



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

DMS-DR-2099
NASA CR-134,438

DATA REPORT FOR TESTS ON THE HEAT TRANSFER
EFFECTS OF THE 0.0175-SCALE
ROCKWELL INTERNATIONAL SPACE SHUTTLE VEHICLE MODEL
22-0T IN THE AEDC 50-INCH B WIND TUNNEL (OH4B)

VOLUME 2 OF 3

SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT

JOHNSON SPACE CENTER

HOUSTON, TEXAS

DATA MANagement services

SPACE DIVISION



CHRYSLER
CORPORATION

January, 1975

DMS-DR-2099
NASA CR-134,438

DATA REPORT FOR TESTS ON THE HEAT TRANSFER
EFFECTS OF THE 0.0175-SCALE
ROCKWELL INTERNATIONAL SPACE SHUTTLE VEHICLE MODEL
22-0T IN THE AEDC 50-INCH B WIND TUNNEL (OH4B)
VOLUME 2 OF 3

By

T. F. Foster and W. J. Grifall,
Rockwell International Space Division
W. Martindale, AEDC

Prepared under NASA Contract Number NAS9-13247

By

Data Management Services
Chrysler Corporation Space Division
New Orleans, La. 70189

for

Engineering Analysis Division
Johnson Space Center
National Aeronautics and Space Administration
Houston, Texas

DATA REPORT FOR TESTS ON THE HEAT TRANSFER
EFFECTS OF THE 0.0175-SCALE
ROCKWELL INTERNATIONAL SPACE SHUTTLE VEHICLE MODEL
22-0T IN THE AEDC 50-INCH B WIND TUNNEL (OH4B)

By

T. F. Foster and W. J. Grifall,
Rockwell International Space Division
W. Martindale, AEDC

ABSTRACT

Results of wind tunnel heat transfer tests of 0.0175-scale Rockwell International Space Shuttle Vehicle configurations for orbiter alone, tank alone, and orbiter plus external tank are presented in this report. Body flap shielding of SSME's during simulated entry was also investigated.

The tests were conducted at Mach 8 for thirteen Reynolds number per foot values ranging from 0.5×10^6 to 3.72×10^6 .

INDEX OF MODEL FIGURES

Figure	Title	Page
1.	Model instrumentation reference system.	60
2.	Orbiter instrumentation.	
a.	Instrumented Nozzle	61
b.	Instrumented Base Plate	62
c.	Wing Leading Edge Clusters B & C T/C Locations	63
d.	External Tank T/C Locations Side Views	64
e.	External Tank T/C Locations (Locations around plumbing lines) Top View	65
3.	Model photographs.	
a.	Second Stage Configuration Front View	66
b.	Second Stage Configuration Side View	67
c.	Re-entry Nozzle Heating Installation	68

INDEX OF DATA FIGURES

FIGURE NUMBER	TITLE	COEFFICIENT SCHEDULE	VARYING PARAMETERS	PAGE NUMBER
Fig. 4	Heat Transfer Coefficients on External Tank.	A	HAW/HT	1-15
Fig. 5	Heat Transfer Coefficients on Orbiter Fuselage.	B	HAW/HT	16-20
Fig. 6	Heat Transfer Coefficients on Lower Wing Surface of Orbiter.	C	HAW/HT	21-29
Fig. 7	Heat Transfer Coefficients on Upper Wing Surface of Orbiter.	C	HAW/HT	30-33
Fig. 8	Heat Transfer Coefficients on Left Vertical Tail of Orbiter.	D	HAW/HT	34-36
Fig. 9	Heat Transfer Coefficients on Orbiter OMS Pod.	E	HAW/HT	37
Fig. 10	Heat Transfer Coefficients on Orbiter, $Y = 0.875$.	B	HAW/HT	38-40
Fig. 11	Heat Transfer Coefficients on Orbiter Fuselage, $Z = 7.525$.	F	HAW/HT	41
Fig. 12	Heat Transfer Coefficients on Orbiter Left Main Nozzle.	G	HAW/HT	42-44
Fig. 13	Heat Transfer Coefficients on Orbiter RCS Center.	F	HAW/HT	45

INDEX OF DATA FIGURES (Concluded)

COEFFICIENT SCHEDULE:

- A: HI/HO, HU/HO vs X/LT
- B: HI/HO, HU/HO vs X/L
- C: HI/HO, HU/HO vs X/C
- D: HU/HO vs X/C
- E: HI/HO vs X/L
- F: HU/HO vs X/L
- G: HU/HO vs X

NOTE: A large volume of working data plots were generated and released by the Data Management Services during initial data processing activities. However, for documentation purposes, only a small representative selection of plots are included. The data will remain on file and be available for any future applications.

INTRODUCTION

The experimental investigation described in this report was performed to obtain aerodynamic heating rate data in both ascent and entry flight regimes of the Space Shuttle Vehicle. Second stage ascent interference heating was investigated with the orbiter alone, tank alone and orbiter plus external tank configurations at angles of attack of -10° , -5° , 0° , and 5° and sideslip angles of 0° and -2° .

Orbiter entry heating data was obtained over an angle of attack range of 25° to 45° for sideslip angles of 0° and 5° . Effects of control surface deflections and body flap nozzle shielding were also investigated.

The test program was conducted in the Arnold Engineering Development Center VKF 50-inch B tunnel at Mach 8 for free-stream Reynolds number per foot values from 0.5×10^6 to 3.72×10^6 .

NOMENCLATURE

<u>Symbol</u>	<u>Plot Symbol</u>	<u>Definition</u>
b		model skin thickness, span, in
c		chord, in
c_p		specific heat of model material, BTU/lbm - °R
h		heat transfer coefficient, BTU/ft ² -sec-°R
h_{ref}	HREF	reference heat transfer coefficient, BTU/ft ² -sec-R
h_i/h_o	HI/HO	ratio of interference heat transfer coefficient to stagnation heat transfer coefficient
h_i/h_u	HI/HU	ratio of interference heat transfer coefficient to undisturbed heat transfer coefficient
h_u/h_o	HU/HO	ratio of undisturbed heat transfer coefficient to stagnation heat transfer coefficient
H		enthalpy, BTU/lbm
r	HAW/HT	adiabatic wall temperature ratio, T_{aw}/T_o (recovery factor). NOTE: Where HAW/HT = 0.0 in displayed data, the heat transfer coefficient has been calculated using a recovery factor calculated from $T_{aw}/T_o = (0.867 + 0.133 \sin^{1.55} \delta)$, where $\delta = (\alpha + \theta)$. Alpha is the model angle of attack and theta is local surface angle.
L		length, in
M	MACH	Mach number
Re	RN/L	unit Reynolds number, per foot
t		time, sec
T		temperature, °R
T_o		stagnation temperature, °R
T_i		initial temperature, °R

NOMENCLATURE - Continued

<u>Symbol</u>	<u>Plot Symbol</u>	<u>Definition</u>
T_{aw}		adiabatic wall temperature, °R
Q_i		initial heat transfer rate, BTU/sec
T/C		thermocouple
W		model material density, lbm/ft ³
x	X	axial distance from nose to corresponding component, in
x/c	X/C	chordwise location, fraction of local chord
x/L	X/L	longitudinal location, fraction of length
y	Y	spanwise distance from centerline, in
x/LT	X/LT	longitudinal location on tank, fraction of length
z	Z	waterplane distance, in
2Y/B	2Y/B	spanwise location of semispan
Z/BV	Z/BV	vertical tail location, fraction of height
δ_a		aileron deflection angle, degrees
δ_{BF}	B.FLAP	body flap deflection angle, degrees
δ_r		rudder deflection angle, degrees
β	Beta	sideslip angle, degrees
α	ALPHA	angle of attack, degrees
δ_e	ELEVON	elevon deflection angle, degrees
ϕ	PHI	radial location on tank, degrees
ϕ	PHIN	radial location on orbiter nozzle, degrees

NOMENCLATURE - Concluded

Subscripts

aw	adiabatic wall condition
i	initial condition
O	Orbiter
T	tank
V	vertical tail
w	wall conditions
o	stagnation conditions

REMARKS

During the course of mated configuration testing, it was felt that the forward canopy to wing bottom surface seam may have affected transition. This seam was repaired with dental plaster and 48 transition study runs were made at the end of the test with the orbiter alone configuration. These runs (177-224) consisted of eleven Re/ft values at two angles of attack, and demonstrated that the seam did not prematurely trip the boundary layer.

The original run schedule did not include obtaining data from the 11 T/C's on the windshield, but during the test high heating rates were observed in the canopy area. Therefore, three runs (#31, 32, and 33) were added to the run schedule to obtain this data. The first 11 T/C's of the data acquisition system switch position No. 1 were replaced with the windshield T/C's for these runs.

CONFIGURATIONS INVESTIGATED

The 22-0T model is a 0.0175-scale replica of the Vehicle 3 configuration Rockwell International Space Shuttle Orbiter and external tank per Drawing Number VL70-000139. The model was a thin skin thermocouple model instrumented with 428 iron-constantan thermocouples and was sting mounted through the orbiter base. The tank was sting mounted to the orbiter sting.

Provisions were made to test elevon deflections of 0° , $+5^\circ$, $+10^\circ$; body flap deflections of 0° , $+10^\circ$; and rudder flare angles of 0° and 40° . Entry orbiter nozzle heating data was obtained by replacing the orbiter main sting with an instrumented base plate and nozzle and an offset sting mounted through the vertical tail area. The offset sting simulated a rudder flare deflection angle of 40° .

The main model structure is 15-5 PH stainless steel with instrumented areas of 15-5 PH and 17-7 PH. Thermocouple locations and local skin thicknesses are presented in Table 4. The model instrumentation reference system is described in Figure 1. The configurations tested are described below with the component definitions given in Table 3.

B ₁₇ , C ₇ , M ₄ , F ₅ , W ₁₀₃ , E ₂₂ , V ₇ , R ₅	Orbiter alone (O ₁)
B ₁₇ , C ₇ , M ₄ , F ₅ , W ₁₀₃ , E ₂₂ , V ₇ , R ₅ , T ₁₀	Orbiter plus tank (O ₁ + T ₁₀)
T ₁₀	Tank alone (T ₁₀)
B ₁₇ , C ₇ , M ₄ , F ₅ , W ₁₀₃ , E ₂₂ , V ₇ , R ₅ , N	Descent orbiter alone nozzle heating (O ₂)

TEST FACILITY DESCRIPTION

The Arnold Engineering Development Center (AEDC) is an Air Force Facility located in Tullahoma, Tennessee. The tunnel used, Tunnel B, is located in the Von Karman Facility portion of this center. Engineering and other technical operations in this tunnel are performed by contractor personnel of ARO, Inc.

Tunnel B is a continuous, closed circuit, variable density wind tunnel with an axisymmetric contoured nozzle and a 50-inch diameter test section. The tunnel can be operated at a nominal Mach number of 6 or 8 at stagnation pressures from 20 to 300 and 50 to 900 psia, respectively, and at a stagnation temperature of up to 1350°R. The model may be injected into the tunnel for a test run and then retracted for model cooling or model changes without interrupting the tunnel flow.

TEST PROCEDURES

The model was installed upright for second stage testing and offset-sting nozzle heating and transition studies. The orbiter was inverted for entry, orbiter alone testing. All configurations were leveled in both pitch and yaw planes. Yaw angles were obtained by combinations of roll and pitch with the tunnel model support system.

All instrumentation leads were routed internally through the model support apparatus to the data acquisition patching network outside the tunnel. Two hundred ninety one thermocouples were connected to the instrumentation patch board. Since the data acquisition system capability was ninety-seven recorded thermocouples per run, three runs were necessary for one test point. Each run of the test point series corresponded to one switch position (97 channels) of the data acquisition system.

The model was injected into the flow and remained on centerline for approximately one second. After retraction, the model was cooled to an isothermal state by air from high pressure manifolds.

For orbiter transition studies and nozzle heating tests, the orbiter base and main sting were removed and replaced with an instrumented base plate and nozzle. The model was then mounted with an offset sting through the vertical tail area. Only two main engines were simulated and only the left nozzle was instrumented. Shadowgraphs were taken for each run of the program.

DATA REDUCTION

Thermocouple outputs were recorded on magnetic tape at the rate of 20 times per second from the start of the injection cycle until about 4 seconds after the model reached the tunnel centerline. The heat transfer coefficient, h , was computed from the relation

$$h = Wbc_p \frac{d[\ln \left(\frac{T_o - T_{wi}}{T_o - T_w} \right)]}{dt}$$

where

W = model skin density, lbm/ft^3

b = model skin thickness, ft

c_p = model skin specific heat, $\text{BTU/lbm} - ^\circ\text{R}$

T_{wi} = initial model skin temperature, $^\circ\text{R}$

This relation was derived from the equation

$$h = \frac{Wbc_p \frac{dT_w}{dt}}{T_o - T_w}$$

which neglects conduction losses and the assumptions that h , W , and c_p are constants.

If conduction losses are indeed very small, then

$$\ln \left[\frac{T_o - T_{wi}}{T_o - T_w} \right]$$

versus time is very nearly linear. Even when conduction effects are significant, a small linear portion of the curve can generally be found

at early time. It is for this reason that a linear least squares curve fit of $\ln((T_o - T_{wi})/(T_o - T_w))$, begun as soon as it could be determined that the model had reached uniform flow, was used to compute the derivative

$$\frac{d[\ln (\frac{T_o - T_{wi}}{T_o - T_w})]}{dt}$$

and then h.

The lengths of the curve fits were kept as short as possible and yet be consistent with system noise characteristics. These curve fit lengths are given below:

Range	No. of Points
$32 < \frac{dT_w}{dt}$	5
$16 < \frac{dT_w}{dt} \leq 32$	7
$8 < \frac{dT_w}{dt} \leq 16$	9
$4 < \frac{dT_w}{dt} \leq 8$	13
$2 < \frac{dT_w}{dt} \leq 4$	17
$1 < \frac{dT_w}{dt} \leq 2$	25
$\frac{dT_w}{dt} < 1$	41

REFERENCE

1. Foster, T.F.: Pretest Information for Testing of the 22-0T 0.0175-Scale Thin Skin Thermocouple model in the AEDC 50-inch B Wind Tunnel. Rockwell International Publication Number SD73-SH-0237, September 4, 1973.

TABLE I. - TEST CONDITIONS

TEST : OH4B		DATE : Sept. 1973	
TEST CONDITIONS			
MACH NUMBER	REYNOLDS NUMBER (per unit length)	DYNAMIC PRESSURE (pounds/sq. inch)	STAGNATION TEMPERATURE (degrees Fahrenheit)
8	$0.5 \times 10^6/\text{ft}$	110	800
8	$0.68 \times 10^6/\text{ft}$	140	810
8	$1.0 \times 10^6/\text{ft}$	210	815
8	$1.25 \times 10^6/\text{ft}$	265	825
8	$1.50 \times 10^6/\text{ft}$	325	835
8	$1.75 \times 10^6/\text{ft}$	380	840
8	$2.00 \times 10^6/\text{ft}$	425	840
8	$2.25 \times 10^6/\text{ft}$	500	850
8	$2.50 \times 10^6/\text{ft}$	545	850
8	$2.75 \times 10^6/\text{ft}$	605	860
8	$3.00 \times 10^6/\text{ft}$	675	870
8	$3.35 \times 10^6/\text{ft}$	765	880
8	$3.72 \times 10^6/\text{ft}$	860	880
BALANCE UTILIZED: _____			
	CAPACITY:	ACCURACY:	COEFFICIENT TOLERANCE:
NF	_____	_____	_____
SF	_____	_____	_____
AF	_____	_____	_____
PM	_____	_____	_____
RM	_____	_____	_____
YM	_____	_____	_____
COMMENTS:			

TABLE II.

TEST: 0498		DATA SET/RUN NUMBER COLLATION SUMMARY										DATE: SEPT. 29, 1973									
DATA SET IDENTIFIER	CONFIGURATION	SCHD. PARAMETERS/VALUES										THERMOCOUPE HOOKUP SCHEDULE									
		a	β	RVL	BF	De	M	NO. OF RUNS	1	2	3	4	5	6	7	8	9	10			
(JTK)001	0, T10	-10	0	3.72	0	0	8	3	10	11	12										
		-5	0					3	7	8	9										
		0	0					3	1	2	3										
		5	0					3	4	5	6										
(JTK)002		0	-2					3	13	14	15										
		0	0	3.72				3	1	2	3										
(JTK)003		-10	0	0.68				3	25	26	27										
		-5	0					3	21	23	24										
		0	0					3	16	17	18										
(JTK)004		5	0					3	19	20	21										
		0	-2					3	28	29	30										
(JTK)005		0	0	0.68				3	16	17	18										
		-10	0	3.72				1				33									
		-5	0					1					32								
		0	0	3.72	0	0	8	1						31							

* The first character of the dataset identifier refers to recovery factor used: r=1.0 (R), r=0.9 (A), r=0.85 (B), r=0.0 (C). The fourth character of the dataset identifier identifies component data under consideration: wing data, tank data, orbiter data etc.

01 + T10 configuration, Dep. Var. is HI/HO

01, 02, T10 configurations, Dep. Var. is HU/HO

IDVAR (1) IDVAR (2) NDV

TABLE II. - Continued.

TEST: <u>OH4B</u>		DATE: <u>SEPT 29, 1973</u>												
DATA SET IDENTIFIER		DATA SET/RUN NUMBER COLLATION SUMMARY												
CONFIGURATION	SCHD. PARAMETERS/VALUES		NO. OF RUNS		THERMOPHORE RUNNING SCHEDULE									
	α	β	R	M	1	2	3	4	5	6	7	8	9	10
(JTK)06	T ₁₀	-10	0	0	0	8	2							
		-5	0						36					
		0	0						34					
(JTK)07		0	-2						40					
		0	0						34					
(JTK)08		-10	0	0	372				46					
		-5	0						44					
		0	0						42					
(JTK)09	T ₁₀	0	-2						48					
		0	0	0	0	68	2		42					

TYPE OF DATA
 α OR β
 SCHEDULES

IDVAR 11 IDVAR 2 IDVAR 3 IDVAR 4

TABLE II. - Continued.

TEST: CA48		DATA SET/RUN NUMBER COLLATION SUMMARY										DATE: SEPT 29, 1973									
DATA SET IDENTIFIER	CONFIGURATION	SCHED. PARAMETERS/VALUES										THERMOCOUPLE HOOKUP SCHEDULE									
		α	β	RWL	DF	Pe	M	NO. OF RUNS	1	2	3	4	5	6	7	8	9	10			
(JTR)10	01	-5	0	3.72	0	0	8	3					53	54	55						
(JTR)11		0		3.72									50	51	52						
(JTR)12		-5	0	0.68									59	60	61						
		0		0.68									56	57	58						
		25		0.5									68	69	70						
		30											62	63	64						
		35		0.5									65	66	67						
(JTR)13		30		1.0									71	72	73						
		35											74	75	76						
		40		1.0									77	78	79						
(JTR)14		30		2.0									80	81	82						
		35		2.0									83	84	85						
(JTR)15		25		3.72									86	87	88						
		30											89	90	91						
	01	35		3.72									92	93	94						

TEST: CHAB		DATA SET/RUN NUMBER COLLATION SUMMARY															DATE: SEPT 29, 1973								
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES				NO. OF RUNS	THERMOCouple HOOKUP SCHEDULE																
		α	β	DRIFT	DRIFT	DRIFT	DRIFT		1	2	3	4	5	6	7	8	9	10							
0TK016	C1	30	0	3.72	0	0	8	1																	
0TK017		30	0	T	10	5	T	3						98	99	100	101								
0TK018		35	0	T	T	T	T	T						102	103										
0TK019		35	5	3.72										104	105										
0TK020		30	5	2.0										106	107										
0TK021		35	5	T										108	109										
0TK022		30	0	T										113	114	115									
0TK023		35	0	2.0										116	117										
		30	5	0.5										118	119										
		30	0	T										120	121	122									
		35	0			5								123	124	125									
		25	0			10								132	133	134									
		30	0	T		T								129	130	131									
	C1	35	0	0.5	10	10	8	3						126	127	128									
TYPE OF DATA		IOVAR (1) IOVAR (2) IOVAR (3) IOVAR (4) IOVAR (5) IOVAR (6) IOVAR (7) IOVAR (8)																							
α OR β																									
SCHEDULES																									

TABLE II. - Continued.

TEST: 0K48			DATE: SEPT 29, 1973																		
DATA SET IDENTIFIER	CONFIGURATION	SCHD.	PARAMETERS/VALUES						NO. OF RUNS	THERMOCOUPLE HOODLIP SCHEDULE											
			α	β	ROLL	DR	DR	M		1	2	3	4	5	6	7	8	9	10		
UTK024	O ₁	25	-5	0.5	10	10	8	2							137	138					
		30	-5	↓			T	2							139	140					
UTK025		35	-5	0.5				2							135	136					
		30	0	2.0				3							141	142	143				
UTK026		35	0	↓				3							144	145	146				
		30	-5	↓				2							147	148					
UTK027		35	-5	2.0				2							149	150					
		25	0	3.72				3							151	152	153				
		30	0	↓				3							154	155	156				
UTK028		35	0					3							157	158	159				
		25	-5					2							166	167					
	O ₁	30	-5	↓				2							164	165					
		35	-5	10	10			2							160	163					
UTK029	O ₂	25	0					1												168	
		30	0	↓				1													169
		35	0	3.72	0	0	8	1													170

TYPE OF DATA
 α OR β
SCHEDULES

IDVAR (1) IDVAR (2) NDV

TABLE II. - Continued.

TEST: OX4B			DATA SET/RUN NUMBER COLLATION SUMMARY										DATE: SEPT. 29, 1973						
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES					NO. OF RUNS	THERMOCOUPLE HOUR/UP SCHEDULE									
		α	β	RVL	PBF	ρ_e	M	1		2	3	4	5	6	7	8	9	10	
(TK)30	O ₂	25	0	2.0	0	0	8	1										171	
		30	T	T	T	T	T	1										172	
		35		2.0				1										173	
(TK)31		25		0.5				1										174	
		30	T	T	T	T	T	1										175	
		35		0.5				1										176	
(TK)32		30		1.0				2										177	
		35	T	T	T	T	T	2										179	
		45		1.0				2										181	
(TK)35		30		1.25				2										183	
		35		1.25				2										185	
(TK)34		30		1.5				2										187	
		35		1.5				2										189	
(TK)35	T	30	T	1.75	T	T	T	2										191	
	C ₂	35	0	1.75	0	0	8	2										193	
TYPE OF DATA																			
α OR β																			
SCHEDULES																			

QVAR (1) QVAR (2) NOV

TABLE II. - Concluded.

TEST: CH4B		DATA SET/RUN NUMBER COLLATION SUMMARY														DATE: SEPT. 29, 1973				
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES				NO. OF RUNS	THERMOCOUPLE HOOKUP SCHEDULE											
		α	β	RNL	ΔT	F	e		M	1	2	3	4	5	6	7	8	9	10	
(JTK)36	O ₂	30	0	2.0	0	0	8	2											195	196
		35	0	2.0	0	0	8	2												197
(JTK)37		45		2.0															199	200
		30		2.25															201	202
(JTK)38		35		2.25															203	204
		30		2.5															205	206
(JTK)39		35		2.5															207	208
		30		2.75															209	210
(JTK)40		35		2.75															211	212
		30		3.0															213	214
(JTK)41		35		3.0															215	216
		30		3.35															217	218
(JTK)42		35		3.35															219	220
		30		3.72															221	222
	O ₂	35	0	3.72	0	0	8	2											223	224

TABLE III. - MODEL DIMENSIONAL DATA

MODEL COMPONENT: BODY - B17

GENERAL DESCRIPTION: Fuselage, 3 configuration, lightweight orbiter per

Rockwell lines drawing No. VL70-000139

MODEL SCALE: 0.0175

DRAWING NO.: VL70-000139

DIMENSIONS:	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Length - In.	<u>1290.3</u>	<u>22.58025</u>
Max. width - In.	<u>267.6</u>	<u>4.6830</u>
Max. depth - In.	<u>244.5</u>	<u>4.27875</u>
Fineness Ratio	<u>4.82175</u>	<u>4.82175</u>
Area - ft ²		
Max. Cross-sectional	<u>386.67</u>	<u>0.11842</u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

TABLE III. - Continued.

MODEL COMPONENT: CANOPY - C7

GENERAL DESCRIPTION: Configuration 3 per Rockwell Lines VL70-000139

Insufficient information to complete dimensional data at this time.

MODEL SCALE: 0.0175

DRAWING NUMBER: VL70-000139

DIMENSIONS:

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Length ($X_0 = 433$ to $X_0 = 670$) - in FS	237	4.148
Max. Width		
Max. Depth ($Z_0 =$ to $Z_0 = 501$) in FS		
Fineness ratio		
Area - ft ²		
Max. Cross-sectional		
Planform		
Wetted		
Base		

TABLE III. - Continued.

MODEL COMPONENT: OMS POD - M₄

GENERAL DESCRIPTION: Orbital maneuvering system pods located on the orbiter aft fuselage.

MODEL SCALE: 0.0175

DRAWING NUMBER: VL70-000139

DIMENSIONS:	FULL SCALE	MODEL SCALE
Length - In.	346.0	6.0550
Max. Width - In.	108.0	1.890
Max. Depth - In.	113.0	113.0
Fineness Ratio	.	
Area - ft ²		
Max cross sectional		
Planform		
Wetted		
Base		

☉ of OMS Pod

WP = 463.9 In. FS; WP 400 + 63.9 = 463.9

BP = 80.0 In. FS

LENGTH: 1214.0 to 1560.0 = 346.0 In. FS

NOTE: M₄ is identical to M₃ of 2A configuration, except intersection to body.

TABLE III. - Continued.

MODEL COMPONENT: BODY FLAP - F5

GENERAL DESCRIPTION: 3 Configuration per Rockwell Lines VL70-000139

MODEL SCALE: 0.0175

DRAWING NUMBER: VL70-000139

DIMENSIONS:

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Length - In.	<u>84.70'</u>	<u>1.48225</u>
Max. width - In.	<u>267.6</u>	<u>4.6830</u>
Max. Depth	<u> </u>	<u> </u>
Fineness Ratio	<u> </u>	<u> </u>
Area - ft ²	<u> </u>	<u> </u>
Max Cross-sectional	<u> </u>	<u> </u>
Planform	<u>142.5195</u>	<u>0.04365</u>
Wetted	<u> </u>	<u> </u>
Base	<u>38.0958</u>	<u>0.01167</u>

-TABLE III. - Continued.

MODEL COMPONENT: WING-W 103

GENERAL DESCRIPTION: Configuration 3 Orbiter per Lines VL70-000139.

NOTE: Same platform as WE7, except dihedral at TE

Scale Model = 0.0175

TEST NO.

DWG. NO. VL70-000139

DIMENSIONS:

FULL-SCALE

MODEL SCALE

TOTAL DATA

Area (Theo.) Ft²

2690.00

0.82381

Planform

936.68

16.39190

Span (Theo In.

2.265

2.265

Aspect Ratio

1.177

1.177

Rate of Taper

0.200

0.200

Taper Ratio

3.500

3.500

Dihedral Angle, degrees (@ TE of Elevon)

3.000

3.000

Incidence Angle, degrees

+3.000

+3.000

Aerodynamic Twist, degrees

45.000

45.000

Sweep Back Angles, degrees

-10.24

-10.24

Leading Edge

35.209

35.209

Trailing Edge

0.25 Element Line

Chords:

Root (Theo) B.P.O.O.

689.24

12.06170

Tip, (Theo) B.P.

137.85

2.41238

MAC

474.81

8.30918

Fus. Sta. of .25 MAC

1136.89

19.82598

W.P. of .25 MAC

299.20

5.2360

B.L. of .25 MAC

182.13

3.18728

EXPOSED DATA

Area (Theo) Ft²

1752.29

0.53664

Span, (Theo) In. BP108

720.68

12.61190

Aspect Ratio

2.058

2.058

Taper Ratio

0.2451

0.2451

Chords

Root BP108

562.40

9.8420

Tip $1.00 \frac{b}{2}$

137.85

2.41238

MAC

393.03

6.87802

Fus. Sta. of .25 MAC

1185.31

20.74292

W.P. of .25 MAC

300.20

5.25350

B.L. of .25 MAC

251.76

2.51580

Airfoil Section (Rockwell Mod NASA)
XXXX-64

0.10

0.10

Root $\frac{b}{2}$

0.12

0.12

Tip $\frac{b}{2}$

Data for (1) of (2) Sides

Leading Edge Cuff $\frac{2}{2}$

120.33

0.03685

Planform Area Ft²

560.0

9.800

Leading Edge Intersects Fus M. L. @ Sta

1035.0

18.11250

Leading Edge Intersects Wing @ Sta

TABLE III. - Continued.

MODEL COMPONENT: ELEVON- E22

GENERAL DESCRIPTION: 3 configuration per W103 Rockwell Lines Drawing

VL70-000139 data for (1) of (2) sides.

SCALE MODEL: 0.0175

DRAWING NUMBER: VL70-000139

DIMENSIONS:

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Area - ft ²	<u>205.52</u>	<u>0.06294</u>
Span (equivalent) - In.	<u>353.34</u>	<u>6.18345</u>
Inb'd equivalent chord	<u>114.78</u>	<u>2.00865</u>
Outb'd equivalent chord	<u>55.00</u>	<u>0.96250</u>
Ratio movable surface chord/ total surface chord		
At inb'd equiv. chord	<u>.208</u>	<u>.208</u>
At outb'd equiv. chord	<u>.400</u>	<u>.400</u>
Sweep-back angles, degrees		
Leading edge	<u>0.00</u>	<u>0.00</u>
Trailing edge	<u>- 10.24</u>	<u>- 10.24</u>
Hingeline	<u>0.00</u>	<u>0.00</u>
Area Moment (Normal to hingeline) - ft ³ (Product of Area Moment)	<u>1548.07</u>	<u>0.00829</u>

TABLE III. - Continued.

MODEL COMPONENT: VERTICAL, V₇ (Lightweight Orbiter Configuration)

GENERAL DESCRIPTION: Centerline vertical tail, double-wedge airfoil with rounded leading edge.

NOTE: Same as V₅ but with manipulator housing removed.

MODEL SCALE: 0.0175

DRAWING NUMBER: VL70-000139, VL70-000095

DIMENSIONS:

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
TOTAL DATA		
Area (Theo) - ft ²	<u>425.92</u>	<u>0.13044</u>
Planform		
Span (Theo) - In.	<u>315.72</u>	<u>5.52510</u>
Aspect ratio	<u>1.675</u>	<u>1.675</u>
Rate of taper	<u>0.507</u>	<u>0.507</u>
Taper ratio	<u>0.404</u>	<u>0.404</u>
Sweep-back angles, degrees		
Leading edge	<u>45.000</u>	<u>45.000</u>
Trailing edge	<u>26.249</u>	<u>26.249</u>
0.25 Element line	<u>41.130</u>	<u>41.130</u>
Chords:		
Root (Theo) WP	<u>268.50</u>	<u>4.69875</u>
Tip (Theo) WP	<u>108.47</u>	<u>1.89822</u>
MAC	<u>199.81</u>	<u>3.49667</u>
Fus. Sta. of .25 MAC	<u>1463.50</u>	<u>25.61125</u>
W.P. of .25 MAC	<u>635.522</u>	<u>11.12164</u>
B.L. of .25 MAC	<u>0.00</u>	<u>0.00</u>
Airfoil section:		
Leading wedge angle - deg.	<u>10.000</u>	<u>10.000</u>
Trailing wedge angle - deg.	<u>14.920</u>	<u>14.920</u>
Leading edge radius	<u>2.0</u>	<u>0.0350</u>
Void area - FT ²	<u>13.17</u>	<u>0.00403</u>
Blanketed area	<u>0.00</u>	<u>0.00</u>

TABLE III. - Continued.

COMPONENT DIMENSIONAL DATA

MODEL COMPONENT: RUDDER - R₅GENERAL DESCRIPTION: 2A, 3 and 3A configuration per Rockwell Lines Drawing
VL70-000095

MODEL SCALE: 0.0175

DRAWING NUMBER: VL70-000139, VL70-000095

DIMENSIONS:

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Area - ft ²	<u>106.38</u>	<u>0.03258</u>
Span (equivalent) - in.	<u>201.0</u>	<u>3.5175</u>
Inb'd equivalent chord	<u>91.585</u>	<u>1.60274</u>
Outb'd equivalent chord	<u>50.833</u>	<u>0.88958</u>
Ratio movable surface chord/ total surface chord		
At inb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
At outb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
Sweep-back angles, degrees		
Leading edge	<u>34.83</u>	<u>34.83</u>
Trailing edge	<u>26.25</u>	<u>26.25</u>
Hingeline	<u>34.83</u>	<u>34.83</u>
Area Moment (normal to hingeline) - ft ³ Product of area and mean chord	<u>526.13</u>	<u>0.00282</u>

TABLE III. - Continued.

MODEL COMPONENT: EXTERNAL TANK - T₁₀

GENERAL DESCRIPTION: External Oxygen-hydrogen tank, 3 configuration, per
Rockwell Lines drawing VL78-000041 and VL72-000088

MODEL SCALE: 0.0175

DRAWING NUMBER: VL72-000088, VL78-000041

DIMENSIONS:	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Length - In. (Nose @ X _T = 309)	<u>1865</u>	<u>32.63750</u>
Max. width (Dia) - In.	<u>324</u>	<u>5.670</u>
Max. depth	<u>--</u>	<u>--</u>
Fineness Ratio	<u>5.75617</u>	<u>5.75617</u>
Area - ft ²		
Max. Cross-Sectional	<u>572.555</u>	<u>0.17534</u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>
WP of Tank Centerline (X _T) In.	<u>400.0</u>	<u>7.00</u>

TABLE III. - Concluded.

MODEL COMPONENT: MPS NOZZLES - N

GENERAL DESCRIPTION: Only the exterior surface of the nozzle was simulated.

MODEL SCALE: 0.0175

DRAWING NUMBER: UL70-000139

DIMENSIONS:

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
MACH NO.		
Length - In.		
Gimbal Point to Exit Plane		
Throat to Exit Plane		
Diameter - In.		
Exit		
Throat		
Inlet		
Area - ft ²		
Exit		
Throat		
Gimbal Point (Station) - In.		
Upper Nozzle		
X		
Y		
Z		
Lower Nozzles		
X		
Y		
Z		
Null Position - Deg.		
Upper Nozzle		
Pitch		
Yaw		
Lower Nozzle		
Pitch		
Yaw		

Table IV. -Orbiter T/C Locations.
Model 22-OT

T/C NO.	$\frac{x}{L}$	FULL SCALE			MODEL SCALE			ϕ	SKIN THICKNESS	REMARKS
		x_0	y	z	x FROM NOSE	y	z			
1	0	238.00	0	--	0	0	--	0	.034	BOTTOM ϕ
2	.005	244.45	▲	▲	.113	▲	▲	▲	.035	▲
3	.010	250.90			.226				.035	
4	.020	263.81			.452				.032	
5	.030	276.71			.677				.033	
6	.040	289.61			.903				.034	
7	.050	302.52			1.129				.033	
8	.060	315.42			1.355				.032	
9	.070	328.32			1.581				.034	
10	.080	341.22			1.806				.035	
11	.090	354.13			2.032				.035	▼
12	.100	367.03			2.258				.034	BOTTOM ϕ
13									—	OPEN
14	.120	392.84			2.710				.035	BOTTOM ϕ
15	.130	405.74			2.935				.035	▲
16	.140	418.64			3.161				.035	
17	.150	431.54			3.387				.034	
18	.160	444.45			3.613				.035	
19	.170	457.35			3.839				.035	
20	.180	470.25			4.064				.035	
21	.190	483.16			4.290				.035	
22	.200	496.06			4.516				.031	
23	.225	528.32			5.081				.031	
24	.250	560.58			5.645				.033	
25	.275	592.83			6.210				.033	
26	.300	625.09			6.774				.032	
27	.325	657.35			7.339				.033	
28	.350	689.60			7.903				.020	
29	.375	721.86			8.468				.026	
30	.400	754.12			9.032				.033	
31	.425	786.38	▼	▼	9.597	▼	▼	▼	.035	▼
32	.450	818.64	0	--	10.161	0	--	0	.034	BOTTOM ϕ

Table IV. (Cont'd) Orbiter

T/C NO.	$\frac{x}{L}$	FULL SCALE			MODEL SCALE			ϕ	SKIN THICKNESS	REMARKS
		x_0	y	z	(x FROM NOSE)	y	z			
33	.475	850.89	0	--	10.726	0	--	0	.030	BOTTOM ϕ
34	.500	883.15	↑	↑	11.290	↑	↑	↑	.030	↑
35	.525	915.41			11.855				.032	
36	.550	947.66			12.419				.031	
37	.575	979.92			12.984				.029	
38	.600	1012.18			13.548				.028	
39	.625	1044.44			14.113				.028	
40	.650	1076.70			14.677				.033	
41	.675	1108.95			15.242				.035	
42	.700	1141.21			15.806				.034	
43	.725	1173.47			16.371				.035	
44	.750	1205.72			16.935				.035	
45	.775	1237.98			17.500				.034	
46	.800	1270.24			18.064				.035	
47	.825	1302.50			18.624				.035	
48	.850	1334.76			19.193				.033	
49	.875	1367.01			19.758				.033	
50	.900	1399.27			20.322				.034	
51	.925	1431.53			20.887				.035	
52	.950	1463.78			21.451				.032	↓
53	.975	1496.04			22.016				.032	BOTTOM ϕ
54	1.000	1528.31			22.580				.029	$\frac{x}{L} = 1.008 @ \delta_{BF} = 10^\circ$
55	1.013	1541.56			22.812				.032	$\delta_{BF} 10^\circ$ ONLY
56	1.025	1560.56			23.145				.032	↑ BF
57	1.038	1574.30			23.385				.032	$\delta_{BF} 10^\circ$ ONLY
58	1.050	1592.82			23.709			0	.030	↓
59	.010	250.90			.226			180	.035	TOP ϕ
60	.025	270.26			.565			↑	.035	↑
61	.050	302.52			1.129			↑	.035	↑
62	.075	334.77			1.694			↑	.033	↑
63	.100	367.03	↓	↓	2.258	↓	↓	↓	.033	↓
64	.125	399.29	0	--	2.823	0	--	180	.031	TOP ϕ

Table IV. (Cont'd) Orbiter

T/C NO.	$\frac{x}{L}$	FULL SCALE			MODEL SCALE			ϕ	SKIN THICKNESS	REMARKS
		x_0	y	z	FROM NOSE	y	z			
65	.150	431.54	0	--	3.387	0	--	180	.026	TOP ϕ
66	.160	444.45	↑	↑	3.613	↑	↑	↑	.031	↑
67	.170	457.35	↑	↑	3.839	↑	↑	↑	.031	↑
68	.180	470.25	↑	↑	4.064	↑	↑	↑	.030	↑
69	.200	496.06	↑	↑	4.516	↑	↑	↑	.033	↑
70	.250	560.58	↑	↑	5.645	↑	↑	↑	.030	↑
71	.300	625.09	↑	↑	6.774	↑	↑	↑	.030	↑
72	.400	754.12	↑	↑	9.032	↑	↑	↑	.030	↑
73	.500	883.15	↑	↑	11.290	↑	↑	↑	.030	↑
74	.600	1012.18	↑	↑	13.548	↑	↑	↑	.031	↑
75	.700	1141.21	↓	↓	15.806	↓	↓	↓	.032	↓
76	.800	1270.24	0	--	18.064	0	--	180	.030	TOP ϕ
77			29.60	478.00	WINDOW #1	0.518	8.365	--	.035	TOP LEFT
78			12.80	478.00	WINDOW #1	0.224	8.365	--	.035	TOP RIGHT
79			21.20	464.97	↑	0.371	8.137	↑	.033	CENTER
80			34.40	452.00	↓	0.602	7.910	↑	.035	BOTTOM LEFT
81			6.00	452.00	WINDOW #1	0.105	7.910	↑	.034	BOTTOM RIGHT
82			43.20	478.00	WINDOW #2	0.756	8.365	↑	.035	TOP LEFT
83			34.80	478.00	WINDOW #2	0.609	8.365	↑	.035	TOP RIGHT
84			44.80	464.97	↑	0.784	8.137	↑	.035	CENTER
85			59.20	452.00	↓	1.036	7.910	↓	.035	BOTTOM LEFT
86			40.40	452.00	WINDOW #2	0.707	7.910	--	.035	BOTTOM RIGHT
87			62.40	464.97	WINDOW #3	1.092	8.137	140	.032	CENTER
88	.100	367.03	20.00	--	2.258	0.350	--	10	.035	FUSELAGE BOTTOM SURFACE
89	.150	431.54	24.00	--	3.387	0.420	--	10	.035	↑
90	.050	302.52	25.00	↑	1.129	0.438	--	14	.033	↑
91	.200	496.06	25.00	↑	4.516	0.438	↑	11.5	.031	↑
92	.300	625.09	25.00	↑	6.774	0.438	↑	12	.033	↑
93	.200	496.06	50.00	↑	4.516	0.875	↑	24	.034	↑
94	.300	625.09	50.00	↑	6.774	0.875	↑	23	.036	↑
95	.400	754.12	50.00	↓	9.032	0.875	↓	21.5	.026	↓
96	.500	883.15	50.00	--	11.290	0.875	--	21.5	.026	FUSELAGE BOTTOM SURFACE

Table IV. (Cont'd) Orbiter

T/C NO.	x L	FULL SCALE			MODEL SCALE			φ	SKIN THICKNESS	REMARKS
		x _o	y	z	x FROM NOSE	y	z			
97	.600	1012.18	50.00		13.548	0.875		21.5	.021	FUSELAGE SIDE
98	.700	1141.21	50.00		15.806	0.875		↑	.033	
99	.800	1270.24	50.00		18.064	0.875		↓	.033	
100	.900	1399.27	50.00		20.322	0.875		21.5	.034	FUSELAGE SIDE
101	1.000	1528.30	100.00		22.580	1.75		39	.031	BODY FLAP 10° = .034
102	1.050	1592.82	100.00		23.704	1.75		39	.028	BODY FLAP 10° = .033
103	.100	367.03	39.20		2.258	0.686		20	.033	FUSELAGE SIDE
104	.150	431.54	40.80		3.387	0.714		20	.031	
105	.050	302.52		303.60	1.129	--	5.313	22	.031	C.C.L. TANGENT
106	.100	367.03	52.00	--	2.258	0.910		24.5	.033	↑
107	.150	431.54	62.00	--	3.387	1.085	--	25.5	.031	↓
108	.200	496.06	65.60	287.20	4.516	1.148	5.026	21.5	.035	C.C.L. TANGENT
109	.300	625.09	74.46	--	6.774	1.303		34	.033	
110	.200	496.06	75.60	292.00	4.516	1.323	5.110	35	.030	
111	.150	431.54	79.20	304.80	3.387	1.386	5.334	40	.030	
112	.200	496.06	85.20	298.80	4.516	1.491	5.229	40	.034	
113	.300	625.09	91.43		6.774	1.600		40	.026	
114	.300	625.09	102.86		6.774	1.800		45	.023	
115	.050	302.52		325.60	1.129		5.698	35	.030	M.H.B. TANGENT
116	.100	367.03		317.60	2.258		5.558	39	.030	M.H.B. TANGENT
117	.150	431.54	83.60	314.4	3.387	1.463	5.502	45.5	.030	M.H.B. TANGENT
118	.200	496.06		320.00	4.516		5.600	51	.030	
119	.300	625.09		330.00	6.774		5.775	57.5	.021	
120	.300	625.09		340.00	6.774		5.950	61	.027	
121	.076	336.51		350.00	1.724		6.125	--	.030	RCS CENTER
122	.300	625.09		350.00	6.774		6.125	65	.026	
123	.800	1270.24		350.00	18.064		6.125	65	.017	
124	.900	1399.27		350.00	20.322		6.125	65	.033	
125	.975	1496.04		350.00	22.016		6.125	68	.034	
126	.975	1496.04		300.00	22.016		5.250	52.5	.032	
127	.050	302.52		342.40	1.129		5.992	25	.030	TANGENT (UPPER)

Table IV. (Cont'd) Orbiter

T/C NO.	x L	FULL SCALE			MODEL SCALE			φ	SKIN THICKNESS	REMARKS
		x _o	y	z	x FROM NOSE	y	z			
128	.200	496.06	--	360.00	4.516	--	6.300	67.5	.026	FUSELAGE SIDE
129	.300	625.09	--	360.00	6.774		6.300	70	.023	↑
130	.600	1012.18		375.14	13.548		6.565	77	.031	
131	.050	302.52		378.40	1.129		6.622	60	.035	45° TANGENT
132	.100	367.03		410.00	2.258		7.175	119	.034	↓
133	.200	496.06		410.00	4.516		7.175	96.5	.028	
134	.300	625.09		430.00	6.774		7.525	106	.032	FUSELAGE SIDE
135	.400	754.12		430.00	9.032		↑	105	.033	UPPER BODY
136	.500	883.15		430.00	11.290		↑	↑	.032	↑
137	.600	1012.18		430.00	13.548		↓	↓	.032	
138	.700	1141.21		430.00	15.806		↓	↓	.032	
139	.800	1270.24		430.00	18.064		7.525		.032	
140	.900	1399.27		370.00	20.322		6.475		.033	
141	.300	625.09		478.80	6.774		8.379	135	.031	
142	.400	754.12			9.032			135	.030	
143	.500	883.15			11.290			135	.033	
144	.600	1012.18			13.548			135	.033	
145	.700	1141.21			15.806			135	.032	
146	.600	1012.18		445.0	13.548		7.788	113	.032	
147	.600	1012.18		440.0	13.548		7.70	112	.032	
148	.750	1205.73		450.00	15.806		7.875	116	.032	↓
149	.750	1502.73		490.00	15.806		8.575	149	.034	UPPER BODY
150	.400	754.12			9.032			59.5	.031	WING UPPER CREASE
151	.500	883.15			11.290			63	.012	↑
152	.600	1012.18			13.548			65.5	.030	↓
153	.700	1141.21			15.806			64	.030	
154	.900	1399.27		332.0	20.322				.034	WING UPPER CREASE

Table IV. (Continued) Orbiter

T/C NO.	$\frac{2y}{b}$	$\frac{x}{c}$	FULL SCALE		MODEL SCALE		SKIN THICKNESS	REMARKS
			x_0	y	x_0	y		
155	.250	.025	640.650	117.085	7.043	2.049	.031	WING BOTTOM
156	↑	.153	754.120	↑	9.030	↑	.035	SURFACE
157	↑	.299	883.150	↑	11.288	↑	.028	↑
158	↑	.444	1012.180	↑	13.545	↑	.023	
159	↑	.590	1141.200	↑	15.802	↑	.034	
160	↓	.736	1270.230	↓	18.060	↓	.034	
161	.250	.900	1415.900	117.085	20.613	2.049	.034	
162	.301		754.000		9.030		.023	30° ROLL DOWN
163	.348		883.000		11.288		.028	30° ROLL DOWN
164	.400	.025	1002.063	187.336	13.364	3.278	.035	
165	↑	.100	1039.750	↑	14.031	↑	.034	
166	↑	.200	1090.000	↑	14.900	↑	.034	
167	↑	.302	1141.210	↑	15.802	↑	.035	
168	↑	.559	1270.230	↑	18.060	↑	.032	
169	↓	.700	1341.250	↓	19.307	↓	.032	
170	.400	.900	1441.750	187.336	21.065	3.278	.032	ELEVON
171	.500		1067.470	234.170	14.516	4.098	.033	30° ROLL DOWN
172	↑	.025	1077.913	↑	14.696	↑	.035	
173	↑	.177	1141.210	↑	15.802	↑	.030	
174	↑	.300	1192.450	↑	16.706	↑	.031	
175	↑	.487	1270.230	↑	18.060	↑	.034	
176	↑	.600	1317.428	↑	18.895	↑	.034	
177	↓	.700	1359.028	↓	19.618	↓	.033	
178	↓	.900	1442.350	234.170	21.075	4.098	.033	ELEVON
179	.600	.100	1152.000	281.004	15.995	4.918	.033	
180	↑	.200	1188.00	↑	16.625	↑	.031	
181	↑	.300	1224.000	↑	17.255	↑	.026	
182	↑	.428	1270.230	↑	18.064	↑	.026	
183	↓	.600	1332.000	↓	19.145	↓	.027	WING BOTTOM
184	.600	.700	1368.000	281.004	19.775	4.918	.024	SURFACE

Table IV. (Continued) Orbiter

T/C NO.	$\frac{2y}{b}$	$\frac{x}{c}$	FULL SCALE		MODEL SCALE		SKIN THICKNESS	REMARKS
			x_0	y	x (FROM NOSE)	y		
185	.600	.800	1404.000	281.004	20.404	4.918	.035	WING BOTTOM SURFACE
186	.600	.850	1422.000	↑	20.720		.033	ELEVON ↑
187	.600	.90	1440.000	281.004	21.034		.034	
188	.750		1186.5	351.255	16.599	6.147	.035	L.E. ROLLED
189	↑	.025	1193.428	↑	16.720	↑	.035	DOWN 30°
190	↑	.100	1214.228	↑	17.084	↑	.032	
191	↑	.303	1270.230	↑	18.064	↑	.032	
192	↑	.500	1325.028	↑	19.023	↑	.032	
193	↑	.700	1380.400	↑	19.992	↑	.027	
194	↑	.800	1408.100	↑	20.476	↑	.031	
195	↓	.850	1422.000	↓	20.719	↓	.035	
196	.750	.900	1435.800	351.255	20.962	6.147	.035	
197	.850	.100	1255.200	398.089	17.801	6.967	.031	
198	.850	.300	1299.600	398.089	18.578	6.967	.034	
199	.850	.500	1344.000	398.089	19.355	6.967	.032	
200	.900	.60	1373.028	421.506	19.863	7.376	.024	
201	.900	.30	1314.743	421.506	18.846	7.376	.030	
202	.950			444.857		7.785	.035	L.E. ROLLED 30°
203	↑	.050	1295.925	↑	18.514	↑	.035	
204	↑	.100	1303.828	↑	18.652	↑	.035	
205	↑	.300	1335.543	↑	19.207	↑	.024	
206	↑	.500	1367.257	↑	19.762	↑	.022	
207	↓	.700	1398.950	↓	20.316	↓	.035	
208	.950	.900	1430.650	↓	20.870	7.785	.030	
209	.966	0.00	1307.000	452.416	18.708	7.917	.032	L.E.
210	.993	0.00	1398.950	464.914	20.316	8.136	.031	L.E.
211	.600			281.004		4.918	.035	GLUCIER B
212	↑			↑		↑	.035	
213	↓			↓		↓	.035	
214	.600			281.004		4.918	.035	WING BOTTOM SURFACE

Table IV. (Continued) Orbiter

T/C NO.	$\frac{2y}{b}$	$\frac{x}{c}$	FULL SCALE		MODEL SCALE		SKIN THICKNESS	REMARKS
			x_0	y	x (FROM NOSE)	y		
215	.600			281.004		4.918	.035	CLUSTER B SEE FIG. 6
216	.600			281.004		4.918	.035	
217	.600			281.004		4.918	.035	
218	.850			398.089		6.967	.020	CLUSTER C SEE FIG. 6
219	↑			↑		↑	.020	
220	↑			↑		↑	.020	
221	↓			↓		↓	.020	
222	↓			↓		↓	.020	
223	↓			↓		↓	.020	
224	.850			398.089		6.967	.020	
225	.400	.050	1015.114	187.336	13.599	3.278	.025	WING TOP SURFACE
226	↑	.200	1090.428	↑	14.918	↑	.024	
227	↓	.600	1291.171	↓		↓	.033	
228	.400	.950	1466.875	187.336		3.278	.031	ELEVON
229	.600	.050	1134.886	281.004	15.696	4.918	.032	
230	.600	.200	1188.657	↑	16.637	↑	.031	
231	.600	.600	1332.028	↑	19.146	↑	.0	
232	↑	.800	1404.000	↓	20.404	↓	.032	ELEVON
233	↓	.900	1440.000	↓	21.034	↓	.034	
234	.600	.950	1458.000	281.004	21.349	4.918	.033	
235	.800	.050	1223.057	374.672	17.239	6.557	.033	
236	↑	.200	1260.257	↑	17.889	↑	.033	
237	↑	.600	1359.514	↑	19.627	↑	.032	
238	↓	.800	1408.780	↓	20.488	↓	.030	ELEVON
239	↓	.900	1433.690	↓	20.924	↓	.030	ELEVON
240	.800	.950	1446.145	374.672	21.192	6.557	.030	ELEVON

Table IV. (Continued)

Orbiter

T/C NO.	x [FULL SCALE			MODEL SCALE			φ	SKIN THICKNESS	REMARKS
		x ₀	y	z	x (FROM NOSE)	y	z			
241	.829	1307			18.715				.026	BOTTOM CREASE OF CMS
242	.900	1399.27			20.318				.035	BOTTOM CREASE OF CMS
243	.975	1496.04			22.011				.030	BOTTOM CREASE OF CMS
244	1.000	1528.3			22.575				.034	BOTTOM OF RCS
245	1.014	1547.0			22.902				.035	BOTTOM OF RCS
246	.780	1245	95.0	474.0	17.608	1.662	8.295	127.9	.032	CMS PODS
247	.805	1276	112.9	474.0	18.173	1.976	8.295	123.8	.031	↑
248	.829	1307	124.5	474.0	18.715	2.179	8.295	120.8	.031	
249	.862	1350	132.6	↑	19.460	2.320	8.295	119.1	.035	
250	.963	1480	142.5	↓	21.740	2.494	8.295	117.5	.028	
251	1.000	1528.3	142.5	↓	22.575	2.494	8.295	117.5	.033	
252	1.014	1547.0		474.0	22.902		8.295		.033	
253	.805	1276	105.5	488	18.173	1.846	8.540	129.5	.032	
254	.829	1307	117.0	498.7	18.715	2.048	8.727	130.0	.033	
255	.862	1350	126.5	506	19.460	2.214	8.855	130.0	.031	
256	.963	1480	134.5	513	21.740	2.354	8.978	130.0	.028	
257	1.000	1528.3		500	22.575		8.750		.031	
258	1.014	1547.0		500	22.902		8.750		.032	
259	.805	1276	95.0	494.3	18.173	1.662	8.650	135.0	.033	
260	.829	1307	95.0	511.0	18.715	1.662	8.942	139.0	.034	
261	.862	1350	95.0	521.0	19.460	1.662	9.118	142.1	.031	
262	.963	1480	95.0	530.0	21.740	1.662	9.275	144.0	.027	
263	.862	1350	65	517.5	19.460	1.138	9.056	151.2	.031	↓
264	.963	1480	65	527.0	21.740	1.138	9.222	153	.026	CMS PODS

Table IV. (Continued) Orbiter

T/C NO.	$\frac{z}{b_v}$	$\frac{x}{c}$	FULL SCALE		MODEL SCALE		SKIN THICKNESS	REMARKS
			x_0	z	x (FROM NOSE)	z		
265	.159	.100	1353.00	550.20	19.513	9.628	.030	VERTICAL TAIL
266	▲	.300	1431.51	550.20	20.361	9.628	.030	
267	▼	.700	1498.66	550.20	22.062	9.628	.028	▲
268	.299	0.00		594.40		10.402	.033	
269	▲	.100	1394.94	▲	20.246	▲	.031	L.E.
270	▲	.300	1439.00	▲	21.018	▲	.031	
271	▲	.500	1483.06	▲	21.789	▲	.031	
272	▼	.700	1527.11	▼	22.559	▼	.022	
273	.299	.900	1571.17	594.40	23.330	10.402	.022	
274	.532	0.00		667.96		11.689	.034	L.E.
275	▲	.100	1538.31	▲	22.755	▲	.031	
276	▲	.300	1574.94	▲	23.396	▲	.032	
277	▲	.500	1611.57	▲	24.034	▲	.032	
278	▼	.700	1648.14	▼	24.677	▼	.023	
279	.532	.900	1684.77	667.96	25.318	11.689	.026	
280	.765	0.00		741.53		12.977	.034	L.E.
281	.765	.100	1461.00	▲	21.403	▲	.031	
282	▲	.300	1490.14	▲	21.912	▲	.031	
283	▲	.500	1519.29	▲	22.423	▲	.030	
284	▼	.700	1548.43	▼	22.933	▼	.024	
285	.765	.900	1577.57	741.53	23.142	12.977	.024	
286	.905	0.00		785.73		13.750	.033	L.E.
287	.905	.100	1576.49	785.73	23.424	13.750	.030	
288	.905	.500	1625.86	785.73	24.288	13.750	.030	▼ VERTICAL TAIL

Table IV. Orbiter Left Main Nozzle T/C Locations
Model 22-OTS

T/C NO.	x FROM EXIT PLANE		SKIN THICKNESS	ϕ_n CLOCKWISE LOOKING FORWARD 0° BOTTOM ϵ
	F.S.	M.S.		
301	5"	0.088	.031	0°
302	↓	↓	.031	25°
303	↓	↓	.031	45°
304	↓	↓	.031	65°
305	↓	↓	.031	90°
306	↓	↓	.031	135°
307	↓	↓	.031	315°
308	10"	0.175	.031	0°
309	↓	↓	.031	25°
310	↓	↓	.031	45°
311	↓	↓	.031	65°
312	↓	↓	.031	90°
313	15"	0.263	.031	0°
314	↓	↓	.031	45°
315	↓	↓	.031	90°
316	25"	0.438	.031	0°
317	↓	↓	.031	45°
318	↓	↓	.031	65°
319	↓	↓	.031	90°
320	45"	0.788	.031	45°
321			.032	BASE PLATE
322			.034	↓
323			.031	
324			.032	↓

Table IV. External Tank Locations

T/C NO.	x_T FS	x_{ms}^*	$\frac{x}{L}$	θ	SKIN THICKNESS	REMARKS
501	383.60	1.306	.040	0°	.034	NOSE
502	458.20	2.6110	.080	↑	.034	NOSE
503	588.75	4.896	.150		.035	NOSE
504	1055.00	13.055	.400	↓	.035	
505	1428.00	19.582	.600		.034	
506	1801.00	26.110	.800	0°	.035	
507	1055.00	13.055	.400	↑	.035	
508	1241.50	16.319	.500		.035	
509	1428.00	19.582	.600	↓	.034	
510	1614.50	22.846	.700		.034	
511	1801.00	26.110	.800	↑	.035	
512	1987.5	29.374	.900		45°	
513	868.5	9.791	.300	↓	.035	
514	961.75	11.423	.350			67.5°
515	1055.00	13.055	.400	↑	.035	
516	1241.50	16.319	.500		.034	
517	1428.00	19.582	.600	↓	.034	
518	1521.25	21.214	.650			.035
519	1614.50	22.846	.700	↑	.034	
520	1707.75	24.478	.750			.035
521	1801.00	26.110	.800	↓	.035	
522	1987.5	29.374	.900			67.5°
523	682.00	6.528	.200	↑	.035	
524	775.25	8.159	.250			90°
525	821.88	8.975	.275	↓	.034	
526	868.50	9.791	.300			.035
527	915.12	10.607	.325	↑	.034	
528	961.75	11.423	.350			.035
529	1055.00	13.055	.400	↓	.035	
530	1148.25	14.687	.450			.034
531	1241.5	16.319	.500	↑	.035	
532	1334.75	17.951	.550			.034
533	1428.00	19.582	.600	90°	.034	

*MEASURED FROM NOSE

Table IV. (Continued)
(External Tank)

T/C NO.	x_T FS	x_{ms}^*	$\frac{x}{L}$	θ	SKIN THICKNESS	REMARKS
534	1521.25	21.214	.650	90°	.034	
535	1614.50	22.846	.700	↑	.034	
536	1707.75	24.478	.750	↑	.035	
537	1801.00	26.110	.800	↓	.035	
538	1894.25	27.742	.850	↓	.034	
539	1987.50	29.374	.900	90°		
540	821.88	8.975	.275	112.5°	.035	
541	868.50	9.791	.300	↑	↑	
542	915.12	10.607	.325	↑	↑	
543	961.75	11.423	.350	↑	↓	
544	1055.00	13.055	.400	↑	↓	
545	1148.25	14.687	.450	↑	.035	
546	1241.50	16.319	.500	↑	.034	
547	1334.75	17.951	.550	↑	.035	
548	1428.00	19.582	.600	↑	.034	
549	1521.25	21.214	.650	↑	.034	
550	1614.50	22.846	.700	↑	.034	
551	1707.75	24.478	.750	↑	.035	
552	1801.00	26.110	.800	↑	↑	
553	1894.25	27.742	.850	↓	↓	
554	1987.50	29.374	.900	112.5°	.035	
555	1847.62	26.926	.825	123°	.034	
556	1894.25	27.742	.850	↑	.035	
557	1940.88	28.558	.875	↑	.034	
558	1987.50	29.374	.900	↓	.035	
559	2034.12	30.190	.925	↓	.035	
560	2099.40	31.332	.960	123°	.034	
561	915.12	10.607	.325	135°	.035	
562	961.75	11.423	.350	↑	↑	
563	1008.38	12.239	.375	↑	↓	
564	1055.00	13.055	.400	↑	↓	
565	1148.25	14.687	.450	↑	.035	
566	1241.50	16.319	.500	↑	.034	
567	1334.75	17.951	.550	↑	.035	
568	1428.00	19.582	.600	↓	.034	
569	1521.25	21.214	.650	135°	.034	

*MEASURED FROM NOSE

Table IV. (Continued)
(External Tank)

T/C NO.	x_T FS	x_{ms}	$\frac{x}{L}$	θ	SKIN THICKNESS	REMARKS
570	1614.50	22.846	.700	135°	.035	
571	1707.75	24.478	.750	↑	.034	
572	1801.00	26.110	.800	↓	.035	
573	1894.25	27.742	.850	↓	.034	
574	1987.50	29.374	.900	↓	.035	
575	2052.78	30.576	.935	135°		
576	1055.00	13.055	.400	151	.035	
577	1101.62	13.871	.425	157	↑	
578	1148.25	14.687	.450	↑	↓	
579	1194.88	15.503	.475	↑	.035	
580	1241.50	16.319	.500	↑	.034	
581	1334.75	17.951	.550	↑	.035	
582	1428.00	19.582	.600	↑	.034	
583	1521.25	21.214	.650	↑	.034	
584	1614.50	22.846	.700	↑	.035	
585	1707.75	24.478	.750	↑	.035	
586	1801.00	26.110	.800	↑	.035	
587	1894.25	27.742	.850	↓	.034	
588	1987.50	29.374	.900	157	.034	
589	1101.62	13.871	.425	161	.035	
590	1241.50	16.319	.500	165°	.034	
591	1614.50	22.846	.700	165°	.035	
592	1987.50	29.374	.900	165°	.034	
593	1055.00	13.055	.400	165°	.035	
594	309.00	0.000	0.000	180	.033	NOSE
595	318.32	0.163	.005	↑	.033	
596	327.65	0.326	.010	↓	.034	
597	383.60	1.306	.040	↓	.033	
598	458.20	2.611	.080	180°	.035	↓

*MEASURED FROM NOSE

Table IV. (CONTINUED)
(External Tank)

T/C NO.	x_T FS	x_{ms}^*	$\frac{x}{L}$	θ	SKIN THICKNESS	REMARKS
599	588.75	4.896	.150	180°	.035	
600	682.00	6.528	.200	↑	.034	
601	775.25	8.159	.250		.035	
602	868.50	9.791	.300	↑	↓	
603	961.75	11.423	.350		↓	
604	1008.38	12.239	.375	↑	.035	
605	1055.00	13.055	.400		.034	
606	1101.62	13.871	.425	↑	↓	
607	1148.25	14.687	.450		↓	
608	1194.88	15.503	.475	↑	↓	
609	1241.50	16.319	.500		.034	
610	1288.12	17.135	.525	↑	.035	
611	1334.75	17.951	.550		.035	
612	1381.38	18.767	.575	↑	.034	
613	1428.00	19.582	.600		↓	
614	1474.62	20.398	.625	↑	↓	
615	1521.25	21.214	.650		↓	
616	1567.88	22.030	.675	↑	↓	
617	1614.50	22.846	.700		.034	
618	1707.75	24.478	.750	↑	.035	
619	1801.00	26.110	.800		.035	
620	1894.25	27.742	.850	↑	.035	
621	1987.5	29.374	.900		.034	
622	2056.50	30.581	.937	↓	.034	
623	2127.38	31.822	.975	180°	.034	
624	458.20	2.611	.080	194°	.035	
625	587.75	4.896	.150	196°	.035	
626	868.50	9.791	.300	196°	.035	

*MEASURED FROM NOSE

Table VI. (Concluded)
(External Tank)

T/C NO.	x_T FS	x_{ms}^*	$\frac{x}{L}$	θ	SKIN THICKNESS	REMARKS
627	1241.50	16.319	.500	196°	.034	
628	1614.50	22.846	.700	196°	.034	
629	1987.50	29.374	.900	197°	.034	
630	588.75	4.896	.150	208°	.033	
631	1055.00	13.055	.400	↑	.034	
632	1428.00	19.582	.600	↓	.035	
633	1801.00	26.110	.800	↓	.035	
634	2056.50	30.581		208	.035	
635	1055.00	13.055	.400	216°	.034	
636	1241.50	16.319	.500	216°	.034	
637	1614.50	22.846	.700	216°	.034	
638	933.78	10.934	.335	222.5°	.036	
639	1055.00	13.055	.400	229°	.034	
640	1428.00	19.582	.600	229°	.035	
641	1801.00	26.110	.800	229°	.035	

*MEASURED FROM NOSE

TABLE V.

