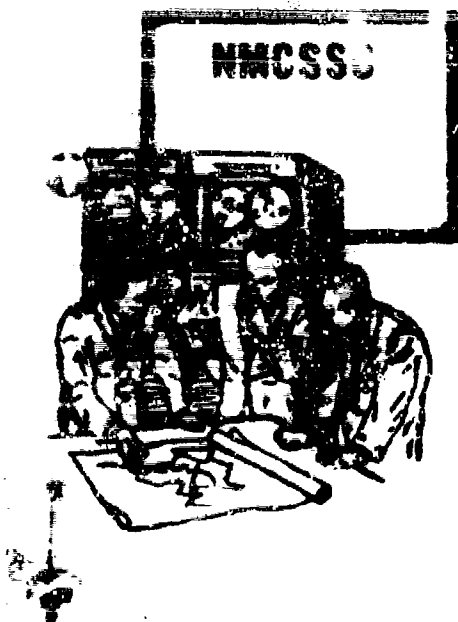


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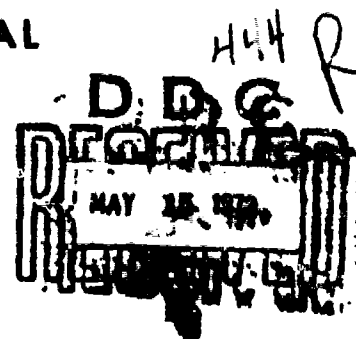
COMPUTER SYSTEM MANUAL
 CSM PSM 9A-67
 VOLUME II, PART D
 29 FEBRUARY 1972

THE NMCSSC QUICK-REACTING GENERAL WAR GAMING SYSTEM (QUICK)

PLAN GENERATION SUBSYSTEM

PROGRAMMING SPECIFICATIONS MANUAL

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 INFORMATION SERVICE
 Springfield Va 22151



Security Classification		
DOCUMENT CONTROL DATA - R & D		
(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)		
1. ORIGINATING ACTIVITY (Corporate activity) National Military Command System Support Center (NMCSSC) Defense Communications Agency (DCA) The Pentagon Washington, DC 20301		2. REPORT SECURITY CLASSIFICATION 7b. GROUP
3. REPORT TITLE The NMCSSC Quick-Reacting General War Gaming System (QUICK) Programming Specifications Manual, Volume II, Plan Generation Subsystem		
4. DESCRIPTIVE NOTES (Type of report and inclusive dates) N/A		
5. AUTHOR(S) (First name, middle initial, last name) NMCSSC: Robert R. Hardiman Lambda Corp: Paul D. Flanagan Yvonne Mapily Patricia M. Parish Donald F. Webb Jack A. Sasseen		
6. REPORT DATE 29 February 1972	7a. TOTAL NO. OF PAGES 1858	7b. NO. OF PAGES 4
8a. CONTRACT OR GRANT NO. DCA 100-70-C-0065	9a. ORIGINATOR'S REPORT NUMBER(S) NMCSSC COMPUTER SYSTEM MANUAL CSM PSM 9A-67	
8b. PROJECT NO. NMCSSC Project 631	9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report) None	
10. DISTRIBUTION STATEMENT This document is approved for public release; its distribution is unlimited.		
11. SUPPLEMENTARY NOTES		12. SPONSORING MILITARY ACTIVITY National Military Command System Support Center/Defense Communications Agency The Pentagon, Washington, DC 20301
13. ABSTRACT This is one of three volumes describing computer programs of the QUICK-Reacting General War Gaming System (QUICK). These volumes complement other NMCSSC Computer System Manuals on QUICK by discussing the programs from a computer programming point of view. This volume, in six parts, concentrates on the Plan Generation Subsystem of QUICK. Other volumes are available for the Input Subsystem and Simulation Subsystem. Collectively, these volumes provide a good basis for maintenance activity on the QUICK System. Based upon a suitable data base, and user control parameters, QUICK will generate individual bomber and missile plans suitable for war gaming. The generated plans are of a form suitable for independent review and revision. Subsequently, execution of the planned events can be simulated. Various statistical summaries can be produced to reflect the results of the war game. A variety of force postures and strategies can be accommodated. QUICK is documented extensively in a set of Computer System Manuals (series 9-67) published by the National Military Command System Support Center (NMCSSC), Defense Communications Agency (DCA), The Pentagon, Washington, DC 20301.		

DD FORM 1473

REPLACES DD FORM 1473, 1 JAN 64, WHICH IS OBSOLETE

1851

Security Classification

NATIONAL MILITARY COMMAND SYSTEM SUPPORT CENTER

Computer System Manual Number CSM PSM 9A-67

29 February 1972

THE NMCSSC QUICK-REACTING GENERAL WAR GAMING SYSTEM (QUICK)

Programming Specifications Manual

Volume II - Plan Generation Subsystem

Part D

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ACKNOWLEDGMENT

This document was prepared under the direction of the Chief for Development and Analysis, NMCSSC, in response to a requirement of the Studies, Analysis and Gaming Agency (SAGA), Organization of the Joint Chiefs of Staff. Technical support was provided by Lambda Corporation under Contract Number DCA 100-70-C-0065.

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ABSTRACT

The computerized Quick-Reacting General War Gaming System (QUICK) will accept input data, automatically generate global strategic nuclear war plans, simulate the planned events, and provide statistical output summaries. QUICK has been programmed in FORTRAN for use on the NMCSSC CDC 3800 computer system.

