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PROJECT SKYLAB

TASK JSC/TRW AA-53

HOUSTON OPERATIONS PREDICTOR/ESTIMATOR
(HOPE) PROGRAMMING MANUAL
VOLUME I

CHANGE 2

Changed 25 January 1974

Prepared for
MISSION PLANNING AND ANALYSIS DIVISION
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
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INSTRUCTIONS

This revision reflects all changes required to update Volume I documentation so that it accurately represents the latest version of the HOPE Program (B8.0). Insert all corrected or updated pages and remove all superceded pages as follows:

Page Number	Issue
Cover page	25 January 1974
Signature page	25 January 1974
iii	25 January 1974
1-1	25 January 1974
1-2	Original
3-51 thru 3-105	25 January 1974
3-107 thru 3-190	25 January 1974
3-233	25 January 1974

ABSTRACT

This technical report is submitted to NASA/JSC by TRW Systems Group in accordance with JSC/TRW Task AA-53 of the Mission Trajectory Control Program, Contract NAS 9-13834. The purpose of this document is to describe in detail the programming techniques used to implement the equations and mathematical techniques of the Houston Operations Predictor/Estimator (HOPE) orbit determination program on the UNIVAC 1108 computer.

This document contains detailed descriptions of the program structure, the internal program structure, the internal program tables and program COMMON, modification and maintainence techniques, and individual subroutine documentation.

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Change 2
25 January 1974

1. INTRODUCTION

The Houston Operations Predictor/Estimator (HOPE) computer program is a two-vehicle, double-precision, orbit determination program which has been developed for the Johnson Space Center (NASA) by TRW Systems Group, Houston, Texas. The program is primarily designed to support numerous postflight analysis activities for Apollo Missions. The HOPE Program is adaptable to orbit determination related activities for any vehicle whose trajectory is referenced to the sun, moon, or any planet in the solar system.

HOPE is a double precision, FORTRAN V program written for use on the UNIVAC 1108 computer. A detailed discussion of the engineering equations can be found in the HOPE Engineering Manual, Reference 1. In addition to the control cards, the program uses the JPL double precision ephemeris tape, observation tapes, and processed guidance and navigation tapes which contain accelerometer data. There are a number of output tapes generated on option. Instructions on the use of the program are contained in Reference 2, the HOPE User's Guide.

The principal application of the program is to determine a precision vehicle ephemeris from observational data during free flight and/or powered flight periods. The program processes C-band and S-band ground-based data, onboard observation data, and accelerometer data. It determines an estimate of the initial position and velocity at some epoch as well as a covariance matrix of uncertainties. The position, velocity, and covariance matrix of uncertainties are propagated to other specified times on option.

This report contains the programming details, the functional flow, and the subroutine descriptions for the HOPE program. Due to the size of the subroutine descriptions, this report is divided into the following three volumes:

Volume 1: Programming Details

Volume 2: Subroutine Description (A-K)

Volume 3: Subroutine Description (L-Z)

The overall program flow is presented in three forms in Section 2. First, the flow is given in very general form; then a more detailed flow including flow diagrams for specific modules is presented; and finally, the flow of the entire program is given in subroutine dependency form.

The general program structure, including program COMMON, is discussed in detail in Section 3. In addition, the internal tables and the drum storage map are given and the variable storage concept is outlined. The program COMMON structure is listed alphabetically by COMMON block, and a cross-reference table is given.

Modification and maintenance techniques are described in Section 4. The computer hardware and system requirements and all machine dependent programming are outlined in Section 5.

Descriptions of each subroutine are given in Section 6. In addition, a list of each subroutine and its purpose and a subroutine cross-reference table are given.

Table 3-4. Master Common

COMGEN 'BLKGEN' OPERATION

MASTER COMMON LISTING   PAGE   1

```
      DOUBLE PRECISION DATN,CARDS
      COMMON /DATIN / DATN ( 250), KDATN ( 600), CARDS (   40)
    C,              IQQBUF ( 420)
```

MASTER ARRAY ... DATN (250) ...... D.P. BUFFER FOR INPUT PROCESSOR

SYMBOL	DIMENSION	LOC.	T	DESCRIPTION	
DATN		1	D		DATIN
RANGL	2	1	D	DATN(1)	DATIN
DTCAL	12,2	3	D	DATN(3)	DATIN
DCCAL	12,2	27	D	DATN(27)	DATIN
EQBT	6,2	51	D	DATN(51)	DATIN
TCAL	6,2	63	D	DATN(63)	DATIN
TBASE	6	75	D	DATN(75)	DATIN
FDATE	6	81	D	DATN(81)	DATIN
COVDAT	6	87	D	DATN(87)	DATIN
ITIMLR	6,2	93	D	DATN(93)	DATIN
JDINEQ	2	105	D	DATN(105)	DATIN
SCALES	3,9	107	D	DATN(107)	DATIN
CIND1		107	D	DATN(107)	DATIN
CINA1		109	D	DATN(109)	DATIN
CINDON		113	D	DATN(113)	DATIN
CINTON		114	D	DATN(114)	DATIN
CINAON		115	D	DATN(115)	DATIN
CINDLM		116	D	DATN(116)	DATIN
CINTLM		117	D	DATN(117)	DATIN
CINALM		118	D	DATN(118)	DATIN
CINDAB		119	D	DATN(119)	DATIN
CINTAB		120	D	DATN(120)	DATIN
CINAAB		121	D	DATN(121)	DATIN
CINDOB		122	D	DATN(122)	DATIN
CINTOB		123	D	DATN(123)	DATIN
CINAOB		124	D	DATN(124)	DATIN
CINDGB		125	D	DATN(125)	DATIN
CINTGB		126	D	DATN(126)	DATIN
CINAGB		127	D	DATN(127)	DATIN
CINDSN		128	D	DATN(128)	DATIN
CINTSN		129	D	DATN(129)	DATIN
CINASN		130	D	DATN(130)	DATIN
CINDMC		131	D	DATN(131)	DATIN
CINAMC		133	D	DATN(133)	DATIN
ISPECD	4	134		DATN(134)	DATIN
SPCD	2	134	D	DATN(134)	DATIN
ISPECT	4	135		DATN(135)	DATIN
SPCT	2	136	D	DATN(136)	DATIN
ISPECA	4	133		DATN(133)	DATIN
SPCA	2	133	D	DATN(133)	DATIN
CALFHO	2	140	D	DATN(140)	DATIN
DLCAL	12,2	142	D	DATN(142)	DATIN

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MASTER ARRAY ... DATN (250) ...... D.P. BUFFER FOR INPUT PROCESSOR

SYMBOL	DIMENSION	LOC.	T	DESCRIPTION	
ITGTTM	6	166	D	DATN(166)	DATIN
SCLSP	3	172	D	DATN(172)	DATIN
STIME	6,2	175	D	DATN(175)	DATIN

MASTER ARRAY ... KDATN (600) ...... INTEGER BUFFER FOR INPUT PROCESSOR

SYMBOL	DIMENSION	LOC.	T	DESCRIPTION	
KDATN		1			DATIN
ICTYPE	2	1		KDATN(1)	DATIN
ATYPE	2	3	I	KDATN(3)	DATIN
HEQX	2	5	I	KDATN(5)	DATIN
HALN	2	7	I	KDATN(7)	DATIN
NODPRT	2	9		KDATN(9)	DATIN
FOCUS	2	11	I	KDATN(11)	DATIN
BNDIN		13	I	KDATN(13)	DATIN
ROTV	3,15	14	I	KDATN(14)	DATIN
ROTC	3,8	59	I	KDATN(59)	DATIN
PBODY	12,11	83	I	KDATN(83)	DATIN
INEQX	2	215		KDATN(215)	DATIN
ISCAL	3,9	217		KDATN(217)	DATIN
JDC	4	244		KDATN(244)	DATIN
OBSERV		248	I	KDATN(248)	DATIN
IFATAL		249		KDATN(249)	DATIN
IERR		250		KDATN(250)	DATIN
ISORT	2	251		KDATN(251)	DATIN
KGB		253		KDATN(253)	DATIN
KON		254		KDATN(254)	DATIN
NS	2	255		KDATN(255)	DATIN
NSOL		255			
NCON		256			
CNTGB		257	I	KDATN(257)	DATIN
CNTOB		258	I	KDATN(258)	DATIN
HCOV		259	I	KDATN(259)	DATIN
BODY		260	I	KDATN(260)	DATIN
NCONST	7	262		KDATN(262)	DATIN
NKONST	7	269		KDATN(269)	DATIN
NJSC	2,2	276		KDATN(276)	DATIN
NCSSC	2,2	280		KDATN(280)	DATIN
MAXNYB	2	284		KDATN(284)	DATIN
NPOT	2	286		KDATN(286)	DATIN
IVCOV	2	291		KDATN(291)	DATIN
TGTEVT		293	I	KDATN(293)	DATIN
PRTLST	11	294	I	KDATN(294)	DATIN
NBAL	2	305		KDATN(305)	DATIN
NBIG	2	307		KDATN(307)	DATIN
NBLP	2	309		KDATN(309)	DATIN
NBTB		311		KDATN(311)	DATIN
MAXM		312		KDATN(312)	DATIN
ICODSC	5	313		KDATN(313)	DATIN
KATLOC	25	313		KDATN(313)	DATIN
SOLVE	100	343	I	KDATN(343)	DATIN
CONSIO	100	443			
COVCRD	3	543	I	KDATN(543)	DATIN

MASTER ARRAY ... KDATN (600) ...... INTEGER BUFFER FOR INPUT PROCESSOR

SYMBOL	DIMENSION	LOC.	T	DESCRIPTION	
ISCLSP	3	546		KDATN(546)	DATIN
MXVSTR		600		KDATN(600)	DATIN

MASTER ARRAY ... CARDS (40) ...... TEMPORARY BUFFER FOR SPECIAL PROCESSOR

SYMBOL	DIMENSION	LOC.	T	DESCRIPTION	
CARD	40	I	D	CARDS(I)	DATIN
ICARD	80	1		CARD(1)	DATIN

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MASTER ARRAY ... IQQBUF(420) ...... PROCESSING BUFFER FOR SUBROUTINE QQINPT

SYMBOL	DIMENSION	LOC.	T	DESCRIPTION	
IBUFF	81	1		IQQBUF(1)	DATIN
IEBUFF	81	82		IQQBUF(82)	DATIN
IOUT	200	163		IQQBUF(163)	DATIN
IMXMOD	20	363		IQQBUF(363)	DATIN
IPROC	30	383		IQQBUF(383)	DATIN
IERROR		383		IQQBUF(383)	DATIN
ICERR2		384		IQQBUF(384)	DATIN
INSYM		385		IQQBUF(385)	DATIN
ISYM		386		IQQBUF(386)	DATIN
INO		387		IQQBUF(387)	DATIN
ISP		388		IQQBUF(388)	DATIN
IMXP		389		IQQBUF(389)	DATIN
ITYP		390		IQQBUF(390)	DATIN
IBLK		391		IQQBUF(391)	DATIN
ICON		392		IQQBUF(392)	DATIN
ILEN		393		IQQBUF(393)	DATIN
IMLEN		394		IQQBUF(394)	DATIN
IADD		395		IQQBUF(395)	DATIN
ISCRP		396		IQQBUF(396)	DATIN
INFLO		397		IQQBUF(397)	DATIN
INEW		398		IQQBUF(398)	DATIN
IMTYP		399		IQQBUF(399)	DATIN
ISPT		400		IQQBUF(400)	DATIN

DOUBLE PRECISION CONST, CONFIX, SCRCOM, EBUF
      COMMON/   /CONST (250), KONST (250), CONFIX (400)
      C,   KONFIX (500), LENGTH (100), IPOINT (60)
      C,   KPOINT (60), SCRCOM (200), EBUF (1000)

MASTER ARRAY ... CONST (250) ...... D.P. PROGRAM CONSTANTS BUFFER

SYMBOL	DIMENSION	LOC.	T	DESCRIPTION	
CPI		1	D	CONST(1)	$BLANK
CPI2		2	D	CONST(2)	$BLANK
C2PI		3	D	CONST(3)	$BLANK
CJD50		4	D	CONST(4)	$BLANK
CJD50B		5	D	CONST(5)	$BLANK
JULMOD		6	D	CONST(6)	$BLANK
CSFREQ		7	D	CONST(7)	$BLANK
CAE		9	D	CONST(9)	$BLANK
CBE		10	D	CONST(10)	$BLANK
CWE		11	D	CONST(11)	$BLANK
CWM		12	D	CONST(12)	$BLANK
FLAT	2	13	D	CONST(13)	$BLANK
CELLIP		13	D	CONST(13)	$BLANK
CELIPM		14	D	CONST(14)	$BLANK
CMU		15	D	CONST(15)	$BLANK
CGMR	12	16	D	CONST(16)	$BLANK
CRCB	11	28	D	CONST(28)	$BLANK
CSPHIN	11	39	D	CONST(39)	$BLANK
CEMRAT		50	D	CONST(50)	$BLANK
REM		51	D	CONST(51)	$BLANK
TPD		52	D	CONST(52)	$BLANK
CETUT		53	D	CONST(53)	$BLANK
CLIGHT		54	D	CONST(54)	$BLANK
BESTSS		55	D	CONST(55)	$BLANK
CW3		56	D	CONST(56)	$BLANK
CW4		57	D	CONST(57)	$BLANK
CLTTOL		58	D	CONST(58)	$BLANK
CFTEPS		59	D	CONST(59)	$BLANK
CLTEPS		60	D	CONST(60)	$BLANK
CRFEPS		61	D	CONST(61)	$BLANK
CANEPS		62	D	CONST(62)	$BLANK
CMINEL		63	D	CONST(63)	$BLANK
CBLOCK	5	64	D	CONST(64)	$BLANK
CDA02M	2	69	D	CONST(69)	$BLANK
CHINIT	2	71	D	CONST(71)	$BLANK
ORAL	5,2	73	D	CONST(73)	$BLANK
ORANG	3	83	D	CONST(83)	$BLANK
ORAR	2	83	D	CONST(83)	$BLANK
ORAS	2	85	D	CONST(85)	$BLANK
ORAT	2	87	D	CONST(87)	$BLANK
ORAV	2	89			

MASTER ARRAY ... CONST (250) ...... D.P. PROGRAM CONSTANTS BUFFER

SYMBOL	DIMENSION	LOC.	T	DESCRIPTION	
OBCON	52	91	D		
RADCN	8,2	91	D	CONST(91)	$BLANK
SXTCN	4,2	107	D	CONST(107)	$BLANK
TELCN	4,2	115	D	CONST(115)	$BLANK
VHFCN	2,2	123	D	CONST(123)	$BLANK
LRCN	8,2	127	D	CONST(127)	$BLANK
NSIG		143	D	CONST(143)	$BLANK
UTIMB		144	D	CONST(144)	$BLANK
SCOUT	3,2	145	D	CONST(145)	$BLANK
COUD		145	D	CONST(145)	$BLANK
COUT		146	D	CONST(146)	$BLANK
COUA		147	D	CONST(147)	$BLANK
COUDR		148	D	CONST(148)	$BLANK
COUTR		149	D	CONST(149)	$BLANK
COUAR		150	D	CONST(150)	$BLANK
DIST	12	151	D	CONST(151)	$BLANK
FEET		151	D	CONST(151)	$BLANK
CAU		158	D	CONST(158)	$BLANK
SPECD		159	D	CONST(159)	$BLANK
TIMES	8	163	D	CONST(163)	$BLANK
DAY		163	D	CONST(163)	$BLANK
HOUR		164	D		
SEC		165	D		
SPECT		167	D	CONST(167)	$BLANK
ANG	7	171	D	CONST(171)	$BLANK
DEG		171	D	CONST(171)	$BLANK
SPECA		174	D	CONST(174)	$BLANK
ORADD	2,2	178	D	CONST(178)	$BLANK
PADM	2	182	D	CONST(182)	$BLANK
PLNRFL	11	184	D	CONST(184)	$BLANK
VEHRFL	2	195	D	CONST(195)	$BLANK
TOLNCE		197	D	CONST(241)	$BLANK

MASTER ARRAY ... KONST (250) ...... INTGR AND ALPHA PROGRAM CONSTANTS BUFFER

SYMBOL	DIMENSION	LOC.	T	DESCRIPTION	
KIN		1		KONST(1)	$BLANK
KOUT		2		KONST(2)	$BLANK
KRESD		3		KONST(3)	$BLANK
KOBI		4		KONST(4)	$BLANK
KOB		5		KONST(5)	$BLANK
KEPHEM		6		KONST(6)	$BLANK
KTRAJ1		7		KONST(7)	$BLANK
KTRAJ2		8		KONST(8)	$BLANK
KTRAJ3		9		KONST(9)	$BLANK
KIGS	2	10		KONST(10)	$BLANK
KDRUM1		12		KONST(12)	$BLANK
KDRUM2		13		KONST(13)	$BLANK
IFAST	6	14		KONST(14)	$BLANK
ITOV		20		KONST(20)	$BLANK
MAXIT		21		KONST(21)	$BLANK
KRNUM		22		KONST(22)	$BLANK
CORTAB	5,15	23	I	KONST(23)	$BLANK
CENTAB	2,12	98	I	KONST(98)	$BLANK
ETITLE	24	122	I	KONST(122)	$BLANK
TITLE	13	146	I	KONST(146)	$BLANK
NPAGE		159		KONST(159)	$BLANK
LINCT		160		KONST(160)	$BLANK
PERBOD	11	161	I	KONST(161)	$BLANK
OSCAL	3,2	172	I	KONST(172)	$BLANK
SCLOUT	3	172	I	KONST(172)	$BLANK
SCLRES	3	175	I	KONST(175)	$BLANK
LISTIT		178		KONST(178)	$BLANK
CKMODE	15	179	I	KONST(179)	$BLANK
YES		194	I	KONST(194)	$BLANK
RELUPD		195	I	KONST(195)	$BLANK
HRTYPE	5	196	I	KONST(196)	$BLANK
CASE		201	I	KONST(201)	$BLANK
LKEPHM		202		KONST(202)	$BLANK
LMODEL		203		KONST(203)	$BLANK
IDRUM	2	204		KONST(204)	$BLANK
KRESID		205		KONST(205)	$BLANK
KINT		207		KONST(207)	$BLANK
TAPRST		208	I	KONST(208)	$BLANK
KTSTAP		209		KONST(209)	$BLANK
KDRUM3		210		KONST(210)	$BLANK
NUNITS	5	211		KONST(211)	$BLANK
ERTAP1		211	I	KONST(211)	$BLANK
INPTAP		214		KONST(214)	$BLANK
IOUTAP		215		KONST(215)	$BLANK
IF2		215		KONST(215)	$BLANK
ISNAP		215		KONST(215)	$BLANK

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MASTER ARRAY ... KONST (250) ...... INTGR AND ALPHA PROGRAM CONSTANTS BUFFER

SYMBOL	DIMENSION	LOC. T	DESCRIPTION	
ISCRAP		217	KONST(217)	$BLANK
LSCRAT		217	KONST(217)	$BLANK
IT6		217	KONST(217)	$BLANK
ISCRAN		218	KONST(218)	$BLANK
IPLOT		218	KONST(218)	$BLANK
KINFS		219	KONST(219)	$BLANK
KOINFS		220	KONST(220)	$BLANK
KTHEAP		222	KONST(222)	$BLANK
IVER		223	KONST(223)	$BLANK
IOPN		224	KONST(224)	$BLANK

MASTER ARRAY ... CONFIX(400) ...... O.P. BUFFER FOR PROGRAM EXECUTION

SYMBOL	DIMENSION	LOC.	T	DESCRIPTION	
TIMEIN	6,2	1	D	CONFIX(1)	$BLANK
STATE0	6,2	13	D	CONFIX(13)	$BLANK
BASE		25	D	CONFIX(25)	$BLANK
TMIN	2	26	D	CONFIX(26)	$BLANK
TMINT		28	D	CONFIX(28)	$BLANK
DTLIM	2,2	29	D	CONFIX(29)	$BLANK
DTLIM1	2	29	D	CONFIX(29)	$BLANK
DTLIM2	2	31	D	CONFIX(31)	$BLANK
DCLIM	2,2	33	D	CONFIX(33)	$BLANK
DCLIM1	2	33	D	CONFIX(33)	$BLANK
DCLIM2	2	35	D	CONFIX(35)	$BLANK
SAVLIM	4	37	D	CONFIX(37)	$BLANK
CALPHG		61	D	CONFIX(61)	$BLANK
TABOUT	9,12	62	D	CONFIX(62)	$BLANK
TBLOCK	4	170	D	CONFIX(170)	$BLANK
TCA	2	174	D	CONFIX(174)	$BLANK
CLCKB	2	176	D	CONFIX(176)	$BLANK
CLCKD	2	178	D	CONFIX(178)	$BLANK
TA		180	D	CONFIX(180)	$BLANK
ALIGN	3	181	D	CONFIX(181)	$BLANK
ALGNER	3	184	D	CONFIX(184)	$BLANK
DRIFT	3	187	D	CONFIX(187)	$BLANK
COBSTM		190	D	CONFIX(190)	$BLANK
OBSREC	15	191	D	CONFIX(191)	$BLANK
GIMBAL	3	197	D	CONFIX(197)	$BLANK
RESREC	4	206	D	CONFIX(206)	$BLANK
ZLEGS2		210	D	CONFIX(210)	$BLANK
XBSQ		211	D	CONFIX(211)	$BLANK
CRMS		212	D	CONFIX(212)	$BLANK
PRSS		213	D	CONFIX(213)	$BLANK
GETJD		218	D	CONFIX(218)	$BLANK
TJDNBY		219	D	CONFIX(219)	$BLANK
TJDALN	2	220	D	CONFIX(220)	$BLANK
ALNMAT	3,3,2	222	D	CONFIX(222)	$BLANK
FIXDAT		240	D	CONFIX(240)	$BLANK
SPALT	2	241	D	CONFIX(241)	$BLANK
TEQ	2	243	D	CONFIX(243)	$BLANK
GET	6	245	D	CONFIX(245)	$BLANK
TBASJD		251	D	CONFIX(251)	$BLANK
GMLUNT		252	D	CONFIX(252)	$BLANK
GMMCON		253	D	CONFIX(253)	$BLANK
TTOMT	3,3	254	D	CONFIX(254)	$BLANK
TTOM	3,3	263	D	CONFIX(263)	$BLANK
RADMLR	2	272	D	CONFIX(272)	$BLANK
RMLR	2	272	D	CONFIX(272)	$BLANK
TIMLR	2	274	D	CONFIX(274)	$BLANK

MASTER ARRAY ... CONFIX(400) ...... D.P. BUFFER FOR PROGRAM EXECUTION

SYMBOL	DIMENSION	LOC.	T	DESCRIPTION	
MALR	3,2	276	D	CONFIX(276)	$BLANK
HBIAS	2	282	D	CONFIX(282)	$BLANK
EHBIAS		282	D	CONFIX(282)	$BLANK
LHBIAS		283	D		
PHIMIN		284	D	CONFIX(284)	$BLANK
JDEQXD		285	D	CONFIX(285)	$BLANK
JDEQXT		286	D	CONFIX(286)	$BLANK
STATIN	3,2	287	D	CONFIX(287)	$BLANK
BASCL	3	293	D	CONFIX(293)	$BLANK
LONG	3	296	D	CONFIX(296)	$BLANK
MINSTP		299	D	CONFIX(299)	$BLANK
DLLIM	2,2	300	D	CONFIX(300)	$BLANK
BODEP	6,8	304	D	CONFIX(304)	$BLANK
COVDA1		352	D	CONFIX(352)	$BLANK
TGTTIM		353	D	CONFIX(353)	$BLANK
SAVAPI	6,2	360	D	CONFIX(360)	$BLANK
SPIN	9,2	372	D	CONFIX(372)	$BLANK
SRNGL	2	390	D	CONFIX(390)	$BLANK
STIMN	2	392	D	CONFIX(392)	$BLANK

MASTER ARRAY ... KONFIX(500) ...... INTEGER BUFFER FOR PROGRAM EXECUTION

SYMBOL	DIMENSION	LOC.	T	DESCRIPTION	
STOCWD		1	I	KONFIX(1)	$BLANK
MRCWD		2		KONFIX(2)	$BLANK
CLCKWD		3	I	KONFIX(3)	$BLANK
INSTWD	2	4		KONFIX(4)	$BLANK
BURNWD	2	6	I	KONFIX(6)	$BLANK
HBWRD		8	I	KONFIX(8)	$BLANK
LRDWRD		9		KONFIX(9)	$BLANK
KVEH		10		KONFIX(10)	$BLANK
IREQ	13	11		KONFIX(11)	$BLANK
ITABOD		24		KONFIX(24)	$BLANK
NCENTR	2	25		KONFIX(25)	$BLANK
ICB		27		KONFIX(27)	$BLANK
INITCB	2	28		KONFIX(28)	$BLANK
CBORB	2	30	I	KONFIX(30)	$BLANK
ONFG	5	32	I	KONFIX(32)	$BLANK
OFLG		32	I	KONFIX(32)	$BLANK
BFLG		33	I	KONFIX(33)	$BLANK
CFLG		34	I	KONFIX(34)	$BLANK
NFLG		35		KONFIX(35)	$BLANK
GFLG		36	I	KONFIX(36)	$BLANK
IVEHN	2	37		KONFIX(37)	$BLANK
NORUM	94	39		KONFIX(39)	$BLANK
ITCNT		133		KONFIX(133)	$BLANK
IFITFL		134		KONFIX(134)	$BLANK
IOEQXD		135		KONFIX(135)	$BLANK
IOEQXT		136		KONFIX(136)	$BLANK
IEPHR		137		KONFIX(137)	$BLANK
IA	2	138		KONFIX(138)	$BLANK
IA1		138		KONFIX(138)	$BLANK
IA2		139		KONFIX(139)	$BLANK
KNTOIV		140		KONFIX(140)	$BLANK
IAPT	4,25	141		KONFIX(141)	$BLANK
KONSOL	2,25	241		KONFIX(241)	$BLANK
YTRGCO		291	I	KONFIX(291)	$BLANK
LTIME		292		KONFIX(292)	$BLANK
TGTVEH		293	I	KONFIX(293)	$BLANK
KBURN		296		KONFIX(296)	$BLANK
IMATFG		297		KONFIX(297)	$BLANK
OBOTAP		297	I		
IOREC	15	298		KONFIX(298)	$BLANK
OBJ1		299	I	KONFIX(299)	$BLANK
OBJ2		300	I	KONFIX(300)	$BLANK
OI		307	I	KONFIX(307)	$BLANK
OT		309	I	KONFIX(309)	$BLANK
RTYPE		313	I	KONFIX(313)	$BLANK
COVPRT	2	314	I	KONFIX(314)	$BLANK