THERMOCOUPLE HOOKUP SCHEDULE

T/C Schedule 1

<u>Channel No.</u>	<u>T/C No.</u>	<u>Channel No.</u>	<u>T/C No.</u>	<u>Channel No.</u>	<u>T/C No.</u>
1	1	33	34	65	68
2	2	34	35	66	69
3	3	35	36	67	71
4	4	36	37	68	72
5	5	37	38	69	74
6	6	38	39	70	90
7	7	39	40	71	91
8	8	40	41	72	92
9	9	41	42	73	93
10	10	42	43	74	94
11	11	43	44	75	95
12	12	44	45	76	96
13	14	45	46	77	97
14	15	46	47	78	98
15	16	47	48	79	99
16	17	48	49	80	100
17	18	49	50	81	101
18	19	50	51	82	102
19	20	51	52	83	103
20	21	52	53	84	104
21	22	53	54	85	105
22	23	54	56	86	111
23	24	55	58	87	115
24	25	56	59	88	116
25	26	57	60	89	134
26	27	58	61	90	135
27	28	59	62	91	150
28	29	60	63	92	155
29	30	61	64	93	156
30	31	62	65	94	157
31	32	63	66	95	158
32	33	64	67	96	159
				97	160

TABLE V. - Continued.

THERMOCOUPLE HOOKUP SCHEDULE

T/C Schedule 2

<u>Ch-n No.</u>	<u>T/C No</u>	<u>Ch-n No</u>	<u>T/C No</u>	<u>Ch-n No.</u>	<u>T/C No.</u>
1	161	33	193	65	229
2	162	34	194	66	230
3	163	35	195	67	233
4	164	36	196	68	234
5	165	37	197	69	246
6	166	38	198	70	247
7	167	39	199	71	248
8	168	40	200	72	249
9	169	41	201	73	274
10	170	42	202	74	275
11	171	43	203	75	276
12	172	44	204	76	280
13	173	45	205	77	281
14	174	46	206	78	282
15	175	47	207	79	285
16	176	48	208	80	286
17	177	49	209	81	288
18	178	50	210	82	501
19	179	51	211	83	502
20	180	52	212	84	503
21	181	53	213	85	504
22	182	54	214	86	505
23	183	55	215	87	506
24	184	56	216	88	507
25	185	57	217	89	508
26	186	58	218	90	509
27	187	59	219	91	510
28	188	60	220	92	511
29	189	61	221	93	512
30	190	62	222	94	513
31	191	63	223	95	515
32	192	64	224	96	516
				97	517

TABLE V. - Continued.

THERMOCOUPLE HOOKUP SCHEDULE

T/C Schedule 3

<u>Chan No.</u>	<u>T/C No.</u>	<u>Chan No.</u>	<u>T/C No.</u>	<u>Chan No.</u>	<u>T/C No.</u>
1	519	33	574	65	609
2	521	34	576	66	610
3	523	35	577	67	611
4	526	36	578	68	612
5	529	37	579	69	613
6	531	38	580	70	614
7	533	39	581	71	615
8	535	40	582	72	616
9	537	41	583	73	617
10	539	42	584	74	618
11	541	43	585	75	619
12	544	44	586	76	620
13	546	45	587	77	621
14	548	46	589	78	622
15	550	47	590	79	623
16	552	48	591	80	624
17	555	49	592	81	625
18	557	50	594	82	626
19	558	51	595	83	627
20	561	52	596	84	628
21	562	53	597	85	629
22	563	54	598	86	630
23	564	55	599	87	631
24	565	56	600	88	632
25	566	57	601	89	633
26	567	58	602	90	634
27	568	59	603	91	635
28	569	60	604	92	636
29	570	61	605	93	637
30	571	62	606	94	638
31	572	63	607	95	639
32	573	64	608	96	640
				97	641

TABLE V. - Continued.

THERMOCOUPLE HOOKUP SCHEDULE

T/C Schedule L

<u>Ch'n No</u>	<u>T/C No</u>	<u>Ch'n No</u>	<u>T/C No</u>	<u>Ch'n No</u>	<u>T/C No</u>
1	77	33	34	65	68
2	78	34	35	66	69
3	79	35	36	67	71
4	80	36	37	68	72
5	81	37	38	69	74
6	82	38	39	70	90
7	83	39	40	71	91
8	84	40	41	72	92
9	85	41	42	73	93
10	86	42	43	74	94
11	87	43	44	75	95
12	12	44	45	76	96
13	14	45	46	77	97
14	15	46	47	78	98
15	16	47	48	79	99
16	17	48	49	80	100
17	18	49	50	81	101
18	19	50	51	82	102
19	20	51	52	83	103
20	21	52	53	84	104
21	22	53	54	85	105
22	23	54	56	86	111
23	24	55	58	87	115
24	25	56	59	88	116
25	26	57	60	89	134
26	27	58	61	90	135
27	28	59	62	91	150
28	29	60	63	92	155
29	30	61	64	93	156
30	31	62	65	94	157
31	32	63	66	95	158
32	33	64	67	96	159
				97	160

TABLE V. - Continued.

THERMOCOUPLE HOOKUP SCHEDULE

T/C Schedule 5

Chrn No	T/C No	Chrn No	T/C No	Chrn No	T/C No
1	Open	33	Open	65	Open
2		34		66	
3		35		67	
4		36		68	
5		37		69	
6		38		70	
7		39		71	
8		40		72	
9		41		73	
10		42		74	
11		43		75	
12		44		76	
13		45		77	
14		46		78	
15		47		79	
16		48		80	
17		49		81	
18		50		82	501
19		51		83	502
20		52		84	503
21		53		85	504
22		54		86	505
23		55		87	506
24		56		88	507
25		57		89	508
26		58		90	509
27		59		91	510
28		60		92	511
29		61		93	512
30		62		94	513
31		63		95	515
32		64		96	516
				97	517

TABLE V. - Continued.

T/C Schedule 6

THERMOCOUPLE HOOKUP SCHEDULE

<u>Chan No</u>	<u>T/C No</u>
1	59
2	60
3	61
4	62
5	63
6	64
7	65
8	66
9	67
10	68
11	69
12	70
13	71
14	72
15	73
16	74
17	75
18	76
19	88
20	89
21	90
22	91
23	92
24	101
25	102
26	103
27	104
28	105
29	106
30	107
31	108
32	109

<u>Chan No</u>	<u>T/C No</u>
33	110
34	111
35	112
36	113
37	114
38	115
39	116
40	117
41	118
42	119
43	120
44	121
45	122
46	123
47	124
48	125
49	126
50	127
51	128
52	129
53	130
54	131
55	132
56	133
57	134
58	135
59	136
60	137
61	138
62	139
63	140
64	141

<u>Chan No</u>	<u>T/C No</u>
65	142
66	143
67	144
68	145
69	146
70	147
71	148
72	149
73	150
74	151
75	152
76	153
77	154
78	155
79	156
80	157
81	158
82	159
83	160
84	161
85	162
86	163
87	164
88	165
89	166
90	167
91	168
92	169
93	170
94	171
95	172
96	173
97	174

7

TABLE V. - Continued.

THERMOCOUPLE HOOKUP SCHEDULET/C Schedule 7

<u>Chan No</u>	<u>T/C No</u>	<u>Chan No</u>	<u>T/C No</u>	<u>Chan No</u>	<u>T/C No</u>
1	175	33	207	65	255
2	176	34	208	66	256
3	177	35	209	67	258
4	178	36	210	68	259
5	179	37	211	69	260
6	180	38	212	70	261
7	181	39	213	71	262
8	182	40	214	72	263
9	183	41	215	73	264
10	184	42	216	74	265
11	185	43	217	75	266
12	186	44	218	76	267
13	187	45	219	77	268
14	188	46	220	78	269
15	189	47	221	79	270
16	190	48	222	80	271
17	191	49	223	81	272
18	192	50	224	82	273
19	193	51	241	83	274
20	194	52	242	84	275
21	195	53	243	85	276
22	196	54	244	86	277
23	197	55	245	87	278
24	198	56	246	88	279
25	199	57	247	89	280
26	200	58	248	90	281
27	201	59	249	91	282
28	202	60	250	92	283
29	203	61	251	93	284
30	204	62	252	94	285
31	205	63	253	95	286
32	206	64	254	96	287
				97	288

TABLE V. - Continued.

THERMOCOUPLE HOOKUP SCHEDULE

T/C Schedule 8

<u>Channel No.</u>	<u>T/C No.</u>	<u>Channel No.</u>	<u>T/C No.</u>	<u>Channel No.</u>	<u>T/C No.</u>
1	1	33	34	65	84
2	2	34	35	66	85
3	3	35	36	67	86
4	4	36	37	68	87
5	5	37	38	69	93
6	6	38	39	70	94
7	7	39	40	71	95
8	8	40	41	72	96
9	9	41	42	73	97
10	10	42	43	74	98
11	11	43	44	75	99
12	12	44	45	76	100
13	14	45	46	77	225
14	15	46	47	78	226
15	16	47	48	79	227
16	17	48	49	80	228
17	18	49	50	81	229
18	19	50	51	82	230
19	20	51	52	83	231
20	21	52	53	84	232
21	22	53	54	85	233
22	23	54	55	86	234
23	24	55	56	87	235
24	25	56	57	88	236
25	26	57	58	89	237
26	27	58	77	90	238
27	28	59	78	91	239
28	29	60	79	92	240
29	30	61	80	93	Open
30	31	62	81	94	↑
31	32	63	82	95	↓
32	33	64	83	96	Open
				97	

TABLE V. - Continued.

THERMOCOUPLE HOOKUP SCHEDULE

T/C Schedule 2

<u>Channel No.</u>	<u>T/C No.</u>	<u>Channel No.</u>	<u>T/C No.</u>	<u>Channel No.</u>	<u>T/C No.</u>
1	301	33	9	65	42
2	302	34	10	66	43
3	303	35	11	67	44
4	304	36	12	68	45
5	305	37	14	69	46
6	306	38	15	70	47
7	307	39	16	71	48
8	308	40	17	72	49
9	309	41	18	73	50
10	310	42	19	74	51
11	311	43	20	75	52
12	312	44	21	76	53
13	313	45	22	77	54
14	314	46	23	78	56
15	315	47	24	79	58
16	316	48	25	80	93
17	317	49	26	81	94
18	318	50	27	82	95
19	319	51	28	83	96
20	319	52	29	84	97
21	321	53	30	85	98
22	322	54	31	86	99
23	323	55	32	87	100
24	324	56	33	88	91
25	1	57	34	89	108
26	2	58	35	90	110
27	3	59	36	91	112
28	4	60	37	92	92
29	5	61	38	93	109
30	6	62	39	94	113
31	7	63	40	95	114
32	8	64	41	96	Open
				97	Open

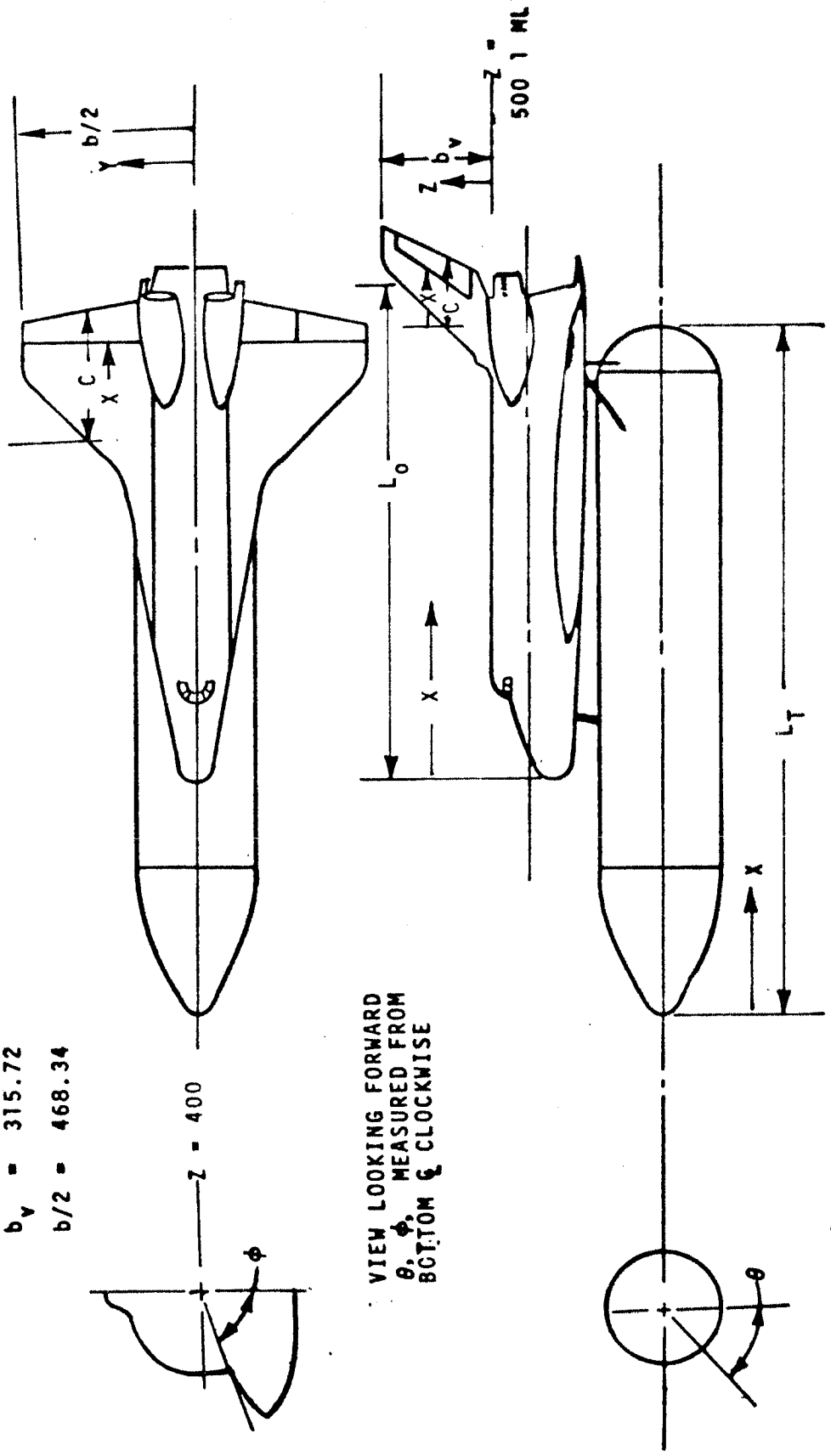
TABLE V. - Concluded.

THERMOCOUPLE HOOKUP SCHEDULE

T/C Schedule 10

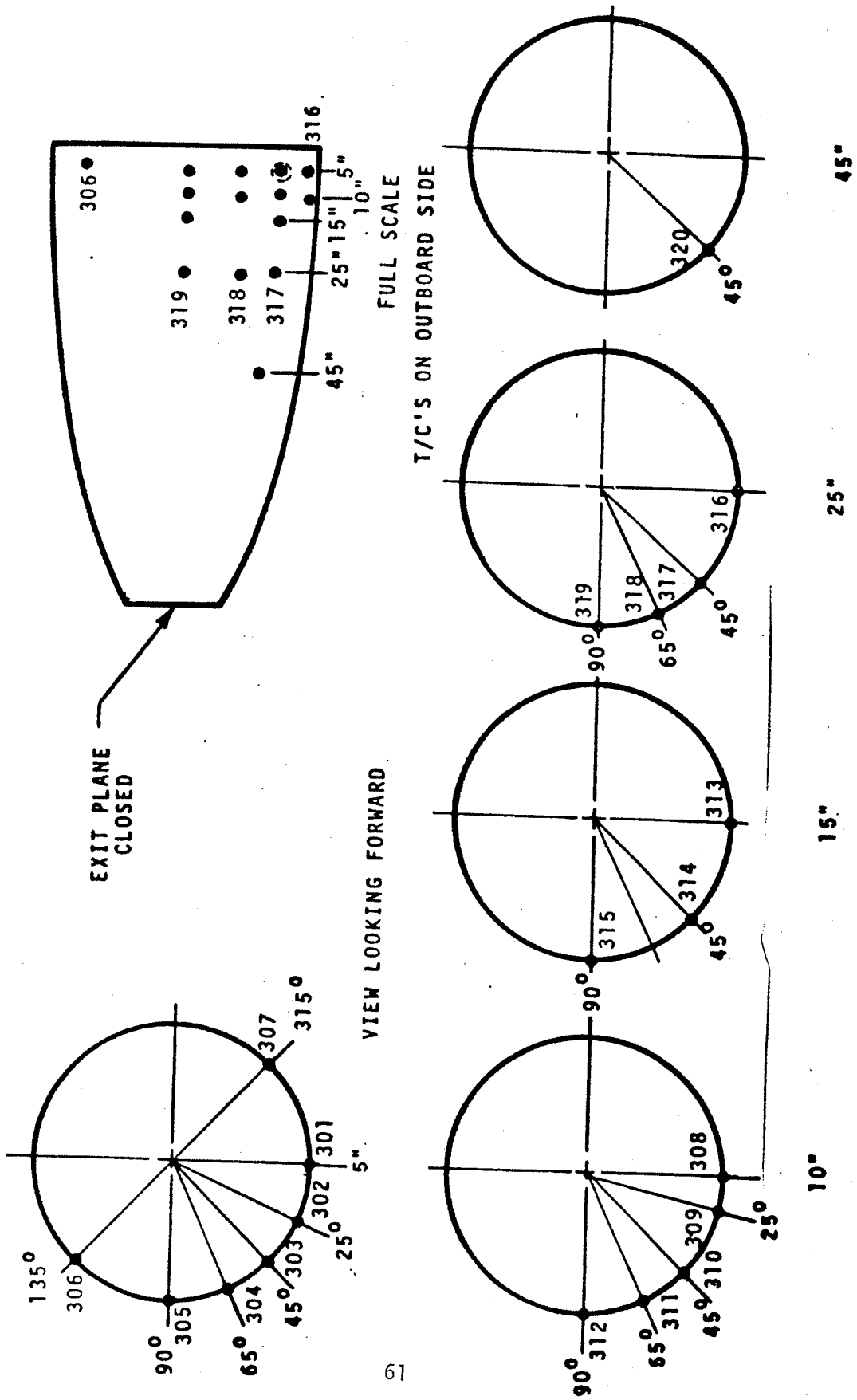
<u>Chan No</u>	<u>T/C No</u>	<u>Chan No</u>	<u>T/C No</u>	<u>Chan No</u>	<u>T/C No</u>
1	155	33	187	65	219
2	156	34	188	66	220
3	157	35	189	67	221
4	158	36	190	68	222
5	159	37	191	69	223
6	160	38	192	70	224
7	161	39	193	71	Open
8	162	40	194	72	
9	163	41	195	73	
10	164	42	196	74	
11	165	43	197	75	
12	166	44	198	76	
13	167	45	199	77	
14	168	46	200	78	
15	169	47	201	79	
16	170	48	202	80	
17	171	49	203	81	
18	172	50	204	82	
19	173	51	205	83	
20	174	52	206	84	
21	175	53	207	85	
22	176	54	208	86	
23	177	55	209	87	
24	178	56	210	88	
25	179	57	211	89	
26	180	58	212	90	
27	181	59	213	91	
28	182	60	214	92	
29	183	61	215	93	
30	184	62	216	94	
31	185	63	217	95	
32	186	64	218	96	
				97	

$L_0 = 1290.3 \text{ IN.}$
 $L_T = 1865.0$
 $b_v = 315.72$
 $b/2 = 468.34$

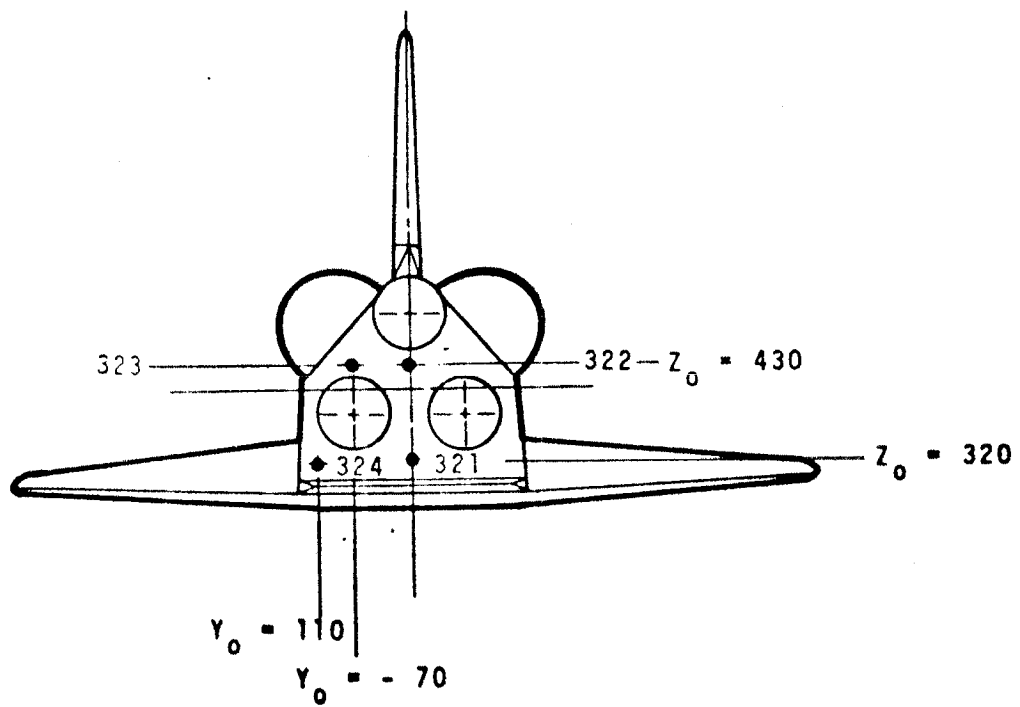


VIEW LOOKING FORWARD
 θ, ϕ MEASURED FROM
 BOTTOM ϕ CLOCKWISE

Figure 1. - Model instrumentation reference system.

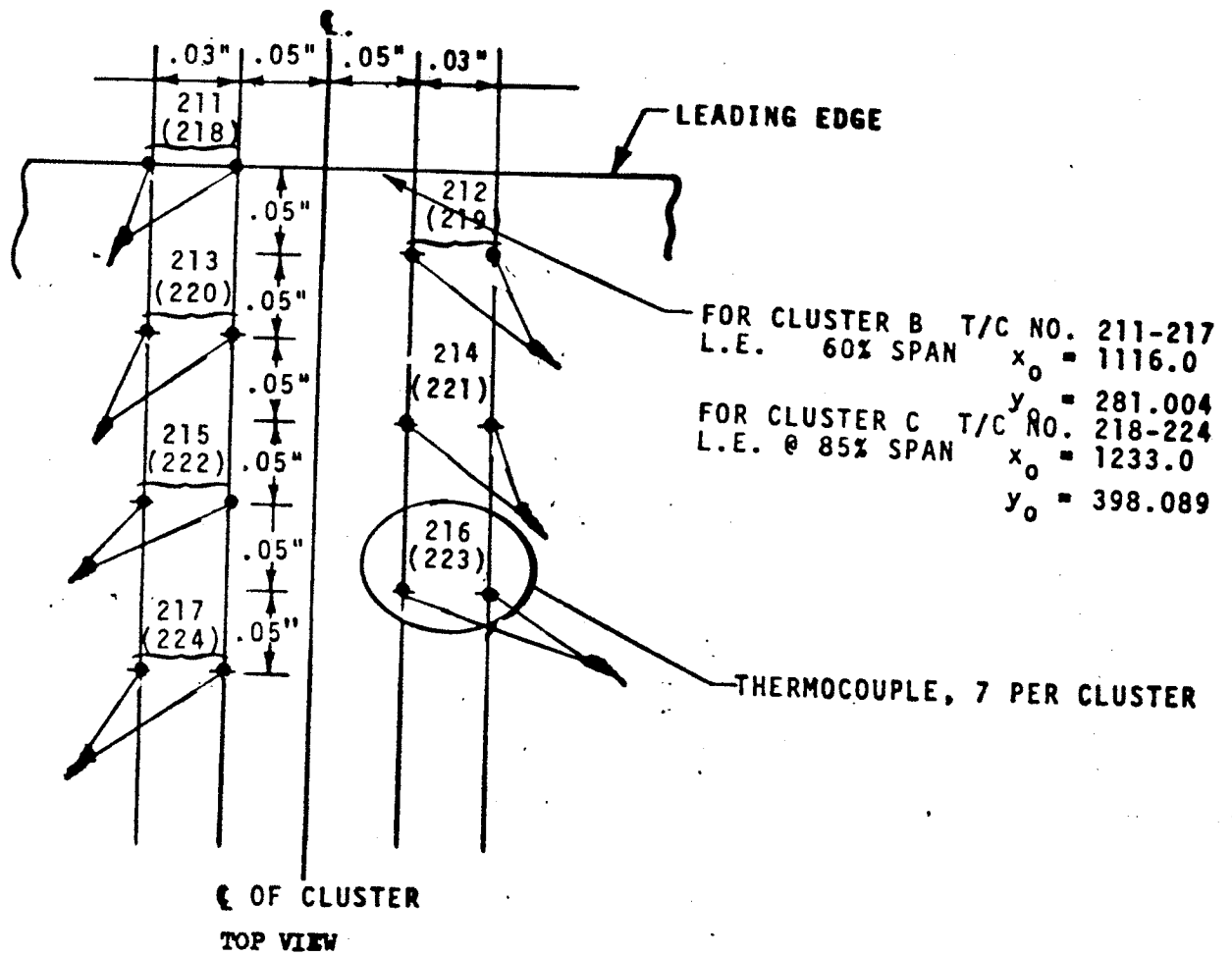


a. 22-OTS Instrumented nozzle
 Figure 2. - Orbiter instrumentation.



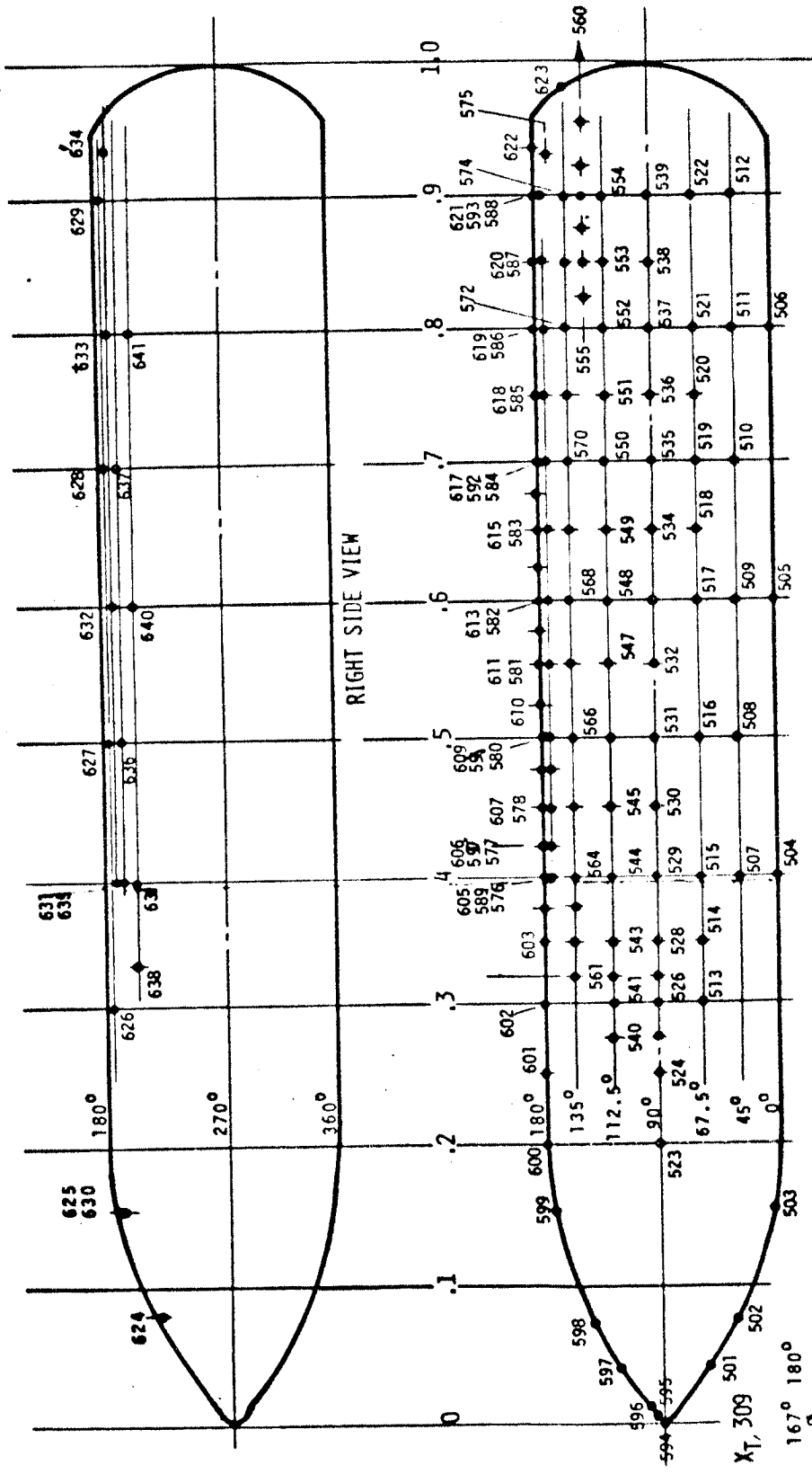
b. Instrumented Nozzle Base Plate
 Model 22-OTS

Figure 2. - Continued.



c. Wing Leading Edge Clusters B and C T/C Locations

Figure 2. - Continued.

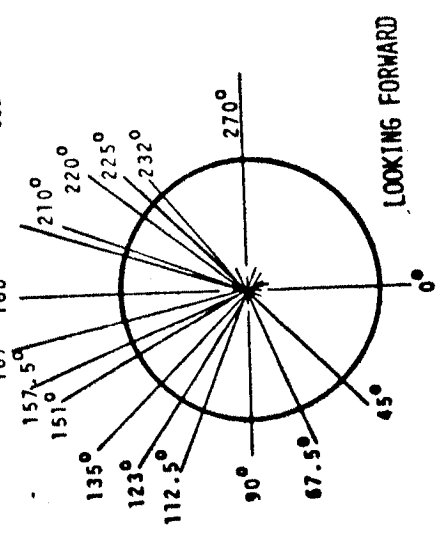


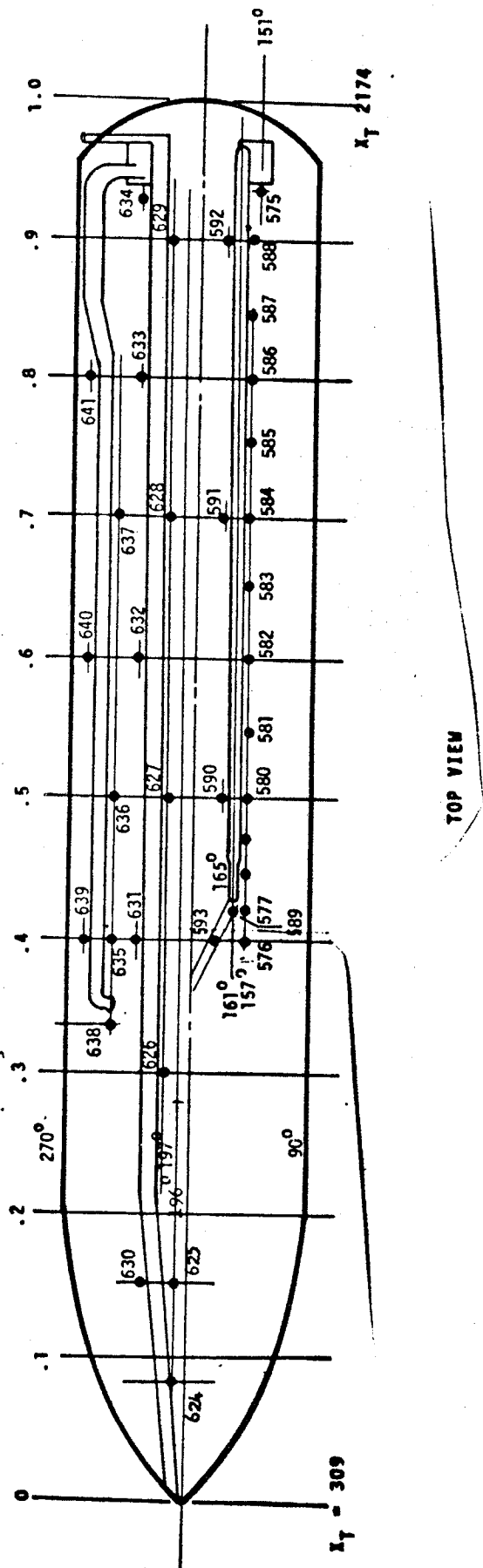
X_T 2174

LEFT SIDE VIEW

d. External Tank T/C Locations Side Views

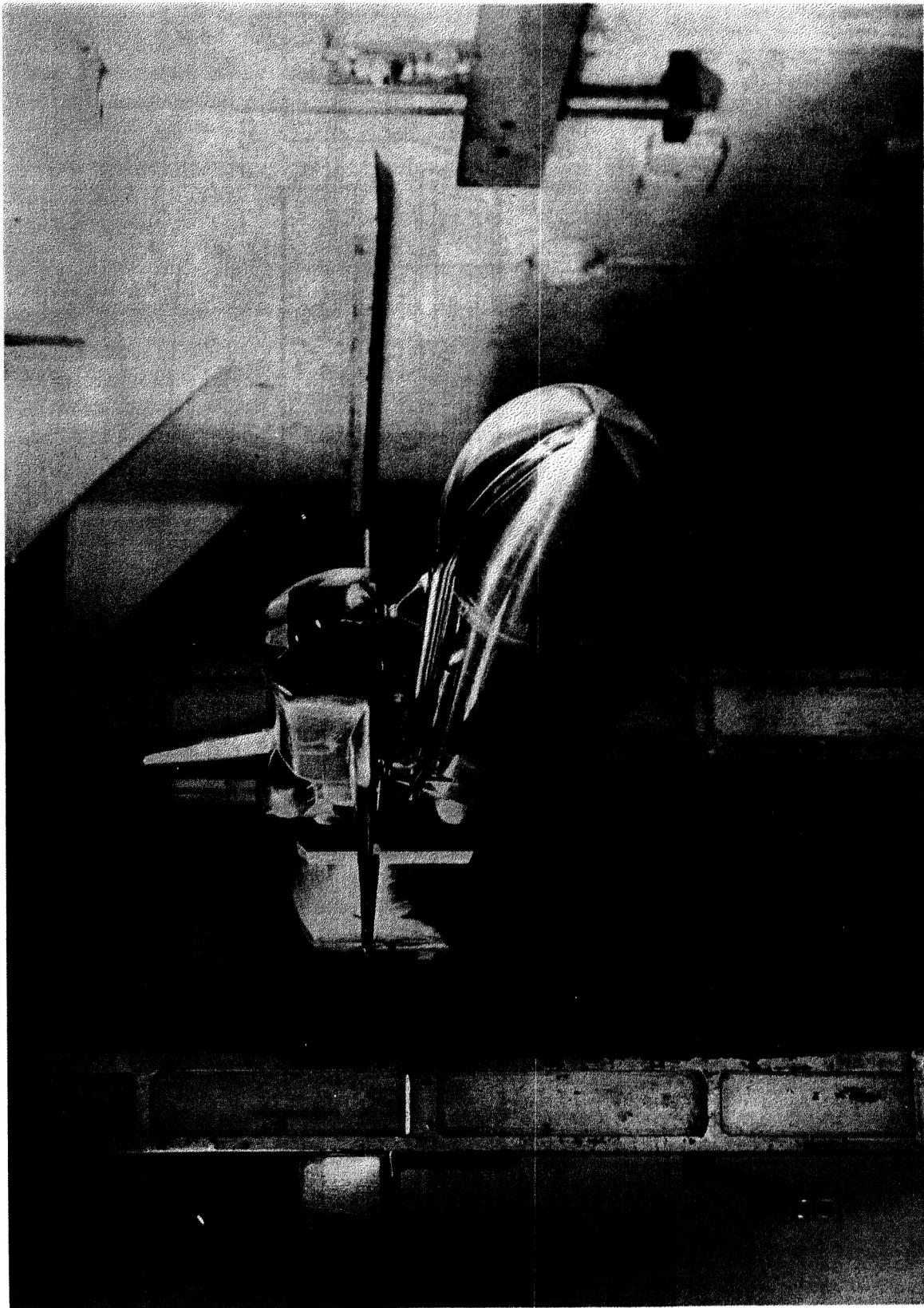
Figure 2. - Continued.





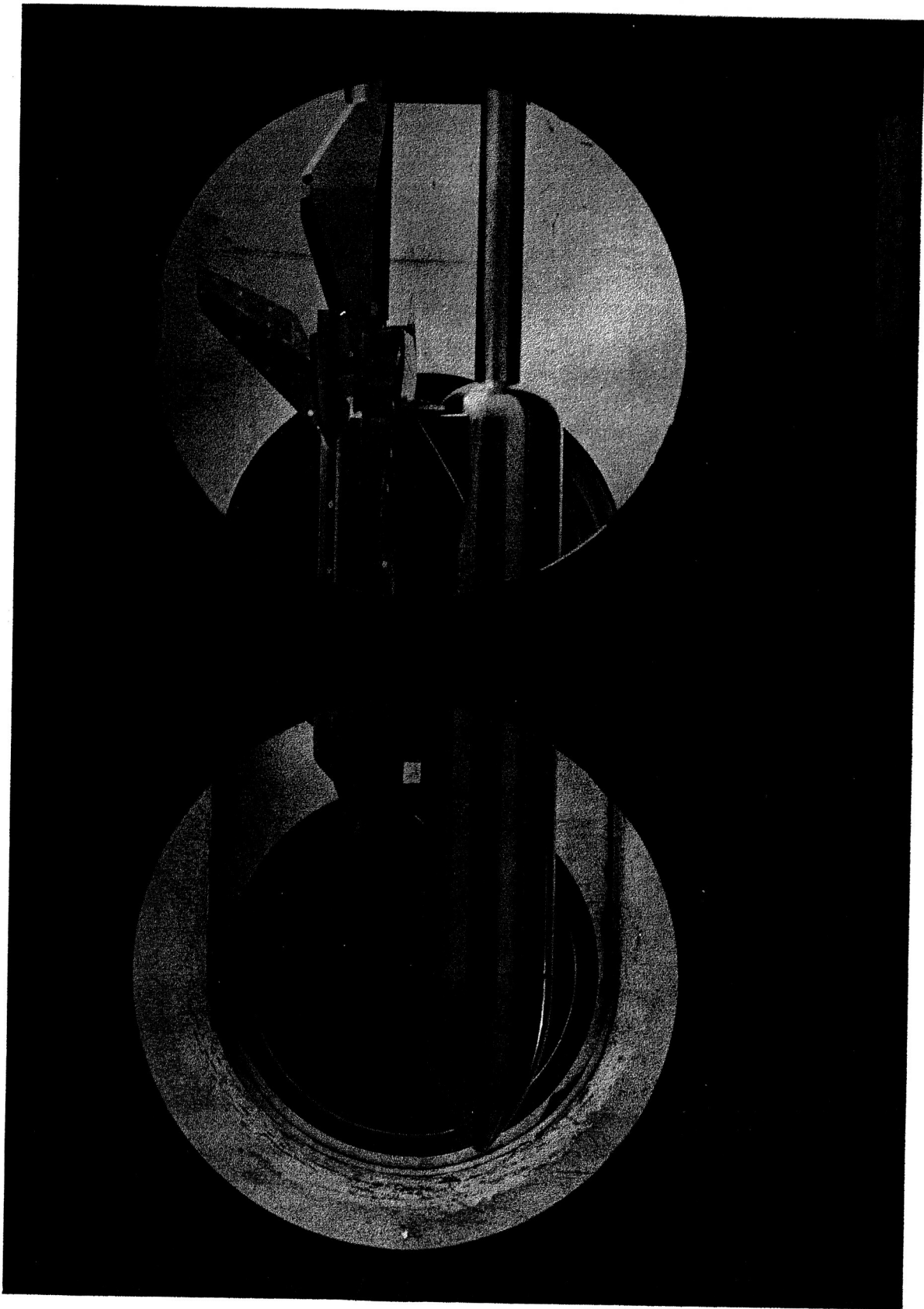
e. External Tank T/C Locations (Locations around plumbing only) Top View

Figure 2. - Concluded.



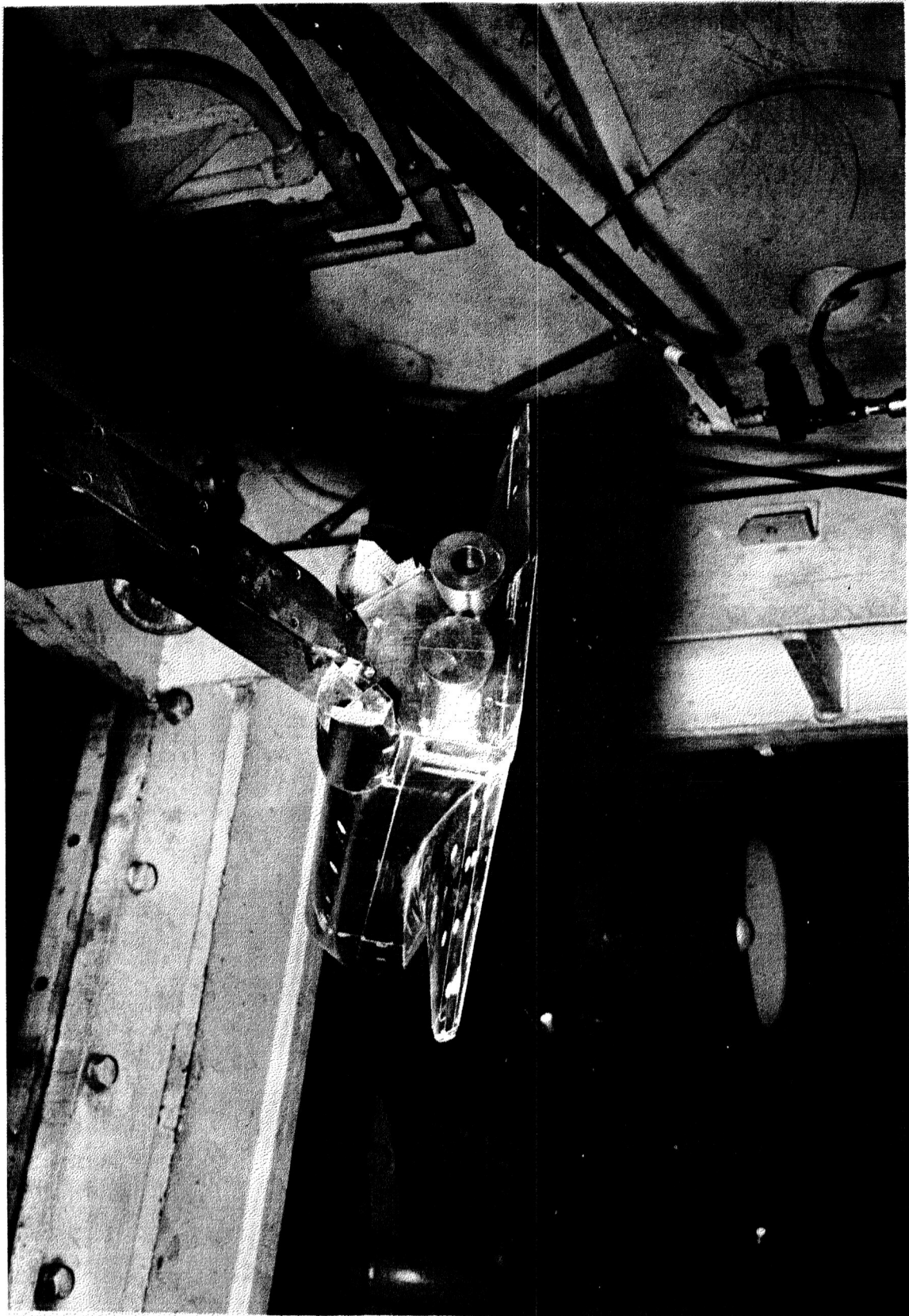
a. Second Stage Configuration Front View

Figure 3. - Model photographs.



b. Second Stage Configuration Side View

Figure 3. - Continued.



c. Re-entry Nozzle Heating Installation

Figure 3. - Concluded.

APPENDIX
TABULATED SOURCE DATA
Recovery Factor = 0.9

Components are designated by the 4th character in the dataset identifier.

T	tank
B	orbiter fuselage
L	bottom wing surface
U	upper wing surface
V	vertical tail
N	left main nozzle
R	RCS center
P	base plate
M	OMS pod
Y	orbiter fuselage, Y = 0.875
C	wing upper crease
F	orbiter fuselage, Y = 7.525

AEDC VA352 CH4B 01+110 EXTERNAL TANK

(ATK101) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.3803 IN. YMRP = .0000 IN.
DREF = 18.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
B-FLAP = .000 ELEVON = .000
HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = -10.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE HI/HD

PHI	.0000	.45.0000	87.9000	90.0000	112.5000	123.0000	135.0000	151.0000	161.0000	180.0000	196.0000	197.0000	208.0000
X/LT	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.005	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.010	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
.040	.0891	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.080	.0426	.0077	.0114	.0257	.0499	.0816	.1154	.1508	.1479	.1258	.0913	.0645	.0481
.190	.0100	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.200		.0193	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.290		.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.275		.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.300		.0077	.0114	.0257	.0499	.0816	.1154	.1508	.1479	.1258	.0913	.0645	.0481
.325		.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.350		.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.375		.0076	.0158	.0341	.0616	.0965	.1349	.1744	.1479	.1258	.0913	.0645	.0481
.400	.0055	.0090	.0176	.0341	.0616	.0965	.1349	.1744	.1479	.1258	.0913	.0645	.0481
.425		.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.450		.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.475		.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.500		.0035	.0091	.0186	.0336	.0549	.0784	.1032	.0750	.0587	.0422	.0294	.0231
.525		.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.550		.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.575		.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.600	.0167	.0025	.0000	.0089	.0284	.0407	.0549	.0784	.0750	.0587	.0422	.0294	.0231
.625		.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.650		.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.675		.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.700		.0041	.0091	.0081	.0260	.0459	.0641	.0812	.0587	.0422	.0294	.0231	.0174
.750		.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.800	.0293	.0034	.0029	.0033	.0246	.0384	.0548	.0717	.0587	.0422	.0294	.0231	.0174
.825		.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.850		.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.875		.0080	.0000	.0134	.0360	.0548	.0717	.0886	.0686	.0597	.0455	.0354	.0294
.900		.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.925		.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.935		.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.937		.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.960		.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.975		.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

(ATK101)

AEDC VA352 CH4B CH4+110 EXTERNAL TANK

MACH (1) = 8.000 ALPHA (1) = -10.000

SECTION (1) EXTERNAL TANK

DEPENDENT VARIABLE HI/HO

PHI 216.0000222, 9000229, 0000

X/LT	
.335	.0598
.400	.0680
.500	.1203
.600	.0340
.700	.0487
.800	.0000

MACH (1) = 9.000 ALPHA (2) = -5.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) EXTERNAL TANK

DEPENDENT VARIABLE HI/HO

PHI .0000 45.0000 67.9000 90.0000112, 5000123, 0000135, 0000151, 0000157, 0000161, 0000165, 0000180, 0000196, 0000197, 0000208, 0000

X/LT									
.000									.8172
.005									.5524
.010									.8378
.040	.1280								.2842
.080	.0676								.2278
.150	.0186								.0719
.200		.0243							.0274
.250		.0000							.0121
.275		.0000	.0000						.0094
.300		.0130	.0156						.0349
.325		.0000	.0000	.0200					.0186
.350		.0000	.0000	.0246					.0545
.375		.0019	.0104	.0323					.0691
.400	.0019	.0039	.0120	.0167	.0763	.0932			.1834
.425					.0939				.5608
.450					.0374				.0663
.500					.0437				.0196
.525					.0429				.1200
.550									.1245
.575									.0856
.600	.0058	.0129	.0000	.0265	.0651	.0924			.0605
.625									.0524
.650									.0545
.675									.0630
.700		.0111	.0132	.0315	.0556	.0524			.0553
.750		.0000	.0000	.0381	.0246				.0379
.800	.0131	.0120	.0046	.0164	.0159				.0423
.825				.0446					
.850			.0000	.0000	.0119				.0325
.875				.0209					

(ATKT01)

AEDC VA352 CH4B 014T10 EXTERNAL TANK

MACH (1) = 8.000 ALPHA (2) = -5.000

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE HI/HO

PHI	.0000	45.0000	67.5000	90.0000	112.5000	123.0000	135.0000	151.0000	157.0000	161.0000	165.0000	180.0000	196.0000	197.0000	208.0000			
X/LT	.900	.925	.935	.937	.960	.975	.0067	.0000	.0132	.0000	.0291	.0336	.0000	.0000	.0599	.0574	.0533	
								.0000								.1123	.1269	
																.0172		

PHI 216.0000222.5000229.0000

X/LT	.335	.400	.500	.600	.700	.800
	.0466	.0593	.1315	.0185	.0461	.0000

MACH (1) = 8.000 ALPHA (3) = .000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE HI/HO

PHI	.0000	45.0000	67.5000	90.0000	112.5000	123.0000	135.0000	151.0000	157.0000	161.0000	165.0000	180.0000	196.0000	197.0000	208.0000					
X/LT	.000	.005	.010	.040	.080	.190	.200	.275	.300	.325	.350	.375	.400	.425	.450	.475	.500	.525	.550	.575
				.1654	.0961	.0312	.0150	.0000	.0062	.0000	.0000	.0000	.0059	.0101	.0000	.0328	.0000	.0144	.0276	.0464
													.0096	.0068	.0157	.0255	.0413	.0519	.0310	.0228
																	.0563	.0276	.0262	.0538
														.0031	.0229	.0000	.0000	.0000	.0223	.0858
													.0179	.0328	.0376	.1338	.4516	.0495	.0589	.0630
													.8331	.5288	.7669	.2235	.1918	.0553	.0174	.0061
													.0501	.1154	.0927	.0000	.0000	.0000	.0000	.0000

AEDC VA352 CH4B 01+T10 EXTERNAL TANK

(ATKTD01)

MACH (1) = 6.000 ALPHA (4) = 5.000

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE HI/HO

PHI .0000 45.0000 67.5000 90.0000 112.5000 123.0000 135.0000 151.0000 157.0000 161.0000 165.0000 180.0000 196.0000 197.0000 206.0000

X/LT	.350	.375	.400	.425	.450	.475	.500	.525	.550	.575	.600	.625	.650	.675	.700	.750	.800	.825	.850	.875	.900	.925	.935	.937	.960	.975	
	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
	.0068	.0108	.0180	.0198	.0253	.0330	.0390	.0374	.0405	.0403	.0386	.0183	.0267	.0327	.0506	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
	.0278	.0351	.0426	.0099	.0142	.0097	.0163	.0200	.0216	.0168	.0116	.0141	.0239	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
	.0125	.0188	.0458	.2234	.1722	.0258	.0319	.0473	.0390	.0385	.0418	.0356	.0292	.0275	.0311	.0273	.0237	.0255	.0373	.0373	.0373	.0373	.0373	.0373	.0373	.0373	.0373
	.0135															.0222											.0169
																											.0447
																											.0990
																											.0116

PHI 216.0000 222.5000 229.0000

X/LT	.335	.400	.500	.600	.700	.800
	.0025	.0094	.0722	.0358	.0325	.0000

(ATK102)

AEDC VA352 CH48 01+110 EXTERNAL TANK

MACH (1) = 8.000 BETA (2) = .000

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE HI/HO

PHI .0000 45.0000 87.5000 90.0000 112.5000 125.0000 135.0000 151.0000 157.0000 165.0000 180.0000 196.0000 197.0000 208.0000

X/LT	.900	.925	.935	.937	.960	.975
	.0184	.0000	.0085	.0000	.0265	.0373
				.0000	.0000	.0000
					.0450	.0642
						.0465
						.1055
						.0153
						.1073

PHI 216.0000 222.5000 229.0000

X/LT	.335	.400	.500	.600	.700	.800
	.0040 <td>.0296 <td>.1155 <td>.0175 <td>.0420 <td>.0000 </td></td></td></td></td>	.0296 <td>.1155 <td>.0175 <td>.0420 <td>.0000 </td></td></td></td>	.1155 <td>.0175 <td>.0420 <td>.0000 </td></td></td>	.0175 <td>.0420 <td>.0000 </td></td>	.0420 <td>.0000 </td>	.0000

(ATKT03)

MACH (1) = 8.000 ALPHA (1) = -10.000

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE HI/HO

PHI 216.0000222.5000229.0000

X/LT
.335 .0242
.400 .0625 .0528
.500 .1510
.600 .0080
.700 .0300
.800 .0000

MACH (1) = 8.000 ALPHA (2) = -5.000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE HI/HO

PHI .0000 45.0000 67.5000 90.0000 112.5000 123.0000 135.0000 151.0000 157.0000 161.0000 165.0000 180.0000 196.0000 197.0000 208.0000

X/LT	.000	.005	.010	.040	.060	.150	.200	.250	.275	.300	.325	.350	.375	.400	.425	.450	.475	.500	.525	.550	.575	.600	.625	.650	.675	.700	.750	.800	.825	.850	.875
	.0000	.0005	.0010	.0040	.0060	.0150	.0200	.0250	.0275	.0300	.0325	.0350	.0375	.0400	.0425	.0450	.0475	.0500	.0525	.0550	.0575	.0600	.0625	.0650	.0675	.0700	.0750	.0800	.0825	.0850	.0875
	.0000	.0000	.0000	.0096	.0118	.0277	.0368	.0448	.0483	.0516	.0548	.0580	.0612	.0644	.0676	.0708	.0740	.0772	.0804	.0836	.0868	.0900	.0932	.0964	.0996	.1028	.1060	.1092	.1124	.1156	.1188
	.0000	.0000	.0000	.0096	.0118	.0277	.0368	.0448	.0483	.0516	.0548	.0580	.0612	.0644	.0676	.0708	.0740	.0772	.0804	.0836	.0868	.0900	.0932	.0964	.0996	.1028	.1060	.1092	.1124	.1156	.1188
	.0000	.0000	.0000	.0096	.0118	.0277	.0368	.0448	.0483	.0516	.0548	.0580	.0612	.0644	.0676	.0708	.0740	.0772	.0804	.0836	.0868	.0900	.0932	.0964	.0996	.1028	.1060	.1092	.1124	.1156	.1188
	.0000	.0000	.0000	.0096	.0118	.0277	.0368	.0448	.0483	.0516	.0548	.0580	.0612	.0644	.0676	.0708	.0740	.0772	.0804	.0836	.0868	.0900	.0932	.0964	.0996	.1028	.1060	.1092	.1124	.1156	.1188
	.0000	.0000	.0000	.0096	.0118	.0277	.0368	.0448	.0483	.0516	.0548	.0580	.0612	.0644	.0676	.0708	.0740	.0772	.0804	.0836	.0868	.0900	.0932	.0964	.0996	.1028	.1060	.1092	.1124	.1156	.1188
	.0000	.0000	.0000	.0096	.0118	.0277	.0368	.0448	.0483	.0516	.0548	.0580	.0612	.0644	.0676	.0708	.0740	.0772	.0804	.0836	.0868	.0900	.0932	.0964	.0996	.1028	.1060	.1092	.1124	.1156	.1188
	.0000	.0000	.0000	.0096	.0118	.0277	.0368	.0448	.0483	.0516	.0548	.0580	.0612	.0644	.0676	.0708	.0740	.0772	.0804	.0836	.0868	.0900	.0932	.0964	.0996	.1028	.1060	.1092	.1124	.1156	.1188
	.0000	.0000	.0000	.0096	.0118	.0277	.0368	.0448	.0483	.0516	.0548	.0580	.0612	.0644	.0676	.0708	.0740	.0772	.0804	.0836	.0868	.0900	.0932	.0964	.0996	.1028	.1060	.1092	.1124	.1156	.1188
	.0000	.0000	.0000	.0096	.0118	.0277	.0368	.0448	.0483	.0516	.0548	.0580	.0612	.0644	.0676	.0708	.0740	.0772	.0804	.0836	.0868	.0900	.0932	.0964	.0996	.1028	.1060	.1092	.1124	.1156	.1188
	.0000	.0000	.0000	.0096	.0118	.0277	.0368	.0448	.0483	.0516	.0548	.0580	.0612	.0644	.0676	.0708	.0740	.0772	.0804	.0836	.0868	.0900	.0932	.0964	.0996	.1028	.1060	.1092	.1124	.1156	.1188
	.0000	.0000	.0000	.0096	.0118	.0277	.0368	.0448	.0483	.0516	.0548	.0580	.0612	.0644	.0676	.0708	.0740	.0772	.0804	.0836	.0868	.0900	.0932	.0964	.0996	.1028	.1060	.1092	.1124	.1156	.1188
	.0000	.0000	.0000	.0096	.0118	.0277	.0368	.0448	.0483	.0516	.0548	.0580	.0612	.0644	.0676	.0708	.0740	.0772	.0804	.0836	.0868	.0900	.0932	.0964	.0996	.1028	.1060	.1092	.1124	.1156	.1188