The QUICK Programming Specifications Manual (PSM) consists of three volumes: Volume I, Data Input Subsystem; Volume II, Plan Generation Subsystem; Volume III, Simulation and Data Output Subsystems. The Programming Specifications Manual complements the other QUICK Computer System Manuals to facilitate maintenance of the war gaming system. This volume, Volume II, provides the programmer/analyst with a technical description of the purpose, functions, general procedures, and programming techniques applicable to the programs of the Plan Generation Subsystem. This volume is in six parts: Parts A and B provide a description of the programs which make up the subsystem; Part C through F contain the associated program listings. Companion documents are:

1. GENERAL DESCRIPTION
Computer System Manual CSM GD 9A-67
A nontechnical description for senior management personnel
2. ANALYTICAL MANUAL
Computer System Manual CSM AM 9A-67 (three volumes)
Provides a description of the system methodology for the nonprogrammer analysts
3. USER'S MANUAL
Computer System Manual CSM UM 9-67
Provides detailed instructions for applications of the system
4. OPERATOR'S MANUAL
Computer System Manual CSM OM 9A-67
Provides instructions and procedures for the computer operators

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COMMON/MIIDENT/ MIIDENT
COMMON/ACPRINT/ ACPRINT
COMMON/TWCROD/ITWCROD
EQUIVALENCE (ITWCROD, ITWCROD)

COMMON/LOCFIL/MPNTGT,ALCCT1,ITPMHSL
C
C
C TYPE INTEGER MPNTGT, ALCCT1
C
C DATA (ALCCT1 = -3) : (ITPMHSL = 1)
C
C EQUIVALENCE (ALCCT2, ALCCTAR(1))
C
C TAPES *****
C MASTER IJUNT1 *****
C USED BY ALLOCATE, MULCON, PREMIUMS, STALL, MAD, MADOUT, PRINTNOM,
C RESVAL, AND DEFALOC
C
COMMON/MASTER/INDATE,IDENTNO,LSIDE,NRTPT,NCORR,NOPEN,NRECOVER
1,NREF,NENDRY,NREG,NTYPE,NGROUP,NTOTBASE,MPATLOAU,MASHTYPE,NMMDTYPE
2,NTANKBAS,NCOMPLEX,NCLASS,NALERT,NTGTS,NCORRTYPE,NCNTRY
EQUIVALENCE(INGROUP,NG2)(NALERT,NGTHER)
C
C MASTER *****
C IFTPRNT IJUNT1 *****
C USED BY ALLOCATE AND PRINTCON
C
COMMON/ IFTPRNT/IFTPRNT(10)
C IFTPRNT *****
C DATA ((IFTPRNT(1),1),1,10)=10(0))
C
C NUB2 IJUNT1 *****
C USED BY ALLOCATE, MULCON, MAD, AND PRINTNOM
C
COMMON/222/
1 WTPAC(3),WTRATE(3),WTSUM(3),JATTRIB(6,200),RUNSUM(310,3)
2 ALERREST(310,3),LA(310),MXATTRIB
C
C TYPE REAL LA *****
C NUB2 *****
COMMON 222 WAS FORMERLY MULCONP
C
C USED BY MULCON, MAD, AND PRINTALL
C
C CTRYCD IJUNT1 *****
C
COMMON/CTRYCD/CTRYCD(150)
C
C TYPE INTEGER CTRYCD
C
C CTRYCD *****
C
C MACHINE IJUNT1 *****
C
COMMON /MACHINE/ IREAD, IWRIT, ICOMM, IPUNCH
C
C MACHINE *****
C
C CHARCHAR IJUNT1 *****

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COMMON /CORCHAR/ PCLAT(30), PCLONG(30), PCZONE(30), MPLAT(30),
1  RPLONG(30), ENLAT(30), ENLONG(30), CRENGTH(30),
2  KORSTYLE(30), ATTRCORR(30), ATTRSUP(30), HILCATM(30),
3  DEFRANGE(30), NPRCRDEF(30), DEFDIST(30.3), ATTRPRE(30.3),
4  NDATA, LMAX
C
C DIMENSION CUSCOR(30), COHLM(30), TDEFDIST(30),
1  DISTAD(30), DISTBC(30)
C
C EQUIVALENCE (TDEFDIST, PCZONE),
1  (CUSCOR, DEFRANGE), (COHLM, NPRCRDEF), (DISTAD, KORSTYLE),
2  (CRENGTH, DISTBC)
C
C TYPE INTEGER PCZONE
C
C DATA (NDATA = 30), (LMAX = 3)
CEND
C CORCHAR *****
CUSE PLANTYPE LJUN71 *****
C
C COMMON / PLANTYPE/ INITSTK, CORHSL, CORBCHB
C
C PLANTYPE *****
CEND
C PKNAVAL LJUN71 *****
CUSE
C COMMON/ PKNAVAL/PKNAV(200)
C
C PKNAVAL *****
CEND
C CALL VALOC
C CALL STORAGE
C NENTRY = 150
C CALL INITALC
C CALL TIMEP(-1)
C
C NPRINT = 1
C MYIDENT = 4HALOC
C CALL INITAPE
C
C IIP = -8
C READ BASFILE
C MYIDENT = THBASFILE
C CALL SETREAG
C ITEST = 6NOV 70
C IF (ITEST = INFORM) 10, 20, 10
C 10 WRITE(IWRIT, 11) ITEST, INFORM
C 11 WRITE(ICOMM, 11) ITEST, INFORM
C 11 FORMAT(///15(2H *), * WRONG BASFILE FORMAT. REQUESTED *.AB, * GOT
C      10.2A5)
C      STOP
C
C 20 CALL RDARRAY(INDATE, C3)
C CALL SKIP(545)
C CALL RDARRAY(TUTFILE, 16)
C CALL RDARRAY(PCLAT, 601)
C CALL SKIP (100)

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CALL RDARRAY(INCHCHB1, 400)
CALL SKIP(150)
CALL RDARRAY(REFAT, 40)
CALL RDARRAY(INITSTRK, 3)
CALL SKIP(150)
CALL RDARRAY(CCHEL, 20)
CALL RDARRAY(RANGE, 800)
CALL SKIP(160)
CALL RDARRAY(NWPM5, 200)
CALL SKIP(200)
CALL RDARRAY(WLAT, 2000)
CALL SKIP(5800)
CALL SKIP(408)
CALL RDARRAY(PKNV, 200)
CALL RDARRAY(CINYCD, 150)
CALL TERMTEAPE