MASTER ARRAY ... KONFIX(500) ...... INTEGER BUFFER FOR PROGRAM EXECUTION

SYMBOL	DIMENSION	LOC.	T	DESCRIPTION	
TRJPRT	2	316	I	KONFIX(316)	$BLANK
RESPRT	4	318	I	KONFIX(318)	$BLANK
OPFLG		322	I	KONFIX(322)	$BLANK
SPTRAJ	2	323	I	KONFIX(323)	$BLANK
BNDFLG		325	I	KONFIX(325)	$BLANK
OBSTAP		326	I	KONFIX(326)	$BLANK
IGBO		327		KONFIX(327)	$BLANK
IOBO		328		KONFIX(328)	$BLANK
OTITLE	48	329	I	KONFIX(329)	$BLANK
INALN	2	377		KONFIX(377)	$BLANK
IFLP		379		KONFIX(379)	$BLANK
ILOC	4,5,2	380		KONFIX(380)	$BLANK
POTFLG	2	420	I	KONFIX(420)	$BLANK
LBRVEH		422		KONFIX(422)	$BLANK
HEQD		423	I	KONFIX(423)	$BLANK
HEQT		424	I	KONFIX(424)	$BLANK
RUNCAS		425	I	KONFIX(425)	$BLANK
MODPRT		426		KONFIX(426)	$BLANK
ICW		427		KONFIX(427)	$BLANK
RESTRT	3	428	I	KONFIX(428)	$BLANK
IGNAL	2	431		KONFIX(431)	$BLANK
ILOCLR	4,2	433		KONFIX(433)	$BLANK
SPRESD		441	I	KONFIX(441)	$BLANK
RFLWRD		442	I	KONFIX(442)	$BLANK
IEPCWD	5	443		KONFIX(443)	$BLANK
IEPSTR		448		KONFIX(448)	$BLANK
ISTYPE		449		KONFIX(449)	$BLANK
T6TAPE		450	I	KONFIX(450)	$BLANK
LNDTR	2	451		KONFIX(451)	$BLANK
IFEBT	2	453		KONFIX(453)	$BLANK
KHEOPT		455		KONFIX(455)	$BLANK
IFASNP		456		KONFIX(456)	$BLANK
MATUN		457		KONFIX(457)	$BLANK
INATMA		458		KONFIX(458)	$BLANK
IOCFLG		459		KONFIX(459)	$BLANK
JCVFLG		460		KONFIX(460)	$BLANK
KDIF		461		KONFIX(461)	$BLANK
ISPCWD		462		KONFIX(462)	$BLANK
ISPIN	2	463		KONFIX(463)	$BLANK
LSPIN	2	465		KONFIX(465)	$BLANK
NEACOD		467		KONFIX(467)	$BLANK
IAPTVP	2	471		KONFIX(471)	$BLANK
LRFLG		479		KONFIX(479)	$BLANK
NSZ	2	433		KONFIX(433)	$BLANK
NSZ1		433		KONFIX(433)	$BLANK
NSZ2		439		KONFIX(439)	$BLANK
SEDD	2	490	I	KONFIX(490)	$BLANK
IORAG		492		KONFIX(492)	$BLANK

MASTER ARRAY ... LENGTH(100) ...... INTEGR BUFR OF TABLE LENGTHS/PARAM COUNTS

SYMBOL	DIMENSION	LOC.	T	DESCRIPTION	
NVEH		1		LENGTH(1)	$BLANK
NSOLVE		2		LENGTH(2)	$BLANK
NCNSID		3		LENGTH(3)	$BLANK
NDPR		4		LENGTH(4)	$BLANK
NDIF2		5		LENGTH(5)	$BLANK
NPR		6		LENGTH(6)	$BLANK
NPRP1		7		LENGTH(7)	$BLANK
NVECOL	.2	.8		LENGTH(8)	.$BLANK
NATWA		10		LENGTH(10)	$BLANK
NATWAI		11		LENGTH(11)	$BLANK
NLAND		12		LENGTH(12)	$BLANK
NSTAR		13		LENGTH(13)	$BLANK
NOBDS		14		LENGTH(14)	$BLANK
NGBDS		15		LENGTH(15)	$BLANK
NSENS		16		LENGTH(16)	$BLANK
NDELPT		17		LENGTH(17)	$BLANK
NDELPR		18		LENGTH(18)	$BLANK
NTR		19		LENGTH(19)	$BLANK
NAUX1		20		LENGTH(20)	$BLANK
NAUX2		21		LENGTH(21)	$BLANK
NGBS		22		LENGTH(22)	$BLANK
NOBS		23		LENGTH(23)	$BLANK
NGBB		24		LENGTH(24)	$BLANK
NOBB		25		LENGTH(25)	$BLANK
NMCON		26		LENGTH(26)	$BLANK
NY		27		LENGTH(27)	$BLANK
NYMAX	2	28		LENGTH(28)	$BLANK
NUMOBS		30		LENGTH(30)	$BLANK
NPRTLS		31		LENGTH(31)	$BLANK
NIG	2	32		LENGTH(32)	$BLANK
NLP	2	34		LENGTH(34)	$BLANK
NBRN	2	36		LENGTH(36)	$BLANK
NAL	2	38		LENGTH(38)	$BLANK
NAL1		38		LENGTH(38)	$BLANK
NAL2		39		LENGTH(39)	$BLANK
NMCPLH		40		LENGTH(40)	$BLANK
NCARDS		41		LENGTH(41)	$BLANK
NSPTME		42		LENGTH(42)	$BLANK
NCVPRO		43		LENGTH(43)	$BLANK
NRVVEC	2	44		LENGTH(44)	$BLANK
NINPT		46		LENGTH(46)	$BLANK
NTTRG	2	47		LENGTH(47)	$BLANK
NYTRG		49		LENGTH(49)	$BLANK
VECJ	2	50	I	LENGTH(50)	$BLANK
NVC	2,2	52		LENGTH(52)	$BLANK
NJ	2	56		LENGTH(56)	$BLANK

MASTER ARRAY ... LENGTH(100) ...... INTEGR BUFR OF TABLE LENGTHS/PARAM COUNTS

SYMBOL	DIMENSION	LOC.	T	DESCRIPTION	
NCS	2	58		LENGTH(58)	$BLANK
NJCWD	2	60		LENGTH(60)	$BLANK
NCSCWD	2	62		LENGTH(62)	$BLANK
NMCODE		64		LENGTH(64)	$BLANK
NOPLOT		65		LENGTH(65)	$BLANK
NDELT		66		LENGTH(66)	$BLANK
LPOINT		67		LENGTH(67)	$BLANK
LK		68		LENGTH(68)	$BLANK
NSCX	3	69		LENGTH(69)	$BLANK
NAPRIS		69		LENGTH(69)	$BLANK
NAPRIC		70		LENGTH(70)	$BLANK
NAPRIX		71		LENGTH(71)	$BLANK
NVEHSE	2	72		LENGTH(72)	$BLANK
NEVTMX	2	74		LENGTH(74)	$BLANK
NSPEVT		76		LENGTH(76)	$BLANK
NMRSOL		77		LENGTH(77)	$BLANK
NMRCON		78		LENGTH(78)	$BLANK
NMCSOL		79		LENGTH(79)	$BLANK
NMCCON		80		LENGTH(80)	$BLANK
NSOLKP		81		LENGTH(81)	$BLANK
NCNOKP		82		LENGTH(82)	$BLANK
NSOLEP		83		LENGTH(83)	$BLANK
NCNSEP		84		LENGTH(84)	$BLANK
NBRNID	2	85		LENGTH(85)	$BLANK
NEPTM		87		LENGTH(87)	$BLANK
NMSTM		88		LENGTH(88)	$BLANK
NSDS		89		LENGTH(89)	$BLANK
NALC	2	90		LENGTH(90)	$BLANK
NIGC	2	92		LENGTH(92)	$BLANK
NLPC	2	94		LENGTH(94)	$BLANK
NGDD		96		LENGTH(96)	$BLANK
NODD		97		LENGTH(97)	$BLANK
NUMWM		98		LENGTH(99)	$BLANK

MASTER ARRAY ... IPOINT(60) ...... INTEGER BUFFER OF VSTR CONTROL INDEXES

SYMBOL	DIMENSION	LOC. T	DESCRIPTION	
MYTRG		1	IPOINT(1)	$BLANK
MDIF1		2	IPOINT(2)	$BLANK
MY1		3	IPOINT(3)	$BLANK
MYP1		4	IPOINT(4)	$BLANK
MYPP1		5	IPOINT(5)	$BLANK
MTTRG1		6	IPOINT(6)	$BLANK
MAUX1		7	IPOINT(7)	$BLANK
MCNAL1		8	IPOINT(8)	$BLANK
MALGN1		9	IPOINT(9)	$BLANK
MCNLP1		10	IPOINT(10)	$BLANK
MLNY1		11	IPOINT(11)	$BLANK
MCNIG1		12	IPOINT(12)	$BLANK
MINY1		13	IPOINT(13)	$BLANK
MLPB1		14	IPOINT(14)	$BLANK
MIGB1		15	IPOINT(15)	$BLANK
MCWEJ1		16	IPOINT(16)	$BLANK
MCWEC1		17	IPOINT(17)	$BLANK
MJE1		18	IPOINT(18)	$BLANK
MCSE1		19	IPOINT(19)	$BLANK
MCWMJ1		20	IPOINT(20)	$BLANK
MCWMC1		21	IPOINT(21)	$BLANK
MJM1		22	IPOINT(22)	$BLANK
MCSM1		23	IPOINT(23)	$BLANK
MMCON1		24	IPOINT(24)	$BLANK
MMCCW1		25	IPOINT(25)	$BLANK
MCAND3		26	IPOINT(26)	$BLANK
MSEV1		27	IPOINT(27)	$BLANK
MENOT1		28	IPOINT(28)	$BLANK
MMCAGA		29	IPOINT(29)	$BLANK@G@@@@
MSUNP		30	IPOINT(35)	$BLANK

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MASTER ARRAY ... IPOINT(60) ...... INTEGER BUFFER OF VSTR CONTROL INDEXES

SYMBOL	DIMENSION	LOC.	T	DESCRIPTION	
MSENID		1		IPOINT(1)	$BLANK
MISLC		2		IPOINT(2)	$BLANK
MSLC		3		IPOINT(3)	$BLANK
MTRI		4		IPOINT(4)	$BLANK
MTRB		5		IPOINT(5)	$BLANK
MAPRIQ		6		IPOINT(6)	$BLANK
MNEWQ		7		IPOINT(7)	$BLANK
MCNAL3		8		IPOINT(8)	$BLANK
MALGN3		9		IPOINT(9)	$BLANK
MCNAL4		10		IPOINT(10)	$BLANK
MALGN4		11		IPOINT(11)	$BLANK
MATWAI		12		IPOINT(12)	$BLANK
MLAND1		13		IPOINT(13)	$BLANK
MGBB1		14		IPOINT(14)	$BLANK
MDBB1		15		IPOINT(15)	$BLANK
MSTAR1		16		IPOINT(16)	$BLANK
MGBS1		17		IPOINT(17)	$BLANK
MOBS1		18		IPOINT(18)	$BLANK
MDELPR		19		IPOINT(19)	$BLANK
MDELPT		20		IPOINT(20)	$BLANK
MMPAVC		21		IPOINT(21)	$BLANK
MAVEC1		22		IPOINT(22)	$BLANK
MAVEC2		23		IPOINT(23)	$BLANK
MVAR1		24		IPOINT(24)	$BLANK
MRDIF1		25		IPOINT(25)	$BLANK
MAUX3		26		IPOINT(26)	$BLANK
MENDDC		27		IPOINT(27)	$BLANK

MASTER ARRAY ... IPOINT(60) ...... INTEGER BUFFER OF VSTR CONTROL INDEXES

SYMBOL	DIMENSION	LOC. T	DESCRIPTION	
MGBB2		6	IPOINT(6)	$BLANK
MOBB2		7	IPOINT(7)	$BLANK
MGBS2		8	IPOINT(8)	$BLANK
MOBS2		9	IPOINT(9)	$BLANK
MGDD		10	IPOINT(10)	$BLANK
MODD		11	IPOINT(11)	$BLANK
MALGN5		12	IPOINT(12)	$BLANK
MALGN6		13	IPOINT(13)	$BLANK
MSTAR2		14	IPOINT(14)	$BLANK
MLAND2		15	IPOINT(15)	$BLANK
MRDIF2		16	IPOINT(16)	$BLANK
MATWA5		17	IPOINT(17)	$BLANK
MENDDD		17	IPOINT(17)	$BLANK
MMPAV1		18	IPOINT(18)	$BLANK
MAVEC5		19	IPOINT(19)	$BLANK
MAVEC6		20	IPOINT(20)	$BLANK
MVAR5		21	IPOINT(21)	$BLANK
MAUX5		22	IPOINT(22)	$BLANK
MCNAL5		23	IPOINT(23)	$BLANK
MCNAL6		24	IPOINT(24)	$BLANK
MENDEA		25	IPOINT(25)	$BLANK
MLAB6		26	IPOINT(26)	$BLANK
MGBSDS		27	IPOINT(27)	$BLANK
MOBSDS		29	IPOINT(29)	$BLANK
MDELEA		37	IPOINT(37)	$BLANK

MASTER ARRAY ... IPOINT(60) ...... INTEGER BUFFER OF VSTR CONTROL INDEXES

SYMBOL	DIMENSION	LOC. T	DESCRIPTION	
MAPPLY		16	IPOINT(16)	$BLANK
MATAII		17	IPOINT(17)	$BLANK
MOLDQ		18	IPOINT(18)	$BLANK
MDQ		19	IPOINT(19)	$BLANK
MLABLS		20	IPOINT(20)	$BLANK
MSCALS		21	IPOINT(21)	$BLANK
MBNDS		22	IPOINT(22)	$BLANK
MLPB3		23	IPOINT(23)	$BLANK
MIGB3		24	IPOINT(24)	$BLANK
MLPB4		25	IPOINT(25)	$BLANK
MIGB4		26	IPOINT(26)	$BLANK
MCWEC3		27	IPOINT(28)	$BLANK
MCWEJ3		28	IPOINT(27)	$BLANK
MJE3		29	IPOINT(29)	$BLANK
MCSE3		30	IPOINT(30)	$BLANK
MCWMJ3		31	IPOINT(31)	$BLANK
MCWMC3		32	IPOINT(32)	$BLANK
MJM3		33	IPOINT(33)	$BLANK
MCSM3		34	IPOINT(34)	$BLANK
MMCON3		35	IPOINT(35)	$BLANK
MMCCW3		36	IPOINT(36)	$BLANK
MENDFA		37	IPOINT(37)	$BLANK

MASTER ARRAY ... IPOINT(60) ...... INTEGER BUFFER OF VSTR CONTROL INDEXES

SYMBOL	DIMENSION	LOC. T	DESCRIPTION	
MRSUM		1	IPOINT(1)	$BLANK
MPLOT	·	2	IPOINT(2)	$BLANK
MPBUFF		3	IPOINT(3)	$BLANK
MENDPP		4	IPOINT(4)	$BLANK

MASTER ARRAY ... IPOINT(60) ...... INTEGER BUFFER OF VSTR CONTROL INDEXES

SYMBOL	DIMENSION	LOC. T	DESCRIPTION	
MATWA2		1	IPOINT(1)	$BLANK
MATAI2		2	IPOINT(2)	$BLANK
MLBCV2		3	IPOINT(3)	$BLANK
MSCCV2		4	IPOINT(4)	$BLANK
MSIGZO		5	IPOINT(5)	$BLANK
ME		6	IPOINT(6)	$BLANK
MF1		7	IPOINT(7)	$BLANK
MSIG1		8	IPOINT(8)	$BLANK
MSIGXZ		9	IPOINT(9)	$BLANK
MENOCV		10	IPOINT(10)	$BLANK

MASTER ARRAY ... IPOINT(60) ...... INTEGER BUFFER OF VSTR CONTROL INDEXES

SYMBOL	DIMENSION	LOC.	T	DESCRIPTION	
MLBCV3		1		IPOINT(1)	$BLANK
MSCCV3		2		IPOINT(2)	$BLANK
MSIG2		3		IPOINT(3)	$BLANK
MTEM		4		IPOINT(4)	$BLANK
MROIF3		5		IPOINT(5)	$BLANK
MVAR2		6		IPOINT(6)	$BLANK
MSPROP		7		IPOINT(7)	$BLANK
MCVFN		8		IPOINT(8)	$BLANK
MCVTM		9		IPOINT(9)	$BLANK
MAUX4		10		IPOINT(10)	$BLANK
MSPTM		11		IPOINT(11)	$BLANK
MCVPRT		12		IPOINT(12)	$BLANK
MINPT		13		IPOINT(13)	$BLANK
MSPEV1		14		IPOINT(14)	$BLANK
MSPEV2		15		IPOINT(15)	$BLANK
MVE1		16		IPOINT(16)	$BLANK
MVE2		17		IPOINT(17)	$BLANK
MDELTT		18		IPOINT(19)	$BLANK
MENDTP		19		IPOINT(18)	$BLANK

MASTER ARRAY ... IPOINT(60) ...... INTEGER BUFFER OF VSTR CONTROL INDEXES

SYMBOL	DIMENSION	LOC. T	DESCRIPTION	
MAPLY1		1	IPOINT(1)	$BLANK
MLAB1		2	IPOINT(2)	$BLANK
MSCAL1		3	IPOINT(3)	$BLANK
MNEWO1		4	IPOINT(4)	$BLANK
MATWA4		5	IPOINT(5)	$BLANK
MALGN7		6	IPOINT(6)	$BLANK
MALGN8		7	IPOINT(7)	$BLANK
MLBCV4		8	IPOINT(8)	$BLANK
MSCCV4		9	IPOINT(9)	$BLANK
MENDCR		10	IPOINT(10)	$BLANK

MASTER ARRAY ... KPOINT(60) ...... INTEGER BUFFER OF READ INDEXES

SYMBOL	DIMENSION	LOC.	T	DESCRIPTION	
KRI	60	1		KPOINT(1)	$BLANK
K1		1		KPOINT(1)	$BLANK
K2		2		KPOINT(2)	$BLANK
K3		3		KPOINT(3)	$BLANK
K4		4		KPOINT(4)	$BLANK
K5		5		KPOINT(5)	$BLANK
K6		6		KPOINT(6)	$BLANK
K7		7		KPOINT(7)	$BLANK
K8		8		KPOINT(8)	$BLANK
K9		9		KPOINT(9)	$BLANK
K10		10		KPOINT(10)	$BLANK
K11		11		KPOINT(11)	$BLANK
K12		12		KPOINT(12)	$BLANK
K13		13		KPOINT(13)	$BLANK
K14		14		KPOINT(14)	$BLANK
K15		15		KPOINT(15)	$BLANK
K16		16		KPOINT(16)	$BLANK
K17		17		KPOINT(17)	$BLANK
K18		18		KPOINT(18)	$BLANK
K19		19		KPOINT(19)	$BLANK
K20		20		KPOINT(20)	$BLANK
K21		21		KPOINT(21)	$BLANK
K22		22		KPOINT(22)	$BLANK
K23		23		KPOINT(23)	$BLANK
K24		24		KPOINT(24)	$BLANK
K25		25		KPOINT(25)	$BLANK
K26		26		KPOINT(26)	$BLANK
K27		27		KPOINT(27)	$BLANK
K28		28		KPOINT(28)	$BLANK
K29		29		KPOINT(29)	$BLANK
K30		30		KPOINT(30)	$BLANK
K31		31		KPOINT(31)	$BLANK
K32		32		KPOINT(32)	$BLANK
K33		33		KPOINT(33)	$BLANK
K34		34		KPOINT(34)	$BLANK
K35		35		KPOINT(35)	$BLANK
K36		36		KPOINT(36)	$BLANK
K37		37		KPOINT(37)	$BLANK
K38		38		KPOINT(38)	$BLANK

MASTER ARRAY ... SCRCOM(200) ...... USER SCRATCH COMMON BUFFER

SYMBOL	DIMENSION	LOC.	T	DESCRIPTION	
SCRAT	200	1	D	SCRCOM(1)	$BLANK
ISCRAT	400	1		SCRCOM(1)	$BLANK

MASTER ARRAY ... EBUF (1000) ...... D.P. TAPE BUFFER ,EPHEM TAPE

SYMBOL	DIMENSION	LOC.	T	DESCRIPTION	
TAB3	829	1	D	EBUF(1)	$BLANK
NUTAT	204	830	R	EBUF(830)	$BLANK
TT	6	932	R	EBUF(932)	$BLANK
TBODY		935	R	EBUF(935)	$BLANK
AJD		936	R	EBUF(936)	$BLANK
BJD		937	R	EBUF(937)	$BLANK
STEP		938	R	EBUF(938)	$BLANK
.JDF		939	R	.EBUF(939)	$BLANK

DOUBLE PRECISION DCSTR
COMMON / DCSTOR / DCSTR (275), IDCSTR (50)

MASTER ARRAY ... DCSTR (275) ...... D.P. BUFFER FOR DC/SIM DATA LINKS

SYMBOL	DIMENSION	LOC.	T	DESCRIPTION	
SPMAT	6,8	1	D	DCSTR(1)	DCSTOR
AMAT	3,3	1	D	DCSTR(1)	DCSTOR
GMAT	3,3	10	D	DCSTR(10)	DCSTOR
DMAT	3,3	19	D	DCSTR(19)	DCSTOR
GDA	3,3	28	D	DCSTR(28)	DCSTOR
PHIMAT	3,3	37	D	DCSTR(37)	DCSTOR
P3	3	46	D	DCSTR(46)	DCSTOR
P3DOT	3	49	D	DCSTR(49)	DCSTOR
P3MAG		52	D	DCSTR(52)	DCSTOR
P3DOTM		53	D	DCSTR(53)	DCSTOR
DELT3	3	54	D	DCSTR(54)	DCSTOR
P4	3	57	D	DCSTR(57)	DCSTOR
P4DOT	3	60	D	DCSTR(60)	DCSTOR
P4MAG		63	D	DCSTR(63)	DCSTOR
P4DOTM		64	D	DCSTR(64)	DCSTOR
DELT4	3	65	D	DCSTR(65)	DCSTOR
XEMS	9,3,2	46	D	DCSTR(46)	DCSTOR
RADIUS	3	100	D	DCSTR(100)	DCSTOR
TCUR		103	D	DCSTR(103)	DCSTOR
COB	4	104	D	DCSTR(104)	DCSTOR
SHAFT		104	D	COB(1)	DCSTOR
TRUN		105	D	DCSTR(105)	DCSTOR
RANGE		106	D	DCSTR(106)	DCSTOR
RRATE		107	D	DCSTR(107)	DCSTOR
ABAR	6	108	D	DCSTR(108)	DCSTOR
PBAR	9	114	D	DCSTR(114)	DCSTOR
R1BAR	3	123	D	DCSTR(123)	DCSTOR
R2BAR	6	126	D	DCSTR(126)	DCSTOR
OBSPAR	6	132	D	DCSTR(132)	DCSTOR
OCT	2	139	D	DCSTR(139)	DCSTOR
OPHI	6	140	D	DCSTR(140)	DCSTOR
DELT1	3	146	D	DCSTR(146)	DCSTOR
DELT2	3	149	D	DCSTR(149)	DCSTOR
GBAI	3,4	152	D	DCSTR(152)	DCSTOR
U4	3	173	D	GBAI(1,4)	DCSTOR
STAPAR	6,3	152	D	DCSTR(152)	DCSTOR
VDMGR	6	170	D	DCSTR(170)	DCSTOR
WMOON	3	176	D	DCSTR(176)	DCSTOR
LRANG	8	179	D	DCSTR(179)	DCSTOR
STAPAT	6,3	170	D	DCSTR(170)	DCSTOR
P1	3	188	D	DCSTR(188)	DCSTOR
P1DOT	3	191	D	DCSTR(191)	DCSTOR
P1MAG		194	D	DCSTR(194)	DCSTOR