(ATK103)

MACH (1) = 8.000 ALPHA (3) = .000

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE HI/HO

PHI .0000 45.0000 67.5000 90.0000 112.5000 123.0000 135.0000 151.0000 161.0000 165.0000 180.0000 196.0000 197.0000 208.0000

X/LT	.600	.625	.650	.675	.700	.750	.800	.825	.850	.875	.900	.925	.935	.937	.960	.975																
	.0041	.0032	.0000	.0348	.0074	.0322	.0092	.0391	.0318	.0291	.0327	.0283	.0105	.0144	.0222	.0182	.0098	.0198	.0092	.0114	.0130	.0075	.0225	.0131	.0000	.0198	.0092	.0112	.0728	.0098	.0118	.0488

PHI 216.0000 222.5000 229.0000

X/LT	.335	.400	.500	.600	.700	.800	
	.0032	.0106	.0095	.0492	.0053	.0215	.0000

MACH (1) = 8.000 ALPHA (4) = 5.000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE HI/HO

PHI .0000 45.0000 67.5000 90.0000 112.5000 123.0000 135.0000 151.0000 161.0000 165.0000 180.0000 196.0000 197.0000 208.0000

X/LT	.000	.005	.010	.040	.080	.150	.200	.250	.275	.300	.325																					
	.0000	.0000	.0000	.0348	.0074	.0322	.0092	.0391	.0318	.0291	.0327	.0283	.0105	.0144	.0222	.0182	.0098	.0198	.0092	.0114	.0130	.0075	.0225	.0131	.0000	.0198	.0092	.0112	.0728	.0098	.0118	.0488

MACH (4) = 5.000 ALPHA (4) = 5.000

(ATK103)

SECTION (1) EXTERNAL TANK

DEPENDENT VARIABLE HI/HO

PH1 .0000 45.0000 67.5000 93.0000 112.5000 123.0000 135.0000 131.0000 157.0000 165.0000 180.0000 196.0000 197.0000 206.0000

X/LT	.350	.375	.400	.425	.450	.475	.500	.525	.550	.575	.600	.625	.650	.675	.700	.750	.800	.825	.850	.875	.900	.925	.935	.937	.960	.975	
	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
	.0154	.0131	.0106	.0072	.0032	.0126	.0117	.0086	.0039	.0117	.0125	.0118	.0045	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
	.0140	.0266	.0123	.0127	.0137	.0055	.0034	.0068	.0060	.0076	.0069	.0046	.0076	.0069	.0046	.0076	.0069	.0046	.0076	.0069	.0046	.0076	.0069	.0046	.0076	.0069	.0046
	.0000	.0278	.0334	.0150	.0262	.0055	.0334	.0055	.0334	.0055	.0334	.0055	.0334	.0055	.0334	.0055	.0334	.0055	.0334	.0055	.0334	.0055	.0334	.0055	.0334	.0055	.0334
	.0071	.0123	.0325	.1458	.1031	.0169	.0150	.0262	.0151	.0139	.0134	.0136	.0148	.0153	.0135	.0140	.0128	.0201	.0239	.0118	.0280	.0045	.0096	.0096	.0096	.0096	.0096

PH1 216.0000 222.5000 229.0000

X/LT	.335	.400	.500	.600	.700	.800
	.0032	.0020	.0775	.0092	.0087	.0000

AEDC VA352 CH48 01+T10 EXTERNAL TANK

REFERENCE DATA

SREF = .8238 SQ.FT. XMP = .0000 IN.
 LREF = 22.5803 IN. YMP = .0000 IN.
 BREF = 16.3919 IN. ZMP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

ALPHA = .000 RV/L = .680
 S-FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 BETA (1) = -2.000 TI = 93.590 QI = .681 HREF = .020

SECTION (1) EXTERNAL TANK

DEPENDENT VARIABLE HI/HO

PHI .0000 45.0000 67.5000 90.0000 112.5000 123.0000 135.0000 151.0000 157.0000 161.0000 165.0000 180.0000 196.0000 197.0000 208.0000

X/LT	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.000	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.005	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.010	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.040	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.080	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.190	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.200	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.293	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.275	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.300	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.325	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.350	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.375	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.400	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.425	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.450	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.475	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.500	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.525	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.550	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.575	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.600	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.625	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.650	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.675	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.700	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.750	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.800	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.925	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.950	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181
.975	.8411	.4427	.5113	.2165	.1442	.0782	.0435	.0185	.0181

(ATKTD4)

AEDC VA392 CH4B 01+110 EXTERNAL TANK

MACH (1) = 8.000 BETA (2) = .000

SECTION (1) EXTERNAL TANK

DEPENDENT VARIABLE HI/HO

PHI .0000 45.0000 67.5000 90.0000 112.5000 123.0000 135.0000 151.0000 157.0000 161.0000 165.0000 180.0000 196.0000 197.0000 208.0000

X/LT	.900	.925	.935	.937	.950	.975
	.0089	.0000	.0101	.0000	.0114	.0281
				.0000		
				.0000		
					.0092	.0198
						.0112
						.0728
						.0488
						.0598

PHI 216.0000 222.5000 229.0000

X/LT	.335	.400	.500	.600	.700	.800
	.0032	.0106	.0492	.0053	.0215	.0000



(ATKT06)

AEDC VA352 CH48 T10 EXTERNAL TANK

MACH (1) = 8.000 ALPHA (1) = -10.000

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE HU/HO

PHI 216.0000222.5000229.0000

X/LT	Value
.335	.0602
.400	.0893
.500	.0436
.600	.0138
.700	.0253
.800	.0000

MACH (1) = 8.000 ALPHA (2) = -5.000 T1 = 97.667 Q1 = 3.937 HREF = .049

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE HU/HO

PHI .0000 45.0000 67.5000 90.0000112.5000123.0000135.0000151.0000157.0000161.0000165.0000180.0000196.0000197.0000208.0000

X/LT	Value	Value	Value	Value	Value	Value	Value	Value	Value
.000	.0000	.0257	.0103	.0126	.0164	.0310	.0316	.0000	.0203
.005	.0000	.0000	.0084	.0125	.0162	.0000	.0498	.0782	.5643
.010	.0000	.0000	.0000	.0000	.0000	.0000	.0756		.8139
.040	.1302	.0000	.0000	.0000	.0000	.0548	.0952		.2764
.080	.0892	.0000	.0000	.0000	.0000	.0551	.0248		.2305
.150	.0202	.0000	.0000	.0000	.0000	.0187	.0248		.0721
.200	.0000	.0257	.0103	.0126	.0164	.0187	.0187		.0270
.250	.0000	.0000	.0000	.0000	.0000	.0381	.0187		.0128
.275	.0000	.0000	.0084	.0125	.0162	.0381	.0153		.0098
.300	.0000	.0000	.0000	.0000	.0000	.0302	.0153		.0135
.325	.0000	.0000	.0000	.0000	.0000	.0323	.0153		.0151
.350	.0000	.0000	.0000	.0000	.0000	.0307	.0153		.0220
.375	.0000	.0000	.0000	.0000	.0000	.0310	.0153		.0501
.400	.0019	.0064	.0103	.0126	.0164	.0367	.0516		.3683
.425	.0000	.0000	.0000	.0000	.0000	.0381	.0516		.0952
.450	.0000	.0000	.0000	.0000	.0000	.0381	.0516		.0248
.475	.0000	.0000	.0000	.0000	.0000	.0381	.0516		.0187
.500	.0000	.0072	.0106	.0136	.0226	.0381	.0516		.0625
.525	.0000	.0000	.0000	.0000	.0000	.0381	.0516		.0613
.550	.0000	.0000	.0000	.0000	.0000	.0381	.0516		.0455
.575	.0000	.0085	.0000	.0179	.0249	.0302	.0153		.0379
.600	.0047	.0085	.0000	.0179	.0249	.0302	.0153		.0329
.625	.0000	.0000	.0000	.0000	.0000	.0323	.0138		.0333
.650	.0000	.0000	.0000	.0000	.0000	.0323	.0138		.0329
.675	.0000	.0096	.0156	.0180	.0256	.0307	.0158		.0329
.700	.0000	.0000	.0000	.0000	.0000	.0310	.0135		.0348
.750	.0000	.0000	.0000	.0000	.0000	.0299	.0113		.0340
.800	.0133	.0089	.0115	.0131	.0236	.0452	.0093		.0168
.825	.0000	.0000	.0000	.0000	.0000	.0452	.0093		.0322
.850	.0000	.0000	.0000	.0000	.0000	.0452	.0093		.0093
.875	.0000	.0000	.0000	.0000	.0000	.0452	.0093		.0093



(A1R106)

MACH (1) = 8.000 ALPHA (3) = .000

AEDC VA352 OH4B T10 EXTERNAL TANK

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE HU/HO

PH1	.0000	45.0000	67.5000	90.0000	112.5000	123.0000	135.0000	151.0000	157.0000	161.0000	165.0000	180.0000	196.0000	208.0000
X/LT	.600	.0058	.0061	.0000	.0060	.0218	.0214	.0165	.0300	.0161	.0300	.0276	.0248	.0240
.625	.650	.675	.700	.725	.750	.775	.800	.825	.850	.875	.900	.925	.935	.937
.950	.960	.975	.0054	.0153	.0096	.0228	.0202	.0170	.0227	.0114	.0227	.0238	.0239	.0124
.0055	.0050	.0056	.0056	.0221	.0232	.0000	.0306	.0116	.0212	.0160	.0241	.0164	.0512	.0557
.0053	.0000	.0198	.0000	.0307	.0279	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

PH1 216.0000222.5000229.0000

X/LT	.335	.400	.500	.600	.700	.800
.0038	.0300	.0185	.0192	.0162	.0000	.0000



REFERENCE DATA

SREF = .6238 90. FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 BETA (1) = -2.000 T1 = 97.650 Q1 = 3.953 HREF = .049

PARAMETRIC DATA

ALPHA = .000 RIVL = 3.720
 B. FLAP = .000 ELEVON = .000
 HAW/HT = .900

SECTION (1) EXTERNAL TANK

DEPENDENT VARIABLE HU/HO

PHI .0000 45.0000 67.5000 90.0000112.5000123.0000135.0000151.0000157.0000161.0000165.0000180.0000196.0000197.0000208.0000

X/LT	.000	.005	.010	.040	.090	.150	.200	.250	.275	.300	.325	.350	.375	.400	.425	.450	.475	.500	.525	.550	.575	.600	.625	.650	.675	.700	.750	.800	.825	.850	.875	.900	.925	.935	.937	.960	.975																																																		
				.1708	.0970	.0321	.0186	.0000	.0000	.0000	.0112	.0000	.0000	.0082	.0102	.0111	.0098	.0105	.0212	.0206	.0177	.0162	.0242	.0362	.0344	.0185	.0146	.0275	.0268	.0254	.0244	.0356	.0000	.0193	.0327	.0000	.0000	.0087	.0000	.0104	.0000	.0000	.0296	.0000	.0000	.0406	.0060	.0000	.0215	.0221	.0198	.0157	.0182	.0169	.0163	.0166	.0167	.0167	.0107	.0184	.0295	.0262	.0232	.0207	.0199	.0182	.0208	.0169	.0163	.0166	.0167	.0167	.0107	.0184	.0295	.0262	.0232	.0207	.0199	.0182	.0208	.0169	.0163	.0166	.0167	.0167	.0107
	.8453	.5521	.7092	.2579	.2055	.1360	.0549	.0487	.0430	.0067	.0160	.0056	.0038	.0130	.0208	.1309	.0587	.0169	.0379	.0184	.0295	.0262	.0232	.0207	.0199	.0182	.0208	.0169	.0163	.0166	.0167	.0107	.0184	.0295	.0262	.0232	.0207	.0199	.0182	.0208	.0169	.0163	.0166	.0167	.0167	.0107	.0184	.0295	.0262	.0232	.0207	.0199	.0182	.0208	.0169	.0163	.0166	.0167	.0167	.0107																											

(ATK107)

MACH (1) = 8.000 BETA (1) = -2.000

AEDC VA352 CH4B T10 EXTERNAL TANK

SECTION (1) EXTERNAL TANK

DEPENDENT VARIABLE HU/HO

RHI 216.0000222.9000229.0000

X/LT	TI = 97.690	QI = 3.953	HREF = .049
.335	.0097		
.400	.0404		
.500	.0234		
.600	.0183		
.700	.0159		
.800	.0000		

SECTION (1) EXTERNAL TANK

DEPENDENT VARIABLE HU/HO

MACH (1) = 8.000 BETA (2) = .000 TI = 97.690 QI = 3.953 HREF = .049

RHI .0000 45.0000 67.9000 90.0000112.5000123.0000135.0000151.0000157.0000161.0000165.0000180.0000196.0000208.0000

X/LT	TI = 97.690	QI = 3.953	HREF = .049
.000	.0000	.0107	.0277
.005	.0000	.0354	.0000
.010	.0078	.0518	.0232
.040	.1701	.0413	.0316
.080	.0957	.0199	.0427
.150	.0314	.0165	.0349
.200	.0153	.0146	.0300
.250	.0000	.0116	.0276
.275	.0000	.0170	.0248
.300	.0078	.0121	.0240
.325	.0000	.0111	.0227
.350	.0000	.0158	.0238
.375	.0000	.0121	.0239
.400	.0078	.0116	.0212
.425	.0000	.0306	.0212
.450	.0000	.0000	.0226
.475	.0000	.0000	
.500	.0063	.0175	
.525	.0000	.0204	
.550	.0000	.0214	
.575	.0065	.0165	
.600	.0061	.0154	
.625	.0000	.0154	
.650	.0000	.0165	
.675	.0000	.0165	
.700	.0054	.0202	
.750	.0000	.0203	
.800	.0055	.0203	
.825	.0000	.0232	
.850	.0000	.0000	
.875	.0000	.0000	

DATE 12 DEC 74

TABULATED DATA LISTING FOR CH48 (AEDC VA352)

PAGE 23

AEDC VA352 CH48 T10 EXTERNAL TANK (ATK107)

MACH (1) = 8.000 BETA (2) = .000

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE HU/HO

PHI	.0000	45.0000	87.5000	90.0000	112.5000	123.0000	135.0000	151.0000	157.0000	161.0000	165.0000	180.0000	196.0000	197.0000	208.0000
X/LT	.900	.0033	.0000	.0198	.0000	.0307	.0279	.0000	.0160	.0241	.0164	.0512	.0557		
	.925				.0000										
	.935					.0000		.0000							
	.937														
	.960														
	.975														

PHI 216.0000 222.3000 229.0000

X/LT	.335	.400	.500	.600	.700	.800
	.0038	.0300	.0185	.0192	.0000	.0000

AEDC VA352 CH48 T10 EXTERNAL TANK

(ATKT08) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -10.000 TI = 92.367 QI = .670 HREF = .020

SECTION (1) EXTERNAL TANK

DEPENDENT VARIABLE HU/HO

PHI .0000 45.0000 67.5000 90.0000 112.5000 123.0000 135.0000 151.0000 157.0000 161.0000 165.0000 180.0000 196.0000 197.0000 208.0000

X/LT	.7883	.4599	.6163	.2781	.2942	.1173	.0678	.0460	.0446
.000	.7883	.4599	.6163	.2781	.2942	.1173	.0678	.0460	.0446
.005									
.010									
.040									
.080									
.150									
.200									
.250									
.275									
.300									
.325									
.350									
.375									
.400									
.425									
.450									
.475									
.500									
.525									
.550									
.575									
.600									
.625									
.650									
.675									
.700									
.750									
.800									
.825									
.850									
.875									
.900									
.925									
.935									
.937									
.960									
.975									

PHI 216.0000222.5000229.0000



AEDC VA352 CH48 T10 EXTERNAL TANK (ATKT08)

MACH (1) = 8.000 ALPHA (1) = -10.000

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE HU/HO

PHI 216.0000222, 9000229, 00000

X/LT	PHI
.335	.0256
.400	.0619
.500	.0268
.600	.0028
.700	.0176
.800	.0000

MACH (1) = 8.000 ALPHA (2) = -5.000 TI = 92.367 QI = .670 HREF = .020

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE HU/HO

PHI .0000 45.0000 67.5000 90.0000 112.5000 123.0000 135.0000 151.0000 157.0000 161.0000 165.0000 180.0000 196.0000 197.0000 208.0000

X/LT	PHI	TI	QI	HREF
.000	.0000	.0171	.0080	.6387
.005	.0000	.0000	.0131	.4406
.010	.0000	.0000	.0267	.6328
.040	.1344	.0075	.0151	.2397
.080	.0707	.0000	.0168	.1993
.150	.0215	.0000	.0174	.0884
.200		.0171	.0174	.0686
.250		.0000	.0080	.0270
.275		.0000	.0080	.0153
.300	.0075	.0098	.0080	.0129
.325	.0000	.0124	.0139	.0093
.350	.0000	.0000	.0109	.0059
.375	.0000	.0000	.0168	.0071
.400	.0029	.0070	.0174	.0139
.425		.0093	.0174	.3393
.450		.0000	.0109	.1121
.475		.0000	.0093	.0290
.500	.0040	.0050	.0093	.0324
.525		.0000	.0121	.0394
.550		.0000	.0182	.0347
.575		.0000	.0255	.0268
.600	.0030	.0036	.0091	.0297
.625		.0000	.0091	.0241
.650		.0000	.0000	.0221
.675		.0000	.0000	.0236
.700	.0036	.0078	.0112	.0216
.750	.0000	.0000	.0000	.0214
.800	.0051	.0046	.0164	.0128
.825		.0099	.0099	.0055
.850		.0000	.0208	.0182
.875		.0000	.0096	.0054

(ATKTO8)

AEDC VA352 CH48 T10 EXTERNAL TANK

MACH (1) = 8.000 ALPHA (3) = .000

SECTION (1) EXTERNAL TANK

DEPENDENT VARIABLE HU/HO

PHI	.0000	45.0000	67.5000	90.0000	112.5000	123.0000	135.0000	151.0000	157.0000	161.0000	165.0000	180.0000	196.0000	197.0000	208.0000
X/LT															
.600	.0056	.0064	.0000	.0063	.0058		.0051		.0069		.0250		.0234		.0036
.625													.0214		
.650							.0048		.0069				.0206		
.675													.0186		
.700		.0064	.0051	.0061	.0054		.0055		.0096		.0079		.0186		.0064
.750			.0000	.0000	.0000		.0053		.0079				.0186		
.800	.0053	.0054	.0057	.0063	.0051		.0056		.0054				.0195		
.825							.0026								.0048
.850					.0000		.0000		.0036				.0170		
.875							.0032								
.900							.0101		.0122				.0064		.0065
.925	.0047	.0000	.0040	.0000	.0000		.0000								
.935															
.937															
.960															
.975							.0000						.0329		.0371

PHI 216.0000222.5000229.0000

X/LT	.0047	.0102	.0025	.0000
.335				
.400	.0084			
.500	.0077			
.600				
.700	.0084			
.800				

AEDC VA352 CH48 T10 EXTERNAL TANK

(ATK109) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 ZREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

ALPHA = .000 RV/L = .680
 B. FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 BETA (1) = -2.000 TI = 92.200 JI = .660 HREF = .020

SECTION (1) EXTERNAL TANK

DEPENDENT VARIABLE HU/HO

X/LT	.000	.005	.010	.040	.080	.150	.200	.250	.275	.300	.325	.350	.375	.400	.425	.450	.475	.500	.525	.550	.575	.600	.625	.650	.675	.700	.750	.800	.825	.850	.875	.900	.925	.935	.937	.960	.975							
				.1761	.1007	.0348	.0210	.0000	.0115	.0119	.0122	.0000	.0000	.0000	.0000	.0000	.0078	.0100	.0102	.0096	.0000	.0000	.0064	.0090	.0000	.0086	.0000	.0084	.0071	.0088	.0096	.0000	.0078	.0000	.0096	.0096	.0096	.0096	.0096					
								.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000				
								.0109	.0111	.0113	.0103	.0088	.0075	.0075	.0101	.0084	.0078	.0080	.0068	.0061	.0061	.0038	.0038	.0038	.0038	.0038	.0038	.0038	.0038	.0038	.0038	.0038	.0038	.0038	.0038	.0038	.0038	.0038	.0038	.0038	.0038			
	.8471	.4424	.5069	.2138	.1530	.0807	.0451	.0172	.0081	.0073	.0048	.0055	.0041	.0034	.0098	.0512	.0265	.0128	.0161	.0185	.0174	.0167	.0139	.0139	.0139	.0110	.0091	.0084	.0083	.0052	.0109	.0031	.0000	.0000	.0119	.0098	.0098	.0098	.0098	.0098	.0098			
																	.0220	.0313								.0051	.0099														.0032			

(ATKT09)

AEDC VA392 CH48 T10 EXTERNAL TANK

MACH (1) = 8.000 BETA (1) = -2.000

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE HU/HO

PHI 218.0000222.5000229.0000

X/LT

.335	.0040
.400	.0088
.500	.0123
.600	.0045
.700	.0060
.800	.0000

MACH (1) = 8.000 BETA (2) = .000 TI = 92.200 QI = .660 HREF = .020

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE HU/HO

PHI .0000 45.0000 67.5000 90.0000112.5000123.0000135.0000151.0000157.0000161.0000165.0000180.0000196.0000197.0000208.0000

X/LT

.000	.0000	.0175	.0081	.0080	.0086	.0079	.0091	.0089	.0086	.0095	.0049	.0048	.0000	.0047	.8660
.005	.0000	.0000	.0000	.0000	.0000	.0079	.0091	.0089	.0086	.0095	.0049	.0048	.0000	.0037	.4149
.010	.0000	.0000	.0000	.0000	.0000	.0064	.0091	.0089	.0086	.0095	.0049	.0048	.0000	.0041	.5388
.040	.1743	.0092	.0081	.0080	.0086	.0064	.0091	.0089	.0086	.0095	.0049	.0048	.0000	.0134	.2107
.060	.1004	.0000	.0000	.0000	.0000	.0064	.0091	.0089	.0086	.0095	.0049	.0048	.0000	.1112	.1449
.080	.0340	.0000	.0000	.0000	.0000	.0064	.0091	.0089	.0086	.0095	.0049	.0048	.0000	.0320	.0819
.200	.0000	.0000	.0000	.0000	.0000	.0064	.0091	.0089	.0086	.0095	.0049	.0048	.0000	.0343	.0456
.250	.0000	.0000	.0000	.0000	.0000	.0064	.0091	.0089	.0086	.0095	.0049	.0048	.0000	.0302	.0163
.275	.0000	.0000	.0000	.0000	.0000	.0064	.0091	.0089	.0086	.0095	.0049	.0048	.0000	.0296	.0091
.300	.0000	.0000	.0000	.0000	.0000	.0064	.0091	.0089	.0086	.0095	.0049	.0048	.0000	.0276	.0068
.325	.0000	.0000	.0000	.0000	.0000	.0064	.0091	.0089	.0086	.0095	.0049	.0048	.0000	.0250	.0072
.350	.0000	.0000	.0000	.0000	.0000	.0064	.0091	.0089	.0086	.0095	.0049	.0048	.0000	.0234	.0068
.375	.0000	.0000	.0000	.0000	.0000	.0064	.0091	.0089	.0086	.0095	.0049	.0048	.0000	.0214	.0072
.400	.0077	.0084	.0081	.0080	.0086	.0064	.0091	.0089	.0086	.0095	.0049	.0048	.0000	.0206	.0068
.425	.0000	.0000	.0000	.0000	.0000	.0064	.0091	.0089	.0086	.0095	.0049	.0048	.0000	.0186	.0068
.450	.0000	.0000	.0000	.0000	.0000	.0064	.0091	.0089	.0086	.0095	.0049	.0048	.0000	.0166	.0068
.475	.0000	.0000	.0000	.0000	.0000	.0064	.0091	.0089	.0086	.0095	.0049	.0048	.0000	.0155	.0068
.500	.0000	.0000	.0000	.0000	.0000	.0064	.0091	.0089	.0086	.0095	.0049	.0048	.0000	.0146	.0068
.525	.0000	.0000	.0000	.0000	.0000	.0064	.0091	.0089	.0086	.0095	.0049	.0048	.0000	.0137	.0068
.550	.0000	.0000	.0000	.0000	.0000	.0064	.0091	.0089	.0086	.0095	.0049	.0048	.0000	.0128	.0068
.575	.0000	.0000	.0000	.0000	.0000	.0064	.0091	.0089	.0086	.0095	.0049	.0048	.0000	.0119	.0068
.600	.0056	.0064	.0060	.0063	.0058	.0063	.0058	.0051	.0046	.0054	.0069	.0069	.0069	.0109	.0058
.625	.0000	.0000	.0000	.0000	.0000	.0063	.0058	.0051	.0046	.0054	.0069	.0069	.0069	.0093	.0058
.650	.0000	.0000	.0000	.0000	.0000	.0063	.0058	.0051	.0046	.0054	.0069	.0069	.0069	.0093	.0058
.675	.0000	.0000	.0000	.0000	.0000	.0063	.0058	.0051	.0046	.0054	.0069	.0069	.0069	.0093	.0058
.700	.0064	.0051	.0061	.0054	.0054	.0061	.0054	.0055	.0055	.0054	.0069	.0069	.0069	.0093	.0058
.750	.0000	.0000	.0000	.0000	.0000	.0061	.0054	.0055	.0055	.0054	.0069	.0069	.0069	.0093	.0058
.800	.0053	.0057	.0063	.0051	.0051	.0063	.0051	.0056	.0056	.0054	.0069	.0069	.0069	.0093	.0058
.825	.0000	.0000	.0000	.0000	.0000	.0063	.0051	.0056	.0056	.0054	.0069	.0069	.0069	.0093	.0058
.850	.0000	.0000	.0000	.0000	.0000	.0063	.0051	.0056	.0056	.0054	.0069	.0069	.0069	.0093	.0058
.875	.0000	.0000	.0000	.0000	.0000	.0063	.0051	.0056	.0056	.0054	.0069	.0069	.0069	.0093	.0058

(ATK109)

AEDC VA352 OH4B T10 EXTERNAL TANK

MACH (1) = 8.000 BETA (2) = .000

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE HU/HO

PHI .0000 45.0000 67.5000 90.0000 112.5000 123.0000 135.0000 151.0000 161.0000 165.0000 180.0000 196.0000 197.0000 208.0000

X/LT	.900	.925	.935	.937	.960	.975
	.0047	.0000	.0040	.0000	.0101	.0122
				.0000		.0000
					.0064	.0115
						.0065
				.0000		.0329
						.0077
						.0371

PHI 216.0000 222.5000 229.0000

X/LT	.335	.400	.500	.600	.700	.800
	.0047	.0084	.0077	.0084	.0000	.0000
		.0102	.0025			



AEDC VA3352 CH48 OI+T10 CRB. FUSELAGE (ATK901)

MACH (1) = 0.000 ALPHA (1) = -10.000

SECTION (1) CRIBTER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.1850	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
12.000				.0538								.0467			
21.500				.0311											
23.000			.1493												
24.000			.0000												
31.500				.0000											
34.000				.0000											
35.000				.0000											
40.000				.0000											
45.000				.0000											
51.000				.0000											
57.500				.0000								.0551			
59.500				.0000											
61.000				.0000								.0478			
65.000				.0000								.0000			
70.000				.0000											
96.500			.0000												
105.000				.0447											
106.000				.0000											
135.000				.0000											
140.000			.0000												
141.400				.0000											
151.000			.0000			.0000									
160.000				.1121								.0734			
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
.000	.0397	.0424	.0486	.0500	.0552	.0511	.0420	.0345	.0326	.0347	.0371	.0276	.1575	.1376	
21.500	.0398				.0424				.0293				.1065		
65.000	.0000								.0000				.0000		
64.000													.0000		
65.000					.0000								.0000		
65.500					.0000								.0000		
105.000	.0000				.0000				.0000				.0000		.0000
111.000					.0000										
112.000					.0000										
113.000					.0000										
116.000					.0000				.0000		.0000				
135.000	.0000				.0000				.0000		.0000				
149.000	.0000				.0955				.0000		.0000				
160.000	.0000	.6750	.9000	.9750	1.0000	1.0130	1.0140	1.0250	1.0360	1.0500					
X/L	.6500	.6750	.9000	.9750	1.0000	1.0130	1.0140	1.0250	1.0360	1.0500					
PHI															



AEDC VA392 CH4B 01+110 ORB. FUSELAGE (ATK801)

MACH (1) = 8.000 ALPHA (1) = -10.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.8900	.8750	.9000	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
PHI	.0000	.1084	.0436	.0094	.0063	.0000	.0034	.0000	.0050	.0092
21.500		.0121								
39.000				.0000	.0089					
52.500										
55.000				.0000						
65.000				.0000						
68.000				.0000						
100.000				.0000						
108.000				.0000						
112.000				.0000						
113.000				.0000						

.0000

MACH (1) = 8.000 ALPHA (2) = -5.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.0000	.0030	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI	.0000	.4643	.2819	.1242	.0721	.0990	.1173	.1668	.0000	.1794	.3204	.1794	.3204	.1087	.0000
10.000							.0804								.0000
14.000							.0595								.0000
20.000							.0838								.0000
22.000							.0000								.0304
24.500							.0000								.0000
35.000							.0000								.0000
39.000							.0000								.0000
42.500							.0000								.0000
48.000							.0000								.0000
60.000							.0000								.0000
119.000				.4699	.2732		.1882			.1191					.0000
180.000				.1200	.1300	.1400	.1500	.1560	.1600	.1670	.1700	.1780	.1800	.1810	.1820

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1670	.1700	.1780	.1800	.1810	.1820
PHI	.1021	.1413	.1490	.1104	.0770	.0421	.0663						
10.000				.0000									
20.000				.0921									
25.500				.0000									
40.000				.0395									
45.500				.0000									
131.200				.0000									
145.400				.0000									
146.200				.0000									

.0000

(ATK901)

MACH (1) = 8.000 ALPHA (2) = -5.000

SECTION (1) CREITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI					.0000	.8570			.0354	.0384		.0000	.0000	.0000	.0000

X/L	.1830	.1900	.1910	.2000	.2230	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI	.1297	.1277	.0686	.0740	.0996	.0380	.0444	.0384	.0436	.0472	.0427	.0369			

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI					.0000	.8570			.0354	.0384		.0000	.0000	.0000	.0000

X/L	.1830	.1900	.1910	.2000	.2230	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI	.1297	.1277	.0686	.0740	.0996	.0380	.0444	.0384	.0436	.0472	.0427	.0369			

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI					.0000	.8570			.0354	.0384		.0000	.0000	.0000	.0000

X/L	.1830	.1900	.1910	.2000	.2230	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI	.1297	.1277	.0686	.0740	.0996	.0380	.0444	.0384	.0436	.0472	.0427	.0369			

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI					.0000	.8570			.0354	.0384		.0000	.0000	.0000	.0000

X/L	.1830	.1900	.1910	.2000	.2230	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI	.1297	.1277	.0686	.0740	.0996	.0380	.0444	.0384	.0436	.0472	.0427	.0369			

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI					.0000	.8570			.0354	.0384		.0000	.0000	.0000	.0000

X/L	.1830	.1900	.1910	.2000	.2230	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI	.1297	.1277	.0686	.0740	.0996	.0380	.0444	.0384	.0436	.0472	.0427	.0369			



AEDC VA352 CH4B 01+T10 ORB. FUSELAGE

(ATK801)

MACH (1) = 6.000 ALPHA (2) = -5.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.9000	.8250	.9500	.9750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
105.000	.0000				.0000				.0000				.0000		.0000
111.000					.0000										.0000
112.000					.0000										.0000
113.000					.0000										.0000
116.000															.0000
135.000	.0000				.0000				.0000				.0000		.0000
149.000															.0000
180.000	.0000				.0493				.0000				.0000		.0000

X/L .8500 .8750 .9000 .9750 1.0000 1.0130 1.0140 1.0250 1.0380 1.0500

PHI

.000	.0883	.0314		.0075	.0051	.0000	.0035	.0000	.0024
21.500		.0118		.0000					.0059
39.000									
52.500				.0000					
55.000				.0000					
65.000				.0000					
68.000				.0000					
100.000				.0000					
108.000				.0000					
112.000				.0000					
113.000				.0000		.0000			

MACH (1) = 6.000 ALPHA (3) = .000 TI = 97.600 QI = 3.955 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI															
.000	.0000	.4034	.2512	.1101	.0720	.0395	.0414	.0678	.0000				.1050	.1983	.6092
10.000							.0375								.0000
14.000							.0403								.1048
20.000							.0743								.0000
22.000							.0000								.0292
24.500							.0000								.0000
35.000							.0000								.0000
39.000							.0000								.0000
42.500							.0000								.0000
48.000							.0000								.0000
60.000							.0000								.0000
119.000							.0000								.0000
180.000							.0000								.0000

X/L .1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1690 .1700 .1780 .1810 .1820

(ATK201)

AEDC VA352 CH48 01+110 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (3) = .000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1760	.1800	.1810	.1820
PHI	.0613	.0594	.0752	.0800	.0664						.0490	.0370			
10.000				.0000											.0000
20.000				.0644											.0000
25.500				.0000											.0000
40.000				.0397											.0000
45.500				.0000											.0000
131.200															.0000
145.400															.0000
146.200															.0000
156.000															.0000
159.200															.0000
170.700															.0000
171.900															.0000
173.400															.0000
180.000															.0000
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI	.0921	.0577	.0648	.0511	.0383	.0335	.0281	.0248	.0231	.0248	.0281	.0329	.0335	.0327	
11.500				.0577				.0464							
12.000															
21.500															
23.000															
24.000				.0163											
31.500				.0000											
34.000															
35.000				.0000											
40.000				.0000											
45.000				.0000											
51.000				.0000											
57.500															
59.500															
61.000															
65.000															
70.000															
96.500				.0000											
105.000															
106.000															
135.000															
140.000				.0000											
141.400				.0000											
151.000				.0863											
160.000				.0060											
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290

DATE 12 DEC 74

TABULATED DATA LISTING FOR CH4B (AEDC VA392)

PAGE 39

AEDC VA352 CH4B 01+110 CRB. FUSELAGE

(ATK801)

MACH (1) = 8.000 ALPHA (4) = 5.000

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI				.0000				.0195				.0183			
96.500				.0000				.0000				.0000			
105.000				.0000				.0000				.0000			
106.000				.0000				.0000				.0000			
135.000				.0000				.0000				.0000			
140.000				.0000				.0000				.0000			
141.400				.0000				.0000				.0000			
151.000				.0000				.0000				.0000			
180.000				.0000				.0000				.0000			
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI		.0184	.0185	.0189	.0168	.0178	.0188	.0148	.0168	.0468	.0742	.0691	.0711	.0701	
.000				.0218				.0176				.0733			
21.500				.0000				.0000				.0000			
63.000				.0000				.0000				.0000			
64.000				.0000				.0000				.0000			
65.000				.0000				.0000				.0000			
65.500				.0000				.0000				.0000			
105.000				.0000				.0000				.0000			
111.000				.0000				.0000				.0000			
112.000				.0000				.0000				.0000			
113.000				.0000				.0000				.0000			
116.000				.0000				.0000				.0000			
135.000				.0000				.0000				.0000			
149.000				.0000				.0000				.0000			
180.000				.0000				.0000				.0000			
X/L	.8500	.8750	.9000	.9750	1.0000	1.0150	1.0140	1.0250	1.0380	1.0500					
PHI		.0399	.0172	.0098	.0027	.0022	.0000	.0031	.0000	.0043					
.000				.0000				.0045		.0040					
21.500				.0000				.0000		.0000					
39.000				.0000				.0000		.0000					
52.500				.0000				.0000		.0000					
55.000				.0000				.0000		.0000					
65.000				.0000				.0000		.0000					
68.000				.0000				.0000		.0000					
100.000				.0000				.0000		.0000					
108.000				.0000				.0000		.0000					
112.000				.0000				.0000		.0000					
113.000				.0000				.0000		.0000					

(ATK802) (27 APR 74)

AEDC VA352 CH4B 01+110 CRB. FUSELAGE

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 YREF = 22.5503 IN. YMRP = .0000 IN.
 ZREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 BETA (1) = -2.000 TI = 97.350 QI = 3.942 HREF = .049

PARAMETRIC DATA

ALPHA = .000 RN/L = 3.720
 B. FLAP = .000 ELEVON = .000
 HAN/HT = .900

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0800	.0900	.1000
PHI	.0000	.3959	.2441	.1054	.0705	.0353	.0515	.0825	.0000	.1490	.2184	.6249	.0000	.0000
10.000							.0400							
14.000														
20.000							.0452							
22.000														
24.500							.0864							
35.000														
39.000							.0000							
42.500														
48.000							.0000							
60.000														
119.000							.1340							
180.000							.1969							

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI	.0509	.0512	.0674	.0586	.0000	.0314	.0429	.0295							
10.000															
20.000															
25.500															
40.000															
45.500															
131.200															
145.400															
146.200															
156.000															
159.200															
170.700															
171.900															
175.400															
180.000															

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI	.0435	.0658	.1469	.0750	.0000	.9849	.7302								
.0000															
11.500															



(ATK902)

AEDC VA352 CH48 01*110 ORB. FUSELAGE

MACH (1) = 8.000 BETA (1) = -2.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0360	1.0500
PHI	.0000	.0870	.0295	.0161	.0153	.0103	.0071	.0050	.0000	.0034	.0000	.0033
21.500	.0079					.0068						.0061
39.000						.0000						
52.500						.0000						
55.000						.0000						
65.000						.0000						
68.000						.0000						
100.000						.0000						
108.000						.0000						
112.000						.0000						
113.000						.0000						

MACH (1) = 8.000 BETA (2) = .000 TI = 97.350 QI = 3.942 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI	.0000	.0000	.4054	.2512	.1101	.0720	.0395	.0414	.0678	.0000	.1050	.1983	.6092	.0000	.0000
10.000						.0375									.1048
14.000						.0403									.0000
20.000						.0743									.0292
22.000						.0000									.0000
24.500						.0000									.0000
35.000						.1362					.0944				.0743
39.000						.2049									.0000
42.500															.0000
48.000															.0000
60.000															.0743
119.000															.0000
160.000															.0000

MACH (1) = 8.000 BETA (2) = .000 TI = 97.350 QI = 3.942 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1700	.1760	.1810	.1820
PHI	.0000	.0613	.0994	.0752	.0800	.0664							
10.000					.0000								
20.000					.0644								
25.500					.0000								
40.000					.0397								
45.500					.0000								
131.200					.0000								
145.400					.0000								
148.200					.0000								



(ATK802)

MACH (1) = 8.000 BETA (2) = .000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
105.000	.0000				.0000				.0000				.0000		.0000
111.000					.0000										
112.000					.0000										
113.000					.0000						.0000				
116.000					.0000				.0000						
135.000	.0000				.0145				.0000				.0000		.0000
149.000															
160.000															
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500	1.0600	1.0622	1.0600
PHI															
.000	.0632	.0310	.0172	.0144	.0093	.0065	.0044	.0000		.0029	.0000	.0022			
21.500			.0134												
39.000							.0051								.0054
52.500						.0000									
55.000			.0000												
65.000			.0000												
68.000						.0000									
100.000			.0000												
108.000			.0000												
112.000							.0000								
113.000								.0000							

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(ATTR003)

AEDC VA352 CH4B 01+10 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = -10.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
12.000				.0376								.0346			
21.500				.0338											
23.000															
24.000			.1143												
31.500			.0000												
34.000			.0000												
35.000			.0000												
40.000			.0000												
45.000			.0000												
51.000			.0000												
57.500															
59.500															
61.000															
65.000															
70.000															
96.500			.0000												
105.000															
106.000								.0281							
135.000								.0000							
140.000															
141.400															
151.000			.0000												
180.000															
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
.000	.0256	.0266	.0268	.0257	.0248	.0237	.0246	.0235	.0201	.0220	.0357	.0358	.0222	.0214	
21.500	.0255			.0150					.0144				.0165		
63.000	.0000								.0000				.0000		
64.000															
65.000															
65.500					.0000										
105.000	.0000				.0000				.0000						
111.000															
112.000															
113.000															
116.000											.0000				
135.000	.0000								.0000						
149.000											.0000				
180.000	.0000				.0190				.0000						
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PHI															



(ATK803)

AEDC VA392 CH4B 01+110 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = -5.000

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HI/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
105.000	.0000				.0000				.0000				.0000		.0000
111.000					.0000										
112.000					.0000										
113.000					.0000										
116.000					.0000				.0000						
135.000	.0000				.0000				.0000						
149.000					.0274				.0000						
180.000	.0000				.0274				.0000				.0000		

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
-----	-------	-------	-------	-------	-------	-------	--------	--------	--------	--------	--------	--------

PHI

.000	.0343	.0210	.0119	.0085	.0056	.0041	.0029	.0000	.0020	.0000	.0021	
21.500			.0139									
39.000						.0028					.0041	
92.500						.0000						
55.000			.0000			.0000						
65.000			.0000			.0000						
68.000						.0000						
100.000			.0000			.0000						
108.000			.0000			.0000						
112.000						.0000						
113.000						.0000		.0000				

MACH (1) = 8.000 ALPHA (3) = .000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HI/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI															
.000	.0000	.4078	.2538	.1085	.0794	.0664	.0734	.0624	.0000	.0533	.1197	.0000	.0900	.0000	.1000
10.000							.0703								.3399
14.000							.0655								.0000
20.000															.0635
22.000															.0000
24.500															.0000
35.000															.0348
39.000															
42.500															
48.000															
60.000															
119.000			.3715	.2044			.1335				.0937				.0000
180.000	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820

(ATK803)

MACH (1) = 6.000 ALPHA (3) = .000

AEDC VA352 CH4B 01*110 CRB. FUSELAGE

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI	.0273	.0233	.0245	.0242	.0221	.0196	.0242								
10.000				.0000											
20.000				.0553											
25.500				.0000											
40.000				.0201											
45.500				.0000											
131.200					.0000										.0000
145.400					.0000										.0000
146.200															.0000
156.000															.0000
159.200															.0000
170.700									.0000						.0000
171.900															.0000
173.400					.0709	.3196	.4493	.3510							
180.000	.0606														
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750

PHI	.0369	.0318	.0431	.0528	.0322	.0373	.0233	.0218	.0146	.0180	.0210	.0222	.0227	.0211	
.000			.0211				.0574								
11.500												.0322			
12.000															
21.900							.0336								
23.500															
24.000			.0118												
31.900			.0000												
34.000							.0000								
35.000							.0000								
40.000							.0000								
45.000							.0000								
51.000							.0000								
57.500											.0122				
59.500															
61.000							.0000								
65.000							.0000								
70.000							.0000								
96.500															
105.000															
106.000							.0197								
135.000							.0000								
140.000			.0000												
141.400															
151.000			.0000				.0035								
180.000															
X/L	.5000	.5250	.5900	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290

(ATK803)

AEDC VA352 CH4B 01+T10 CR2, FUSELAGE

MACH (1) = 6.000 ALPHA (4) = 5.000

SECTION (1) CR2+T10 FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
-----	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

PHI	42.500	46.000	60.000	119.000	180.000										
	.0000	.0000	.0956	.1544	.2951						.0645	.0000			.0000

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
-----	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

PHI	.000	10.000	20.000	25.500	40.000	45.500	131.200	145.400	146.200	156.000	159.200	170.700	171.900	175.400	180.000
	.0280	.0212	.0206	.0196	.0000	.0106	.0000	.0424	.0000	.0227	.0264	.0304			

X/L	.1850	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
-----	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

PHI	.000	11.500	12.000	21.500	23.000	24.000	31.500	34.000	35.000	40.000	45.000	51.000	57.500	59.500	61.000
	.0321	.0369	.0271	.0288	.0230	.0180	.0192	.0153	.0164	.0156	.0154	.0141	.0136		

X/L	.1850	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
-----	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

PHI	.000	11.500	12.000	21.500	23.000	24.000	31.500	34.000	35.000	40.000	45.000	51.000	57.500	59.500	61.000
	.0357	.0173	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

X/L	.1850	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
-----	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

PHI	.000	11.500	12.000	21.500	23.000	24.000	31.500	34.000	35.000	40.000	45.000	51.000	57.500	59.500	61.000
	.0357	.0217	.0340	.0217	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

.0065



TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(ATKBD4) (27 APR 74)

AEDC VA352 CH4B 01+T10 CRB. FUSELAGE

REFERENCE DATA

SREF = .8298 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 ZREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 BETA (1) = -2.000 TI = 93.550 QI = .681 HREF = .020
 ALPHA = .500 RN/L = .680
 S.FLAP = .000 ELEVON = .000
 HAW/HT = .900

PARAMETRIC DATA

SECTION (1) CRIBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI	.0000	.4023	.2472	.1090	.0775	.0695	.0684	.0541	.0000	.0770	.1316	.3019	.0000	.0617	.0000
10.000								.0698							
14.000								.0661							
20.000								.0659							
22.000								.0000							
24.500								.0000							
35.000								.0000							
39.000								.0000							
42.500								.0000							
48.000								.0000							
60.000								.0000							
119.000					.1942			.1304		.0945					
180.000															
X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1700	.1780	.1800	.1810	.1820	

PHI	.0000	.0236	.0240	.0297	.0272	.0000	.0213	.0178	.0242	.0000	.0000	.0000	.0000	.0000	.0000
10.000															
20.000															
25.500															
40.000															
45.500															
131.200															
145.400															
146.200															
156.000															
159.200															
170.700															
171.900															
173.400															
180.000															
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.4000	.4250	.4500	.4750	

PHI
 .000
 11.500



(ATR804)

MACH (1) = 8.000 BETA (2) = .000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .9000 .9250 .9500 .9750 .9900 .0000 .6250 .6500 .6750 .7000 .7250 .7500 .7750 .8000 .8250 .8500

PHI
105.000 .0000
111.000 .0000
112.000 .0000
113.000 .0000
116.000 .0000
135.000 .0000
149.000 .0036
180.000 .0000

X/L .8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0230 1.0360 1.0500

PHI
.0000
21.500 .0283
39.000 .0156
52.500 .0099
55.000 .0097
65.000 .0071
68.000 .0071
100.000 .0045
108.000 .0045
112.000 .0035
113.000 .0035

PHI
21.500 .0040
39.000 .0000
52.500 .0000
55.000 .0000
65.000 .0000
68.000 .0000
100.000 .0000
108.000 .0000
112.000 .0000
113.000 .0000

(ATK805)

AEDC VA352 CH4B 01+110 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = -10.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
12.000				.0000				.0000				.0000			
21.500				.0000				.0000				.0000			
23.000				.0000				.0000				.0000			
24.000				.0000				.0000				.0000			
31.500				.0000				.0000				.0000			
34.000				.0000				.0000				.0000			
35.000				.0000				.0000				.0000			
40.000				.0000				.0000				.0000			
45.000				.0000				.0000				.0000			
51.000				.0000				.0000				.0000			
57.500				.0000				.0000				.0000			
59.500				.0000				.0000				.0000			
61.000				.0000				.0000				.0000			
65.000				.0000				.0000				.0000			
70.000				.0000				.0000				.0000			
96.500				.0000				.0000				.0000			
105.000				.0000				.0000				.0000			
106.000				.0000				.0000				.0000			
135.000				.2427				.0000				.0000			
140.000				.0000				.0000				.0000			
141.400	.6367		.4070	.0000		.0000	.0000	.0000				.0000			
151.000			.0000	.0000		.0000	.0000	.0000				.0000			
180.000			.0000	.0000		.0000	.0000	.0000				.0000			
X/L	.5000	.9250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
21.500	.0000			.0000			.0000	.0000			.0000	.0000	.0000	.0000	
63.000	.0000			.0000			.0000	.0000			.0000	.0000	.0000	.0000	
64.000	.0000			.0000			.0000	.0000			.0000	.0000	.0000	.0000	
65.000	.0000			.0000			.0000	.0000			.0000	.0000	.0000	.0000	
65.500	.0000			.0000			.0000	.0000			.0000	.0000	.0000	.0000	
105.000	.0000			.0000			.0000	.0000			.0000	.0000	.0000	.0000	
111.000	.0000			.0000			.0000	.0000			.0000	.0000	.0000	.0000	
112.000	.0000			.0000			.0000	.0000			.0000	.0000	.0000	.0000	
113.000	.0000			.0000			.0000	.0000			.0000	.0000	.0000	.0000	
116.000	.0000			.0000			.0000	.0000			.0000	.0000	.0000	.0000	
135.000	.0000			.0000			.0000	.0000			.0000	.0000	.0000	.0000	
149.000	.0000			.0000			.0000	.0000			.0000	.0000	.0000	.0000	
180.000	.0000			.0000			.0000	.0000			.0000	.0000	.0000	.0000	
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0360	1.0500			
PHI															



AEDC VA352 CH4B 01+110 CRB. FUSELAGE (ATK805)

MACH (1) = 8.000 ALPHA (1) = -10.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0360	1.0500
PHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
21.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
39.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
52.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
55.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
65.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
68.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
100.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
108.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
112.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
113.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

MACH (1) = 8.000 ALPHA (2) = -5.000 TI = 98.067 QI = 4.007 HREF. = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
10.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
14.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
20.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
22.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
24.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
35.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
39.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
42.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
48.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
60.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
119.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
180.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1920
PHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
10.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
20.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
25.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
40.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
45.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
131.200	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
145.400	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
146.200	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

.5653

.4982

.5366

(ATK809)

AEDC VA352 CH48 Q1+T10 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = -5.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1550	.1600	.1620	.1670	.1690	.1700	.1750	.1780	.1800	.1810	.1820
PHI																
156.000															.5202	.3032
159.200													.7157			
170.700					.5080											
171.900									1.0075							
173.400																
180.000		.0000		.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.4500	.4750
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750	
PHI																
.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
11.500				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
12.000				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
21.500				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
23.000				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
24.000				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
31.500				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
34.000				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
35.000				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
40.000				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
45.000				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
51.000				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
57.500				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
59.500				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
61.000				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
65.000				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
70.000				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
96.500				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
103.000				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
106.000				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
135.000				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
140.000				.2198												
141.400	.4753			.3898	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
151.000				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
180.000		.5000	.5250	.5500	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500	.8290
X/L																
PHI																
.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
21.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
83.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
64.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
65.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
65.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000



AEDC VA332 CH4B 01+110 ORB. FUSELAGE (ATK805)

MACH (1) = 8.000 ALPHA (2) = -5.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
105.000															
111.000															
112.000															
113.000															
116.000															
135.000											.0000				
149.000											.0000				
160.000											.0000				

X/L .6500 .6750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0380 1.0500

PHI

.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
21.500															
39.000															
52.500															
55.000															
65.000															
66.000															
100.000															
108.000															
112.000															
113.000															

MACH (1) = 8.000 ALPHA (3) = .000 TI = 98.067 QI = 4.007 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.000															
10.000															
14.000															
20.000															
22.000															
24.500															
35.000															
39.000															
42.500															
48.000															
60.000															
119.000															
160.000															

X/L

.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1760	.1800	.1810	.1820
-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

(ATK805)

AEDC VA352 CH4B 01+110 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (3) = .000

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1550	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
10.000															
20.000															
25.500															
40.000															
45.500															
131.200								.6820						.5117	
145.400															
146.200								.4690						.3747	.2929
156.000															
159.200															
170.700															
171.900															
175.400						.4758				.8831					
180.000					.0000						.8846				
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
11.500															
12.000															
21.500															
23.000															
24.000															
31.500															
34.000															
35.000															
40.000															
45.000															
51.000															
57.500															
59.500															
61.000															
65.000															
70.000															
96.500															
105.000															
106.000															
135.000															
140.000															
141.400		.4342						.2121							
151.000			.4589												
160.000				.0000											
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500

(ATK81D)

AEDC VA352 CH4B 01 CRB. FUSELAGE

MACH (1) = 6.000 ALPHA (1) = -5.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.8500	.8750	.9000	.9250	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
PHI	.000	.0094	.0086	.0197	.0046	.0059	.0050	.0061	.0000	.0062
21.500										
39.000						.0041				.0046
52.500				.0322						
55.000				.0387						
68.000				.0418						
100.000				.0461						
108.000										
112.000					.0097					
113.000						.0090				

MACH (1) = 8.000 ALPHA (2) = .000 TI = 96.800 OI = 3.961 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI	.000	.0000	.4821	.3005	.1385	.0937	.0687	.0518	.0385	.0000	.0279	.0240	.0209	.0263	.0316
10.000															
14.000															
20.000															
22.000															
24.500															
35.000															
39.000															
42.500															
48.000															
60.000															
119.000						.2013									.0947
160.000											.0540				.0731

X/L .1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1700 .1780 .1800 .1810 .1820

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

PHI	.000	.0170	.0151	.0132	.0115	.0107	.0101	.0093	.0096	.0096	.0096	.0096	.0096	.0096	.0096	.0096
10.000																
20.000																
25.500																
40.000																
45.500																
131.200																
145.400																
146.200																.3869

.6472

(ATTN:610)

MACH (1) = 8.000 ALPHA (2) = .000

AEDC VA352 CH48 01 CR9. FUSELAGE

SECTION 1: INCREASING FUSELAGE DEPENDENT VARIABLE HU/H0

X/L	.9000	.8250	.9500	.9750	.9000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
105.000	.0204			.0130				.0204					.0226		.0340
111.000				.0158											
112.000				.0177											
113.000											.0198				
116.000				.0085				.0106			.0186				
135.000	.0042							.0252							
149.000	.0158			.0217											.0447

X/L	.8500	.8750	.9000	.9750	1.0000	1.0150	1.0140	1.0250	1.0380	1.0500
PHI										
.000	.0090	.0089		.0036	.0072	.0075	.0000	.0000	.0072	.0000
21.500		.0074			.0052					.0036
39.000				.0100						
52.500				.0165						
55.000				.0216						
65.000				.0230						
69.000				.0253						
100.000				.0343	.0237					
109.000										
112.000				.0065						.0059
113.000										



(ATK911)

AEDC VA392 CH4B 01 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = -5.000

SECTION (1) CRIBTER FUSELAGE DEPENDENT VARIABLE HU/H0

X/L	.1830	.1900	.1980	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
12.000								.0052							
21.500								.0066				.0044			
23.000															
24.000			.0106												
31.500			.0111												
34.000								.0067							
35.500			.0117					.0090							
40.000			.0162					.0101							
45.000															
51.000			.0250					.0082				.0159			
57.500															
59.500								.0076							
61.000								.0079							
65.000								.0086							
70.000															
96.500			.0192												
105.000								.0206				.0165			
106.000								.0289				.0126			
135.000															
145.000			.1245												
141.400	.1990														
151.000		.3146						.0056				.0121			
160.000															
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
.0000	.0079	.0082	.0092	.0095	.0111	.0110	.0116	.0115	.0123	.0123	.0130	.0130	.0143	.0150	
21.500	.0041				.0045				.0061				.0064		
63.000	.0080														
64.000									.0199						
65.000													.0327		
65.500					.0150										
105.000	.0089				.0038				.0039				.0059		.0087
111.000															
112.000					.0046										
113.000					.0051										
116.000															
135.000	.0103				.0207				.0310				.0063		
149.000													.0241		
160.000	.0168				.0181				.0162						.0172
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0360	1.0500			
PHI															



(ATK811)

AEDC VA352 OH48 01 CR8. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = .000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI	156.000													.2084	.3559
X/L															
PHI	159.200									.3398	.0250				
X/L															
PHI	170.700														
X/L															
PHI	171.900													.3181	
X/L															
PHI	173.400														
X/L															
PHI	180.000	.0809			.0620	.1682	.2604			.3360					
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI	.000	.0111	.0100	.0000	.0070	.0067	.0067	.0058	.0058	.0053	.0047	.0045	.0043	.0039	.0039
X/L															
PHI	11.500		.0118					.0072				.0075			
X/L															
PHI	12.000							.0103							
X/L															
PHI	21.500														
X/L															
PHI	23.000			.0164											
X/L															
PHI	24.000		.0189												
X/L															
PHI	31.500						.0134								
X/L															
PHI	34.000							.0141							
X/L															
PHI	35.000		.0201					.0179							
X/L															
PHI	40.000		.0256					.0067				.0121			
X/L															
PHI	45.000														
X/L															
PHI	51.000		.0237												
X/L															
PHI	57.500														
X/L															
PHI	59.500														
X/L															
PHI	61.000							.0084							
X/L															
PHI	65.000							.0084							
X/L															
PHI	70.000							.0085							
X/L															
PHI	96.500			.0195											
X/L															
PHI	105.000														
X/L															
PHI	106.000							.0160							
X/L															
PHI	135.000							.0232							
X/L															
PHI	140.000														
X/L															
PHI	141.400	.1337													
X/L															
PHI	151.000		.2762												
X/L															
PHI	180.000														
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI	.000	.0038	.0037	.0035	.0038	.0038	.0039	.0035	.0032	.0033	.0033	.0033	.0032	.0033	
X/L															
PHI	21.500	.0065			.0049				.0047				.0046		
X/L															
PHI	63.000	.0058													
X/L															
PHI	64.000														
X/L															
PHI	65.000														
X/L															
PHI	65.500				.0085				.0054				.0088		

(ATK812)

MACH (1) = 8.000 ALPHA (2) = 30.000
 AEDC VA392 CH48 O1 ORB. FUSELAGE

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
105.000	.0324			.0109					.0053				.0012		.0020
111.000				.0157											
112.000				.0181											
113.000										.0060					
116.000				.0046					.0034						
135.000	.0030									.0030					
149.000				.0057					.0053						
180.000	.0048														.0053

X/L .8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0360 1.0500

PHI

.000	.0406	.0376	.0350	.0337	.0293	.0326	.0238	.0000	.0223	.0000	.0223	.0326
21.500			.0370			.0383						
39.000						.0040						
92.500												
95.000			.0011									
63.000			.0004									
68.000						.0021						
100.000			.0004									
108.000			.0015			.0003						
112.000						.0012						
113.000									.0032			

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.400 QI = .524 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0800	.0900	.1000
PHI														
10.000	.0000	.0000	.6157	.3695	.3130	.2663	.2349	.1974	.0000	.1694	.1608	.1694	.1608	.1461
14.000							.2711							.1674
20.000							.2497							.1655
22.000							.1033							.1739
24.500							.0747							.0778
35.000							.0280							
39.000							.0345							
42.500							.0162							
48.000							.0494							
60.000							.0345							.0133
119.000							.0162			.0099				.0083
180.000	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810
X/L														.1820



(ATR813)

MACH (1) = 8.000 ALPHA (2) = 35.000
 AEDC VA352 CH4B 01 CRB. FUSELAGE

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
105.000	.0273			.0091				.0040					.0007		.0003
111.000															
112.000				.0152											
113.000				.0174											
116.000															
135.000	.0024			.0034				.0024		.0028					
149.000															
180.000	.0019			.0030				.0035		.0041					.0034
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			

PHI

.000	.0475	.0472	.0423	.0412	.0365	.0402	.0299	.0000		.0309	.0000	.0291			
21.500			.0461												
39.000															
52.500						.0059	.0494								.0402
55.000			.0008												
65.000			.0009												
68.000															
100.000			.0004			.0034									
108.000			.0005			.0032									
112.000							.0064								
113.000								.0080							

MACH (1) = 8.000 ALPHA (3) = 40.000 TI = 94.100 QI = 1.003 HREF = .025

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000	
PHI																
.000	.0000	.5942	.5324	.3760	.3269	.2891	.2565	.2137	.0000		.1858	.1765	.1667	.1845	.1853	
10.000								.2880								
14.000								.2687								
20.000								.0952							.1819	
22.000								.0707							.0725	
24.500								.0214								
35.000								.0112								
39.000								.0236								
42.500								.0722								
48.000								.0236								
60.000								.0112								
119.000			.0722	.0236	.0112	.0086	.0086	.0086							.0080	
180.000		.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820

(ATK613)