C
CALL TIME1(1) READ OPTIONS
100 READ (IREAD, 101) IRUNTP
101 FORMAT(A8)
WRITE(IWRIT, 102) IRUNTP
102 FORMAT('101 OUTPUT FOR RUN TYPE *A8)
IF (IRUNTP - 8HANGEMCD) 120, 110, 120
110 CALL RANGEMCD
CALL TIME1(2)
GO TO 100
120 IF (IRUNTP - 8HMINRANGE) 140, 130, 140
130 CALL MINRANGE
CALL TIME1(3)
GO TO 100
140 IF (IRUNTP - 8HMIRVREST) 160, 150, 160
150 CALL MIRVREST
CALL TIME1(4)
GO TO 100
160 IF (IRUNTP - 8HFLAGREST) 180, 170, 180
170 CALL FLAGREST
CALL TIME1(5)
GO TO 100
180 IF (IRUNTP - 7HLOCREST) 200, 190, 200
190 CALL LOCREST
CALL TIME1(6)
GO TO 100
200 IF (IRUNTP - 7HREADMUL) 220, 210, 220
210 CALL READMUL
CALL TIME1(7)
GO TO 100
220 IF (IRUNTP - 8HALLOCATE) 240, 230, 240
230 CALL TIMEPRT
CALL MULCON
GO TO 100
240 IF (IRUNTP - 5HPUNCH) 260, 250, 260
250 CALL PUNCHM
GO TO 100
260 IF (IRUNTP - 4HSTOP) 280, 270, 280
270 WRITE(IWRIT, 271)

```

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92000
93000
94000
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97000
98000
99000
100000
101000
102000
103000
104000
105000
106000

FT-5.5

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PAGE NO. 5

```
WRITE(ICOM, 271)
271 FORMAT(/3H **** PROCESSOR ALSO COMPLETED ****)
CALL DEACTIV
MYIDENT = 7HWINFILE
CALL DEACTIV
STOP
280 IF(IIRUNTP - 4MDUP) 1000, 290, 1000
290 CALL ABCRT
STOP
C
1000 WRITE(IWRIT, 1001)
1001 FORMAT(' ERROR IN RUN TYPE')
STOP
END
```

107000
108000
109000
110000
111000
112000
113000
114000
115000
116000
117000
118000
119000
120000
121000

5-75

ALOC

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

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ED

0

PAGE NO.

6

IDENT ALOC

00531
 00075
 04231
 01360
 00024
 00050
 00020
 00020
 00014
 00010
 00001
 00001
 00001
 00001
 00003
 00027
 00012
 00064
 00226
 00004
 01132
 00003
 00310

EXTERNAL SYMBOLS

QUANTITY
 TREAD
 QWSTOPS
 QWQDICT.
 VALCC
 STORAGE
 INITIALC
 TIME
 INITIPE
 SETHEAD
 RUARMAY
 SKIP
 TERMIAPE
 RINGMOD
 MINRINGE
 MIRVMSI
 FLAGMSI
 LOGREST
 READMUL
 TIMEPRT
 MULCON
 PUNCRIM
 DEACIIV
 ABORI
 TSH.
 STH.
 QNSINGL.

CU0002	ICOMM	CU152	CU031	CU031					
CU0001	IDENTAC								
CU0000	IFTRNT	CU004							
CU0000	INDATE	CU172							
CU0550	IMRV								
CU0007	INCOM								
CU0002	INDATE								
CU0003	INCRW								
CU0000	INIDENT	CU134	CU146	CU161	CU161				
CU0007	INITALC								
CU0011	INITAPE								
CU0000	INITSTRK	CU222							
CU0006	INLNGTH								
CU0001	INRUNG								
CU0004	INSECR								
CU0005	INTIME								
CU1750	ICRHR								
CU2570	IPAY								
CU1440	IPENCODE								
CU0003	IPUNCH	CU271	CU271						
CU0000	LEAD								
CU1320	IRECODE								
CU2570	IREFUEL								
CU1130	IREG								
PU0527	IRUNTP	CU277	CU307	CU313	CU324	CU335	CU346	CU357	CU370
		CU453							CU411
CU0002	ISIDE								CU417
PU0530	ITEST	CU134	CU144	CU157					
CU0002	ITMPMSL	CU0002							
CU0000	ITP	CU125	CU126						
CU0000	ITWORE								
CU1440	ITYPE								
CU0050	IMH01								
CU0170	IMH02								
CU0001	IMRIT								
PU0137	.10	CU137	CU302	CU302	CU302	CU322	CU322	CU353	CU463
PU0271	.100	CU136	CU234	CU245	CU356	CU400	CU410	CU416	
PU0463	.1000	CU323	CU455						
PU0316	.110	CU314							
PU0324	.120	CU315	CU315						
PU0327	.130	CU325	CU325						
PU0335	.140	CU326	CU326						
PU0340	.150	CU336	CU336						
PU0346	.160	CU337	CU337						
PU0351	.170	CU347	CU350						
PU0357	.180	CU350	CU350						
PU0362	.190	CU360	CU360						
PU0170	.20	CU135	CU135						
PU0370	.200	CU361	CU361						
PU0373	.210	CU371	CU371						
PU0401	.220	CU372	CU372						
PU0404	.230	CU402	CU402						
PU0411	.240	CU403	CU403						
PU0414	.250	CU412	CU412						

P00417	.26J	00413	J0413
P00422	.270	00420	
P00453	.280	00421	J0421
P00456	.290	00454	
P00500	.ERASER	00113	J0116
P00004	..10000	00121	
P00005	..100001	00127	
P00006	..100002	00133	
P00042	..100003	00314	
P00043	..100004	00325	
P00044	..100005	00336	
P00045	..100006	00347	
P00046	..100007	00360	
P00047	..100008	00371	
P00050	..100009	00402	
P00051	..100010	00412	
P00052	..100011	00420	
P00064	..100012	00440	
P00065	..100013	00444	
P00066	..100014	00454	
P00067	..1001	00467	
P00030	..101	00275	
P00033	..102	00306	
P00007	..11	00143	J0156
P00053	..271	00426	J0435
C00011	JATTRIB		
C00030	KORSTYLE		
C05775	LA		
C01131	LMAX	C01131	
X00022	LCREST	00362	
C04230	P6		
C04230	WGROUP		
X00017	PINRNGE	00327	
X00020	MIRVRST	00340	
P00003	MP		
P00003	MPAYLSDU		
C00004	MSLTIME		
X00025	MULCOA	00406	
C04463	MXATTRIB		
C00003	MYCCHM		
C00000	MYFGRPT		
C00000	MYIDENT		
C00002	MYLNGTH		
C00001	MYSECR		
C00500	NADEC		
C00500	NADECCYS		
C00023	NALERT		
C00500	NALRTDLY		
C00240	NASM		
C00016	NASMTYPE		
C00010	ABNDRY		
C00022	NCLASS		
C00060	NCM		
C00026	NCNTRY	C0106	J0107
		00122	J0122
		00130	00130
		00445	00445
		00441	00441
		00445	00445

CU0021	NCOMPLEX						
CU0004	NCORR						
CU0025	NCORTYPE						
CU1130	NDA	00004					
CU0430	NDECGYS						
CU0005	NOPEN						
CU0013	NG						
CU0012	NRCUP						
CU0000	NBCHM1	00211					
CU0120	NBCHM2						
CU0000	NPRINT	00117					
CU0023	NOTHER						
CU0015	NPAYLOAC						
CU0006	NPRCMDEF						
CU0000	NRECOVER						
CU0007	NREF						
CU0011	NREG						
CU0003	NRTPT						
CU0020	NTANKRAS						
CU0030	NTDEC						
CU0024	NTGTS						
CU0014	NTGTHASE						
CU0012	NTYPE						
CU0000	NTHD						
CU0017	NTHDTYPE						
CU0000	NWANS	00241					
CU0000	NPLAT	00203					
CU0036	PCLONG						
CU0074	PCZONE						
CU0000	PKNAV	00260					
CU0017	PLANTAPE						
CU0020	PUNCHM						
CU0004	QBODICT	00075					
CU0001	QBENTRY						
CU0003	QBESTOPS	00451					
CU0033	QMSINSL	00473					
CU0000	RANGE						
CU0020	RANGEDEC						
CU0000	RANGEREH						
CU0012	RDARRAY	00176					
CU0023	REACKUL	0017C					
CU0010	REFTIME	00201					
CU0000	REL	00373					
CU0000	RFLAT						
CU0024	RFLONG	00217					
CU0016	RNGEMCD	00316					
CU0132	RPLAT						
CU0170	RPLONG						
CU0271	RUNSUM						
CU0260	SPL						
CU0012	SETHEAD	00131					
CU0014	SKIP	00173					
CU0040	SPEED	00204					
		00212					
		00223					
		00234					
		00242					
		00250					
		00226					
		00231					
		00237					
		00245					
		00256					

DATA	ALOC	ED	0	PAGE	NO.	11
X00032	STH.	00141	00304	00424	00433	00465
X00006	STORAGE	00104				
C00014	STRKFL					
C00074	TDEFUIST					
X00015	TERMTAPE	00264				
C00000	TGTFILE	00200				
X00002	TEND.	00163	0030J	00311	00427	00436
X00010	TIMEP.	00150	00320	00331	00436	00470
Y00024	TIMEPRT	00114			00342	00353
C00010	TPALOC	00404				00375
X00031	TSH.	00273				
C00000	TWCRU					
X00005	VALCC					
C00310	WLAT	00102				
C00620	WLONG	00247				
C00000	WPNTGT					
C00000	WTFAC					
C00003	WTRATE					
C00006	WTSUM					
C00360	XDEG					
C03100	YIELD					
	00345 SYMBOLS					