MASTER ARRAY ... DCSTR (275) ...... D.P. BUFFER FOR DC/SIM DATA LINKS

SYMBOL	DIMENSION	LOC.	T	DESCRIPTION	
P1DOTM		195	D	DCSTR(195)	DCSTOR
P1DDMG		196	D	DCSTR(196)	DCSTOR
GBA	3,4	197	D	DCSTR(197)	DCSTOR
P2	3	197	D	DCSTR(197)	DCSTOR
P2DOT	3	200	D	DCSTR(200)	DCSTOR
P2DDOT	3	203	D	DCSTR(203)	DCSTOR
P2MAG		206	D	DCSTR(206)	DCSTOR
P2DOTM		207	D	DCSTR(207)	DCSTOR
P2DDMG		208	D	DCSTR(208)	DCSTOR
AZR		209	D	DCSTR(209)	DCSTOR
ELR		210	D	DCSTR(210)	DCSTOR
VR	3	211	D	DCSTR(211)	DCSTOR
AUX	3,3	214	D	DCSTR(214)	DCSTOR
ALPHA		223	D	DCSTR(223)	DCSTOR
ELRDOT		224	D	DCSTR(224)	DCSTOR
BR		225	D	DCSTR(225)	DCSTOR
DR		226	D	DCSTR(226)	DCSTOR
CR		227	D	DCSTR(227)	DCSTOR
BT		228	D	DCSTR(228)	DCSTOR
DT		229	D	DCSTR(229)	DCSTOR
CT		230	D	DCSTR(230)	DCSTOR
ELT		231	D	DCSTR(231)	DCSTOR
ELTDOT		232	D	DCSTR(232)	DCSTOR
TR		233	D	DCSTR(233)	DCSTOR
TOP	3,3	234	D	DCSTR(234)	DCSTOR
A	3	243	D	DCSTR(243)	DCSTOR
DLAND	3	246	D	DCSTR(246)	DCSTOR
THETA		249	D	DCSTR(249)	DCSTOR
C		250	D	DCSTR(250)	DCSTOR
S		251	D	DCSTR(251)	DCSTOR
TJD		252	D	DCSTR(252)	DCSTOR
XH	3	253	D	DCSTR(253)	DCSTOR
DBIAS	5	256	D	DCSTR(256)	DCSTOR
DSIGMA	4	261	D	DCSTR(261)	DCSTOR
DSIG	4	265	D	DCSTR(265)	DCSTOR

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MASTER ARRAY ... IDCSTR(50) ...... INTEGER BUFFER FOR DC/SIM DATA LINKS

SYMBOL	DIMENSION	LOC.	T	DESCRIPTION	
IMP		1		IDCSTR(1)	DCSTOR
IEXP		2		IDCSTR(2)	DCSTOR
ITRANS		3		IDCSTR(3)	DCSTOR
IRECEV		4		IDCSTR(4)	DCSTOR
ID3DOP		5		IDCSTR(5)	DCSTOR
OBSFG2		6	I	IDCSTR(6)	DCSTOR
OBSFLG		7	I	IDCSTR(7)	DCSTOR
IUP		8		IDCSTR(8)	DCSTOR
IC	3	9		IDCSTR(9)	DCSTOR
IOBS		12		IDCSTR(12)	DCSTOR
KNTOBS		13		IDCSTR(13)	DCSTOR
LCB		14		IDCSTR(14)	DCSTOR
ILAND		15		IDCSTR(15)	DCSTOR
ISIGMA		16		IDCSTR(16)	DCSTOR
IPAS		17		IDCSTR(17)	DCSTOR
IL		18		IDCSTR(18)	DCSTOR
CCB		19	I	IDCSTR(19)	DCSTOR
IOBDS		20		IDCSTR(21)	DCSTOR
JSIGMA		21		IDCSTR(22)	DCSTOR
IREL		22		IDCSTR(23)	DCSTOR

DOUBLE PRECISION TRAJD
COMMON / TRAJEC / TRAJD (200), ITRAJ (40)

MASTER ARRAY ... TRAJD (200) ...... D.P. BUFFER FOR TRAJ LINK

SYMBOL	DIMENSION	LOC.	T	DESCRIPTION	
BFV	3	1	D	TRAJD(1)	TRAJEC
BFY	3	1	D	TRAJD(1)	TRAJEC
BX		1	D	TRAJD(1)	TRAJEC
BY		2	D	TRAJD(2)	TRAJEC
SRANGE		4	D	TRAJD(4)	TRAJEC
TPOT	3	5	D	TRAJD(5)	TRAJEC
TDRAG	3	8	D	TRAJD(8)	TRAJEC
TBPERT	3	11	D	TRAJD(11)	TRAJEC
TBURN	3	14	D	TRAJD(14)	TRAJEC
PVMAT	3,6	17	D	TRAJD(17)	TRAJEC
RNEW	9	35	D	TRAJD(36)	TRAJEC
LASTID		35	D	TRAJD(36)	TRAJEC
CRNTID		36	D	TRAJD(37)	TRAJEC
TBSTRT		37	D	TRAJD(38)	TRAJEC
BIASES	3	38	D	TRAJD(39)	TRAJEC
KMATRX	9	41	D	TRAJD(42)	TRAJEC
TNULL		44	D	TRAJD(45)	TRAJEC
CB		45	D	TRAJD(46)	TRAJEC
SB		46	D	TRAJD(47)	TRAJEC
TEM1	3	47	D	TRAJD(48)	TRAJEC
UMATRX	9	50	D	TRAJD(51)	TRAJEC
TEM2	3	50	D	TRAJD(51)	TRAJEC
W		53	D	TRAJD(54)	TRAJEC
ATEMP6	3	54	D	TRAJD(55)	TRAJEC
ATEMP7	3	57	D	TRAJD(58)	TRAJEC
OMEGA		59	D	TRAJD(60)	TRAJEC
ATEMP8	3	60	D	TRAJD(61)	TRAJEC
BTEMP6	3	63	D	TRAJD(64)	TRAJEC
BTEMP7	3	66	D	TRAJD(67)	TRAJEC
HW	9	60	D	TRAJD(61)	TRAJEC
BTEMP8	3	69	D	TRAJD(70)	TRAJEC
CTEMP6	3	72	D	TRAJD(73)	TRAJEC
CTEMP7	3	75	D	TRAJD(76)	TRAJEC
H2W2	9	69	D	TRAJD(70)	TRAJEC
CTEMP8	3	78	D	TRAJD(79)	TRAJEC
DTEMP6	3	81	D	TRAJD(82)	TRAJEC
DTEMP7	3	84	D	TRAJD(85)	TRAJEC
PHIOI	9	78	D	TRAJD(79)	TRAJEC
IKMAT	9	87	D	TRAJD(88)	TRAJEC
DTEMP8	3	87	D	TRAJD(88)	TRAJEC
AK		90	D	TRAJD(91)	TRAJEC
ANULL		91	D	TRAJD(92)	TRAJEC
GAMMAO	9	92	D	TRAJD(93)	TRAJEC

MASTER ARRAY ... TRAJD (200) ...... D.P. BUFFER FOR TRAJ LINK

SYMBOL	DIMENSION	LOC.	T	DESCRIPTION	
GAMDTA	9	96	D	TRAJD(97)	TRAJEC
RZERO	9	105	D	TRAJD(106)	TRAJEC
GAMRZO	9	114	D	TRAJD(115)	TRAJEC
TIGS		123	D	TRAJD(124)	TRAJEC
ACCIGS	3	124	D	TRAJD(125)	TRAJEC
VELIGS	3	127	D	TRAJD(128)	TRAJEC
APRIME	3	130	D	TRAJD(131)	TRAJEC
RMATRX	9	133	D	TRAJD(134)	TRAJEC
IGSTEP		142	D	TRAJD(143)	TRAJEC
TBCFF		143	D	TRAJD(144)	TRAJEC

MASTER ARRAY ... ITRAJ (40) ...... INTEGER BUFFER FOR TRAJ LINK

SYMBOL	DIMENSION	LOC. T		DESCRIPTION
KFLAG		1	ITRAJ(1)	TRAJEC
IFLAG		2	ITRAJ(2)	TRAJEC
JBODY		3	ITRAJ(3)	TRAJEC
IALT		4	ITRAJ(4)	TRAJEC
NCOL		5	ITRAJ(5)	TRAJEC
IGSTAP		6	ITRAJ(6)	TRAJEC
IGSFLG		7	ITRAJ(7)	TRAJEC
LOGIC		8	ITRAJ(8)	TRAJEC
IPRINT		9	ITRAJ(9)	TRAJEC
BURNSC		10 I	ITRAJ(10)	TRAJEC

DOUBLE PRECISION STTAP
COMMON / STTAPE / STTAP (181), NWDREC

MASTER ARRAY ... STTAP (181) ......

SYMBOL	DIMENSION	LOC.	T	DESCRIPTION	
SCRT	181	1	D	STTAP(1)	STTAPE

MASTER ARRAY ... NWDREC(0) ......

SYMBOL	DIMENSION	LOC.	T	DESCRIPTION
NWDREC		1		

COMMON/QQC04/QQC04 (1000)

MASTER ARRAY ... QQC04 (1000) ......

SYMBOL	DIMENSION	LOC.	T	DESCRIPTION
QQC04		1	I	
ICONTL	900	1		QQC04

Table 3-5. Subroutine/Variable Cross Reference

COMGEN 'DPNDCY' OPERATION.

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              SUBROUTINE/VARIABLE CROSS-REFERENCE
   NAME          VARIABLES REFERENCED
  ------        -------------------------

 AEIXYZ         CPI      IFLP     KOUT     LISTIT   YES

 ALLOW          IFLP     KOUT     KVEH     LRCN     OI       OT
                RADCN    SXTCN    TCUR     TELCN    VHFCN

 ANGLE          ALPHA    AUX      AZR      CANEPS   CPI2     CWE
                DBIAS    DSIGMA   ELR      HRTYPE   IAPT     IDREC
                IFLP     IRECEV   KOUT     KRNUM    KVEH     LISTIT
                NPRP1    NVECOL   OBSPAR   OBSREC   P2       P2DOT
                P2MAG    RTYPE    STAPAR   TOP      VR       YES

 ANPAR          IFLP     KOUT     LISTIT   YES

 APLYRD         IFLP     KOUT     LISTIT   YES

 APPLY          BASE     CBORB    CDAD2M   CGMR     CLCKB    CMU
                EHBIAS   IOCFLG   IFEBT    IFITFL   IFLP     INITCB
                IRE0     ITABOD   KDRUM1   KDRUM2   KOUT     K1
                K10      K11      K12      K13      K14      K15
                K16      K17      K18      K2       K21      K22
                K23      K24      K25      K26      K27      K28
                K29      K3       K30      K31      K32      K33
                K34      K4       K5       K6       K7       K8
                K9       LISTIT   LNDTR    MALR     NDRUM    NSOLVE
                NVC      PADM     PLNRFL   RADMLR   SAVAPI   SCRAT
                SPIN     STATE0   TMIN     TMINT    YES

 APPRT          HRTYPE   IERR     IFLP     KDRUM2   KOUT     MAXM
                MXVSTR   NCNSID   NDRUM    NSOLVE   NVC      RTYPE
                SCRAT

 APRI           CBORB    IAPTVP   IOCFLG   NSOLVE   SAVAPI   SCRAT
                STATE0

 ASSCKM         IFLP     IPOINT   KOUT     LISTIT   YES
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SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED)

NAME	VARIABLES REFERENCED				
ASSIGN	COVPRT	HRTYPE	IFATAL	IFLP	IOBO	IPOINT
	JCVFLG	KDRUM2	KOUT	KRI	LK	LNDTR
	LPOINT	MALGN1	MALGN3	MALGN4	MALGN5	MALGN6
	MALGN7	MALGN8	MAPLY1	MAPPLY	MAPRIQ	MATAII
	MATAI2	MATWA1	MATWA2	MATWA4	MATWA5	MAUX1
	MAUX3	MAUX4	MAUX5	MAVEC1	MAVEC2	MAVEC5
	MAVEC6	MBNDS	MCNAL1	MCNAL3	MCNAL4	MCNAL5
	MCNAL6	MCNIG1	MCNLP1	MCSE1	MCSE3	MCSM1
	MCSM3	MCVFN	MCVPRT	MCVTM	MCWEC1	MCWEC3
	MCWEJ1	MCWEJ3	MCWMC1	MCWMC3	MCWMJ1	MCWMJ3
	MDELEA	MDELPR	MDELPT	MDELTT	MDIF1	MDQ
	ME	MENDCR	MENDCV	MENDDC	MENDDD	MENDEA
	MENDFA	MENDPP	MENDTP	MENDTI	MF1	MGBB1
	MGBB2	MGBSDS	MGBS1	MGBS2	MGDD	MIGB1
	MIGB3	MIGB4	MINPT	MINY1	MISLC	MJE1
	MJE3	MJM1	MJM3	MLABLS	MLAB1	MLAB6
	MLAND1	MLAND2	MLAND3	MLBCV2	MLBCV3	MLBCV4
	MLNY1	MLPB1	MLPB3	MLPB4	MMCAGA	MMCCW1
	MMCCW3	MMCON1	MMCON3	MMPAVC	MMPAV1	MNEWQ
	MNEWQ1	MOBB1	MOBB2	MOBSDS	MOBS1	MOBS2
	MODD	MOLDQ	MPBUFF	MPLOT	MRDIF1	MRDIF2
	MRDIF3	MRSUM	MSCALS	MSCAL1	MSCCV2	MSCCV3
	MSCCV4	MSENID	MSEV1	MSIGXZ	MSIGZO	MSIG1
	MSIG2	MSLC	MSPEV1	MSPROP	MSPTM	MSTAR1
	MSTAR2	MSUNP	MTEM	MTRB	MTRI	MTTRG1
	MVAR1	MVAR2	MVAR5	MVE1	MVE2	MYPP1
	MYP1	MYTRG	MY1	NAL1	NAL2	NATWA
	NATWA1	NAUX1	NAUX2	NCNSID	NCS	NCSCWD
	NCVPRO	NDELPR	NDELPT	NDELT	NDRUM	NEVTMX
	NGBB	NGBDS	NGBS	NGDD	NIG	NINPT
	NJ	NJCWD	NLAND	NLP	NMCODE	NMCON
	NMCPLH	NOBB	NOBDS	NOBS	NODD	NOPLOT
	NPR	NPRP1	NSENS	NSOLVE	NSPEVT	NSPTME
	NSTAR	NSZ1	NSZ2	NTR	NTTRG	NUMWM
	NVC	NVECOL	NVEH	NYMAX	NYTRG	RTYPE
ATAMAT	CBORB	COVCRD	IERR	IFLP	INITCB	IREQ
	ISTYPE	ITABOD	IVCOV	JCVFLG	KDRUM1	KOUT
	LISTIT	MATUN	NCNSID	NDRUM	NSCX	NSOLVE
	RTYPE	SCRAT	STATEO	TABOUT	TMIN	TMINT
	YES					
AXESOC	ALGNER	ALIGN	ALNMAT	AMAT	BASE	CETUT
	CPI	DMAT	DRIFT	GDA	GIMBAL	GMAT
	IFLP	INALN	KOUT	KVEH	LISTIT	OI
	ORANG	OT	PHIMAT	TA	TCUR	YES

SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED)

NAME	VARIABLES REFERENCED

AXESOD	ALGNER	ALIGN	ALNMAT	AMAT	BASE	CCB
	CETUT	CPI	CWM	DMAT	DRIFT	GDA
	GIMBAL	GMAT	IFLP	IL	INALN	KOUT
	KVEH	LISTIT	OI	ORANG	OT	PHIMAT
	TA	TCUR	XEMS	YES		

| BAFILL | IAPT | IFATAL | IFLP | KOUT | NAL | NALC |
| | NIG | | | | | |

BAPRC	ALNMAT	ATYPE	CARD	CETUT	CINAAB	CINDAB
	CINTAB	EQBT	HALN	ICARD	IERROR	IFATAL
	IFLP	INALN	INFLD	INO	ISCRP	ISYM
	KOUT	LISTIT	MAXM	MAXNYB	MINSTP	MXVSTR
	NAL	NALC	NBRNIO	NIG	NIGC	NLP
	NLPC	SCRAT	TJDALN	YES		

| BAPRNT | IFLP | KOUT | | | | |

BAPRT	ATYPE	BASE	CORTAB	DAY	HALN	IERR
	IFLP	ISCAL	ISCLSP	IVEHN	KDRUM2	KOUT
	MAXM	MINSTP	MXVSTR	NAL	NDRUM	NIG
	NLP	NVEH	SCALES	SCLSP	SEQD	SPIN
	SRNGL	STIME	STIMN	CETUT		

| BATIM | ATYPE | BASE | DAY | IFATAL | IFLP | KOUT |
| | LISTIT | NAL | NIG | NLP | YES | CETUT |

BAWRT	ATYPE	IFLP	KDRUM2	KOUT	LISTIT	NAL
	NALC	NDRUM	NIG	NIGC	NLP	NLPC
	YES					

| BCONST | CONST | KONST | | | | |

| BDSCAN | IFLP | KDRUM2 | KOUT | LISTIT | NBAL | NBIG |
| | NBLP | NBTB | NDRUM | YES | | |

BIAPRC	CARD	CINAGB	CINAOB	CINDGB	CINDOB	CINTGB
	CINTOB	CINTSN	HRTYPE	ICARD	IERR	IERROR
	IFLP	IGBO	ILOC	ILOCLR	INFLD	INO
	INSTWD	IOBO	ISCRP	ISYM	JCVFLG	KDRUM2
	KONSOL	KOUT	LISTIT	LRDWRD	LSPIN	MXVSTR
	NDRUM	NGBB	NOBB	NTR	RTYPE	SCRAT
	YES					

BNDPRC	BNDIN	CARD	HRTYPE	ICARD	IERROR	IFLP
	INFLD	INO	ISCRP	ISYM	JCVFLG	KDRUM2
	KOUT	LISTIT	MXVSTR	NBAL	NBIG	NBLP
	NBTB	NDRUM	RTYPE	YES		

SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED)

NAME	VARIABLES REFERENCED				
AXESDD	ALGNER	ALIGN	ALNMAT	AMAT	BASE	CCB
	CETUT	CPI	CWM	DMAT	DRIFT	GDA
	GIMBAL	GMAT	IFLP	IL	INALN	KOUT
	KVEH	LISTIT	OI	ORANG	OT	PHIMAT
	TA	TCUR	XEMS	YES		
BAFILL	IAPT	IFATAL	IFLP	KOUT	NAL	NALC
	NIG					
BAPRC	ALNMAT	ATYPE	CARD	CETUT	CINAAB	CINDAB
	CINTAB	EQBT	HALN	ICARD	IERROR	IFATAL
	IFLP	INALN	INFLD	INO	ISCRP	ISYM
	KOUT	LISTIT	MAXM	MAXNYB	MINSTP	MXVSTR
	NAL	NALC	NBRNID	NIG	NIGC	NLP
	NLPC	SCRAT	TJDALN	YES		
BAPRNT	IFLP	KOUT				
BAPRT	ATYPE	BASE	CORTAB	DAY	HALN	IERR
	IFLP	ISCAL	ISCLSP	IVEHN	KDRUM2	KOUT
	MAXM	MINSTP	MXVSTR	NAL	NDRUM	NIG
	NLP	NVEH	SCALES	SCLSP	SEQD	SPIN
	SRNGL	STIME	STIMN	CETUT		
BATIM	ATYPE	BASE	DAY	IFATAL	IFLP	KOUT
	LISTIT	NAL	NIG	NLP	YES	CETUT
BAWRT	ATYPE	IFLP	KDRUM2	KOUT	LISTIT	NAL
	NALC	NDRUM	NIG	NIGC	NLP	NLPC
	YES					
BCONST	CONST	KONST				
BDSCAN	IFLP	KDRUM2	KOUT	LISTIT	NBAL	NBIG
	NBLP	NBTB	NDRUM	YES		
BIAPRC	CARD	CINAGB	CINAOB	CINDGB	CINDOB	CINTGB
	CINTOB	CINTSN	HRTYPE	ICARD	IERR	IERROR
	IFLP	IGBO	ILOC	ILOCLR	INFLD	INO
	INSTWO	IOBO	ISCRP	ISYM	JCVFLG	KDRUM2
	KONSOL	KOUT	LISTIT	LRDWRD	LSPIN	MXVSTR
	NDRUM	NGBB	NOBB	NTR	RTYPE	SCRAT
	YES					
BNDPRC	BNDIN	CARD	HRTYPE	ICARD	IERROR	IFLP
	INFLD	INO	ISCRP	ISYM	JCVFLG	KDRUM2
	KOUT	LISTIT	MXVSTR	NBAL	NBIG	NBLP
	NBTB	NDRUM	RTYPE	YES		

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SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED)

NAME	VARIABLES REFERENCED				
BOOPRT	CENTAB	CGMR	IFLP	KOUT	NCONST	PERBOD
BODY	BODEP ITABOD SRANGE TMINT	CGMR KVEH STOCWD	CMU MRCWD TABOUT	COVDA1 NCENTR TBLOCK	IEPCWD PERBOD TBPERT	IFLAG PVMAT TMIN
CAVEC	IAPT OT	IA1 RELUPD	IA2	IMP	NVEH	OBSPAR
CENDET	CELLIP	CAE				
CKALGN	IFATAL NVC	IFLP	KONSOL	KOUT	NAL	NALC
CKBURN	BURNWD NIG	IERR NLP	IFLP	KOUT	NBRN	NBRNID
CKIGS	BASE KOUT	DAY NIG	IFATAL NIGC	IFLP NVC	KIGS SCRAT	KONSOL TMIN
CKLOP	IFATAL NVC	IFLP TMIN	KONSOL	KOUT	NLP	NLPC
CMABAT	SCRAT					
COMPAL	ALIGN NAL2	HRTYPE RTYPE	IA1 TA	IA2 TCUR	IGNAL XEMS	NAL1
COMPT	GDA	PBAR	PHIMAT			
CONPRT	IFLP	NCONST	NKONST			
CONSUB	CONST	IFLP	KONST	KOUT		
CONTIM	BASE DTCAL IERR KDRUM1 MXVSTR NSPTME TCAL YES	COAD2M DTLIM IFATAL KDRUM2 NCVPRO NSZ1 TGTTIM	DCCAL EOBT IFLP KOUT NDELT NSZ2 TIMEIN	DCLIM FDATE ISTYPE LISTIT NDRUM NVEH TMIN	DLCAL FIXDAT ITGTTM LNDTR NEPTM RTYPE TPD	DLLIM HRTYPE JULMOD MAXM NMSTM TCA TRJPRT
COOT	CGMR	CMU	IFLP	KOUT		

SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED)

NAME	VARIABLES REFERENCED

COVA

BASE	CASE	CETUT	COUA	COUD	COUT
COVPRT	GETJD	IFLP	IREQ	ITABOD	IVEHN
JOEQXT	KOUT	KT6TAP	KVEH	NCENTR	NCNSID
NSOLVE	SCRAT	SPTRAJ	TABOUT	TMIN	TPD
T6TAPE					

COVMAT

IFLP	KDRUM1	KOUT	LISTIT	NDRUM	NSCX
YES					

COVPRC

CARD	CETUT	COVCRD	COVDAT	COVPRT	HCOV
ICARD	IEPHR	IERR	IERROR	IFATAL	IFLP
INFLD	INITCB	ISCRP	ISTYPE	ISYM	JCVFLG
KDRUM1	KOUT	LISTIT	MATUN	MXVSTR	NDRUM
NSCX	RTYPE	YES			

COVRD

IPOINT	JCVFLG	KDRUM2	KPOINT	K1	K2
LK	LPOINT	MATAI1	MATWA1	MATWA2	MENDCV
MLAND1	MOLDQ	MSIGZO	NCNSID	NDRUM	NSOLVE

COVSUP

CKMODE	LISTIT	MATAI2	MATWA2	ME	MF1
MLBCV2	MSCCV2	MSIGXZ	MSIGZO	MSIG1	NATWAI
NCNSID	NSOLVE	YES			

CRDGEN

BASCL	BASE	CBORB	DAY	HRTYPE	IDCFLG
IFAST	IFLP	IGNAL	KDRUM2	KOUT	LISTIT
NAL	NDRUM	NSOLVE	NVC	NVEH	RESTRT
RTYPE	STATEO	STATIN	YES		

