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PROJECT SKYLAB

TASK JSC/TRW AA-53

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

CHANGE 2

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MISSION PLANNING AND ANALYSIS DIVISION
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHNSON SPACE CENTER
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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 Insert all corrected or updated pages and remove all superceded pages as follows: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.

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	136		DATN(136)	DATIN
SPCT	2	136	D	DATN(136)	DATIN
ISPECA	4	138		DATN(138)	DATIN
SPCA	2	139	D	DATN(139)	DATIN
CALFHD	2	140	D	DATN(140)	DATIN
DLCAL	12,2	142	D	DATN(142)	DATIN

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
NEQX	2	5	I	KDATN(5)	DATIN
NALN	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	318		KDATN(318)	DATIN
SOLVE	100	343	I	KDATN(343)	DATIN
CONSID	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	1	D	CARDS(1)	DATIN
ICARD	80	1		CARD(1)	DATIN

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
INFLD		397		IQQBUF(397)	DATIN
INEW		398		IQQBUF(398)	DATIN
IMTYP		399		IQQBUF(399)	DATIN
ISPT		400		IQQBUF(400)	DATIN

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      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
CAFEPS		61	D	CONST(61)	$BLANK
CANEPS		62	D	CONST(62)	$BLANK
CMINEL		63	D	CONST(63)	$BLANK
CBLOCK	5	64	D	CONST(64)	$BLANK
CDAD2M	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		206		KONST(206)	$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

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
STATEO	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	
STDCWD		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
YTRGCD		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		308	I	KONFIX(308)	$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
IDCFLG		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
IAPTYP	2	471		KONFIX(471)	$BLANK
LBFLG		479		KONFIX(479)	$BLANK
NSZ	2	488		KONFIX(488)	$BLANK
NSZ1		488		KONFIX(488)	$BLANK
NSZ2		489		KONFIX(489)	$BLANK
SFDD	2	490	I	KONFIX(490)	$BLANK
IDRAG		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(29)	$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
MLAND3		26		IPOINT(26)	$BLANK
MSEV1		27		IPOINT(27)	$BLANK
MENDT1		28		IPOINT(28)	$BLANK
MMCAGA		29		IPOINT(29)	$BLANK@G@@@@
MSUNP		30		IPOINT(35)	$BLANK

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
MATWA1		12		IPOINT(12)	$BLANK
MLAND1		13		IPOINT(13)	$BLANK
MGBB1		14		IPOINT(14)	$BLANK
MOBB1		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
MGOO		10		IPOINT(10)	$BLANK
MOOO		11		IPOINT(11)	$BLANK
MALGN5		12		IPOINT(12)	$BLANK
MALGN6		13		IPOINT(13)	$BLANK
MSTAR2		14		IPOINT(14)	$BLANK
MLAND2		15		IPOINT(15)	$BLANK
MROIF2		16		IPOINT(16)	$BLANK
MATWA5		17		IPOINT(17)	$BLANK
MENDOO		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
MGBSOS		27		IPOINT(27)	$BLANK
MOBSOS		28		IPOINT(28)	$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
MATA12		2		IPOINT(2)	$BLANK
MLBCV2		3		IPOINT(3)	$BLANK
MSCCV2		4		IPOINT(4)	$BLANK
MSIGZ0		5		IPOINT(5)	$BLANK
ME		6		IPOINT(6)	$BLANK
MF1		7		IPOINT(7)	$BLANK
MSIG1		8		IPOINT(8)	$BLANK
MSIGXZ		9		IPOINT(9)	$BLANK
MENDCV		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
MNEW01		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 COMMON LISTING

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	138	D	DCSTR(138)	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
VOMGR	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
P1DOMG		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
P2DOMG		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
OLAND	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
OBIAS	5	256	D	DCSTR(256)	DCSTOR
DSIGMA	4	261	D	DCSTR(261)	DCSTOR
DSIG	4	265	D	DCSTR(265)	DCSTOR

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
PHIDI	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
GAMMAD	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

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      DOUBLE PRECISION STTAP
      COMMON / STTAPE / STTAP ( 181), NWDREC
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MASTER ARRAY ... STTAP (181) .....

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

MASTER COMMON LISTING

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.