AEDC VA332 CH4B C1 CRB, FUSELAGE

MACH (1) = 6.000 ALPHA (3) = 40.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1550	.1600	.1620	.1670	.1690	.1700	.1760	.1800	.1810	.1820
PHI															
.000	.1619	.1543	.1421	.1354	.1350						.1332	.1309			
10.000				.1625											
20.000				.1472											
25.000				.1584											
40.000				.1038											
45.000				.0608											
131.000									.0049						
145.000															.0091
146.200															
158.000															
159.200															.0097
170.700															
171.900															
173.400															
180.000									.0091						
X/L	.1850	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
.000	.1339	.1339	.1196	.0000	.1119	.1125	.1016	.1164	.1131	.1059	.1013	.0970	.0931	.0888	
11.500			.1296												
12.000															
21.500															
23.000															
24.000				.1451											
31.500				.1567											
34.000															
35.000				.1506											
40.000				.1369											
45.000															
51.000				.0411											
57.500															
59.500															
61.000															
65.000															
70.000															
96.500				.0223											
105.000															
106.000															
135.000															
140.000				.0047											
141.400															
151.000				.0108											
160.000				.0173	.0023										
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.50	.7000	.7250	.7500	.7750	.8000	.8250	.8290

(ATK813)

AEDC VA352 CH4B 01 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (3) = 40.000

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
.000	.0900	.0897	.0859	.0832	.0831	.0835	.0833	.0794	.0732	.0742	.0737	.0685	.0659	.0563	
21.500	.0958			.0784					.0803				.0616		
63.000	.0005								.0008						
64.000													.0004		
65.000					.0005										
105.000	.0218				.0081				.0015						
111.000															.0010
112.000					.0125										
113.000					.0142										.0004
116.000															
135.000	.0026				.0029				.0023		.0016				
149.000															
160.000	.0031				.0034				.0034		.0057				.0026
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0360	1.0500			
PHI															
.000	.0567	.0568	.0322	.0499	.0463	.0500	.0381	.0000		.0378	.0000	.0386			
21.500			.0593												
39.000															
52.500						.0074	.0622							.0500	
55.000			.0020												
65.000			.0020												
68.000															
100.000			.0022			.0034									
108.000			.0015			.0057									
112.000							.0081								
113.000								.0087							

AEDC VA352 OH4B 01 ORB. FUSELAGE

(ATR814) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. YMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

BETA = .000 RN/L = 2.000
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.950 QI = 1.994 HREF = .055

PARAMETRIC DATA

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0800	.0900	.1000
PHI	.0000	.6079	.5126	.3273	.2714	.2358	.2004	.1675	.0000	.1408	.1317	.1220	.1396	.1446
10.000							.2399							.1446
14.000							.2256							.1545
20.000							.1016							.0764
22.000							.0747							.0527
24.500							.0321							.0144
35.000							.0172			.0092				.0082
39.000							.0418			.0092				.0144
42.500							.0711			.0092				.0082
48.000							.0418			.0092				.0144
60.000							.0711			.0092				.0082
119.000							.0418			.0092				.0144
180.000							.0711			.0092				.0082

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1700	.1780	.1800	.1810	.1820
PHI	.1181	.1104	.1015	.0942	.0946	.0946	.0946	.0946	.0946	.0935	.0914	.0914	.0914	.0914
10.000				.1235										.0146
20.000				.1120										.0210
25.500				.1274										.0082
40.000				.0903										.0082
45.500				.0583					.0053					.0082
131.200				.0067					.0067					.0146
145.400				.0067					.0067					.0210
146.200				.0067					.0067					.0082
156.000				.0067					.0067					.0082
159.200				.0067					.0067					.0082
170.700				.0067					.0067					.0082
171.500				.0067					.0067					.0082
173.400				.0067					.0067					.0082
180.000				.0067					.0067					.0082

X/L	.1850	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI	.0883	.0882	.0451	.0146	.0328	.1068	.0546	.0203	.0073	.0073	.0546	.0546	.0546	.0546	.0546
.0000				.0846	.0000	.0768	.0775	.0706	.0796	.0779	.0758	.0751	.0734	.0680	.0647
11.500				.0912											



AEDC VA352 CH4B 01 ORB. FUSELAGE (ATK914)

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0360	1.0500
PHI	.000	.0675	.0697	.0690	.0705	.0672	.0839	.0737	.0000	.0783	.0500	.0843
21.500			.0707				.0841					.0839
39.000							.0044					
52.500							.0014					
55.000							.0020					
65.000							.0017					
68.000							.0028					
100.000							.0021					
106.000							.0020					
112.000							.0026					
113.000							.0042					

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.550 QI = 1.994 HREF = .035

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0800	.0900	.1000
PHI	.000	.0000	.6075	.5267	.3613	.2998	.2618	.2287	.1941	.0000	.1648	.1558	.1428	.1622
10.000								.2660					.1656	
14.000								.2484					.1712	
20.000								.0985					.0755	
24.500								.0712						
35.000								.0247						
59.000								.0133						
42.500								.0306						.0108
48.000								.0820						.0099
60.000								.1200	.1250	.1300	.1400	.1500	.1600	.1670
119.000								.1267	.1207	.1106	.1095	.1800	.1810	.1820
140.000								.1994	.1441	.1300	.1437	.1780	.1810	.1820
20.000								.1300	.1437	.1437	.0973	.1800	.1810	.1820
25.500								.1437	.0973	.0973	.0087	.1780	.1810	.1820
40.000								.0973	.0087	.0087	.0493	.1780	.1810	.1820
45.500								.0087	.0493	.0493	.0087	.1780	.1810	.1820
131.000								.1115	.1115	.1115	.1095	.1800	.1810	.1820
145.400								.1115	.1115	.1115	.1095	.1800	.1810	.1820
146.200								.0053	.0053	.0053	.0087	.1800	.1810	.1820
								.0111	.0111	.0111	.0087	.1800	.1810	.1820



AEDC VA392 OH4B 01 CRB. FUSELAGE (ATRB14)

MACH (1) = 6.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1200	.1250	.1500	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI															
156.000														.0107	.0151
159.200												.0043			
170.700															
171.900									.0209						
173.400						.0532	.0656			.0823			.0647		
180.000	.0140				.0259										
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
.000	.1120		.1008	.0000	.0958	.0946	.0864	.0981	.0986	.0935	.0918	.0874	.0826	.0766	
11.500			.1118				.0976								
12.000															
21.500															
23.000															
24.000			.1287									.0921			
31.500			.1428												
34.000															
35.000				.1349											
40.000				.1264											
45.000															
51.000				.0423											
57.500															
59.500															
61.000															
65.000															
70.000															
96.500				.0221								.0020			
105.000															
106.000															
135.000															
140.000					.0057										
141.400	.0068														
151.000		.0126													
160.000				.0171		.0032		.0021							
X/L	.5000	.5250	.5900	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
.000	.0763	.0757	.0756	.0767	.0765	.0774	.0790	.0783	.0763	.0817	.0836	.0845	.0952	.1014	
21.500	.0797				.0682				.0817				.0883		
63.000	.0005														
64.000															
65.000															
65.500					.0006				.0005						.0003

(ATR214)

MACH (1) = 8.000 ALPHA (2) = 35.000

AEDC VA332 CH48 01 CR8. FUSELAGE

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
105.000	.0331			.0125				.0048					.0010		.0008
111.000				.0203											
112.000				.0235							.0035				
113.000											.0067				
116.000				.0026				.0050							
135.000	.0015							.0016							.0030
149.000				.0015											
150.000	.0018														
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0360	1.0500			
PHI															
.000	.1054	.1061	.1065	.1131	.1060	.1111	.1156	.0000		.1210	.0000	.1284			
21.500		.1104					.1125								.1111
39.000						.0065									
52.500															
55.000			.0008												
65.000			.0008												
66.000						.0044									
100.000			.0008												
108.000			.0006				.0021								
112.000							.0065								.0083
113.000															



(ATR815)

AEDC VA352 CH4B 01 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 25.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1850	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
12.000								.0651							
21.900								.0733				.0617			
23.000				.0897											
24.000			.1028												
31.900															
34.000				.0997				.0826							
35.000				.1021				.0780							
40.000								.0804							
45.000				.0407											
51.000								.0138				.0041			
59.500								.0300							
61.000								.0263							
65.000								.0165							
70.000				.0217											
96.500								.0138				.0140			
105.000								.0020							
106.000												.0008			
135.000				.0141											
140.000															
141.400				.0082											
151.000					.0357										
160.000						.0113		.0024				.0095			
X/L	.9000	.9250	.9500	.9750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
.000	.0907	.0907	.0902	.0904	.0921	.0929	.0945	.0957	.0950	.0612	.0668	.0678	.0874	.0986	
21.500	.0562			.0471					.0584				.0763		
63.000	.0017														
64.000									.0011				.0014		
65.000					.0022										
65.500					.0438										
103.000	.0218			.0277					.0312						
111.000				.0253											
112.000															
113.000															
116.000				.0060					.0058					.0603	
133.000	.0029			.0068											
149.000									.0059						
160.000	.0097														.0067
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PHI															
															.0094



(ATK815)

AEDC VA352 CH4B 01 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PH-I														.0189	.0247
156.000															
159.200															
170.700															
171.900															
173.400															
190.000		.0097			.0209	.0456	.0552		.0227		.1061		.0558		
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PH-I		.0901		.0899	.0000	.0824	.0796	.0708	.0799	.0812	.0792	.0789	.0771	.0731	.0704
11.500				.0922											
12.000								.0792							
21.500								.0904							.0785
23.000															
24.000				.1097											
31.500				.1231				.1017							
34.000															
35.000				.1184				.0991							
40.000				.1156				.0950							
45.000															
51.000				.0425				.0112							
57.500															.0027
59.500															
61.000								.0241							
65.000								.0259							
70.000								.0212							
96.500				.0219											.0112
105.000															
106.000								.0153							
133.000								.0014							.0010
140.000				.0070											
141.400		.0061													
151.000			.0202												
160.000				.0128		.0031		.0037							.0097
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PH-I															
.000		.0688	.0719	.0742	.0797	.0850	.0916	.1027	.1170	.1301	.1505	.1685	.1782	.2161	.2330
21.500		.0732			.0728					.1387				.2197	
63.000		.0007													
64.000										.0009					
65.000															.0007
65.500															
															.0011



AEDC VA352 CH4B 01 ORB. FUSELAGE (ATKB15)

MACH (1) = 8.000 ALPHA (2) = 30.000

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI					.0472			.0100					.0042		.0030
105.000	.0234														
111.000					.0405										
112.000					.0334										
113.000															
116.000											.0207				
135.000	.0023				.0045			.0056			.0032				
149.000															
180.000	.0071				.0050			.0047							.0034
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			

PHI

.000	.2419	.2270	.2108	.2004	.1749	.1489	.1726	.0000		.1655	.0000	.1667
21.500	.2100											.1489
39.000												
52.500						.0072						
55.000	.0027											
63.000	.0031											
68.000												
100.000	.0038					.0030						
108.000	.0043											
112.000						.0037						
113.000						.0026			.0036			

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.867 QI = 3.955 HRF5F = .049

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI						.3038	.2593	.2321	.1950	.0000		.1633	.1583	.1453	.1627
10.000	.0000	.6085	.5289	.3618				.2717							.1685
14.000								.2542							.1735
20.000								.1010							.0752
22.000								.0726							
24.500								.0254							
35.000								.0127							
39.000								.0925							
42.500															.0511
48.000															
60.000															
119.000															.0102
180.000	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820

(ATKB15)

AEDC VA352 CH4B 01 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (3) = 35.000

SECTION (1) CRBETTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI	.1426	.1339	.1226	.1132	.1134						.1149	.1128			
10.000				.1394											
20.000				.1347											
25.500				.1466											
40.000				.1002											
45.500				.0595											
131.200						.0059								.0107	
146.200						.0131								.0156	.0217
156.000															
159.200															
170.750															
171.950															
175.400		.0181		.0313	.0716	.0624	.0216			.0074	.0950	.0686			
180.000	.1830	.1900	.1910	.2000	.2250	.2900	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
X/L															
PHI	.1165	.1048	.0000	.1036	.0975	.0901	.0996	.0936	.0961	.0968	.0958	.0949	.0919		
11.500		.1112				.0992						.0942			
12.000															
21.500															
23.000				.1293											
24.000				.1431											
31.500															
34.000				.1384					.1210						
35.000				.1270					.1170						
40.000				.1096					.1096						
45.000				.0431					.0095						
51.000									.0018						
57.500															
59.500															
61.000				.0216					.0176						
65.000									.0157						
70.000									.0010						
96.500															
105.000				.0062											
135.000															
140.000															
141.400	.0095	.0156		.0146	.0020	.0016									
151.000															
160.000															
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500



TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(ATK916)

AEDC VA352 CH4B 01 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
PHI	.2350	.2245	.2185	.1977	.1778	.0000	.1733	.0000	.1646	.0000	.1667	.0000
21.500		.2188				.0000						.0000
39.000						.0000						
52.500			.0000									
55.000			.0000									
65.000			.0000									
68.000			.0000									
100.000			.0000									
109.000			.0000									
112.000					.0000							
113.000									.0000			

(ATK817)

AEDC VA332 CH4B 01 ORB, FUSELAGE

MACH (1) = 5.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .1835 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

PHI

12.000								.0825							
21.900								.0909			.0791				
23.000															
24.000			.1103												
31.500			.1239												
34.000								.1032							
35.000			.1196					.0992							
40.000			.1157					.0977							
45.000															
51.000			.0422					.0106							
57.500															
59.500								.0243							
61.000								.0253							
65.000								.0211							
70.000															
96.500			.0211												
105.000								.0152			.0104				
106.000								.0014			.0009				
135.000															
140.000			.0067												
141.400															
151.000			.0200												
180.000								.0035			.0080				
X/L	.5000	.6250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500

PHI

.0000	.0713	.0714	.0765	.0766	.0841	.0921	.1045	.1182	.1312	.1530	.1730	.1831	.2184	.2397
21.500	.0731				.0739				.1406				.2188	
63.000	.0007								.0003				.0006	
64.000														
65.000					.0012									
65.500					.0460				.0094				.0042	
105.000	.0232													
111.000					.0410									
112.000					.0341									
113.000											.0202			
115.000	.0021				.0047			.0053						
135.000											.0031			
149.000					.0050			.0048						
180.000	.0073													.0032
X/L	.6500	.6750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500		

PHI

(ATK817)

AEDC VA352 CH48 01 CR8. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
-----	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

PHI															
156.000															
159.200															
170.700															
171.900															
173.400															
180.000															

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
-----	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

PHI															
.000	.1099	.1043	.0000	.1043	.0996	.0907	.1007	.0945	.0958	.0962	.0972	.0934	.0945		
11.900	.1113														
12.000															
21.500															
23.000															
24.000															
31.500															
34.000															
35.000															
40.000															
45.000															
51.000															
57.500															
59.500															
61.000															
65.000															
70.000															
96.500															
105.000															
106.000															
135.000															
140.000															
141.400															
151.000															
180.000															

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
-----	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

PHI															
.000	.1001	.1085	.1223	.1357	.1626	.1950	.2129	.2426	.2580	.2783	.2929	.2901	.3120	.3172	
21.500	.0994				.1922								.3005		
63.000															
64.000															
65.000															
65.500															

X/L	.0090	.0158	.0143	.0222	.0222	.0239	.0228	.0158	.0012	.0016	.0021	.0018	.0007	.0007	.0006
-----	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

PHI															
.000	.0091	.0211	.0606	.0883	.0152	.0218									
156.000															
159.200															
170.700															
171.900															
173.400															
180.000															



(ATK817)

AEDC VA352 CH4B 01 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
105.000	.0292				.0217				.0064				.0018		.0016
111.000															
112.000					.0347										
113.000					.0350										
116.000															
135.000	.0016				.0034				.0064		.0063				
149.000															
180.000	.0023				.0030				.0045		.0057		.0057		
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PHI															
.000	.2969	.2660	.2522	.2374	.2131	.3948	.4163	.5108		.4585	.4487	.4372			
21.500					.2461										
39.000							.3464								.3948
52.500															
55.000			.0020												
65.000			.0018												
68.000															
100.000			.0017												
108.000			.0016												
112.000							.0027								
113.000									.0041						

AEDC VA352 CH4B 01 ORB, FUSELAGE (ATK818)

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HG

X/L	.9000	.8250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
105.000	.0328			.0663				.0663					.0185		.0035
111.000				.0448											
112.000				.0410											
113.000											.0695				
116.000															
135.000	.0022			.0041				.0053							
149.000											.0065				
180.000	.0032			.0035				.0051							.0046

X/L	.8900	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
PHI												
.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
21.500	.0000											
39.000												.4370
52.500						.0090						
55.000	.0096											
65.000	.0098											
68.000						.0087						
100.000	.0105											
106.000	.0063											
112.000						.0069						
113.000							.0035					.0044

(ATK819)

AEDC VA352 CH4B 01 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1850	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
12.000				.0866											
21.500				.0000								.0000			
23.000				.0000											
24.000				.1392											
31.500				.1399											
34.000				.1477											
35.000				.0639											
40.000															
45.000															
51.000												.0078			
57.500															
59.500															
61.000															
65.000															
70.000															
96.500				.0308											
105.000															
106.000												.0192			
135.000												.0015			
140.000				.0000											
141.400	.0000		.0000	.0080		.0039		.0023		.0071		.0071		.0000	.0000
151.000															
180.000															
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
21.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
63.000	.0029								.0032				.0011		
64.000															
65.000					.0034										
65.500					.0646				.0495				.0121		.0161
105.000	.0306				.0384										
112.000					.0344										
113.000															
116.000										.0805					
135.000	.0024				.0030				.0048						
149.000										.0110					
180.000	.0055				.0043				.0037						.0029
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PHI															



AEDC VA352 CH4B 01 CRB. FUSELAGE (ATRB19)

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
105.000	.0374				.0698			.0215					.0080		.0120
111.000															
112.000					.0706										
113.000					.0566										
116.000										.0467					
135.000	.0023				.0038			.0055							
149.000										.0070					
180.000	.0021				.0025			.0033							.0030
X/L	.8900	.6750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0360	1.0500			
PHI															
.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
21.500															
39.000															
52.500							.2155								.2980
55.000						.0078									
65.000			.0032												
69.000			.0040												
100.000			.0061			.0091									
108.000			.0099			.0063									
112.000						.0035									
113.000									.0041						

AEDC VASSE CH48 01 CR8, FUSELAGE (ATRB80)

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0360	1.0500
PHI	.0718	.0734	.0721	.0733	.0686	.3624	.1817	.2974	.3683	.3864	.3857	
.000			.0756									
21.500					.0042		.1969					.3624
39.000												
52.500			.0008									
65.000			.0015									
68.000					.0015							
100.000			.0025									
108.000			.0020									
112.000					.0017							
113.000						.0020						

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.900 QI = 1.960 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0055	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0800	.0900	.1000
PHI	.0000	.6120	.5297	.3649	.3023	.2601	.2278	.1895	.0000	.1636	.1576	.1636	.1432	.1618
.000														
10.000								.2674						.1655
14.000														
20.000								.2509						.1721
22.000														
24.500								.1005						.0756
35.000														
39.000								.0737						
42.500												.0499		
46.000								.0266						
60.000														.0105
119.000			.0808		.0310			.0130		.0081				.0102
160.000														

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1760	.1800	.1810	.1820
PHI	.1414	.1336	.1234	.1144	.1178	.1128									
.000															
10.000				.1407											.0081
20.000				.1293											
25.500				.1461											
40.000				.0996											
45.500				.0595					.0050						
131.200															
145.400															
146.200								.0110							

(ATK820)

AEDC V4352 CH48 01 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
105.000	.0335				.0115			.0048					.0009		.0008
111.000					.0203						.0038				
112.000					.0237										
113.000															
116.000															
135.000	.0016				.0026			.0050			.0072				
149.000															
180.000	.0016				.0015			.0017					.0031		

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
PHI												
.000	.1006	.1057	.1043	.1089	.1026	.3670	.2307	.3818	.4242	.4255	.4044	
21.500		.1075					.2575					.3670
39.000						.0055						
52.500			.0006									
55.000			.0006									
65.000						.0018						
68.000												
100.000			.0008									
108.000			.0007									
112.000						.0015	.0021					
113.000								.0038				

AEDC VA332 OH-6B 01 ORB. FUSELAGE (ATK821)

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1630	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
12.000				.0882											
21.500				.0000								.0000			
23.000				.0000											
24.000				.1422											
31.500				.1437											
34.000				.1503											
35.000				.0660											
40.000															
45.000															
51.000												.0074			
57.500															
59.500															
61.000												.0441			
65.000												.0448			
70.000												.0323			
96.500				.0312											
105.000												.0199			
106.000												.0021			
135.000															
140.000				.0000											
141.400				.0000											
151.000															
160.000				.0063		.0055		.0019				.0042			
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
21.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
63.000	.0022									.0019				.0009	
64.000															
65.000					.0027										
65.500					.0589				.0174					.0071	
105.000	.0405				.0686										.0076
111.000					.0629										
112.000															
113.000															
116.000					.0043						.0207				
135.000	.0035				.0041						.0048				
149.000	.0090														
160.000															
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0150	1.0140	1.0250	1.0380	1.0500			
PHI															
.000															
21.500															
63.000															
64.000															
65.000															
105.000															
111.000															
112.000															
113.000															
116.000															
135.000															
149.000															
160.000															



MACH (1) = 8.000 ALPHA (2) = 35.000
 AEDC VA352 CH4B 01 CR8. FUSELAGE (ATRB21)

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
105.000	.0372				.0263			.0116					.0048		.0063
111.000					.0404										
112.000					.0479										
113.000															
116.000											.0169				
135.000	.0036				.0061			.0065							
149.000											.0038				
180.000	.0031				.0029			.0036						.0099	
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PHI															
.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
21.500	.0000														
39.000															
52.500						.0036	.0559							.2016	
55.000	.0019														
65.000	.0017														
68.000															
100.000	.0033				.0050										
108.000	.0056														
112.000						.0044	.0029								
113.000								.0035							

AEDC VA332 CH4B O1 ORB. FUSELAGE

(ATK922) (27 APR 74)

REFERENCE DATA

SREF = .8238 50.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 PRF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

BETA = .000 RN/L = .500
 S.FLAP = 10.000 ELEVON = 9.000
 HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 93.400 QI = .523 HREF = .018

PARAMETRIC DATA

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI	.0000	.6235	.5224	.3423	.2841	.2415	.2104	.1714	.0000	.1469	.1404	.1289	.1448	.1484	.1583
10.000								.2444							.0802
14.000								.2299							
20.000								.1056							
22.000								.0778							
24.500								.0347							
35.000								.0201							
39.000								.0458							
42.500								.0368							
48.000								.1141	.1060	.0969	.0984	.0941	.0956		
60.000								.1209	.1176	.1176	.1063				
119.000								.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620
180.000															

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI															
10.000															
20.000															
25.500															
40.000															
45.500															
131.200									.0058						.0079
145.400									.0060						.0104
146.200															
156.000															
159.200															
170.700										.0072					.0157
171.900										.0154					
173.400															
180.000															

X/L	.1850	.1900	.1910	.2000	.2250	.2300	.2750	.3000	.3250	.3300	.3750	.4000	.4250	.4500	.4750
PHI															
.000															
11.500															



(ATR823)

AEDC VA352 CH4B 01 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 25.000

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1830	.1900	.1910	.2000	.2230	.2500	.2750	.3000	.3230	.3500	.3750	.4000	.4250	.4500	.4750
PHI								.0648				.0613			
12.000															
21.500								.0735							
23.000				.0914											
24.000			.1048												
31.500								.0887							
34.000				.1025											
35.000			.1040					.0884							
40.000				.1040				.0858							
45.000								.0131							
51.000				.0442								.0039			
57.500								.0248							
59.500								.0253							
61.000								.0188							
65.000												.0130			
70.000				.0243								.0020			
96.500								.0151							
105.000								.0040							
106.000															
135.000				.0072											
140.000															
141.400	.0080		.0210												
151.000				.0132		.0036		.0025				.0053			
180.000		.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.8000	.8250	.8290
X/L															
PHI		.0519	.0320	.0489	.0327	.0493	.0509	.0483	.0482	.0440	.0422	.0415	.0386	.0373	.0333
21.500	.0577				.0475					.0473				.0360	
63.000	.0013									.0009				.0003	
64.000															
65.000					.0020										
65.500					.0239					.0089				.0038	
105.000	.0302														.0040
111.000					.0334										
112.000					.0367										
113.000															
116.000					.0037					.0057		.0099			
135.000	.0032														
149.000					.0060							.0033			
180.000	.0064									.0059				.0038	
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PHI															



AEDC VA352 CH48 01 CRB. FUSELAGE (ATK823)

MACH (1) = 8.000 ALPHA (2) = 30.000

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
105.000	.0321			.0127			.0032						.0012		.0017
111.000				.0167											
112.000				.0196											
113.000											.0067				
116.000															
135.000	.0032			.0050			.0034								
149.000											.0031				
180.000	.0049			.0052			.0048								.0051
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			

PHI	.000	.0407	.0376	.0326	.0186	.0101	.1731	.0219	.0349	.0694	.1098	.1463			
21.500				.0363											
39.000															
52.500							.0019		.0328					.1731	
55.000				.0013											
65.000				.0017											
86.000															
100.000				.0013			.0023								
108.000				.0012			.0008								
112.000							.0010								
113.000									.0021						

MACH (1) = 8.000 ALPHA (3) = 35.000 T1 = 93.433 Q1 = .521 HREF = .018

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI															
.000				.0000	.6196	.5394	.3609	.3107	.2708	.2392	.1997	.0000	.1707	.1640	.1513
10.000															.1678
14.000															
20.000															.1690
22.000															
24.500															.1768
35.000															
39.000															
42.500															.0792
48.000															
60.000															
119.000															.0122
180.000				.0583			.0351		.0153		.0093				.0081
X/L	.1200	.1250	.1300	.1400	.1500	.1600	.1700	.1800	.1900	.2000	.2100	.2200	.2300	.2400	.2500

(ATK823)

AEDC VA352 CH4B 01 ORB, FUSELAGE

MACH (1) = 6.000 ALPHA (3) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI	.1475	.1431	.1292	.1198	.1104				.0048		.1165		.1145		
10.000				.1645											
20.000				.1321											
25.000				.1488											
40.000				.0989											
45.000				.0618											
131.200															.0064
145.400															
146.200															
156.000															.0086
159.200															
170.700															
171.900															
173.400															
180.000															.0144
X/L	.1890	.1900	.1910	.2000	.2250	.2300	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI	.1146	.1143	.1037	.0938	.0924	.0884	.0981	.0973	.0921	.0900	.0883	.0846	.0817		
11.500															
12.000															
21.500															
23.000															
24.000															
31.500															
34.000															
35.000															
40.000															
45.000															
51.000															
57.500															
59.500															
61.000															
65.000															
70.000															
96.500															
105.000															
106.000															
135.000															
140.000															
141.400															
151.000															
180.000															
X/L	.9000	.9250	.9500	.9750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI	.0049	.0106	.0146	.0035	.0021	.0021	.0021	.0020	.0161	.0020	.0016	.0033	.0000	.6250	.8290

(ATK824)

AEDC VA352 CH4B 01 ORB. FUSELAGE

MACH (1) = 6.000 ALPHA (2) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.5000	.6250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
105.000	.0409			.0526					.0175				.0064		
111.000				.0639											.0083
112.000				.0611											
113.000										.0210					
116.000											.0043				
135.000	.0032			.0046					.0083						
149.000				.0047											.0028
180.000	.0045														

X/L .8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0360 1.0500

PHI

.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
21.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
39.000															.2936
92.500															
95.000	.0013			.0019											
95.000	.0013														
98.000				.0022											
100.000	.0040														
108.000	.0088			.0069											
112.000				.0058											
113.000									.0054						

MACH (1) = 6.000 ALPHA (3) = 35.000 TI = 93.233 QI = .523 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI															
.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
10.000															.1733
14.000									.2879						
20.000									.2745						.1829
22.000															.1972
24.500									.1294						
35.000									.0945						.1059
42.500															
48.000									.0369						
60.000															.0166
119.000	.0156		.0156	.0356					.0155		.0099				.0070
180.000												.0702			
X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1760	.1800	.1810	.1820

(ATK824)

AEDC VA352 CH4B 01 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (3) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
10.000					.1405										
20.000					.1410										
25.500					.1692										
40.000					.1285										
45.500					.0885										
131.200								.0000							
145.400								.0000							
146.200								.0000							
156.000								.0000							
159.200								.0000							
170.700								.0000							
171.900								.0000							
173.400								.0000							
180.000								.0000							
X/L	.1850	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI	.0000	.0059	.0000	.0000	.0031	.0000	.0106	.0000	.0000	.0000	.0878	.0000	.0125	.0000	.0000
11.500				.1179											
12.000								.1044							
21.500								.0000							
23.000								.0000							
24.000				.0000				.0000							
31.500				.1597				.0000							
34.000								.1387							
35.000				.1804				.1360							
40.000				.1591				.1368							
45.000								.0661							
51.000				.0661				.0175							
57.500								.0048							
59.500								.0361							
61.000								.0366							
65.000								.0371							
70.000								.0319							
96.500				.0319				.0230							
103.000								.0030							
106.000								.0030							
135.000								.0030							
140.000				.0000				.0021							
141.400				.0000				.0023							
151.000				.0079				.0023							
160.000				.0079	.0099			.0023							
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290

(ATK824)

AEDC VA352 CH48 01 CR8. FUSELAGE

MACH (1) = 8.000 ALPHA (3) = 35.000

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.9000	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0360	1.0500
PHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
21.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
63.000	.0015											
84.000												
85.000												
105.000	.0563			.0017				.0112				.0006
111.000				.0237								.0051
112.000				.0387								
113.000				.0458								
116.000										.0166		
135.000	.0036			.0061				.0066				
149.000								.0045				
180.000	.0028			.0032				.0041				.0056
X/L	.8900	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0360	1.0500
PHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
21.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
39.000												
92.500							.0815					.2912
55.000	.0032			.0028								
65.000	.0024											
68.000												
100.000	.0032			.0029								
109.000	.0054			.0047								
112.000				.0037								
113.000								.0041				

(ATR826)

AEDC VA352 CH4B 01 CRB. FUELRAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUELRAGE DEPENDENT VARIABLE HU/HO

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
12.000								.0870							
21.500								.0000							
23.000								.0000							
24.000				.0000											
31.500				.1364											
34.000								.1183							
35.000				.1408											
40.000				.1464				.1215							
43.000								.1225							
51.000				.0623											
57.500								.0235							
59.500												.0078			
61.000								.0508							
65.000								.0466							
70.000								.0301							
96.500				.0309											
103.000												.0189			
106.000								.0211							
135.000								.0027							
140.000				.0000											
141.400															
151.000				.0000											
180.000								.0082							
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
.000								.0036							
21.500															
63.000															
64.000															
65.000															
65.500															
103.000															
111.000															
112.000															
113.000															
116.000															
135.000															
149.000															
160.000															
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PHI															
.000															
21.500															
63.000															
64.000															
65.000															
65.500															
103.000															
111.000															
112.000															
113.000															
116.000															
135.000															
149.000															
160.000															

(ATRB26)

AEDC VA352 CH48 01 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI					.0766				.0205				.0086		.0121
105.000	.0369														
111.000					.0696										
112.000					.0371						.0461				
113.000									.0055		.0074				
116.000					.0037										
135.000	.0022								.0031						
149.000					.0024										
180.000	.0024														
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0360	1.0500			
PHI					.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
21.500															
39.000									.3931						.4131
52.500						.0067									
55.000			.0035												
65.000			.0039												
68.000						.0095									
100.000			.0059												
108.000			.0105												
112.000							.0045								
113.000								.0056							

(ATK827)

AEDC VA352 CH48 01 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI															
156.000														.0194	.0247
159.200													.0184		
170.700									.0232						
171.900															
173.400					.0455						.1066		.0561		
180.000		.0098			.0215		.0566								
X/L	.1630	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
.000	.0950		.0862	.0000	.0727	.0754	.0700	.0806	.0791	.0801	.0799	.0777	.0748	.0694	
11.500			.0917				.0805					.0781			
12.000							.0907								
21.500															
23.000				.1109											
24.000				.1261											
31.500							.1027								
34.000															
35.000				.1195											
40.000				.1167			.1045								
45.000							.0969								
51.000				.0428											
57.500							.0111								
59.500												.0028			
61.000							.0235								
65.000							.0248								
70.000							.0212								
96.500				.0218								.0122			
105.000															
106.000							.0152								
135.000							.0013					.0010			
140.000				.0068											
141.400	.0064														
151.000			.0205												
180.000				.0132		.0031		.0037						.0091	
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
.000	.0705	.0717	.0750	.0800	.0850	.0944	.1034	.1194	.1331	.1555	.1766	.1851	.2233	.2432	
21.500	.0736			.0734					.1390				.2199		
63.000	.0007														
64.000									.0013						
65.000															.0006
65.500					.0011										



(ATK827)

AEDC VA352 CH4B 01 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 30.000

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
105.000	.0235				.0474				.0098				.0043		.0033
111.000					.0413										
112.000					.0342										
113.000															
116.000										.0202					
135.000	.0022				.0045				.0057		.0034				
149.000															
180.000	.0077				.0052				.0048					.0037	
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			

PHI

.000	.2403	.2239	.2104	.2038	.1789	.4138	.2725	.4120	.4331	.4342	.4315				
21.500			.2116												
39.000						.2924						.4138			
92.500						.0046									
55.000			.0026												
65.000			.0028												
68.000															
100.000			.0036												
108.000			.0042												
112.000							.0030								
113.000									.0037						

MACH (1) = 8.000 ALPHA (3) = 35.000 T1 = 97.367 Q1 = 3.936 HREF = .049

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L	.0050	.0090	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI															
.000	.0000	.6120	.5390	.3657	.3043	.2620	.2321	.1964	.0000	.1650	.1577	.1445	.1638	.1703	.1744
10.000															
14.000							.2720								
20.000							.2534								
22.000															
24.500															
35.000							.0997								.0753
39.000															
42.500							.0735								
46.000															
60.000							.0255								
119.000			.0942		.0302		.0131			.0089					.0103
180.000		.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1630	.1640	.1650	.1660	.1670	.1680

(ATK827)

AEDC VA352 CH4B 01 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (3) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1760	.1800	.1810	.1820
PHI	.1419	.1297	.1229	.1143	.1158		.1142		.1123						
10.000				.1408											
20.000				.1349											
25.000				.1508											
40.000				.0998											
45.000				.0597											
131.200					.0060										
145.400														.0102	
146.200					.0133										
156.000															
159.200															
170.700															
171.900															
175.400					.0824		.0812								
180.000		.0179		.0316	.0746										
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI	.1195	.1057	.1057	.0921	.0975	.0884	.0988	.0935	.0967	.0974	.0974	.0948	.0937		
11.500			.1112												
12.000															
21.900															
23.000															
24.000				.1901											
31.900				.1441											
34.000															
35.000				.1393											
40.000				.1308											
45.000															
51.000				.0426											
57.900															
59.500															
61.000															
65.000															
70.000															
96.500				.0219											
103.000															
106.000															
135.000															
140.000				.0064											
141.400		.0091													
151.000			.0157												
180.000															
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI						.0022		.0015				.0023			



AEDC VA352 CH48 O1 CRB. FUSELAGE (ATRB27)

MACH (1) = 8.000 ALPHA (3) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
.000	.1005	.1090	.1199	.1405	.1664	.2008	.2205	.2440	.2629	.2814	.2936	.2861	.3131	.3165	
21.500	.1008			.1501					.2687				.2992		
63.000	.0004														
64.000									.0013						
65.000					.0008								.0009		
65.500					.0225								.0018		
105.000	.0282								.0065						
111.000															.0012
112.000					.0372										
113.000					.0351										
116.000									.0064		.0062				
135.000	.0016				.0032						.0062				
149.000									.0045						
180.000	.0024				.0031										
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PHI															
.000	.2937	.2655	.2499	.2385	.2120	.4056	.2993	.4521		.4564	.4462	.4397			
21.500			.2507												
39.000						.0046	.3021								.4056
92.500															
95.000			.0026												
65.000			.0026												
68.000															
100.000			.0025												
108.000			.0018												
112.000						.0028	.0030								
113.000									.0041						

AEDC VA332 CH4B 01 ORB. FUSELAGE

(ATK828) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. YMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RN/L = 3.720
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .900

MACH (1) = 5.000 ALPHA (1) = 25.000 T1 = 97.500 Q1 = 3.930 HREF = .049

SECTION (1)/ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0800	.0900	.1000
PHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
10.000														.1254
14.000														.1362
20.000														.1625
22.000														.1067
24.500														
35.000														
39.000														
42.500														
48.000														
60.000														
119.000											.0717			.0261
190.000											.0136			.0090
X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810
PHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
10.000														
20.000														
25.500														
40.000														
45.500														
131.200									.0000					.0000
145.400									.0000					.0000
146.200														
156.000														
159.200														
170.700										.0000				.0000
171.900									.0000					.0000
173.400														
180.000														
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500
PHI	.0000	.0055	.0055	.0000	.0055	.0000	.0106	.0000	.0000	.0000	.1365	.0339	.0000	.4750
.0000														
11.500														



AEDC VA352 CH48 01 ORB. FUSELAGE

(ATK828)

MACH (1) = 8.000 ALPHA (1) = 25.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
12.000								.0767							
21.500								.0000							
23.000				.0000				.0000							
24.000				.1189											
31.500				.1253											
34.000				.1361											
35.000				.0636											
40.000															
45.000															
51.000															
57.500															
59.500															
61.000															
65.000															
70.000															
96.500															
105.000				.0315											
106.000															
135.000															
140.000															
141.400	.0000														
151.000			.0000												
180.000				.0118		.0055		.0017							
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
21.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
63.000	.0057														
64.000															
65.000															
65.500	.0262				.0078				.0062					.0032	
105.000					.0370				.0365					.0326	
111.000					.0342										
112.000					.0341										
113.000															
116.000															
135.000	.0021				.0026				.0028					.0399	
149.000														.0049	
180.000	.0058				.0027				.0014						.0047
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0150	1.0140	1.0250	1.0380	1.0500			

(ATK828)

AEDC VA352 CH48 01 CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 30.000

SECTION (1) CRBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI	.0283			.0454	.0797								.0287		.0381
105.000															
111.000															
112.000				.0376											
113.000				.0341											
116.000											.0487				
135.000	.0028			.0033	.0044						.0115				
149.000															
180.000	.0069			.0036	.0028								.0048		

X/L .8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0380 1.0500

X/L	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
PHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
21.500															
39.000							.3719								.4853
52.500			.0082			.0079									
55.000			.0127												
65.000															
68.000															
100.000			.0193												
108.000			.0210			.0163									
112.000							.0068								
113.000								.0071							

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.300 QI = 3.930 HREF = .049

SECTION (1) CRBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
10.000															.0000
14.000															.1693
20.000															.1837
22.000															.1991
24.500															.1008
35.000															
39.000															
42.500															.0665
48.000															
60.000															.0132
119.000			.0228		.0305		.0116				.0075				.0063
180.000															.1820

X/L .1200 .1250 .1300 .1400 .1500 .1560 .1600 .1620 .1670 .1690 .1700 .1760 .1800 .1810 .1820



AEDC VA352 CH4B 01 CRS. FUSELAGE (ATK928)

MACH (1) = 8.000 ALPHA (3) = 35.000

SECTION (1) CRIBBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.9000	.9250	.9500	.9750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
21.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
65.000	.0018														
64.000									.0023						.0021
65.000					.0032										
65.500					.0668										.0163
105.000	.0324														.0290
111.000					.0441										
113.000					.0407										
116.000										.0723					
135.000	.0023				.0043				.0037						
149.000										.0066					
180.000	.0033				.0036				.0050						.0045
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
21.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
39.000															
52.500						.0072		.3689							.4676
55.000			.0101												
65.000			.0099												
66.000						.0107									
100.000			.0097												
108.000			.0114												
112.000						.0095		.0067							
113.000									.0081						

AEDC YA352 CH48 O2 ORB. FUSELAGE

(ATK829) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B-FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.067 QI = 3.940 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI	.000	.6258	.6138	.4924	.3140	.2466	.2099	.1745	.1446	.1307		.1169	.1105	.1011	.0000
X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI	.0914	.0850	.0774	.0721	.0000	.0732		.0714	.0716						
X/L	.1850	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI	.0726	.0660	.0000	.0572	.0592	.0551	.0618	.0662	.0585	.0577	.0562	.0538	.0498		

(ATKBL9)

AEDC VA352 CH48 O2 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI															
156.000														.0000	.0000
159.200												.0000			
170.700										.0000					
171.900					.0000										
173.400					.0000										
180.000					.0000										
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
.000	.0669	.0619	.0619	.0619	.0722	.0769	.0769	.0706	.0811	.0861	.0778	.0779	.0743	.0713	.0669
11.500		.0000						.0000							
12.000															
21.500								.0940				.0801			
23.000															
24.000				.1074											
31.500				.1220											
34.000															
35.000				.1182											
40.000				.1190				.0959							
45.000								.0919							
51.000				.0000											
57.500												.0000			
59.500															
61.000								.0000							
65.000								.0000							
70.000								.0000							
96.500				.0000											
103.000															
106.000															
133.000				.0000				.0000							
140.000				.0000				.0000							
141.400	.0000														
151.000			.0000												
180.000				.0000											
X/L	.9000	.9250	.9500	.9750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
.000	.0675	.0667	.0737	.0837	.0894	.0949	.1096	.1199	.1314	.1514	.1707	.1844	.2196	.2355	
21.500	.0717				.0726				.1336				.2099		
63.000	.0000														
64.000									.0000						
65.000															
65.500				.0000											



(ATK829)

AEDC VA352 CH4B C2 CR8, FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
105.000	.0000				.0000				.0000				.0000		.0000
111.000					.0000										.0000
112.000					.0000										.0000
113.000					.0000										.0000
116.000					.0000				.0000		.0000				.0000
135.000					.0000				.0000		.0000				.0000
149.000					.0000				.0000		.0000				.0000
180.000					.0000				.0000		.0000				.0000

X/L .8900 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0380 1.0500

PHI

.000	.2341	.2234	.2117	.2005	.1709	.1740	.1698	.0000	.0000	.0000	.1547		
21.500			.2144										
39.000						.0000	.0000						
52.500						.0000							
55.000						.0000							
65.000						.0000							
68.000						.0000							
100.000						.0000							
108.000						.0000							
112.000						.0000							
113.000						.0000							

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.067 QI = 3.940 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI															
.000	.5258	.6048	.5090	.3593	.3020	.2640	.2292	.1939	.1766		.1619	.1552		.1413	.0000
10.000															.0000
14.000								.0000							.0000
20.000								.0000							.0000
22.000								.0000							.0000
24.500								.0000							.0000
35.000								.0000							.0000
39.000								.0000							.0000
42.500								.0000							.0000
48.000								.0000							.0000
60.000								.0000							.0000
119.000								.0000							.0000
180.000								.0000							.0000

X/L

(ATK829)

AEDC VA352 CH4B 02 ORB. FUSELAGE

MACH (1) = 6.000 ALPHA (3) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI	.1389	.1291	.1214	.1125	.1130	.1126	.1111								
10.000				.0000											
20.000				.0000											
25.500				.0000											
40.000				.0000											
45.500				.0000											
131.200				.0000											
145.400				.0000											
146.200				.0000											
156.000				.0000											
159.200				.0000											
170.700				.0000											
171.900				.0000											
173.400				.0000											
180.000				.0000											
X/L	.1850	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI	.1127	.1025	.0946	.0862	.0960	.1027	.0939	.0930	.0929	.0905	.0903				
11.500				.0000											
12.000				.0000											
21.500				.0000											
23.000				.1265											
24.000				.1429											
31.500				.1385											
34.000				.1266											
35.000				.0000											
40.000				.0000											
45.000				.0000											
51.000				.0000											
57.500				.0000											
59.500				.0000											
61.000				.0000											
65.000				.0000											
70.000				.0000											
96.500				.0000											
105.000				.0000											
106.000				.0000											
135.000				.0000											
140.000				.0000											
141.400				.0000											
151.000				.0000											
180.000				.0000											
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500



AEDC VA352 CH4B 02 ORB. FUSELAGE

(ATRB29)

MACH (1) = 8.000 ALPHA (3) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
.000	.0952	.1014	.1149	.1268	.1388	.1473	.2082	.2332	.2453	.2678	.2833	.2779	.3066	.3126	
21.500	.0940			.1380									.2974		
63.000	.0000														
64.000					.0000										
65.000													.0000		
65.500					.0000										
105.000	.0000				.0000										
111.000					.0000										.0000
112.000					.0000										
113.000					.0000										
116.000	.0000				.0000					.0000					
135.000	.0000				.0000					.0000					
149.000	.0000				.0000					.0000					
180.000	.0000				.0000					.0000					.0000
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0360	1.0500			
PHI															
.000	.2885	.2634	.2461	.2391	.2041	.2032	.2009	.0000		.0860	.0000	.1836			
21.500			.2489												
39.000						.0000									
92.500															
95.000			.0000												
95.000			.0000												
68.000					.0000										
100.000			.0000												
108.000			.0000												
112.000			.0000				.0000								
113.000									.0000						

AEDC VA352 CH48 C2 ORB. FUSELAGE

(ATK950) (27 APR 74)

REFERENCE DATA

SREF = .8238 50.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

BETA = .000 RM/L = 2.000
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .900

PARAMETRIC DATA

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 94.933 QI = 1.986 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI	.000	.8164	.6043	.4893	.3037	.2427	.2069	.1748	.1452	.1311	.1175	.1147	.1042	.0000	.0000
10.000								.0000						.0000	.0000
14.000								.0000						.0000	.0000
20.000								.0000						.0000	.0000
22.000								.0000						.0000	.0000
24.500								.0000						.0000	.0000
35.000								.0000						.0000	.0000
39.000								.0000						.0000	.0000
42.500								.0000						.0000	.0000
48.000								.0000						.0000	.0000
60.000								.0000						.0000	.0000
119.000								.0000						.0000	.0000
180.000								.0000						.0000	.0000

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI	.0950	.0661	.0607	.0744	.0752	.0720	.0690	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
10.000				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
20.000				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
25.500				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
40.000				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
45.500				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
131.200				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
145.400				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
146.200				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
156.000				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
159.200				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
170.700				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
171.900				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
175.400				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
180.000				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI	.0703	.0637	.0600	.0569	.0569	.0642	.0555	.0366	.0537	.0320	.0492	.0000	.0000	.0000	.0000
11.500				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000



(ATK830)

MACH (1) = 8.000 ALPHA (2) = 30.000

AEDC VA352 CH4B 02 CR8. FUSELAGE

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.5000	.6250	.7500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0250	1.0380	1.0500
PHI													
105.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
111.000													
112.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
113.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
116.000													
135.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
149.000													
180.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0250	1.0380	1.0500		

PHI	.000	.0670	.0699	.0716	.0654	.0698	.0735	.0000	.0754	.0000	.0779	.0000
21.900	.0000	.0664	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
39.900												
55.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
65.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
66.000												
100.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
108.000												
112.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
113.000												

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 94.935 QI = 1.986 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0800	.0900	.1000
PHI														
.000	.5179	.5982	.5242	.3614	.2978	.2594	.2264	.1921	.1747	.1626	.1543	.1444	.1444	.1444
10.000							.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
14.000							.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
20.000							.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
22.000							.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
24.500							.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
33.000							.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
39.000							.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
42.500							.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
48.000							.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
60.000							.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
119.000							.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
180.000							.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1800	.1810	.1820

AEDC VA352 CH4B O2 ORB. FUSELAGE (ATK830)

MACH (1) = 0.000 ALPHA (3) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.9000	.8250	.5900	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI	.000	.0766	.0760	.0733	.0783	.0787	.0801	.0810	.0794	.0863	.0888	.0881	.1039	.1099	
21.900	.0613			.0679					.0829				.0959		
63.000	.0000								.0000				.0000		
64.000					.0000				.0000				.0000		
65.500					.0000				.0000				.0000		
105.000	.0000				.0000				.0000				.0000		
111.000					.0000				.0000				.0000		.0000
112.000					.0000				.0000				.0000		
113.000					.0000				.0000				.0000		
116.000					.0000				.0000		.0000		.0000		
135.000	.0000				.0000				.0000		.0000		.0000		
149.000	.0000				.0000				.0000		.0000		.0000		
180.000	.0000				.0000				.0000		.0000		.0000		
X/L	.8900	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PHI	.000	.1155	.1169	.1142	.1169	.1104	.1188	.1246	.0000	.1193	.0000	.1252			
21.900		.1184						.0000				.0000			
39.000								.0000				.0000			
52.500								.0000				.0000			
55.000								.0000				.0000			
65.000								.0000				.0000			
66.000								.0000				.0000			
100.000								.0000				.0000			
108.000								.0000				.0000			
112.000								.0000				.0000			
113.000								.0000				.0000			



AEDC VA332 CH48 C2 CRB. FUSELAGE (ATK831)

MACH (1) = 8.000 ALPHA (1) = 25.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
12.000				.0000				.0000							
21.500							.0621								
23.000				.0898			.0750								
24.000				.1026											
31.500				.1031											
34.000				.1015											
35.000				.0000											
40.000															
45.000															
51.000															
57.500															
59.500															
61.000															
65.000															
70.000															
96.500				.0000											
105.000															
106.000															
135.000															
140.000				.0000											
141.400				.0000											
151.000				.0000											
180.000				.0000											
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
.000	.0507	.0807	.0492	.0503	.0491	.0495	.0492	.0458	.0429	.0436	.0410	.0403	.0367	.0331	
21.500	.0569			.0466					.0472				.0357		
63.000	.0000								.0000				.0000		
64.000															
65.000				.0000	.0000				.0000				.0000		
65.500				.0000	.0000				.0000				.0000		
105.000	.0000								.0000				.0000		
111.000															
112.000				.0000	.0000										
113.000				.0000	.0000										
116.000															
135.000	.0000			.0000	.0000				.0000		.0000				.0000
149.000				.0000	.0000				.0000		.0000				
180.000	.0000			.0000	.0000				.0000		.0000				
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PHI															



(ATR831)

AEDC VA352 CH4B 02 CRB. FUSELAGE

MACH (1) = 0.000 ALPHA (2) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1760	.1800	.1810	.1820
PHI															
156.000														.0000	.0000
159.200												.0000			
170.700															
171.900										.0000					
173.400															
180.000		.0000			.0000	.0000	.0000				.0000		.0000		
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
.0000	.0941	.0865	.0865	.0865	.0865	.0865	.0865	.0865	.0865	.0865	.0865	.0865	.0865	.0865	.0865
11.500		.0000													
12.000															
21.500															.0792
23.000															
24.000				.1088											
31.500				.1240											
34.000															
35.000				.1217											
40.000				.1182											
45.000															
51.000				.0000											
57.900															
59.500															
61.000															
65.000															
70.000															
96.500				.0000											
105.000															
106.000															
135.000															
140.000				.0000											
141.400															
151.000			.0000												
180.000															
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
.0000	.0652	.0802	.0657	.0687	.0644	.0629	.0618	.0600	.0556	.0542	.0325	.0502	.0475	.0436	
21.500	.0716				.0578				.0558						
63.000	.0000														
64.000															
65.000															
65.500					.0000				.0000						.0000

AEDC VA352 CH4B OE ORB. FUSELAGE (ATK931)

MACH (1) = 6.000 ALPHA (3) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI	.000	.1453	.1370	.1254	.1190	.1172	.1153	.1129	.0000	.0000	.0000	.0000	.0000	.0000	.0000
10.000					.0000										
20.000					.0000										
25.000					.0000										
40.000					.0000										
45.000					.0000										
131.200					.0000				.0000						
145.400								.0000							.0000
146.200															.0000
156.000															.0000
199.200															.0000
170.700											.0000				
171.900															
173.400					.0000										
180.000															
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI	.000	.1144	.1037	.0000	.1006	.0958	.0905	.1018	.1080	.0922	.0863	.0864	.0823	.0807	
11.900		.0000						.0000							
12.000															
21.900												.0907			
23.000								.1090							
24.000				.1316											
31.900				.1445											
34.000								.0000							
35.000				.1384											
40.000				.1277				.1205							
45.000								.1193							
51.000				.0000											
57.500															
59.500												.0000			
61.000															
65.000															
70.000															
96.500				.0000											
103.000															
106.000															
135.000															
140.000				.0000											
141.400	.0000														
151.000			.0000												
180.000				.0000		.0000									
X/L	.5000	.5290	.5500	.5750	.6000	.6290	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500

(ATK832)

AEDC VA352 CH4B O2 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
12.000				.0000				.0000							
21.500								.0876				.0723			
23.000				.1066											
24.000				.1222											
31.500								.0000							
34.000				.1183											
35.000				.1135				.0999							
40.000								.0979							
45.000				.0000											
51.000								.0000							
57.500															
59.500								.0000							
61.000								.0000							
63.000								.0000							
70.000								.0000							
96.500				.0000											
105.000								.0000							
106.000								.0000							
135.000								.0000							
140.000				.0000											
141.400								.0000							
151.000				.0000											
180.000								.0000							
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															
.000	.0622	.0628	.0612	.0649	.0643	.0609	.0601	.0565	.0522	.0531	.0512	.0473	.0451	.0402	
21.500	.0685				.0554								.0409		
63.000	.0000														
64.000									.0000						
65.000													.0000		
65.500					.0000										
109.000					.0000										
111.000					.0000				.0000						
112.000					.0000										
113.000					.0000										
116.000											.0000				.0000
135.000				.0000				.0000							
149.000								.0000			.0000				
180.000				.0000				.0000							.0000
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			

AEDC VA352 CH4B 02 ORB. FUSELAGE (ATK832)

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0360	1.0500
PHI	.000	.0372	.0367	.0333	.0306	.0260	.0248	.0220	.0000	.0210	.0000	.0192
21.500			.0354									
39.000					.0000		.0000					.0000
52.500			.0000									
55.000			.0000									
65.000			.0000									
68.000			.0000									
100.000			.0000									
108.000			.0000									
112.000			.0000									
113.000					.0000				.0000			

MACH (1) = 8.000 ALPHA (2) = 55.000 TI = 93.400 QI = 1.000 HREF = .024

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI	.000	.5266	.6086	.5382	.3559	.3023	.2651	.2268	.1926	.1778		.1634	.1572	.1426	.126
10.000									.0000					.0000	.0000
14.000									.0000					.0000	.0000
20.000									.0000					.0000	.0000
22.000									.0000					.0000	.0000
24.500									.0000					.0000	.0000
35.000									.0000					.0000	.0000
39.000									.0000					.0000	.0000
42.500									.0000					.0000	.0000
48.000									.0000					.0000	.0000
60.000									.0000					.0000	.0000
119.000					.0000				.0000		.0000			.0000	.0000
180.000									.0000		.0000			.0000	.0000

MACH (1) = 8.000 ALPHA (2) = 55.000 TI = 93.400 QI = 1.000 HREF = .024

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI	.000	.1398	.1318	.1234	.1165	.1164					.1147		.1130		
10.000					.0000										
20.000					.0000										
25.500					.0000										
40.000					.0000										
45.500					.0000										
131.200					.0000		.0000								
145.400							.0000								.0000
146.200							.0000								.0000



(ATK832)

AEDC VA352 CH4B 02 CR2. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
105.000	.0000				.0000				.0000				.0000		.0000
111.000					.0000										
112.000					.0000										
113.000					.0000										
116.000					.0000						.0000				
135.000					.0000				.0000		.0000				
149.000					.0000				.0000		.0000				
180.000					.0000				.0000		.0000				

X/L .8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0380 1.0500

PHI

.000	.0487	.0482	.0425	.0415	.0354	.0337	.0310	.0000	.0302	.0000	.0284				
21.500	.0471														
39.000						.0000									
52.500			.0000												
55.000			.0000												
65.000			.0000												
68.000			.0000												
100.000			.0000												
108.000			.0000												
112.000			.0000												
113.000			.0000						.0000						

MACH (1) = 8.000 ALPHA (3) = 45.000 TI = 93.400 Q1 = 1.000 HREF = .024

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI															
.000	.4179	.5740	.5279	.3918	.3428	.3046	.2735	.2295	.2126				.2008	.1916	.1847
10.000															.0000
14.000								.0000							.0000
20.000								.0000							.0000
22.000								.0000							.0000
24.500								.0000							.0000
35.000								.0000							.0000
39.000								.0000							.0000
42.500								.0000							.0000
48.000								.0000							.0000
60.000								.0000							.0000
119.000			.0000					.0000							.0000
180.000			.0000					.0000							.0000

X/L .1200 .1250 .1300 .1400 .1500 .1560 .1600 .1670 .1690 .1700 .1760 .1800 .1810 .1820

AEDC VA352 CH48 02 CR2. FUSELAGE (ATK832)

MACH (1) = 8.000 ALPHA (3) = 45.000

SECTION (1) CRIBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.9000	.8250	.9500	.9750	.6500	.6250	.6900	.6902	.0898	.0834	.0830	.7300	.7750	.8000	.8250	.8290
PHI	.000	.0921	.0988	.0990	.0970	.0941	.0902	.0898	.0834	.0834	.0830	.0742	.0714	.0672	.0640	
21.500	.1094			.0860												
63.000	.0000															
64.000					.0000											
65.000					.0000											
65.500					.0000											
103.000	.0000				.0000											
111.000					.0000											
112.000					.0000											
113.000					.0000											
116.000					.0000						.0000					
135.000	.0000				.0000						.0000					
149.000					.0000						.0000					
180.000	.0000				.0000						.0000					.0000

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0290	1.0360	1.0500
PHI	.0639	.0637	.0611	.0617	.0546	.0523	.0513	.0000	.0515	.0000	.0511	.0000
.000		.0647					.0000					
21.500												
39.000												
92.500			.0000		.0000							
55.000			.0000		.0000							
65.000			.0000		.0000							
66.000			.0000		.0000							
100.000			.0000		.0000							
108.000			.0000		.0000							
112.000			.0000		.0000							
119.000			.0000		.0000							



AEDC VA352 CH48 O2 CRB. FUSELAGE

(ATK633)

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
105.000	.0000				.0000				.0000				.0000		.0000
111.000						.0000									
112.000						.0000									
113.000						.0000									
116.000											.0000				
135.000	.0000				.0000				.0000						
149.000											.0000				
180.000	.0000				.0000				.0000						.0000
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500	1.0600	1.0700	1.0900
PHI															
.000	.0526	.0510	.0475	.0458	.0415	.0399	.0385	.0000		.0416	.0000	.0401			
21.900															
39.000							.0000								.0000
52.500															
55.000			.0000												
65.000			.0000												
66.000															
100.000			.0000												
108.000			.0000												
112.000			.0000				.0000								
113.000								.0000							

AEDC VA352 CH48 O2 CRB. FUSELAGE

(ATK834) (27 APR 74)

REFERENCE DATA

SREF = .8236 30.FT. XMRP = .0000 IN.
 LREF = 22.8803 IN. YMRP = .0000 IN.
 CRF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.900 OI = 1.534 HREF = .030
 BETA = .000 RN/L = 1.500
 B,FLAP = .000 ELEVON = .000
 HAW/HT = .900

PARAMETRIC DATA

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0800	.0900	.1000
PHI	.5675	.6099	.6213	.3384	.2722	.2361	.2017	.1692	.1532	.1422	.1344	.1228	.1000
10.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
14.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
20.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
22.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
24.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
35.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
39.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
42.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
48.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
60.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
119.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
180.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1700	.1780	.1800	.1810	.1820
PHI	.1183	.1089	.1012	.0936	.0927	.0896	.0896	.0896	.0896	.0896	.0896	.0896	.0896	.0896
10.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
20.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
25.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
40.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
45.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
131.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
145.400	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
146.200	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
156.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
199.200	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
170.700	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
171.900	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
173.400	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
180.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.4000	.4250	.4500	.4750
PHI	.0912	.0835	.0835	.0741	.0749	.0831	.0721	.0723	.0700	.0645	.0620	.0620	.0620	.0620
.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
11.900	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000



(ATK634)

MACH (1) = 6.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE

SECTION (1) ORBITER FUSELAGE		DEPENDENT VARIABLE HU/HO														
Y/L		.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI																
105.000	.0000			.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
111.000				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
112.000				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
113.000				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
116.000	.0000			.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
135.000	.0000			.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
149.000	.0000			.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
160.000	.0000			.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

X/L .8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0360 1.0500

SECTION (1) ORBITER FUSELAGE		DEPENDENT VARIABLE HU/HO														
Y/L		.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI																
.000	.0647	.0643	.0628	.0632	.0561	.0616	.0601	.0000	.0000	.0609	.0601	.0000	.0601	.0000	.0000	.0000
21.500			.0621			.0000										
39.000						.0000										
52.500						.0000										
55.000						.0000										
65.000						.0000										
68.000						.0000										
100.000						.0000										
108.000						.0000										
112.000						.0000										
113.000						.0000										



(ATK635)