CRDIMG

IFLP	ISCRAT	KDRUM1	KDRUM2	KOUT	LISTIT
NCARDS	NDRUM	TITLE	YES		

CRDMRG

IFLP	KDRUM2	KOUT	MAXM	MXVSTR	NDRUM

CRDPRC

IFAST	IFLP	KIN	KINT	KOUT	MAXM
MXVSTR	NDRUM	RESTRT			

CRDPRI

IFLP	KDRUM1	KDRUM2	KOUT	LISTIT	MAXM
MXVSTR	NDRUM	QQCO4	YES		

CRDRD

HRTYPE	IGNAL	IOBO	IPOINT	KDRUM1	KDRUM2
KPOINT	K1	K10	K2	K3	K4
K5	K6	K7	K8	K9	LK
LPOINT	MENDCR	NDRUM	RESTRT	RTYPE	

CRDSAV

IFAST	KDRUM2	NCARDS	NDRUM

CRDSUP

CKMODE	LISTIT	MALGN7	MALGN8	MAPLY1	MATWA4
MLAB1	MNEWD1	MSCAL1	MSCCV4	RESTRT	YES

NAME	VARIABLES REFERENCED				
CTOP	C2PI				
CVPRT	CBORB	IDCFLG	IERR	IFLP	ISTYPE	IVCOV
	KDRUM1	KDRUM2	KOUT	MAXM	MXVSTR	NAPRIC
	NAPRIS	NAPRIX	NCNSID	NDRUM	NSOLVE	STATEO
DACON	COBSTM	DAY	JULMOD			
DAUX	BASE	BFY	CALPHG	CDAD2M	CETUT	CGMR
	CMU	CWE	DAY	IALT	IAPT	IEPSTR
	IFLAG	IFLP	JBODY	KBURN	KOUT	KVEH
	LISTIT	MRCWD	NCENTR	NCNDXP	NCNSEP	NCOL
	NCS	NJ	NMCCON	NMCON	NMCSOL	NMRCON
	NMRSOL	NSOLEP	NSOLKP	NY	PADM	PERBOD
	PVMAT	RFLWRD	SRANGE	STOCWD	TBLOCK	TBPERT
	TBURN	TDRAG	TPOT	TTOM	TTOMT	VECJ
	YES					
DCRD	IPOINT	KDRUM1	KDRUM2	KPOINT	K1	K10
	K11	K12	K13	K14	K17	K18
	K19	K2	K20	K21	K22	K23
	K24	K25	K26	K27	K28	K29
	K3	K30	K31	K32	K33	K34
	K4	K5	K6	K7	K8	K9
	LK	LPOINT	MAPRIQ	MATWA1	MENDDC	MISLC
	MNEWQ	MSLC	NDRUM	NSCX		
DCSUP	IFLP	KOUT	MALGN3	MALGN4	MATWA1	MAUX3
	MAVEC1	MAVEC2	MCNAL3	MCNAL4	MDELPR	MDELPT
	MGBB1	MGBS1	MISLC	MLAND1	MMPAVC	MOBB1
	MOBS1	MRDIF1	MSENID	MSLC	MSTAR1	MTRB
	MTRI	MVAR1	NUMOBS			
DDRD	HRTYPE	IPOINT	KDRUM1	KDRUM2	KPOINT	K1
	K10	K11	K12	K13	K14	K15
	K16	K17	K18	K19	K2	K20
	K21	K22	K23	K24	K25	K26
	K29	K3	K30	K31	K32	K33
	K34	K35	K36	K37	K38	K4
	K5	K6	K7	K8	K9	LK
	LPOINT	MENODD	NAL	NDRUM	RTYPE	

SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED)

NAME	VARIABLES REFERENCED				
DDSUP	CKMODE	ERTAP1	HRTYPE	IFLP	IGBO	INATMA
	IOBO	ISCRAP	JCVFLG	KOUT	LISTIT	MALGN5
	MALGN5	MATWA5	MAUX5	MAVEC5	MAVEC6	MCNAL5
	MCNAL6	MDELEA	MENOEA	MGBB2	MGBSDS	MGBS2
	MGDD	MISLC	MLAND2	MMPAV1	MOBB2	MOBSDS
	MOBS2	MODD	MRDIF2	MSENID	MSLC	MSTAR2
	MTRB	MTRI	MVAR5	NCNSID	NEPTM	NMSTM
	NSOLVE	NSPTME	RTYPE	YES		
DECODE	ICODSC	IERR	IFATAL	IFLP	KATLOC	KOUT
	LISTIT	NS	SCRAT	SOLVE	YES	
DELAY	BASE	CLIGHT	CLTEPS	IFEBT	IFLP	IREQ
	ITABOD	KOUT	KVEH	LISTIT	LTIME	SPMAT
	TMINT	TTOMT	YES			
DELET	KNTOBS	KOUT	LISTIT	NDELPR	NDELPT	NSIG
	OBSFG2	OBSFLG	RESREC	YES		
DETCEN	CAE	CBE				
DOPLER	CLIGHT	CSFREQ	CW3	CW4	DBIAS	DELT1
	DELT2	DELT3	DELT4	DSIGMA	HRTYPE	IAPT
	IDREC	ID3DOP	IFLP	IMP	IRECEV	IREL
	ITRANS	KOUT	KRNUM	KVEH	LISTIT	NPRP1
	NTR	NVECOL	OBSPAR	OBSREC	P1	P1DDMG
	P1DOT	P1DDTM	P1MAG	P2	P2DDMG	P2DOT
	P2DDTM	P2MAG	P3	P3DOT	P3DDTM	P3MAG
	P4	P4DOT	P4DDTM	P4MAG	RTYPE	STAPAR
	STAPAT	YES				
DOPPRT	IFLP	ISCAL	KDRUM2	KOUT	NDRUM	NTR
	SCALES					
OPRLM	BASE	CAE	CALPHD	CALPHG	CBE	CBCRB
	CELIPM	CELLIP	CETUT	CGMR	CMU	CRCB
	CSPHIN	CWM	DAY	DCLIM	EQBT	HEQD
	HEQX	HRTYPE	ICTYPE	IEPHR	IERR	IFATAL
	IFEBT	IFLP	INEQX	INITCB	IQEQXD	IREQ
	ISPCWD	ISPIN	ITABOD	JQEQXD	JOINEQ	KDRUM2
	KONSOL	KOUT	LISTIT	LNDTR	LSPIN	LTIME
	NDRUM	NLAND	NVEH	RANGL	RTYPE	SAVAPI
	SAVLIM	SCALES	SCLSP	SCRAT	SEQD	SPIN
	SRNGL	STATEQ	STIME	TABOUT	TEQ	TMIN
	TMINT	TTOM	TTOMT	YES		
OPRT	ALGNER	DRIFT	SCRAT	TA	TCUR	

SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED)

NAME	VARIABLES REFERENCED				
DPVSTR	JCVFLG	KDRUM1	KDRUM2	KDRUM3	NDRUM	NEPTM
	NMSTM	NSCX	NSDS	NSOLVE	NSPTME	
DRAG	BX	BY	CDAD2M	CELLIP	CWE	FEET
	IFLAG	KVEH	PVMAT	SRANGE	STDCWD	TDRAG
	IDRAG	TTOM	TTOMT			
DUMCAL	ALPHA	AUX	AZR	BASE	BR	BT
	CALPHG	CANEPS	CETUT	CGMR	CLTTOL	CMINEL
	CMU	CPI2	CR	CT	CWE	DBIAS
	DCLIM1	DELT1	DELT2	DELT3	DELT4	DLLIM
	DR	DSIG	DSIGMA	DT	ELR	ELRDOT
	ELT	ELTDOT	HRTYPE	IDREC	IFAST	IFEBT
	IFLP	IMP	IOBO	IRECEV	IREL	IREQ
	ISCRAT	ITABOD	ITRANS	KOB	KOUT	KVEH
	LISTIT	LNDTR	NCENTR	NCNSEP	NCNSID	NGBB
	NGBDS	NGBS	NGDD	NPRP1	NSENS	NSOLEP
	NTR	NVECOL	OBSREC	P1	P1DDMG	P1DOT
	P1DOTM	P1MAG	P2	P2DDMG	P2DDOT	P2DOT
	P2DOTM	P2MAG	P3	P3DOT	P3DOTM	P3MAG
	P4	P4DOT	P4DOTM	P4MAG	RTYPE	SCRCOM
	STAPAR	STAPAT	TABOUT	TMINT	TOP	TR
	TTOM	TTOMT	UTIMB	VR	YES	
DUMPRC	BASE	CARD	CINAOB	CINTGB	CINTOB	DAY
	ICARD	IERR	IERROR	IFLP	IGBO	INATMA
	INFLD	INO	IOBO	ISCRAT	ISCRP	ISYM
	IVEHN	KDRUM2	KOUT	LISTIT	MXVSTR	NDRUM
	NGBDS	NGDD	NOBDS	NODD	NSOS	YES
DWRTT	ALGNER	DRIFT	SCRAT	TA	TCUR	
EAINIT	IFLP	ISCRAP	IVER	KOUT	TITLE	
EAMTRX	IDCFLG	KDIF	KVEH	NCENTR	NYMAX	
EATAPE	DCLIM	DLLIM	IFLP	IGBO	INATMA	IOBO
	ISCRAP	ISCRAT	KDIF	KDRUM2	KDRUM3	KOUT
	KVEH	LISTIT	LNDTR	MALGN5	MALGN6	MATWA5
	MAUX5	MAVEC5	MAVEC6	MCNAL5	MCNAL6	MGBB2
	MGBSDS	MGBS2	MGDD	MISLC	MLAND2	MMPAV1
	MOBB2	MOBSDS	MOBS2	MODD	MRDIF2	MSENID
	MSLC	MSTAR2	MTRB	MTRI	MVAR5	NCENTR
	NCNSID	NDELT	NDRUM	NEPTM	NMSTM	NSOS
	NSPTME	NVEH	NYMAX	SCRAT	YES	
EAWRT	ISCRAN	ISCRAP	KOUT			

SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED)

NAME	VARIABLES REFERENCED				
EDTPRC	CARD INO MXVSTR	ICARD ISCRP NDELPR	IERR ISYM NDELPT	IERROR KDRUM2 NDRUM	IFLP KOUT YES	INFLD LISTIT
ENDSTP	BASE CMU IREQ NYTRG	CAE CPI2 ITABOD TABOUT	CALPHG CRCB KFLAG TBLOCK	CELLIP CWE KVEH TMINT	CETUT C2PI LONG TTOMT	CGMR DAY NCENTR YTRGCD
EPHACC	BODEP TMIN	COVDAI TMINT	IEPCWD	IEPSTR	KVEH	TABOUT
EPHEM	BASE ITABOD TAB3	CAU JULMOD TMINT	CEMRAT KEPHEM TPD	CETUT NUTAT	IEPHR REM	IREQ TABOUT
EREAD	AJD NUTAT	BJD STEP	ETITLE TAB3	ICW TBODY	JDF	KEPHEM
ERRPRC	IFASNP					
EXPADD	IAPT	IEXP	OPHI			
EXPLIC	ALGNER	OMAT	ORIFT	OBSREC	SCRAT	TA
FAIRD	IPOINT K20	KDRUM2 LK	KPOINT LPOINT	K1 MAPPLY	K19 MENDFA	K2 NDRUM
FAISUP	CKMODE MATAI1 MGBB1 MLAND1 MOLDQ	LISTIT MATWA1 MIGB3 MLPB3 MSCALS	MALGN3 MBNOS MIGB4 MLPB4 MSLC	MALGN4 MCSE3 MJE3 MMCON3 MTRB	MAPPLY MCSM3 MJM3 MNEWQ YES	MAPRIQ MDQ MLABLS MOBB1
FIT	BESTSS ITCNT MAXIT NVC	CFTEPS ITDV NATWA PRSS	CRMS KDRUM1 NATWAI SAVLIM	DTLIM KNTDIV NDRUM XBSQ	IFITFL KOUT NSOLVE YES	IFLP LISTIT NUMOBS
FLIP	IVER	KOUT	LINCT	NPAGE	TITLE	
FOFVEC	A					
FORM	IFLP NUMOBS	KOUT YES	LISTIT	NATWA	NPRP1	NSOLVE
FULVAR	IAPT NAUXI	IFAST NBRN	IFLP SCRAT	KOUT YES	KVEH	LISTIT

SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED)

NAME	VARIABLES REFERENCED				
GBBPRT	IFLP NSENS	ISCAL SCALES	KDRUM2	KOUT	NDRUM	NGBB
GBOBS	CINAGB IDREC JULMOD YES	CINDGB IERR KGB	CINTGB IFLP KIN	CNTGB IGBO KOUT	COBSTM ISORT LISTIT	DAY ISPT OBSREC
GBPRT	HRTYPE MAXM NSENS	IERR MXVSTR NTR	IFLP NDRUM RTYPE	IGBO NGBB	KDRUM2 NGBOS	KOUT NGBS
GBSPRT	IFLP NSENS	ISCAL SCALES	KDRUM2	KOUT	NDRUM	NGBS
GODPRT	BASE NDRUM SCALES	DAY NGBB	IFLP NGBDS	ISCAL NGBS	KDRUM2 NSENS	KOUT NTR
GETALN	ALGNER IFLP RTYPE	ALIGN KOUT TA	DRIFT KVEH YES	HRTYPE LISTIT	IA1 NAL1	IA2 NAL2
GETBND	IFLP YES	KOUT	LISTIT	NBAL	NBIG	NBLP
GETCAT	IFLP NAL NJ NPOT	KDRUM1 NCS NJCWD NSENS	KDRUM2 NCSCWD NLAND NTR	KOUT NDRUM NLP YES	LISTIT NGBB NMCON	LNDTR NIG NOBB
GETLBL	ICODSC KOUT NLAND	IDCFLG LISTIT NLP	IFLP LNDTR NSENS	ISCRAT NAL SOLVE	KATLOC NDRUM YES	KDRUM2 NIG
GETREC	CKMODE OBSREC	COBSTM OTITLE	IDREC RESREC	IFLP YES	KOUT	LISTIT
GETSCL	IFLP OSCAL	ISCAL SCALES	ISCLSP SCLSP	KOUT SCOUT	LISTIT YES	LNDTR
GETT	CLCKB IOBDS LISTIT UTIMB	CLCKD ISIGMA NOBDS YES	DCLIM IVEHN OBSREC	IDREC JSIGMA OT	IFLP KOUT TCA	IL KVEH TCUR
GETT1	CKMODE RESREC	COBSTM YES	IFLP	KOUT	LISTIT	OTITLE

SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED)

NAME	VARIABLES REFERENCED				
GETT2	CKMODE	COBSTM	IFLP	KOUT	LISTIT	OTITLE
	RESREC	YES				
GETVAL	CBORB	CDAD2M	CGMR	CLCKB	EHBIAS	IDCFLG
	IFEBT	IFLP	INITCB	KOUT	LISTIT	LNDTR
	MALR	NPOT	NSENS	PADM	PLNRFL	RADMLR
	SCRAT	SPIN	STATEO	YES		
GPOT	BFV	CGMR	CMU	CRCB	IFLAG	KVEH
	NCENTR	SCRAT	SRANGE	STDCWD	TPOT	
HORZ	IDREC	R2BAR				
ICNPRT	BASE	CALPHD	CALPHG	CBORB	CENTAB	CETUT
	CGMR	CMU	CORTAB	DAY	HEOX	IFLP
	INEQX	INITCB	ISCAL	IVEHN	JDINEQ	KOUT
	NVEH	RANGL	SCALES	STATEO	TIMEIN	TMIN
IGSBRN	ACCIGS	APRIME	BIASES	BURNSC	GAMRZO	HW
	H2W2	IFLP	IKMAT	IPRINT	KOUT	LISTIT
	OMEGA	PHIOI	RMATRX	SCRAT	TA	TBLOCK
	TBSTRT	TBURN	TIGS	UMATRX	VELIGS	YES
IGSCON	ALGNER	ALIGN	ALNMAT	BASE	BIASES	CETUT
	CRNTIO	DRIFT	GAMOTA	GAMRZO	HW	H2W2
	IFLP	IGSFLG	IGSTAP	IGSTEP	IKMAT	INALN
	IPRINT	ITRAJ	KIGS	KMATRX	KOUT	KVEH
	LASTIO	LISTIT	LOGIC	OMEGA	PHIOI	RZERO
	SCRAT	TA	TBCFF	TBLOCK	TBSTRT	TPD
	UMATRX	YES				
ILLUM	CPI	IDREC	KVEH	XEMS		
IMPMLT	IAPT	IMP	OBSPAR			
INIT	BASE	BNOFLG	BODEP	CJO5OB	CKMODE	COBSTM
	COVOAT	COVOA1	COVPRT	DAY	EQBT	HRTYPE
	ICW	IDCFLG	IDRUM	IEPHR	IERR	IFASNP
	IFAST	IFATAL	IFLP	IGBO	IOBO	IREQ
	ISTYPE	ITABOO	IVEHN	JCVFLG	JOC	JULMOD
	KORUMI	KORUM2	KEPHEM	KGB	KHEOPT	KON
	KOUT	LISTIT	LKEPHM	LMODEL	LNDTR	NRVVEC
	NVEH	OBSERV	OBSTAP	OPFLG	RESPRT	RTYPE
	RUNCAS	SPRESO	SPTRAJ	STIME	STIMN	TABOUT
	TBASE	TBASJO	TEQ	TIMEIN	TJOVBY	TMIN
	TMINT	TRJPRT	TSTAPE	YES	FOATE	TPD
	FIXOAT					

SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED)

NAME	VARIABLES REFERENCED				
INPCHK	HRTYPE	IERR	IFATAL	IFLP	IGBO	IOBO
	ISTYPE	IVEHN	KOUT	LBRVEH	LNDTR	NAL
	NCNSID	NGBB	NGBDS	NGBS	NLAND	NOBB
	NOBDS	NOBS	NSENS	NSOLVE	NSTAR	NTR
	NVEH	RTYPE	RUNCAS	TRJPRT		
INPUT	CARDS	CASE	CONFIX	DATN	HRTYPE	IDRUM
	IERR	IFATAL	IFLP	IPOINT	ISTYPE	KDATN
	KDRUM1	KDRUM2	KIN	KONFIX	KOUT	LENGTH
	LISTIT	LONG	MAXM	MXV-STR	NAL	NAPRIC
	NAPRIS	NAPRIX	NCNSID	NCVPRO	NDELT	NDRUM
	NEPTM	NIG	NINPT	NLAND	NLP	NMSTM
	NOBB	NOBDS	NOBS	NSENS	NSOLVE	NSPTME
	NTR	NVC	RESTRT	RTYPE	RUNCAS	TAPRST
	TITLE	YES				
INTER	IERR	IFLP	KOUT			
INTRP1	IFLP	KOUT	NCNSID	NSOLVE		
INTRP2	BASE	CETUT	CDUA	COUD	COUT	DAY
	FIXDAT	IDCFLG	IOEQXD	IREQ	ITABOD	JDEQXD
	KDRUM2	NCENTR	NCNSID	NDRUM	NEACOD	NVEH
	NYMAX	TABOUT	TJDNBY			
INTVEQ	CETUT	IDCFLG	IOEQXD	JDEQXD	KVEH	NCENTR
ISAAC	IREQ	ITABOD	KTRAJ1	KTRAJ2	KVEH	NAUX1
	NCENTR	NDIF2	NVECOL	TABOUT	TMINT	
ITSUM1	IFLP	ITCNT	KOUT			
ITSUM2	BASE	BESTSS	CBORB	CENTAB	CETUT	CGMR
	CMU	CORTAB	CRMS	DAY	HEQD	IFITFL
	IFLP	IOEQXD	ITCNT	ITDV	IVEHN	JDEQXD
	KOUT	NVEH	PRSS	SCLOUT	SCOUT	SCRAT
	STATEO	TIMEIN	TMIN	ZLEGS2		
JACHIA	BASE	CPI	C2PI	DAY	IFLP	IREQ
	ITABOD	KOUT	TABOUT	TBLOCK	TMINT	YES
JULCAL	JULMOD					
JYRATE	BASE	CETUT	DAY	HRTYPE	IFLP	ISPCWD
	ISPIN	KOUT	KVEH	LISTIT	RTYPE	SPIN
	STIMN	TTOMT	YES			
JYAPAR	IAPT	KVEH	LSPIN	OBSPAR	SPIN	SPMAT

SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED)

NAME	VARIABLES REFERENCED					
KEPLER	CGMR	CMU	CPI	C2PI	IFLP	KOUT
	LISTIT	YES				
LEGS2	CONST	IFLP	KOUT	NSOLVE	PRSS	XBSQ
	ZLEGS2					
LNDPRC	CARD	CINALM	CINDLM	ICARD	IERR	IERROR
	IFATAL	IFEBT	IFLP	INFLO	INO	IOBO
	ISCRP	ISYM	IVEHN	KDRUM2	KONSOL	KOUT
	LBRVEH	LISTIT	LNDTR	MXVSTR	NDRUM	NLAND
	SCRAT	YES				
LNDPRT	IFLP	ISCAL	KDRUM2	KOUT	NDRUM	NLAND
	SCALES					
LNPART	C	CELLIP	CETUT	FLAT	IFLP	ILAND
	IOBS	KOUT	LCB	LISTIT	OBSPAR	OLAND
	S	SCRAT	THETA	TJD	YES	
LNRADR	BASE	CETUT	COB	CWM	GBA	GBAI
	GDA	IFLP	KOUT	KVEH	LISTIT	LRANG
	LRFLG	MALR	OFLG	ORADO	ORAL	RADMLR
	SCRAT	TCUR	TIMLR	VOMGR	WMOON	XEMS
	YES					
LOPBRN	AK	ANULL	ATEMP6	ATEMP7	ATEMP8	BTEMP6
	BTEMP7	BTEMP8	BURNSC	CB	CTEMP6	CTEMP7
	CTEMP8	DTEMP5	DTEMP7	DTEMP8	GAMMAO	RNEW
	SB	SCRAT	TBLOCK	TBURN	TEM1	TEM2
	TNULL	W				
LOPCON	AK	ALNMAT	ANULL	ATEMP6	ATEMP7	ATEMP8
	BASE	BTEMP6	BTEMP7	BTEMP8	BURNSC	CB
	CETUT	CTEMP6	CTEMP7	CTEMP8	DTEMP5	DTEMP7
	DTEMP8	GAMMAO	INALN	KVEH	RNEW	SB
	SCRAT	TBLOCK	TEM1	TEM2	TNULL	TPD
	W					
LRET	ILAND	NLAND				
LTPRT	CENTAB	CORTAB	IFLP	KHEOPT	KOUT	KTHEAP
	SCRAT	TITLE				
MABAT	SCRAT					
MAIN2	RUNCAS					

SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED)

NAME	VARIABLES REFERENCED					
MASACC	BFY	CMU	CONFIX	CRCB	GMLUNT	GMMCON
	IFLAG	KVEH	NMCODE	NMCON	SCRAT	STOCWD
	TPOT					
MATPRT	BASE	CASE	GET	GETJD	IFITFL	IFLP
	JDEQXD	KDRUM1	KT6TAP	NATWAI	NCNSID	NDRUM
	NSOLVE	STOCWD	TITLE	TMIN	TPD	T6TAPE
MCNPRC	CARD	CGMR	CINAMC	CINDMC	GMLUNT	GMMCON
	ICARD	IERR	IERROR	IFLP	INFLD	INO
	INSYM	ISCRP	ISYM	KDRUM1	KOUT	LISTIT
	MXVSTR	NDRUM	NMCCON	NMCODE	NMCON	NMCPLH
	NMCSOL	NUMWM	SCRAT	YES		
MCNPRT	IERR	IFLP	ISCAL	KDRUM1	KOUT	MAXM
	MXVSTR	NDRUM	NMCODE	NMCON	NUMWM	SCALES
MERGE	COBSTM	IERR	IFATAL	IFLP	KOUT	MXVSTR
	SCRCOM					
MFORM	INATMA	KDRUM3	NCNSID	NSOLVE		
MISS	CGMR	CMU	CPI	C2PI	IFLP	KOUT
	LISTIT	YES				
MPRT	CORTAB	IFLP	KOUT	SCRAT		
NEWTON	IFLP	KDIF	KOUT	KVEH	LISTIT	YES
NOFVEC	A					
NOISE	COB	ISIGMA	KRNUM	NOBS	OI	
OBCOMP	ALPHA	AUX	AZR	BASE	BR	BT
	CALPHG	CANEPS	CETUT	CGMR	CMU	CPI2
	CR	CT	CWE	DELT1	DELT2	DLLIM
	DR	DSIGMA	OT	ELR	ELRDOT	ELT
	ELTDOT	IDREC	ID3DOP	IFEBT	IFLP	IRECEV
	ITRANS	KNTOBS	KOUT	KVEH	LISTIT	LNDTR
	NATWA	NCENTR	NCNSEP	NCNSID	NPRP1	NSOLEP
	NVECOL	OBSFG2	OBSFLG	OBSREC	P1	P1DDMG
	P1DDT	P1DDTM	P1MAG	P2	P2DDMG	P2DDOT
	P2DOT	P2DOTM	P2MAG	RESREC	STAPAR	STAPAT
	TOP	TR	TTOM	TTOMT	VR	YES

NAME	VARIABLES REFERENCED

OBOBS

CINAOB	CINDOB	CINTOB	CNTOB	COBSTM	DAY
IDREC	IERR	IFLP	IOBO	ISORT	ISPT
JULMOD	KIN	KON	KOUT	LISTIT	OBSREC
YES					

OBSIM

BFLG	CFLG	CLCKWD	COB	CRCB	DCLIM
GBAI	GDA	HBWRD	HRTYPE	IAPT	IAI
IA2	IC	IDREC	IEXP	IFLP	IGNAL
ILAND	ILOC	ILOCLR	IMP	IOBDS	IOBS
IPAS	IREQ	ISIGMA	IUP	IVEHN	JSIGMA
KDRUM2	KOUT	KVEH	LISTIT	LRANG	LRDWRD
NAL	NAL1	NAL2	NCNSID	NDRUM	NFLG
NOBB	NODD	NPRPI	NVEH	OBSPAR	OCT
OFLG	OI	OLAND	ORAL	OT	RADIUS
RADMLR	RANGE	RELUPD	RRATE	RTYPE	SHAFT
TCUR	TRUN	VOMGR	XEMS	XH	YES