NAME	SUBROUTINE/VARIABLE CROSS-REFERENCE 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
	NPRPI	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
	IREQ	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	LNOTR	MALR	NDRUM	NSOLVE
	NVC	PADM	PLNRFL	RADMLR	SAVAPI	SCRAT
	SPIN	STATEO	TMIN	TMINT	YES	
APPRT	HRTYPE	IERR	IFLP	KDRUM2	KOUT	MAXM
	MXVSTR	NCNSID	NDRUM	NSOLVE	NVC	RTYPE
	SCRAT					
APRI	CBORB	IAPTVP	IOCFLG	NSOLVE	SAVAPI	SCRAT
	STATEO					
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	MAPRIO	MATAI1
	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	MDO
	ME	MENDCR	MENDCV	MENDDC	MENDDO	MENDEA
	MENDFA	MENDPP	MENDTP	MENDTI	MF1	MGBB1
	MGBB2	MGBSDS	MGBS1	MGBS2	MGDD	MIGB1
	MIGB3	MIGB4	MINPT	MINY1	MISLC	MJE1
	MJE3	MJM1	MJM3	MLABLS	MLAB1	MLA86
	MLAND1	MLAND2	MLAND3	MLBCV2	MLBCV3	MLBCV4
	MLNY1	MLPB1	MLPB3	MLPB4	MMCAGA	MMCCW1
	MMCCW3	MMCON1	MMCON3	MMPAVC	MMPAV1	MNEWQ
	MNEWQ1	MOBB1	MOBB2	MOBSDS	MOBS1	MOBS2
	MOOD	MOLDQ	MPBUFF	MPLOT	MRDIF1	MRDIF2
	MRDIF3	MRSUM	MSCALS	MSCAL1	MSCCV2	MSCCV3
	MSCCV4	MSENID	MSEV1	MSIGXZ	MSIGZ0	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
	NATWAI	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	NOOD	NOPLOT
	NPR	NPRP1	NSENS	NSOLVE	NSPEVT	NSPTME
	NSTAR	NSZ1	NSZ2	NTR	NTTRG	NUMWM
	NVC	NVECOL	NVEH	NYMAX	NYTRG	RTYPE
ATAMAT	CBORB	COVCRO	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					
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	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
	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		

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	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	LROWRO	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					
BODPRT	CENTAB	CGMR	IFLP	KOUT	NCONST	PERBOD
BODY	BODEP	CGMR	CMU	COVDAI	IEPCWD	IFLAG
	ITABOD	KVEH	MRCWD	NCENTR	PERBOD	PVMAT
	SRANGE	STOCWD	TABOUT	TBLOCK	TBPERT	TMIN
	TMINT					
CAVEC	IAPT	IA1	IA2	IMP	NVEH	OBSPAR
	OT	RELUPD				
CENDET	CELLIP	CAE				
CKALGN	IFATAL	IFLP	KONSOL	KOUT	NAL	NALC
	NVC					
CKBURN	BURNWD	IERR	IFLP	KOUT	NBRN	NBRNID
	NIG	NLP				
CKIGS	BASE	DAY	IFATAL	IFLP	KIGS	KONSOL
	KOUT	NIG	NIGC	NVC	SCRAT	TMIN
CKLOP	IFATAL	IFLP	KONSOL	KOUT	NLP	NLPC
	NVC	TMIN				
CMABAT	SCRAT					
COMPAL	ALIGN	HRTYPE	IA1	IA2	IGNAL	NAL1
	NAL2	RTYPE	TA	TCUR	XEMS	
COMPT	GDA	PBAR	PHIMAT			
CONPRT	IFLP	NCONST	NKONST			
CONSUB	CONST	IFLP	KONST	KOUT		
CONTIM	BASE	CDAD2M	DCCAL	DCLIM	DLCAL	DLLIM
	DTCAL	DTLIM	EQBT	FDATE	FIXDAT	HRTYPE
	IERR	IFATAL	IFLP	ISTYPE	ITGTTM	JULMOD
	KDRUM1	KDRUM2	KOUT	LISTIT	LNDTR	MAXM
	MXVSTR	NCVPRO	NDELT	NDRUM	NEPTM	NMSTM
	NSPTME	NSZ1	NSZ2	NVEH	RTYPE	TCA
	TCAL	TGTTIM	TIMEIN	TMIN	TPD	TRJPRT
	YES					
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
	JDEQXT	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	MSIGZ0	NCNSID	NDRUM	NSOLVE
COVSUP	CKMODE	LISTIT	MATAI2	MATWA2	ME	MF1
	MLBCV2	MSCCV2	MSIGXZ	MSIGZ0	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	STATE0	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	QQC04	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	MNEW01	MSCAL1	MSCCV4	RESTRT	YES

SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED)

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
	MALGN6	MATWA5	MAUX5	MAVEC5	MAVEC6	MCNAL5
	MCNAL6	MDELEA	MENDEA	MGBB2	MGBSDS	MGBS2
	MGDD	MISLC	MLAND2	MMPAV1	MOBB2	MOBSDS
	MOBS2	MOOD	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	P1DOTM	P1MAG	P2	P2DDMG	P2DOT
	P2DOTM	P2MAG	P3	P3DOT	P3DOTM	P3MAG
	P4	P4DOT	P4DOTM	P4MAG	RTYPE	STAPAR
	STAPAT	YES				
DOPPRT	IFLP	ISCAL	KORUM2	KOUT	NDRUM	NTR
	SCALES					
DPRLM	BASE	CAE	CALPHD	CALPHG	CBE	CBORB
	CELIPM	CELLIP	CETUT	CGMR	CMU	CRCB
	CSPHIN	CWM	DAY	DCLIM	EQBT	HEQD
	HEQX	HRTYPE	ICTYPE	IEPHR	IERR	IFATAL
	IFEBT	IFLP	INEQX	INITCB	IOEQXD	IREQ
	ISPCWD	ISPIN	ITABOD	JOEQXD	JOINEQ	KORUM2
	KONSOL	KOUT	LISTIT	LNDTR	LSPIN	LTIME
	NDRUM	NLAND	NVEH	RANGL	RTYPE	SAVAPI
	SAVLIM	SCALES	SCLSP	SCRAT	SEQD	SPIN
	SRNGL	STATEO	STIME	TABOUT	TEQ	TMIN
	TMINT	TTOM	TTOMT	YES		
DPRT	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	
OUMPRC	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	NSDS	YES
DWRTT	ALGNER	DRIFT	SCRAT	TA	TOUR	
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	MATMA5
	MAUX5	MAVEC5	MAVEC6	MCNAL5	MCNAL6	MGBB2
	MGBSDS	MGBS2	MGDD	MISLC	MLAND2	MMPAV1
	MOBB2	MOBSD5	MOBS2	MODD	MRDIF2	MSENID
	MSLC	MSTAR2	MTRB	MTRI	MVAR5	NCENTR
	NCNSID	NDELT	NDRUM	NEPTM	NMSTM	NSDS
	NSPTME	NVEH	NYMAX	SCRAT	YES	
EAWRT	ISCRAN	ISCRAP	KOUT			

SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED)

NAME	VARIABLES REFERENCED					
EOTPRC	CARD	ICARD	IERR	IERROR	IFLP	INFLD
	INO	ISCRP	ISYM	KDRUM2	KOUT	LISTIT
	MXVSTR	NDELPR	NDELPT	NDRUM	YES	
ENDSTP	BASE	CAE	CALPHG	CELLIP	CETUT	CGMR
	CMU	CPI2	CRCB	CWE	C2PI	DAY
	IREQ	ITABOD	KFLAG	KVEH	LONG	NCENTR
	NYTRG	TABOUT	TBLOCK	TMINT	TTOMT	YTRGCD
EPHACC	BODEP	COVDAI	IEPCWD	IEPSTR	KVEH	TABOUT
	TMIN	TMINT				
EPHEM	BASE	CAU	CEMRAT	CETUT	IEPHR	IREQ
	ITABOD	JULMOD	KEPHEM	NUTAT	REM	TABOUT
	TAB3	TMINT	TPD			
EREAD	AJD	BJD	ETITLE	ICW	JDF	KEPHEM
	NUTAT	STEP	TAB3	TBODY		
ERRPRC	IFASNP					
EXPADD	IAPT	IEXP	OPHI			
EXPLIC	ALGNER	OMAT	ORIFT	OBSREC	SCRAT	TA
FAIRD	IPOINT	KDRUM2	KPOINT	K1	K19	K2
	K20	LK	LPOINT	MAPPLY	MENDFA	NDRUM
FAISUP	CKMODE	LISTIT	MALGN3	MALGN4	MAPPLY	MAPRIQ
	MATAI1	MATWA1	MBNDS	MCSE3	MCSM3	MDQ
	MGBB1	MIGB3	MIGB4	MJE3	MJM3	MLABLS
	MLAND1	MLPB3	MLPB4	MMCON3	MNEWQ	MOBB1
	MOLDQ	MSCALS	MSLC	MTRB	YES	
FIT	BESTSS	CFTEPS	CRMS	DTLIM	IFITFL	IFLP
	ITCNT	ITDV	KDRUM1	KNTDIV	KOUT	LISTIT
	MAXIT	NATWA	NATWA1	NDRUM	NSOLVE	NUMOBS
	NVC	PASS	SAVLIM	XBSQ	YES	
FLIP	IVER	KOUT	LINCT	NPAGE	TITLE	
FOFVEC	A					
FORM	IFLP	KOUT	LISTIT	NATWA	NPRP1	NSOLVE
	NUMOBS	YES				
FULVAR	IAPT	IFAST	IFLP	KOUT	KVEH	LISTIT
	NAUX1	NBRN	SCRAT	YES		

SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED)

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

SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED)

NAME	VARIABLES REFERENCED					
GETT2	CKMODE	COBSTM	IFLP	KOUT	LISTIT	OTITLE
	RESREC	YES				
GETVAL	CBOR8	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	HEQX	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
	CNTID	DRIFT	GAMOTA	GAMRZO	HW	H2W2
	IFLP	IGSFLG	IGSTAP	IGSTEP	IKMAT	INALN
	IPRINT	ITRAJ	KIGS	KMATRX	KOUT	KVEH
	LASTID	LISTIT	LOGIC	OMEGA	PHIOI	RZERO
	SCRAT	TA	TBCFF	TBLOCK	TBSTRT	TPD
	UMATRX	YES				
ILLUM	CPI	IDREC	KVEH	XEMS		
IMPMLT	IAPT	IMP	OBSPAR			
INIT	BASE	BNDFLG	BODEP	CJOSOB	CKMODE	COBSTM
	COVDAT	COVDAI	COVPRT	DAY	EQBT	HRTYPE
	ICW	IDCFLG	IDRUM	IEPHR	IERR	IFASNP
	IFAST	IFATAL	IFLP	IGBO	IOBO	IREQ
	ISTYPE	ITABOD	IVEHN	JCVFLG	JDC	JULMOD
	KORUM1	KORUM2	KEPHEM	KGB	KHEOPT	KON
	KOUT	LISTIT	LKEPHM	LMODEL	LNDTR	NRVVEC
	NVEH	OBSERV	OBSTAP	OPFLG	RESPRT	RTYPE
	RUNCAS	SPAESO	SPTRAJ	STIME	STIMN	TABOUT
	TBASE	TBASJO	TEQ	TIMEIN	TJDNBY	TMIN
	TMINT	TRJPRT	TSTAPE	YES	FDATE	TPD
	FIXDAT					

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	MXVSTR	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	COUA	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
	STATEQ	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			
JYRPAR	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	IND	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	DTEMP6	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	DTEMP6	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	DT	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

SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED)

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	IA1
	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	NPRP1	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	DSIGMA
	IDREC	ID3DOP	IEXP	IFEBT	IGBO	IMP
	IOBO	IPAS	IRECEV	IREQ	ITRANS	IUP
	IVEHN	JULMOD	KDINFS	KOB	KRESD	KVEH
	LISTIT	LNOTR	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	R1BAR	R2BAR
	TCUR	TMIN	XEMS	XH		
ODOPRT	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	CDAD2M	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	COUAR	COUDR	COUTR	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	COUA	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	
QQDATS	CARD	CONFIX	CONST	DATN	IADD	IBLK
	ICARD	IERR	IERROR	IFLP	IMLEN	IMTYP
	INSYM	ITYP	KDATN	KONFIX	KONST	KOUT
	LENGTH	NCONST	NKONST			
QQDPRC	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	QQC04			
QQSDA2	IFLP	KOUT	QQC04			
QQSDA3	IFLP	KOUT	QQC04			
QQSLDK	IADD	IBLK	ICON	ICONTL	ILEN	IMLEN
	IMXP	INO	INSYM	ISP	ISYM	ITYP
	MATUN	QQC04				
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	P2DOOT	P2DOT
	P2DOTM	P2MAG	RTYPE	STAPAR	YES	
RDREFR	BR	BT	CR	CT	DR	DT
	ELR	ELRDOT	ELT	ELTDOT	IFLP	KOUT
	LISTIT	YES				
READTP	ACCIGS	CANTID	IFLP	IGSFLG	IGSTAP	KOUT
	LASTID	LISTIT	LOGIC	TBOFF	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	TJDNBY	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	IGBO	IOBO	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	NDRUM	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
	NDRUM	NSENS	NTR	YES		

SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED)

NAME	VARIABLES REFERENCED					
SDPRT	BASE	CDAD2M	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	IGBD	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
	NPRPI	NSOLEP	NSOLKP	NSOLVE	NVECOL	NVEH
	NYMAX	RESTRT	RFLWRD	RTYPE	STDCWD	YES
SETOBS	IDREC	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					
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	STDCWD	VECJ	YES		
SETTRG	CBORB	CRCB	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
	OT	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
	STDCWD	TABOUT	TBLOCK	TMINT	VEHRFL	
SPART	CAE	CELLIP	CWE			
SPLIT	ISCRAT	NCNSID	NSOLVE			
SRTMRG	CNTGB	CNTOB	HRTYPE	ISORT	ISTYPE	KGB
	KOB	KOBI	KON	KRESO	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			

SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED)

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	HEQT	HRTYPE	IERR
	IFATAL	IFLP	IOEQXT	IREQ	IVEHN	JOEQXT
	KDRUM2	KOUT	LISTIT	LONG	MXVSTR	NDRUM
	NEACOD	NINPT	NODPRT	NPRTLS	NRVVEC	PBODY
	PERBOD	PRTLST	RQTC	RQTV	RTYPE	SPALT
	SPTRAJ	TGTEVT	TGTVEH	TJDNBY	TRJPRT	YES
	YTRGCD					
TRJPRO	BASE	CAE	CALPHS	CBLOCK	CELLIP	CENTAB
	CETUT	CGMR	CMU	COUA	COUD	COUT
	COVPRT	CRCB	CWE	CWM	C2PI	DAY
	DTLIM1	DTLIM2	FIXDAT	GETJD	HEQT	HRTYPE
	IFLP	IMATFG	IREQ	ITABOD	IVEHN	JULMOD
	KDRUM2	KOUT	KTRAJ1	KTRAJ2	KTSTAP	KVEH
	LISTIT	MODPRT	NCENTR	NCNSID	NCVPRO	NDELT
	NDRUM	NRVVEC	NSOLVE	NSPTME	NVEH	NVEHSE
	NYMAX	RESTRT	RTYPE	SOLOUT	SPTRAJ	STOCWD
	TABOUT	TGTVEH	TJDNBY	TMIN	TMINT	TRJPRT
	TSTAPE	YES	BURNJD	KDIF		

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
	MY1	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	IOCFLG
	IFEBT	IQEQXD	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					
WTCD	IFLP	KOUT	LISTIT	YES		
XLAND	BASE	C	CALPHG	CELLIP	CETUT	CWE
	IFLP	KOUT	LCB	LISTIT	OT	RADIUS
	S	TCUR	THETA	TJD	YES	

SUBROUTINE/VARIABLE CROSS-REFERENCE (CONTINUED)

NAME	VARIABLES REFERENCED
XSTAR	CLIGHT IFLP KOUT KVEH LISTI1 LTIME NSTAR XEMS YES
XTRACK	CETUT CRCB CWM FLAT TABOUT

VARIABLE/SUBROUTINE CROSS-REFERENCE

NAME	REFERENCED BY THESE ELEMENTS
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	CRDGEN 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	VEHINIT
	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		
BURNWD	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
CANERS	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 TAPREQ 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					
CINAT	TMSPRT	TRJPRC				
CINDAB	BAPRC					
CINDGB	BIAPRC	GBOBS	SIGPRC			
CINDLM	LNDPRC					
CINDMC	MCNPRC					
CINDOB	BIAPRC	OBOBS	SCALBS	SIGPRC		
CINDON	ONPRC					
CINDSN	SENPRC					
CINDT	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 TRAJRO 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 SDPRT 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
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 COVA COVPRC INIT PROPRD RUNPRT TRJPRC TRJPRO
CPI	AEIXYZ AXESDC AXESOD ILLUM JACHIA KEPLER MISS PIMOD1 RADAR ROTAT2 SET TSCOPE VECOPS
CPI2	ANGLE DUMCAL ENDSTP OBCOMP ORBEL ROTAT2 SOLRAD
CR	DUMCAL OBCOMP RANGE RDREFR
CRCB	DPRLM ENDSTP GPOT MASACC OBSIM OBSUP SCREEN SETTRG SOLRAD TRIGER TRJPRO XTRACK
CREPS	REFRAC
CRMS	FIT ITSUM2
CRNTID	IGSCON READTP
CSFREQ	DOPLER
CSPHIN	DPRLM 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	ROTAT2	SET	TRJPRO	
DATN	INPUT	QQDATS				
DAY	BAPRT	BATIM	CKIGS	CROGEN	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
DTEMP8	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
ELRDOT	DUMCAL OBCOMP RDREFR
ELT	DUMCAL OBCOMP RDREFR
ELTDOT	DUMCAL OBCOMP RDREFR
EQAT	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 INIT INTRP2 REFCOR TMSPRT TRJPRC TRJPRO
FLAT	LNPART XTRACK
FOCUS	TMSPRT TRJPRC
GAMMAD	LOPBRN LOPCON
GAMOTA	IGSCON
GAMRZD	IGSBRN IGSCON
GBA	LNRADR PRTIAL
GBAI	LNRADR OBSIM ONBORD PRTIAL
GDA	AXESDC AXESDD COMPT LNRADR OBSIM ONBORD PRTIAL
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
HBURD	OBSIM ONBORD ONPRC