AEDC VA352 CH4B 02 CRB. FUSELAGE

MACH (1) = 0.000 ALPHA (1) = 30.000

SECTION (1) CRIBTER FUSELAGE DEPENDENT VARIABLE HU/H0

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
12.000				.0000				.0000				.0737			
21.900								.0904							
23.000															
24.000			.1048					.0000							
31.900			.1173												
34.000				.1149				.0997							
35.000				.1123				.0939							
40.000								.0000							
45.000				.0000				.0000							
51.000								.0000							
57.900								.0000							
59.900								.0000							
61.000								.0000							
65.000								.0000							
70.000								.0000							
96.900				.0000				.0000							
105.000								.0000							
106.000								.0000							
135.000								.0000							
140.000				.0000				.0000							
141.400								.0000							
151.000			.0000					.0000							
180.000				.0000		.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
.000	.0601	.0595	.0602	.0632	.0609	.0593	.0600	.0573	.0541	.0562	.0565	.0530	.0542	.0530	
21.900	.0699				.0552				.0576				.0486		
63.000	.0000								.0000				.0000		
64.000									.0000				.0000		
65.000					.0000				.0000				.0000		
65.900					.0000				.0000				.0000		
103.000					.0000				.0000				.0000		.0000
111.000					.0000				.0000				.0000		
112.000					.0000				.0000				.0000		
113.000					.0000				.0000				.0000		
116.000					.0000				.0000		.0000		.0000		
135.000					.0000				.0000		.0000		.0000		
149.000					.0000				.0000		.0000		.0000		
180.000			.0000		.0000			.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0190	1.0140	1.0290	1.0360	1.0500			
PHI															



AEDC VA352 CH48 CR CR8. FUSELAGE (ATK835)

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
PHI	.0000	.0535	.0548	.0522	.0533	.0473	.0506	.0516	.0000	.0530	.0000	.0538
21.500		.0536										
39.000						.0000						.0000
52.500			.0000									
55.000			.0000									
65.000			.0000									
68.000			.0000									
100.000			.0000									
108.000			.0000									
112.000			.0000									
113.000								.0000				

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.200 QI = 1.797 HREF = .033

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0090	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI	.0000	.5198	.6037	.5057	.3610	.3003	.2617	.2282	.1910	.1743	.1616	.1521	.1397	.0000	.0000
10.000															
14.000								.0000							
20.000								.0000							.0000
22.000								.0000							.0000
24.500								.0000							.0000
35.000								.0000							.0000
39.000								.0000							.0000
42.500								.0000							.0000
48.000								.0000							.0000
60.000								.0000							.0000
119.000								.0000							.0000
160.000			.0000								.0000				

X/L	.1200	.1250	.1300	.1400	.1500	.1600	.1600	.1670	.1690	.1700	.1760	.1800	.1810	.1820
PHI	.1969	.1288	.1211	.1143	.1142	.1121	.1113	.1113	.1113	.1113	.1113	.1113	.1113	.1113
10.000														
20.000														
25.500														
40.000														
45.500														
131.200								.0000						
145.400								.0000						
148.200								.0000						.0000

(ATK835)

AEDC VA352 CH4B 02 QTB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1720	.1800	.1810	.1820
PHI														.0000	.0000
156.000															
159.200										.0000		.0000			
170.700															
171.900															
173.400					.0000					.0000					
180.000					.0000					.0000					
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI			.1111	.1032	.0000	.0915	.0915	.0860	.0968	.1069	.0912	.0872	.0854	.0801	.0760
.0000			.0000	.0000				.0000							
11.500								.1062				.0891			
12.000															
21.500															
23.000				.1248											
24.000				.1407											
31.500				.1341				.0000							
34.000				.1258				.1114							
35.000				.0000				.1062							
40.000				.0000				.0000							
45.000				.0000				.0000							
51.000				.0000				.0000							
57.500				.0000				.0000							
59.500				.0000				.0000							
61.000				.0000				.0000							
65.000				.0000				.0000							
70.000				.0000				.0000							
96.500				.0000				.0000							
105.000				.0000				.0000							
106.000				.0000				.0000							
135.000				.0000				.0000							
140.000				.0000				.0000							
141.400		.0000		.0000				.0000							
151.000		.0000		.0000				.0000							
180.000		.0000		.0000				.0000							
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
.0000	.0744	.0732	.0741	.0727	.0745	.0732	.0750	.0745	.0696	.0752	.0735	.0712	.0768	.0790	
21.500	.0789				.0648				.0732				.0719		
63.000	.0000								.0000						
64.000									.0000						
65.000									.0000						
65.500									.0000						.0000

AEDC VA352 CH4B 02 CRB. FUSELAGE (ATK836)

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
PHI	.000	.0633	.0664	.0660	.0675	.0640	.0711	.0000	.0728	.0000	.0739	.0000
21.500		.0667										
39.000					.0000	.0000						
52.500				.0000								
55.000			.0000									
65.000			.0000									
68.000				.0000								
100.000			.0000									
108.000			.0000									
112.000				.0000								
113.000					.0000							

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.967 QI = 1.984 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0800	.0900	.1000
PHI	.000	.5156	.6045	.5153	.3611	.2988	.2604	.2250	.1919	.1757	.1632	.1573	.1406	.0000
10.000								.0000						
14.000								.0000						
20.000								.0000						
22.000								.0000						
24.500								.0000						
35.000								.0000						
39.000								.0000						
42.500								.0000						
48.000								.0000						
60.000								.0000						
119.000			.0000					.0000						
180.000				.0000				.0000						

MACH (1) = 8.000 ALPHA (2) = 40.000 TI = 94.967 QI = 1.984 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1810	.1820
PHI	.000	.1402	.1327	.1197	.1126	.1190	.1126	.1116	.1116	.1126	.1116	.1116	.1116	.1116
10.000				.0000										
20.000				.0000										
25.500				.0000										
40.000				.0000										
45.500				.0000										
131.200				.0000					.0000					
145.400				.0000					.0000					
146.200				.0000					.0000					.0000



AEDC YA352 CH4B 02 CRB. FUSELAGE (ATK838)

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
105.000															
111.000															
112.000															
113.000															
116.000											.0000				
135.000											.0000				
149.000											.0000				
180.000											.0000				
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PHI	.0000	.1095	.1121	.1122	.1165	.1079	.1171	.1220	.0000	.1203	.0000	.1237			
21.500															
39.000							.0000	.0000				.0000			
52.500							.0000								
55.000							.0000								
65.000							.0000								
68.000							.0000								
100.000							.0000								
108.000							.0000								
112.000							.0000								
115.000							.0000								

MACH (1) = 8.000 ALPHA (3) = 45.000 TI = 94.987 QI = 1.984 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI	.0000	.4119	.5724	.5590	.3941	.3382	.3061	.2724	.2290	.2119	.2007	.1807	.1658	.0000	.0000
10.000															
14.000									.0000						
20.000									.0000						
22.000									.0000						
24.500									.0000						
35.000									.0000						
39.000									.0000						
42.500									.0000						
48.000									.0000						
60.000									.0000						
119.000									.0000						
180.000									.0000						
X/L	.1200	.1250	.1300	.1400	.1500	.1580	.1600	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820

FUSELAGE		DEPENDENT VARIABLE HU/HO														
X/L	FH	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
.000																
21.500	.1042	.0961	.1005	.1035	.0980	.0871	.0995	.0984	.0961	.0907	.0946	.0955	.0902	.0940	.0962	
35.000	.1069															
52.500	.0000															
64.000																
83.000																
105.000	.0000				.0000	.0000				.0000			.0902	.0940	.0962	
111.000					.0000	.0000										
112.000					.0000	.0000										
113.000					.0000	.0000				.0000				.0000	.0000	
116.000					.0000	.0000										
135.000	.0000				.0000	.0000										
149.000					.0000	.0000										
180.000	.0000				.0000	.0000										.0000
X/L	FH	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0360	1.0500				
.000																
21.500	.1046	.1119	.1141	.1265	.1216	.1356	.1454	.0000		.1489	.0000	.1571				
35.000																
52.500																
64.000																
83.000																
105.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
111.000																
112.000																
113.000																
116.000																
135.000	.0000				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
149.000					.0000	.0000										
180.000	.0000				.0000	.0000										.0000
X/L	FH	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0360	1.0500				
.000																
21.500	.1046	.1119	.1141	.1265	.1216	.1356	.1454	.0000		.1489	.0000	.1571				
35.000																
52.500																
64.000																
83.000																
105.000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
111.000																
112.000																
113.000																
116.000																
135.000	.0000				.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
149.000					.0000	.0000										
180.000	.0000				.0000	.0000										.0000



(ATK837)

AEDC VA352 CH48 02 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
12.000								.0000							
21.500								.0916				.0756			
23.000				.1048											
24.000			.1187												
31.500															
34.000				.1148				.0000							
35.000				.1126				.0962							
40.000								.0928							
45.000															
51.000				.0000				.0000				.0000			
57.500								.0000				.0000			
59.500								.0000				.0000			
61.000								.0000				.0000			
65.000								.0000				.0000			
70.000								.0000				.0000			
96.500				.0000								.0000			
103.000								.0000				.0000			
106.000								.0000				.0000			
135.000								.0000				.0000			
140.000				.0000								.0000			
141.400								.0000				.0000			
151.000				.0000								.0000			
160.000								.0000				.0000			
X/L	.9000	.9250	.9500	.9750	.9900	.9950	.9975	1.0000	1.0025	1.0050	1.0075	1.0100	1.0125	1.0150	1.0175
PHI	.0000	.0613	.0625	.0610	.0624	.0636	.0637	.0644	.0644	.0630	.0696	.0741	.0744	.0859	.0910
21.500	.0673					.0559				.0660				.0758	
63.000	.0000									.0000				.0000	
64.000										.0000				.0000	
65.000						.0000				.0000				.0000	
65.500						.0000				.0000				.0000	
105.000	.0000									.0000				.0000	
111.000										.0000				.0000	
112.000						.0000				.0000				.0000	
113.000						.0000				.0000				.0000	
116.000						.0000				.0000				.0000	
135.000	.0000					.0000				.0000				.0000	
149.000						.0000				.0000				.0000	
190.000	.0000					.0000				.0000				.0000	
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PHI															



(ATK857)

AEDC VA352 CH4B C2 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.6900	.6750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0290	1.0360	1.0500
PHI	.000	.0972	.1010	.1017	.1091	.1032	.1079	.0000	.1078	.0000	.1091	.0000
21.500			.1029									
39.000				.0000	.0000	.0000	.0000					
52.500												
55.000			.0000									
65.000			.0000									
68.000			.0000									
100.000			.0000									
108.000			.0000									
112.000			.0000									
113.000								.0000				

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.200 OI = 2.341 HREF = .038

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0800	.0900	.1000
PHI	.000	.5197	.6048	.5223	.3584	.2968	.2603	.2239	.1924	.1747	.1639	.1560	.1453	.0000
10.000														
14.000														
20.000					.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
22.000														
24.500														
35.000					.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
39.000														
42.500					.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
48.000														
60.000					.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
119.000														
180.000														
X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1780	.1810	.1820
PHI	.000	.1363	.1298	.1201	.1150	.1141	.1116	.1124	.1116	.1124	.1116	.1124	.1116	.1124
10.000					.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
20.000														
25.500					.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
40.000														
45.500					.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
131.200														
145.400														
148.200									.0000					.0000

AEDC VA352 OH48 O2 CR8. FUSELAGE

(ATK838) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 6.000 ALPHA (1) = 30.000 TI = 95.550 OI = 2.556 HREF = .039

PARAMETRIC DATA

BETA = .000 RN/L = 2.500
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

SECTION (1) CR8 BYTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0800	.0900	.1000
PHI	.0000	.5740	.6119	.5181	.3375	.2739	.2377	.1981	.1701	.1542	.1430	.1350	.1202
10.000							.0000						.0000
14.000							.0000						.0000
20.000							.0000						.0000
22.000							.0000						.0000
24.500							.0000						.0000
35.000							.0000						.0000
39.000							.0000						.0000
42.500							.0000						.0000
48.000							.0000						.0000
60.000							.0000						.0000
119.000							.0000						.0000
180.000							.0000						.0000

X/L	.1200	.1250	.1300	.1400	.1500	.1600	.1670	.1670	.1700	.1780	.1800	.1810	.1820
PHI	.1193	.1105	.1014	.0919	.0937	.0909	.0906						
10.000							.0000						.0000
20.000							.0000						.0000
25.500							.0000						.0000
40.000							.0000						.0000
45.500							.0000						.0000
131.200							.0000						.0000
145.400							.0000						.0000
146.200							.0000						.0000
156.000							.0000						.0000
159.200							.0000						.0000
170.700							.0000						.0000
171.900							.0000						.0000
173.400							.0000						.0000
180.000							.0000						.0000

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI	.0897	.0897	.0829	.0829	.0829	.0829	.0829	.0829	.0829	.0829	.0829	.0829	.0829	.0829	.0829
11.500															



AEDC VA352 CH48 O2 ORB. FUSELAGE (ATK838)

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1630	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
12.000				.0000				.0000				.0769			
21.500								.0949							
23.000															
24.000			.1048												
31.500			.1211												
34.000								.0000							
35.000			.1156					.0986							
40.000			.1154					.0928							
45.000								.0000							
51.000				.0000				.0000							
57.500								.0000							
59.500								.0000							
61.000								.0000							
65.000								.0000							
70.000								.0000							
96.500				.0000				.0000							
105.000								.0000							
106.000								.0000							
135.000								.0000							
140.000				.0000				.0000							
141.400								.0000							
151.000	.0000		.0000					.0000							
160.000								.0000							

X/L	.5000	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500	
PHI																										
.000	.0630	.0641	.0627	.0648	.0655	.0693	.0690	.0673	.0751	.0788	.0814	.0967	.1047													
21.500	.0688				.0589			.0725				.0888														
63.000	.0000				.0000			.0000				.0000														
64.000					.0000			.0000				.0000														
65.000					.0000			.0000				.0000														
105.000	.0000				.0000			.0000				.0000														
111.000					.0000			.0000				.0000														
112.000					.0000			.0000				.0000														
113.000					.0000			.0000				.0000														
116.000	.0000				.0000			.0000				.0000														
135.000					.0000			.0000				.0000														
149.000					.0000			.0000				.0000														
180.000	.0000				.0000			.0000				.0000														

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
PHI												
.000	.0000				.0000			.0000				.0000
21.500					.0000			.0000				.0000
63.000					.0000			.0000				.0000
64.000					.0000			.0000				.0000
65.000					.0000			.0000				.0000
105.000					.0000			.0000				.0000
111.000					.0000			.0000				.0000
112.000					.0000			.0000				.0000
113.000					.0000			.0000				.0000
116.000					.0000			.0000				.0000
135.000					.0000			.0000				.0000
149.000					.0000			.0000				.0000
180.000					.0000			.0000				.0000

(ATK838)

AEDC VA352 CH48 O2 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1580	.1620	.1670	.1690	.1700	.1780	.1800	.1810	.1820
PHI														
156.000												.0000		.0000
159.200											.0000			.0000
170.700									.0000					
171.900														
173.400					.0000									
180.000		.0000		.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500
PHI														
.000	.1120	.1043	.0000	.0923	.0926	.0837	.0841	.1063	.0938	.0910	.0876	.0831	.0776	
11.500	.0000	.0000					.0000							
12.000							.0000							
21.500							.1060			.0915				
23.000				.1297										
24.000				.1421										
31.500							.0000							
34.000														
35.000				.1347										
40.000				.1266			.1126							
45.000							.1098							
51.000				.0000			.0000			.0000				
57.500														
59.500											.0000			
61.000							.0000							
65.000							.0000							
70.000							.0000							
96.500				.0000										
105.000											.0000			
106.000							.0000							
135.000							.0000							
140.000				.0000							.0000			
141.400	.0000													
151.000			.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
160.000														
X/L	.5000	.5250	.5300	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8290
PHI														
.000	.0793	.0793	.0816	.0880	.0869	.0922	.0985	.1073	.1131	.1245	.1394	.1457	.1752	.1893
21.500	.0837				.0737				.1180				.1649	
63.000	.0000								.0000					
64.000									.0000					
65.000					.0000				.0000					.0000

(ATK838)

AEDC VA352 CH48 OE ORB. FUSELAGE

MACH (1) = 6.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
105.000	.0000			.0000				.0000					.0000		.0000
111.000					.0000										
112.000					.0000										
113.000					.0000										
116.000											.0000				
135.000	.0000			.0000			.0000				.0000				
149.000					.0000				.0000						
180.000	.0000			.0000			.0000				.0000				
X/L	.6500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PHI															
.000	.1904	.1893	.1867	.1871	.1674	.1760	.1755	.0000		.1667	.0000	.1636			
21.900			.1881												
39.000						.0000									
52.900							.0000								
55.000			.0000												
65.000			.0000												
68.000						.0000									
100.000			.0000												
106.000			.0000			.0000									
112.000						.0000									
113.000									.0000						

(ATK839)

AEDC VA352 CH48 OE CRB, FUSELAGE

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .1850 .1900 .1910 .2000 .2250 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

PHI

12.000 .0000 .0724

21.500 .0948

23.000 .1094

24.000 .1191

31.500 .1157

34.000 .1131

35.000 .0977

40.000 .0975

45.000 .0000

51.000 .0000

57.500 .0000

59.500 .0000

61.000 .0000

65.000 .0000

70.000 .0000

96.500 .0000

105.000 .0000

106.000 .0000

135.000 .0000

140.000 .0000

141.400 .0000

151.000 .0000

180.000 .0000

X/L

.5000

.5250

.5500

.5750

.6000

.6250

.6500

.6750

.7000

.7250

.7500

.7750

.8000

.8250

.8500

.8750

.9000

.9250

.9500

.9750

1.0000

1.0140

1.0250

1.0380

1.0500

PHI

.0000

.0629

.0685

.0000

.0000

.0000

.0000

.0000

.0000

.0000

.0000

.0000

.0000

.0000

.0000

.0000

.0000

.0000

PHI

.0000

.0000

.0000

.0000

.0000

.0000

PHI

.0000

.0000

.0000

.0000

.0000

.0000

.0000

.0000

.0000

.0000

.0000

.0000

.0000

.0000

.0000

.0000

.0000

.0000

.0000

.0000

AEDC VA352 CH4B O2 ORB. FUSELAGE (ATK899)

MACH (1) = 8.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0230	1.0380	1.0500
PHI	.000	.1433	.1411	.1349	.1481	.1304	.1381	.1383	.0000	.1377	.0000	.1329
21.500		.1445										.0000
39.000				.0000	.0000	.0000	.0000	.0000				
52.500				.0000	.0000	.0000	.0000	.0000				
65.000				.0000	.0000	.0000	.0000	.0000				
68.000				.0000	.0000	.0000	.0000	.0000				
100.000				.0000	.0000	.0000	.0000	.0000				
106.000				.0000	.0000	.0000	.0000	.0000				
112.000												
113.000									.0000			

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 96.100 QI = 2.816 HREF = .041

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0090	.0100	.0200	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI	.000	.5231	.6110	.5349	.3996	.2995	.2613	.2282	.1909	.1792	.1618	.1552	.1435	.0000
10.000														.0000
14.000									.0000					.0000
20.000									.0000					.0000
22.000									.0000					.0000
24.500									.0000					.0000
35.000									.0000					.0000
39.000									.0000					.0000
42.500									.0000					.0000
48.000									.0000					.0000
60.000									.0000					.0000
119.000									.0000					.0000
180.000									.0000					.0000

X/L	.1200	.1250	.1300	.1400	.1500	.1580	.1600	.1620	.1670	.1690	.1780	.1800	.1810	.1820
PHI	.000	.1406	.1293	.1205	.1114	.1159	.1123	.1105						.0000
10.000					.0000									.0000
20.000					.0000									.0000
25.500					.0000									.0000
40.000					.0000									.0000
45.900					.0000									.0000
131.200									.0000					.0000
145.400									.0000					.0000
146.200									.0000					.0000

(ATR840)

AEDC VA392 CH4B C2 CR8, FUSELAGE

MACH (1) = 6.000 ALPHA (1) = 30.000

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE MU/HO

X/L .1830 .1900 .1910 .2000 .2230 .2500 .2750 .3000 .3250 .3500 .3750 .4000 .4250 .4500 .4750

PHI

12.000							.0000							
21.500							.0935				.0784			
23.000			.1065											
24.000			.1194											
31.500				.1163			.0968							
34.000				.1140			.0933							
35.000					.0000									
40.000						.0000								
45.000						.0000								
51.000						.0000								
57.500						.0000								
59.500						.0000								
61.000						.0000								
65.000						.0000								
70.000						.0000								
96.500						.0000								
105.000						.0000								
106.000						.0000								
135.000						.0000								
140.000						.0000								
141.400			.0000											
151.000						.0000								
180.000						.0000								

X/L

PHI

.000	.0640	.0708	.0637	.0667	.0709	.0727	.0776	.0819	.0850	.0999	.1122	.1140	.1463	.1605
21.500	.0704			.0612				.0874					.1253	
63.000	.0000													
64.000														
65.000									.0000				.0000	
65.900					.0000									
105.000	.0000				.0000				.0000				.0000	
111.000					.0000									
112.000					.0000									
113.000					.0000									
116.000					.0000									
135.000	.0000				.0000				.0000				.0000	
149.000					.0000								.0000	
180.000	.0000				.0000				.0000				.0000	
X/L	.6500	.6750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500		

PHI

(ATK840)

AEDC VA352 CH4B 02 ORB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.9000	.9250	.9500	.9750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
105.000															
111.000															
112.000															
113.000											.0000				
116.000											.0000				
135.000											.0000				
149.000											.0000				
160.000											.0000				

X/L	.8900	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0360	1.0500
PHI	.2381	.2398	.2289	.2212	.1921	.1976	.1911	.0000	.0000	.1784	.0000	.1723
21.500												.0000
39.000						.0000						.0000
52.500			.0000			.0000						.0000
55.000			.0000			.0000						.0000
65.000			.0000			.0000						.0000
68.000			.0000			.0000						.0000
100.000			.0000			.0000						.0000
108.000			.0000			.0000						.0000
112.000			.0000			.0000						.0000
113.000			.0000			.0000						.0000

AEDC VA352 CH4B ORB. FUSELAGE (ATK841)

MACH (1) = 0.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HG

X/L	.1830	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															
12.000				.0000				.0000				.0772			
21.500							.0928								
23.000			.1041												
24.000			.1191												
31.500				.1163											
34.000				.1151											
35.000					.0970										
40.000					.0697										
45.000															
51.000				.0000				.0000				.0000			
57.500							.0000								
59.500							.0000								
61.000							.0000								
65.000							.0000								
70.000				.0000				.0000				.0000			
96.500								.0000							
105.000							.0000					.0000			
106.000							.0000					.0000			
135.000							.0000					.0000			
140.000		.0000		.0000											
141.400			.0000												
151.000				.0000		.0000	.0000	.0000				.0000			
190.000								.0000							
X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0360	1.0500		
PHI														
.0000	.0649	.0926	.0682	.0688	.0738	.0799	.0876	.0940	.1006	.0914	.1356	.1311	.1750	.1912
21.500	.0716			.0641					.1044			.1581		
63.000	.0000								.0000				.0000	
64.000														.0000
55.000					.0000									
65.500					.0000									
105.000	.0000				.0000				.0000					
111.000					.0000									
112.000					.0000									
113.000					.0000									
116.000					.0000						.0000			
135.000	.0000				.0000			.0000						
149.000					.0000									
160.000					.0000			.0000					.0000	
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0360	1.0500		

(ATK841)

AEDC VA352 CH4B OE CRB. FUSELAGE

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1200	.1290	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1760	.1800	.1810	.1820
PHI															

X/L	.1850	.1900	.1910	.2000	.2250	.2500	.2750	.3000	.3250	.3500	.3750	.4000	.4250	.4500	.4750
PHI															

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8500
PHI															

X/L	.8750	.9000	.9250	.9500	.9750	.1000	.1025	.1050	.1075	.1100	.1125	.1150	.1175	.1200	.1225
PHI															



AEBC VA392 CH48 O2 CRB. FUSELAGE

(ATR841)

MACH (1) = 8.000 ALPHA (2) = 35.000

SECTION (1) CRBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
105.000	.0000				.0000				.0000				.0000		.0000
111.000					.0000										
112.000					.0000										
113.000					.0000										
116.000					.0000				.0000						
135.000	.0000				.0000			.0000							
149.000					.0000			.0000							
180.000	.0000				.0000			.0000					.0000		
X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500			
PHI															
.000	-2.799	.2537	.2395	.2324	.1996	.2013	.1964	.0000		.1670	.0000	.1741			
21.500			.2411												
39.000						.0000									
52.500						.0000									
55.000						.0000									
65.000						.0000									
68.000						.0000									
100.000						.0000									
108.000						.0000									
112.000						.0000		.0000							
113.000								.0000							

AEDC VA352 CH48 Q2 ORB. FUSELAGE (ATRB42)

MACH (1) = 6.000 ALPHA (1) = 30.000

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.8500	.8750	.9000	.9250	.9500	.9750	1.0000	1.0130	1.0140	1.0250	1.0380	1.0500
PHI	.2327	.2220	.2070	.2019	.1705	.1779	.1676	.0000	.1988	.0000	.1566	.0000
.000			.2123			.0000						
21.900			.0000									
39.000			.0000									
52.500			.0000									
55.000			.0000									
65.000			.0000									
68.000			.0000									
100.000			.0000									
106.000			.0000									
112.000			.0000									
113.000			.0000									

MACH (1) = 6.000 ALPHA (2) = 35.000 TI = 97.050 Q1 = 3.937 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.0000	.0050	.0100	.0200	.0250	.0300	.0400	.0500	.0600	.0700	.0750	.0760	.0800	.0900	.1000
PHI	.5277	.6060	.5283	.3633	.3013	.2623	.2316	.1942	.1754	.1824	.1560	.1419	.0000	.0000	.0000
.000															
10.000								.0000							
14.000								.0000							
20.000								.0000							
22.000								.0000							
24.500								.0000							
35.000								.0000							
39.000								.0000							
42.500								.0000							
46.000								.0000			.0000				
60.000								.0000							
119.000					.0000			.0000		.0000					
180.000					.0000			.0000		.0000					

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.1200	.1250	.1300	.1400	.1500	.1560	.1600	.1620	.1670	.1690	.1700	.1760	.1800	.1810	.1820
PHI	.1396	.1287	.1211	.1115	.1115	.1134	.1120	.1105	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.000															
10.000															
20.000															
23.500															
40.000															
45.500															
131.200						.0000		.0000		.0000					
145.400						.0000		.0000		.0000					
146.200						.0000		.0000		.0000					.0000

MACH (1) = 8.000 ALPHA (2) = 35.000

AEDC VA352 CH4B C2 CRB. FUSELAGE (ATK842)

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HQ

X/L	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7250	.7500	.7750	.8000	.8250	.8290
PHI															
105.000	.0000				.0000			.0000					.0000		.0000
111.000					.0000										.0000
112.000					.0000										.0000
113.000					.0000										.0000
116.000					.0000			.0000		.0000					.0000
135.000	.0000				.0000			.0000		.0000					.0000
149.000					.0000			.0000		.0000					.0000
180.000	.0000				.0000			.0000		.0000					.0000

X/L .8500 .8750 .9000 .9250 .9500 .9750 1.0000 1.0130 1.0140 1.0250 1.0380 1.0500

PHI	.000	.2909	.2635	.2472	.2385	.2093	.2098	.2023	.0000	.1891	.0000	.1823	.0000
21.500				.2484				.0000					.0000
39.000				.0000			.0000						
52.500				.0000			.0000						
55.000				.0000			.0000						
65.000				.0000			.0000						
68.000				.0000			.0000						
100.000				.0000			.0000						
108.000				.0000			.0000						
112.000				.0000			.0000						
113.000				.0000			.0000						

AEDC VA352 CH48 O1+T10 CRB. BOTTOM SURFACE WING (ATKLO1) (27 APR 74)

REFERENCE DATA

SREF = .9236 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
DREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = 3.720
S. FLAP = .000 ELEVON = .000
HAM/HT = .900

MACH (1) = 6.000 ALPHA (1) = -10.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HI/HO

Z/Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001		.0546	.0607	.3464	.6035	.3468	.1327	.3174	.1578	.0442		
.002				.5910	.2026							
.003				.3215	.1386							
.004				.2022	.0875							
.005				.1581	.0632							
.006				.1098	.0426							
.007				.0773	.0369							
.025			.1798	.1939	.2764							
.050			.0396	.0544	.0750	.0765			.1578	.1670		
.100			.0375									
.177				.0172	.0296							
.200												
.299												
.300												
.302				.0178	.0215	.0461	.0439	.0770				
.303				.0211								
.428					.0398							
.444				.0264								
.487												
.500				.0240								
.559												
.590			.0659			.0403	.0424	.0536				
.600												
.700				.0452	.0393				.0229	.0216		
.736				.0059	.0431	.0268	.0167					
.800												
.850				.0156	.0133							
.900				.0227	.0137							
.900			.0231	.0234	.0274	.0105						.0150

DATE 12 DEC 74 TABULATED DATA LISTING FOR CH45 (AEDC VA352)

AEDC VA352 CH45 01+110 CRB. BOTTOM SURFACE WING (ATKLO1)

MACH (1) = 8.000 ALPHA (2) = -5.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HI/HO

Z/Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C	.0302	.0390	.2924	.5023	.3737	.1367	.1481	.1114	.0416			
.001			.4829		.2305							
.002			.1616		.1075							
.003			.1783		.0768							
.004			.0968		.0510							
.005			.1336	.1697	.2940					.1212		
.006			.0318	.0499	.0730	.0983				.1173		
.007			.0173	.0294								
.025			.0237	.0182	.0171	.0516	.0552	.0661				
.030			.0232									
.100					.0361							
.153			.0088		.0194							
.177			.0501		.0294	.0463				.0567		
.200			.0353	.0158			.0215					
.299			.0052	.0348	.0194	.0123				.0322		
.302			.0209	.0109								
.303			.0262	.0115								
.428			.0234	.0091						.0207		
.444			.0185	.0234	.0091							
.487												
.500												
.559												
.590												
.600												
.700												
.736												
.800												
.850												
.900												

MACH (1) = 8.000 ALPHA (3) = .000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HI/HO

Z/Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C	.0221	.0272	.2558	.4097	.3588	.1103	.1564	.1276	.0336			
.001			.4216		.1826							
.002			.2601		.1389							
.003			.1703		.0918							
.004			.1343		.0717							
.005			.0963		.0586							
.006			.0720		.0457							
.007												
.025			.1274	.1565	.2978							

(ATKLO1)

MACH (1) = 8.000 ALPHA (4) = 5.000

SECTION (1) BOTTOM SURF, WING DEPENDENT VARIABLE HI/HO

Z/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.303						.0276	.0630					
.428												
.444	.0224											
.487				.0171								
.500							.0319	.0488		.0460		
.559				.0336								
.590	.0275											
.600									.0263			
.700				.0065	.0222	.0219	.0207					
.736	.0000				.0408	.0157				.0242		
.800						.0101	.0221					
.850						.0178	.0212					
.900	.0345			.0365	.0391	.0139	.0172				.0206	

AEDC VA352 CH4B O1+110 ORB. BOTTOM SURFACE WING (ATKLO2) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. YMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

ALPHA = .000 RVAL = 3.720
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 BETA (1) = -2.000 TI = 97.350 Q1 = 3.942 HREF = .049

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HI/HO

ZY/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9660	.9930
X/C											
.001	.0376	.0505	.3040	.5386	.4996	.1705	.2662	.2211	.0847		
.002			.8014	.2971							
.003			.3949	.1664							
.004			.2471	.0948							
.005			.1948	.0798							
.006			.1332	.0688							
.007			.1055	.0617							
.025	.0722	.1626	.1879	.3166							
.050		.0434	.0639	.1086	.1122				.2847	.2244	
.100	.0167										
.153			.0322	.0423							
.177		.0278									
.200	.0244										
.299			.0263	.0264	.0670	.0688	.0987				
.300		.0218									
.302											
.303			.0327	.0721							
.428	.0334										
.444											
.487			.0227	.0687	.0638	.0698					
.500		.0328									
.599											
.590	.0311										
.600		.0255	.0264	.0370							
.700		.0116	.0393	.0216	.0235						
.736	.0000										
.800			.0122	.0260							
.850			.0166	.0215							
.900	.0685	.0355	.0287	.0161	.0199						.0232

MACH (1) = 8.000 BETA (2) = .000 TI = 97.350 OI = 3.942 HREF = .049
 AEDC VA352 CH48 O1+T10 CRB. BOTTOM SURFACE WING (ATKLO2)

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HI/HO

Z/Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001	.0221	.0272	.2558	.4097	.3588	.1103	.1564	.1276	.0336			
.002			.4216	.1826								
.003			.2601	.1389								
.004			.1703	.0918								
.005			.1343	.0717								
.006			.0963	.0586								
.007			.0720	.0457								
.025	.0352		.1274	.1565	.2978					.1317		
.050			.0377	.0512	.0799	.0950				.1281		
.100												
.155	.0181			.0229								
.177												
.200			.0218	.0291								
.299	.0245											
.300				.0182	.0170	.0458	.0494	.0589				
.302			.0159									
.303					.0198	.0414						
.428												
.444	.0249											
.487				.0137		.0347	.0399	.0392				
.500			.0590									
.559												
.590	.0227			.0284	.0155				.0281			
.600			.0061	.0314	.0174	.0147				.0233		
.700												
.736	.0000				.0178	.0145						
.800					.0246	.0157						
.850												
.900	.0459		.0213	.0211	.0230	.0119				.0181		

AEDC VA352 CH48 O1+T10 CRB. BOTTOM SURFACE WING (ATKLOS) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = .680
 B.FLAP = .000 ELEVON = .000
 HAWAHT = .900

MACH (1) = 8.000 ALPHA (1) = -10.000 TI = 95.425 QI = .682 HREF = .020

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HI/HO

X/C	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
.001					.3430	.6015	.4138	.1363		.1887	.1109	.0318
.002		.0445	.0584		.5608	.3030	.2004					
.003					.1894	.0979	.1376					
.004					.1473	.0719	.0979					
.005					.1015	.0545	.0719					
.006					.0765	.0467	.0545					
.007	.1107			.1610	.1963	.3146						
.050									.1488			
.100				.0415		.0531	.0728	.0876	.1271			
.153	.0160				.0253							
.177				.0185		.0329						
.299	.0134											
.300												
.302				.0113	.0150	.0177	.0431	.0481	.0521			
.303												
.428							.0382					
.444	.0110				.0224							
.487					.0068							
.500				.0160			.0283	.0359	.0357			
.559												
.590	.0072				.0080	.0125			.0155			
.600				.0039	.0101	.0073	.0107					
.700												
.736	.0000				.0035	.0101			.0199			
.800					.0046	.0112						
.850					.0052	.0086						
.900	.0232	.0142	.0085	.0142	.0085	.0052	.0086					.0151

(ATKLOS)

MACH (1) = 6.000 ALPHA (2) = -5.000 TI = 93.425 Q1 = .662 HREF = .020

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HI/HO

ZY/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930	
X/C	.0290	.0364	.0529	.0632	.1198	.1701	.2661	.4861	.3612	.1431	.1628	.1206	.0345
.001							.4774	.2279					
.002							.2650	.1565					
.003							.1794	.1027					
.004							.1370	.0792					
.005							.0964	.0567					
.006							.0728	.0502					
.007							.2923			.1456			
.025								.0492	.0737	.0979			.1312
.050													
.100													
.153													
.177													
.200							.0258	.0292					
.299							.0154						
.300							.0184	.0173	.0498	.0587	.0693		
.302							.0097						
.303													
.428									.0375				
.444									.0227				
.487													
.500							.0063		.0283	.0415			.0428
.559							.0111						
.590													
.603													
.700							.0029	.0086	.0127				.0209
.736								.0105	.0069	.0115			.0240
.800								.0036	.0104				
.850								.0050	.0113				
.900							.0144	.0094	.0042	.0091			.0164

MACH (1) = 6.000 ALPHA (3) = .000 TI = 93.425 Q1 = .662 HREF = .020

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HI/HO

ZY/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C	.0216	.0287	.0287	.2482	.4146	.3563	.1060	.1784				.0339
.001					.4181							
.002					.2757							
.003					.1803							
.004					.1418							
.005					.0983							
.006					.0766							
.007												
.025					.1808	.1871						

AEDC VA352 CH4B 01+10 CRB. BOTTOM SURFACE WING (ATKLOS)

MACH (1) = 8.000 ALPHA (4) = 5.000

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HI/HO

Z/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.303						.0311	.0336					
.426												
.444	.0073											
.487				.0267								
.500								.0469	.0503	.0482		
.559				.0124								
.590	.0065								.0196			
.600				.0202	.0224							
.700				.0073	.0142	.0170	.0195					
.736	.0000					.0096	.0199					
.800						.0137	.0213					
.850						.0111	.0199					
.900	.0199			.0199	.0071	.0111	.0199			.0255		

AEDC VA352 OH48 01+110 ORB. BOTTOM SURFACE WING (ATKLO5)

MACH (1) = 8.000 ALPHA (2) = -5.000 TI = 98.067 QI = 4.007 HREF = .049

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HI/HO

ZY/B	.2900	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.002	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.003	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.004	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.005	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.006	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.007	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.025	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.050	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.100	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.153	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.177	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.200	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.299	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.300	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.302	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.303	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.428	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.444	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.487	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.500	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.559	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.590	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.600	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.700	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.756	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.800	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.850	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.900	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

MACH (1) = 8.000 ALPHA (3) = .000 TI = 98.067 QI = 4.007 HREF = .049

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HI/HO

ZY/B	.2900	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.002	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.003	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.004	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.005	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.006	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.007	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.025	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000



(ATK110) (27 APR 74)

AEDC VA352 CH48 01 CRB. BOTTOM SURFACE WING

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -5.000 TI = 96.800 Q1 = 3.961 HREF = .049

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

ZY/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
Y/C												
.001		.0195	.0298	.3104	.5314	.2483	.0966	.1355	.1109	.0183		
.002				.4695		.1766						
.003				.2933		.1232						
.004				.2101		.0875						
.005				.1665		.0664						
.006				.1193		.0447						
.007				.0813		.0377						
.025	.0447			.1268	.1886	.2154						
.050				.0263		.0510	.0581	.0746		.1103		
.100										.0881		
.153	.0075											
.177				.0114		.0197						
.200						.0293						
.299	.0021											
.300						.0163	.0216	.0343	.0288	.0391		
.302				.0073								
.303							.0325					
.428						.0371						
.444	.0020											
.497				.0430				.0229	.0326	.0211		
.500												
.559				.0030								
.590	.0044											
.600				.0226	.0161				.0139			
.700				.0028	.0172	.0206	.0085					
.756	.0085					.0105	.0072					
.800						.0114	.0086					
.850						.0087	.0069					
.900	.0036			.0011	.0052	.0087	.0069					
.900										.0111		

AEDC VA352 CH4B O1 ORG. BOTTOM SURFACE WING (ATKLI0)

MACH (1) = 8.000 ALPHA (2) = .000 TI = 96.800 QI = 3.961 HREF = .049

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

2Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001		.0452	.0517	.3359	.5510	.3029	.1004	.1900	.1264	.0336		
.002				.5186	.1829							
.003				.3488	.1393							
.004				.2548	.1042							
.005				.2056	.0787							
.006				.1488	.0565							
.007				.1041	.0484							
.025	.0593			.1876	.2255	.2669						
.050				.0513	.0660	.0788	.0902			.1259		
.100	.0235									.1250		
.153					.0310							
.177				.0261	.0383							
.200	.0153											
.299				.0347	.0356	.0382	.0412	.0529				
.300				.0206								
.302												
.303						.0578						
.428						.0599						
.444	.0115											
.487				.0545								
.500						.0794	.0362	.0288				
.559				.0207								
.590	.0092											
.600				.0442	.0435				.0141			
.700				.0182	.0319	.0330	.0288					
.736	.0122											
.800					.0165	.0250						
.850					.0193	.0264						
.900	.0058			.0076	.0127	.0153	.0204					.0125

(ATK111) (27 APR 74)

AEDC VA352 QH4B Q1 CRB. BOTTOM SURFACE WING

REFERENCE DATA

SREF = .8236 SJ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 CRF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = .680
 S. FLAP = .000 ELEVON = .000
 HAWK/RT = .900

MACH (1) = 6.000 ALPHA (1) = -5.000 TI = 93.000 Q1 = .677 WREF = .020

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

ZY/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C	.001	.0212	.0317	.0303	.3030	.5304	.3117	.1056	.1396	.1124	.0219	
.002					.4746			.1678				
.003					.2988			.1248				
.004					.2112			.0927				
.005					.1682			.0673				
.006					.1202			.0498				
.007					.0813			.0425				
.025	.0354			.1219	.1924		.2383					
.050				.0305		.0510	.0678	.0750	.1092	.1090		
.100	.0117											
.177				.0136	.0218							
.200	.0050					.0294						
.299												
.303				.0098	.0159	.0173	.0374	.0343	.0410			
.302												
.303							.0365					
.428						.0194						
.444	.0035											
.487					.0185		.0286	.0385	.0237			
.500												
.559												
.590	.0023											
.600				.0046	.0118	.0108			.0123	.0137		
.700					.0094	.0099	.0101					
.736	.0028											
.800					.0033	.0082						
.850					.0068	.0096						
.900	.0013			.0023	.0049	.0061	.0080					.0127

AEDC VA352 CH4B Q1 CRG. BOTTOM SURFACE WING (ATKLI1)

MACH (1) = 8.000 ALPHA (2) = .000 TI = 93.000 QI = .677 HREF = .020

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z/Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001		.0411	.0902	.3370	.5521	.5143	.1076		.1913	.1241	.0310	
.002				.5202	.3492	.1405	.1865					
.003				.2542	.1068	.0815	.1068					
.004				.1906	.1499	.0983						
.005				.1052	.0497							
.007	.0440			.1828	.2253	.2786						
.050				.0564	.0574	.0864	.0937		.1262	.1272		
.100	.0232				.0310							
.177				.0268	.0378							
.200	.0146											
.299				.0256	.0236	.0411	.0425	.0510				
.300				.0226								
.302												
.303						.0568						
.428					.0294							
.444	.0129											
.467				.0275								
.500												
.559				.0165		.0390	.0355	.0296				
.590	.0107											
.600				.0192	.0172				.0158			
.700		.0125	.0163	.0158	.0146							
.736	.0117									.0163		
.800				.0086	.0130							
.850				.0105	.0147							
.900	.0045	.0066	.0084	.0098	.0116					.0140		

TABULATED DATA LISTING FOR CHAB (AEDC VA352)

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.400 Q1 = .524 HREF = .018
 AEDC VA352 CHAB 01 CRG. BOTTOM SURFACE WING (ATRL12)

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

ZY/S	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001	.0578	.0369	.4650	.3153	.3482	.0893	.1533	.1074	.0415			
.002			.4215	.2004								
.003			.3827	.1964								
.004			.4159	.1845								
.005			.3450	.1695								
.006			.3534	.1391								
.007			.2892	.1264								
.025	.0545		.2099	.4371	.3655							
.050			.1737	.1958	.2027	.2292			.1494			
.100	.1202								.1520			
.153					.1270							
.177				.1155	.1448							
.200	.0786											
.299				.1176	.1131	.0990	.1366	.1424				
.300			.1000									
.302												
.303												
.428					.1244							
.444	.0691								.1060	.1044		.0983
.487					.1211							
.500												
.559				.0791								
.590	.0530											
.600												
.700				.0871	.0805				.0514			
.736	.0608			.0727	.0656	.0521						.0547
.800					.0394	.0461						
.850					.0539	.0608						
.900	.0225			.0425	.0561	.0536						.0562

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.400 Q1 = .524 HREF = .018

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

ZY/S	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001	.0742	.0558	.4257	.3828	.3169	.0772	.1343	.0914	.0431			
.002			.5423									
.003			.5171									
.004			.5396									
.005			.4573									
.006			.4170									
.007			.3439									
.025	.0542		.1850	.4145	.3448							

MACH (1) = 8.000 ALPHA (3) = 35.000

AEDC VA352 CH4B 01 CRB, BOTTOM SURFACE WING (ATKL12)

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z/S	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.050												
.100				.1828		.2382	.2268	.2210		.1302		
.153		.1219								.1313		
.177					.1315							
.200				.1250		.1683						
.299	.0896				.1156	.1175	.1345	.1470	.1345			
.300				.1043								
.302							.1352					
.303					.1901							
.428												
.444	.0838											
.487					.1482							
.500							.1210	.1177		.1098		
.559				.0863								
.590	.0659											
.600					.0911	.0813			.0616			
.703				.0776	.0774	.0772	.0616			.0716		
.736	.0721											
.800					.0437	.0550						
.850					.0636	.0729						
.900	.0284			.0487	.0589	.0580	.0658			.0690		

AEDC VA352 CH48 O1 ORB. BOTTOM SURFACE WING (ATK115) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 1.000
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.100 QI = 1.003 HREF = .025

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

X/C	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
.001		.0691	.0358		.4614	.3075	.3408	.0857		.1506	.1066	.0556
.002					.4226		.2008					
.003					.3791		.1910					
.004					.4132		.1794					
.005					.3370		.1645					
.006					.3472		.1386					
.007					.2787		.1243					
.025	.0341		.1948	.4360		.3452					.1460	
.050			.1717		.1928	.1923	.2242				.1484	
.100						.1423						
.153	.1145				.1191							
.177												
.200												
.299	.0806											
.300					.1129	.1150	.1698	.1469	.1375			
.302			.1002									
.303							.1224					
.428					.1238							
.444	.0690											
.487					.1164							
.500							.1038	.1728	.1304			
.559			.0782									
.590	.0524											
.600					.0876	.0786			.1202			
.700			.0756	.0774	.0623	.0527					.1191	
.735	.0589											
.800					.0354	.0436						
.830					.0520	.0604						
.900	.0236		.0431	.0544	.0479	.0534					.1083	

AEDC VA352 CH4B 01 CRG. BOTTOM SURFACE WING (ATKLI3)

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.100 OI = 1.003 HREF = .025

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z/Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001		.0716	.0356		.4212	.3784	.3108	.0765		.1306	.0974	.0606
.002					.5335		.1683					
.003					.5038		.1673					
.004					.5186		.1584					
.005					.4518		.1486					
.006					.4173		.1298					
.007					.3427		.1192					
.025	.0545			.1612	.4150		.3336					
.050				.1792		.2344	.2264	.2104		.1324		
.100										.1336		
.153	.1266											
.177					.1219							
.200						.1646						
.299	.0903											
.300					.1121	.1200		.1275	.1624	.1941		
.302					.1045							
.303							.1293					
.428						.1308						
.444	.0806											
.487					.1389		.1177	.1164		.1583		
.500						.0845						
.559												
.990	.0610				.0915	.0802			.0633			
.603					.0767	.0771	.0713	.0629		.0857		
.700												
.736	.0665					.0404	.0516					
.800						.0614	.0736					
.850						.0498	.0602	.0565	.0647			
.900	.0286									.0729		

MACH (1) = 8.000 ALPHA (3) = 40.000 TI = 94.100 OI = 1.003 HREF = .025

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z/Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001		.0747	.0381		.3751	.3577	.2986	.0647		.1137	.0852	.0512
.002					.4756		.1460					
.003					.5270		.1526					
.004					.5014		.1560					
.005					.4622		.1518					
.006					.4043		.1401					
.007					.3490		.1340					
.025	.0572			.1738	.3789		.3239					

AEDC VA352 CH4B 01 ORB. BOTTOM SURFACE WING (ATK13)

MACH (1) = 8.000 ALPHA (3) = 40.000

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.090												
.100												
.153				.1786	.2579	.2380	.2222			.1180		.1220
.177					.1187							
.200						.1701						
.299												
.300												
.302					.1109	.1203	.1436	.1567	.1440			
.303				.1108								
.428						.1409	.1375					
.444												
.487					.1533							
.500							.1312	.1500	.1227			
.599												
.590					.0860							
.600						.0970	.0827			.0677		
.700					.0635	.0832	.0772	.0703				.0812
.736												
.600						.0451	.0566					
.830						.0724	.0837					
.900					.0544	.0654	.0686	.0770				.0818

AEDC VA352 CH48 O1 CRB, BOTTOM SURFACE WING (ATK114)

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.550 Q1 = 1.994 HREF = .035

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z/Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9660	.9930
X/C	.0680	.0359	.4195	.3759	.2947	.0749	.1534	.1331	.0967		
.001			.5305	.1700							
.002			.5066	.1760							
.003			.5284	.1689							
.004			.4645	.1746							
.005			.4144	.1538							
.006			.3436	.1530							
.007				.3184							
.025	.1796	.4036									
.030											
.100	.1797	.2332	.2231	.2889					.1664		
.153									.1834		
.177											
.200	.1195	.1658									
.299	.1216										
.300											
.302	.1148	.1277	.1848	.4001	.3076						
.303	.1055										
.428											
.444		.1545			.1273						
.487											
.500	.1464										
.599	.0937				.1206	.1185			.2674		
.590											
.600	.0956	.0820									
.700	.0907	.0846	.0703	.0646		.0818				.1703	
.736											
.800											
.850	.0380	.0497									
.900	.0997	.0754									
.900	.0644	.0725	.0601	.0691						.1039	

AEDC VA352 CH48 01 ORB. BOTTOM SURFACE WING (ATKLI5) (27 APR 74)

REFERENCE DATA

SREF = .8236 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 CREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 S.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.867 OI = 3.955 HREF = .049

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE MU/HO

Z/Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001		.0601	.0353	.4883	.3455	.4015	.0990		.1615	.1115	.0580	
.002				.3565	.3737	.2024	.2146					
.003				.3104	.1869							
.004				.2943	.1666							
.005				.2575	.1379							
.006				.2100	.1240							
.007						.4174						
.025	.0505			.1971	.4481					.1484		
.050				.1659		.1549	.3386	.2182		.1484		
.100	.0966											
.153					.1185							
.177						.0950						
.200				.1055								
.299	.0661											
.300					.1425	.1645	.2398	.1252	.1234			
.302				.0875								
.303						.4081						
.428					.3514							
.444	.0552											
.487				.4236								
.500						.4113	.3262		.1161			
.559				.0879								
.590	.0484											
.600				.2066	.1084				.1311			
.700	.700			.2558	.2477	.1641						
.736	.1032											
.800				.1425	.1618							
.850				.1786	.1874							
.900	.0741			.0864	.1507	.1506	.1525					.1242

AEDC VA352 CH4B 01 CR8. BOTTOM SURFACE WING (ATK115)

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.867 Q1 = 3.955 HREF = .049

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001	.0624	.0347		.4885	.3184	.4567	.0981		.1523	.1294		.0875
.002				.4287			.2104					
.003				.3780			.2109					
.004				.4229			.2230					
.005				.3475			.2195					
.006				.3645			.2338					
.007				.2940			.2347					
.025	.0363			.1868	.4394		.5231					
.050				.1763	.2033	.4699	.3419		.1534			
.100									.1632			
.153	.1073											
.177												
.200				.1267	.1255							
.299	.0784				.1693							
.300												
.302				.1154	.1381	.1444	.4588	.3739	.2939			
.303												
.428							.1719					
.444	.0742				.1589							
.487												
.500				.3019			.2642	.4629	.2337			
.559				.1865								
.590	.1116				.2073	.1247		.1929				
.600					.2069	.2241	.2198	.1907				
.700	.2618								.1936			
.736												
.800					.1412	.1917						
.850					.1685	.2281						
.900	.1115			.1611	.1540	.1652	.1877		.1751			

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.867 Q1 = 3.955 HREF = .049

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001	.0672	.0377		.4416	.3979	.3097	.0875		.2097	.1586		.1171
.002				.5454			.2284					
.003				.5441			.2361					
.004				.5685			.2723					
.005				.4960			.3003					
.006				.4695			.2801					
.007				.3985			.2922					
.025	.0576			.1934	.4306		.3457					

AEDC VA352 CH48 01 CRB. BOTTOM SURFACE WING (ATK115)

MACH (1) = 8.000 ALPHA (3) = 35.000

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z1/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.090												
.100				.2150		.2869	.2824	.5035			.2091	.2248
.153		.1206										
.177					.1728							
.200				.1863		.2217						
.299		.0910										
.300					.2037	.1822		.5099	.5186	.3672		
.302				.2080								
.303						.2454						
.428							.2066					
.444		.1324										
.487					.3606							
.500							.1957	.4923		.3204		
.559				.3287								
.590		.2433										
.600					.2878	.2150			.2022			
.700				.2943	.2803	.2496	.1268					.2394
.736		.3781										
.800					.1705	.1971						
.850					.2198	.2658						
.900		.1302		.2066	.1922	.1923	.2238					.2011



AEDC VA352 CH48 O1 CFB. BOTTOM SURFACE WING (ATK117)

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 97.700 QI = 3.949 HREF = .049

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9400	.9660	.9930
X/C												
.001	.0671	.0367	.4426	.3960	.3240	.0898	.1971	.1538	.1396			
.002			.5453	.2269								
.003			.5436	.2375								
.004			.5677	.2706								
.005			.5021	.3006								
.006			.4736	.2792								
.007			.3995	.2886								
.025	.0575		.1908	.4360	.3460							
.050										.2118		
.100			.2141	.2895	.2749	.4996				.2267		
.153	.1217											
.177			.1748									
.200			.1891	.2182								
.299	.0916											
.300			.2106	.2056	.1825	.3203	.5181	.3758				
.302												
.303							.1943					
.428	.1323			.2522								
.444												
.487			.3896									
.500			.3307				.1994	.2135	.3324			
.559												
.590	.2522											
.600			.2918	.2906	.2134	.1654						
.700			.2812	.2508	.1036							
.736	.3772											
.800				.2287	.1327							
.850				.2978	.1876							
.900	.1648		.2772	.2544	.2709	.1728						.2449

AEDC VA352 CH48 O1 CRB. BOTTOM SURFACE WING (ATKLI8)

MACH (1) = 0.000 ALPHA (2) = 35.000 TI = 97.200 Q1 = 3.933 HREF = .049

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

21/B .2900 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C	.2900	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
.001	.0833	.0499	.4750	.3390	.3375	.0976	.1965	.1679	.1315			
.002			.4670	.2175								
.003			.4691	.2392								
.004			.3025	.2635								
.005			.4510	.2802								
.006			.4381	.2923								
.007			.3767	.2994								
.025	.0818		.2259	.4685								.2107
.050			.2140	.2961	.2993	.4568						.2268
.100			.1515									
.153	.1466											
.177			.1522	.2257								
.200												
.299	.0971											
.300			.1503	.1737	.5216	.4571	.3221					
.302			.1330									
.303						.2084						
.42A	.0961											
.444			.3056									
.487						.2064	.3578		.2914			
.500			.1598									
.559												
.590	.1229											
.600			.2682	.1889					.2046			
.700			.1812	.2556	.2149	.1064						.2809
.736	.2363											
.800			.1954	.1263								
.850			.2635	.1801								
.900	.1692		.2146	.2502	.2422	.1599						.2667

(ATK119)

AEDC VA332 CH48 O1 GRB. BOTTOM SURFACE WING

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 99.690 Q1 = 1.983 HREF = .035

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

RY/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9650	.9930
X/C	.0861	.0904	.0866	.3223	.3524	.0872	.1649	.1509	.1046			
.001			.4136	.2001								
.002			.4413	.2019								
.003			.4297	.1944								
.004			.3921	.1824								
.005			.3606	.1567								
.006			.2996	.1480								
.007			.2265	.4702	.3684					.1651		
.025			.2029	.2234	.2253	.2555				.1678		
.050												
.100												
.153												
.177												
.200			.1476	.1454								
.299			.1409									
.300												
.302			.1182	.1346	.1122	.3442	.1964	.1662				
.303												
.428							.1313					
.444							.1234					
.487												
.500			.1298				.1173	.3807		.1804		
.559			.0912									
.590												
.600			.1120	.1056					.1433	.2019		
.700			.0912	.0929	.0686	.0980						
.756												
.800			.0455	.0475								
.850			.0868	.0878								
.900			.0772	.0705	.0833	.0821				.1884		

AEDC VA352 CH4B Q1 CRB. BOTTOM SURFACE WING (ATKLE20) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = 2.000
 B. FLAP = 10.000 ELEVON = 5.000
 HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.900 QI = 1.980 HREF = .035

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

ZY/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001	.0641	.0355	.4663	.3022	.3291	.0902	.1499	.1081	.1008			
.002			.4114	.1991								
.003			.3802	.1931								
.004			.3998	.1848								
.005			.3364	.1718								
.006			.3456	.1574								
.007			.2801	.1494								
.025	.0554		.1909	.4351	.3603					.1472		
.050			.1728	.1932	.2438	.2396				.1493		
.100	.1127											
.177			.1170	.1407								
.200												
.299	.0803											
.300												
.302			.0984	.1169	.1210	.3540	.2096	.1624				
.303												
.428					.1231	.1254						
.444	.0660											
.487												
.500				.1112								
.529			.0801		.1051	.3381				.1930		
.590	.0508											
.600				.0890	.0783					.1526		
.700			.0782	.0822	.0566	.0518					.2048	
.736	.0720											
.800				.0350	.0475							
.850				.0697	.0781							
.900	.1144		.0648	.0841	.0646	.0729						.1793

AEDC VA352 CH48 01 CR8, BOTTOM SURFACE WING (ATKLR20)

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.900 QI = 1.980 HREF = .035

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z/B	.2930	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001		.0665	.0364	.4229	.3810	.3010	.0719	.1555	.1357	.1266		
.002				.5308		.1668						
.003				.5057		.1782						
.004				.5285		.1669						
.005				.4565		.1733						
.006				.4241		.1494						
.007				.3461		.1498						
.025	.0994			.1799	.3990		.3212			.1686		
.050				.1800		.2295	.2822			.1862		
.100	.1253											
.153				.1177		.1653						
.177												
.200				.1256								
.299	.0893											
.300				.1155	.1263		.1839	.3880	.3016			
.302				.1057								
.303						.1556						
.428												
.444	.0758											
.487				.1422			.1198	.1211	.2603			
.590				.0909								
.599												
.600	.0663			.0971	.0825		.0778					
.700				.0896	.0858	.0690	.0611					
.756	.1021											
.800				.0411	.0531							
.850				.0822	.0938							
.900	.1451			.0687	.0942	.0794	.0858					.1355

AEDC VA352 CH4B 01 ORB. BOTTOM SURFACE WING (ATKLE21) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RVL = .500
 B-FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .900

MACH (1) = 6.000 ALPHA (1) = 30.000 TI = 91.950 QI = .518 HREF = .017

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z/Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001		.0955	.0489	.5719	.3588	.4481	.0999		.1998	.1454	.0745	
.002				.4595		.2488						
.003				.4658		.2368						
.004				.4260		.2118						
.005				.3878		.1861						
.006				.3227		.1538						
.007				.2738		.1416						
.025	.0837		.2726	.5229		.4568			.1965			
.050			.2038		.2161	.2138	.2458		.2012			
.100												
.153	.1408											
.177				.1544								
.200			.1343		.1407							
.299	.0918											
.300								.1244	.1489	.1655		
.302			.1126		.1389	.0930						
.303												
.428						.1011						
.444	.0825				.1164							
.487												
.500				.1250								
.559			.0939			.1103	.1276		.1275			
.590	.0656											
.600				.0998	.0965				.0573			
.700			.0875	.0643	.0690	.0516						
.736	.0729											
.800				.0535	.0680							
.850				.0785	.0809							
.900	.0627		.0689	.0633	.0702	.0705						.0892

AEDC VA392 CH48 Q1 CR8. BOTTOM SURFACE WING (ATKLEE) (27 APR 74)

REFERENCE DATA

SREF = .9238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.3603 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0173 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = .900
 B.FLAP = 10.000 ELEVON = 3.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 93.400 Q1 = .923 HREF = .018

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

X/C	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
.001	.0681	.0366	.4663	.3184	.3724	.0875	.1592	.1132	.0448			
.002			.4350	.1995								
.003			.3853	.1966								
.004			.4188	.1822								
.005			.3479	.1676								
.006			.3569	.1387								
.007			.2840	.1264								
.025	.0000	.1946	.4327	.3605								
.090			.1755	.1983	.2025	.2236			.1530			
.100	.1147								.1538			
.153												
.177			.1273	.1438								
.200	.0808											
.299												
.300			.1195	.1125	.0977	.1374	.1433					
.302			.0995									
.303					.1243							
.428			.1275									
.444	.0722											
.487			.1337									
.500					.1089	.1100	.0945					
.559	.0818											
.990	.0571											
.600			.0890	.0817	.0502							
.700			.0753	.0786	.0699	.0510	.0710					
.736	.0601											
.800			.0440	.0626								
.850			.0798	.0799								
.900	.0402		.0574	.0683	.0665	.0748	.0771					

AEDC VA332 CH4B 01 CRB. BOTTOM SURFACE WING (ATKLL22)

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 93.400 Q1 = .523 HREF = .018