OBSPRT

COBSTM	COUA	COUD	COUT	DAY	GFLG
IDREC	IFLP	JULMOD	KOB	KOUT	OBSREC
OPFLG	OSCAL				

OBSSRT

IFAST	IFATAL	IFLP	ISCRAT	KOUT

OBSUP

BASE	CELIPM	CETUT	CKMODE	CLCKB	CLCKO
CLTTOL	COBSTM	CRCB	DCLIM	DLLIM	OSIGMA
IDREC	ID3DOP	IEXP	IFEBT	IGBO	IMP
IOBO	IPAS	IRECEV	IREQ	ITRANS	IUP
IVEHN	JULMOD	KDINFS	KOB	KRESD	KVEH
LISTIT	LNDTR	NGBS	NSENS	NVEH	OBSREC
OI	OT	RADIUS	RELUPD	RESREC	TCA
TCUR	TITLE	TPD	TR	UTIMB	YES
OBOTAP					

OCCULT

ABAR	CCB	DEG	IFLP	KOUT	KVEH
OT	PBAR	PHIMIN	RADIUS	RIBAR	R2BAR
TCUR	TMIN	XEMS	XH		

ODDPRT

BASE	DAY	HRTYPE	IFLP	ISCAL	IVEHN
KDRUM2	KOUT	NAL	NDRUM	NOBB	NOBDS
NOBS	RTYPE	SCALES			

SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED)

NAME	VARIABLES REFERENCED				
ONBORD	BASE	CLCKWD	CMINEL	COB	GBAI	GDA
	HBWRD	IAPT	IA1	IA2	IC	IDREC
	IEXP	IFLP	ILAND	ILOC	ILOCLR	IMP
	IOBS	IUP	KOUT	KVEH	LISTIT	LRANG
	LRDWRD	NCNSID	NDELPR	NDELPT	NOBS	NPRP1
	NSIG	OBSPAR	OBSREC	OCT	OI	OLAND
	ORAL	OT	RADMLR	RANGE	RELUPD	RESREC
	TCUR	U4	VOMGR	XEMS	XH	YES
	OBOTAP	PBAR				
ONPRC	BASE	CARD	CINAON	CINDON	CINTON	CLCKB
	CLCKD	CLCKWD	DAY	HBIAS	HBWRD	ICARD
	IERR	IERROR	IFLP	ILEN	INFLD	INO
	INSYM	IOBO	ISCRP	ISYM	ITIMLR	KONSOL
	KOUT	LISTIT	LRCN	MALR	ONFG	ORADD
	ORAL	ORANG	PHIMIN	RADCN	RELUPD	RMLR
	SCRAT	SXTCN	TELCN	TIMLR	VHFCN	YES
ONPRT	BFLG	CFLG	CLCKB	CLCKD	GFLG	HBIAS
	HRTYPE	IERR	IFLP	IOBO	ISCAL	ITIMLR
	IVEHN	KOUT	LNDTR	LRCN	MALR	MAXM
	MXVSTR	NAL	NFLG	NLAND	NOBB	NOBDS
	NOBS	NSTAR	OFLG	ORADD	ORAL	ORAR
	ORAS	ORAT	PHIMIN	RADCN	RELUPD	RMLR
	RTYPE	SCALES	SXTCN	TCAL	TELCN	VHFCN
ORBEL	CPI2	C2PI				
POUMPX	IFLP	KOUT				
PHASE	BURNSC	BURNWD	CBLOCK	CDAO2M	IA	IAPT
	IFAST	IFLP	IGSTEP	KBURN	KFLAG	KOUT
	KVEH	LASTIO	LISTIT	LOGIC	MINSTP	NAL
	NBRN	NCOL	NIG	NLP	NY	SCRAT
	TBCFF	TBLOCK	YES			
PIMOD	C2PI					
PIMOD1	CPI	C2PI				
POSTRO	IPOINT	KDRUM2	KPOINT	K1	K2	LK
	LPOINT	MENDPP	NDRUM			
POTPRC	BODY	CARD	ICARD	IERR	IERROR	IFLP
	INFLD	ISCRP	ISYM	KDRUM1	KOUT	LISTIT
	MXVSTR	NCS	NCSCWD	NCSSC	NDRUM	NJ
	NJCWD	NJSC	POTFLG	VECJ	YES	

SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED)

NAME	VARIABLES REFERENCED				
POTPRT	IERR	IFLP	KDRUM1	KOUT	MAXM	MXVSTR
	NCS	NCSCWD	NDRUM	NJ	NJCWD	
PPRPP	COVAR	COVDR	COVTR	IDREC	IFAST	IFITFL
	IFLP	IGBO	IOBO	ITCNT	IVEHN	KOUT
	KRESD	LRFLG	NOPLOT	NSENS	NVEH	OBSREC
	RESPRT	RESREC	SCLRES			
PRINIT	IFLP	KOUT	LISTIT	YES		
PROPRD	COVPRT	IPOINT	KDRUM1	KDRUM2	KPOINT	K1
	K10	K11	K12	K13	K14	K15
	K16	K2	K3	K4	K5	K6
	K7	K8	K9	LK	LPOINT	MENDTP
	MSPEV1	MSPEV2	NCNSID	NDRUM	NSOLVE	NVEHSE
PRPSUP	CKMODE	LISTIT	MAUX4	MCVFN	MCVPRT	MDELTT
	MINPT	MLBCV3	MRDIF3	MSCCV3	MSIG2	MSPEV1
	MSPEV2	MSPROP	MSPTM	MTEM	MVAR2	MVE1
	MVE2	YES				
PRTALN	BASE	COVA	COUT	DAY	IFLP	KOUT
	NAL1	SCLOUT	SCRAT			
PRTIAL	ABAR	AMAT	COB	GBA	GBAI	GDA
	GMAT	IAPT	IC	IEXP	IFLP	IMP
	IOBS	IUP	KOUT	KVEH	LISTIT	OBSPAR
	OCT	OI	OLAND	OPHI	OT	PBAR
	PHIMAT	RANGE	RRATE	R1BAR	R2BAR	SCRAT
	TCA	TCUR	VOMGR	WMOON	XEMS	XH
	YES					
PSTSUP	CKMODE	IFITFL	KRESD	KRESID	LISTIT	MPBUFF
	MPLOT	MRSUM	SPRESD	YES		
QCONST	IBUFF	IEBUFF	IMXMOD	IOUT	IPROC	
QDDATS	CARD	CONFIX	CONST	DATN	IADD	IBLK
	ICARD	IERR	IERROR	IFLP	IMLEN	IMTYP
	INSYM	ITYP	KDATN	KONFIX	KONST	KOUT
	LENGTH	NCONST	NKONST			
QDDPRC	IADD	IBLK	IERR	IERROR	IFLP	IMTYP
	INEW	INFLD	INSYM	IOUT	ISCRP	ITYP
	KOUT					

SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED)

NAME	VARIABLES REFERENCED				
QQINPT	IBUFF	ICARD	ICERR2	IEBUFF	IERR	IERROR
	IFLP	INFLD	IOUT	IPROC	ISCRP	ISP
	ISPT	ISYM	KIN	KOUT	LISTIT	YES
QQISCR	ICERR2	IOUT	ISCRP			
QQMIX	ILEN	IMXMOD	IMXP	ISCRP		
QQSCAN	IBUFF	IEBUFF	IERROR	IFLP	IMTYP	INEW
	INFLD	INSYM	IOUT	ISCRP	ISPT	ISYM
	ITYP	KIN	KOUT	LISTIT	YES	
QQSDA1	IFLP	KOUT	QQCO4			
QQSDA2	IFLP	KOUT	QQCO4			
QQSDA3	IFLP	KOUT	QQCO4			
QQSLOK	IADD	IBLK	ICON	ICONTL	ILEN	IMLEN
	IMXP	INO	INSYM	ISP	ISYM	ITYP
	MATUN	QQCO4				
RADAR	ABAR	CCB	CPI	HRTYPE	IPAS	IVEHN
	KVEH	OT	PBAR	RANGE	RRATE	RTYPE
	SHAFT	TRUN	XEMS			
RANGE	BR	CLIGHT	CR	DBIAS	DELT1	DELT2
	DELT3	DELT4	DR	DSIGMA	ELR	HRTYPE
	IAPT	IDREC	IFLP	IMP	IRECEV	IREL
	KOUT	KRNUM	KVEH	LISTIT	NPRP1	NVECOL
	OBSPAR	OBSREC	P2	P2DOT	P2MAG	P4
	P4DOT	P4MAG	RTYPE	STAPAR	YES	
RANRAT	DBIAS	DSIGMA	HRTYPE	IAPT	IFLP	IRECEV
	KOUT	KRNUM	KVEH	LISTIT	NPRP1	NVECOL
	OBSPAR	OBSREC	P1DOTM	P2	P2DDOT	P2DOT
	P2DOTM	P2MAG	RTYPE	STAPAR	YES	
RDREFR	BR	BT	CR	CT	DR	DT
	ELR	ELROOT	ELT	ELTDOT	IFLP	KOUT
	LISTIT	YES				
READTP	ACCIGS	CRNTIO	IFLP	IGSFLG	IGSTAP	KOUT
	LASTIO	LISTIT	LOGIC	TBCFF	TIGS	YES
REFANG	IFATAL	IFLP	KOUT	LISTIT	YES	

SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED)

NAME	VARIABLES REFERENCED				
REFCOR	BASE	DAY	FIXDAT	IFATAL	IFLP	KOUT
	LISTIT	TEQ	TJONBY	YES		
REFRAC	CRFEPS					
RELATE	COUA	COUD	COUT	KOUT		
RHORZ	A	CELLIP	HBIAS	IFLP	KOUT	KVEH
	LISTIT	RADIUS	R1BAR	R2BAR	XEMS	YES
ROTAT	CJD50B	JULMOD				
ROTAT2	CPI	CPI2	C2PI	JULMOD	LMODEL	
ROTPRC	IERR	IFLP	KOUT			
RTIME	IFLP	KOUT	TT			
RUNPRT	BASE	CINTLM	CNTGB	CNTOB	COBSTM	COVPRT
	DAY	DCLIM	DLLIM	DTLIM	ETITLE	HRTYPE
	IFLP	IGBQ	IOBQ	ISCAL	ISTYPE	IVEHN
	JCVFLG	KEPHEM	KHEOPT	KIGS	KOB	KOBI
	KOUT	KRESID	KTHEAP	KTRAJ1	KTRAJ2	KTRAJ3
	KT6TAP	LMODEL	LTIME	MAXIT	MODPRT	NIG
	NVEH	OBSTAP	OPFLG	OTITLE	RESPRT	RTYPE
	RUNCAS	SPRESD	SPTRAJ	TBASE	TRJPRT	T6TAPE
	UTIMB	OBOTAP				
SBPRT	ISCAL	KDRUM2	KOUT	NDRUM	NOBB	NOBS
	SCALES					
SBPRTI	ISCAL	KOUT	SCALES			
SCALBS	CINAOB	CINDOB	CINTOB	HRTYPE	IERR	IFLP
	KDRUM2	KOUT	NORUM	NOBB	NOBDS	NOBS
	RTYPE	SCRAT				
SCAN	IFLP	KOUT	LISTIT	YES		
SCREEN	BASE	CENTAB	CRCB	DAY	KOUT	KVEH
	LISTIT	NCENTR	YES			
SC3DOP	IERR	IFLP	KDRUM2	KONSOL	KOUT	LISTIT
	NORUM	NSENS	NTR	YES		

SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED)

NAME	VARIABLES REFERENCED
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SDPRT	BASE	COAD2M	CMU	IFLP	IVEHN	KDRUM2
	KOUT	MAXM	NCONST	NCS	NCSCWD	NDRUM
	NJ	NJCWD	NMCON	NSZ	NVEH	PADM
	PLNRFL	TPD	VEHRFL	IDRAG		

SDSPRT	ISCRAT	KDRUM2	KOUT	MXVSTR	NDRUM	NGDD
	NODD	NSDS				

SENPRC	CARD	CELLIP	CINASN	CINDSN	CINTSN	HRTYPE
	ICARD	IERR	IERROR	IFLP	IGBO	INFLD
	INO	ISCRP	ISYM	KDRUM2	KONSOL	KOUT
	LISTIT	MXVSTR	NDRUM	NGBB	NSENS	RTYPE
	YES					

SENPRT	IFLP	ISCAL	KOUT	NSENS	SCALES	

SET	CAE	CBE	CGMR	CMU	CPI	C2PI
	IFLP	KOUT	LISTIT	YES		

SETCOD	HRTYPE	IAPT	IEPCWD	IERR	IFATAL	IFITFL
	IFLP	ISTYPE	KDRUM1	KDRUM2	KONSOL	KOUT
	LISTIT	MAXM	MAXNYB	MRCWD	MXVSTR	NATWA
	NATWAI	NAUX1	NAUX2	NCNDKP	NCNSEP	NCNSID
	NCSSC	NDIF2	NDPR	NDRUM	NIG	NJSC
	NLP	NMCCON	NMCSOL	NMRCON	NMRSOL	NPR
	NPRP1	NSOLEP	NSOLKP	NSOLVE	NVECOL	NVEH
	NYMAX	RESTRT	RFLWRD	RTYPE	STDCWD	YES

SETOBS	IOREC	IVEHN	KVEH	NGBDS	OBSREC	

SETORB	CGMR	CMU				

SETSCL	ANG	BASCL	DIST	IERR	IFLP	ISCAL
	ISCLSP	ISPECA	ISPECD	ISPECT	KOUT	LISTIT
	OSCAL	SCALES	SCLSP	SCOUT	SPCA	SPCD
	SPCT	SPECA	SPECD	SPECT	STATIN	TIMES
	YES					

SETSEN	DBIAS	DSIG	DSIGMA	ID3DOP	IFLP	IRECEV
	ITRANS	KOUT	NGBB	NGBS	NSENS	NTR

SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED)

NAME	VARIABLES REFERENCED
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SETTAB	COVCRD	HRTYPE	IAPT	IAPTVP	IDCFLG	IFATAL
	IFLP	IVCOV	KDRUM2	KOUT	LISTIT	MAXM
	MXVSTR	NAL	NBAL	NBIG	NBLP	NBTB
	NCNDKP	NCNSEP	NCNSID	NCS	NCSCWD	NDRUM
	NGBB	NIG	NJ	NJCWD	NLAND	NLP
	NMCCON	NMCON	NMCSOL	NMRCON	NMRSOL	NSENS
	NSOLEP	NSOLKP	NSOLVE	NTR	NVC	RFLWRD
	RTYPE	STOCWD	VECJ	YES		

SETTRG	CBORB	GRCB	GSPHIN	HRTYPE	IFATAL	IFLP
	KDRUM2	KOUT	LISTIT	LONG	MAXM	MXVSTR
	NBRN	NDRUM	NEPTM	NTTRG	NVEH	NYTRG
	RESTRT	RTYPE	SPALT	YES	YTRGCD	

SEXTNT	ABAR	CLIGHT	KVEH	LTIME	OBJ1	OBJ2
	DT	PBAR	R1BAR	R2BAR	TRUN	XEMS
	XH					

SIGPRC	CARD	CINAGB	CINAOB	CINDGB	CINDOB	CINTGB
	CINTOB	HRTYPE	ICARD	IERR	IERROR	IFLP
	IGBO	INFLD	INO	IOBO	ISCRP	ISYM
	KDRUM2	KOUT	LISTIT	MXVSTR	NDRUM	NGBS
	NOBS	RTYPE	SCRAT	YES		

SKIP	IFATAL	ISPT	KIN	KOUT

SLCSET	CELLIP	NSENS

SOLRAD	CPI2	CRCB	IEPHR	IFLAG	IREQ	ITABOD
	KVEH	PADM	PLNRFL	PVMAT	RFLWRD	SCRAT
	STOCWD	TABOUT	TBLOCK	TMINT	VEHRFL	

SPART	CAE	CELLIP	CWE

SPLIT	ISCRAT	NCNSID	NSOLVE

SRTMRG	CNTGB	CNTOB	HRTYPE	ISORT	ISTYPE	KGB
	KOB	KOBI	KON	KRESD	MXVSTR	OBSTAP
	RTYPE					

STALOC	CALPHG	CWE

STMPRT	IFLP	KOUT

STRPRC	CARD	CETUT	DEG	ICARD	IEPHR	IERR
	IERROR	IFLP	INFLD	INO	IOBO	ISCRP
	ISYM	KDRUM2	KOUT	LISTIT	MXVSTR	NDRUM
	NSTAR	SCRAT	TJDNBY	YES		

SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED)

NAME	VARIABLES REFERENCED				
STRPRT	IFLP	KDRUM2	KOUT	NDRUM	NSTAR
SUBSUP	DCSTR	IDCSTR			
SUPCRD	IDRUM	KDRUM1	KDRUM2	RESTRT	
SUPDD	IDRUM	IOPN	KDRUM1	KDRUM2	KDRUM3	MLAB6
	TRJPRT				
SUPER	HRTYPE	IDRUM	IFITFL	ITCNT	KDRUM1	KDRUM2
	NSCX	NUMOBS	RTYPE	TRJPRT		
SUPPRO	IDRUM	IFITFL	IFLP	IOPN	ISTYPE	JCVFLG
	KDRUM1	KDRUM2	KDRUM3	KOUT	NCNSID	NDRUM
	NSDS	NSOLVE				
SUPTRJ	IDRUM	IFITFL	ITCNT	KDRUM1	KDRUM2	KONSOL
	KVEH	LNDTR	NVEH			
SYMIND	IFLP	ISCRAT	KOUT	SCRAT		
TAPRED	CCB	IEPHR	IFLP	IREQ	ITABOD	KOUT
	KVEH	LISTIT	NCENTR	TABOUT	TCUR	TMINT
	XEMS	YES				
TERMIN	IFLP	KOUT				
TIMEX	CJD50	TBASE				
TIMPRC	CARD	ICARD	IERROR	IFLP	INFLD	INO
	ISCRP	ISYM	KDRUM2	KOUT	LISTIT	MAXM
	MXVSTR	NCVPRO	NDELT	NDRUM	NEPTM	NMSTM
	NSPTME	NSZ1	NSZ2	YES		
TIMTRG	BURNWO	CHINIT	DCLIM	DCLIM1	DCLIM2	DTLIM
	DTLIM1	DTLIM2	HRTYPE	IFITFL	IFLP	KDRUM1
	KFLAG	KOUT	KVEH	LISTIT	NBRN	NDRUM
	NEVTMX	NSPEVT	NTTRG	NVEHSE	NYTRG	RESTRT
	RTYPE	SAVLIM	TBLOCK	TGTTIM	TMIN	TRJPRT
	YES					
TMSPRT	BASE	CENTAB	CINA1	CIND1	DAY	DTLIM
	FIXDAT	FOCUS	GETJD	HEDT	IERR	IFLP
	KDRUM1	KDRUM2	KOUT	LONG	MAXM	MXVSTR
	NCVPRO	NDELT	NDRUM	NEPTM	NIG	NINPT
	NLP	NMSTM	NODPRT	NSPTME	NVEH	SPALT
	TGTEVT	TGTVEH	TRJPRT			

NAME	VARIABLES REFERENCED

TRAJ	CBLOCK	IFLAG	KFLAG	KVEH	NTTRG	NY
	NYTRG	TBLOCK				

TRAJRD	CBORB	CKMODE	ICB	IPOINT	KDRUM1	KDRUM2
	KPOINT	KVEH	K1	K10	K11	K12
	K13	K14	K15	K16	K17	K18
	K19	K2	K20	K21	K22	K23
	K24	K29	K3	K30	K31	K32
	K4	K5	K6	K7	K8	K9
	LISTIT	LK	LPOINT	MIGB1	MLAND3	MLPB1
	MTTRG1	MYP1	MYTRG	MY1	NCENTR	NDRUM
	NVECOL	STATE0	YES			

TRIGER	BASE	CGMR	CMU	CRCB	CSPHIN	DAY
	DCLIM	DCLIM1	DCLIM2	DTLIM	DTLIM1	DTLIM2
	GMLUNT	GMMCON	HRTYPE	IFITFL	IFLP	IREQ
	ITABOD	ITCNT	KBURN	KDRUM1	KFLAG	KOUT
	KVEH	K15	K16	K17	K18	K19
	K20	K21	K22	LISTIT	LNDTR	MCSE1
	MCSM1	MCWEC1	MCWEJ1	MCWMC1	MCWMJ1	MJE1
	MJM1	MMCCW1	MMCON1	NCENTR	NCNSEP	NDRUM
	NEVTMX	NSOLEP	NVEHSE	RTYPE	TABOUT	TBLOCK
	TMIN	TMINT	TRJPRT	YES	YTRGCD	TTOMT
	CETUT					

TRJOUT	KFLAG	KTRAJ1	KTRAJ2	KVEH	NCENTR	NY
	TBLOCK					

TRJPRC	BASE	CINA1	CIND1	COVPRT	DAY	FIXDAT
	FOCUS	GET	GETJD	HEOT	HRTYPE	IERR
	IFATAL	IFLP	IOEQXT	IREQ	IVEHN	JOEQXT
	KORUM2	KOUT	LISTIT	LONG	MXVSTR	NORUM
	NEACOD	NINPT	NOOPRT	NPRTLS	NRVVEC	PBODY
	PERBOD	PRTLST	ROTC	ROTV	RTYPE	SPALT
	SPTRAJ	TGTEVT	TGTVEH	TJDNBY	TRJPRT	YES
	YTRGCD					

TRJPRO	BASE	CAE	CALPHG	CBLOCK	CELLIP	CENTAB
	CETUT	CGMR	CMU	COUA	COUD	COUT
	COVPRT	CRCB	CWE	CWM	C2PI	DAY
	DTLIM1	DTLIM2	FIXDAT	GETJD	HEOT	HRTYPE
	IFLP	IMATFG	IREQ	ITABOD	IVEHN	JULMOD
	KORUM2	KOUT	KTRAJ1	KTRAJ2	KTSTAP	KVEH
	LISTIT	MODPRT	NCENTR	NCNSID	NCVPRO	NDELT
	NORUM	NRVVEC	NSOLVE	NSPTME	NVEH	NVEHSE
	NYMAX	RESTRT	RTYPE	SCLOUT	SPTRAJ	STOCWO
	TABOUT	TGTVEH	TJDNBY	TMIN	TMINT	TRJPRT
	TSTAPE	YES	BURNWO	KOIF		

SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED)

NAME	VARIABLES REFERENCED

TRJSUP	CGMR	GMLUNT	GMMCON	HRTYPE	ICB	IFITFL
	KDRUM2	KONSOL	KVEH	MALGN1	MAUX1	MCNAL1
	MCNIG1	MCNLP1	MCSE1	MCSM1	MCWEC1	MCWEJ1
	MCWMC1	MCWMJ1	MDIF1	MIGB1	MINY1	MJE1
	MJM1	MLNY1	MLPB1	MMCAGA	MMCCW1	MMCON1
	MSEV1	MSUNP	MTTRG1	MYPP1	MYP1	MYTRG
	MYI	NBRN	NDPR	NORUM	NMCON	NSZ1
	NSZ2	NVEHSE	NY	RTYPE		

TSCOPE	ABAR	CCB	CPI	HRTYPE	IPAS	KVEH
	OBJ1	OT	PBAR	RTYPE	SHAFT	TRUN
	XEMS					

| UTWRTM | IFLP | KOUT | | | | |

| VECOPS | CPI | IFLP | KOUT | | | |

| VECPRT | CENTAB | CORTAB | IFLP | KOUT | NCENTR | |

VEINIT	BASE	CBORB	CETUT	DCLIM	HRTYPE	IDCFLG
	IFEBT	IOEQXD	JDEQXD	KONSOL	KVEH	LNOTR
	RTYPE	SCRAT				

VHFRNG	CCB	HRTYPE	IFLP	IPAS	KOUT	KVEH
	LISTIT	OT	PBAR	RADMLR	RANGE	RRATE
	RTYPE	XEMS	YES			

| WRTM | KOUT | | | | | |

| WRTOBS | IDREC | IFAST | IGBO | IVEHN | KOB | KVEH |
| | OBSREC | RANGE | RRATE | SHAFT | TCUR | TRUN |

| WRTRAJ | IFLP | IMATFG | KOUT | KTRAJ3 | LISTIT | NPRTLS |
| | NRVVEC | NVEH | SCRT | SPTRAJ | TITLE | YES |

| WRTREC | CKMODE | COBSTM | IDREC | IFLP | KOUT | LISTIT |
| | OBSREC | RESREC | TITLE | YES | | |

| WRTI | CKMODE | COBSTM | IFLP | KOUT | LISTIT | RESREC |
| | TITLE | YES | | | | |

| WTAPE | KOINFS | | | | | |

| WTCO | IFLP | KOUT | LISTIT | YES | | |

XLAND	BASE	C	CALPHG	CELLIP	CETUT	CWE
	IFLP	KOUT	LCB	LISTIT	OT	RADIUS
	S	TCUR	THETA	TJD	YES	

NAME	SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED) VARIABLES REFERENCED					
XSTAR	CLIGHT NSTAR	IFLP XEMS	KOUT YES	KVEH	LISTI1	LTIME
XTRACK	CETUT	CRCB	CWM	FLAT	TABOUT	