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS
HCOV	COVPRC
HEQD	DPRLM ITSUM2
HEQT	TMSPRT TRJPRC TRJPRO
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 TRJPRO 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 CRDGEN 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 TAPREO
IEPSTR	DAUX EPHACC
IERR	APPRT ATAMAT BAPRT BIAPRC CKBURN CONTIM COVPRC CVPRT DECODE DPRLM DUMPRC EOTPRC GBOBS GBPRT INIT INPCHK INPUT INTER LNDPRC MONPRC MONPRT MERGE OBOBS ONPRC ONPRT POTPRC POTPRT QQDATS QQOPRC QQINPT ROTPRC SCALBS SC3DOP SENPRC SETCOO SETSOL SIGPRC STRPRC TMSPRT TRJPRC

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS					
IERROR	BAPRC	BIAPRC	BNDPRC	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					
IFLP	AEIXYZ	ALLOW	ANGLE	ANPAR	APLYRO	APPLY
	APPRT	ASSCKM	ASSIGN	ATAMAT	AXESDC	AXESOD
	BAFILL	BAPRC	BAPRNT	BAPRT	BATIM	BAWRT
	BDSCAN	BIAPRC	BNDPRC	BODPRT	CKALGN	CKBURN
	CKIGS	CKLOP	CONPRT	CONSUB	CONTIM	COOT
	COVA	COVMAT	COVPRC	CROGEN	CROIMG	CROMRG
	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	GETTI	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	VHFANG	WRTRAJ
	WRTREC	WRTI	WTCO	XLAND	XSTAR	
IGBO	BIAPRC	DDSUP	DUMPRC	EATAPE	GBOBS	GBPRT
	INIT	INPCHK	OBSUP	PPRPP	RUNPRT	SENPRC
	SIGPRC	WRTOBS				
IGNAL	COMPAL	CROGEN	CRORO	OBSIM		
IGSFLG	IGSCON	READTP				
IGSTAP	IGSCON	READTP				
IGSTEP	IGSCON	PHASE				
IKMAT	IGSBRN	IGSCON				
IL	AXESOD	GETT				
ILAND	LNPART	LRET	OBSIM	ONBORD		
ILEN	ONPRC	QQMIX	QQSLOK			

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS					
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	OPRLM	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	OPRLM	GETVAL	ICNPRT
IND	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				
IOBD	ASSIGN	BIAPRC	CRORD	DDSUP	DUMCAL	DUMPRC
	EATAPE	INIT	INPCHK	LNDPRC	OBDBS	OBSUP
	ONPRC	ONPRT	PPAPP	RUNPRT	SIGPRC	STRPRC
IOBS	LNPART	OBSIM	ONBORD	PRTIAL		
IOEQXD	OPRLM	INTAP2	INTVEQ	ITSUM2	VEINIT	