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/H0

Z/Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001	.0750	.0369	.4256	.3880	.3244	.0768	.1321	.0943	.0547			
.002			.5367	.1742								
.003			.5226	.1730								
.004			.5310	.1703								
.005			.4547	.1604								
.006			.4270	.1418								
.007			.3513	.1329								
.025	.0000		.1893	.4116	.3440							
.030			.1828	.2417	.2302	.2248	.1340					
.100	.1314											
.153				.1275								
.177				.1261	.1660							
.200	.0936											
.299				.1177	.1172	.1378	.1476	.1329				
.300			.1040									
.302												
.303					.1328							
.428				.1453								
.444	.0835											
.487												
.900				.1239	.1246	.1069						
.559	.0651		.0859									
.590												
.600			.0940	.0829	.0608							
.700			.0783	.0783	.0586							
.736	.0724											
.800			.0478	.0610								
.890			.0778	.0923								
.903	.0587		.0630	.0842	.0738	.0864						.0863



AEDC VA352 CH48 Q1 CRB. BOTTOM SURFACE WING (ATK123) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.5919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = .500
 B. FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

X/C	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
.001		.0647	.0358		.5010	.3289	.3746	.0998		.1694	.1155	.0401
.002					.3997		.2143					
.003					.3712		.2000					
.004					.3230		.1852					
.005					.2918		.1669					
.006					.2620		.1384					
.007					.2134		.1237					
.025	.0541			.2139	.4444		.3662					
.050											.1954	
.100				.1695		.1504	.1852	.2232			.1567	
.153	.0982											
.177					.1222							
.200				.1072		.0980						
.299	.0697											
.300												
.302												
.303				.0886		.1186	.0871	.1104	.1302	.1341		
.428												
.444	.0616					.1003	.0952					
.487					.1091							
.500												
.559				.0742			.0961	.0907		.1046		
.590	.0480											
.600												
.700				.0695	.0937	.0803	.0419	.0568				
.736	.0513				.0805	.0577						
.800						.0449	.0558					
.850						.0901	.0958					
.900	.0746			.0752	.0974	.0872	.0902					.1012

AEDC VA352 CH48 O1 ORB. BOTTOM SURFACE WING (ATK123)

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.433 Q1 = .521 HREF = .018

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z/Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001	.0690	.0364	.4685	.3170	.3509	.0883	.1548	.1123	.0318			
.002			.3509	.1970	.2024							
.003			.3915	.1970	.1970							
.004			.4210	.1828	.1828							
.005			.3531	.1699	.1699							
.006			.3575	.1399	.1399							
.007			.2871	.1276	.1276							
.025			.1984	.4365	.3647					.1549		
.100			.1753	.1954	.2072	.2279				.1552		
.153			.1143									
.177			.1286									
.200			.1169	.1445								
.299			.0811									
.300			.1172	.1107	.1062	.1399	.1462					
.302			.0986									
.303				.1264	.1204							
.428			.0725	.1290								
.487							.1077	.1135	.0972			
.500			.0788									
.559			.0580									
.600			.0890	.0805	.0537	.0573						
.700			.0763	.0786	.0630	.0511						
.756			.0933	.0405	.0655							
.800			.0938	.1140								
.850			.0808	.1040	.0907	.1083				.1095		
.900												

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.433 Q1 = .521 HREF = .018

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z/Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001	.0749	.0367	.4285	.3842	.3270	.0786	.1362	.0923	.0401			
.002			.5595	.1761								
.003			.5151	.1743								
.004			.5336	.1692								
.005			.4588	.1584								
.006			.4226	.1423								
.007			.3489	.1305								
.025			.1695	.4094	.3451							

AEDC VA352 CH4B 01 CRB. BOTTOM SURFACE WING (ATKLE3)

MACH (1) = 6.000 ALPHA (3) = 35.000

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.050												
.100				.1812	.2391	.2296	.2207			.1361		
.153	.1283									.1358		
.177					.1295							
.200				.1254	.1670							
.299	.0921											
.300					.1154	.1198	.1326	.1465	.1591			
.302				.1055								
.303							.1354					
.428					.1472							
.444	.0820											
.487					.1456							
.500							.1258	.1284	.1117			
.559				.0861								
.590	.0665											
.600					.0931	.0814			.0630			
.700				.0786	.0792	.0686	.0583					
.736	.0718											
.800					.0373	.0707						
.850					.0955	.1244						
.900	.1049			.0829	.1069	.0933	.1238					.1060

AEDC VA352 CH48 O1 ORG. BOTTOM SURFACE WING (ATKLR4) (27 APR 74)

REFERENCE DATA

SREF = .5236 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9903 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RM/L = .500
 B.FLAP = 10.000 ELEVON = 10.000
 HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.233 OI = .523 WREF = .016

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

X/C	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9950
.001		.0911	.0548	.5664	.3791	.4431	.1108	.2229	.1608	.0541		
.002				.4837	.4431	.2313						
.003				.4431	.4002	.2040						
.004				.3610	.3152	.1795						
.005				.3152	.2604	.1420						
.006				.2604	.4435							
.007	.0839			.2886	.4901							
.025				.1939	.1899	.2026	.2281			.2092		
.090										.2061		
.100	.1220											
.153					.1301							
.177												
.200				.1193		.1329						
.299	.0613											
.300				.0968	.1223	.0830	.1177	.1241	.1353			
.302												
.303						.1094						
.428						.1074						
.444	.0721											
.487				.1056			.0728	.1033	.1033			
.500				.0849								
.559												
.590	.0562				.0882	.0787						
.600				.0812	.0732	.0584	.0362	.0680	.0543			
.700												
.736	.0617											
.800				.0494	.0644							
.850				.0921	.0929							
.900	.0882			.0881	.0820	.0904	.0841					.0920

AEDC VA352 CH48 O1 ORB. BOTTOM SURFACE WING (ATKLR24)

MACH (1) = 6.000 ALPHA (2) = 30.000 TI = 93.233 QI = .923 HREF = .018

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

ZY/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001	.0906	.0496	.5642	.3925	.4439	.0989	.1996	.1409	.0474			
.002			.4505	.2456								
.003			.4648	.2335								
.004			.4196	.2102								
.005			.3825	.1845								
.006			.3200	.1507								
.007			.2659	.1389								
.025	.0811		.2634	.5116	.4490							
.050			.2005	.2098	.2172	.2437	.1912					
.100	.1336						.1907					
.177			.1317	.1531								
.200				.1365								
.299	.0917											
.300			.1097	.1354	.0913	.1335	.1512	.1658				
.302												
.303												
.428				.1142	.0985							
.444	.0852											
.487			.1248									
.500												
.559	.0668		.0933	.1126	.1513	.1302						
.600												
.700			.0884	.0953	.0606							
.736	.0723		.0882	.0831	.0671	.0513	.0599					
.800				.0566	.0494							
.850			.0991	.0889	.1001	.0971	.1056					
.900	.1130											

MACH (1) = 6.000 ALPHA (3) = 35.000 TI = 93.233 QI = .523 HREF = .018

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

ZY/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001	.0934	.0481	.4903	.3261	.3606	.0923	.1686	.1335	.0447			
.002			.4204	.2023								
.003			.4464	.2020								
.004			.4351	.1932								
.005			.3944	.1827								
.006			.3612	.1573								
.007			.3061	.1438								
.025	.0802		.2993	.4799	.3746							

(ATK124)

MACH (1) = 0.000 ALPHA (3) = 35.000

SECTION (1) BOTTOM SURF. WING

DEPENDENT VARIABLE HU/HO

Z1/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.050												
.100				.2068		.2279	.2334	.2576			.1700	
.153	.1524										.1718	
.177					.1581							
.200				.1436		.1329						
.299	.1019											
.300				.1351	.1076		.1125	.1647	.1607			
.302				.1222								
.303							.1325					
.428					.1254							
.444	.0934											
.487					.1323			.1238	.1246			.1134
.500				.0980								
.559												
.590	.0725											
.600					.1128	.1085			.0550			
.700				.0902	.0909	.0698	.0571					
.736	.0821											
.800					.0487	.0667						
.850					.1144	.1219						
.900	.1332			.1028	.0911	.1125	.1120					.1095

AEDC VA352 CH48 Q1 CEB. BOTTOM SURFACE WING (ATK25) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 18.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.690 QI = 1.985 HREF = .035

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z/B	.2900	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001		.0647	.0555		.4685	.3046	.3355	.0906		.1489	.1085	.0936
.002						.4131		.1968				
.003						.3787		.1936				
.004						.4042		.1835				
.005						.3422		.1702				
.006						.3483		.1575				
.007						.2825		.1482				
.025	.0540			.1901	.4326		.3583					
.050											.1456	
.100				.1739		.1925	.2472	.2387			.1493	
.153	.1138											
.177					.1163							
.200				.1189		.1409						
.299	.0788											
.300												
.302				.0974	.1155	.1229		.3586	.2241	.1742		
.303							.1270					
.428						.1200						
.444	.0660											
.487					.1002							
.500							.1071	.3679		.2007		
.559				.0802								
.590	.0310											
.600					.0891	.0780			.1637			
.700				.0760	.0821	.0444	.0903					.2047
.736	.0742											
.800					.0391	.0996						
.850					.1116	.1287						
.900	.1412			.1209	.1438	.1077	.1212					.2509

AEDC VA352 CH48 O1 ORG. BOTTOM SURFACE WING (ATK126)

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.450 Q1 = 1.983 HREF = .035

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z/B .2500 .3010 .3480 .4000 .5000 .6000 .7500 .8500 .9000 .9500 .9660 .9930

X/C

.001	.0916	.0497	.4883	.3207	.3530	.0892	.1655	.1276	.1010
.002			.4152	.4354	.2015	.2008			
.003				.4317	.1910				
.004				.3919	.1821				
.005				.3599	.1598				
.006				.3056	.1510				
.007						.3698			
.025		.2251	.4654				.1654		
.050		.2042		.2226	.2274	.2515	.1693		
.100									
.153		.1477		.1449					
.177				.1405	.1461				
.200									
.299		.0988							
.300				.1347	.1141	.3518	.2078	.1742	
.302				.1171					
.303						.1328			
.428					.1283				
.444		.0873							
.487				.1296					
.500					.1180	.3779	.1925		
.559									
.990		.0663		.0915					
.600			.1120	.1039		.1556			
.700		.0899	.0918	.0639	.0536				
.736				.0503	.0472				
.800				.1245	.1329				
.850									
.900		.1726	.1220	.1103	.1196	.1248			.2541



AEDC VA352 CH48 01 CR8. BOTTOM SURFACE WING (ATKL27)

MACH (1) = 8.000 ALPHA (3) = 35.000

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.050												
.100				.2108	.2810	.2654	.5047		.2142	.2296		
.153	.1189											
.177				.1777	.1628							
.200					.2168							
.299	.0937											
.300					.1980	.1635	.3206	.5446	.3822			
.302												
.303				.2039								
.428							.1838					
.444	.1233				.2388							
.487												
.500				.3710			.1916	.2074	.3408			
.559				.3218								
.590	.2454											
.600					.2840	.2090			.1554			
.700				.2871	.2756	.2444	.1020			.3154		
.736	.5802											
.800					.3390	.2494						
.850					.4442	.4218						
.900	.2099			.3817	.3625	.3940	.4305			.3643		

AEDC VA352 CH48 Q1 CRG. BOTTOM SURFACE WING (ATKLES) (27 APR 74)

REFERENCE DATA

SREF = .8238 50. FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RN/L = 3.720
 S.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.300 QI = 3.930 HREF = .049

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

X/C	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
.001		.0630	.0494	.5572	.3197	.4527	.0975	.2200	.1553	.0497		
.002				.4133	.3917	.2310	.2019					
.003				.3682	.3390	.1752	.1398					
.004				.2604	.4532							
.005				.2768	.4863							
.006				.1957	.1914	.2017	.2278			.2041		.2022
.007												
.025				.1262								
.050				.1206	.1367							
.100												
.153												
.177												
.200												
.299												
.300												
.302				.1018	.1216	.1049	.1113	.1168	.1199			
.303						.2511						
.428					.1825							
.444												
.487					.3612					.0959		
.500				.2062			.3674	.1221				
.559												
.590												
.600					.2327	.0997			.0582			
.700				.2724	.2525	.2361	.1824					.0414
.736												
.800					.3742	.3611						
.850					.4507	.4000						
.900				.3692	.3532	.3635	.3321					.1059

AEDC VA352 CH48 O1 CRB, BOTTOM SURFACE WING (ATK128)

MACH (1) = 6.000 ALPHA (2) = 30.000 TI = 97.300 Q1 = 3.930 HREF = .049

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z/Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001	.0876	.0467	.5594	.3508	.4486	.0886	.1916	.1377	.0640			
.002			.4364	.2439								
.003			.4517	.2309								
.004			.4190	.2100								
.005			.3820	.1839								
.006			.3254	.1500								
.007			.2736	.1390								
.025	.0784		.2516	.5128	.4569					.1855		
.050			.2040	.2177	.3324	.2486				.1862		
.100	.1383											
.153			.1345	.1467								
.177				.1905								
.200			.1094	.1407	.1121	.2088	.1472	.1579				
.299	.0894											
.302												
.303												
.428	.0822			.1267			.4740					
.444												
.487				.1476			.4002	.3498	.1264			
.500			.1648									
.559	.0766											
.590				.1997	.1117				.1512	.1608		
.600			.2485	.2775	.0951	.1586						
.700	.1469											
.736				.2984	.4052							
.800				.4811	.4940							
.850				.4493	.4148							
.900	.1706		.4156	.3897	.4493					.2586		

MACH (1) = 6.000 ALPHA (3) = 35.000 TI = 97.300 Q1 = 3.930 HREF = .049

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z/Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001	.0831	.0495	.4755	.3557	.3577	.1003	.1712	.1563	.1277			
.002			.4183	.2122								
.003			.4361	.2176								
.004			.4286	.2299								
.005			.4018	.2319								
.006			.3747	.2482								
.007			.3160	.2471								
.025	.0804		.2271	.4560	.3982							

AEDC VA352 CH4B O1 ORB. BOTTOM SURFACE WING (ATKLR)

MACH (1) = 8.000 ALPHA (3) = 35.000

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z/Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.090												
.100				.2134		.2336	.3225	.3616		.1781		
.153	.1461									.1911		
.177					.1482							
.200				.1516		.1594						
.299	.0982											
.300					.1475	.1292		.5020	.4050	.3037		
.302				.1316								
.303							.1534					
.428						.1474						
.444	.0921											
.487					.1725			.1336	.5171	.2494		
.500												
.559				.1591								
.590	.1167											
.600					.1621	.1292			.2003			
.700				.1717	.1878	.1020	.0718					
.736	.2334											
.800						.2961	.1997					
.850						.4989	.4396					
.900	.2236			.3781	.4300	.4777	.4240					.3202



AEDC VA352 CH48 O2 CRB. BOTTOM SURFACE WING (ATK132) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = 1.000
 B. FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 93.400 QI = 1.000 HREF = .024

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

X/C	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
.001		.0443	.0322	.2908	.1676	.2187	.0468		.1004	.0607	.0201	
.002				.2699	.1800							
.003				.3575	.1802							
.004				.4021	.1685							
.005				.3186	.1555							
.006				.3262	.1300							
.007				.2612	.1189							
.025	.0356		.1706	.3774		.3063						
.050			.1625		.1815	.1852	.2133		.1366	.1394		
.100	.1084											
.177			.1079	.1138								
.200			.1079	.1323								
.299	.0761											
.300			.1079	.1057	.1651	.1429	.1339					
.302			.0908									
.303						.1143						
.428				.1164								
.444	.0658											
.487				.0936					.0981	.1768	.1316	
.500			.0715									
.559												
.590	.0496											
.600			.0793	.0879								.1210
.700			.0694	.0735	.0584	.0546						.0998
.736	.0534											
.800			.0351	.0414								
.850			.0900	.0586								
.900	.0209		.0426	.0548	.0466	.0547						.1062

AEDC VA352 CH48 O2 CRB. BOTTOM SURFACE WING (ATKLS2)

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 93.400 QI = 1.000 HREF = .024

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z1/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001	.0467	.0325	.2598	.1991	.1978	.0387	.0857	.0535	.0258			
.002			.3270	.1505	.1478							
.003			.4631	.4963	.1438							
.004			.4134	.3830	.1187							
.005			.3130	.2859	.1090							
.006			.1589	.3499	.2041	.1909	.1198					
.007			.1616	.2195	.2041	.1909	.1262					
.008			.1122	.1488								
.009			.0980	.1066	.1267	.1875	.1920					
.010			.0961		.1182							
.011			.1356									
.012			.0905		.1068	.1145	.1568					
.013			.0766									
.014			.0856	.1071	.0636							
.015			.0754	.0715	.0669	.0620	.0800					
.016			.0370	.0486								
.017			.0595	.0724								
.018			.0485	.0806	.0546	.0658	.0749					
.019												

MACH (1) = 8.000 ALPHA (3) = 45.000 TI = 93.400 QI = 1.000 HREF = .024

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z1/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001	.0471	.0310	.1928	.1444	.1695	.0263	.0667	.0437	.0250			
.002			.2433	.1075	.1075							
.003			.4167	.1205	.1205							
.004			.3966	.1257	.1257							
.005			.3759	.1222	.1222							
.006			.3232	.1192	.1192							
.007			.2822	.1141	.1141							
.025			.1330	.2749	.2526							

AEDC VA392 CH4B C2 CRB. BOTTOM SURFACE WING (ATKLS2)

MACH (1) = 0.000 ALPHA (3) = 45.000

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

RY/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9660	.9930
X/C											
.090											
.100				.1461	.2210	.2113	.1869		.1012		.1093
.155	.1294										
.177					.1022						
.200				.1111		.1490					
.299	.0968										
.300					.0972	.0979	.1273	.1494	.1371		
.302				.0940							
.303							.1291				
.428						.1136					
.444	.0882										
.487					.0898						
.500							.1224	.1237	.1158		
.559				.0801							
.590	.0716										
.600					.0873	.1030		.0675	.0675		
.700				.0789	.0801	.0697	.0705				
.736	.0834										
.800					.0458	.0562					
.850					.0786	.0866					
.900	.0311			.0579	.0633	.0723	.0791				.0841

AEDC VA352 CH48 02 CRB. BOTTOM SURFACE WING (ATKLS34) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.3803 IN. YMRP = .0000 IN.
 EREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = 1.500
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.900 QI = 1.534 HREF = .030

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

X/C	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
.001					.2940	.1652	.2097	.0466		.0982	.0602	.0078
.002		.0434	.0316		.2688	.3521	.1811					
.003					.3912	.1773	.1672					
.004					.3135	.1565						
.005					.3238	.1381						
.006					.2678	.1252						
.025	.0361			.1689	.3809		.2970					
.050										.1341		
.100	.1088			.1588	.1833	.1863	.2176			.1404		
.155												
.177					.1083							
.200				.1074		.1325						
.299	.0745											
.300					.1067	.1087	.2847	.1657	.1444			
.302				.0908			.1174					
.303						.1167						
.428												
.444	.0624											
.487					.0928							
.500							.0972	.2746		.1625		
.559				.0718								
.590	.0483											
.600					.0811	.0855			.1394			
.700	.0705	.0725	.0560	.0551								
.736	.0533											
.800				.0319	.0933							
.850				.0497	.0603							
.900	.0239	.0427	.0575	.0463	.0540							.1215

AEDC VA352 CH48 C2 CRB. BOTTOM SURFACE WING (ATKL34)

MACH (1) = 6.000 ALPHA (2) = 35.000 TI = 94.900 QI = 1.534 HREF = .030

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

X/C	.2900	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
.001		.0436	.0322	.2693	.1975	.1898	.0573		.0910	.0672		.0498
.002				.3251		.1457						
.003				.4586		.1546						
.004				.4664		.1455						
.005				.4077		.1418						
.006				.3840		.1233						
.007				.3138		.1190						
.025	.0347		.1575	.3461		.2725						
.050			.1591	.2184	.1989	.2150			.1346			.1491
.100	.1129											
.153			.1094		.1500							
.177												
.200	.0837											
.299			.1025	.1141	.1479	.3177	.2596					
.300			.0949				.1178					
.302												
.303												
.428												
.444	.0706				.1356							
.487				.0501								
.500						.1107	.1130		.2231			
.599			.0769									
.590	.0557											
.600												
.700			.0843	.1064				.0737				
.736	.0734		.0772	.0716	.0656	.0625				.1227		
.800				.0355	.0459							
.850				.0590	.0713							
.900	.0317		.0520	.0639	.0548	.0675						.0908

AEDC VA352 CH48 02 ORB. BOTTOM SURFACE WING (ATKLS9) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9603 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = 1.750
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.200 QI = 1.797 HREF = .033

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Zt/B	.2900	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001	.0428	.0313	.2907	.1625	.2114	.0478	.0788	.0887	.0418			
.002			.2642	.3540	.1805							
.003			.3794	.3169	.1699							
.004			.3271	.2655	.1332							
.005												
.006												
.007												
.025	.0358		.1673	.3711	.2897					.1194		
.050			.1588	.1850	.2024	.2176				.1354		
.100												
.153	.1075			.1086								
.177												
.200			.1083	.1331								
.299	.0746											
.300			.0889	.1035	.1112	.3078	.1824	.1464				
.302					.1178							
.303												
.428				.1173								
.444	.0618											
.487			.0924				.0984	.3117	.1813			
.500												
.559			.0709									
.590	.0474											
.600												
.700			.0717	.0757	.0556	.0553	.1476	.1196				
.736	.0607											
.800			.0804	.0854	.0390							
.850			.0503	.0603	.0603							
.900	.0294		.0456	.0606	.0461	.0538						.1272

AEDC VAS32 CH48 CE CR8. BOTTOM SURFACE WING (ATKLS5)

MACH (1) = 0.000 ALPHA (2) = 35.000 T1 = 95.200 Q1 = 1.797 HREF = .033

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

X/C	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
.001		.0416	.0319	.2602	.1954	.1854	.0583			.0956	.0684	.0517
.002				.3185		.1479						
.003				.4585		.1563						
.004				.4633		.1473						
.005				.4134		.1497						
.006				.3817		.1324						
.007				.3139		.1353						
.025				.1562	.3484		.2713					
.050										.1446		
.100				.1621	.2126	.1995	.2435			.1660		
.153				.1114								
.177					.1060	.1491						
.200				.1066								
.299				.0846								
.300					.1013	.1115	.1699	.3551	.2683			
.302				.0945								
.303							.1162					
.428					.1362							
.444				.0756								
.487					.0911							
.500							.1100	.1136	.2410			
.599				.0771								
.590					.0852	.1052						
.600				.0813	.0741	.0657	.0620	.0804				
.700												
.736				.0612								
.800					.0346	.0456						
.850					.0992	.0715						
.900				.0422	.0578	.0644	.0553	.0673				.1044

AEDC VA352 CH48 C2 ORB. BOTTOM SURFACE WING (ATK136) (27 APR 74)

REFERENCE DATA

SREF = .8236 SQ.FT. YMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = 2.000
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.967 QI = 1.984 HREF = .035

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

ZY/P	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001	.0430	.0317		.2939	.1997	.2204	.0489		.1006	.0601	.0296	
.002				.2656	.1838							
.003				.3548	.1801							
.004				.3920	.1756							
.005				.3162	.1605							
.006				.3279	.1476							
.007				.2661	.1355							
.025	.0383			.1697	.3731	.3127						
.050				.1996	.1837	.2207	.2242		.1340	.1398		
.100	.1096											
.177					.1097							
.200	.0752			.1071	.1348							
.299												
.300				.0915	.1060	.1111	.3321	.1940	.1575			
.302						.1167						
.303												
.428						.1167						
.444	.0668											
.487				.0940					.0977	.3406	.1908	
.500												
.559												
.590	.0482			.0734								
.600					.0838	.0852				.1527	.1287	
.700				.0770	.0789	.0557	.0553					
.736	.0661											
.800					.0316	.0397						
.850					.0513	.0622						
.900	.0372			.0906	.0661	.0470	.0555					.1362

(ATKLS6)

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.967 QI = 1.984 HREF = .035

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001	.0448	.0324	.2385	.1959	.1870	.0393	.0993	.0732	.0298			
.002			.3217	.1515								
.003			.4562	.1609								
.004			.4699	.1558								
.005			.4183	.1628								
.006			.3850	.1430								
.007			.3179	.1488								
.025	.0380		.1529	.3436	.2688					.1556		
.100	.1117		.1612	.2129	.2052	.2699				.1702		
.153			.1094	.1082	.1510							
.177			.0946	.1007	.1094	.1845	.3785	.2771				
.200	.0858			.1392	.1129							
.299				.0931	.1103	.1153	.2495					
.300				.0841								
.302				.0888	.1060	.0884						
.303				.0882	.0773	.0698	.0650	.1634				
.428	.0739			.0348	.0460							
.444				.0607	.0745							
.487				.0654	.0661	.0584	.0688	.1244				
.500				.0682								
.599				.0634								
.600	.0612											
.600												
.700												
.736	.0932											
.800												
.890												
.900	.0544											

MACH (1) = 8.000 ALPHA (3) = 45.000 TI = 94.967 QI = 1.984 HREF = .035

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001	.0457	.0315	.1804	.1460	.1703	.0284	.0695	.0464	.0160			
.002			.2417	.1076								
.003			.4126	.1145								
.004			.3805	.1232								
.005			.3652	.1182								
.006			.3204	.1152								
.007			.2821	.1095								
.025	.0346		.1271	.2551	.2507							

AEDC VA352 CH4B CE CRB, BOTTOM SURFACE WING (ATKLS6)

MACH (1) = 0.000 ALPHA (3) = 45.000

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z1/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.050												
.100				.1476		.2167	.2014	.1758		.1032		
.155												.1128
.177					.0910							
.200				.1140		.1489						
.299												
.300					.0996	.1047		.1242	.1472	.1535		
.302				.0985								
.303							.1290					
.428						.1134						
.444												
.487					.0986							
.500							.1230	.1270		.1110		
.559				.1012								
.590												
.600					.0999	.1143			.0681			
.700				.1087	.1049	.0763	.0742					.0721
.736												
.800						.0526	.0991					
.850					.0933	.0976						
.900				.1070	.0897	.0898	.0888					.0975



AEDC VA332 CH4B 02 CRB. BOTTOM SURFACE WING (ATK137) (27 APR 74)

REFERENCE DATA

SREF = .6236 SQ. FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 2.250
 B, FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.200 QI = 2.341 HREF = .036

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

ZY/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
Y/C												
.001		.0420	.0315	.2931	.1633	.2206	.0904	.0983	.0612	.0167		
.002				.2632	.1826		.1826					
.003				.3542	.1809		.1809					
.004				.3836	.1735		.1735					
.005				.3201	.1638		.1638					
.006				.3291	.1543		.1543					
.007				.2637	.1461		.1461					
.025	.0352			.1651	.3753	.3295				.1345		
.090				.1615	.1754	.2645	.2274			.1413		
.100	.1057											
.133				.1083								
.177				.1075	.1360							
.200	.0740											
.299				.1091	.1154	.3487	.2252	.1727				
.300				.0891								
.302												
.903					.1187	.1192						
.426												
.444	.0625			.0960								
.487												
.500				.0768	.1007	.3648	.1986					
.599												
.590	.0513											
.600				.0924	.0881	.1600						
.700				.0856	.0972	.0578	.1381					
.736	.0806											
.800				.0326	.0369							
.890				.0555	.0629							
.900	.0541			.0629	.0641	.0519	.0563					.1480

MACH (1) = 8.000 ALPHA (2) = 35.000 CR. BOTTOM SURFACE WING (ATK137)
 MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.200 Q1 = 2.341 HREF = .038

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Zt/S	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001		.0419	.0328		.2391	.1980	.1830	.0402		.1075	.0749	.0332
.002					.3230			.1576				
.003					.4589			.1740				
.004					.4744			.1717				
.005					.4191			.1847				
.006					.3845			.1674				
.007					.3132			.1780				
.025	.0348			.1533	.3421		.2682					
.050				.1596		.2134	.2102	.3189			.1655	.1834
.100	.1104											
.150				.1122	.1082							
.177												
.200												
.299	.0849				.1047	.1172		.2021	.4068	.2690		
.302				.0994								
.303							.1134					
.428												
.444	.0733				.0999							
.487							.1123	.1196		.2658		
.500				.1010								
.599	.0717											
.600				.0973	.1140				.1004			
.700				.1081	.0896	.0720	.0662					
.736	.1308											
.800					.0400	.0486						
.850					.0668	.0777						
.900	.0785			.0883	.0794	.0651	.0693					.1372

AEDC VA352 CH48 O2 CRB. BOTTOM SURFACE WING (ATKLS6) (27 APR 74)

REFERENCE DATA

SREF = .8238 90. FT. YMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 0.000 ALPHA (1) = 30.000 TI = 95.550 QI = 2.536 HREF = .039

PARAMETRIC DATA

BETA = .000 RV/L = 2.500
 B-FLAP = .000 ELEVON = .000
 HAM/HT = .900

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

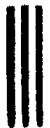
X/C	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
.001					.2909	.1642	.2269	.0903			.0996	.0306
.002	.0410	.0320			.2654		.1822					
.003					.3533		.1829					
.004					.3752		.1781					
.005					.3185		.1666					
.006					.3272		.1579					
.007					.2647		.1510					
.025	.0353			.1617	.3766		.3404					
.050									.1348			
.100				.1583		.1742	.2858	.2334				.1393
.153	.1039											
.177					.1053							
.200				.1064		.1348						
.299	.0760											
.300									.3688	.2432	.1858	
.302				.0899		.1183						
.303							.1173					
.428						.1192						
.444	.0356											
.487					.0971							
.500							.0995	.3872			.2054	
.599				.0829								
.590	.0324											
.600				.0963	.0884				.1614			
.700				.0907	.1146	.0609	.0578					
.736	.0936											
.800				.0366	.0461							
.850				.0587	.0698							
.900	.0620			.0698	.1000	.0549	.0668					.1509

AEDC VA352 CH48 C2 CRB. BOTTOM SURFACE WING (ATKLS8)

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.550 QI = 2.536 HREF = .039

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z/H	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001	.0419	.0326	.2607	.1967	.1803	.0417	.1119	.0766	.0517			
.002			.3232	.1654								
.003			.4657	.1854								
.004			.4717	.1836								
.005			.4179	.2024								
.006			.3776	.1871								
.007			.3170	.1975								
.025	.0348		.1520	.3378	.2690							
.050			.1567	.1976	.3457				.1713			
.100			.1136	.1086					.1920			
.153	.1103											
.177				.1086								
.200				.1567								
.299	.0830											
.300			.1070	.1196	.2208	.4187	.2939					
.302			.1017									
.303				.1189								
.428	.0752			.1481								
.444												
.487			.1089									
.500				.1166	.1248							
.559			.1152									
.590	.0638											
.600			.1097	.1221	.1091							
.700			.1263	.1068	.0805	.0678						
.736	.1676											
.800				.0485	.0523							
.850				.0813	.0818							
.900	.1022		.1102	.0932	.0792	.0736						.1540



AEDC VA352 CH4B O2 CRB. BOTTOM SURFACE WING (ATKLS9)

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 96.100 Q1 = 2.816 HREF = .041

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Z/Y/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001	.0417	.0329		.2997	.1957	.1842	.0426		.1150	.0784	.0323	
.002				.3250	.4615	.1955						
.003				.4854	.4192	.1966						
.004				.3820	.1993	.2185						
.005				.3145	.2135							
.006				.1525	.3443	.2686						
.007				.1619	.2203	.2079	.3714		.1785	.1889		
.025				.1147	.1609							
.030				.1066	.1196	.1186	.2354	.4434	.3052			
.100							.1244					
.153							.1551					
.177							.1200	.1226	.1320	.2832		
.200												
.299												
.300												
.302												
.303												
.428												
.444												
.487												
.500												
.599												
.590												
.600												
.700					.1240	.1362			.1163			
.736				.1536	.1233	.0930	.0709					
.800					.0605	.0549						
.890					.0946	.0858						
.900				.1314	.1053	.0927	.0776					.1686



AEDC VA352 CH4B Q2 CR9. BOTTOM SURFACE WING (ATKLAB)

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 98.900 Q1 = 3.118 MREF = .044

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

Zt/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001		.0417	.0333		.2599	.2017	.1829	.0438		.1196	.0800	.0334
.002					.3245	.4617		.1843				
.003					.4739	.4181		.2099				
.004					.3886	.3270		.2163				
.005								.2398				
.006								.2244				
.007								.2369				
.025	.0347			.1538	.3465		.2705					
.050												.1823
.100				.1682		.2272	.2096	.4005				.1969
.153	.1098											
.177					.1212							
.200						.1699						
.299	.0831											
.300						.1336		.2642	.4503			.3161
.302				.1232		.1352						
.303							.1337					
.426						.1683						
.444	.0836											
.487					.1527		.1294	.1472				.2928
.500					.1963							
.559												
.590	.1307											
.600					.1647	.1721			.1513			
.700				.2029	.1677	.1382	.0794					.2248
.736	.2676											
.800					.0972	.0875						
.850					.1370	.1299						
.900	.1183			.1639	.1387	.1313	.1009					.1873

AEDC VA352 CH48 O2 ORB. BOTTOM SURFACE WING (ATK41) (27 APR 74)

REFERENCE DATA

SREF = .8236 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RIVL = 3.350
 S.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.600 QI = 3.536 HREF = .046

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

ZY/B	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
X/C												
.001		.0413	.0326	.2905	.1662	.2635	.0516		.1003	.0652	.0284	
.002				.2631	.3489	.1876						
.003				.3489	.3884	.1933						
.004				.3155	.3170	.1870						
.005				.3311	.1923							
.006				.2825	.1885							
.007	.0353		.1602	.3715	.4099				.1367	.1413		
.025			.1554	.1802	.4014	.2766						
.050			.1109	.1433								
.100			.0972	.1144	.1276	.4087	.3308	.2580				
.153				.0972								
.177					.1324							
.200												
.299												
.300												
.302												
.303												
.428												
.444												
.487				.1248								
.500												
.559				.1278			.1757	.4425		.2208		
.590												
.600				.1904	.1969				.1804			
.700				.1544	.2393	.1481	.1652					
.736												
.800					.1069	.1542						
.850					.1422	.1813						
.900				.1306	.1644	.1248	.1488					.1675

AEDC VA352 CH48 C2 CRB. BOTTOM SURFACE WING (ATK41)
 MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 97.600 Q1 = 3.536 WREF = .046

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

X/C	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
.001	.0418	.0335	.2570	.1988	.1861	.0454	.1217	.0816	.0355			
.002			.3128	.4703	.2229							
.003			.4788	.4274	.2549							
.004			.3849	.3361	.2737							
.005			.1592	.3490								
.006			.1575	.2353	.2197	.4227						
.007												
.025	.0358											
.050												
.100												
.153	.1068											
.177			.1284									
.200				.1775								
.299	.0818			.1507	.1409	.2913	.4675	.3237				
.300												
.302			.1393									
.303					.1424							
.428												
.444	.0936											
.487			.1811									
.900					.1427	.1618		.2966				
.559	.1636		.2327									
.590												
.670			.2016	.2175		.1438						
.700			.2368	.2054	.1833	.0897						
.736	.3087											
.800				.1266	.1010							
.850				.1779	.1292							
.900	.1229		.1908	.1584	.1681	.1076						.2017

AEDC VA352 CH4B 02 CRB. BOTTOM SURFACE WING (ATKL42) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 BREF = 18.9919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAWKHT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.050 QI = 3.937 HREF = .049

SECTION (1) BOTTOM SURF. WING DEPENDENT VARIABLE HU/HO

X/C	.2500	.3010	.3480	.4000	.5000	.6000	.7500	.8500	.9000	.9500	.9660	.9930
.001	.0414	.0331	.2834	.1689	.2869	.0522	.1006	.0708	.0287			
.002			.2651	.3494	.1980							
.003			.4017	.2074								
.004			.3227	.2022								
.005			.3385	.2131								
.006			.2713	.2106								
.007				.4901								
.025	.0385		.1650	.3803								
.090			.1699	.1931	.4426	.3037			.1404			
.100	.1040								.1505			
.153												
.177			.1197	.1567								
.200												
.299	.0752											
.300			.1311	.1369	.4274	.3586	.2816					
.302			.1120									
.303					.1461							
.428				.1667								
.444	.0708											
.487			.1667									
.900					.3219	.4649	.2299					
.959			.1738									
.990	.0992											
.600			.2586	.2632			.1894					
.700			.2047	.2819	.2230	.2093						
.736	.2435											
.600				.1473	.1787							
.850				.1942	.2188							
.900	.1106		.1595	.1815	.1705	.1898						.1778

AEDC VAS52 CH48 01-V10 CR8, UPPER SURFACE WING

(ATKU01) (27 APR 74)

REFERENCE DATA

REF = .6236 SQ.FT. XGRP = .0000 IN.
LREF = 22.9803 IN. YGRP = .0000 IN.
BREF = 16.3919 IN. ZGRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
S.FLAP = .000 ELEVON = .000
HAM/HT = .900

MACH (1) = 6.000 ALPHA (1) = -10.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HI/HO

ZY/B	.4000	.6000	.8000
X/C			
.050	.0000	.2501	.0000
.200	.0000	.0987	.0000
.600	.0000	.0000	.0000
.800	.0000	.0126	.0000
.900	.0000	.0000	.0000
.950	.0000	.0154	.0000

MACH (1) = 6.000 ALPHA (2) = -5.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HI/HO

ZY/B	.4000	.6000	.8000
X/C			
.050	.0000	.2123	.0000
.200	.0000	.0516	.0000
.600	.0000	.0000	.0000
.800	.0000	.0036	.0000
.900	.0000	.0000	.0000
.950	.0000	.0075	.0000

MACH (1) = 6.000 ALPHA (3) = .000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HI/HO

ZY/B	.4000	.6000	.8000
X/C			
.050	.0000	.1921	.0000
.200	.0000	.0334	.0000
.600	.0000	.0000	.0000
.800	.0000	.0039	.0000
.900	.0000	.0000	.0000
.950	.0000	.0042	.0000

AEDC VA352 CH4B O1-T10 ORB. UPPER SURFACE WING (ATKU01)

MACH (1) = 8.000 ALPHA (4) = 5.000 T1 = 97.600 Q1 = 3.935 HREF = .049

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HI/HO

Z/Y/B	.4000	.6000	.8000
X/C			
.050	.0000	.1299	.0000
.200	.0000	.0257	.0000
.600	.0000	.0000	.0000
.800	.0011	.0000	.0000
.900	.0000	.0000	.0000
.950	.0000	.0022	.0000



AEDC VA352 CH48 01-110 CRB. UPPER SURFACE WING (ATK082) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ. FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

ALPHA = .000 RIVL = 3.720
 B. FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 BETA (1) = -2.000 TI = 97.350 QI = 3.942 HREF = .049

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HI/HO

Z1/B .4000 .6000 .8000

X/C

.050 .0000 .1442 .0000
 .200 .0000 .0306 .0000
 .600 .0000 .0000 .0000
 .800 .0023 .0000
 .900 .0000 .0000
 .950 .0000 .0022 .0000

MACH (1) = 8.000 BETA (2) = .000 TI = 97.350 QI = 3.942 HREF = .049

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HI/HO

Z1/B .4000 .6000 .8000

X/C

.050 .0000 .1321 .0000
 .200 .0000 .0334 .0000
 .600 .0000 .0000 .0000
 .800 .0039 .0000
 .900 .0000 .0000
 .950 .0000 .0042 .0000

AEDC VA392 OH4B 01*110 ORB. UPPER SURFACE WING

(ATKUD3) (27 APR 74)

REFERENCE DATA

SREF = .8236 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
OREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RIVL = .680
B.FLAP = .000 ELEVON = .000
HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = -10.000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HI/HO

ZI/B	.4000	.6000	.8000
X/C	.050	.0000	.2013
	.200	.0000	.0469
	.600	.0000	.0000
	.800	.0073	.0000
	.900	.0000	.0000
	.950	.0000	.0086

MACH (1) = 8.000 ALPHA (2) = -5.000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HI/HO

ZI/B	.4000	.6000	.8000
X/C	.050	.0000	.2167
	.200	.0000	.0526
	.600	.0000	.0000
	.800	.0056	.0000
	.900	.0000	.0000
	.950	.0000	.0055

MACH (1) = 8.000 ALPHA (3) = .000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HI/HO

ZI/B	.4000	.6000	.8000
X/C	.050	.0000	.1616
	.200	.0000	.0352
	.600	.0000	.0000
	.800	.0047	.0000
	.900	.0000	.0000
	.950	.0000	.0047

DATE 12 DEC 74

TABULATED DATA LISTING FOR CH48 (AEDC VA392)

PAGE 339

AEDC VA392 CH48 OI+T10 CRB. UPPER SURFACE WING (ATK003)

MACH (1) = 8.000 ALPHA (4) = 5.000 T1 = 93.425 OI = .682 HREF = .020

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HI/HO

ZY/B	.4000	.6000	.8000
X/C			
.050	.0000	.1396	.0000
.200	.0000	.0274	.0000
.600	.0000	.0000	.0000
.800	.0000	.0033	.0000
.900	.0000	.0000	.0000
.950	.0000	.0032	.0000

AEDC VA332 CH4B 01+T10 QRB, UPPER SURFACE WING (ATK004) (27 APR 74)

REFERENCE DATA

SREF = .9238 SQ.FT. XMRP = .0000 IN.
LREF = 22.3903 IN. YMRP = .0000 IN.
DREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

ALPHA = .000 RN/L = .680
S.FLAP = .000 ELEVON = .000
HAW/HT = .900

MACH (1) = 9.000 BETA (1) = -2.000 TI = 93.590 QI = .681 HREF = .020

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HI/HO

ZY/B	.4000	.6000	.8000
X/C			
.050	.0000	.1512	.0000
.200	.0000	.0343	.0000
.600	.0000	.0000	.0000
.800	.0000	.0033	.0000
.900	.0000	.0000	.0000
.950	.0000	.0030	.0000

MACH (2) = 9.000 BETA (2) = .000 TI = 93.590 QI = .681 HREF = .020

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HI/HO

ZY/B	.4000	.6000	.8000
X/C			
.050	.0000	.1616	.0000
.200	.0000	.0392	.0000
.600	.0000	.0000	.0000
.800	.0000	.0047	.0000
.900	.0000	.0000	.0000
.950	.0000	.0047	.0000



AEDC VA392 OH48 Q1 CRB. UPPER SURFACE WING (ATRU10) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = -5.000 TI = 96.800 QI = 3.961 HREF = .049

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

Z1/B	.4000	.6000	.8000
X/C			
.050	.1859	.2539	.2647
.200	.0499	.0817	.0655
.600	.0035	.3779	.0158
.800	.0081	.0081	.0091
.900	.0101	.0101	.0094
.950	.0064	.0101	.0091

MACH (1) = 8.000 ALPHA (2) = .000 TI = 96.800 QI = 3.961 HREF = .049

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

Z1/B	.4000	.6000	.8000
X/C			
.050	.0053	.0037	.0101
.200	.1810	.2320	.2460
.600	.0310	.0923	.0514
.800	.2998	.0102	.0102
.900	.0080	.0081	.0081
.950	.0020	.0100	.0099

AEDC VA352 OH48 O1 OEB. UPPER SURFACE WING (ATK011) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0050 IN.
DREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 R/V/L = .680
B.FLAP = .000 ELEVON = .000
HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = -5.000 TI = 93.000 QI = .677 HREF = .020

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

Z/Y/B	.4000	.6000	.8000
X/C			
.050	.1663	.2510	.2713
.200	.0446	.0623	.0636
.600	.0032	.0097	.0200
.800	.0074	.0122	
.900	.0085	.0130	
.950	.0114	.0085	.0135

MACH (1) = 8.000 ALPHA (2) = .000 TI = 93.000 QI = .677 HREF = .020

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

Z/Y/B	.4000	.6000	.8000
X/C			
.050	.1624	.2246	.2407
.200	.0319	.0408	.0531
.600	.0025	.0228	.0108
.800	.0054	.0075	
.900	.0055	.0062	
.950	.0044	.0052	.0079



AEDC VA392 OH48 Q1 ORB. UPPER SURFACE WING (ATRU12) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 CREF = 16.9919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RINVL = .500
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.400 Q1 = .524 HREF = .018

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

ZY/B	.4000	.6000	.8000
X/C			
.050	.0378	.1058	.1409
.200	.0051	.0135	.0192
.600	.0005	.0635	.0052
.800		.0007	.0043
.900		.0015	.0058
.950	.0020	.0030	.0086

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.400 Q1 = .524 HREF = .018

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

ZY/B	.4000	.6000	.8000
X/C			
.050	.0296	.0992	.1165
.200	.0040	.0142	.0130
.600	.0006	.0493	.0071
.800		.0004	.0054
.900		.0016	.0068
.950	.0023	.0034	.0090

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.400 Q1 = .524 HREF = .018

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

ZY/B	.4000	.6000	.8000
X/C			
.050	.0217	.0986	.0925
.200	.0034	.0135	.0117
.600	.0009	.0290	.0057
.800		.0017	.0044
.900		.0030	.0063
.950	.0031	.0043	.0090

AEDC VA352 CH4B 01 CRB. UPPER SURFACE WING

(ATK113) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.9803 IN. YMRP = .0000 IN.
DREF = 16.9919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = 1.000
B.FLAP = .000 ELEVON = .000
HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.100 QI = 1.003 HREF = .025

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

Z1/B .4000 .6000 .8000

X/C	.050	.0276	.0968	.1129
.200	.0034	.0132	.0116	
.600	.0006	.0170	.0082	
.800	.0005	.0063		
.900	.0018	.0086		
.950	.0020	.0039	.0118	

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.100 QI = 1.003 HREF = .025

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

Z1/B .4000 .6000 .8000

X/C	.050	.0220	.0905	.0843
.200	.0032	.0126	.0102	
.600	.0009	.0215	.0054	
.800	.0009	.0043		
.900	.0023	.0070		
.950	.0030	.0044	.0107	

MACH (1) = 8.000 ALPHA (3) = 40.000 TI = 94.100 QI = 1.003 HREF = .025

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

Z1/B .4000 .6000 .8000

X/C	.050	.0161	.0759	.0647
.200	.0024	.0102	.0075	
.600	.0019	.0593	.0016	
.800	.0012	.0012	.0014	
.900	.0023	.0043		
.950	.0030	.0031	.0088	



AEDC VA352 CH48 Q1 ORG. UPPER SURFACE WING

(ATKUI4) (27 APR 74)

REFERENCE DATA

BREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RW/L = 1.000
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.590 QI = 1.994 HREF = .035

SECTION (1) UPPER SURFACE WING

DEPENDENT VARIABLE HU/HO

ZY/B	.4000	.6000	.8000
X/C			
.050	.0264	.0965	.1117
.200	.0032	.0125	.0101
.600	.0004	.0322	.0104
.800		.0006	.0084
.900		.0019	.0146
.950	.0027	.0042	.0195

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.590 QI = 1.994 HREF = .035

SECTION (1) UPPER SURFACE WING

DEPENDENT VARIABLE HU/HO

ZY/B	.4000	.6000	.8000
X/C			
.050	.0213	.0922	.0761
.200	.0026	.0123	.0081
.600	.0003	.0162	.0068
.800		.0009	.0068
.900		.0023	.0103
.950	.0035	.0058	.0145

AEDC VA352 CH48 Q1 CR8, UPPER SURFACE WING (ATKUL5) (27 APR 74)

REFERENCE DATA

SREF = .8236 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 ZREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = 3.720
 S.FLAP = .000 ELEVON = .000
 HAM/HT = .500

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.867 QI = 3.955 HREF = .049

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

Z1/B	.4000	.6000	.8000
X/C			
.050	.0384	.1050	.1310
.200	.0034	.0120	.0114
.600	.0008	.0384	.0103
.800		.0028	.0094
.900		.0051	.0183
.950	.0059	.0090	.0270

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.867 QI = 3.955 HREF = .049

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

Z1/B	.4000	.6000	.8000
X/C			
.050	.0269	.0992	.1112
.200	.0028	.0111	.0093
.600	.0006	.0298	.0131
.800		.0012	.0149
.900		.0042	.0243
.950	.0046	.0093	.0304

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.867 QI = 3.955 HREF = .049

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

Z1/B	.4000	.6000	.8000
X/C			
.050	.0206	.0943	.0686
.200	.0040	.0121	.0080
.600	.0009	.0193	.0078
.800		.0009	.0090
.900		.0037	.0113
.950	.0046	.0088	.0206

AEDC VA352 OH48 O1 CRB. UPPER SURFACE WING (ATKU16) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = 3.720
 B-FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.500 QI = 3.938 HREF = .049

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

Z/B	.4000	.6000	.8000
X/C			
.050	.0270	.0978	.1189
.200	.0044	.0120	.0094
.600	.0005	.0350	.0126
.800	.0011	.0011	.0150
.900	.0038	.0038	.0240
.950	.0050	.0087	.0321

AEDC VA352 CH48 01 ORB. UPPER SURFACE WING (ATKUI7) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
B.FLAP = 10.000 ELEVON = 5.000
HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.700 QI = 3.949 HREF = .049

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

Z/Y/B	.4000	.6000	.8000
X/C			
.050	.0029	.0739	.1835
.200	.0538	.1104	.1807
.600	.1066	.2601	.1260
.800		.1429	.1169
.900		.0628	.1908
.950	.0751	.0362	.2138

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 97.700 QI = 3.949 HREF = .049

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

Z/Y/B	.4000	.6000	.8000
X/C			
.050	.0020	.1323	.1908
.200	.0575	.2522	.2141
.600	.1217	.3772	.1891
.800		.1648	.2106
.900		.0671	.3307
.950	.0916	.0367	.2918

AEDC VA352 CH48 01 CRB. UPPER SURFACE WING (ATKU20) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. YMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RVAL = 2.000
S.FLAP = 10.000 ELEVON = 5.000
HAWAHT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.900 Q1 = 1.980 HREF = .035

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

ZY/B	.4000	.6000	.8000
X/C			
.050	.0008	.0660	.1909
.200	.0554	.0908	.1728
.600	.1127	.0720	.1170
.800		.1144	.0984
.900		.0641	.0801
.950	.0803	.0355	.0762

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.900 Q1 = 1.980 HREF = .035

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

ZY/B	.4000	.6000	.8000
X/C			
.050	.0006	.0758	.1799
.200	.0994	.0663	.1800
.600	.1233	.1021	.1256
.800		.1451	.1057
.900		.0685	.0909
.950	.0893	.0364	.0896

AEDC VAS92 CH48 O1 CR8. UPPER SURFACE WING (ATK022) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = .500
B.FLAP = 10.000 ELEVON = 5.000
HAM/HT = .900

MACH (1) = 6.000 ALPHA (1) = 30.000 TI = 93.400 QI = .523 HREF = .018

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

Z/HO .4000 .6000 .8000

X/C

.090 .0012 .0722 .1946
.200 .0000 .0571 .1755
.600 .1147 .0601 .1179
.800 .0402 .0995
.900 .0681 .0818
.950 .0808 .0366 .0753

MACH (1) = 6.000 ALPHA (2) = 35.000 TI = 93.400 QI = .523 HREF = .018

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

Z/HO .4000 .6000 .8000

X/C

.090 .0025 .0835 .1893
.200 .0000 .0651 .1828
.600 .1314 .0724 .1261
.800 .0587 .1040
.900 .0750 .0859
.950 .0936 .0369 .0785



AEDC VA352 CH48 O1 ORB. UPPER SURFACE WING

(ATKUS3) (27 APR 74)

REFERENCE DATA

REF = .0236 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = .500
 B.FLAP = 10.000 ELEVON = 10.000
 HAWAHT = .900

MACH (1) = 6.000 ALPHA (1) = 25.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) UPPER SURFACE WING

DEPENDENT VARIABLE HU/HO

ZY/B	.4000	.6000	.8000
X/C			
.050	.0010	.0616	.2139
.200	.0541	.0480	.1695
.600	.0982	.0513	.1072
.800		.0746	.0886
.900		.0647	.0742
.950		.0697	.0695

MACH (1) = 6.000 ALPHA (2) = 30.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) UPPER SURFACE WING

DEPENDENT VARIABLE HU/HO

ZY/B	.4000	.6000	.8000
X/C			
.050	.0013	.0725	.1984
.200	.0565	.0280	.1753
.600	.1143	.0593	.1169
.800		.0915	.0986
.900		.0690	.0788
.950		.0811	.0763

MACH (1) = 6.000 ALPHA (3) = 35.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) UPPER SURFACE WING

DEPENDENT VARIABLE HU/HO

ZY/B	.4000	.6000	.8000
X/C			
.050	.0012	.0820	.1895
.200	.0562	.0665	.1812
.600	.1283	.0718	.1254
.800		.1049	.1053
.900		.0749	.0861
.950		.0921	.0786

AEDC VA352 CH4B 01 CR8. UPPER SURFACE WING (ATKUS) (27 APR 74)

REFERENCE DATA

SRP = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = 2.000
B-FLAP = 10.000 ELEVON = 10.000
HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.650 QI = 1.985 HREF = .035

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

Z/Y/B	.4000	.6000	.8000
X/C			
.050	.0016	.0660	.1901
.200	.0540	.0510	.1739
.600	.1138	.0742	.1189
.800	.1412	.0974	
.900	.0647	.0802	
.950	.0788	.0355	.0760

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.650 QI = 1.985 HREF = .035

SECTION (1) UPPER SURFACE WING DEPENDENT VARIABLE HU/HO

Z/Y/B	.4000	.6000	.8000
X/C			
.050	.0014	.0775	.1812
.200	.0548	.0662	.1810
.600	.1208	.1034	.1236
.800	.1683	.1054	
.900	.0680	.0955	
.950	.0914	.0362	.0938

AEDC YA352 CH48 Q1 CRB, UPPER SURFACE WING

(ATKU27) (27 APR 74)

REFERENCE DATA

SREF = .8236 SQ.FT. XMRP = .0000 IN.
 LREF = 22.3603 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = 3.720
 B.FLAP = 10.000 ELEVON = 10.000
 HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) UPPER SURFACE WING

DEPENDENT VARIABLE HU/HO

Z/Y/B	.4000	.6000	.8000
X/C			
.050	.0039	.0583	.1963
.200	.0322	.0483	.1671
.600	.0961	.1013	.1071
.800		.1360	.0879
.900		.0599	.0995
.950	.0665	.0353	.1358

MACH (2) = 8.000 ALPHA (2) = 30.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) UPPER SURFACE WING

DEPENDENT VARIABLE HU/HO

Z/Y/B	.4000	.6000	.8000
X/C			
.050	.0026	.0775	.1822
.200	.0561	.1123	.1787
.600	.1100	.2666	.1312
.800		.1764	.1207
.900		.0621	.1979
.950	.0792	.0363	.2104

MACH (3) = 8.000 ALPHA (3) = 35.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) UPPER SURFACE WING

DEPENDENT VARIABLE HU/HO

Z/Y/B	.4000	.6000	.8000
X/C			
.050	.0026	.1233	.1903
.200	.0588	.2454	.2108
.600	.1189	.3602	.1777
.800		.2099	.2039
.900		.0665	.3218
.950	.0937	.0378	.2871

AEDC VA352 OH4B 01*10 CRB. LEFT VERTICAL TAIL (ATKVD1) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 S.FLAP = .000 ELEVON = .000
 HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = -10.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HI/HO

Z/BV .1990 .2990 .5320 .7650 .9050

X/C	.000	.0000	.6217	.5911	.5728
.010	.0000	.0000	.1557	.1675	.0000
.100	.0000	.0000	.0700	.0746	.0000
.300	.0000	.0000	.0000	.0000	.0192
.500	.0000	.0000	.0000	.0000	.0000
.700	.0000	.0000	.0000	.0000	.0000
.900	.0000	.0000	.0000	.0166	.0000

MACH (1) = 8.000 ALPHA (2) = -5.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HI/HO

Z/BV .1990 .2990 .5320 .7650 .9050

X/C	.000	.0000	.3933	.7072	.6498
.010	.0000	.0000	.1057	.1509	.0000
.100	.0000	.0000	.0311	.0668	.0000
.300	.0000	.0000	.0000	.0000	.0480
.500	.0000	.0000	.0000	.0000	.0000
.700	.0000	.0000	.0000	.0000	.0000
.900	.0000	.0000	.0000	.0111	.0000

MACH (1) = 8.000 ALPHA (3) = .000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HI/HO

Z/BV .1990 .2990 .5320 .7650 .9050

X/C	.000	.0000	.3140	.4399	.4612
.010	.0000	.0000	.0783	.0968	.0000
.100	.0000	.0000	.0391	.0472	.0000
.300	.0000	.0000	.0000	.0000	.0325
.500	.0000	.0000	.0000	.0000	.0000
.700	.0000	.0000	.0000	.0000	.0000
.900	.0000	.0000	.0000	.0113	.0000

AEDC VA352 CH48 01+T10 CR8. LEFT VERTICAL TAIL (ATKVO1)

MACH (1) = 0.000 ALPHA (4) = 5.000 TI = 97.000 OI = 3.935 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HI/HO

Z/BV .1590 .2990 .5320 .7650 .9050

X/C

.000	.0000	.3399	.4830	.5710
.010				.0000
.100	.0000	.0730	.0892	
.300	.0000	.0330	.0431	
.500	.0000	.0000	.0000	.0286
.700	.0000	.0000	.0000	
.900	.0000	.0000	.0091	

AEDC VA352 CH4B 01+110 CRB. LEFT VERTICAL TAIL (ATKY02) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.9803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

ALPHA = .000 RN/L = 3.720
B.FLAP = .000 ELEVON = .000
HAM/HT = .900

MACH (1) = 8.000 BETA (1) = -2.000 T1 = 97.350 Q1 = 3.942 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HI/HO

Z/BV	.1990	.2990	.5320	.7650	.9090
X/C	.000	.0000	.4073	.7118	.5233
.010					.0000
.100	.0006	.0000	.0868	.1291	
.300	.0000	.0000	.0513	.0518	
.500	.0000	.0000	.0000	.0000	.0391
.700	.0000	.0000	.0000	.0000	
.900	.0000	.0000	.0000	.0145	

MACH (1) = 8.000 BETA (2) = .000 T1 = 97.350 Q1 = 3.942 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HI/HO

Z/BV	.1990	.2990	.5320	.7650	.9090
X/C	.000	.0000	.3140	.4399	.4612
.010					.0000
.100	.0000	.0000	.0763	.0988	
.300	.0000	.0000	.0391	.0472	
.500	.0000	.0000	.0000	.0000	.0325
.700	.0000	.0000	.0000	.0000	
.900	.0000	.0000	.0000	.0113	

AEDC VA352 CH48 01+110 ORB, LEFT VERTICAL TAIL (ATKV03) (27 APR 74)

REFERENCE DATA

SREF = .6236 80. FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = .680
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .900

MACH (1) = 6.000 ALPHA (1) = -10.000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HI/HO

Z/BV	.1990	.2990	.5320	.7650	.9050
X/C					
.000	.0000	.0000	.6164	.9605	.6406
.010					.0000
.100	.0000	.0000	.1441	.1780	
.300	.0000	.0000	.0674	.0983	
.500	.0000	.0000	.0000	.0000	.0232
.700	.0000	.0000	.0000	.0000	
.900	.0000	.0000	.0000	.0192	

MACH (1) = 6.000 ALPHA (2) = -5.000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HI/HO

Z/BV	.1990	.2990	.5320	.7650	.9050
X/C					
.000	.0000	.0000	.4013	.7650	.7171
.010					.0000
.100	.0000	.0000	.1035	.1404	
.300	.0000	.0000	.0471	.0648	
.500	.0000	.0000	.0000	.0000	.0421
.700	.0000	.0000	.0000	.0000	
.900	.0000	.0000	.0000	.0140	

MACH (1) = 6.000 ALPHA (3) = .000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HI/HO

Z/BV	.1990	.2990	.5320	.7650	.9050
X/C					
.000	.0000	.0000	.3336	.4901	.5160
.010					.0000
.100	.0000	.0000	.0822	.0990	
.300	.0000	.0000	.0415	.0513	
.500	.0000	.0000	.0000	.0000	.0332
.700	.0000	.0000	.0000	.0000	
.900	.0000	.0000	.0000	.0121	

AEDC VA332 CH48 01+110 ORB. LEFT VERTICAL TAIL (ATKVO3)

MACH (1) = 8.000 ALPHA (4) = 5.000 T1 = 93.425 Q1 = .662 HREF = .020

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HI/HO

Z/8V	.1590	.2990	.5320	.7650	.9050
X/C					
.000	.0000	.0000	.3413	.5216	.4125
.010				.0050	
.100	.0000	.0000	.0747	.0920	
.300	.0000	.0000	.0342	.0435	
.500	.0000	.0000	.0000	.0000	.0284
.700	.0000	.0000	.0000	.0000	.0000
.900	.0000	.0000	.0000	.0104	



AEDC VA352 CH48 01+110 CRB. LEFT VERTICAL TAIL (ATKV04) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

ALPHA = .000 RV/L = .680
 B. FLAP = .000 ELEWON = .000
 HAW/HT = .900

MACH (1) = 8.000 BETA (1) = -2.000 TI = 93.550 Q1 = .681 HREF = .020
 MACH (2) = 8.000 BETA (2) = -2.000 TI = 93.550 Q1 = .681 HREF = .020