VARIABLE/SUBROUTINE CROSS-REFERENCE

NAME	REFERENCED BY THESE ELEMENTS
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A	FOFVEC NOFVEC RHORZ
ABAR	OCCULT PRTIAL RADAR SEXTNT TSCOPE
ACCIGS	IGSBRN READTP
AJD	EREAD
AK	LOPBRN LOPCON
ALGNER	AXESDC AXESDD DPRT DWRTT EXPLIC GETALN IGSCON
ALIGN	AXESDC AXESDD COMPAL GETALN IGSCON
ALNMAT	AXESDC AXESDD BAPRC IGSCON LOPCON
ALPHA	ANGLE DUMCAL OBCOMP
AMAT	AXESDC AXESDD PRTIAL
ANG	SETSCL
ANULL	LOPBRN LOPCON
APRIME	IGSBRN
ATEMP6	LOPBRN LOPCON
ATEMP7	LOPBRN LOPCON
ATEMP8	LOPBRN LOPCON
ATYPE	BAPRC BAPRT BATIM BAWRT
AUX	ANGLE DUMCAL OBCOMP
AZR	ANGLE DUMCAL OBCOMP
BASCL	CROGEN SETSCL

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS					
BASE	APPLY	AXESDC	AXESDO	BAPRT	BATIM	CKIGS
	CONTIM	COVA	CROGEN	DAUX	DELAY	DPRLM
	DUMCAL	DUMPRC	ENDSTP	EPHEM	GDOPRT	ICNPRT
	IGSCON	INIT	INTRP2	ITSUM2	JACHIA	JYRATE
	LNRADR	LOPCON	MATPRT	OBCOMP	OBSUP	ODDPRT
	ONBORD	ONPRC	PRTALN	REFCOR	RUNPRT	SCREEN
	SDPRT	TMSPRT	TRIGER	TRJPRC	TRUPRO	VEINIT
	XLAND					
BESTSS	FIT	ITSUM2				
BFLG	OBSIM	ONPRT				
BFV	GPOT					
BFY	DAUX	MASACC				
BIASES	IGSBRN	IGSCON				
BJO	EREAD					
BNDFLG	INIT					
BNDIN	BNDPRC					
BODEP	BODY	EPHACC	INIT			
BODY	POTPRC					
BR	DUMCAL	OBCOMP	RANGE	RDREFR		
BT	DUMCAL	OBCOMP	RDREFR			
BTEMP6	LOPBRN	LOPCON				
BTEMP7	LOPBRN	LOPCON				
BTEMP8	LOPBRN	LOPCON				
BURNSC	IGSBRN	LOPBRN	LOPCON	PHASE		
BURNJD	CKBURN	PHASE	TIMTRG	TRJPRO		
BX	DRAG					
BY	DRAG					
C	LNPART	XLAND				

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS

CAE   CENDET   DETCEN   DPRLM   ENDSTP   SET   SPART
                 TRJPRO

CALPHD   DPRLM   ICNPRT

CALPHG   DAUX   DPRLM   DUMCAL   ENDSTP   ICNPRT   OBCOMP
                 STALOC   TRJPRO   XLAND

CANEPS   ANGLE   DUMCAL   OBCOMP

CARD   BAPRC   BIAPRC   BNDPRC   COVPRC   DUMPRC   EDTPRC
                 LNDPRC   MCNPRC   ONPRC   POTPRC   QQDATS   SENPRC
                 SIGPRC   STRPRC   TIMPRC

CARDS   INPUT

CASE   COVA   INPUT   MATPRT

CAU   EPHEM

CB   LOPBRN   LOPCON

CBE   DETCEN   DPRLM   SET

CBLOCK   PHASE   TRAJ   TRJPRO

CBORB   APPLY   APRI   ATAMAT   CROGEN   CVPRT   DPRLM
                 GETVAL   ICNPRT   ITSUM2   SETTRG   TRAJRD   VEINIT

CCB   AXESDD   OCCULT   RADAR   TAPRED   TSCOPE   VHFRNG

CDAD2M   APPLY   CONTIM   DAUX   DRAG   GETVAL   PHASE
                 SDPRT

CELIPM   DPRLM   OBSUP

CELLIP   CENDET   DPRLM   DRAG   ENDSTP   LNPART   RHORZ
                 SENPRC   SLCSET   SPART   TRJPRO   XLAND

CEMRAT   EPHEM

CENTAB   BODPRT   ICNPRT   ITSUM2   LTPRT   SCREEN   TMSPRT
                 TRJPRO   VECPRT

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS
CETUT	AXESDC AXESOD BAPRC BAPRT BATIM COVA COVPRC DAUX DPRLM DUMCAL ENDSTP EPHEM ICNPRT IGSCON INTRP2 INTVEQ ITSUM2 JYRATE LNPART LNRADR LOPCON OBCOMP OBSUP STRPRC TRIGER TRJPRO VEINIT XLAND XTRACK
CFLG	OBSIM ONPRT
CFTEPS	FIT
CGMR	APPLY BODPRT BODY COOT DAUX DPRLM DUMCAL ENDSTP GETVAL GPOT ICNPRT ITSUM2 KEPLER MCNPRC MISS OBCOMP SET SETORB TRIGER TRJPRO TRJSUP
CHINIT	TIMTRG
CINAAB	BAPRC
CINAGB	BIAPRC GBOBS SIGPRC
CINALM	LNDPRC
CINAMC	MCNPRC
CINAOB	BIAPRC DUMPRC OBOBS SCALBS SIGPRC
CINAON	ONPRC
CINASN	SENPRC
CINA1	TMSPRT TRJPRC
CINDAB	BAPRC
CINDGB	BIAPRC GBOBS SIGPRC
CINDLM	LNDPRC
CINDMC	MCNPRC
CINDOB	BIAPRC OBOBS SCALBS SIGPRC
CINDON	ONPRC
CINDSN	SENPRC
CIND1	TMSPRT TRJPRC

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS
CINTAB	BAPRC
CINTGB	BIAPRC DUMPRC GBOBS SIGPRC
CINTLM	RUNPRT
CINTOB	BIAPRC DUMPRC OBOBS SCALBS SIGPRC
CINTON	ONPRC
CINTSN	BIAPRC SENPRC
CJD50	TIMEX
CJD50B	INIT ROTAT
CKMODE	COVSUP CROSUP DDSUP FAISUP GETREC GETT1 GETT2 INIT OBSUP PRPSUP PSTSUP TRAJRD WRTREC WRT1
CLCKB	APPLY GETT GETVAL OBSUP ONPRC ONPRT
CLCKD	GETT OBSUP ONPRC ONPRT
CLCKWD	OBSIM ONBORD ONPRC
CLIGHT	DELAY DOPLER RANGE SEXTNT XSTAR
CLTEPS	DELAY
CLTTOL	DUMCAL OBSUP
CMINEL	DUMCAL ONBORD
CMU	APPLY BODY COOT DAUX DPRLM DUMCAL ENDSTP GPOT ICNPRT ITSUM2 KEPLER MASACC MISS OBCOMP SOPRT SET SETORB TRIGER TRJPRO
CNTGB	GBOBS RUNPRT SRTMRG
CNTOB	OBOBS RUNPRT SRTMRG
COB	LNRADR NOISE OBSIM ONBORD PRTIAL
COBSTM	DACON GBOBS GETREC GETT1 GETT2 INIT MERGE OBOBS OBSPRT OBSUP RUNPRT WRTREC WRT1

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS

NAME	REFERENCED BY THESE ELEMENTS				
CONFIX	INPUT	MASACC	QQDATS		
CONST	BCONST	CONSUB	LEGS2	QQDATS	
CORTAB	BAPRT	ICNPRT	ITSUM2	LTPRT	MPRT	VECPRT
COUA	COVA	INTRP2	OBSPRT	PRTALN	RELATE	TRJPRO
COUAR	PPRPP				
COUD	COVA	INTRP2	OBSPRT	RELATE	TRJPRO	
COUDR	PPRPP				
COUT	COVA	INTRP2	OBSPRT	PRTALN	RELATE	TRJPRO
COUTR	PPRPP				
COVCRD	ATAMAT	COVPRC	SETTAB		
COVDAT	COVPRC	INIT			
COVDA1	BODY	EPHACC	INIT		
COVPRT	ASSIGN TRJPRC	COVA TRJPRO	COVPRC	INIT	PROPRO	RUNPRT
CPI	AEIXYZ MISS VECOPS	AXESDC PIM001	AXESDD RADAR	ILLUM ROTAT2	JACHIA SET	KEPLER TSCOPE
CPI2	ANGLE SOLRAD	DUMCAL	ENDSTP	OBCOMP	ORBEL	ROTAT2
CR	DUMCAL	OBCOMP	RANGE	RDREFR		
CRCB	OPRLM SCREEN	ENDSTP SETTRG	GPOT SOLRAD	MASACC TRIGER	OBSIM TRJPRO	OBSUP XTRACK
CRFEPS	REFRAC				
CRMS	FIT	ITSUM2			
CRNTID	IGSCON	READTP			
CSFREQ	DOPLER				
CSPHIN	OPRLM	SETTRG	TRIGER		

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS
CT	DUMCAL OBCOMP RDREFR
CTEMP6	LOPBRN LOPCON
CTEMP7	LOPBRN LOPCON
CTEMP8	LOPBRN LOPCON
CWE	ANGLE DAUX DRAG DUMCAL ENDSTP OBCOMP SPART STALOC TRJPRO XLAND
CWM	AXESDD DPRLM LNRADR TRJPRO XTRACK
CW3	DOPLER
CW4	DOPLER
C2PI	CTOP ENDSTP JACHIA KEPLER MISS ORBEL PIMOD PIMOD1 RDTAT2 SET TRJPRO
DATN	INPUT QQDATS
DAY	BAPRT BATIM CKIGS CRDGEN DACON DAUX DPRLM DUMPRC ENDSTP GBOBS GDDPRT ICNPRT INIT INTRP2 ITSUM2 JACHIA JYRATE OBOBS OBSPRT ODDPRT ONPRC PRTALN REFCOR RUNPRT SCREEN TMSPRT TRIGER TRJPRC TRJPRO
DBIAS	ANGLE DOPLER DUMCAL RANGE RANRAT SETSEN
DCCAL	CONTIM
DCLIM	CONTIM DPRLM EATAPE GETT OBSIM OBSUP RUNPRT TIMTRG TRIGER VEINIT
DCLIM1	DUMCAL TIMTRG TRIGER
DCLIM2	TIMTRG TRIGER
DCSTR	SUBSUP
DEG	OCCULT STRPRC
DELT1	DOPLER DUMCAL OBCOMP RANGE
DELT2	DOPLER DUMCAL OBCOMP RANGE
DELT3	DOPLER DUMCAL RANGE

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS
DELT4	DOPLER DUMCAL RANGE
DIST	SETSCL
DLCAL	CONTIM
DLLIM	CONTIM DUMCAL EATAPE OBCOMP OBSUP RUNPRT
DMAT	AXESDC AXESDD EXPLIC
DR	DUMCAL OBCOMP RANGE RDREFR
DRIFT	AXESDC AXESDD DPRT DWRTT EXPLIC GETALN IGSCON
DSIG	DUMCAL SETSEN
DSIGMA	ANGLE DOPLER DUMCAL OBCOMP OBSUP RANGE RANRAT SETSEN
DT	DUMCAL OBCOMP RDREFR
DTCAL	CONTIM
DTEMP6	LOPBRN LOPCON
DTEMP7	LOPBRN LOPCON
DTEMP3	LOPBRN LOPCON
DTLIM	CONTIM FIT RUNPRT TIMTRG TMSPRT TRIGER
DTLIM1	TIMTRG TRIGER TRJPRO
DTLIM2	TIMTRG TRIGER TRJPRO
EHBIAS	APPLY GETVAL
ELR	ANGLE DUMCAL OBCOMP RANGE RDREFR
ELROOT	DUMCAL OBCOMP RDREFR
ELT	DUMCAL OBCOMP RDREFR
ELTOOT	DUMCAL OBCOMP RDREFR
EQRT	BAPRC CONTIM DPRLM INIT

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS				
ERTAP1	DDSUP				
ETITLE	EREAD	RUNPRT			
FDATE	CONTIM	INIT			
FEET	DRAG				
FIXDAT	CONTIM TRJPRO	INIT	INTRP2	REFCOR	TMSPRT	TRJPRC
FLAT	LNPART	XTRACK			
FOCUS	TMSPRT	TRJPRC			
GAMMAO	LOPBRN	LOPCON			
GAMDTA	IGSCON				
GAMRZO	IGSBRN	IGSCON			
GBA	LNRADR	PRTIAL			
GBAI	LNRADR	OBSIM	ONBORD	PRTIAL	
GDA	AXESDC PRTIAL	AXESDD	COMPT	LNRADR	OBSIM	ONBORD
GET	MATPRT	TRJPRC			
GETJD	COVA	MATPRT	TMSPRT	TRJPRC	TRJPRO
GFLG	OBSPRT	ONPRT			
GIMBAL	AXESDC	AXESDD			
GMAT	AXESDC	AXESDD	PRTIAL		
GMLUNT	MASACC	MCNPRC	TRIGER	TRJSUP	
GMMCON	MASACC	MCNPRC	TRIGER	TRJSUP	
HALN	BAPRC	BAPRT			
HBIAS	ONPRC	ONPRT	RHORZ		
HBWRD	OBSIM	ONBORD	ONPRC		

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS				
HCOV	COVPRC				
HEQD	DPRLM	ITSUM2			
HEQT	TMSPRT	TRJPRC	TRJPRQ		
HEQX	DPRLM	ICNPRT			
HRTYPE	ANGLE	APPRT	ASSIGN	BIAPRC	BNDPRC	COMPAL
	CONTIM	CRDGEN	CRDRD	DDRD	DDSUP	DOPLER
	DPRLM	DUMCAL	GBPRT	GETALN	INIT	INPCHK
	INPUT	JYRATE	OBSIM	ODDPRT	ONPRT	RADAR
	RANGE	RANRAT	RUNPRT	SCALBS	SENPRC	SETCOD
	SETTAB	SETTRG	SIGPRC	SRTMRG	SUPER	TIMTRG
	TRIGER	TRJPRC	TRJPRQ	TRJSUP	TSCOPE	VEINIT
	VHFRNG					
HW	IGSBRN	IGSCON			
H2W2	IGSBRN	IGSCON			
IA	PHASE				
IADD	QQDATS	QQDPRC	QQSLOK		
IALT	DAUX				
IAPT	ANGLE	BAFILL	CAVEC	DAUX	DOPLER	EXPADD
	FULVAR	IMPMLT	JYRPAR	OBSIM	ONBORD	PHASE
	PRTIAL	RANGE	RANRAT	SETCOD	SETTAB	
IAPTVP	APRI	SETTAB			
IA1	CAVEC	COMPAL	GETALN	OBSIM	ONBORD
IA2	CAVEC	COMPAL	GETALN	OBSIM	ONBORD
IBLK	QQDATS	QQDPRC	QQSLOK		
IBUFF	QCONST	QQINPT	QQSCAN		
IC	OBSIM	ONBORD	PRTIAL		
ICARD	BAPRC	BIAPRC	BNDPRC	COVPRC	DUMPRC	EDTPRC
	LNDPRC	MCNPRC	ONPRC	POTPRC	QQDATS	QQINPT
	SENPRC	SIGPRC	STRPRC	TIMPRC		
ICB	TRAJRD	TRJSUP			

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS

ICERR2	QQINPT	QQISCR				
ICODSC	DECODE	GETLBL				
ICON	QQSLOK					
ICONTL	QQSLOK					
ICTYPE	DPRLM					
ICW	EREAD	INIT				
IDCFLG	APPLY	APRI	CROGEN	CVPRT	EAMTRX	GETLBL
	GETVAL	INIT	INTRP2	INTVEQ	SETTAB	VEINIT
IDCSTR	SUBSUP					
IDRAG	DRAG	SOPRT				
IDREC	ANGLE	DOPLER	DUMCAL	GBOBS	GETREC	GETT
	HORZ	ILLUM	OBCOMP	OBOBS	OBSIM	OBSPRT
	OBSUP	ONBORD	PPRPP	RANGE	SETOBS	WRTOBS
	WRTREC					
IDRUM	INIT	INPUT	SUPCRD	SUPDD	SUPER	SUPPRO
	SUPTRJ					
ID3DOP	DOPLER	OBCOMP	OBSUP	SETSEN		
IEBUFF	QCONST	QQINPT	QQSCAN			
IEPCWD	BODY	EPHACC	SETCOO			
IEPHR	COVPRC	DPRLM	EPHEM	INIT	SOLRAD	STRPRC
	TAPRED					
IEPSTR	DAUX	EPHACC				
IERR	APPRT	ATAMAT	BAPRT	BIAPRC	CKBURN	CONTIM
	COVPRC	CVPRT	DECODE	DPRLM	DUMPRC	EOTPRC
	GBOBS	GBPRT	INIT	INPCHK	INPUT	INTER
	LNDPRC	MCNPRC	MCNPRT	MERGE	OBOBS	ONPRC
	ONPRT	POTPRC	POTPRT	QQDATS	QQOPRC	QQINPT
	ROTPRC	SCALBS	SC3DOP	SENPRC	SETCOO	SETSCL
	SIGPRC	STRPRC	TMSPRT	TRJPRC		

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS

NAME					
IERROR	BAPRC	BIAPRC	BNOPRC	COVPRC	DUMPRC	EDTPRC
	LNDPRC	MCNPRC	ONPRC	POTPRC	QQDATS	QQOPRC
	QQINPT	QQSCAN	SENPRC	SIGPRC	STRPRC	TIMPRC
IEXP	EXPADD	OBSIM	OBSUP	ONBORD	PRTIAL	
IFASNP	ERRPRC	INIT				
IFAST	CRDGEN	CRDPRC	CRDSAV	DUMCAL	FULVAR	INIT
	OBSSRT	PHASE	PPRPP	WRTOBS		
IFATAL	ASSIGN	BAFILL	BAPRC	BATIM	CKALGN	CKIGS
	CKLOP	CONTIM	COVPRC	DECODE	DPRLM	INIT
	INPCHK	INPUT	LNDPRC	MERGE	OBSSRT	REFANG
	REFCOR	SETCOD	SETTAB	SETTRG	SKIP	TRJPRC
IFEBT	APPLY	DELAY	DPRLM	DUMCAL	GETVAL	LNDPRC
	OBCOMP	OBSUP	VEINIT			
IFITFL	APPLY	FIT	ITSUM2	MATPRT	PPRPP	PSTSUP
	SETCOD	SUPER	SUPPRO	SUPTRJ	TIMTRG	TRIGER
	TRJSUP					
IFLAG	BODY	DAUX	DRAG	GPOT	MASACC	SOLRAD
	TRAJ					

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS
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IFLP

AEIXYZ	ALLOW	ANGLE	ANPAR	APLYRD	APPLY
APPRT	ASSCKM	ASSIGN	ATAMAT	AXESDC	AXESDD
BAFILL	BAPRC	BAPRNT	BAPRT	BATIM	BAWRT
BDSCAN	BIAPRC	BNDPRC	BODPRT	CKALGN	CKBURN
CKIGS	CKLOP	CONPRT	CONSUB	CONTIM	COOT
COVA	COVMAT	COVPRC	CROGEN	CRDIMG	CRDMRG
CRDPRC	CRDPRI	CVPRT	DAUX	DCSUP	DDSUP
DECODE	DELAY	DOPLER	DOPPRT	DPRLM	DUMCAL
DUMPRC	EAINIT	EATAPE	EDTPRC	FIT	FORM
FULVAR	GBBPRT	GBOBS	GBPRT	GBSPRT	GODPRT
GETALN	GETBND	GETCAT	GETLBL	GETREC	GETSCL
GETT	GETT1	GETT2	GETVAL	ICNPRT	IGSBRN
IGSCON	INIT	INPCHK	INPUT	INTER	INTRPI
ITSUM1	ITSUM2	JACHIA	JYRATE	KEPLER	LEGS2
LNDPRC	LNDPRT	LNPART	LNRADR	LTPRT	MATPRT
MCNPRC	MCNPRT	MERGE	MISS	MPRT	NEWTON
OBCOMP	OBOBS	OBSIM	OBSPRT	OBSSRT	OCCULT
ODDPRT	ONBORD	ONPRC	ONPRT	PDUMPX	PHASE
POTPRC	POTPRT	PPRPP	PRINIT	PRTALN	PRTIAL
QQDATS	QQDPRC	QQINPT	QQSCAN	QQSDA1	QQSDA2
QQSDA3	RANGE	RANRAT	RDREFR	READTP	REFANG
REFCOR	RHORZ	ROTPRC	RTIME	RUNPRT	SCALBS
SCAN	SC3DOP	SDPRT	SENPRC	SENPRT	SET
SETCOD	SETSCL	SETSEN	SETTAB	SETTRG	SIGPRC
STMPRT	STRPRC	STRPRT	SUPPRO	SYMIND	TAPRED
TERMIN	TIMPRC	TIMTRG	TMSPRT	TRIGER	TRJPRC
TRJPRO	UTWRTM	VECOPS	VECPRT	VHFRNG	WRTRAJ
WRTREC	WRTI	WTCO	XLAND	XSTAR	

IGBD

BIAPRC	DDSUP	DUMPRC	EATAPE	GBOBS	GBPRT
INIT	INPCHK	OBSUP	PPRPP	RUNPRT	SENPRC
SIGPRC	WRTOBS				

IGNAL

COMPAL	CROGEN	CRDRD	OBSIM

IGSFLG

IGSCON	READTP

IGSTAP

IGSCON	READTP

IGSTEP

IGSCON	PHASE

IKMAT

IGSBRN	IGSCON

IL

AXESDD	GETT

ILAND

LNPART	LRET	OBSIM	ONBORD

ILEN

ONPRC	QQMIX	QQSLOK

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS

NAME					
ILOC	BIAPRC	OBSIM	ONBORD		
ILOCLR	BIAPRC	OBSIM	ONBORD		
IMATFG	TRJPRO	WRTRAJ			
IMLEN	QQDATS	QQSLOK			
IMP	CAVEC	DOPLER	DUMCAL	IMPMLT	OBSIM	OBSUP
	ONBORD	PRTIAL	RANGE			
IMTYP	QQDATS	QQDPRC	QQSCAN			
IMXMOD	QCONST	QQMIX			
IMXP	QQMIX	QQSLOK			
INALN	AXESDC	AXESDD	BAPRC	IGSCON	LOPCON
INATMA	DDSUP	DUMPRC	EATAPE	MFORM	
INEQX	DPRLM	ICNPRT			
INEW	QQDPRC	QQSCAN			
INFLD	BAPRC	BIAPRC	BNDPRC	COVPRC	DUMPRC	EDTPRC
	LNDPRC	MCNPRC	ONPRC	POTPRC	QQDPRC	QQINPT
	QQSCAN	SENPRC	SIGPRC	STRPRC	TIMPRC	
INITCB	APPLY	ATAMAT	COVPRC	DPRLM	GETVAL	ICNPRT
INO	BAPRC	BIAPRC	BNDPRC	DUMPRC	EDTPRC	LNDPRC
	MCNPRC	ONPRC	QQSLOK	SENPRC	SIGPRC	STRPRC
	TIMPRC					
INSTWD	BIAPRC				
INSYM	MCNPRC	ONPRC	QQDATS	QQDPRC	QQSCAN	QQSLOK
IOBDS	GETT	OBSIM			
IOBO	ASSIGN	BIAPRC	CRORD	DDSUP	DUMCAL	DUMPRC
	EATAPE	INIT	INPCHK	LNDPRC	OBOBS	OBSUP
	ONPRC	ONPRT	PPRPP	RUNPRT	SIGPRC	STRPRC
IOBS	LNPART	OBSIM	ONBORD	PRTIAL	
IOEQXD	DPRLM	INTRP2	INTVEQ	ITSUM2	VEINIT

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS

NAME					
IOEOXT	TRJPRC				
IOPN	SUPOD	SUPPRO			
IOUT	OCONST	QQDPRC	QQINPT	QQISCR	QQSCAN
IPAS	OBSIM	OBSUP	RADAR	TSCOPE	VHFRNG
IPOINT	ASSCKM	ASSIGN	COVRD	CRORD	OCRD	ODRD
	FAIRD	INPUT	POSTRD	PROPRD	TRAJRD	
IPRINT	IGSBRN	IGSCON			
IPROC	OCONST	QQINPT			
IRECEV	ANGLE	DOPLER	DUMCAL	OBCOMP	OBSUP	RANGE
	RANRAT	SETSEN				
IREL	DOPLER	DUMCAL	RANGE		
IREQ	APPLY	ATAMAT	COVA	DELAY	OPRLM	DUMCAL
	ENDSTP	EPHEM	INIT	INTRP2	ISAAC	JACHIA
	OBSIM	OBSUP	SOLRAD	TAPRED	TRIGER	TRJPRC
	TRJPRO					
ISCAL	BAPRT	DOPPRT	GBBPRT	GBSPRT	GODPRT	GETSCL
	ICNPRT	LNOPRT	MCNPRT	ODDPRT	ONPRT	RUNPRT
	SBPRT	SBPRTI	SENPRT	SETSCL		
ISCLSP	BAPRT	GETSCL	SETSCL		
ISCRAN	EAWRT				
ISCRAP	DDSUP	EAINIT	EATAPE	EAWRT	
ISCRAT	CROIMG	DUMCAL	DUMPRC	EATAPE	GETLBL	OBSSRT
	SDSPRT	SPLIT	SYMIND			
ISCRP	BAPRC	BIAPRC	BNDPRC	COVPRC	DUMPRC	EDTPRC
	LNOPRC	MCNPRC	ONPRC	POTPRC	QQDPRC	QQINPT
	QQISCR	QQMIX	QQSCAN	SENPRC	SIGPRC	STRPRC
	TIMPRC					
ISIGMA	GETT	NOISE	OBSIM		
ISORT	GBOBS	OBOBS	SRTMRG		
ISP	QQINPT	QQSLOK			