```

SUBROUTINE DEFALOC
  CSEUR DEFALOC LJUNT1 *****
  CUSE  WPREG LJUNT1 *****
  C     USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNOM, RESVAL, DEFALOC
  C
  COMMON/MPREG/CMEL(20)
  DIMENSION CC(20)
  EQUIVALENCE (CMEL(1),CC(1))
  WPREG *****
  WPREG LJUNT1 *****
  C     USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNOM, RESVAL, DEFALOC
  C
  C     STALL
  C
  COMMON/MPRHP/MPNS(200),MLAT(200),MLONG(200),
  LIMEG(200),LTYPE(200),LALERT(200),SBL(200),LREFUEL(200),YIELD(200)
  2 * REFTIME(200),EXPASM(200),MSRQUP
  EQUIVALENCE(LREFUEL,IPAY)
  DIMENSION IPAY(200)
  EQUIVALENCE (LOTHER,IMLEHT)
  EQUIVALENCE (PQ,MPRQUP)
  WPREG *****
  CONTROL LJUNT1 *****
  C     USED BY MULCON, PREMIUMS, STALL, WAD, WADOUT, PRNTNOM, DEFALOC,
  C     AND PRNTCON
  C
  COMMON/CONTR/STALADJ,CLOSE,MADOP,PROGRESS,QUALITY,NPASS,PRM,DELT
  IVAL,CONF,TIME IVERIFT,CONR2,IMATCH
  LINDOMAG, LAM(2), FALMIR, TARFAC
  TYPE INTERM WADOP
  TYPE REAL MINDMAG
  CONTROL *****
  LAMBDA LJUNT1 *****
  C     USED BY MULCON, PREMIUMS, WAD, WADOUT, PRNTNOM, RESVAL, DEFALOC
  C
  C
  COMMON/LAMBDA/
  1 LAMEF(200),SURPWP(200),PREMIUM(200),PREMIUM(200)
  DIMENSION LAM(200)
  TYPE REAL LAM,LAMEF
  EQUIVALENCE ( LAM(1), LAMEF(1))
  LAMBDA *****
  WPNTYPE LJUNT1 *****
  C     USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNOM, RESVAL, DEFALOC
  C
  COMMON/MPNTYPE/RANGE(80),CEP(80),SPEED(80),ALERTULY(80)
  LINALRTULY(80),RANGEDEC(80),ICLASS(80),HANGHEF(80),REL(80)
  2 IRECNGDETA(80), IPENNGUET(80)
  TYPE REAL NALMIDLY
  WPNTYPE *****
  MASTER LJUNT1 *****
  C     USED BY ALLOCATE, MULCON, PREMIUMS, STALL, WAD, WADOUT, PRNTNOM,
  C     RESVAL, AND DEFALOC
  C
  COMMON/MASTER/IMDATE,IDENTNO,ISIDE,NRTPT,NCORR,NDEPR,NRECOVER
  LANKF,NBURY,NREG,NTYPE,NMGROUP,NITIBASE,NPAYLOU,NASMI,TYPE,NRMUTYPE
  2 NANKBAS,NCOMPLEX,NCLASS,NALERT,NITUTS,NCOR,TYPE,NCNTRY