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HI/HO

Z/8V	X/C	Y/C
.1590	.2990	.5320
.1590	.2990	.7650
.1590	.2990	.9050
.000	.000	.4541
.010	.000	.8387
.100	.0000	.5754
.300	.0000	.0953
.500	.0000	.1262
.700	.0000	.0536
.900	.0000	.0534
.000	.0000	.0000
.000	.0000	.0398
.000	.0000	.0000
.000	.0000	.0000
.000	.0000	.0000
.000	.0000	.0151

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HI/HO

Z/8V	X/C	Y/C
.1590	.2990	.5320
.1590	.2990	.7650
.1590	.2990	.9050
.000	.0000	.3338
.010	.0000	.4901
.100	.0000	.5160
.300	.0000	.0822
.500	.0000	.0990
.700	.0000	.0415
.900	.0000	.0513
.000	.0000	.0000
.000	.0000	.0332
.000	.0000	.0000
.000	.0000	.0000
.000	.0000	.0000
.000	.0000	.0121

AEDC VA332 CH48 01 CR8, LEFT VERTICAL TAIL (ATKVID) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
EREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
B.FLAP = .000 ELEVON = .000
HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = -5.000 TI = 96.800 QI = 3.961 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/8V	X/C	DEPENDENT VARIABLE HU/HO
.1990	.3080	.8093
.1990	.4544	.8912
.1990	.6093	.2490
.3000	.0701	.0685
.3000	.1070	.1442
.3000	.0797	.0219
.3000	.0468	.0640
.5000	.1096	.0209
.5000	.0455	.0455
.7000	.0272	.0362
.7000	.0058	.0121
.9000	.0296	.0186
.9000	.0124	.0124

MACH (1) = 8.000 ALPHA (2) = .000 TI = 96.800 QI = 3.961 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/8V	X/C	DEPENDENT VARIABLE HU/HO
.1990	.3554	.2890
.1990	.5556	.5824
.1990	.1446	.1446
.3000	.0723	.0673
.3000	.1033	.1033
.3000	.0335	.0239
.3000	.0348	.0490
.5000	.0485	.0206
.5000	.0332	.0332
.7000	.0286	.0362
.7000	.0061	.0096
.9000	.0242	.0091
.9000	.0095	.0095

AEDC VA352 CH48 01 OR8. LEFT VERTICAL TAIL (ATKV11) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 EREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = .680
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = -5.000 TI = 93.000 QI = .677 HREF = .020

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV	.1590	.2990	.5320	.7650	.9050
X/C					
.000	.3169	.4641	.6385	.8947	
.010			.2063		
.100	.0808	.0707	.1046	.1375	
.300	.0493	.0330	.0519	.0655	
.500	.0265	.0347	.0461	.0484	
.700	.0212	.0321	.0100	.0136	
.900	.0244	.0093	.0135		

MACH (1) = 8.000 ALPHA (2) = .000 TI = 93.000 QI = .677 HREF = .020

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV	.1590	.2990	.5320	.7650	.9050
X/C					
.000	.3903	.2666	.5632	.6507	
.010			.1436		
.100	.0768	.0703	.0737	.0699	
.300	.0597	.0329	.0361	.0301	
.500	.0280	.0259	.0336	.0346	
.700	.0144	.0166	.0090	.0117	
.900	.0141	.0102	.0111		

AEDC VA352 CH4B 01 ORG. LEFT VERTICAL TAIL (ATKV12) (27 APR 74)

REFERENCE DATA

SREF = .8239 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
ZREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = .500
B.FLAP = .000 ELEVON = .000
HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.400 Q1 = .524 HREF = .018

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/SV	.1590	.2990	.5320	.7650	.9050
X/C					
.000	.0908	.0727	.0847	.0854	
.010				.0279	
.100	.0195	.0186	.0217	.0245	
.300	.0085	.0068	.0093	.0136	
.500	.0073	.0074	.0096	.0064	
.700	.0037	.0045	.0040	.0042	
.900	.0040	.0057	.0053		

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.400 Q1 = .524 HREF = .018

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/SV	.1590	.2990	.5320	.7650	.9050
X/C					
.000	.0587	.0397	.0460	.0283	
.010				.0179	
.100	.0185	.0144	.0178	.0210	
.300	.0072	.0067	.0106	.0145	
.500	.0052	.0081	.0106	.0090	
.700	.0023	.0017	.0034	.0049	
.900	.0019	.0038	.0057		

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.400 Q1 = .524 HREF = .018

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/SV	.1590	.2990	.5320	.7650	.9050
X/C					
.000	.0494	.0379	.0623	.0550	
.010				.0298	
.100	.0159	.0116	.0139	.0255	
.300	.0061	.0040	.0112	.0179	
.500	.0016	.0066	.0143	.0146	
.700	.0009	.0020	.0023	.0066	
.900	.0032	.0032	.0032	.0080	

AEDC VA352 CH4B Q1 ORB. LEFT VERTICAL TAIL (ATKV13) (27 APR 74)

REFERENCE DATA

SREF = .8258 SQ.FT. YMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RIVL = 1.000
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.100 QI = 1.003 HREF = .025

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV	.1590	.2990	.5320	.7650	.9050
X/C					
.000	.0443	.0357	.0381	.0260	.0169
.010					
.100	.0168	.0152	.0167	.0176	
.300	.0072	.0075	.0116	.0170	
.500		.0090	.0097	.0161	.0133
.700	.0022	.0017	.0039	.0067	
.900		.0030	.0041	.0083	

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.100 QI = 1.003 HREF = .025

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV	.1590	.2990	.5320	.7650	.9050
X/C					
.000	.0449	.0409	.0759	.0571	.0277
.010					
.100	.0170	.0126	.0179	.0342	
.300	.0069	.0047	.0130	.0303	
.500		.0021	.0101	.0242	.0197
.700	.0020	.0024	.0033	.0134	
.900		.0031	.0046	.0167	

MACH (1) = 8.000 ALPHA (3) = 40.000 TI = 94.100 QI = 1.003 HREF = .025

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV	.1590	.2990	.5320	.7650	.9050
X/C					
.000	.0204	.0230	.0540	.0835	.0257
.010					
.100	.0147	.0061	.0092	.0208	
.300	.0081	.0030	.0040	.0131	
.500		.0029	.0034	.0093	.0105
.700	.0027	.0019	.0023	.0049	
.900		.0043	.0059	.0074	

AEDC VA392 CH4B 01 ORB. LEFT VERTICAL TAIL (ATKV14) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
OREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
B.FLAP = .000 ELEVON = .000
HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.550 QI = 1.994 HREF = .035

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/EV	.1590	.2990	.5320	.7650	.9050
X/C					
.000	.0233	.0210	.0362	.0500	.0302
.010					
.100	.0158	.0098	.0101	.0198	
.300	.0088	.0063	.0083	.0140	
.500		.0054	.0090	.0129	.0150
.700	.0030	.0023	.0043	.0084	
.900		.0023	.0057	.0100	

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.550 QI = 1.994 HREF = .035

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/EV	.1590	.2990	.5320	.7650	.9050
X/C					
.000	.0369	.0558	.0925	.0741	.0254
.010					
.100	.0167	.0104	.0312	.0292	
.300	.0083	.0054	.0227	.0293	
.500		.0028	.0229	.0315	.0166
.700	.0020	.0023	.0075	.0128	
.900		.0036	.0075	.0127	



AEDC VA332 CH48 01 ORB. LEFT VERTICAL TAIL (ATKVI9) (27 APR 74)

REFERENCE DATA

PARAMETRIC DATA

SREF = .8236 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

BETA = .000 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.867 QI = 3.955 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV	.1990	.2990	.5320	.7650	.9050
X/C					
.000	.1674	.0896	.0944	.1642	
.010				.0482	
.100	.0209	.0167	.0207	.0374	
.300	.0058	.0103	.0154	.0250	
.500	.0106	.0141	.0190	.0248	
.700	.0035	.0053	.0063	.0084	
.900	.0057	.0085	.0101		

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.867 QI = 3.955 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV	.1990	.2990	.5320	.7650	.9050
X/C					
.000	.0250	.0440	.0604	.0877	
.010				.0335	
.100	.0160	.0100	.0276	.0318	
.300	.0095	.0064	.0226	.0311	
.500	.0063	.0159	.0289	.0203	
.700	.0037	.0034	.0055	.0121	
.900	.0044	.0079	.0117		

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.867 QI = 3.955 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV	.1990	.2990	.5320	.7650	.9050
X/C					
.000	.0288	.0547	.1003	.0830	
.010				.0301	
.100	.0180	.0109	.0240	.0378	
.300	.0084	.0099	.0227	.0313	
.500	.0065	.0232	.0257	.0207	
.700	.0018	.0036	.0101	.0104	
.900	.0046	.0117	.0118		

AEDC VA332 CH4B 01 ORB. LEFT VERTICAL TAIL (ATKV17) (27 APR 74)

REFERENCE DATA

SREF = .9238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
EREF = 16.5919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = 3.720
S.FLAP = 10.000 ELEVON = 5.000
HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.700 QI = 3.949 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/8V	.1990	.2990	.5320	.7650	.9050
X/C					
.000	.0244	.0425	.0774	.0878	
.010				.0338	
.100	.0165	.0103	.0269	.0317	
.300	.0096	.0064	.0209	.0305	
.500		.0063	.0100	.0288	.0203
.700	.0038	.0032	.0057	.0121	
.900		.0041	.0081	.0123	

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 97.700 QI = 3.949 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/8V	.1990	.2990	.5320	.7650	.9050
X/C					
.000	.0277	.0541	.1001	.0832	
.010				.0304	
.100	.0176	.0114	.0245	.0383	
.300	.0087	.0095	.0223	.0316	
.500		.0069	.0235	.0256	.0209
.700	.0019	.0028	.0102	.0106	
.900		.0048	.0111	.0115	

AEDC VA352 CH48 O1 CRB. LEFT VERTICAL TAIL (ATKV18) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 BREF = 16.9919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RN/L = 3.720
 B. FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.200 QI = 3.933 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV	.1990	.2990	.5320	.7650	.9090
X/C					
.000	.0164	.0745	.0640	.0702	
.010				.0302	
.100	.0153	.0493	.0556	.0448	
.300	.0099	.0390	.0725	.0423	
.500		.0444	.0392	.0369	.0270
.700	.0053	.0171	.0149	.0247	
.900		.0151	.0169	.0235	

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 97.200 QI = 3.933 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV	.1990	.2990	.5320	.7650	.9090
X/C					
.000	.0261	.0491	.1163	.1254	
.010				.0415	
.100	.0183	.0159	.0464	.0468	
.300	.0084	.0109	.0415	.0299	
.500		.0098	.0336	.0256	.0214
.700	.0020	.0045	.0093	.0112	
.900		.0037	.0096	.0117	

AEDC VA332 CH48 Q1 ORB. LEFT VERTICAL TAIL (ATKV19) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
DREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RN/L = 2.000
S.FLAP = 10.000 ELEVON = 5.000
HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.650 Q1 = 1.983 HREF = .035

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/EV	.1990	.2990	.5320	.7650	.9090
X/C					
.000	.0249	.0427	.0900	.1507	
.010				.0439	
.100	.0187	.0104	.0334	.0373	
.300	.0095	.0096	.0555	.0232	
.500		.0106	.0420	.0347	.0115
.700	.0032	.0042	.0143	.0163	
.900		.0043	.0173	.0154	

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.650 Q1 = 1.983 HREF = .035

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/EV	.1990	.2990	.5320	.7650	.9090
X/C					
.000	.0170	.0452	.0345	.0233	
.010				.0276	
.100	.0140	.0186	.0451	.0352	
.300	.0057	.0116	.0547	.0374	
.500		.0140	.0437	.0255	.0245
.700	.0022	.0065	.0136	.0121	
.900		.0060	.0144	.0127	



AEDC VA352 CH48 01 ORB. LEFT VERTICAL TAIL (ATKV20) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = 2.000
 B.FLAP = 10.000 ELEVON = 5.000
 HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.900 QI = 1.980 HREF = .035

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV	.1590	.2990	.5320	.7650	.9050
X/C					
.000	.0207	.0218	.0373	.0902	.0296
.010					
.100	.0171	.0098	.0102	.0190	
.300	.0091	.0067	.0084	.0145	
.500	.0051	.0051	.0095	.0138	.0142
.700	.0029	.0023	.0041	.0073	
.900	.0023	.0023	.0055	.0107	

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.900 QI = 1.980 HREF = .035

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV	.1590	.2990	.5320	.7650	.9050
X/C					
.000	.0370	.0569	.0955	.0773	.0245
.010					
.100	.0167	.0114	.0311	.0288	
.300	.0086	.0056	.0232	.0290	
.500	.0032	.0032	.0307	.0167	
.700	.0016	.0022	.0071	.0131	
.900	.0035	.0065	.0065	.0125	

AEDC VA332 CH48 01 ORB. LEFT VERTICAL TAIL (ATKVR1) (27 APR 74)

REFERENCE DATA

SREF = .6236 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
DREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RM/L = .900
S.FLAP = 10.000 ELEVON = 8.000
HAWK/T = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 91.950 OI = .518 HREF = .017

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/EV	.1990	.2990	.5320	.7650	.9050
X/C					
.000	.0359	.0199	.0638	.0919	
.010				.0491	
.100	.0178	.0119	.0154	.0406	
.300	.0111	.0084	.0098	.0247	
.500		.0085	.0105	.0174	.0169
.700	.0028	.0035	.0069	.0098	
.900		.0048	.0102	.0115	

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 91.950 OI = .518 HREF = .017

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/EV	.1990	.2990	.5320	.7650	.9050
X/C					
.000	.0112	.0585	.0588	.0494	
.010				.0346	
.100	.0106	.0000	.0909	.0377	
.300	.0067	.0100	.0308	.0268	
.500		.0166	.0265	.0271	.0148
.700	.0020	.0046	.0119	.0146	
.900		.0057	.0151	.0148	

AEDC VA352 CH48 Q1 CRB. LEFT VERTICAL TAIL (ATKV22) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. YMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = .500
 S.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 93.400 Q1 = .523 HREF = .018

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV	.1990	.2990	.5320	.7650	.9050
X/C					
.000	.0630	.0476	.0538	.0375	.0194
.100	.0181	.0000	.0172	.0205	.0142
.300	.0077	.0074	.0107	.0106	.0093
.500	.0061	.0061	.0085	.0106	.0093
.700	.0025	.0028	.0039	.0055	.0064
.900	.0025	.0049	.0064	.0064	.0064

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 93.400 Q1 = .523 HREF = .018

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV	.1990	.2990	.5320	.7650	.9050
X/C					
.000	.0535	.0379	.0640	.0990	.0262
.100	.0167	.0000	.0152	.0241	.0191
.300	.0069	.0051	.0098	.0154	.0164
.500	.0026	.0026	.0070	.0154	.0164
.700	.0022	.0018	.0024	.0078	.0088
.900	.0033	.0033	.0035	.0088	.0088

AEDC VA332 CH48 01 QFB LEFT VERTICAL TAIL (ATRY23) (27 APR 74)

REFERENCE DATA

REF = .8238 SQ.FT. XMRP = .0000 IN.
LEF = 22.5803 IN. YMRP = .0000 IN.
REF = 18.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = .900
B.FLAP = 10.000 ELEVON = 10.000
YAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV	.1590	.2990	.5320	.7650	.9050
X/C					
.000	.0946	.0772	.0907	.0897	.0257
.010					
.100	.0193	.0174	.0211	.0248	
.300	.0087	.0074	.0094	.0134	
.500	.0073	.0069	.0087	.0078	
.700	.0032	.0038	.0041	.0045	
.900	.0042	.0058	.0053		

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV	.1590	.2990	.5320	.7650	.9050
X/C					
.000	.0646	.0462	.0529	.0372	.0187
.010					
.100	.0173	.0157	.0176	.0214	
.300	.0076	.0065	.0106	.0147	
.500	.0052	.0068	.0106	.0093	
.700	.0024	.0025	.0035	.0050	
.900	.0018	.0031	.0059		

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV	.1590	.2990	.5320	.7650	.9050
X/C					
.000	.0533	.0400	.0650	.0577	.0270
.010					
.100	.0169	.0133	.0142	.0255	
.300	.0064	.0053	.0090	.0194	
.500	.0033	.0065	.0065	.0150	.0155
.700	.0018	.0021	.0021	.0073	
.900	.0040	.0043	.0043	.0085	

AEDC VA352 CH48 O1 ORB. LEFT VERTICAL TAIL

(ATK24) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XGRP = .0000 IN.
 LREF = 22.5803 IN. YGRP = .0000 IN.
 BREF = 16.3919 IN. ZGRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RV/L = .500
 B. FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.233 QI = .523 HREF = .018

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV .1590 .2990 .5320 .7650 .9050

X/C

.000 .0820 .0438 .0415 .0852
 .010 .0157 .0138 .0111 .0313
 .100 .0087 .0097 .0102 .0196
 .300 .0108 .0089 .0117 .0187
 .500 .0032 .0034 .0046 .0074
 .700 .0046 .0062 .0085

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.233 QI = .523 HREF = .018

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV .1590 .2990 .5320 .7650 .9050

X/C

.000 .0377 .0157 .0582 .0697
 .010 .0183 .0111 .0133 .0384
 .100 .0105 .0093 .0089 .0231
 .300 .0075 .0097 .0170 .0159
 .500 .0028 .0041 .0068 .0096
 .700 .0045 .0111 .0110

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.233 QI = .523 HREF = .018

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV .1590 .2990 .5320 .7650 .9050

X/C

.000 .0121 .0583 .0593 .0485
 .010 .0109 .0115 .0485 .0394
 .100 .0063 .0103 .0251 .0264
 .300 .0158 .0261 .0285 .0145
 .500 .0014 .0055 .0110 .0145
 .700 .0057 .0147 .0138

AEDC VA352 CH4B 01 ORG. LEFT VERTICAL TAIL (ATK25) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0002 IN.
LREF = 22.5803 IN. YMRP = .0002 IN.
EREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RNVL = 2.000
B-FLAP = 10.000 ELEVON = 10.000
HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.650 QI = 1.985 HREF = .035

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV	.1590	.2990	.5320	.7650	.9050
X/C					
.000	.0214	.0217	.0379	.0501	.0282
.010					
.100	.0168	.0096	.0116	.0186	
.300	.0093	.0065	.0083	.0146	
.500		.0056	.0088	.0138	.0141
.700	.0032	.0018	.0041	.0087	
.900		.0021	.0056	.0107	

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.650 QI = 1.985 HREF = .035

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV	.1590	.2990	.5320	.7650	.9050
X/C					
.000	.0366	.0573	.0954	.0767	.0241
.010					
.100	.0168	.0105	.0313	.0276	
.300	.0084	.0052	.0233	.0282	
.500		.0033	.0235	.0315	.0164
.700	.0020	.0017	.0070	.0133	
.900		.0033	.0061	.0131	

AEDC VA352 CH4B O1 ORB. LEFT VERTICAL TAIL (ATKV26) (27 APR 74)

REFERENCE DATA

SREF = .8236 50. FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RVL = 2.000
 B. FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.490 QI = 1.983 HREF = .035

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV	.1990	.2990	.5320	.7650	.9090
X/C					
.000	.0257	.0406	.0919	.1512	
.010			.0347	.0448	
.100	.0185	.0110	.0558	.0248	
.300	.0087	.0093	.0427	.0329	.0106
.500	.0025	.0029	.0190	.0161	
.700		.0042	.0171	.0151	
.900					

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.490 QI = 1.983 HREF = .035

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV	.1990	.2990	.5320	.7650	.9090
X/C					
.000	.0175	.0454	.0359	.0226	
.010			.0357	.0273	
.100	.0129	.0176	.0537	.0360	
.300	.0059	.0113	.0442	.0257	.0246
.500	.0023	.0067	.0137	.0116	
.700		.0099	.0135	.0124	
.900					

AEDC VA352 CH48 01 CRB, LEFT VERTICAL TAIL (ATKV27) (27 APR 74)

REFERENCE DATA

SFEE = .6238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
DREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 FNVL = 3.720
S.FLAP = 10.000 ELEVON = 10.000
HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/EV .1590 .2990 .5320 .7650 .9050

X/C

.000 .1638 .0843 .0885 .1651
.010 .0212 .0162 .0200 .0373
.300 .0059 .0098 .0154 .0250
.500 .0101 .0144 .0185 .0260
.700 .0036 .0051 .0063 .0086
.900 .0051 .0079 .0104

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/EV .1590 .2990 .5320 .7650 .9050

X/C

.000 .0246 .0436 .0774 .0870
.010 .0168 .0097 .0285 .0322
.300 .0059 .0064 .0232 .0313
.500 .0068 .0161 .0284 .0201
.700 .0035 .0033 .0060 .0117
.900 .0043 .0080 .0119

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/EV .1590 .2990 .5320 .7650 .9050

X/C

.000 .0283 .0534 .0998 .0836
.010 .0176 .0106 .0237 .0388
.300 .0081 .0095 .0219 .0318
.500 .0079 .0226 .0255 .0207
.700 .0022 .0036 .0103 .0107
.900 .0053 .0119 .0122

AEDC VA392 CH4B 01 ORB. LEFT VERTICAL TAIL (ATK28) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RV/L = 3.720
 S.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.300 QI = 3.930 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV .1590 .2990 .5320 .7650 .9050

X/C

.000 .0164 .0721 .0798 .0534
 .010 .0063 .0077 .0493 .0411
 .300 .0072 .0114 .0449 .0253
 .500 .0158 .0158 .0507 .0360
 .700 .0045 .0102 .0175 .0168
 .900 .0115 .0189 .0178

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.300 QI = 3.930 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV .1590 .2990 .5320 .7650 .9050

X/C

.000 .0248 .0710 .1780 .1179
 .010 .0176 .0220 .0534 .0355
 .300 .0088 .0242 .0538 .0392
 .500 .0226 .0473 .0370 .0222
 .700 .0026 .0061 .0137 .0157
 .900 .0052 .0162 .0159

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.300 QI = 3.930 HREF = .049

SECTION (1) LEFT VERTICAL TAIL DEPENDENT VARIABLE HU/HO

Z/BV .1590 .2990 .5320 .7650 .9050

X/C

.000 .0245 .0462 .0329 .0245
 .010 .0167 .0330 .0553 .0364
 .300 .0074 .0242 .0471 .0417
 .500 .0225 .0382 .0340 .0247
 .700 .0023 .0075 .0121 .0127
 .900 .0061 .0140 .0132

AEDC VA352 CH4B 02 ORB. LEFT MAIN NOZZLE

(ATK29) (27 APR 74)

REFERENCE DATA

REF = .8236 SQ.FT. YMRP = .0000 IN.
 LRF = 22.9803 IN. YMRP = .0000 IN.
 PRF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = 3.720
 S.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.067 QI = 3.940 HREF = .049

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
PHIN					
.000	.0194	.0310	.0193	.0074	
25.000	.0229	.0473			
45.000	.0143	.0145	.0144	.0175	.0170
65.000	.0531	.0470		.0462	
90.000	.0352	.0332	.0358	.0384	
135.000	.0209				
315.000	.0140				

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.067 QI = 3.940 HREF = .049

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
PHIN					
.000	.0467	.0717	.0472	.0130	
25.000	.0590	.0871			
45.000	.0172	.0160	.0139	.0145	.0288
65.000	.0351	.0349		.0552	
90.000	.0375	.0358	.0355	.0305	
135.000	.0054				
315.000	.0373				

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.067 QI = 3.940 HREF = .049

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
PHIN					
.000	.0744	.0961	.0876	.0260	
25.000	.0768	.0921			
45.000	.0315	.0279	.0217	.0166	.0411
65.000	.0454	.0470		.0633	
90.000	.0485	.0902	.0562	.0654	
135.000	.0032				
315.000	.0548				

AEDC VA352 CH48 02 CR8. LEFT MAIN NOZZLE (ATKNSD) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = 2.000
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 94.933 QI = 1.986 HREF = .035

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
PHIN	.0099	.0176	.0111	.0047	
25.000	.0111	.0214			
45.000	.0056	.0059	.0055	.0061	.0067
65.000	.0120	.0117		.0133	
90.000	.0148	.0136	.0159	.0175	
135.000	.0148				
315.000	.0073				

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 94.933 QI = 1.986 HREF = .035

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
PHIN	.0285	.0429	.0277	.0086	
25.000	.0352	.0554			
45.000	.0102	.0093	.0075	.0058	.0077
65.000	.0142	.0137		.0117	
90.000	.0204	.0180	.0165	.0150	
135.000	.0029				
315.000	.0188				

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 94.933 QI = 1.986 HREF = .035

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
PHIN	.0560	.0791	.0589	.0159	
25.000	.0692	.0879			
45.000	.0216	.0190	.0137	.0095	.0130
65.000	.0308	.0318		.0318	
90.000	.0391	.0366	.0365	.0358	
135.000	.0027				
315.000	.0411				

AEDC VA352 OH48 02 ORB. LEFT MAIN NOZZLE

(ATKNS1) (27 APR 74)

REFERENCE DATA

SREF = .8236 SJ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = .500
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 92.933 QI = .523 HREF = .018

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
PHIN	.0000	.0051	.0082	.0057	.0023
25.000	.0053	.0104			
45.000	.0016	.0017	.0015	.0013	.0012
65.000	.0036	.0020		.0023	
90.000	.0038	.0044	.0043	.0050	
135.000	.0065				
315.000	.0029				

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 92.933 QI = .523 HREF = .018

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
PHIN	.0000	.0108	.0175	.0120	.0050
25.000	.0126	.0232			
45.000	.0038	.0038	.0019	.0022	.0019
65.000	.0041	.0030		.0034	
90.000	.0055	.0053	.0056	.0060	
135.000	.0020				
315.000	.0068				

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 92.933 QI = .523 HREF = .018

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
PHIN	.0000	.0225	.0314	.0215	.0074
25.000	.0277	.0401			
45.000	.0071	.0062	.0042	.0036	.0030
65.000	.0039	.0045		.0052	
90.000	.0085	.0089	.0089	.0091	
135.000	.0029				
315.000	.0154				

AEDC VA352 OH4B 02 CR8. LEFT MAIN NOZZLE

(ATRN32) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 CREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 1.000
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 93.400 Q1 = 1.000 HREF = .024

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0860	.1750	.2630	.4380	.7860
PHIN	.000	.0151	.0207	.0146	.0045
25.000	.0192	.0249			
45.000	.0045	.0045	.0030	.0019	.0028
65.000	.0030	.0033	.0033		
90.000	.0077	.0083	.0071	.0061	
135.000	.0017				
315.000	.0100				

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 93.400 Q1 = 1.000 HREF = .024

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0860	.1750	.2630	.4380	.7860
PHIN	.000	.0297	.0356	.0287	.0091
25.000	.0351	.0338			
45.000	.0107	.0095	.0074	.0042	.0037
65.000	.0072	.0071	.0077		
90.000	.0173	.0177	.0173	.0148	
135.000	.0022				
315.000	.0212				

MACH (1) = 8.000 ALPHA (3) = 45.000 TI = 93.400 Q1 = 1.000 HREF = .024

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0860	.1750	.2630	.4380	.7860
PHIN	.000	.0536	.0621	.0429	.0208
25.000	.0837	.0775			
45.000	.0200	.0190	.0165	.0094	.0106
65.000	.0220	.0231	.0246		
90.000	.0516	.0549	.0583	.0564	
135.000	.0071				
315.000	.0442				

AEDC VA352 CH4B 02 ORB. LEFT MAIN NOZZLE

(ATKN33) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
DREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 1.250
S-FLAP = .000 ELEVON = .000
RAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 94.250 Q1 = 1.253 HREF = .027

SECTION (1) NOZZLE

DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
PHIN					
.000	.0187	.0248	.0174	.0061	
25.000	.0236	.0279			
45.000	.0063	.0062	.0045	.0030	.0038
65.000	.0043	.0045		.0046	
90.000	.0096	.0096	.0089	.0077	
135.000	.0019				
315.000	.0131				

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 94.250 Q1 = 1.253 HREF = .027

SECTION (1) NOZZLE

DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
PHIN					
.000	.0328	.0404	.0336	.0104	
25.000	.0392	.0375			
45.000	.0126	.0109	.0078	.0051	.0049
65.000	.0087	.0097		.0110	
90.000	.0228	.0226	.0221	.0196	
135.000	.0023				
315.000	.0225				

AEDC VA352 CH48 O2 ORB. LEFT MAIN NOZZLE

(ATKNS4) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 ZREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = 1.900
 S-FLAP = .000 ELEVON = .000
 HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = 90.000 TI = 94.900 QI = 1.534 HREF = .030

SECTION (1) NOZZLE

DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
PHIN					
.000	.0220	.0282	.0201	.0069	
25.000	.0257	.0339			
45.000	.0069	.0066	.0055	.0035	.0041
65.000	.0066	.0066		.0061	
90.000	.0137	.0131	.0118	.0097	
135.000	.0023				
315.000	.0150				

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.900 QI = 1.534 HREF = .030

SECTION (1) NOZZLE

DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
PHIN					
.000	.0389	.0494	.0388	.0122	
25.000	.0456	.0524			
45.000	.0151	.0133	.0098	.0063	.0063
65.000	.0156	.0149		.0165	
90.000	.0305	.0292	.0275	.0252	
135.000	.0027				
315.000	.0263				

AEDC VA352 CH4B CE ORB. LEFT MAIN NOZZLE (ATKINS) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0060 IN.
LREF = 22.9803 IN. YMRP = .0000 IN.
DREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RNV/L = 1.750
9.FLAP = .000 ELEVON = .000
HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.200 QI = 1.797 HREF = .033

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
PHIN					
.000	.0245	.0345	.0241	.0072	
25.000	.0310	.0440			
45.000	.0083	.0078	.0064	.0044	.0055
65.000	.0102	.0100	.0084		
90.000	.0176	.0158	.0150	.0134	
135.000	.0027				
315.000	.0168				

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.200 QI = 1.797 HREF = .033

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
PHIN					
.000	.0477	.0641	.0469	.0128	
25.000	.0576	.0725			
45.000	.0206	.0168	.0114	.0077	.0088
65.000	.0235	.0234	.0245		
90.000	.0344	.0332	.0319	.0308	
135.000	.0029				
315.000	.0334				

AEDC VA352 CH48 C2 ORB. LEFT MAIN NOZZLE

(ATKINS) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = 2.000
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.967 QI = 1.984 HREF = .035

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
PHIN					
.000	.0275	.0418	.0276	.0085	
25.000	.0349	.0347			
45.000	.0097	.0090	.0071	.0057	.0074
65.000	.0126	.0131		.0110	
90.000	.0203	.0177	.0165	.0152	
135.000	.0027				
315.000	.0190				

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.967 QI = 1.984 HREF = .035

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
PHIN					
.000	.0562	.0773	.0561	.0162	
25.000	.0687	.0874			
45.000	.0210	.0186	.0143	.0098	.0126
65.000	.0324	.0309		.0313	
90.000	.0391	.0367	.0364	.0363	
135.000	.0029				
315.000	.0411				

MACH (1) = 8.000 ALPHA (3) = 45.000 TI = 94.967 QI = 1.984 HREF = .035

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
PHIN					
.000	.0908	.1266	.1223	.0476	
25.000	.0631	.1072			
45.000	.0431	.0386	.0302	.0191	.0254
65.000	.0709	.0608		.0672	
90.000	.0741	.0717	.0815	.1033	
135.000	.0060				
315.000	.0674				

AEDC VA352 CH48 C2 CRG. LEFT MAIN NOZZLE

(ATKN37) (27 APR 74)

REFERENCE DATA

SPDF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 2.250
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.200 QI = 2.341 HREF = .038

SECTION (1) NOZZLE

X .0880 .1750 .2630 .4380 .7880

PHIN	DEPENDENT VARIABLE HU/HO
.000	.0336
.0336	.0531
.0672	.0707
.1008	.0895
.1344	.0078
.1680	.0214
.2016	.0219
.2352	.0220
.2688	.0216
.3024	.0201
.3360	.0030
.3696	.0244

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.200 QI = 2.341 HREF = .038

SECTION (1) NOZZLE

X .0880 .1750 .2630 .4380 .7880

PHIN	DEPENDENT VARIABLE HU/HO
.000	.0661
.0661	.0910
.1322	.0943
.1983	.0209
.2644	.0162
.3305	.0116
.3966	.0425
.4627	.0444
.5288	.0445
.5949	.0030
.6610	.0309



AEDC VA352 CH48 O2 ORB. LEFT MAIN NOZZLE (ATKNS8) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.8803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = 2.500
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .900

MACH (1) = 6.000 ALPHA (1) = 30.000 TI = 95.550 QI = 2.556 HREF = .039

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2650	.4380	.7880
PHIN	.000	.0353	.0579	.0360	.0098
25.000	.0447	.0741			
45.000	.0129	.0117	.0095	.0094	.0143
65.000	.0256	.0238	.0260	.0260	
90.000	.0260	.0259	.0234	.0226	
135.000	.0035				
315.000	.0263				

MACH (1) = 6.000 ALPHA (2) = 35.000 TI = 95.550 QI = 2.556 HREF = .039

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2650	.4380	.7880
PHIN	.000	.0671	.0922	.0759	.0210
25.000	.0736	.0908			
45.000	.0255	.0225	.0162	.0120	.0267
65.000	.0409	.0442	.0475	.0475	
90.000	.0453	.0454	.0480	.0481	
135.000	.0031				
315.000	.0548				

(ATKNS9) (27 APR 74)

AEDC VA352 CH4B 02 CRB, LEFT MAIN NOZZLE

REFERENCE DATA

SREF = .0238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.3803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 2.750
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 96.100 QI = 2.816 HREF = .041

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
RHIN	.000	.0387	.0615	.0384	.0101
25.000	.0475	.0789			
45.000	.0135	.0128	.0114	.0102	.0185
65.000	.0296	.0280		.0332	
90.000	.0288	.0258	.0265	.0248	
135.000	.0034				
315.000	.0290				

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 96.100 QI = 2.816 HREF = .041

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
RHIN	.000	.0679	.0960	.0770	.0233
25.000	.0712	.0898			
45.000	.0271	.0249	.0183	.0136	.0298
65.000	.0461	.0443		.0531	
90.000	.0471	.0475	.0512	.0541	
135.000	.0030				
315.000	.0590				

AEDC VA352 CH48 O2 ORB. LEFT MAIN NOZZLE

(ATKNA0) (27 APR 74)

REFERENCE DATA

SREF = .6236 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = 3.000
 B-FLAP = .000 ELEVON = .000
 HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 96.900 QI = 3.118 HREF = .044

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
PHIN	.000	.0393	.0629	.0392	.0105
25.000	.0497	.0845			
45.000	.0142	.0131	.0115	.0120	.0214
65.000	.0305	.0308		.0410	
90.000	.0311	.0290	.0291	.0264	
135.000	.0036				
315.000	.0311				

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 96.900 QI = 3.118 HREF = .044

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
PHIN	.000	.0706	.0946	.0797	.0242
25.000	.0735	.0919			
45.000	.0281	.0256	.0195	.0148	.0322
65.000	.0505	.0452		.0575	
90.000	.0476	.0492	.0538	.0599	
135.000	.0029				
315.000	.0546				

AEDC VA352 CH4B 02 ORB. LEFT MAIN NOZZLE (ATK41) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.9803 IN. YMRP = .0000 IN.
DREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.350
B.FLAP = .000 ELEVON = .000
HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.600 QI = 3.536 HREF = .046

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
PHIN					
.000	.0405	.0644	.0408	.0109	
25.000	.0312	.0692			
45.000	.0148	.0140	.0118	.0136	.0251
65.000	.0325	.0328		.0488	
90.000	.0343	.0319	.0311	.0271	
135.000	.0039				
315.000	.0330				

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 97.600 QI = 3.536 HREF = .046

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7880
PHIN					
.000	.0719	.0981	.0624	.0245	
25.000	.0761	.0937			
45.000	.0293	.0263	.0199	.0190	.0368
65.000	.0465	.0464		.0616	
90.000	.0300	.0305	.0544	.0632	
135.000	.0029				
315.000	.0538				

AEDC VA352 CH48 C2 CR8. LEFT MAIN NOZZLE (ATRN42) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.050 QI = 3.937 HREF = .049

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7860
PHIN					
.000	.0431	.0677	.0431	.0113	
25.000	.0346	.0800			
45.000	.0153	.0143	.0127	.0145	.0275
65.000	.0352	.0352	.0541		
90.000	.0377	.0349	.0342	.0288	
135.000	.0042				
315.000	.0363				

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 97.050 QI = 3.937 HREF = .049

SECTION (1) NOZZLE DEPENDENT VARIABLE HU/HO

X	.0880	.1750	.2630	.4380	.7860
PHIN					
.000	.0758	.0990	.0861	.0266	
25.000	.0805	.0971			
45.000	.0309	.0287	.0225	.0165	.0410
65.000	.0471	.0370	.0665		
90.000	.0499	.0319	.0567	.0642	
135.000	.0031				
315.000	.0535				

AEDC VA352 CH4B 01 ORB. RCS CENTER

(ATKR10) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = -5.000 TI = 96.800 QI = 3.961 HREF = .049

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .6000 .9000 .9750

Z

6.125 .0577 .0068 .0210 .0387 .0385

MACH (1) = 8.000 ALPHA (2) = .000 TI = 96.800 QI = 3.961 HREF = .049

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .6000 .9000 .9750

Z

6.125 .0540 .0056 .0102 .0216 .0230

AEDC VA352 CH48 Q1 ORB. RCS CENTER

(ATKR11) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 EREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = .880
 S.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 6.000 ALPHA (1) = -5.000 TI = 93.000 QI = .677 HREF = .020

SECTION (1) RCS CENTER

DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0588 .0079 .0927 .0249 .0211

MACH (1) = 6.000 ALPHA (2) = .000 TI = 93.000 QI = .677 HREF = .020

SECTION (1) RCS CENTER

DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0549 .0064 .0068 .0230 .0178

AEDC VA352 CH48 Q1 CRB. RCS CENTER

(ATKR12) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9603 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = .500
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.400 QI = .524 HREF = .018

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z 6.125 .0576 .0250 .0005 .0013 .0014

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.400 QI = .524 HREF = .018

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z 6.125 .0553 .0229 .0002 .0004 .0021

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.400 QI = .524 HREF = .018

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z 6.125 .0558 .0212 .0003 .0011 .0010

AEDC VA352 CH4B 01 ORB. RCS CENTER

(ATKR13) (27 APR 74)

REFERENCE DATA

SREF = .8236 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BIETA = .000 RM/L = 1.000
 8.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.100 QI = 1.003 HREF = .025

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0529 .0227 .0003 .0008 .0030

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.100 QI = 1.003 HREF = .025

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0496 .0209 .0002 .0009 .0034

MACH (1) = 8.000 ALPHA (3) = 40.000 TI = 94.100 QI = 1.003 HREF = .025

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0485 .0201 .0004 .0020 .0034

AEDC VA392 CH4B 01 CRB. RCS CENTER

(ATKR14) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.550 QI = 1.994 HREF = .035

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .6000 .9000 .9750

Z 6.125 .0327 .0232 .0005 .0020 .0017

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.550 QI = 1.994 HREF = .035

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .6000 .9000 .9750

Z 6.125 .0493 .0220 .0003 .0008 .0044



AEDC VA352 CH48 01 CRB, RCS CENTER

(ATKR15) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.3803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.867 QI = 3.955 HREF = .049

SECTION (1) RCS CENTER

DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0940 .0283 .0014 .0049 .0075

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.867 QI = 3.955 HREF = .049

SECTION (1) RCS CENTER

DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0530 .0259 .0007 .0031 .0030

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.867 QI = 3.955 HREF = .049

SECTION (1) RCS CENTER

DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0511 .0238 .0005 .0014 .0058

AEDC VA352 CH4B Q1 CRB. RCS CENTER

(ATKR17) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ. FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 DREF = 16.9919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = 3.720
 S.FLAP = 10.000 ELEVON = 5.000
 HAM/HT = .900

MACH (1) = 6.000 ALPHA (1) = 30.000 TI = 97.700 QI = 3.949 HREF = .049

SECTION (1) RCS CENTER

DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0333 .0233 .0006 .0032 .0035

MACH (1) = 6.000 ALPHA (2) = 35.000 TI = 97.700 QI = 3.949 HREF = .049

SECTION (1) RCS CENTER

DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0306 .0236 .0006 .0018 .0049

AEDC VA352 CH48 01 CR8. RCS CENTER

(ATKR18) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RV/L = 3.720
 S.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.200 Q1 = 3.933 HREF = .049

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0780 .3000 .8000 .9000 .9750

Z

6.125 .0636 .0365 .0023 .0077 .0086

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 97.200 Q1 = 3.933 HREF = .049

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0780 .3000 .8000 .9000 .9750

Z

6.125 .0664 .0448 .0021 .0098 .0087

AEDC VA352 CH4B 01 ORB. RCS CENTER

(ATTR19) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. YMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.650 QI = 1.983 HREF = .035

SECTION (1) RCS CENTER

DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0697 .0471 .0011 .0049 .0137

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.650 QI = 1.983 HREF = .035

SECTION (1) RCS CENTER

DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0684 .0438 .0019 .0040 .0091

PARAMETRIC DATA

BETA = -5.000 RN/L = 2.000
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .900

AEDC VA352 CH48 01 CR8. RCS CENTER

(ATKR20) (27 APR 74)

REFERENCE DATA

SREF = .8298 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.9919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = 2.000
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.900 QI = 1.980 HREF = .035

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0544 .0237 .0005 .0015 .0015

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.900 QI = 1.980 HREF = .035

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0499 .0223 .0003 .0006 .0018

AEDC VA332 CH4B 01 CRB, RCS CENTER

(ATKR21) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 6.000 ALPHA (1) = 30.000 T1 = 91.950 Q1 =

SECTION (1) RCS CENTER

DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0736 .0448 .0009 .0011 .0017

MACH (1) = 6.000 ALPHA (2) = 35.000 T1 = 91.950 Q1 =

SECTION (1) RCS CENTER

DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0701 .0405 .0003 .0017 .0050

PARAMETRIC DATA

BETA = -5.000 RN/L = .900
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .900

.518 HREF = .017

.518 HREF = .017



AEDC VA352 CH48 01 ORB. RCS CENTER

(ATKR22) (27 APR 74)

REFERENCE DATA

SREF = .8236 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = .500
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .900

MACH (1) = 6.000 ALPHA (1) = 30.000 TI = 93.400 QI = .523 HREF = .018

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750
 Z
 6.125 .0584 .0221 .0002 .0010 .0031

MACH (1) = 6.000 ALPHA (2) = 35.000 TI = 93.400 QI = .523 HREF = .018

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750
 Z
 6.125 .0527 .0211 .0005 .0020 .0029

AEDC VA352 CH48 01 ORB. RCS CENTER

(ATKR23) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5903 IN. YMRP = .0000 IN.
 DREF = 16.9919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.433 OI = .521 HREF = .018

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750
 Z 8.125 .0555 .0253 .0003 .0010 .0024

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.433 OI = .521 HREF = .018

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750
 Z 8.125 .0553 .0234 .0006 .0017 .0025

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.433 OI = .521 HREF = .018

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750
 Z 8.125 .0528 .0204 .0004 .0011 .0018

PARAMETRIC DATA

BETA = .500 RV/L = .500
 S.FLAP = 10.000 ELEVON = 10.000
 HAWAHT = .900

AEDC VA352 CH48 01 ORB. RCS CENTER

(ATKR24) (27 APR 74)

REFERENCE DATA

SREF = .8236 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RV/L = .500
 B.FLAP = 10.000 ELEVON = 10.000
 HAM/HT = .900

MACH (1) = 6.000 ALPHA (1) = 25.000 TI = 93.233 Q1 = .523 HREF = .018

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750
 Z
 6.125 .0738 .0393 .0027 .0046 .0044

MACH (1) = 6.000 ALPHA (2) = 30.000 TI = 93.233 Q1 = .523 HREF = .018

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750
 Z
 6.125 .0722 .0432 .0011 .0013 .0022

MACH (1) = 6.000 ALPHA (3) = 35.000 TI = 93.233 Q1 = .523 HREF = .018

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750
 Z
 6.125 .0702 .0396 .0006 .0024 .0029

AEDC VA352 OH48 01 ORB. RCS CENTER

(ATKR25) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.3803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.650 QI = 1.985 HREF = .035

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .6000 .9000 .9750

Z 6.125 .0536 .0230 .0004 .0016 .0020

MACH (1) = 6.000 ALPHA (2) = 35.000 TI = 94.650 QI = 1.985 HREF = .035

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .6000 .9000 .9750

Z 6.125 .0803 .0218 .0006 .0014 .0029

PARAMETRIC DATA

BETA = .000 RNAL = 2.000
 BFLAP = 10.000 ELEVON = 10.000
 PARWHT = .900



AEDC VA352_CH48_01 ORB. RCS CENTER

(ATKR26) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RM/L = 2.000
 B.FLAP = 10.000 ELEVON = 10.000
 HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.450 QI = 1.983 HREF = .035

SECTION (1) RCS CENTER

DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0695 .0466 .0011 .0090 .0131

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.450 QI = 1.983 HREF = .035

SECTION (1) RCS CENTER

DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0661 .0441 .0021 .0039 .0095

AEDC VA332 CH48 01 ORB. RCS CENTER

(ATKRE7) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B, FLAP = 10.000 ELEVON = 10.000
 HAWAHT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z 6.125 .0352 .0262 .0014 .0044 .0078

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z 6.125 .0530 .0248 .0008 .0028 .0036

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z 6.125 .0303 .0232 .0009 .0026 .0026

AEDC VA352 CH48 Q1 CRB. RCS CENTER

(ATKR28) (27 APR 74)

REFERENCE DATA

REF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.3803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RV/L = 3.720
 S.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.300 QI = 3.930 HREF = .049

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0717 .0382 .0032 .0054 .0164

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.300 QI = 3.930 HREF = .049

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0689 .0445 .0020 .0127 .0121

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.300 QI = 3.930 HREF = .049

SECTION (1) RCS CENTER DEPENDENT VARIABLE HU/HO

X/L .0760 .3000 .8000 .9000 .9750

Z

6.125 .0665 .0441 .0021 .0099 .0107

AEDC VA352 CH48 C2 CFB. BASE PLATE

(ATK29) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.9919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 6.000 ALPHA (1) = 25.000 TI = 97.067 QI = 3.940 HREF = .049

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250
 Z
 5.600 .0024
 7.920 .0009 .0020

MACH (1) = 6.000 ALPHA (2) = 30.000 TI = 97.067 QI = 3.940 HREF = .049

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250
 Z
 5.600 .0017 .0021
 7.920 .0017 .0005

MACH (1) = 6.000 ALPHA (3) = 35.000 TI = 97.067 QI = 3.940 HREF = .049

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250
 Z
 5.600 .0033 .0054
 7.920 .0015 .0011



AEDC VA352 CH48 02 ORB. BASE PLATE (ATKPSD) (27 APR 74)

REFERENCE DATA

PARAMETRIC DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

BETA = .000 RNV/L = 2.000
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 94.933 QI = 1.986 HREF = .035

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z
 5.600 .0010 .0013
 7.520 .0004 .0012

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 94.933 QI = 1.986 HREF = .035

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z
 5.600 .0005 .0007
 7.520 .0013 .0008

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 94.933 QI = 1.986 HREF = .035

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z
 5.600 .0009 .0027
 7.520 .0016 .0009

(ATKPS1) (27 APR 74)

AEDC VA352 CH48 C2 CRB. BASE PLATE

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 CREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = .500
 S.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 92.933 QI = .523 HREF = .018

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z
 5.600 .0008 .0013
 7.520 .0010 .0015

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 92.933 QI = .523 HREF = .018

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z
 5.600 .0013 .0010
 7.520 .0009 .0013

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 92.933 QI = .523 HREF = .018

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z
 5.600 .0012 .0017
 7.520 .0022 .0010



AEDC VA352 CH48 CE ORB. BASE PLATE

(ATKPS2) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RIVL = 1.000
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 6.000 ALPHA (1) = 30.000 TI = 93.400 QI = 1.000 HREF = .024

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z

5.600 .0005 .0006
7.920 .0000 .0009

MACH (1) = 6.000 ALPHA (2) = 35.000 TI = 93.400 QI = 1.000 HREF = .024

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z

5.600 .0010 .0014
7.920 .0018 .0011

MACH (1) = 6.000 ALPHA (3) = 45.000 TI = 93.400 QI = 1.000 HREF = .024

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z

5.600 .0015 .0026
7.920 .0017 .0017

AEDC VA352 OH4B CR CRB. BASE PLATE

(ATK33) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 CRF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = 1.250
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.290 QI = 1.253 HREF = .027

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2290 1.9290
 Z 5.600 .0005 .0007
 7.520 .0004 .0004

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.290 QI = 1.253 HREF = .027

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2290 1.9290
 Z 5.600 .0007 .0014
 7.520 .0019 .0011



AEDC VA352 CH48 C2 ORB. BASE PLATE

(ATKPS4) (27 APR 74)

REFERENCE DATA

XREF = .8238 50.FT. XMRP = .0000 IN.
 YREF = 22.5803 IN. YMRP = .0000 IN.
 ZREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = 1.500
 S.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.900 QI = 1.534 HREF = .090

SECTION (1) BASE PLATE

DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250
 Z
 5.600 .0005 .0008
 7.320 .0012 .0004

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.900 QI = 1.534 HREF = .090

SECTION (1) BASE PLATE

DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250
 Z
 5.600 .0006 .0012
 7.320 .0016 .0012

AEDC VA352 CH4B 02 CRB. BASE PLATE

(ATKPS5) (27 APR 74)

REFERENCE DATA

XREF = .8238 50.FT. XMRP = .0000 IN.
 YREF = 22.5803 IN. YMRP = .0000 IN.
 ZREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 1.750
 S.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.200 QI = 1.797 HREF = .033

SECTION (1) BASE PLATE

DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250
 Z
 5.600 .0005 .0007
 7.520 .0013 .0007

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.200 QI = 1.797 HREF = .033

SECTION (1) BASE PLATE

DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250
 Z
 5.600 .0008 .0021
 7.520 .0015 .0009

AEDC VA352 CH48 C2 CR8. BASE PLATE

(ATK#36) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.9919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.967 QI = 1.984 HREF = .035

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250
 Z
 5.600 .0006 .0008
 7.520 .0014 .0007

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.967 QI = 1.984 HREF = .035

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250
 Z
 5.600 .0010 .0018
 7.520 .0016 .0010

MACH (1) = 8.000 ALPHA (3) = 45.000 TI = 94.967 QI = 1.984 HREF = .035

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250
 Z
 5.600 .0055 .0070
 7.520 .0031 .0022

AEDC VA352 CH48 O2 ORB. BASE PLATE

(ATK937) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ. FT. YMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.200 QI = 2.341 HREF = .038
 BETA = .000 RN/L = 2.250
 S. FLAP = .000 ELEVON = .000
 HAW/HT = .900

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z
 5.600 .0005 .0008
 7.920 .0011 .0007

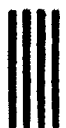
MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.200 QI = 2.341 HREF = .038
 BETA = .000 RN/L = 2.250
 S. FLAP = .000 ELEVON = .000
 HAW/HT = .900

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z
 5.600 .0018 .0023
 7.920 .0017 .0011

PARAMETRIC DATA



AEDC VA352 CH4B O2 ORB. BASE PLATE

(ATKPS8) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ. FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = 2.500
 S. FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.990 QI = 2.536 HREF = .039

SECTION (1) BASE PLATE

DEPENDENT VARIABLE HU/HO

Y .0000 1.2290 1.9290
 Z
 9.600 .0007 .0011
 7.920 .0013 .0008

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.990 QI = 2.536 HREF = .039

SECTION (1) BASE PLATE

DEPENDENT VARIABLE HU/HO

Y .0000 1.2290 1.9290
 Z
 9.600 .0024 .0029
 7.920 .0017 .0010

AEDC VA392 CH4B CRB. BASE PLATE

(ATKPS9) (27 APR 74)

REFERENCE DATA

SREF = .9238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 CRF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RNV/L = 2.750
 S.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 96.100 QI = 2.816 HREF = .041

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z
 5.600 .0009 .0013
 7.520 .0010 .0005

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 96.100 QI = 2.816 HREF = .041

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z
 5.600 .0028 .0036
 7.520 .0015 .0010



AEDC VA392 CH48 02 QFB. BASE PLATE

(ATKRP40) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 BREF = 16.9919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = 3.000
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 96.900 Q1 = 3.118 HREF = .044

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250
 Z
 5.600 .0012 .0016
 7.520 .0012 .0007

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 96.900 Q1 = 3.118 HREF = .044

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250
 Z
 5.600 .0029 .0040
 7.520 .0014 .0011

AEDC VA352 CH4B 02 CRB. BASE PLATE

(ATKP41) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5603 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.350
 B,FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.600 QI = 3.536 HREF = .046

SECTION (1) BASE PLATE

DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z

5.600 .0013 .0015
 7.520 .0008 .0006

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 97.600 QI = 3.536 HREF = .046

SECTION (1) BASE PLATE

DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250

Z

5.600 .0029 .0061
 7.520 .0013 .0013



AEDC VA352 CH48 O2 CRB. BASE PLATE

(ATK42) (27 APR 74)

REFERENCE DATA

SREF = .8238 90.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 6.000 ALPHA (1) = 30.000 T1 = 97.050 Q1 = 3.937 HREF = .049

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250
 Z
 5.600 .0016 .0015
 7.520 .0013 .0005

MACH (1) = 6.000 ALPHA (2) = 35.000 T1 = 97.050 Q1 = 3.937 HREF = .049

SECTION (1) BASE PLATE DEPENDENT VARIABLE HU/HO

Y .0000 1.2250 1.9250
 Z
 5.600 .0033 .0050
 7.520 .0017 .0015

AEDC VA352 CH4B 04+T10 CR8. 0MS PCO

(ATKMO1) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 CREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 S-FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = -10.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) 0MS PCO

DEPENDENT VARIABLE HI/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.3324	.2266	.1257	.0603	.0000	.0000	.0000
8.540	.0000	.0000					
8.650	.0000						
8.727		.0000			.0000	.0000	
8.750							
8.855		.0000					
8.942		.0000					
8.978				.0000			
9.056		.0000		.0000			
9.118		.0000		.0000			
9.222		.0000		.0000			
9.275		.0000		.0000			

MACH (1) = 8.000 ALPHA (2) = -5.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) 0MS PCO

DEPENDENT VARIABLE HI/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.1955	.0993	.1035	.0810	.0000	.0000	.0000
8.540	.0000	.0000					
8.650	.0000						
8.727		.0000			.0000	.0000	
8.750							
8.855		.0000					
8.942		.0000					
8.978				.0000			
9.056		.0000		.0000			
9.118		.0000		.0000			
9.222		.0000		.0000			
9.275		.0000		.0000			



AEDC VA352 CH4B 01-T10 ORB. CMS PCD (ATKMO1)

MACH (1) = 8.000 ALPHA (3) = .000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) CMS PCD DEPENDENT VARIABLE HI/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0461	.2245	.1147	.0803	.0000	.0000	.0000
8.540	.0000	.0000					
8.650	.0000						
8.727		.0000					
8.750				.0000	.0000	.0000	.0000
8.855			.0000				
8.942		.0000					
8.978				.0000			
9.056			.0000				
9.118			.0000				
9.222				.0000	.0000	.0000	.0000
9.275				.0000	.0000	.0000	.0000

MACH (1) = 8.000 ALPHA (4) = 5.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) CMS PCD DEPENDENT VARIABLE HI/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0406	.1504	.0969	.0502	.0000	.0000	.0000
8.540	.0000	.0000					
8.650	.0000						
8.727		.0000					
8.750					.0000	.0000	.0000
8.855			.0000				
8.942		.0000					
8.978				.0000			
9.056			.0000				
9.118			.0000				
9.222				.0000	.0000	.0000	.0000
9.275				.0000	.0000	.0000	.0000

AEDC VA352 CH48 OI+TI0 ORB. OMS PCO

(ATKHO3) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = .680
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = -10.000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) OMS PCO DEPENDENT VARIABLE HI/HO

X/L	.7800	.8030	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.2651	.1902	.0982	.0547	.0000	.0000	.0000
8.540	.0000						
8.650	.0000						
8.727		.0000					
8.750					.0000	.0000	.0000
8.855			.0000				
8.942			.0000				
8.978				.0000			
9.056			.0000				
9.118			.0000				
9.222			.0000				
9.275			.0000				

MACH (1) = 8.000 ALPHA (2) = -5.000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) OMS PCO DEPENDENT VARIABLE HI/HO

X/L	.7800	.8030	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0273	.0467	.0456	.0491	.0000	.0000	.0000
8.540	.0000						
8.650	.0000						
8.727		.0000					
8.750					.0000	.0000	.0000
8.855			.0000				
8.942			.0000				
8.978				.0000			
9.056			.0000				
9.118			.0000				
9.222			.0000				
9.275			.0000				

AEDC VA352 CH48 01+T10 CRB, OMS PCO (ATK403)

MACH (1) = 8.000 ALPHA (3) = .000 TI = 93.425 Q1 = .682 HREF = .020

SECTION (1) OMS PCO DEPENDENT VARIABLE HI/HO

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z	8.295	8.540	8.650	8.727	8.750	8.955	8.942	8.978	9.056	9.118	9.222	9.275
	.0130	.0559	.0633	.0485	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

MACH (1) = 8.000 ALPHA (4) = 5.000 TI = 93.425 Q1 = .682 HREF = .020

SECTION (1) OMS PCO DEPENDENT VARIABLE HI/HO

X/L .7800 .8050 .8290 .8620 .9630 1.0000 1.0140

Z	8.295	8.540	8.650	8.727	8.750	8.955	8.942	8.978	9.056	9.118	9.222	9.275
	.0048	.0140	.0267	.0302	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000



AEDC VA352 CH48 01+T10 CRB. OMS PCD

(ATKWD4) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

ALPHA = .000 RN/L = .680
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .900

MACH (1) = 8.000 BETA (1) = -2.000 TI = 93.550 QI = .681 HREF = .020

SECTION (1) OMS PCD

DEPENDENT VARIABLE HI/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0284	.1967	.1366	.0758	.0000	.0000	.0000
8.540	.0000	.0000					
8.650	.0000						
8.727		.0000					
8.750			.0000		.0000	.0000	
8.855			.0000				
8.942				.0000			
8.978					.0000		
9.056				.0000			
9.118				.0000			
9.222				.0000			
9.275				.0000			

MACH (1) = 8.000 BETA (2) = .000 TI = 93.550 QI = .681 HREF = .020

SECTION (1) OMS PCD

DEPENDENT VARIABLE HI/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0130	.0359	.0633	.0485	.0000	.0000	.0000
8.540	.0000						
8.650	.0000						
8.727		.0000					
8.750			.0000		.0000	.0000	
8.855			.0000				
8.942				.0000			
8.978					.0000		
9.056				.0000			
9.118				.0000			
9.222				.0000			
9.275				.0000			

(ATKMLD) (27 APR 74)

AEDC VA352 CH4B 01 ORB. OMS P00

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 EREF = 16.9919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = 3.720
 S.FLAP = .000 ELEVON = .000
 HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = -5.000 TI = 96.800 OI = 3.961 HREF = .049

SECTION (1) OMS P00

DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.3244	.1593	.0888	.0507	.0161	.0158	.0146
8.340		.2445					
8.650		.2899					
8.727		.1340					
8.750				.0458		.0000	.0183
8.855			.1209				
8.942						.0207	
8.978				.0561			
9.056				.0308			
9.118						.0507	
9.222						.0212	
9.275							

MACH (1) = 8.000 ALPHA (2) = .000 TI = 96.800 OI = 3.961 HREF = .049

SECTION (1) OMS P00

DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0448	.1311	.1198	.0712	.0345	.0375	.0311
8.340		.2357					
8.650		.1857					
8.727			.1872			.0000	.0290
8.750				.0622			
8.855			.1258				
8.942						.0307	
8.978				.0598			
9.056				.0623			
9.118						.0528	
9.222						.0309	
9.275							

AEDC VA352 CH48 O1 CRB. OMS POD

(ATKMH11) (27 APR 74)

REFERENCE DATA

XREF = .0236 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = .660
 B.FLAP = .000 ELEVON = .000
 MAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = -5.000 TI = 93.000 QI = .677 HREF = .020

SECTION (1) OMS POD

DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.1117	.0712	.0498	.0432	.0317	.0301	.0262
8.540		.1588					
8.690		.2555					
8.727			.1486				
8.750				.0674		.0000	.0151
8.855							
8.942			.1073				
8.978					.0193		
9.056				.0685			
9.118				.0301			
9.222					.0375		
9.275					.0133		