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS
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ISPCWD	DPRLM	JYRATE				
ISPECA	SETSCL					
ISPECD	SETSCL					
ISPECT	SETSCL					
ISPIN	DPRLM	JYRATE				
ISPT	GBOBS	OBOBS	QQINPT	QQSCAN	SKIP	
ISTYPE	ATAMAT	CONTIM	COVPRC	CVPRT	INIT	INPCHK
	INPUT	RUNPRT	SETCOD	SRTMRG	SUPPRO	
ISYM	BAPRC	BIAPRC	BNDPRC	COVPRC	DUMPRC	EDTPRC
	LNDPRC	MCNPRC	ONPRC	POTPRC	QQINPT	QQSCAN
	QQSLOK	SENPRC	SIGPRC	STRPRC	TIMPRC	
ITABCD	APPLY	ATAMAT	BODY	COVA	DELAY	DPRLM
	DUMCAL	ENDSTP	EPHEM	INIT	INTRP2	ISAAC
	JACHIA	SOLRAD	TAPRED	TRIGER	TRJPRO	
ITCNT	FIT	ITSUM1	ITSUM2	PPRPP	SUPER	SUPTRJ
	TRIGER					
ITOV	FIT	ITSUM2				
ITGTTM	CONTIM					
ITIMLR	ONPRC	ONPRT				
ITRAJ	IGSCON					
ITRANS	DOPLER	DUMCAL	OBCOMP	OBSUP	SETSEN	
ITYP	QQDATS	QQDPRC	QQSCAN	QQSLOK		
IUP	OBSIM	OBSUP	ONBORD	PRTIAL		
IVCOV	ATAMAT	CVPRT	SETTAB			
IVEHN	BAPRT	COVA	DUMPRC	GETT	ICNPRT	INIT
	INPCHK	ITSUM2	LNDPRC	OBSIM	OBSUP	QQDPRT
	ONPRT	PPRPP	RADAR	RUNPRT	SOPRT	SETOBS
	TRJPRC	TRJPRO	WRTOBS			
IVER	EAINIT	FLIP				

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS
JBODY	DAUX
JCVFLG	ASSIGN ATAMAT BIAPRC BNDPRC COVPRC COVRD DDSUP DPVSTR INIT RUNPRT SUPPRO
JDC	INIT
JDEQXD	DPRLM INTRP2 INTVEQ ITSUM2 MATPRT VEINIT
JDEQXT	COVA TRJPRC
JDF	EREAD
JDINEQ	DPRLM ICNPRT
JSIGMA	GETT OBSIM
JULNOD	CONTIM DACON EPHEM GBOBS INIT JULCAL OBOBS OBSPRT OBSUP ROTAT ROTAT2 TRJPRO
KATLOC	DECODE GETLBL
KBURN	DAUX PHASE TRIGER
KDATN	INPUT QQDATS
KDIF	EAMTRX EATAPE NEWTON TRJPRO
KDINFS	OBSUP WTAPE
KDRUM1	APPLY ATAMAT CONTIM COVMAT COVPRC CROIMG CRDPRI CRDRD CVPRT DCRD DDRD DPVSTR FIT GETCAT INIT INPUT MATPRT MCNPRC MCNPRT POTPRC POTPRT PROPRD SETCOD SUPCRD SUPDD SUPER SUPPRO SUPTRJ TIMTRG TMSPRT TRAJRD TRIGER
KDRUM2	APPLY APPRT ASSIGN BAPRT BAWRT BDSCAN BIAPRC BNDPRC CONTIM COVRD CROGEN CROIMG CROMRG CROPRI CRDRD CROSAV CVPRT DCRD DDRD DDPPRT DPRLM DPVSTR DUMPRC EATAPE EQTPRC FAIRD GBBPRT GBPRT GBSPRT GDDPRT GETCAT GETLBL INIT INPUT INTRP2 LNDPRC LNDPRT OBSIM ODDPRT POSTRD PROPRD SRPRT SCALBS SC3DDP SDPRT SDSPRT SENPRC SETCOD SETTAB SETTRG SIGPRC STRPRC STRPRT SUPCRD SUPDD SUPER SUPPRO SUPTRJ TIMPRC TMSPRT TRAJRD TRJPRC TRJPRO TRJSUP.

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS
KDRUM3	DPVSTR EATAPE MFORM SUPDD SUPPRO
KEPHEM	EPHEM EREAD INIT RUNPRT
KFLAG	ENDSTP PHASE TIMTRG TRAJ TRIGER TRJOUT
KGB	GBOBS INIT SRTMRG
KHEOPT	INIT LTPRT RUNPRT
KIGS	CKIGS IGSCON RUNPRT
KIN	CRDPRC GBOBS INPUT OBOBS QQINPT QQSCAN SKIP
KINT	CRDPRC
KMATRX	IGSCON
KNTDIV	FIT
KNTOBS	DELET OBCOMP
KOB	DUMCAL OBSPRT OBSUP RUNPRT SRTMRG WRTOBS
KOBI	RUNPRT SRTMRG
KON	INIT OBOBS SRTMRG
KONFIX	INPUT QQDATS
KONSOL	BIAPRC CKALGN CKIGS CKLOP DPRLM LNDPRC ONPRC SC3DOP SENPRC SETCOD SUPTRJ TRJSUP VEINIT
KONST	BCONST CONSUB QQDATS

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS
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KOUT

AEIXYZ	ALLOW	ANGLE	ANPAR	APLYRD	APPLY
APPRT	ASSCKM	ASSIGN	ATAMAT	AXESDC	AXESDD
BAFILL	BAPRC	BAPRNT	BAPRT	BATIM	BAWRT
BOSCAN	BIAPRC	BNDPRC	BODPRT	CKALGN	CKBURN
CKIGS	CKLOP	CONSUB	CONTIM	COOT	COVA
COVMAT	COVPRC	CRDGEN	CRDIMG	CRDMRG	CRDPRC
CRDPR1	CVPRT	DAUX	DCSUP	DDSUP	DECODE
DELAY	DELET	DOPLER	DOPPRT	DPRLM	DUMCAL
DUMPRC	EAINIT	EATAPE	EAWRT	EDTPRC	FIT
FLIP	FORM	FULVAR	GBBPRT	GBOBS	GBPRT
GBSPRT	GDDPRT	GETALN	GETBND	GETCAT	GETLBL
GETREC	GETSCL	GETT	GETTI	GETT2	GETVAL
ICNPRT	IGSBRN	IGSCON	INIT	INPCHK	INPUT
INTER	INTRP1	ITSUM1	ITSUM2	JACHIA	JYRATE
KEPLER	LEGS2	LNDPRC	LNDPRT	LNPART	LNRADR
LTPRT	MCNPRC	MCNPRT	MERGE	MISS	MPRT
NEWTON	OBCOMP	OBOBS	OBSIM	OBSPRT	OBSSRT
OCCULT	ODDPRT	ONBORD	ONPRC	ONPRT	POUMPX
PHASE	POTPRC	POTPRT	PPRPP	PRINIT	PRTALN
PRTIAL	QQDATS	QQDPRC	QQINPT	QQSCAN	QQSDA1
QQSDA2	QQSDA3	RANGE	RANRAT	RDREFR	READTP
REFANG	REFCOR	RELATE	RHORZ	ROTPRC	RTIME
RUNPRT	SBPRT	SBPRT1	SCALBS	SCAN	SCREEN
SC3DOP	SDPRT	SDSPRT	SENPRC	SENPRT	SET
SETCOD	SETSCL	SETSEN	SETTAB	SETTRG	SIGPRC
SKIP	STMPRT	STRPRC	STRPRT	SUPPRO	SYMINO
TAPRED	TERMIN	TIMPRC	TIMTRG	TMSPRT	TRIGER
TRJPRC	TRJPRO	UTWRTM	VECOPS	VECPRT	VHFRNG
WRTM	WRTRAJ	WRTREC	WRT1	WTCD	XLAND
XSTAR					

KPOINT

COVRD	CRDRD	DCRD	DDRD	FAIRD	POSTRD
PROPRD	TRAJRD				

KRESO

OBSUP	PPRPP	PSTSUP	SRTMRG

KRESID

PSTSUP	RUNPRT

KRI

ASSIGN

KRNUM

ANGLE	DOPLER	NOISE	RANGE	RANRAT

KTHEAP

LTPRT	RUNPRT

KTRAJ1

ISAAC	RUNPRT	TRJOUT	TRJPRO

KTRAJ2

ISAAC	RUNPRT	TRJOUT	TRJPRO

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS

NAME					
KTRAJ3	RUNPRT	WRTRAJ			
KT6TAP	COVA	MATPRT	RUNPRT	TRJPRO	
KVEH	ALLOW	ANGLE	AXESDC	AXESDD	BODY	COVA
	DAUX	DELAY	DOPLER	DRAG	DUMCAL	EAMTRX
	EATAPE	ENDSTP	EPHACC	FULVAR	GETALN	GETT
	GPOT	IGSCON	ILLUM	INTVEQ	ISAAC	JYRATE
	JYRPAR	LNRADR	LOPCON	MASACC	NEWTON	OBCOMP
	OBSIM	OBSUP	OCCULT	ONBORD	PHASE	PRTIAL
	RADAR	RANGE	RANRAT	RHORZ	SCREEN	SETOBS
	SEXTNT	SOLRAD	SUPTRJ	TAPRED	TIMTRG	TRAJ
	TRAJRD	TRIGER	TRJOUT	TRJPRO	TRJSUP	TSCOPE
	VEINIT	VHFRNG	WRTOBS	XSTAR		
K1	APPLY	COVRD	CRDRD	DCRD	DDRD	FAIRD
	POSTRD	PROPRD	TRAJRD			
K10	APPLY	CRDRD	DCRD	DDRD	PROPRD	TRAJRD
K11	APPLY	DCRD	DDRD	PROPRD	TRAJRD	
K12	APPLY	DCRD	DDRD	PROPRD	TRAJRD	
K13	APPLY	DCRD	DDRD	PROPRD	TRAJRD	
K14	APPLY	DCRD	DDRD	PROPRD	TRAJRD	
K15	APPLY	DDRD	PROPRD	TRAJRD	TRIGER	
K16	APPLY	DDRD	PROPRD	TRAJRD	TRIGER	
K17	APPLY	DCRD	DDRD	TRAJRD	TRIGER	
K18	APPLY	DCRD	DDRD	TRAJRD	TRIGER	
K19	DCRD	DDRD	FAIRD	TRAJRD	TRIGER	
K2	APPLY	COVRD	CRDRD	DCRD	DDRD	FAIRD
	POSTRD	PROPRD	TRAJRD			
K20	DCRD	DDRD	FAIRD	TRAJRD	TRIGER	
K21	APPLY	DCRD	DDRD	TRAJRD	TRIGER	
K22	APPLY	DCRD	DDRD	TRAJRD	TRIGER	
K23	APPLY	DCRD	DDRD	TRAJRD		

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS				
K24	APPLY	DCRD	DDRD	TRAJRD	
K25	APPLY	DCRD	DDRD		
K26	APPLY	DCRD	DDRD		
K27	APPLY	DCPD			
K28	APPLY	DCRD			
K29	APPLY	DCRD	DDRD	TRAJRD	
K3	APPLY	CRDRD	DCRD	DDRD	PROPRD	TRAJRD
K30	APPLY	DCRD	DDRD	TRAJRD	
K31	APPLY	DCRD	DDRD	TRAJRD	
K32	APPLY	DCRD	DDRD	TRAJRD	
K33	APPLY	DCRD	DDRD		
K34	APPLY	DCRD	DDRD		
K35	DDRD				
K36	DDRD				
K37	DDRD				
K38	DDRD				
K4	APPLY	CRDRD	DCRD	DDRD	PROPRD	TRAJRD
K5	APPLY	CRDRD	DCRD	DDRD	PROPRD	TRAJRC
K6	APPLY	CRDRD	DCRD	DDRD	PROPRD	TRAJRD
K7	APPLY	CRDRD	DCRD	DDRD	PROPRD	TRAJRD
K8	APPLY	CRDRD	DCRD	DDRD	PROPRD	TRAJRD
K9	APPLY	CRDRD	DCRD	DDRD	PROPRD	TRAJRD
LASTID	IGSCON	PHASE	READTP		
LBRVEH	INPCHK	LNDPRC			

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS
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| LCB | LNPART XLAND |

| LENGTH | INPUT QQDATS |

| LINCT | FLIP |

LISTIT	AEIXYZ ANGLE ANPAR APLYRD APPLY ASSCKM
	ATAMAT AXESDC AXESDD BAPRC BATIM BAWRT
	BDSCAN BIAPRC BNDPRC CONTIM COVMAT COVPRC
	COVSUP CROGEN CRDIMG CRDPRI CROSUP DAUX
	DDSUP DECODE DELAY DELET DDPLER DPRLM
	DUMCAL DUMPRC EATAPE EDTPRC FAISUP FIT
	FORM FULVAR GBOBS GETALN GETBND GETCAT
	GETLBL GETREC GETSCL GETT GETTI GETT2
	GETVAL IGSBRN IGSCON INIT INPUT JYRATE
	KEPLER LNDPRC LNPART LNRADR MCNPRC MISS
	NEWTON OBCOMP OBOBS OBSIM OBSUP ONBORD
	ONPRC PHASE POTPRC PRINIT PRPSUP PRTIAL
	PSTSUP QQINPT QQSCAN RANGE RANRAT RDREFR
	READTP REFANG REFCOR RHORZ SCAN SCREEN
	SC3DOP SENPRC SET SETCOD SETSCL SETTAB
	SETTRG SIGPRC STRPRC TAPRED TIMPRC TIMTRG
	TRAJRD TRIGER TRJPRC TRJPRO VHFRNG WRTRAJ
	WRTREC WRTI WTCO XLAND XSTAR

| LK | ASSIGN COVRD CRORD DCRD DDRD FAIRD |
| | POSTRD PROPRD TRAJRD |

| LKEPHM | INIT |

| LMODEL | INIT ROTAT2 RUNPRT |

LNDTR	APPLY ASSIGN CONTIM DPRLM DUMCAL EATAPE
	GETCAT GETLBL GETSCL GETVAL INIT INPCHK
	LNDPRC OBCOMP OBSUP ONPRT SUPTRJ TRIGER
	VEINIT

| LOGIC | IGSCON PHASE READTP |

| LONG | ENDSTP INPUT SETTRG TMSPRT TRJPRC |

| LPOINT | ASSIGN COVRD CRORD DCRD DDRD FAIRD |
| | POSTRD PROPRO TRAJRD |

| LRANG | LNRADR OBSIM ONBORD |

| LRCN | ALLOW ONPRC ONPRT |

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS
LROWRD	BIAPRC OBSIM ONBORD
LRFLG	LNRADR PPRPP
LSPIN	BIAPRC DPRLM JYRPAR
LTIME	DELAY DPRLM RUNPRT SEXTNT XSTAR
MALGN1	ASSIGN TRJSUP
MALGN3	ASSIGN DCSUP FAISUP
MALGN4	ASSIGN DCSUP FAISUP
MALGN5	ASSIGN DOSUP EATAPE
MALGN6	ASSIGN DOSUP EATAPE
MALGN7	ASSIGN CROSUP
MALGN8	ASSIGN CROSUP
MALR	APPLY GETVAL LNRADR ONPRC ONPRT
MAPLY1	ASSIGN CROSUP
MAPPLY	ASSIGN FAIRD FAISUP
MAPRIO	ASSIGN DCRD FAISUP
MATAI1	ASSIGN COVRD FAISUP
MATAI2	ASSIGN COVSUP
MATUN	ATAMAT COVPRC OOSLOK
MATUA1	ASSIGN COVRD DCRD DCSUP FAISUP
MATUA2	ASSIGN COVRD COVSUP
MATUA4	ASSIGN CROSUP
MATUA5	ASSIGN DOSUP EATAPE
MAUX1	ASSIGN TRJSUP
MAUX3	ASSIGN DCSUP

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS
MAUX4	ASSIGN PRPSUP
MAUX5	ASSIGN DDSUP EATAPE
MAVEC1	ASSIGN DCSUP
MAVEC2	ASSIGN DCSUP
MAVEC5	ASSIGN DDSUP EATAPE
MAVEC6	ASSIGN DDSUP EATAPE
MAXIT	FIT RUNPRT
MAXM	APPRT BAPRC BAPRT CONTIM CRDMRG CRDPRC CRDPR1 CVPRT GBPRT INPUT MCNPRT ONPRT POTPRT SDPRT SETCOD SETTAB SETTRG TIMPRC TMSPRT
MAXNYB	BAPRC SETCOD
MBNDS	ASSIGN FAISUP
MCNAL1	ASSIGN TRJSUP
MCNAL3	ASSIGN DCSUP
MCNAL4	ASSIGN DCSUP
MCNAL5	ASSIGN DDSUP EATAPE
MCNAL6	ASSIGN DDSUP EATAPE
MCNIG1	ASSIGN TRJSUP
MCNLP1	ASSIGN TRJSUP
MCSE1	ASSIGN TRIGER TRJSUP
MCSE3	ASSIGN FAISUP
MCSM1	ASSIGN TRIGER TRJSUP
MCSM3	ASSIGN FAISUP
MCVEN	ASSIGN PRPSUP
MCVPRT	ASSIGN PRPSUP

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS
MCVTM	ASSIGN
MCWEC1	ASSIGN TRIGER TRJSUP
MCWEC3	ASSIGN
MCWEJ1	ASSIGN TRIGER TRJSUP
MCWEJ3	ASSIGN
MCWMC1	ASSIGN TRIGER TRJSUP
MCWMC3	ASSIGN
MCWMJ1	ASSIGN TRIGER TRJSUP
MCWMJ3	ASSIGN
MDELEA	ASSIGN DDSUP
MDELPR	ASSIGN DCSUP
MDELPT	ASSIGN DCSUP
MDELTT	ASSIGN PRPSUP
MDIF1	ASSIGN TRJSUP
MDQ	ASSIGN FAISUP
ME	ASSIGN COVSUP
MENDCR	ASSIGN CRDRD
MENDCV	ASSIGN COVRD
MENDDC	ASSIGN DCRD
MENDDD	ASSIGN DDRD
MENDEA	ASSIGN DDSUP
MENDFA	ASSIGN FAIRD
MENDPP	ASSIGN POSTRD
MENDTP	ASSIGN PROPRD

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS
MENDT1	ASSIGN
MF1	ASSIGN COVSUP
MGBB1	ASSIGN DCSUP FAISUP
MGBB2	ASSIGN DDSUP EATAPE
MGBSDS	ASSIGN DDSUP EATAPE
MGBS1	ASSIGN DCSUP
MGBS2	ASSIGN DDSUP EATAPE
MGDD	ASSIGN DDSUP EATAPE
MIGB1	ASSIGN TRAJRD TRJSUP
MIGB3	ASSIGN FAISUP
MIGB4	ASSIGN FAISUP
MINPT	ASSIGN PRPSUP
MINSTP	BAPRC BAPRT PHASE
MINY1	ASSIGN TRJSUP
MISLC	ASSIGN DCRD DCSUP DDSUP EATAPE
MJE1	ASSIGN TRIGER TRJSUP
MJE3	ASSIGN FAISUP
MJM1	ASSIGN TRIGER TRJSUP
MJM3	ASSIGN FAISUP
MLABLS	ASSIGN FAISUP
MLAB1	ASSIGN CRDSUP
MLABS	ASSIGN SUPDD
MLAND1	ASSIGN COVRD DCSUP FAISUP
MLAND2	ASSIGN DDSUP EATAPE

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS		
MLAND3	ASSIGN	TRAJRD	
MLBCV2	ASSIGN	COVSUP	
MLBCV3	ASSIGN	PRPSUP	
MLBCV4	ASSIGN		
MLNY1	ASSIGN	TRJSUP	
MLPB1	ASSIGN	TRAJRD	TRJSUP
MLPB3	ASSIGN	FAISUP	
MLPB4	ASSIGN	FAISUP	
MMCAGA	ASSIGN	TRJSUP	
MMCCW1	ASSIGN	TRIGER	TRJSUP
MMCCW3	ASSIGN		
MMCON1	ASSIGN	TRIGER	TRJSUP
MMCON3	ASSIGN	FAISUP	
MMPAVC	ASSIGN	DCSUP	
MMPAV1	ASSIGN	DDSUP	EATAPE
MNEWO	ASSIGN	DCRD	FAISUP
MNEWO1	ASSIGN	CRDSUP	
MOBB1	ASSIGN	DCSUP	FAISUP
MOBB2	ASSIGN	DDSUP	EATAPE
MOBSDS	ASSIGN	DDSUP	EATAPE
MOBS1	ASSIGN	DCSUP	
MOBS2	ASSIGN	DDSUP	EATAPE
MODD	ASSIGN	DDSUP	EATAPE
MODPRT	RUNPRT	TRJPRD	

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS

NAME					
MOLDQ	ASSIGN	COVRD	FAISUP		
MPBUFF	ASSIGN	PSTSUP			
MPLOT	ASSIGN	PSTSUP			
MRCWD	BODY	DAUX	SETCOD		
MRDIF1	ASSIGN	DCSUP			
MRDIF2	ASSIGN	DDSUP	EATAPE		
MRDIF3	ASSIGN	PRPSUP			
MRSUM	ASSIGN	PSTSUP			
MSCALS	ASSIGN	FAISUP			
MSCAL1	ASSIGN	CRDSUP			
MSCCV2	ASSIGN	COVSUP			
MSCCV3	ASSIGN	PRPSUP			
MSCCV4	ASSIGN	CRDSUP			
MSENID	ASSIGN	DCSUP	DDSUP	EATAPE	
MSEVI	ASSIGN	TRJSUP			
MSIGXZ	ASSIGN	COVSUP			
MSIGZO	ASSIGN	COVRD	COVSUP		
MSIG1	ASSIGN	COVSUP			
MSIG2	ASSIGN	PRPSUP			
MSLC	ASSIGN	DCRD	DCSUP	DDSUP	EATAPE	FAISUP
MSPEV1	ASSIGN	PROPRD	PRPSUP		
MSPEV2	PROPRD	PRPSUP			
MSPROP	ASSIGN	PRPSUP			
MSPTM	ASSIGN	PRPSUP			

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS

NAME					
MSTAR1	ASSIGN	DCSUP			
MSTAR2	ASSIGN	DDSUP	EATAPE		
MSUNP	ASSIGN	TRJSUP			
MTEM	ASSIGN	PRPSUP			
MTRB	ASSIGN	DCSUP	DDSUP	EATAPE	FAISUP
MTRI	ASSIGN	DCSUP	DDSUP	EATAPE	
MTTRG1	ASSIGN	TRAJRD	TRJSUP		
MVAR1	ASSIGN	DCSUP			
MVAR2	ASSIGN	PRPSUP			
MVAR5	ASSIGN	DDSUP	EATAPE		
MVE1	ASSIGN	PRPSUP			
MVE2	ASSIGN	PRPSUP			
MXVSTR	APPRT	BAPRC	BAPRT	BIAPRC	BNDPRC	CONTIM
	COVPRC	CRDMRG	CRDPRC	CRDPR1	CVPRT	DUMPRC
	EDTPRC	GBPRT	INPUT	LNDPRC	MCNPRC	MCNPRT
	MERGE	ONPRT	POTPRC	POTPRT	SOSPRT	SENPRC
	SETCOD	SETTAB	SETTRG	SIGPRC	SRTMRG	STRPRC
	TIMPRC	TMSPRT	TRJPRC			
MYPP1	ASSIGN	TRJSUP			
MYP1	ASSIGN	TRAJRD	TRJSUP		
MYTRG	ASSIGN	TRAJRD	TRJSUP		
MY1	ASSIGN	TRAJRD	TRJSUP		
NAL	BAFILL	BAPRC	BAPRT	BATIM	BAWRT	CKALGN
	CRDGEN	DORD	GETCAT	GETLBL	INPCHK	INPUT
	OBSIM	DODPRT	ONPRT	PHASE	SETTAB	
NALC	BAFILL	BAPRC	BAWRT	CKALGN		
NAL1	ASSIGN	COMPAL	GETALN	OBSIM	PRTALN	
NAL2	ASSIGN	COMPAL	GETALN	OBSIM		

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS				
NAPRIC	CVPRT	INPUT			
NAPRIS	CVPRT	INPUT			
NAPRIX	CVPRT	INPUT			
NATWA	ASSIGN	FIT	FORM	OBCOMP	SETCOD
NATWAT	ASSIGN	COVSUP	FIT	MATPRT	SETCOD
NAUX1	ASSIGN	FULVAR	ISAAC	SETCOD	
NAUX2	ASSIGN	SETCOD			
NBAL	BDSCAN	BNDPRC	GETBND	SETTAB	
NBIG	BDSCAN	BNDPRC	GETBND	SETTAB	
NBLP	BDSCAN	BNDPRC	GETBND	SETTAB	
NBRN	CKBURN	FULVAR	PHASE	SETTRG	TIMTRG	TRJSUP
NBRNID	BAPRC	CKBURN			
NBTB	BDSCAN	BNDPRC	SETTAB		
NCARDS	CRDIMG	CRDSAV			
NCENTR	BODY	COVA	DAUX	DUMCAL	EAMTRX	EATAPE
	ENDSTP	GPOT	INTRP2	INTVEQ	ISAAC	OBCOMP
	SCREEN	TAPRED	TRAJRD	TRIGER	TRJOUT	TRJPRO
	VECPRT					
NCNDKP	DAUX	SETCOD	SETTAB		
NCNSEP	DAUX	DUMCAL	OBCOMP	SETCOD	SETTAB	TRIGER
NCNSID	APPRT	ASSIGN	ATAMAT	COVA	COVRO	COVSUP
	CVPRT	ODSUP	DUMCAL	EATAPE	INPCHK	INPUT
	INTRP1	INTRP2	MATPRT	MFORM	OBCOMP	OBSIM
	ONBORD	PROPRO	SETCOD	SETTAB	SPLIT	SUPPRO
	TRJPRO					
NCOL	DAUX	PHASE			
NCCVST	BODPRT	CONPRT	QODATS	SOPRT	