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CENU      EQUIVALENCE (NURCUP,MU) (NALEMT,NCTHEM)
CUSE      MASTER *****
          WADAPN  LJUN71 *****
C          USED BY MULCON, PRELIMS, WAD, WADOUT, PNTNOM, RESVAL, DEFALOC,
C          STALL, FMUP, SORTMSH, TABLEMUP, RDALCRU
C          COMMON /WADAPN/ JGTG, INACTIVE(200), TGA(200),
1          TVALTGA(200), VTC(200,2), MUP(200,2), HISX(6,200,2),
2          SSIG(200,2), MINKILL, MAXKILL, MAXCOST, ILA*,
3          MISDEF, MOKK(200), PEAL(200), AMUP(200,2), JGTG, LNEXT,
4          MINKILA, MAXKILA, MAXCOSA, MISDEX, NACTV, LUX(200), TGA(200),
5          MOPRX(200), PEXX(200), STKX(200,2), STK2X(200,2), LSTMAX
C          TYPE REAL MUP, MINKILL, MAXKILL, MAXCOST
C          TYPE REAL MINKILA, MAXKILA, MAXCOSA
C          DIMENSION STARRAY(1607), ISTARAY(1607)
C          EQUIVALENCE (STARAY, ISTARAY, JGTG)
C          DATA (LSTMAX = 1607)
C          WADAPN *****
CUSE      DEFENSE  LJUN71 *****
          COMMON/DEFENSE/NTX(3),PA(3),PKTX,RX(2),PMX(2),RADPX,TLNTFAC
C          DEFENSE *****
CUSE      FIXED  LJUN71 *****
C          USED BY MULCON, STALL, DEFALOC, RDALCRU
C          COMMON/FIXED/IFTGT, ISTORE(8),IFM(31), TIME(30), NFIX*PS,
1          SX(5), IFIXBEG, IFIXENO, SAVEFIX, IADD
C          TYPE LOGICAL SAVEFIX
C          DIMENSION ITIME(30), IS(5)
C          EQUIVALENCE (ITIME, TIME), (IS,SX)
C          IFTGT  INDEX OF FIRST FIXED TARGET
C          ISTORE TEMPORARY STORAGE AREA
C          IFM  INDEXES OF WEAPONS FIXED THIS TARGET
C          TIME  WEAPON TIME OF ARRIVAL
C          NFIX*PS TOTAL NUMBER OF FIXED MISSILES
C          SX  SCHAICH ARRAY
C          IFIXBEG ASSIGNMENT INPUT INDEX
C          IFIXEND ASSIGNMENT INPUT INDEX
C          SAVEFIX WRITE MSLTIVE FILE ONLY IF TRUE
C          IADD IF NEGATIVE - NO FIXED ASSIGNMENTS FROM TGTFILE
C          IF ZERO - FIXED ASSIGNMENTS ACCORDING TO TGTFILE
C          IF POSITIVE - FIXED ASSIGNMENTS FROM TGTFILE AND
C          CAMO INPUT
C          COMMON/FIXED*SS/IFIXCMP(10), IFIXTAPE, IBCO, MLFIAR
C          IFIXTEMP TEMPORARY STORAGE AREA
C          IFIXTAPE LOGICAL UNIT NUMBER - FILEHANDLER FILE
C          IBCO LOGICAL UNIT NUMBER - BCD FILE

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C      NLFTAR      NOT ZERO IF MORE FIXES FOR THIS TARGET ON TPTFILE
C      CEND
C      CUSE
C      C      FIXED *****
C      C      DYNAMIC LJUNT1 *****
C      C      USED BY MULCON, PREMIUM, STALL, RAD, RADOUT, PRINTCON, RESVAL,
C      C      DEFALOC, AND PRINTCON
C      C
C      C      COMMON/DYNAMIC/IGTNAME,INDEXNO,DESIG,TASK,CNTRYLOC,FLAG,IGTMULT,
C      C      1 TGLAT,IGTLONG,IGTRAD,VIC,MH(2),VC(2),ANK,PVAL(3),TAU(3),INCLASS,
C      C      2 ICLASSA,INTYPE,TARDEF,INDPEN,DISTOF,DISTOG,NBLN,CTMULT,VT,
C      C      3 TGT(3),PAYOFF,COST,PROFIT,DPROFIT,WRTEST,INJECTNUM,IX,
C      C      4 JTG,NUM,IGT(30),KORR(30),HVAL(30),PEN(30),TCARR(30),LDN
C      C
C      C      TYPE INTEGER TGTNAME,DESIG,TASK,CNTRYLOC,FLAG,TARDEF
C      C
C      C      EQUIVALENCE (ONARRAY,IGTNAME)
C      C
C      C      DATA(LDA = 45)
C      C
C      C      DIMENSION VTD(30)
C      C      EQUIVALENCE(VTD, RVAL)
C      C
C      C      DYNAMIC *****
C      C      PAYLOAD LJUNT1 *****
C      C      USED BY ALLOCATE, MULCON, PREMIUMS, PRINTCON, RESVAL, DEFALOC
C      C
C      C      COMMON/PAYLOAD/NCBCHB1(40),IWH1(40),NCBCHB2(40),IWH2(40)
C      C      1 NASM(40),IASM(40),NCM(40),INDECCYS(40),INADCCYS(40),IMIRV(40)
C      C      EQUIVALENCE (MP,MPAYLOAD), (NCM(1)),XDEG (1)),
C      C      RINDECCYS(1),NTDEC(1)), (NADECCYS(1)),
C      C      SNADDEC(1)), (NCBCHB1(1)),NWHU(1))
C      C      DIMENSION XDEG(40),NTDEC(40),NADEC(40),NWHU(40)
C      C      PAYLOAD *****
C      C      LOCDEF LJUNT1 *****
C      C      USED BY PRINTCON, RESVAL, AND DEFALOC
C      C
C      C      COMMON/LOCDEF/VTDX,NCMEP(200),RATH
C      C      LOCDEF *****
C      C      TAPES LJUNT1 *****
C      C      COMMON/FILES/TPTFILE(2),BASFILE(2),MSLTIME(2),ALCCTAR(2),
C      C      1 TMAPLOC(2),ALCUGRP(2),STKFFIL(2),EVENTAPE, PLANTAPE
C      C
C      C      TYPE INTEGER TPTFILE, BASFILE, ALCCTAR, TMAPLOC,
C      C      1 ALCUGRP, STKFFIL, EVENTAPE, PLANTAPE, ALCCT2
C      C
C      C      COMMON/FILABEL/ INIDENT, INRUNNO, INDATE, INFORM,
C      C      1 INSECR, INTIME, INLENGTH, INCONH(5)
C      C
C      C      COMMON/MYLABEL/ MYFORMID, MYSECR, MYLENGTH, MYCONH(5)
C      C      COMMON/ITP/ITP
C      C      COMMON/MYIDENT/ MYIDENT
C      C      COMMON/NOPRINT/ NOPRINT
C      C      COMMON/TWCRU/ITWORD
C      C      EQUIVALENCE (TACRD, ITWCRU)
C