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS					
IOEQXT	TRJPRC					
IOPN	SUPOD	SUPPRO				
IOUT	QCONST	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	QCONST	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	GDDPRT	GETSCL
	ICNPRT	LNOPRT	MCNPRT	ODDPRT	ONPRT	RUNPRT
	SBPRT	SBPRT1	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
	LNDPRC	MCNPRC	ONPRC	POTPRC	QDDPRC	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					
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	
ITABOD	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	PATIAL		
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	FAINIT	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				
KORUM1	APPLY	ATAMAT	CONTIM	COVMAT	COVPRC	CRDIMG
	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				
KORUM2	APPLY	APPRT	ASSIGN	BAPRT	BAWRT	BDSCAN
	BIAPRC	BNDPRC	CONTIM	COVRD	CROGEN	CRDIMG
	CROMRG	CRDPRI	CRDRD	CRDSAV	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	SBPRT
	SCALBS	SC3DOP	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	SUPOD	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 SKIP	GBOBS	INPUT	OBOBS	QQINPT	QQSCAN
KINT	CRDPRC					
KMATRX	IGSCON					
KNTOIV	FIT					
KNTOBS	DELET	OBCOMP				
KOB	DUMCAL	OBSPRT	OBSUP	RUNPRT	SRTMRG	WRTOBS
KOBI	RUNPRT	SRTMRG				
KON	INIT	OBOBS	SRTMRG			
KONFIX	INPUT	QQDATS				
KONSOL	BIAPRC ONPRC VEINIT	CKALGN SC3DOP	CKIGS SENPRC	CKLOP SETCOD	OPRLM SUPTRJ	LNDPRC TRJSUP
KONST	BCONST	CONSUB	QQDATS			

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS					
KOUT	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	CONSUB	CONTIM	COOT	COVA
	COVMAT	COVPRC	CRDGEN	CRDIMG	CRDMAG	CRDPRC
	CRDPR1	CVPRT	DAUX	DCSUP	DDSUP	DECODE
	DELAY	DELET	DOPLER	DOPPRT	DPRLM	DUMCAL
	DUMPRC	EAINIT	EATAPE	EAWRT	EDTPRC	FIT
	FLIP	FORM	FULVAR	GBBPRT	GBOB5	GBPRT
	GBSPRT	GDDPRT	GETALN	GETBND	GETCAT	GETLBL
	GETREC	GETSCL	GETT	GETT1	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	SYMIND
	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				
KRESD	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					
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	TRAJRD
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					
LCB	LNPART	XLAND				
LENGTH	INPUT	QQDATS				
LINCT	FLIP					
LISTIT	AEIXYZ	ANGLE	ANPAR	APLYRD	APPLY	ASSCKM
	ATAMAT	AXESDC	AXESOD	BAPRC	BATIM	BAWRT
	BDSCAN	BIAPRC	BNDPRC	CONTIM	COVMAT	COVPRC
	COVSUP	CRDGEN	CRDIMG	CRDPRT	CRDSUP	DAUX
	DDSUP	DECODE	DELAY	DELET	DOPLER	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	CRDRD	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	CRDRD	DCRD	DDRD	FAIRD
	POSTRD	PROPRD	TRAJRD			
LRANG	LNRADR	OBSIM	ONBORD			
LRCN	ALLOW	ONPRC	ONPRT			

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS
LRDWRD	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 DDSUP EATAPE
MALGN6	ASSIGN DDSUP EATAPE
MALGN7	ASSIGN CRDSUP
MALGN8	ASSIGN CRDSUP
MALR	APPLY GETVAL LNRADR ONPRC ONPRT
MAPLY1	ASSIGN CRDSUP
MAPPLY	ASSIGN FAIRD FAISUP
MAPRIQ	ASSIGN DCRD FAISUP
MATAI1	ASSIGN COVRD FAISUP
MATAI2	ASSIGN COVSUP
MATUN	ATAMAT COVPRC DDSLOK
MATWA1	ASSIGN COVRD DCRD DCSUP FAISUP
MATWA2	ASSIGN COVRD COVSUP
MATWA4	ASSIGN CRDSUP
MATWA5	ASSIGN DDSUP 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 CRDPRI 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
MCVFN	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
MDO	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
MLAB5	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
MNEW0	ASSIGN	DCRD	FAISUP
MNEW01	ASSIGN	CRDSUP	
MOBB1	ASSIGN	DCSUP	FAISUP
MOBB2	ASSIGN	DDSUP	EATAPE
MOBSDS	ASSIGN	DDSUP	EATAPE
MORS1	ASSIGN	DCSUP	
MORS2	ASSIGN	DDSUP	EATAPE
MOSD	ASSIGN	DDSUP	EATAPE
MODPRT	RUNPRT	TRJPRD	