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS				
NCS	ASSIGN SETTAB	DAUX	GETCAT	POTPRC	POTPRT	SDPRT
NCSCWD	ASSIGN	GETCAT	POTPRC	POTPRT	SDPRT	SETTAB
NCSSC	POTPRC	SETCOO				
NCVPRO	ASSIGN	CONTIM	INPUT	TIMPRC	TMSPRT	TRJPRO
NDELPR	ASSIGN	DELET	EDTPRC	ONBORD		
NDELPT	ASSIGN	DELET	EDTPRC	ONBORD		
NDELT	ASSIGN TRJPRO	CONTIM	EATAPE	INPUT	TIMPRC	TMSPRT
NDIF2	ISAAC	SETCOO				
NDPR	SETCOO	TRJSUP				
NDRUM	APPLY BDSCAN COVRD CRDRD DPRLM FIT GETLBL MCNPRC POTPRT SDSPRT STRPRC TRAJRD	APPRT BIAPRC CROGEN CRDSAV DPVSTR GBBPRT INPUT MCNPRT PROPRD SENPRC STRPRT TRIGER	ASSIGN BNDPRC CROIMG CVPRT DUMPRC GBPRT INTRP2 OBSIM SBPRT SETCOD SUPPRO TRJPRC	ATAMAT CONTIM CRDMRG DCRD EATAPE GBSPRT LNDPRC ODDPRT SCALBS SETTAB TIMPRC TRJPRO	BAPRT COVMAT CRDPRC DDRD EDTPRC GDDPRT LNDPRT POSTRD SC3DOP SETTRG TIMTRG TRJSUP	BAWRT COVPRC CRDPRI DOPPRT FAIRD GETCAT MATPRT POTPRC SDPRT SIGPRC TMSPRT
NEACOD	INTRP2	TRJPRC				
NEPTM	CONTIM TIMPRC	DDSUP TMSPRT	OPVSTR	EATAPE	INPUT	SETTRG
NEVTMX	ASSIGN	TIMTRG	TRIGER			
NFLG	OBSIM	ONPRT				
NGBB	ASSIGN GETCAT	BIAPRC INPCHK	DUMCAL SENPRC	GBBPRT SETSEN	GBPRT SETTAB	GDDPRT
NGBDS	ASSIGN SETOBS	DUMCAL	DUMPRC	GBPRT	GDDPRT	INPCHK

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS				
NGBS	ASSIGN	DUMCAL	GBPRT	GBSPRT	GODPRT	INPCHK
	OBSUP	SETSEN	SIGPRC			
NGOD	ASSIGN	DUMCAL	DUMPRC	SDSPRT		
NIG	ASSIGN	BAFILL	BAPRC	BAPRT	BATIM	BAWRT
	CKBURN	CKIGS	GETCAT	GETLBL	INPUT	PHASE
	RUNPRT	SETCOD	SETTAB	TMSPRT		
NIGC	BAPRC	BAWRT	CKIGS			
NINPT	ASSIGN	INPUT	TMSPRT	TRJPRC		
NJ	ASSIGN	DAUX	GETCAT	POTPRC	POTPRT	SDPRT
	SETTAB					
NJCWD	ASSIGN	GETCAT	POTPRC	POTPRT	SDPRT	SETTAB
NJSC	POTPRC	SETCOD				
NKONST	CONPRT	QQOATS				
NLAND	ASSIGN	OPRLM	GETCAT	GETLBL	INPCHK	INPUT
	LNDPRC	LNDPRT	LRET	ONPRT	SETTAB	
NLP	ASSIGN	BAPRC	BAPRT	BATIM	BAWRT	CKBURN
	CKLOP	GETCAT	GETLBL	INPUT	PHASE	SETCOD
	SETTAB	TMSPRT				
NLPC	BAPRC	BAWRT	CKLOP			
NMCCON	DAUX	MCNPRC	SETCOD	SETTAB		
NMCODE	ASSIGN	MASACC	MCNPRC	MCNPRT		
NMCON	ASSIGN	DAUX	GETCAT	MASACC	MCNPRC	MCNPRT
	SDPRT	SETTAB	TRJSUP			
NMCPLH	ASSIGN	MCNPRC				
NMCSOL	DAUX	MCNPRC	SETCOD	SETTAB		
NMRCON	DAUX	SETCOD	SETTAB			
NMRSOL	DAUX	SETCOD	SETTAB			
NMSTM	CONTIM	OOSUP	OPVSTR	EATAPE	INPUT	TIMPRC
	TMSPRT					

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS				
NOBB	ASSIGN	BIAPRC	GETCAT	INPCHK	INPUT	OBSIM
	ODDPRT	ONPRT	SBPRT	SCALBS		
NOBDS	ASSIGN	DUMPRC	GETT	INPCHK	INPUT	ODDPRT
	ONPRT	SCALBS				
NOBS	ASSIGN	INPCHK	INPUT	NOISE	ODDPRT	ONBORD
	ONPRT	SBPRT	SCALBS	SIGPRC		
NODD	ASSIGN	DUMPRC	OBSIM	SDSPRT		
NODPRT	TMSPRT	TRJPRC				
NOPLOT	ASSIGN	PPRPP				
NPAGE	FLIP					
NPOT	GETCAT	GETVAL				
NPR	ASSIGN	SETCOD				
NPRP1	ANGLE	ASSIGN	DOPLER	DUMCAL	FORM	OBCOMP
	OBSIM	ONBORD	RANGE	RANRAT	SETCOD	
NPRTLS	TRJPRC	WRTRAJ				
NRVVEC	INIT	TRJPRC	TRJPRO	WRTRAJ		
NS	DECODE					
NSCX	ATAMAT	COVMAT	COVPRC	DCRD	DPVSTR	SUPER
NSDS	DPVSTR	DUMPRC	EATAPE	SDSPRT	SUPPRO	
NSENS	ASSIGN	DUMCAL	GBBPRT	GBPRT	GBSPRT	GDDPRT
	GETCAT	GETLBL	GETVAL	INPCHK	INPUT	OBSUP
	PPRPP	SC3DOP	SENPRC	SENPRT	SETSEN	SETTAB
	SLCSET					
NSIG	DELET	ONBORD				
NSOLEP	DAUX	DUMCAL	OBCOMP	SETCOD	SETTAB	TRIGER
NSOLKP	DAUX	SETCOD	SETTAB			

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS

NSOLVE
APPLY APPRT APRI ASSIGN ATAMAT COVA
COVRD COVSUP CROGEN CVPRT DDSUP DPVSTR
FIT FORM INPCHK INPUT INTRP1 LEGS2
MATPRT MFORM PROPRO SETCOD SETTAB SPLIT
SUPPRO TRJPRO

NSPEVT
ASSIGN TIMTRG

NSPTME
ASSIGN CONTIM DDSUP DPVSTR EATAPE INPUT
TIMPRC TMSPRT TRJPRO

NSTAR
ASSIGN INPCHK ONPRT STRPRC STRPRT XSTAR

NSZ
SOPRT

NSZ1
ASSIGN CONTIM TIMPRC TRJSUP

NSZ2
ASSIGN CONTIM TIMPRC TRJSUP

NTR
ASSIGN BIAPRC DOPLER DOPPRT DUMCAL GBPRT
GDOPRT GETCAT INPCHK INPUT SC3DOP SETSEN
SETTAB

NTTRG
ASSIGN SETTRG TIMTRG TRAJ

NUMOBS
DCSUP FIT FORM SUPER

NUMWM
ASSIGN MCNPRC MCNPRT

NUTAT
EPHEM EREAD

NVC
APPLY APPRT ASSIGN CKALGN CKIGS CKLOP
CROGEN FIT INPUT SETTAB

NVECOL
ANGLE ASSIGN DOPLER DUMCAL ISAAC OBCOMP
RANGE RANRAT SETCOD TRAJRD

NVEH
ASSIGN BAPRT CAVEC CONTIM CROGEN DPRLM
EATAPE ICNPRT INIT INPCHK INTRP2 ITSUM2
OBSIM OBSUP PPRPP RUNPRT SOPRT SETCOD
SETTRG SUPTRJ TMSPRT TRJPRO WRTRAJ

NVEHSE
PROPRO TIMTRG TRIGER TRJPRO TRJSUP

NV
OAUX PHASE TRAJ TRJOUT TRJSUP

NVMAX
ASSIGN EAMTRX EATAPE INTRP2 SETCOD TRJPRO

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS
NYTRG	ASSIGN ENDSTP SETTRG TIMTRG TRAJ
OBJ1	SEXTNT TSCOPE
OBJ2	SEXTNT
OBOTAP	OBSUP ONBORD RUNPRT
OBSERV	INIT
OBSFG2	DELET OBCOMP
OBSFLG	DELET OBCOMP
OBSPAR	ANGLE CAVEC DOPLER IMPMLT JYRPAR LNPART OBSIM ONBORD PRTIAL RANGE RANRAT
OBSREC	ANGLE DOPLER DUMCAL EXPLIC GBOBS GETREC GETT OBCOMP OBOBS OBSPRT OBSUP ONBORD PPRPP RANGE RANRAT SETOBS WRTOBS WRTREC
OBSTAP	INIT RUNPRT SRTMRG
OCT	OBSIM ONBORD PRTIAL
OFLG	LNRADR OBSIM ONPRT
OI	ALLOW AXESOC AXESOD NOISE OBSIM OBSUP ONBORD PRTIAL
OLANO	LNPART OBSIM ONBORD PRTIAL
OMEGA	IGSBRN IGSCON
ONFG	ONPRC
OPFLG	INIT OBSPRT RUNPRT
OPHI	EXPADD PRTIAL
ORADD	LNRADR ONPRC ONPRT
ORAL	LNRADR OBSIM ONBORD ONPRC ONPRT
ORANG	AXESOC AXESOD ONPRC
ORAR	ONPRT

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS

NAME	REFERENCED BY THESE ELEMENTS					
ORAS	ONPRT					
ORAT	ONPRT					
OSCAL	GETSCL	OBSPRT	SETSCL			
OT	ALLOW	AXESDC	AXESDO	CAVEC	GETT	OBSIM
	OBSUP	OCCULT	ONBORD	PRTIAL	RADAR	SEXTNT
	TSCOPE	VHFRNG	XLAND			
OTITLE	GETREC	GETT1	GETT2	RUNPRT		
PADM	APPLY	DAUX	GETVAL	SDPRT	SOLRAD	
PBAR	COMPT	OCCULT	ONBORD	PRTIAL	RADAR	SEXTNT
	TSCOPE	VHFRNG				
PBODY	TRJPRC					
PERBOO	BODPRT	BODY	DAUX	TRJPRC		
PHIMAT	AXESDC	AXESDO	COMPT	PRTIAL		
PHIMIN	OCCULT	ONPRC	ONPRT			
PHIOI	IGSBRN	IGSCON				
PLNRFL	APPLY	GETVAL	SDPRT	SOLRAD		
POTFLG	POTPRC					
PRSS	FIT	ITSUM2	LEGS2			
PRTLST	TRJPRC					
PVMAT	BODY	DAUX	DRAG	SOLRAD		
P1	DOPLER	DUMCAL	OBCOMP			
P100MG	DOPLER	DUMCAL	OBCOMP			
P1DOT	DOPLER	DUMCAL	OBCOMP			
P1DOTM	DOPLER	DUMCAL	OBCOMP	RANRAT		
P1MAG	DOPLER	DUMCAL	OBCOMP			
P2	ANGLE	DOPLER	DUMCAL	OBCOMP	RANGE	RANRAT

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS

P2DDMG	DOPLER	DUMCAL	OBCOMP			
P2DDOT	DUMCAL	OBCOMP	RANRAT			
P2DOT	ANGLE	DOPLER	DUMCAL	OBCOMP	RANGE	RANRAT
P2DOTM	DOPLER	DUMCAL	OBCOMP	RANRAT		
P2MAG	ANGLE	DOPLER	DUMCAL	OBCOMP	RANGE	RANRAT
P3	DOPLER	DUMCAL				
P3DOT	DOPLER	DUMCAL				
P3DOTM	DOPLER	DUMCAL				
P3MAG	DOPLER	DUMCAL				
P4	DOPLER	DUMCAL	RANGE			
P4DOT	DOPLER	DUMCAL	RANGE			
P4DOTM	DOPLER	DUMCAL				
P4MAG	DOPLER	DUMCAL	RANGE			
QQC04	CRDPR1	QQSDA1	QQSDA2	QQSDA3	QQSLOK	
RADCN	ALLOW	ONPRC	ONPRT			
RADIUS	OBSIM	OBSUP	OCCULT	RHORZ	XLAND	
RADMLR	APPLY	GETVAL	LNRADR	OBSIM	ONBORD	VHFRNG
RANGE	OBSIM	ONBORD	PRTIAL	RADAR	VHFRNG	WRTOBS
RANGL	OPRLM	ICNPRT				
RELUPD	CAVEC	OBSIM	OBSUP	ONBORD	ONPRC	ONPRT
REM	EPHEM					
RESPRT	INIT	PPRPP	RUNPRT			
RESREC	DELET	GETREC	GETT1	GETT2	OBCOMP	OBSUP
	ONBORD	PPRPP	WRTREC	WRT1		

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS
RESTRT	CRDGEN CRDPRC CRDRD CRDSUP INPUT SETCOD SETTRG SUPCRD TIMTRG TRJPRO
RFLWRD	DAUX SETCOD SETTAB SOLRAD
RMATRX	IGSBRN
RMLR	ONPRC ONPRT
RNEW	LOPBRN LOPCON
ROTC	TRJPRC
ROTV	TRJPRC
RRATE	OBSIM PRTIAL RADAR VHFRNG WRTOBS
RTYPE	ANGLE APPRT ASSIGN ATAMAT BIAPRC BNDPRC COMPAL CONTIM COVPRC CRDGEN CRORD DORD DOSUP DOPLER DPRLM DUMCAL GBPRT GETALN INIT INPCHK INPUT JYRATE OBSIM ODDPRT ONPRT RADAR RANGE RANRAT RUNPRT SCALBS SENPRC SETCOD SETTAB SETTRG SIGPRC SRTMRG SUPER TIMTRG TRIGER TRJPRC TRJPRO TRJSUP TSCOPE VEINIT VHFRNG
RUNCAS	INIT INPCHK INPUT MAIN2 RUNPRT
RZERO	IGSCON
R1BAR	OCCULT PRTIAL RHORZ SEXTNT
R2BAR	HORZ OCCULT PRTIAL RHORZ SEXTNT
S	LNPART XLAND
SAVAPI	APPLY APRI DPRLM
SAVLIM	DPRLM FIT TIMTRG
SB	LOPBRN LOPCON
SCALES	BAPRT DOPPRT DPRLM GRRPRT GBSPRT GDDPRT GETSCL ICNPRT LNDPRT MCNPRT ODDPRT ONPRT SBPRT SBPRT1 SENPRT SETSCL
SOLOUT	ITSMZ PRTALN TRJPRO

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS

NAME					
SCLRES	PPRPP				
SCLSP	BAPRT	DPRLM	GETSCL	SETSCL	
SCOUT	GETSCL	ITSUM2	SETSCL		
SCRAT	APPLY	APPRT	APRI	ATAMAT	BAPRC	BIAPRC
	CKIGS	CMABAT	COVA	DECODE	DPRLM	DPRT
	DWRTT	EATAPE	EXPLIC	FULVAR	GETVAL	GPOT
	IGSBRN	IGSCON	ITSUM2	LNOPRC	LNPART	LNRADR
	LOPBRN	LOPCON	LTPRT	MABAT	MASACC	MCNPRC
	MPRT	ONPRC	PHASE	PRTALN	PRTIAL	SCALBS
	SIGPRC	SOLRAD	STRPRC	SYMIND	VEINIT	
SCRCOM	DUMCAL	MERGE				
SCRT	WRTRAJ					
SEQD	BAPRT	DPRLM				
SHAFT	OBSIM	RADAR	TSCOPE	WRTOBS		
SOLVE	DECODE	GETLBL				
SPALT	SETTRG	TMSPRT	TRJPRC			
SPCA	SETSCL					
SPCD	SETSCL					
SPCT	SETSCL					
SPECA	SETSCL					
SPECD	SETSCL					
SPECT	SETSCL					
SPIN	APPLY	BAPRT	DPRLM	GETVAL	JYRATE	JYRPAR
SPMAT	DELAY	JYRPAR				
SPRESD	INIT	PSTSUP	RUNPRT			
SPTRAJ	COVA	INIT	RUNPRT	TRJPRC	TRJPRO	WRTRAJ
SRANGE	BODY	DAUX	DRAG	GPOT		

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS

NAME	REFERENCED BY THESE ELEMENTS				
SRNGL	BAPRT	DPRLM			
STAPAR	ANGLE	DOPLER	DUMCAL	OBCOMP	RANGE	RANRAT
STAPAT	DOPLER	DUMCAL	OBCOMP		
STATE0	APPLY	APRI	ATAMAT	CRDGEN	CVPRT	DPRLM
	GETVAL	ICNPRT	ITSUM2	TRAJRD		
STATIN	CRDGEN	SETSCL			
STDCWD	BODY	DAUX	DRAG	GPOT	MASACC	MATPRT
	SETCOD	SETTAB	SOLRAD	TRJPRO		
STEP	EREAD				
STIME	BAPRT	DPRLM	INIT		
STIMN	BAPRT	INIT	JYRATE		
SXTCN	ALLOW	ONPRC	ONPRT		
TA	AXESOC	AXESDD	COMPAL	DPRT	DWRTT	EXPLIC
	GETALN	IGSBRN	IGSCON			
TABOUT	ATAMAT	BODY	COVA	DPRLM	DUMCAL	ENDSTP
	EPHACC	EPHEM	INIT	INTRP2	ISAAC	JACHIA
	SOLRAD	TAPRED	TRIGER	TRJPRO	XTRACK	
TAB3	EPHEM	EREAD			
TAPRST	INPUT				
TBASE	INIT	RUNPRT	TIMEX		
TBASJD	INIT				
TBCFF	IGSCON	PHASE	READTP		
TBLOCK	BODY	DAUX	ENDSTP	IGSBRN	IGSCON	JACHIA
	LOPBRN	LOPCON	PHASE	SOLRAD	TIMTRS	TRAJ
	TRIGER	TRJOUT				
TBODY	EREAD				
TBPERT	BODY	DAUX			
TASTRT	IGSBRN	IGSCON			

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS
TBURN	DAUX IGSBRN LOPBRN
TCA	CONTIM GETT OBSUP PRTIAL
TCAL	CONTIM ONPRT
TCUR	ALLOW AXESOC AXESOO COMPAL DPRT DWRTT GETT LNRADR OBSIM OBSUP OCCULT ONBORD PRTIAL TAPRED WRTOBS XLAND
TDRAG	DAUX DRAG
TELCN	ALLOW ONPRC ONPRT
TEM1	LOPBRN LOPCON
TEM2	LOPBRN LOPCON
TEO	DPRLM INIT REFCOR
TGTEVT	TMSPRT TRJPRC
TGTTIM	CONTIM TIMTRG
TGTVEH	TMSPRT TRJPRC TRJPRO
THETA	LNPART XLAND
TIGS	IGSBRN READTP
TIMEIN	CONTIM ICNPRT INIT ITSUM2
TIMES	SETSCL
TIMLR	LNRADR ONPRC
TITLE	CROIMG EAINIT FLIP INPUT LTPRT MATPRT OBSUP WRTRAJ WRTREC WRTI
TJO	LNPART XLAND
TJDALN	BAPRC
TJONBY	INIT INTRP2 REFCOR STRPRC TRJPRC TRJPRO
TMIN	APPLY ATAMAT BODY CKIGS CKLOP CONTIM COVA DPRLM EPHACC ICNPRT INIT ITSUM2 MATPRT OCCULT TIMTRG TRIGER TRJPRO

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS				
TMINT	APPLY	ATAMAT	BODY	DELAY	DPRLM	DUMCAL
	ENDSTP	EPHACC	EPHEM	INIT	ISAAC	JACHIA
	SOLRAD	TAPRED	TRIGER	TRJPRO		
TNULL	LOPBRN	LOPCON				
TOP	ANGLE	DUMCAL	OBCOMP			
TPD	CONTIM	COVA	EPHEM	IGSCON	INIT	LOPCON
	MATPRT	OBSUP	SOPRT			
TPOT	DAUX	GPOT	MASACC			
TR	DUMCAL	OBCOMP	OBSUP			
TRJPRT	CONTIM	INIT	INPCHK	RUNPRT	SUPOD	SUPER
	TIMTRG	TMSPRT	TRIGER	TRJPRC	TRJPRO	
TRUN	OBSIM	RADAR	SEXTNT	TSCOPE	WRTOBS	
TT	RTIME					
TTOM	DAUX	DPRLM	DRAG	DUMCAL	OBCOMP	
TTOMT	DAUX	DELAY	DPRLM	DRAG	DUMCAL	ENDSTP
	JYRATE	OBCOMP	TRIGER			
TSTAPE	COVA	INIT	MATPRT	RUNPRT	TRJPRO	
UMATRX	IGSBRN	IGSCON				
UTIMB	DUMCAL	GETT	OBSUP	RUNPRT		
U4	ONBORD					
VECJ	DAUX	POTPRC	SETTAB			
VEHREL	SOPRT	SOLRAD				
VELIGS	IGSBRN					
VHFCN	ALLOW	ONPRC	ONPRT			
VOMGR	LNRADR	OBSIM	ONBORD	PRTIAL		
VR	ANGLE	DUMCAL	OBCOMP			
W	LOPBRN	LOPCON				

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS

UMOON LNRADR PRTIAL

XBSQ FIT LEGS2

XEMS
AXESDD COMPAL ILLUM LNRADR OBSIM OCCULT
ONBORD PRTIAL RADAR RHORZ SEXTNT TAPRED
TSCOPE VHFRNG XSTAR

XH OBSIM OCCULT ONBORD PRTIAL SEXTNT

YES
AEIXYZ ANGLE ANPAR APLYRD APPLY ASSCKM
ATAMAT AXESOC AXESDD BAPRC BATIM BAWRT
BOSCAN BIAPRC BNDPRC CONTIM COVMAT COVPRC
COVSUP CRDGEN CRDIMG CRDPRI CRDSUP DAUX
DDSUP DECODE DELAY DELET DOPLER DPRLM
DUMCAL DUMPRC EATAPE EDTPRC FAISUP FIT
FORM FULVAR GBOBS GETALN GETBND GETCAT
GETLBL GETREC GETSCL GETT GETT1 GETT2
GETVAL IGSBRN IGSCON INIT INPUT JACHIA
JYRATE KEPLER LNDPRC LNPART LNRADR MCNPRC
MISS NEWTON OBCOMP OBOBS OBSIM OBSUP
ONBORD ONPRC PHASE POTPRC PRINIT PRPSUP
PRTIAL PSTSUP QOINPT QOSCAN RANGE RANRAT
RDREFR READTP REFANG REFCOR RHORZ SCAN
SCREEN SC3DOP SENPRC SET SETCOD SETSCL
SETTAB SETTRG SIGPRC STRPRC TAPRED TIMPRC
TIMTRG TRAJRD TRIGER TRJPRC TRJPRO VHFRNG
WRTRAJ WRTREC WRT1 WTCD XLAND XSTAR

YTRGCD ENDSTP SETTRG TRIGER TRJPRC

ZLEGS2 ITSUM2 LEGS2

Trajectory and Orbital Statistics Control Table

INPT (NINPT) NINPT ≤ 78 (variable storage, integer)

1.   Number of PRTLST triplets

2.   Number of PRTLST tiplets and ROTATV triplets

3.   Number of ROTATC triplets

4.   NINPT code words:

Bits 0-9   0 - Not covariance triplet
            1 - Covariance triplet

Bits 9-17 Body Code

Body codes 1, 11 (See Perturbing Bodies Table)
Body code 12 CBODY (changed to the current
central body of integration of vehicle 1 or the
target vehicle in a two vehicle run at each print
time)

Bits 18-26 Frame Code

 1 - Mean of 1950
 2 - Mean of date
 3 - Selenographic (instantaneously inertial)
 4 - Mean of NBY
 5 - Mean of fixed date
 6 - Mean of midnight day of epoch
 7 - Selenographic (rotating)
 8 - Geographic (instantaneously inertial)
 9 - Geographic (rotating)
10 - True of fixed date
11 - True of date
12 - True of midnight day of epoch
13 - ECI

Bits 27-35 Sets of Elements Flag

 1 - XYZ
 2 - Spherical
 3 - Keplerian
 4 - Set 1
 5 - Set 2
 6 - UVW (referenced to vehicle 1)
 7 - UVW (referenced to vehicle 2)
 8 - Miss 1
 9 - Miss 2
10 - Earth-moon orbital plane
11 - Set 3