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COMMON/LOGFIL/PRINTGT,ALOGCT1,IMPMSL
C
C TYPE INTEGER PRINTGT, ALOGCT1
C
C DATA (ALOGCT1) = -3) * (IMPMSL = 1)
C
C EQUIVALENCE (ALOGCT2, ALOGCTAR(1))
C
CENU TAPES *****
C     DIMENSION RATE(200)
C     EQUIVALENCE (NUMGROUPING)
C     TYPE REAL NORJ
C     WADOUT 1JUN71 *****
C     USED BY STALL, WAD, WADOUT, AND PRINTNG
C
C     COMMON/WADOUT/
C     1 PVMAX,IPVMAX,PPMAX,IPPMX,OVPMX,IVPMX,OPPMX,IPPMX,NUMMAX,NB
C     1 IPMAX,NICAN,NTOMAX,VIMIN,VIIMAX,ALPHA,VIEF,VIZO
C     WADOUT *****
C     WADFINAL 1JUN71 *****
C     USED BY STALL, WAD, WADOUT, AND PRINTNG
C
C     COMMON/WADFINAL/
C     1 VTP(200),DELV(130),NUMG,IGG(30),ICP,ICPS,CTSPILL
C     WADFINAL *****
C     DATA(PKSMAX) = 04)
C     DIMENSION NUMGROUP(200)
C     TYPE LOGICAL NUMGROUP
C     NUMGROUP(0) = 1 - NO NON-FIXED WEAPONS ALLOCATED FROM GROUP G
C     DO 10 JX = 1, NG
C     10 NUMGROUP(JX) = 1
C     GOAL = VTC * (1 - MINRILL)
C
C     IF ((VERIFY.EQ.2).AND.(PROGRESS.EQ.2))SU25,14,7
C
C 14.7 NIX(1)=WISDEFNIX(1)
C     NIX(2)=WISDEF
C     NIX(3)=WISDEFNIX(2)
C     PR(1)=PRX(1)
C     PR(2)=1-PRX(1)-PRX(2)
C     PR(3)=PRX(2)
C     WATM = -99999.
C     NUMG0
C     NIX0
C     NIX0
C     NORJ05
C     WAB = VTC
C     IS(2) = INDEANG
C     IS(3) = DESIG
C     IS(4) = TASK
C     IFIXFLAG = 0
C     GO STALL NOT CALLED. ?1 = STALL CALLED
C     DO 80 I=1,NG
C     80 NOREP(I)=0
C     IF(INPASS.EQ.1).AND.(IF.(31,NE.2M) .ANG.IFIXEND,9E.30).OR.NUMFIX
C     1 .GT.30) 77, 76
C     REMOVE STALL CONTRIBUTION TO SUBMP

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76 DO 81 I=1,NUM
   IGROUP = IG(I)
   SURPWP(IGROUP)=SURPWP(IGROUP)+1
   *1 CONTINUE
   IPIXFLAG = 1
77 NQ=80
   CLOST=0.
   NEATEU
   C FAIL ARRAYS FOR FIXED ALLOCATION
   IF (NUMFIX.GT.C) 79,84
79 IF (NPASS.GT.1) 78,83
78 IF (NUMFIX.GT.30) 72,71
72 NSUM=J
   DO 96 I=1,NUM
   NN=IG(I)
   NQEP(NN)=KORR(I)
   SURPWP(NN)=SURPWP(NN)+KORR(I)
   CCOST=CCOST+LAM(NN)*(-KORR(I))
   NSUM=SUM-KORR(I)
   IF (NSUM.LT.NUMFIX) 96,75
   CONTINUE
96 GO TO 75
71 DO 70 J=1,NUMFIX
   NQEP(IG(J))=NQEP(IG(J))+1
   SURPWP(IG(J))=SURPWP(IG(J))-1
70 CCOST=CCOST+LAM(IG(J))
   GO TO 75
83 NIEPP=MINOF(NUMFIX,30)
57 DO 85 I=1,NIEPP
   NN=IG(I)
   C IF BOMBER WEAPONS ARE FIXED, USE STALL ALLOCATION IF POSSIBLE.
   C OTHERWISE, OMIT THE BOMBER WEAPONS.
   K = ITYPE(NN)
   IF (ICLASS(K) - 1) 40,50,40
   C BOMBER WEAPON - USE STALL ALLOCATION IF LESS THAN 30 WEAPONS FIXED
   *0 IF (IPIXFLAG - 1) 41,4000,41
   C MORE THAN 30 WEAPONS FIXED - OMIT BOMBER FIX
   *1 PRINT 42, NN, IOTNAME, INDEXX, ITGT
   *2 FORMAT(//IA,II9(1H*),//,*, BOMBER FROM GROUP *,I3,*, CANNOT BE FIXED
   IIN = MISSILE SATURATION ATTACK ON TARGET *,A8,* - INDEX *,I5,*, IAR
   ZGET *,I5,//,IA,II9(1H*)
   NUMFIX = NUMFIX - 1
   GO TO 85
50 CONTINUE
   IF (INACTIVE(NN).EQ.100) 82,92
   *2 PRINT 93, NN, IOTNAME, INDEXX, ITGT
93 FORMAT(//IA,II9(1H*),//,I4H WEAPONS FROM GROUP *,I3,*, CANNOT BEA
   ICP TARGET,IA,A8,IIH - INDEX *,I5,*,I4H TARGET *,I5,//,IA,II9(1H*)
   NUMFIX = NUMFIX - 1
   GO TO 85
92 IF (NQEP(NN).EQ.0) 89,91
89 IF (NQEP.NE.30) 85,86
86 NQ=NN+1
91 NQEP(NN)=NQEP(NN)+1
   CCOST=CCOST+LAM(NN)
   SURPWP(NN)=SURPWP(NN)-1