MACH (1) = 8.000 ALPHA (2) = .000 TI = 93.000 QI = .677 HREF = .020

SECTION (1) OMS POD

DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0082	.0336	.0621	.0907	.0255	.0278	.0212
8.540		.0471					
8.690		.0327					
8.727			.1122				
8.750				.0621		.0000	.0200
8.855							
8.942			.0407				
8.978					.0232		
9.056				.0223			
9.118				.0340			
9.222					.0288		
9.275					.0169		

(ATK112) (27 APR 74)

AEDC VA352 CH48 01 CR9. OMS PCO

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 EREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = .500
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.400 QI = .524 HREF = .018

SECTION (1) OMS PCO

DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z	8.295	.0107	.0269	.0424	.0395	.0131	.0138
	8.540	.0341					.0109
	8.650	.0234					
	8.727	.0639					
	8.750			.0000	.0120		
	8.855		.0339				
	8.942	.0195					
	8.978			.0172			
	9.056		.0032				
	9.118		.0089				
	9.222		.0069				
	9.275		.0033				

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.400 QI = .524 HREF = .018

SECTION (1) OMS PCO

DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z	8.295	.0046	.0139	.0177	.0151	.0057	.0042
	8.540	.0161					
	8.650	.0108					
	8.727	.0276					
	8.750			.0207	.0000	.0038	
	8.855		.0090				
	8.942				.0087		
	8.978			.0037			
	9.056		.0047				
	9.118		.0068				
	9.222		.0046				
	9.275						

(ATK12)

AEDC VA352 CH48 O1 CRB. OMS PCO

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.400 Q1 = .524 HREF = .018

SECTION (1) OMS PCO DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0022	.0038	.0060	.0072	.0022	.0026	.0033
8.540		.0048					
8.650		.0043					
8.727			.0085				
8.750							
8.855				.0097		.0000	.0038
8.942			.0040				
8.978					.0044		
9.056				.0055			
9.118				.0031			
9.222					.0051		
9.275					.0031		

(ATK113) (27 APR 74)

AEDC VA352 CH4B 01 ORB. OMS PCO

REFERENCE DATA

SREF = .8238 50. FT. YMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = 1.000
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.100 Q1 = 1.000 HREF = .025

SECTION (1) OMS PCO DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0052	.0179	.0200	.0176	.0053	.0050	.0037
8.540		.0214					
8.850		.0145					
8.727			.0347				
8.750				.0000		.0051	
8.855				.0249			
8.942			.0107				.0092
8.978				.0033			
9.056				.0049			
9.118					.0068		
9.222						.0042	
9.275							

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.100 Q1 = 1.000 HREF = .025

SECTION (1) OMS PCO DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0020	.0024	.0038	.0066	.0019	.0023	.0030
8.540		.0033					
8.850		.0041					
8.727			.0090				
8.750				.0093		.0000	.0031
8.855			.0049				
8.942							.0045
8.978				.0080			
9.056				.0033			
9.118					.0037		
9.222						.0031	
9.275							

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

MACH (1) = 8.000 ALPHA (3) = 40.000 TI = 94.100 OI = 1.003 HREF = .025
AEDC VA352 CH4B O1 CRB. OMS PCD (ATK413)

SECTION (1) OMS PCD DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0022	.0028	.0040	.0042	.0017	.0054	.0085
8.540		.0042					
8.650		.0067					
8.727			.0059				
8.750						.0000	.0074
8.855				.0056			
8.942			.0089				
8.978					.0064		
9.056				.0141			
9.118				.0057			
9.222					.0067		
9.275					.0069		

(ATK114) (27 APR 74)

AEDC VA352 CH48 01 CRB. CHS PCO

REFERENCE DATA

YREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 EREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
 S.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 90.000 TI = 95.550 QI = 1.994 HREF = .035

SECTION (1) CHS PCO

DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0061	.0290	.0376	.0303	.0060	.0052	.0037
8.340		.0384					
8.650		.0277					
8.727			.0508				
8.750				.0000	.0049		
8.855				.0297			
8.942					.0132		
8.978					.0080		
9.056					.0059		
9.118					.0051		
9.222					.0038		
9.275							

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.550 QI = 1.994 HREF = .035

SECTION (1) CHS PCO

DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0064	.0048	.0041	.0087	.0038	.0035	.0050
8.340		.0078					
8.650		.0120					
8.727			.0068				
8.750				.0000	.0038		
8.855				.0064			
8.942				.0075			
8.978					.0086		
9.056				.0133			
9.118				.0050			
9.222					.0037		
9.275					.0040		

AEDC VA352 OH4B Q1 CRB. OMS PCO

(ATK115) (27 APR 74)

REFERENCE DATA

SREF = .6238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 CRF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.867 QI = 3.955 HREF = .049

SECTION (1) OMS PCO DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0301	.1137	.0676	.0314	.0345	.0372	.0279
8.540		.0820					
8.650		.0581					
8.727			.0839				
8.750						.0000	.0180
8.855				.0293			
8.942				.0189			
8.978					.0105		
9.056				.0051			
9.118				.0057			
9.222					.0068		
9.275					.0046		

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.867 QI = 3.955 HREF = .049

SECTION (1) OMS PCO DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0391	.1032	.0666	.0682	.0096	.0116	.0109
8.540		.1033					
8.650		.0463					
8.727			.0731				
8.750						.0000	.0092
8.855				.0241			
8.942			.0164				
8.978					.0208		
9.056				.0130			
9.118				.0046			
9.222					.0071		
9.275					.0047		

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.867 Q1 = 3.955 HREF = .049
 AEDC VA332 CH4B 01 GRB. CHS PCO (ATRM15)

SECTION (1) CHS PCO DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0066	.0051	.0098	.0307	.0057	.0050	.0043
8.540		.0078					
8.650		.0101					
8.727			.0148				
8.750				.0000	.0052		
8.855				.0214			
8.942			.0094				
8.978					.0125		
9.056				.0093			
9.118				.0043			
9.222					.0027		
9.275					.0030		



AEDC VA352 CH48 Q1 CRB. OMS PCD

(ATKMH17) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = 3.720
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.700 QI = 3.949 HREF = .049

SECTION (1) OMS PCD

DEPENDENT VARIABLE HU/HO

X/L	.7800	.8090	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0387	.1251	.0756	.0779	.0117	.0118	.0100
8.540		.0973					
8.650		.0464					
8.727		.0648					
8.790				.0000	.0149		
8.855			.0202				
8.942		.0167					
8.978				.0190			
9.056			.0134				
9.118			.0050				
9.222			.0071				
9.275			.0048				

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 97.700 QI = 3.949 HREF = .049

SECTION (1) OMS PCD

DEPENDENT VARIABLE HU/HO

X/L	.7800	.8090	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0069	.0058	.0105	.0301	.0062	.0085	.0103
8.540		.0092					
8.650		.0107					
8.727		.0160					
8.790				.0218	.0000	.0066	
8.855		.0098					
8.942							
8.978				.0132			
9.056			.0093				
9.118			.0043				
9.222			.0032				
9.275			.0032				

AEDC VA352 CH4B 01 CR8, CMS P02 (ATKMI6) (27 APR 74)

REFERENCE DATA

SREF = .8236 SQ.FT. XMRP = .0000 IN.
LREF = 22.5603 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RW/L = 3.720
S.FLAP = 10.000 ELEVON = 5.000
HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.200 QI = 3.933 HREF = .049

SECTION (1) CMS P02

DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0675	.1981	.1134	.0651	.0185	.0170	.0123
8.340		.1426					
8.650		.0768					
8.727		.0986					
8.750				.0385	.0000	.0097	
8.855							
8.942			.0300				
8.978				.0122			
9.056			.0044				
9.118			.0082				
9.222			.0044				
9.275			.0047				

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 97.200 QI = 3.933 HREF = .049

SECTION (1) CMS P02

DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0703	.1942	.1042	.0661	.0251	.0237	.0200
8.340		.1044					
8.650		.0453					
8.727		.0662					
8.750				.0276	.0000	.0213	
8.855		.0164					
8.942							
8.978				.0193			
9.056			.0093				
9.118			.0055				
9.222			.0036				
9.275			.0029				



AEDC VA392 CH48 Q1 CRB. CHS P00

REFERENCE DATA

SREF = .6238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.3803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RM/L = 2.000
 S.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.650 Q1 = 1.983 HREF = .035

SECTION (1) CHS P00

DEPENDENT VARIABLE HU/HO

X/L	.7600	.8090	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0362	.1478	.0890	.0362	.0201	.0230	.0233
8.540		.1061					
8.650		.0639					
8.727		.0813					
8.750					.0000	.0091	
8.855				.0376			
8.942		.0244					
8.978					.0111		
9.056				.0075			
9.116				.0077			
9.222					.0073		
9.275					.0053		

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.650 Q1 = 1.983 HREF = .035

SECTION (1) CHS P00

DEPENDENT VARIABLE HU/HO

X/L	.7600	.8090	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0775	.1619	.0700	.0495	.0406	.0304	
8.540		.1115					
8.650		.0790					
8.727		.0687					
8.750					.0000	.0166	
8.855				.0223			
8.942		.0232					
8.978					.0122		
9.056				.0085			
9.116				.0078			
9.222					.0045		
9.275					.0040		

(ATK420) (27 APR 74)

AEDC VA352 CH4B Q1 CRB. OMS POD

REFERENCE DATA

SREF = .8238 SQ.FT. YMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 BREF = 16.9919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.900 Q1 = 1.980 HREF = .035

SECTION (1) OMS POD

DEPENDENT VARIABLE HU/HO

X/L	.7800	.8090	.8290	.8620	.9630	1.0000	1.0140
Z							
8.293	.0067	.0288	.0363	.0297	.0063	.0055	.0043
8.540		.0388					
8.650		.0284					
8.727		.0517					
8.750				.0306		.0000	.0051
8.855							
8.942			.0213				.0127
8.978				.0077			
9.056				.0063			
9.118					.0053		
9.222					.0041		
9.275							

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.900 Q1 = 1.980 HREF = .035

SECTION (1) OMS POD

DEPENDENT VARIABLE HU/HO

X/L	.7800	.8090	.8290	.8620	.9630	1.0000	1.0140
Z							
8.293	.0062	.0090	.0045	.0074	.0043	.0046	.0072
8.540		.0078					
8.650		.0120					
8.727			.0073				
8.750				.0066		.0000	.0046
8.855			.0083				
8.942							.0083
8.978				.0120			
9.056				.0054			
9.118					.0041		
9.222					.0043		
9.275							



REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RV/L = .500
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 91.950 QI = .518 HREF = .017

SECTION (1) CMS PCD

DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0303	.1101	.1026	.0763	.0627	.0563	.0434
8.540		.1167					
8.650		.0611					
8.727		.1078					
8.750							
8.855				.0383		.0000	.0207
8.942			.0305				
8.978					.0144		
9.056				.0049			
9.118				.0100			
9.222					.0058		
9.275					.0041		

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 91.950 QI = .518 HREF = .017

SECTION (1) CMS PCD

DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0175	.0612	.0852	.0741	.0293	.0218	.0157
8.540		.0772					
8.650		.0404					
8.727		.0684					
8.750						.0000	.0208
8.855				.0306			
8.942			.0258				
8.978						.0210	
9.056				.0043			
9.118				.0094			
9.222					.0043		
9.275					.0030		

AEDC VA352 CH48 O1 CRD. CHS P00

(ATKM22) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = .500
 S.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 93.400 Q1 = .523 HREF = .018

SECTION (1) CHS P00

DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0052	.0136	.0148	.0137	.0057	.0059	.0059
8.540		.0155					
8.650		.0113					
8.727			.0230				
8.750				.0185	.0000	.0064	
8.855				.0097			
8.942					.0085		
8.978					.0045		
9.056					.0051		
9.118					.0077		
9.222					.0045		
9.275							

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 93.400 Q1 = .523 HREF = .018

SECTION (1) CHS P00

DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0025	.0035	.0056	.0072	.0025	.0029	.0019
8.540		.0041					
8.650		.0037					
8.727			.0076				
8.750				.0091	.0000	.0035	
8.855							
8.942				.0041			
8.978					.0038		
9.056				.0061			
9.118				.0038			
9.222					.0051		
9.275					.0035		



AEDC VA352 CH4B Q1 CRB. CMS POD

(ATKME3) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RIV/L = .900
 B.FLAP = 10.000 ELEVON = 10.000
 HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) CMS POD DEPENDENT VARIABLE HU/HO

X/L	.7800	.8090	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0103	.0268	.0433	.0388	.0140	.0129	.0095
8.540		.0333					
8.650		.0252					
8.727		.0629					
8.750				.0000	.0106		
8.855				.0338			
8.942		.0196					
8.978				.0168			
9.096				.0032			
9.118				.0089			
9.222				.0068			
9.275				.0034			

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) CMS POD DEPENDENT VARIABLE HU/HO

X/L	.7800	.8090	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0051	.0143	.0163	.0158	.0059	.0058	.0047
8.540		.0167					
8.650		.0114					
8.727		.0259					
8.750				.0206	.0000	.0099	
8.855		.0094					
8.942				.0092			
8.978				.0041			
9.096				.0049			
9.118				.0083			
9.222				.0045			
9.275							

TABULATED DATA LISTING FOR CH4B (AEDC VA352)

(ATK423)

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.433 QI = .521 HREF = .018

AEDC VA352 CH4B 01 CRB, CHS PCD

SECTION (1) CHS PCD DEPENDENT VARIABLE HU/HO

X/L	.7800	.8090	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0024	.0036	.0058	.0070	.0014	.0096	.0149
8.340		.0045					
8.550		.0039					
8.727			.0079				
8.750				.0090		.0000	.0063
8.855							
8.942			.0042		.0036		
8.978							
9.056			.0059				
9.118			.0035				
9.222					.0053		
9.275					.0035		



AEDC VA352 CH48 Q1 CR8. OMS P00

(ATK24) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. YMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RN/L = .500
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.233 Q1 = .523 HREF = .018

SECTION (1) OMS P00 DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0520	.1863	.1248	.0817	.0341	.0385	.0326
8.340		.1387					
8.650		.0745					
8.727			.0923				
8.750					.0000	.0131	
8.855				.0435			
8.942							
8.978					.0160		
9.056				.0045			
9.118				.0087			
9.222					.0070		
9.275					.0036		

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.233 Q1 = .523 HREF = .018

SECTION (1) OMS P00 DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0262	.1051	.0595	.0741	.0624	.0554	.0447
8.340		.1107					
8.650		.0581					
8.727			.1071				
8.750					.0000	.0192	
8.855				.0355			
8.942							
8.978					.0144		
9.056				.0045			
9.118				.0102			
9.222					.0053		
9.275					.0043		

(ATK424)

AEDC VA332 CH48 01 CRB. OMS PCO

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.233 QI = .523 HREF = .018

SECTION (1) OMS PCO DEPENDENT VARIABLE HU/HO

X/L	.7809	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0190	.0769	.0885	.0770	.0225	.0216	.0185
8.340		.0764					
8.650		.0403					
8.727			.0671				
8.750					.0000	.0202	
8.855				.0284			
8.942			.0250				
8.978					.0211		
9.056				.0045			
9.118				.0093			
9.222					.0046		
9.275					.0029		



AEDC VA352 CH48 Q1 CRB. OMS POD

(ATK25) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.3803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = 2.000
 S.FLAP = 10.000 ELEVON = 10.000
 HAWAHT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.650 QI = 1.985 HREF = .035

SECTION (1) OMS POD DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0063	.0279	.0364	.0290	.0070	.0053	.0048
8.540		.0376					
8.650		.0276					
8.727			.0519				
8.750					.0000	.0049	
8.855				.0309			
8.942			.0209				
8.978					.0136		
9.056				.0079			
9.118				.0060			
9.222					.0055		
9.275					.0040		

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.650 QI = 1.985 HREF = .035

SECTION (1) OMS POD DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0063	.0047	.0044	.0074	.0044	.0116	.0175
8.540		.0074					
8.650		.0117					
8.727			.0073				
8.750						.0000	.0067
8.855			.0065				
8.942			.0065				
8.978						.0085	
9.056				.0119			
9.118				.0054			
9.222					.0040		
9.275					.0041		

(ATK26) (27 APR 74)

AEDC VA352 CH4B Q1 CR8. OMS PCO

REFERENCE DATA

SREF = .8238 SO.FT. XMRP = .0000 IN.
 LREF = 22.9603 IN. YMRP = .0000 IN.
 BREF = 16.9919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RV/L = 2.000
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.490 QI = 1.983 HREF = .035

SECTION (1) OMS PCO DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0574	.1485	.0892	.0381	.0166	.0200	.0164
8.540		.1088					
8.650		.0625					
8.727		.0804					
8.750				.0000	.0095		
8.855			.0368				
8.942		.0241					
8.978					.0119		
9.056			.0080				
9.118			.0081				
9.222					.0075		
9.275					.0051		

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.490 QI = 1.983 HREF = .035

SECTION (1) OMS PCO DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0809	.1643	.0661	.0477	.0475	.0411	.0317
8.540		.1071					
8.650		.0601					
8.727		.0706					
8.750				.0224	.0000	.0175	
8.855			.0232				
8.942					.0113		
8.978					.0079		
9.056				.0081			
9.118					.0047		
9.222					.0042		
9.275							

AEDC VA352 OH4B Q1 CRB. OMS PCO

(ATKMET) (27 APR 74)

REFERENCE DATA

SREF = .8236 30.FT. XMRP = .0000 IN.
 LRFP = 22.5803 IN. YMRP = .0000 IN.
 BRFP = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = 3.720
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) OMS PCO DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
6.295	.0306	.1157	.0691	.0310	.0266	.0374	.0305
8.540		.0616					
8.650		.0566					
8.727			.0655				
8.750						.0000	.0138
8.855				.0296			
8.942				.0196			
8.978					.0110		
9.056				.0090			
9.118				.0061			
9.222					.0073		
9.275					.0037		

MACH (1) = 8.000 ALPHA (2) = 50.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) OMS PCO DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0369	.1006	.0635	.0746	.0106	.0113	.0106
8.540		.1026					
8.650		.0466					
8.727			.0686				
8.750						.0000	.0111
8.855				.0217			
8.942			.0173				
8.978					.0203		
9.056				.0131			
9.118				.0052			
9.222					.0075		
9.275					.0047		

(ATKME7)

AEDC VA352 CH48 O1 CRB. CMS POD

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) CMS POD DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0069	.0088	.0096	.0305	.0062	.0133	.0207
8.540		.0070					
8.650		.0098					
8.727			.0133				
8.750							
8.855				.0220		.0000	.0075
8.942			.0092				
8.978					.0116		
9.056				.0094			
9.118				.0043			
9.222					.0030		
9.275					.0031		



AEDC VA352 CH48 O1 CEB, OMS POD

(ATK428) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 BREF = 16.9919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RN/L = 3.720
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.300 QI = 3.930 HREF = .049

SECTION (1) OMS POD

DEPENDENT VARIABLE HU/HO

X/L	.7800	.8090	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0682	.1701	.1019	.0626	.0210	.0223	.0192
8.540		.1373					
8.650		.0768					
8.727			.0909				
8.750				.0425	.0000	.0133	
8.855							
8.942			.0279				
8.978					.0141		
9.056				.0043			
9.118				.0076			
9.222					.0060		
9.275					.0035		

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.300 QI = 3.930 HREF = .049

SECTION (1) OMS POD

DEPENDENT VARIABLE HU/HO

X/L	.7800	.8090	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0474	.1442	.0903	.0477	.0215	.0216	.0184
8.540		.1050					
8.650		.0999					
8.727			.0805				
8.750				.0358	.0000	.0123	
8.855			.0239				
8.942							
8.978					.0104		
9.056				.0075			
9.118				.0073			
9.222					.0059		
9.275					.0055		

(ATK128)

AEDC VA352 CH48 O1 CRB. OMS P00

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.300 Q1 = 3.930 HREF = .549

SECTION (1) OMS P00 DEPENDENT VARIABLE HU/HO

X/L	.7800	.8050	.8290	.8620	.9630	1.0000	1.0140
Z							
8.295	.0620	.1267	.0604	.0451	.0385	.0437	.0359
8.540		.0928					
8.650		.0352					
8.727			.0655				
8.750				.0250		.0000	.0142
8.855							
8.942			.0219				
8.978					.0112		
9.056				.0060			
9.116				.0065			
9.222					.0037		
9.275					.0032		



AEDC VA352 CH48 01+T10 CRB. FUSELAGE Y=0.875

(ATKY01) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5603 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = -10.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1493 .0311 .0467 .0398 .0424 .0293 .1065 .0121

MACH (1) = 8.000 ALPHA (2) = -5.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1429 .0279 .0437 .0367 .0284 .0271 .1003 .0118

MACH (1) = 8.000 ALPHA (3) = .000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .0163 .0334 .0298 .0281 .0256 .0165 .0698 .0134

MACH (1) = 8.000 ALPHA (4) = 5.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .0195 .0314 .0254 .0228 .0218 .0176 .0733 .0098

AEDC VA352 CH48 01+110 ORB. FUSELAGE 150.875

(ATKY02) (27 APR 74)

REFERENCE DATA

SREF = .0238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

ALPHA = .000 RN/L = 3.720
 S.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 BETA (1) = -2.000 TI = 97.350 QI = 3.942 HREF = .049

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HI/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .0275 .0964 .0971 .0314 .0323 .0275 .1287 .0079

MACH (1) = 8.000 BETA (2) = .000 TI = 97.350 QI = 3.942 HREF = .049

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HI/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .0183 .0334 .0298 .0281 .0256 .0165 .0698 .0134



AEDC VA352 CH48 01+T10 CRB. FUSELAGE Y=0.875

(ATKY03) (27 APR 74)

REFERENCE DATA

SREF = .9238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = .680
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = -10.000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1143 .0358 .0346 .0255 .0150 .0144 .0165 .0163

MACH (1) = 8.000 ALPHA (2) = -5.000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .0606 .0252 .0345 .0264 .0141 .0172 .0146 .0139

MACH (1) = 8.000 ALPHA (3) = .000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .0118 .0356 .0322 .0280 .0205 .0179 .0211 .0097

MACH (1) = 8.000 ALPHA (4) = 5.000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .0173 .0217 .0217 .0213 .0151 .0192 .0321 .0057

AEDC VA392 CH48 01+T10 ORB. FUSELAGE Y=0.875

(ATKY04) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 CREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 BETA (1) = -2.000 T1 = 93.550 Q1 = .681 HREF = .020

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

.875 .0251 .0189 .0234 .0217 .0170 .0127 .0410 .0100

MACH (1) = 8.000 BETA (2) = .000 T1 = 93.550 Q1 = .681 HREF = .020

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

.875 .0118 .0336 .0322 .0280 .0205 .0179 .0211 .0097

PARAMETRIC DATA

ALPHA = .000 RN/L = .680
 B-FLAP = .000 ELEVON = .000
 HAW/HT = .900



AEDC VA352 CH48 01+110 ORB. FUSELAGE Y=0.875

(ATK105) (27 APR 74)

REFERENCE DATA

SREF = .6236 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
B.FLAP = .000 ELEVON = .000
HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = -10.000 TI = 98.067 QI = 4.007 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000

MACH (2) = 8.000 ALPHA (2) = -5.000 TI = 98.067 QI = 4.007 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000

MACH (3) = 8.000 ALPHA (3) = .000 TI = 98.067 QI = 4.007 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000

AEDC VA352 CH48 01 CRB. FUSELAGE Y=0.875

(ATKY10) (27 APR 74)

REFERENCE DATA

SREF = .8238 50.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -5.000 TI = 96.800 QI = 3.961 HREF = .049
 BETA = .000 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

PARAMETRIC DATA

SECTION (1) CRIBTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.2000	.3000	.4000	.5000	.6000	.7000	.8000	.9000
-----	-------	-------	-------	-------	-------	-------	-------	-------

Y .875 .0079 .0052 .0049 .0072 .0099 .0171 .0239 .0197

MACH (1) = 8.000 ALPHA (2) = .000 TI = 96.800 QI = 3.961 HREF = .049

SECTION (1) CRIBTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.2000	.3000	.4000	.5000	.6000	.7000	.8000	.9000
-----	-------	-------	-------	-------	-------	-------	-------	-------

Y .875 .1709 .0152 .0098 .0081 .0101 .0091 .0102 .0074



AEDC VA352 CH48 Q1 ORB. FUSELAGE Y=0.875

(ATKY11) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = .680
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = -5.000 TI = 93.000 Q1 = .677 HREF = .020

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .0106 .0066 .0044 .0041 .0045 .0061 .0064 .0065

MACH (1) = 8.000 ALPHA (2) = .000 TI = 93.000 Q1 = .677 HREF = .020

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .0164 .0103 .0075 .0065 .0049 .0047 .0046 .0044

(ATKY12) (27 APR 74)

AEDC VA352 CH48 01 ORB. FUSELAGE Y=0.875

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 18.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = .500
B.FLAP = .000 ELEVON = .000
HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.400 QI = .524 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .0920 .0739 .0822 .0569 .0474 .0457 .0369 .0295

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.400 QI = .524 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1091 .0906 .0775 .0710 .0584 .0581 .0447 .0370

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.400 QI = .524 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1276 .1086 .0918 .0831 .0669 .0710 .0554 .0475

AEDC VA352 CH48 Q1 ORB. FUSELAGE Y=0.875

(ATK113) (27 APR 74)

REFERENCE DATA

REF = .8236 SQ.FT. YMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BRP = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = 1.000
 S.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.100 Q1 = 1.003 HREF = .025

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1066 .0915 .0746 .0679 .0575 .0574 .0417 .0359

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.100 Q1 = 1.003 HREF = .025

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1269 .1078 .0910 .0810 .0664 .0681 .0528 .0461

MACH (1) = 8.000 ALPHA (3) = 40.000 TI = 94.100 Q1 = 1.003 HREF = .025

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1451 .1206 .1066 .0956 .0784 .0803 .0616 .0593

AEDC VA352 CH4B Q1 ORB. FUSELAGE Y=0.875

(ATRY14) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. YMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = 2.000
 B-FLAP = .000 ELEVON = .000
 HAM/HT = .900

MACH (1) = 6.000 ALPHA (1) = 30.000 TI = 95.550 QI = 1.994 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1076 .0895 .0762 .0659 .0547 .0622 .0585 .0707

MACH (1) = 6.000 ALPHA (2) = 35.000 TI = 95.550 QI = 1.994 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1267 .1071 .0921 .0797 .0662 .0817 .0883 .1104



AEDC VA352 CH4B 01 ORB. FUSELAGE Y=0.875

(ATKY15) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = 3.720
 B-FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 T1 = 97.867 Q1 = 3.955 HREF = .049

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .0897 .0733 .0617 .0562 .0471 .0364 .0763 .1108

MACH (1) = 8.000 ALPHA (2) = 30.000 T1 = 97.867 Q1 = 3.955 HREF = .049

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1097 .0904 .0785 .0732 .0728 .1387 .2197 .2100

MACH (1) = 8.000 ALPHA (3) = 35.000 T1 = 97.867 Q1 = 3.955 HREF = .049

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1293 .1113 .0942 .1008 .1506 .2744 .3001 .2487

(ATKY16) (27 APR 74)

AEDC VA332 CH4B 01 CRB. FUSELAGE Y=0.875

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.9919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 6.000 ALPHA (1) = 30.000 TI = 97.500 QI = 3.956 HREF = .049

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1099 .0901 .0775 .0718 .0745 .1362 .2187 .2188

PARAMETRIC DATA

BETA = .000 RM/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .900



AEDC VA352 OH48 O1 CRB. FUSELAGE Y=0.875

(ATRY17) (27 APR 74)

REFERENCE DATA

SREF = .8238 50.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 97.700 Q1 = 3.949 HREF = .049

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1103 .0909 .0791 .0751 .0739 .1406 .2186 .2113

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 97.700 Q1 = 3.949 HREF = .049

SECTION (1) ORBITER FUSELAGE

DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1286 .1108 .0936 .0994 .1522 .2733 .3005 .2461

AEDC VA352 CH4B 01 ORB. FUSELAGE Y=0.875

(ATKY20) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.900 QI = 1.980 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1089 .0924 .0757 .0662 .0556 .0629 .0612 .0756

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.900 QI = 1.980 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1296 .1065 .0901 .0800 .0676 .0823 .0886 .1075



AEDC VA352 CH4B 01 ORB. FUSELAGE Y=0.875

(ATKY22) (27 APR 74)

REFERENCE DATA

SREF = .8238 50.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = .500
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 93.400 Q1 = .523 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.2000	.3000	.4000	.5000	.6000	.7000	.8000	.9000
Y	.875	.1095	.0905	.0777	.0710	.0596	.0492	.0384

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 93.400 Q1 = .523 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.2000	.3000	.4000	.5000	.6000	.7000	.8000	.9000
Y	.875	.1269	.1064	.0916	.0846	.0715	.0709	.0551

AEDC VA352 CH48 Q1 CRB. FUSELAGE Y=0.875

(ATKY23) (27 APR 74)

REFERENCE DATA

SREF = .8236 50.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = .900
 B-FLAP = 10.000 ELEVON = 10.000
 HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .0914 .0735 .0613 .0577 .0475 .0473 .0360 .0306

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1121 .0914 .0762 .0702 .0593 .0584 .0451 .0363

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1285 .1096 .0944 .0858 .0704 .0727 .0558 .0457



AEDC VA332 CH48 Q1 CRB. FUSELAGE Y=0.875

(ATKY25) (27 APR 74)

REFERENCE DATA

SREF = .9238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.3803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
 B.FLAP = 10.000 ELEVON = 10.000
 HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.650 QI = 1.985 HREF = .035

SECTION (1) CRBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .675 .1096 .0922 .0762 .0664 .0547 .0614 .0633 .0796

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.650 QI = 1.985 HREF = .035

SECTION (1) CRBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .675 .1297 .1074 .0895 .0806 .0679 .0816 .0874 .1074

AEDC VA352 CH4B Q1 CRB, FUSELAGE Y=0.875

(ATKY27) (27 APR 74)

REFERENCE DATA

SREF = .8236 90.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = 10.000 SLEVON = 10.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .0911 .0749 .0638 .0587 .0476 .0594 .0747 .1109

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1109 .0907 .0781 .0736 .0734 .1390 .2199 .2116

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1301 .1090 .0940 .1008 .1501 .2687 .2992 .2507



AEDC VA352 CH48 C2 CRB. FUSELAGE Y=0.875

(ATKY29) (27 APR 74)

REFERENCE DATA

SREF = .9238 50.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.067 QI = 3.940 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .0886 .0755 .0624 .0569 .0465 .0575 .0748 .1153

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.067 QI = 3.940 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1074 .0940 .0801 .0717 .0726 .1336 .2099 .2144

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.067 QI = 3.940 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1265 .1060 .0936 .0980 .1380 .2563 .2974 .2489

AEDC VA352 OH48 02 CR8. FUSELAGE Y=0.875

(ATRY30) (27 APR 74)

REFERENCE DATA

SREF = .8238 50. FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 94.933 QI = 1.986 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .0899 .0741 .0599 .0548 .0444 .0458 .0342 .0342

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 94.933 QI = 1.986 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1029 .0937 .0773 .0671 .0553 .0621 .0538 .0664

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 94.933 QI = 1.986 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1254 .1058 .0868 .0613 .0678 .0629 .0959 .1184



AEDC VA352 CH48 OE ORB, FUSELAGE Y=0.875

(ATKY31) (27 APR 74)

REFERENCE DATA

SREF = .8236 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 BRFP = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = .500
 B.FLAP = .000 ELEWON = .000
 HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 92.933 QI = .523 HREF = .018

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000
 Y .875 .0898 .0750 .0621 .0569 .0466 .0472 .0357 .0282

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 92.933 QI = .523 HREF = .018

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000
 Y .875 .1068 .0916 .0792 .0716 .0578 .0558 .0446 .0391

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 92.933 QI = .523 HREF = .018

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000
 Y .875 .1316 .1090 .0907 .0834 .0717 .0707 .0553 .0481

AEDC VA332 CH48 02 CRB. FUSELAGE Y=0.875

(ATKY32) (27 APR 74)

REFERENCE DATA

SREF = .6236 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 EREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 1.000
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 93.400 QI = 1.000 HREF = .024

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1066 .0876 .0723 .0685 .0554 .0573 .0409 .0354

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 93.400 QI = 1.000 HREF = .024

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1301 .1092 .0892 .0812 .0665 .0679 .0521 .0471

MACH (1) = 8.000 ALPHA (3) = 45.000 TI = 93.400 QI = 1.000 HREF = .024

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1602 .1380 .1184 .1094 .0880 .0899 .0672 .0647

AEDC VA352 CH4B C2 CRB. FUSELAGE Y=0.875

(ATKY33) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 18.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = 1.250
 S.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.250 QI = 1.253 HREF = .027

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1049 .0886 .0749 .0672 .0535 .0563 .0413 .0373

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.250 QI = 1.253 HREF = .027

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1238 .1071 .0880 .0798 .0646 .0682 .0526 .0485

AEDC WA352 CH48 C2 ORB. FUSELAGE Y=0.875

(ATKYS4) (27 APR 74)

REFERENCE DATA

SREF = .8239 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = 1.900
 S.FLAP = .000 ELEVON = .000
 HAWAHT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.900 QI = 1.534 HREF = .030

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1083 .0900 .0746 .0663 .0537 .0456 .0426 .0420

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.900 QI = 1.534 HREF = .030

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1323 .1062 .0687 .0787 .0642 .0705 .0570 .0621



AEDC VA352 CH48 02 ORB. FUSELAGE Y=0.875

(ATKY35) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5903 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 1.750
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 6.000 ALPHA (1) = 30.000 TI = 95.200 QI = 1.797 HREF = .033

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000
 Y .875 .1048 .0904 .0737 .0659 .0552 .0576 .0486 .0536

MACH (1) = 6.000 ALPHA (2) = 35.000 TI = 95.200 QI = 1.797 HREF = .033

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000
 Y .875 .1248 .1062 .0891 .0789 .0648 .0752 .0719 .0652

AEDC VA352 Q448 Q2 CRB. FUSELAGE Y=0.875

(ATK35) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.9919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
 S.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.967 QI = 1.984 HREF = .035

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000
 Y .875 .1083 .0921 .0759 .0675 .0551 .0594 .0553 .0667

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.967 QI = 1.984 HREF = .035

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000
 Y .875 .1299 .1099 .0900 .0803 .0667 .0800 .0922 .1148

MACH (1) = 8.000 ALPHA (3) = 45.000 TI = 94.967 QI = 1.984 HREF = .035

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000
 Y .875 .1600 .1383 .1197 .1069 .0871 .0971 .0900 .1178



AEDC VA352 CH48 CR ORB. FUSELAGE Y=0.875

(ATKY37) (27 APR 74)

REFERENCE DATA

SREF = .8236 SQ. FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = 2.250
 B. FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 0.000 ALPHA (1) = 30.000 TI = 95.200 QI = 2.341 HREF = .036

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1048 .0916 .0758 .0673 .0559 .0660 .0758 .1029

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.200 QI = 2.341 HREF = .036

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1288 .1070 .0887 .0804 .0707 .1009 .1398 .1669

AEDC VA352 CH48 02 CRB. FUSELAGE Y=0.875 (ATKY38) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
DREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.950 Q1 = 2.536 HREF = .039

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1048 .0949 .0769 .0688 .0589 .0725 .0888 .1170

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.950 Q1 = 2.536 HREF = .039

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y .875 .1257 .1060 .0915 .0837 .0737 .1180 .1649 .1881

PARAMETRIC DATA

BETA = .000 RN/L = 2.500
S.FLAP = .000 ELEVON = .000
HAWKHT = .900



AEDC VA352 CH48 C2 OR2. FUSELAGE Y=0.875

(ATKYS9) (27 APR 74)

REFERENCE DATA

SREF = .8239 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 PRF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

SETA = .900 RM/L = 2.750
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 6.000 ALPHA (1) = 30.000 TI = 96.100 QI = 2.816 HREF = .041

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1094 .0948 .0724 .0685 .0605 .0804 .1123 .1445

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 96.100 QI = 2.816 HREF = .041

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1238 .1060 .0919 .0852 .0837 .1404 .2038 .2151

AEDC VA352 OH48 OR CRB. FUSELAGE Y=0.875

(ATKY40) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.000
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 96.900 QI = 3.118 HREF = .044

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000
 Y .875 .1065 .0935 .0784 .0704 .0612 .0874 .1253 .1623

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 96.900 QI = 3.118 HREF = .044

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000
 Y .875 .1216 .1031 .0917 .0903 .0959 .1737 .2423 .2311



AEDC VA3352 CH48 02 ORB. FUSELAGE Y=0.875

(ATKY41) (27 APR 74)

REFERENCE DATA

SREF = .6236 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.350
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.600 QI = 3.536 HREF = .046

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1041 .0928 .0772 .0716 .0641 .1044 .1581 .1868

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 97.600 QI = 3.536 HREF = .046

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .2000 .3000 .4000 .5000 .6000 .7000 .8000 .9000

Y

.875 .1236 .1069 .0920 .0934 .1112 .2096 .2770 .2411

AEDC VA352 CH48 C2 ORB. FUSELAGE Y=0.875

(ATKY42) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = 3.720
 S.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.050 QI = 3.937 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.2000	.3000	.4000	.5000	.6000	.7000	.8000	.9000
Y	.1033	.0948	.0823	.0718	.0720	.1258	.2058	.2123

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 97.050 QI = 3.937 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L	.2000	.3000	.4000	.5000	.6000	.7000	.8000	.9000
Y	.1292	.1071	.0929	.0994	.1349	.2579	.3003	.2484



AEDC VA352 CH4B 01+110 ORB. WING UPPER CREASE

(ATKCO1) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAWAHT = .900

MACH (1) = 8.000 ALPHA (1) = -10.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0551 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (2) = -5.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0609 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (3) = .000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0296 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (4) = 5.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0137 .0000 .0000 .0000 .0000

AEDC VA332 CH4B 01+110 ORB. WING UPPER CREASE (ATK002) (27 APR 74)

REFERENCE DATA

SREF = .8236 SQ.FT. XMRP = .0000 IN.
LREF = 22.9803 IN. YMRP = .0000 IN.
BREF = 16.9919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

MACH (1) = 6.000 BETA (1) = -2.000 TI = 97.350 QI = 3.942 HREF = .049

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0375 .0000 .0000 .0000 .0000

MACH (1) = 6.000 BETA (2) = .000 TI = 97.350 QI = 3.942 HREF = .049

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0296 .0000 .0000 .0000 .0000

PARAMETRIC DATA

ALPHA = .000 RN/L = 3.720
S.FLAP = .000 ELEVON = .000
HAW/HT = .900



AEDC VA352 CH48 01+110 CRB. WING UPPER CREASE

(ATKCO3) (27 APR 74)

REFERENCE DATA

SREF = .6236 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.5919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = .680
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = -10.000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0320 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (2) = -5.000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0235 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (3) = .000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0122 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (4) = 5.000 TI = 93.425 QI = .682 HREF = .020

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0065 .0000 .0000 .0000 .0000

AEDC VA352 CH4B 01+110 CR3. WING UPPER CREASE

(ATKCD4) (27 APR 74)

REFERENCE DATA

SREF = .6238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 EREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

ALPHA = .000 RV/L = .680
 B.FLAP = .000 ELEVON = .000
 HW/HT = .900

MACH (1) = 8.000 BETA (1) = -2.000 TI = 93.550 QI = .661 HREF = .020

SECTION (1) CRITTER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0162 .0000 .0000 .0000 .0000

MACH (1) = 8.000 BETA (2) = .000 TI = 93.550 QI = .661 HREF = .020

SECTION (1) CRITTER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0122 .0000 .0000 .0000 .0000

AEDC VA352 CH4B 01+110 CRB. WING UPPER CREASE

(ATKC05) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5603 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = -10.000 TI = 98.067 QI = 4.007 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0000 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (2) = -5.000 TI = 98.067 QI = 4.007 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0000 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (3) = .000 TI = 98.067 QI = 4.007 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0000 .0000 .0000 .0000 .0000

AEDC VA352 CH4B Q1 ORB. WING UPPER CREASE

(ATKCI0) (27 APR 74)

REFERENCE DATA

SREF = .8238 50. FT. YMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = -5.000 TI = 96.800 QI = 3.961 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/MO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0375 .0177 .0467 .0303 .0322

MACH (1) = 8.000 ALPHA (2) = .000 TI = 96.800 QI = 3.961 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/MO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0255 .0097 .0169 .0102 .0165



AEDC VA352 CH48 01 ORB. WING UPPER CREASE (ATKCI1) (27 APR 74)

REFERENCE DATA

SREF = .9238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.5919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = .680
 S.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = -5.000 TI = 93.000 QI = .677 HREF = .020

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

82.000 .0159 .0080 .0150 .0199 .0371

MACH (1) = 8.000 ALPHA (2) = .000 TI = 93.000 QI = .677 HREF = .020

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

82.000 .0121 .0058 .0085 .0054 .0247

AEDC VA352 CH48 01 ORB. WING UPPER CREASE (ATK12) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
EREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RI/L = .500
B.FLAP = .000 ELEVON = .000
HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.400 QI = .524 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI
62.000 .0040 .0011 .0015 .0013 .0011

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.400 QI = .524 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI
62.000 .0026 .0007 .0010 .0000 .0011

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.400 QI = .524 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI
62.000 .0023 .0007 .0006 .0006 .0014

AEDC VA352 CH4B 01 ORB. WING UPPER CREASE

(ATKC13) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.5919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.100 Q1 = 1.003 HREF = .025

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0027 .0007 .0012 .0001 .0009

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.100 Q1 = 1.003 HREF = .025

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0022 .0006 .0007 .0013 .0008

MACH (1) = 8.000 ALPHA (3) = 40.000 TI = 94.100 Q1 = 1.003 HREF = .025

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0019 .0005 .0005 .0008 .0020

PARAMETRIC DATA

BETA = .000 RV/L = 1.000
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

AEDC VA352 OH48 Q1 ORB. WING UPPER CREASE (ATK14) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. YMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
EREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
B.FLAP = .000 ELEVON = .000
HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.550 QI = 1.994 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0026 .0007 .0010 .0008 .0014

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.550 QI = 1.994 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0020 .0005 .0006 .0005 .0008



AEDC VA352 CH48 Q1 ORB. WING UPPER CREASE (ATKC15) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 18.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.867 QI = 3.955 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0041 .0017 .0022 .0011 .0034

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.867 QI = 3.955 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0027 .0007 .0011 .0009 .0027

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.867 QI = 3.955 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0018 .0004 .0008 .0020 .0016

AEDC VA352 CH48 01 CRB. WING UPPER CREASE

(ATKCI7) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 ZREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 6.000 ALPHA (1) = 30.000 TI = 97.700 QI = 3.949 HREF = .049

SECTION (1) CRIBTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

RH1

62.000 .0026 .0007 .0012 .0003 .0029

MACH (1) = 6.000 ALPHA (2) = 35.000 TI = 97.700 QI = 3.949 HREF = .049

SECTION (1) CRIBTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

RH1

62.000 .0018 .0004 .0007 .0019 .0020

PARAMETRIC DATA

BETA = .000 RM/L = 3.720
 S.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .900



AEDC VA332 OH48 01 CR8. WING UPPER CREASE (ATKC18) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RN/L = 3.720
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.200 QI = 3.933 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0057 .0019 .0031 .0008 .0057

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 97.200 QI = 3.933 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0046 .0019 .0034 .0036 .0096

AEDC VA352 OH4B 01 CRB. WING UPPER CREASE

(ATKCI9) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.650 Q1 = 1.983 HREF = .035
 BETA = -5.000 RN/L = 2.000
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .900

PARAMETRIC DATA

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI
62.000 .0078 .0029 .0034 .0032 .0024

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI
62.000 .0051 .0015 .0023 .0012 .0032



AEDC VA352 CH48 01 CRB. WING UPPER CREASE

(ATKC20) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
 B.FLAP = 10.000 ELEVON = 5.000
 HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.900 QI = 1.980 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0027 .0007 .0010 .0005 .0008

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.900 QI = 1.980 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0020 .0005 .0006 .0005 .0006

AEDC VA352 OH48 01 CRB. WING UPPER CREASE

(ATKC21) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5903 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 91.950 QI = .518 HREF = .017
 BETA = -5.000 RN/L = .500
 S.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .500

PARAMETRIC DATA

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

82.000 .0074 .0022 .0027 .0019 .0013

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 91.950 QI = .518 HREF = .017

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

82.000 .0048 .0012 .0016 .0009 .0019



DATE 12 DEC 74

TABULATED DATA LISTING FOR CH48 (AEDC VA352)

PAGE 303

AEDC VA352 CH48 01 ORB. WING UPPER CREASE

(ATKCE2) (27 APR 74)

REFERENCE DATA

SREF = .6238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 EREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RIN/L = .500
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .900

MACH (1) = 6.000 ALPHA (1) = 30.000 T1 = 93.400 Q1 = .523 HREF = .016

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .8000 .9000

PHI

62.000 .0026 .0007 .0014 .0004 .0012

MACH (1) = 6.000 ALPHA (2) = 35.000 T1 = 93.400 Q1 = .523 HREF = .016

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .8000 .9000

PHI

62.000 .0022 .0007 .0010 .0007 .0025

AEDC VA352 CH4B 01 CRB, WING UPPER CREASE

(ATK23) (27 APR 74)

REFERENCE DATA

SREF = .9236 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 EREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = .500
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.433 QI = .521 YREF = .018

SECTION (1) CRB/ITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0039 .0013 .0020 .0009 .0010

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) CRB/ITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0030 .0007 .0009 .0007 .0013

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) CRB/ITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0024 .0007 .0010 .0006 .0012



AEDC VA352 OH48 Q1 CRB. WING UPPER CREASE

(ATKCC24) (27 APR 74)

REFERENCE DATA

SREF = .8236 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RN/L = .500
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.233 QI = .523 HREF = .018

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0115 .0034 .0042 .0025 .0029

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.233 QI = .523 HREF = .018

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0069 .0019 .0025 .0016 .0013

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.233 QI = .523 HREF = .018

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0048 .0015 .0017 .0011 .0032

AEDC VA352 CH4B 01 ORB. WING UPPER CREASE

(ATK25) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 CRF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 2.000
 P.FLAP = 10.000 ELEVON = 10.000
 HAN/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.650 QI = 1.985 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

82.000 .0026 .0007 .0009 .0006 .0016

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.650 QI = 1.985 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

82.000 .0020 .0005 .0007 .0008 .0014

AEDC VA352 CH48 Q1 CRB. WING UPPER CREASE

(ATKC26) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RN/L = 2.000
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.450 QI = 1.983 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000
 PHI
 62.000 .0078 .0025 .0033 .0019 .0019

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.450 QI = 1.983 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000
 PHI
 62.000 .0049 .0015 .0025 .0015 .0035

AEDC VA352 CH48 Q1 ORB. WING UPPER CREASE

(ATKCC27) (27 APR 74)

REFERENCE DATA

SREF = .6238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = 3.720
 B.FLAP = 10.000 ELEVON = 10.000
 HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0040 .0022 .0021 .0014 .0039

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0026 .0007 .0011 .0013 .0026

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0019 .0004 .0006 .0013 .0026



AEDC VA332 CH48 01 CRB. WING UPPER CREASE

(ATK28) (27 APR 74)

REFERENCE DATA

SREF = .9238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 SREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RM/L = 3.720
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .900

MACH (1) = 6.000 ALPHA (1) = 25.000 TI = 97.300 QI = 3.930 HREF = .049

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0174 .0037 .0078 .0062 .0042

MACH (1) = 6.000 ALPHA (2) = 30.000 TI = 97.300 QI = 3.930 HREF = .049

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0077 .0030 .0051 .0033 .0082

MACH (1) = 6.000 ALPHA (3) = 35.000 TI = 97.300 QI = 3.930 HREF = .049

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .4000 .5000 .6000 .7000 .9000

PHI

62.000 .0043 .0018 .0032 .0023 .0101

AEDC VA352 CH48 01+T10 ORB. FUSELAGE Z=7.925 (ATKFO1) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = -10.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.925 .0447 .0478 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (2) = -5.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.925 .0296 .0320 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (3) = .000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.925 .0290 .0233 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (4) = 5.000 TI = 97.600 QI = 3.935 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.925 .0195 .0183 .0000 .0000 .0000 .0000

PARAMETRIC DATA

BETA = .000 RV/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .900



DATE 12 DEC 74

TABULATED DATA LISTING FOR CH48 (AEDC VA352)

PAGE 511

AEDC VA352 CH48 01+110 CRB. FUSELAGE Z=7.525

(ATKFO2) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 CRF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

ALPHA = .000 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .900

MACH (1) = 8.000 BETA (1) = -2.000 TI = 97.350 QI = 3.942 HREF = .049

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0362 .0323 .0000 .0000 .0000 .0000

MACH (1) = 8.000 BETA (2) = .000 TI = 97.350 QI = 3.942 HREF = .049

SECTION (1) CRBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0290 .0233 .0000 .0000 .0000 .0000

AEDC VA392 CH48 O1+T10 CRB. FUSELAGE Z=7.525

(ATKPO3) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. YMRP = .0000 IN.
 LREF = 22.2603 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = .680
 B.FLAP = .000 ELEVON = .000
 HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = -10.000 TI = 93.425 Q1 = .020 HREF = .020

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000
 Z 7.525 .0281 .0509 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (2) = -5.000 TI = 93.425 Q1 = .020 HREF = .020

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000
 Z 7.525 .0176 .0126 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (3) = .000 TI = 93.425 Q1 = .020 HREF = .020

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000
 Z 7.525 .0197 .0157 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (4) = 5.000 TI = 93.425 Q1 = .020 HREF = .020

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000
 Z 7.525 .0131 .0093 .0000 .0000 .0000 .0000

AEDC VA352 CH48 01+110 ORB. FUSELAGE Z=7.925

(ATKFD4) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LRFP = 22.9803 IN. YMRP = .0000 IN.
 DRFP = 16.9919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

ALPHA = .000 RM/L = .680
 S.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 BETA (1) = -2.000 TI = 93.550 QI = .020 HREF = .020

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000
 Z
 7.925 .0222 .0220 .0000 .0000 .0000 .0000

MACH (1) = 8.000 BETA (2) = .000 TI = 93.550 QI = .020 HREF = .020

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000
 Z
 7.925 .0197 .0157 .0000 .0000 .0000 .0000

AEDC VA352 CH48 01+110 CRB. FUSELAGE Z=7.525

(ATKFD5) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 BREF = 18.9919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = -10.000 TI = 98.067 QI = 4.007 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000
 Z 7.525 .0000 .0000 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (2) = -5.000 TI = 98.067 QI = 4.007 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000
 Z 7.525 .0000 .0000 .0000 .0000 .0000 .0000

MACH (1) = 8.000 ALPHA (3) = .000 TI = 98.067 QI = 4.007 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HI/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000
 Z 7.525 .0000 .0000 .0000 .0000 .0000 .0000



AEDC VA352 CH4B 01 ORB. FUSELAGE Z=7.525 (ATKF10) (27 APR 74)

REFERENCE DATA

SREF = .0236 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = 3.720
B-FLAP = .000 ELEVON = .000
HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = -5.000 TI = 96.800 QI = 3.961 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0196 .0146 .0105 .0141 .0320 .0331

MACH (1) = 8.000 ALPHA (2) = .000 TI = 96.800 QI = 3.961 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0253 .0257 .0204 .0130 .0204 .0226

AEDC VA352 CH48 01 CRB. FUSELAGE Z=7.525

(ATKFI1) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.9919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = .660
 S.FLAP = .000 ELEVON = .000
 HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = -5.000 TI = 93.000 QI = .020
 HREF = .677

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000
 Z
 7.525 .0206 .0165 .0089 .0038 .0039 .0059

MACH (1) = 8.000 ALPHA (2) = .000 TI = 93.000 QI = .020
 HREF = .677

SECTION (1) ORBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000
 Z
 7.525 .0160 .0126 .0070 .0041 .0043 .0040

AEDC VA352 CH48 01 ORB. FUSELAGE Z=7.525

(ATKF12) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = .500
 S.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.400 QI = .524 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0149 .0126 .0287 .0228 .0090 .0035

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.400 QI = .524 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0156 .0136 .0324 .0109 .0053 .0012

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.400 QI = .524 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0162 .0178 .0210 .0086 .0043 .0005

AEDC VA352 OH48 01 ORB. FUSELAGE Z=7.925

(ATK13) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.100 QI = 1.003 HREF = .025

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z 7.925 .0152 .0125 .0371 .0137 .0055 .0012

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.100 QI = 1.003 HREF = .025

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z 7.925 .0161 .0169 .0273 .0091 .0040 .0007

MACH (1) = 8.000 ALPHA (3) = 40.000 TI = 94.100 QI = 1.003 HREF = .025

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z 7.925 .0161 .0236 .0216 .0081 .0015 .0010

PARAMETRIC DATA

BETA = .000 RN/L = 1.000
 S.FLAP = .000 ELEVON = .000
 HAW/HT = .900



AEDC VA392 CH48 Q1 CR8. FUSELAGE Z=7.525

(ATKRF14) (27 APR 74)

REFERENCE DATA

SREF = .6238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 BREF = 16.9919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = 2.000
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.550 QI = 1.994 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000
 Z
 7.525 .0152 .0111 .0325 .0205 .0067 .0021

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.550 QI = 1.994 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000
 Z
 7.525 .0153 .0179 .0331 .0125 .0048 .0010

AEDC VA392 CH48 Q1 CRB. FUSELAGE Z=7.525

(ATKFI9) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.9803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = 3.720
 B.FLAP = .000 ELEVON = .000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.867 QI = 3.955 HREF = .049

SECTION (1) CRBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z 7.525 .0138 .0140 .0218 .0438 .0312 .0081

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.867 QI = 3.955 HREF = .049

SECTION (1) CRBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z 7.525 .0153 .0112 .0234 .0472 .0100 .0042

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.867 QI = 3.955 HREF = .049

SECTION (1) CRBITTER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z 7.525 .0157 .0176 .0280 .0215 .0063 .0016

AEDC VA352 CH48 01 ORB. FUSELAGE Z=7.525

(ATKF17) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = 3.720
 B.FLAP = 10.000 ELEVON = 5.000
 HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 97.700 QI = 3.949 HREF = .049

SECTION (1) GREATER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000
 Z
 7.525 .0152 .0104 .0232 .0460 .0094 .0042

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 97.700 QI = 3.949 HREF = .049

SECTION (1) GREATER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000
 Z
 7.525 .0158 .0183 .0292 .0217 .0064 .0018

AEDC VA352 CH48 01 CR8. FUSELAGE Z=7.525 (ATK18) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RM/L = 3.720
P.FLAP = 10.000 ELEVON = 5.000
HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 97.200 Q1 = 3.933 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.225 .0186 .0149 .0268 .0471 .0640 .0150

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 97.200 Q1 = 3.933 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0214 .0207 .0328 .0683 .0683 .0185

AEDC VA352 CH48 01 CR8. FUSELAGE Z=7.525

(ATKF19) (27 APR 74)

REFERENCE DATA

SREF = .9238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5403 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

SETA = -5.000 RN/L = 2.000
 B.FLAP = 10.000 ELEVON = 5.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 95.650 QI = 1.983 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000
 Z
 7.525 .0213 .0192 .0306 .0646 .0495 .0121

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 95.650 QI = 1.983 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000
 Z
 7.525 .0222 .0197 .0374 .0698 .0215 .0080

AEDC VA352 CH4B 01 ORB. FUSELAGE Z=7.525

(ATKFD) (27 APR 74)

REFERENCE DATA

SREF = .9239 SQ.FT. XMRP = .0000 IN.
LREF = 22.5803 IN. YMRP = .0000 IN.
BREF = 16.3919 IN. ZMRP = .0000 IN.
SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RV/L = 8.000
B.FLAP = 10.000 ELEVON = 5.000
HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 T1 = 95.900 Q1 = 1.980 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000
Z
7.925 .0157 .0114 .0324 .0206 .0069 .0021

MACH (1) = 8.000 ALPHA (2) = 35.000 T1 = 95.900 Q1 = 1.980 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000
Z
7.925 .0155 .0186 .0335 .0115 .0048 .0009



AEDC VA352 CH48 01 ORB. FUSELAGE Z=7.925

(ATKFE1) (27 APR 74)

REFERENCE DATA

SREF = .8236 80. FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RN/L = .500
 B.FLAP = 10.000 ELEVON = 5.000
 MAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 91.950 QI = .518 HREF = .017

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.925 .0214 .0199 .0405 .0589 .0174 .0071

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 91.950 QI = .518 HREF = .017

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.925 .0235 .0236 .0572 .0263 .0116 .0048

AEDC VA352 OH4B 01 CR8. FUSELAGE Z=7.525

(ATKF22) (27 APR 74)

REFERENCE DATA

SREF = .8238 50.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RM/L = .500
 B.FLAP = 10.000 ELEVON = 5.000
 HAM/HT = .900

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 93.400 Q1 = .523 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0160 .0132 .0309 .0139 .0055 .0015

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 93.400 Q1 = .523 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0166 .0188 .0220 .0086 .0037 .0008



AEDC VA352 OH48 01 ORB. FUSELAGE Z=7.525

(ATKF23) (27 APR 74)

REFERENCE DATA

SREF = .6238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = .000 RN/L = .900
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0151 .0130 .0302 .0239 .0089 .0038

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0159 .0152 .0321 .0127 .0052 .0012

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.433 QI = .521 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.525 .0161 .0186 .0213 .0073 .0036 .0006

AEDC VA352 CH48 01 CFB. FUSELAGE Z=7.525

(ATKF24) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 93.233 QI = .523 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z 7.525 .0210 .0185 .0287 .0477 .0449 .0159

MACH (1) = 8.000 ALPHA (2) = 20.000 TI = 93.233 QI = .523 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z 7.525 .0216 .0206 .0409 .0328 .0175 .0064

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 93.233 QI = .523 HREF = .018

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z 7.525 .0230 .0237 .0563 .0237 .0112 .0031

PARAMETRIC DATA

BETA = -5.000 RN/L = .500
 S.FLAP = 10.000 ELEVON = 10.000
 HAWKHT = .900

AEDC VA352 CH48 01 ORB. FUSELAGE Z=7.925

(ATKF25) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

MACH (1) = 8.000 ALPHA (1) = 30.000 TI = 94.650 QI = 1.985 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.925 .0159 .0112 .0327 .0218 .0065 .0018

MACH (1) = 8.000 ALPHA (2) = 35.000 TI = 94.650 QI = 1.985 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.925 .0159 .0179 .0325 .0116 .0047 .0010

PARAMETRIC DATA

BETA = .000 RM/L = 2.000
 S.FLAP = 10.000 ELEVON = 10.000
 HAWAHT = .900

AEDC VAS32 OR48 C1 OR5 FUSELAGE 2=7.525

(ATK226) (27 APR 74)

REFERENCE DATA

REF Z = .8255 50. FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 BREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE Z = .0175 SCALE

MACH (1) = 9.000 ALPHA (1) = 30.000 T1 = 95.450 Q1 = 1.983 HREF = .035
 MACH (2) = 7.525 ALPHA (2) = 35.000 T1 = 95.450 Q1 = 1.983 HREF = .035

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000
 Z
 7.525 .0211 .0189 .0297 .0639 .0463 .0117

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000
 Z
 7.525 .0222 .0197 .0369 .0766 .0205 .0086

PARAMETRIC DATA

BETA = -5.000 RV/L = 2.000
 S-FLAP = 10.000 ELEVON = 10.000
 WAW/HT = 1.000



AEDC VA352 CH4B Q1 ORB. FUSELAGE Z=7.325

(ATKF27) (27 APR 74)

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5803 IN. YMRP = .0000 IN.
 DREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

ETA = .000 RM/L = 3.720
 B.FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.325 .0140 .0137 .0220 .0494 .0313 .0075

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.325 .0152 .0122 .0235 .0474 .0098 .0043

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.367 QI = 3.936 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z

7.325 .0199 .0167 .0282 .0225 .0065 .0018

AEDC VA332 CH4B Q1 ORB, FUSELAGE Z=7.525

(ATK28) (27 APR 74

REFERENCE DATA

SREF = .8238 SQ.FT. XMRP = .0000 IN.
 LREF = 22.5603 IN. YMRP = .0000 IN.
 EREF = 16.3919 IN. ZMRP = .0000 IN.
 SCALE = .0175 SCALE

PARAMETRIC DATA

BETA = -5.000 RM/L = 3.720
 8. FLAP = 10.000 ELEVON = 10.000
 HAW/HT = .900

MACH (1) = 8.000 ALPHA (1) = 25.000 TI = 97.300 QI = 3.930 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z 7.525 .0206 .0197 .0262 .0370 .0365 .0326

MACH (1) = 8.000 ALPHA (2) = 30.000 TI = 97.300 QI = 3.930 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z 7.525 .0208 .0178 .0283 .0454 .0797 .0287

MACH (1) = 8.000 ALPHA (3) = 35.000 TI = 97.300 QI = 3.930 HREF = .049

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE HU/HO

X/L .3000 .4000 .5000 .6000 .7000 .8000

Z 7.525 .0209 .0210 .0324 .0668 .0630 .0163