2442.96 -4.55 64.01 181.20 137.41 15 38 29 1443.0 13.79 48.14
 60.00 16 8 23 2253.16 -1.35 51.12 185.23 130.30 16 45 58 1255.2 15.53 32.83
 70.00 17 38 38 1989.81 3.96 32.87 188.49 123.95 18 11 48 989.8 17.34 12.57
 80.00 19 27 14 1649.95 7.71 9.37 190.80 118.93 19 54 43 649.9 18.92 347.61
 90.00 21 9 17 1320.77 9.40 346.06 191.70 116.79 21 31 18 320.8 19.83 323.71
 100.00 22 10 5 1124.42 7.71 330.74 190.80 118.93 22 28 50 124.4 18.92 308.98
 110.00 22 38 4 1036.63 3.96 321.78 188.49 123.95 22 55 21 36.6 17.34 301.49

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.2421 TRA .0471 TC3-4.2695 BAU .4672 SGT 2473.6 SGR 666.7 SG3 1549.3 ST 24.8 SR 17.2 SS 28.6
 RDE -.1811 RRA .1873 RC3 -.7907 FAU .26650 RRT .7790 RRF .8527 RTF .9095 CRT .9596 CRS -.4468 CST -.2230
 FDE -.1536 FRA 3.4051 FC-28.6649 BSP 3794 SGB 2561.9 R23 .1981 R13 .9170 LSA 33.4 MSA 24.6 SSA 2.2
 BDE .2908 BRA .1738 BC3 4.3421 FSP 2676 SG1 2529.0 SG2 408.8 THA 12.18 EL1 29.9 EL2 4.0 ALF 34.40