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IF (SAVEFIX.AND.(IFIXFLAG.EQ.0)) 63, 85
  63 IFIXFLAG = 0
  IS(1) = NN
  IS(5) = ITIME(1)
  NFIXPS = NFIXAPS + 1
  ITP = ITEMPSL
  CALL WHARRAY(15, 5)
  85 CONTINUE
  IF (NPASS.EQ.1.AND.(IFW(31).NE.2M .AND.(IFIXEND.GE.30) 87, 15
  87 DO 94 J=1,31
  94 IF(J).EQ.
    IF (NLFTAR) 930, 93, 940
    MORE FIXES ON TGTFILE
  930 J = 0
  931 ITP = IGTFILE(1)
  932 J = J + 1
  933 CALL RDGRD
  934 DCCODE(8,933, 170RD) IFW(J), ITIME(J)
  935 FORMAT(A3, A5)
  IF (J.GE. NLFTAR) GO TO 934
  IF (J - 30) 931, 936, 936
  934 I = (ITGT - 1)GT 935, 936, 935
  935 IFW(31) = 2M
  936 LAST = J
  NLFTAR = NLFTAR - J
  GO TO 99
  C READ EXCESS WPS FIXED ON DEFENDED TGT
  93 IFIXBEG = 1, IFIXEND = 0
  98 DCCODE(62,88,ISTORE(1)) (IF(J), ITIME(J), J=IFIXBEG, IFIXEND), IFW(31)
  98 FORMAT (61A3, A7, A2)
  LAST = IFIXEND
  IF (IFIXAPE.EQ. 0) 95, 96
  96 ITP = IFTAPE 5 CALL RDARRAY(IFIXTEMP, 10)
  DCCODE(74,360,IFIXTEMP) IS(1), IS(2), (ISTORE(J), J=1,8)
  GO TO 67
  65 READ(18CD,360) IS(1), IS(2), (ISTORE(J), J=1,6)
  360 FORMAT(8A2,8A8)
  67 IFTGT = NUGET(15(1), 10)
  IS(2) = INDEX2
  IF ((IFW(31).EQ.2M ).OR.(IFIXEND.GE.30)) 99, 61
  61 IFIXBEG = IFIXEND + 1 5 IFIXEND = IFIXEND + 6
  GO TO 98
  99 NTEMP = 0
  DO 90 J = 1, LAST
  IFW(J) = NUGET(IFW(J), 3)
  IF (IFW(J).EQ.0) 90, 95
  NTEMP = NTEMP + 1
  ITEMP = ITEMP + 1
  ITEMP = ITEMP + IFW(J)
  90 CONTINUE
  GO TO 97
  75 DO 74 J=1,8
  IF (NOREP(J).EQ.0) 74, 75
  73 NO=NO+1
  NO=NO+1

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IF(NEXT)=J
  KHR(INEXT)=NCRP(J)
  K = ITPF(J)
  KK = IPAY(J)
  AN = NCRP(J)
  NCRJ = NCRJ + (NHD(KK)*NDEC(KK))*SBL(J) *CCREL(IREG(J))
  1 * REL(K) * AN * (1.00 - MADPX)
74 CONTINUE
84 CONTINUE
  MP = 1
  C CHOOSE HIGHEST RATE OF RETURN FOR MISSILES
  DO 110 I=1,NZ
    K = ITPF(I)
    IF (ICLASS(K).EQ.1.AND. INACTIVE(I).NE.100) 100,110
  100 IF(NZ.EG.0)101,102
  101 NZ=NZ+1
  102 CALL PREMIUMS(I)
    KK = IPAY(I)
    RATE(I)=(1.9*VTC*(NHD(KK)*NDEC(KK))/(MISDEF * PKTX * 2.)
    +PREMIUM(I) ) / LAM(I)
    IF(RATE(I).GE.RATE(MM))105,110
  105 MP=I
    RATE=RATE(MM)
  110 CONTINUE
  120 CALL PNTALL(19)
    IF (NCRJ .GE. MISDEF) 600, 400
  C *****
  C SATURATION ALLOCATION
  400 NCRP(MV)=NCRP(MV)+1
    IF (NCRGUP(MM) 410, 420
  410 NM = NCR + 1
    NCRGUP(MM) = NCRGUP(MM) + 1
  420 SURPWP(MM) = SURPWP(MM) - 1
    K = ITPF(MM)
    KK = IPAY(MM)
    NCRJ = NCRJ + (NHD(KK)*NDEC(KK)) * SBL(MM) * CCREL(IREG(MM))
    1 * REL(ITYPE(MM)) * (1.00 - RADPX)
  C CALL PREMIUMS(MM)
  CCOST = CCOST + LAM(MM)
  500 MAXT = NCRP(MM) * PAGMAX
    (NCRP(MM) .GT. MAXT .AND. PROGRESS .LE. 1.01) 505, 506
  505 RATE(MV) = -10000.
  60 TO 507
  506 RATE(MM) = (.5 * VRAB * (NHD(KK) + NDEC(KK)) / (MISDEF * PKTX *
  + 2.)) + PREMIUM(MM) / LAM(MM)
  507 DO 502 I=1,NZ
    K = ITPF(I)
    IF (ICLASS(K) .EQ. 1 .AND. INACTIVE(I) .NE. 100) 504, 502
  504 IF(RATE(I) .GT. RATE(MM)) 503, 502
  503 MP = I
  502 CONTINUE
  511 IF (NCRJ .GE. MISDEF .OR. RATE(MM) .LE. -9000.16001400
  C POST SATURATION MISSILE ALLOCATION*****