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS
MOLDQ	ASSIGN COVRD FAISUP
MP8UFF	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
MSEV1	ASSIGN TRJSUP
MSIGXZ	ASSIGN COVSUP
MSIGZ0	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
MSTAR1	ASSIGN DCSUP
MSTAR2	ASSIGN DDSUP EATAPE
MSUNP	ASSIGN TRJSUP
MTEM	ASSIGN PRPSUP
MTRB	ASSIGN DCSUP DDSUP EATAPE FAISUP
MTR1	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 SDSPRT 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 OODPRT 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	DDSUP	DUMCAL	EATAPE	INPCHK	INPUT
	INTRP1	INTRP2	MATPRT	MFORM	OBCOMP	OBSIM
	ONBORD	PROPRD	SETCOD	SETTAB	SPLIT	SUPPRO
	TRJPRO					
NCOL	DAUX	PHASE				
NCOVST	BODPRT	CONPRT	QQDATS	SDPRT		

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

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

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS
NGBS	ASSIGN DUMCAL GBPRT GBSPRT GDDPRT INPCHK OBSUP SETSEN SIGPRC
NGDD	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 QQDATS
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 DDSUP DPVSTR 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
	SLOSET					
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	CRDGEN	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
	CRDGEN	FIT	INPUT	SETTAB		
NVECOL	ANGLE	ASSIGN	DOPLER	DUMCAL	ISAAC	OBCOMP
	RANGE	RANRAT	SETCOD	TRAJRD		
NVEH	ASSIGN	BAPRT	CAVEC	CONTIM	CRDGEN	DPRLM
	EATAPE	ICNPRT	INIT	INPCHK	INTRP2	ITSUM2
	OBSIM	OBSUP	PRAPP	RUNPRT	SDPRT	SETCOD
	SETTRG	SUPTRJ	TMSPRT	TRJPRO	WRTRAJ	
NVEHSE	PROPRO	TIMTRG	TRIGER	TRJPRO	TRJSUP	
NY	DAUX	PHASE	TRAJ	TRJOUT	TRJSUP	
NYMAX	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
OELG	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
ORAS	ONPRT
ORAT	ONPRT
OSCAL	GETSCL OBSPRT SETSCL
OT	ALLOW AXESOC AXESOO CAVEC GETT OBSTM OBSUP OCCULT ONBORD PRTIAL RADAR SEXTNT TSCOPE VHFRNG XLAND
OTITLE	GETREC GETT1 GETT2 RUNPRT
PAOM	APPLY DAUX GETVAL SDPRT SOLRAD
PBAR	COMPT OCCULT ONBORD PRTIAL RADAR SEXTNT TSCOPE VHFRNG
PBODY	TRJPRC
PERBOO	BODPRT BODY DAUX TRJPRC
PHIMAT	AXESOC AXESOO 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
P1OOMG	DOPLER DUMCAL OBCOMP
P1OOT	DOPLER DUMCAL OBCOMP
P1OOTM	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	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	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	GBBPRT	GBSPRT	GDOPRT
	GETSOL	ICNPRT	LNDPRT	MCNPRT	ODDPRT	ONPRT
	SBPRT	SBPRTI	SENPRT	SETSOL		
SOLOUT	ITSUM2	PRTALN	TRJPRO			

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS					
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	LNDPRC	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					
SRNGL	BAPRT	DPRLM				
STAPAR	ANGLE	DOPLER	DUMCAL	OBCOMP	RANGE	RANRAT
STAPAT	DOPLER	DUMCAL	OBCOMP			
STATED	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	AXESDC	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				
TBSTAT	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				
TEQ	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	CRDIMG	EAINIT	FLIP	INPUT	LTPRT	MATPRT
	OBSUP	WRTRAJ	WRTREC	WRTI		
TJD	LNPART	XLAND				
TJDALN	BAPRC					
TJDNBY	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	SDPRT			
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	SDPRT	SOLRAD				
VELIGS	IGSBRN					
VHECN	ALLON	ONPRC	ONPRT			
VOMGR	LNRADR	OBSIM	ONBORD	PRTIAL		
VR	ANGLE	DUMCAL	OBCOMP			
W	LOPBRN	LOPCON				

VARIABLE/SUBROUTINE CROSS-REFERENCE (CONTINUED)

NAME	REFERENCED BY THESE ELEMENTS					
WMOON	LNRADR	PRTIAL				
XBSQ	FIT	LEGS2				
XEMS	AXESOD	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	AXESOD	BAPRC	BATIM	BAWRT
	BDSCAN	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	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	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

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