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600 CALL RESVAL
  VMIN = VTC - VTDA
  VMAX = VTDA
  COSMIN = CCOST
  CALCULATE PAYOFF FOR ONE ADDITIONAL MISSILE
C 900 VTI = VRAM
  MPENZ
  DC 950 I=1,NG
  K = I*TYPE(I)
  IF (ICLASS(K) .EQ. 1 .AND. INACTIVE(I) .NE. 100) 910, 950
910 NREP(I) = NREP(I) + 1
  NAXT = NREP(I) * FROMAX
  IF (NREP(I) .GT. NAXT .AND. PROGRESS .LE. 1.01) 960, 970
960 RATE(I) = -10000.
  GO TO 940
970 CALL RESVAL
  CALL PREMIUMS(I)
  RATE(I) = (VTI - VTDA * PREMIUM(I)) / LAM(I)
  IF RATE(I) .GE. RATE(NM) 920, 940
920 NM = I
  VHAM = VTUX
940 NREP(I) = NREP(I) - 1
950 CONTINUE
  RATE = RATE(NM)
  CALL PHATALL(27)
  IF RATE .GT. 1.1200, 1050
1050 IF (1 VTC - VTI) / VTC .GE. MINIKILL/2000, 1200
C ALLOCATE NEW WEAPON
1200 IF (400 .GE. 30 .AND. NEWGROUP(NM)) 2000, 1210
1210 NREP(NM) = NREP(NM) + 1
  IF (NEWGROUP(NM)) 1220, 1230
1220 NG = NG + 1
  NEWGROUP(NM) = 0
1230 SURPAP(NM) = SURPAP(NM) - 1
  CCOST = CCOST + LAM(NM)
  CPAYOFF = VTC - VHAM
  IF RATE(NM) + 4000. 1240, 900, 900
1240 PRINT 1250, ITGT
1250 FORMAT(1% ON TARGET *15, * MINIKILL REQUIRES TOO MANY WEAPONS*)
C ALLOCATION BOOKKEEPING
C TEST IF STILL PROFIT EXCEEDS THAT OF DEFALOC, IF SO RETURN
C FIRST COMPUTE DEFALOC PROFIT, MAX OF 30 WEAPONS
2000 CALL RESVAL
  CPAYOFF = VTC - VTUX
  CPROFIT = CPAYOFF - CCOST
C
C CHECK MINIKILL CONSTRAINT FIRST
  INADEIT = 0
  IF (VTDA - GOML) 2100, 2100, 2200
2100 INADEIT = 1
2200 IF ((INADEIT .EQ. 1) .AND. (ALPHA.EU.O.C)) 3000, 2300
2300 IF ((INADEIT .EQ. 0) .AND. (ALPHA.NE. 0.C)) 4000, 2400
2400 IF (CPROFIT .GT. PROFIT) 3000, 4000
C DEFALOC ALLOCATION

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3000 NELN = -MISDEF
      ALPHA = IMAXDEF
      NASV = NEXT
      UC 3300 I=I+NEXT
      IG(I)=IFM(I)
      DELVT(I) = VTG
3300 NCEP(IG(I))=NCEP(IG(I))+KORH(I)
      UC 3100 J=I+NG
      IF (NCEP(J) .GT. 0) J200, 3100
3200 NEXT = NEXT + 1
      IG(NEXT) = J
      KORH(NEXT) = -NCEP(J)
3100 CONTINUE
      RESTORE FIXED #EAPONS
      UC 3400 I = 1, NASV
      J = IG(I)
3400 NCEP(J) = NCEP(J) - KORH(I)
      NASV = NASV + 1
      NUM = NEXT
      PROFIT = CPROFIT
      PAYOFF = CPAYOFF
      CCST = CCST
      VT = VTGX
      UC 3500 JJ = NASV, NUM
      J = IG(JJ)
      NCEP(J) = NCEP(J) + KORH(JJ)
      CALL RESVAL
      NCEP(J) = NCEP(J) - KORH(JJ)
      DELVT(JJ) = VTGA - VT
3500 CONTINUE
      GO TO 5025
C      RESTORE STALL ALLOCATION
4000 UC 4100 J = 1, NG
      IF (NCEP(J) .GT. 0) J200, 4100
4200 SURP(J) = SURP(J) + NCEP(J)
4100 CONTINUE
      NELN = MISDEF
C      SET VARIABLES FOR NO ALLOCATION IF STALL NOT CALLED
      IF (IFXFLAG) 4400, 4400, 4500
4400 NUM = 0
      PROFIT = 0
      CCST = 0
      PAYOFF = 0
      ICP = 0
      GO TO 5025
C      RESTORE STALL VARIABLES
4500 CONTINUE
      UC 4300 J = 1, NUM
      IGRUP = IG(J)
4300 SURP(IGRUP) = SURP(J) + SURP(J) - 1
5025 CALL PRNTALL(10)
      RETURN
      END

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S-ITS DEFALOC

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ED 0

PAGE NO.

10

IGENT DEFALOC

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

DEFALOC
J2412
J0473
J0024
J4231
J0022
J1440
J1560
J0027
14726
J0015
J0012
J0015
J0304
J0620
J0314
J0020
J0014
J0010
J0001
J0001
J0001
J0001
J0003
J0022
J0410

EXTERNAL SYMBOLS

Q3010040
Q1010100
Q1002100
TEND.
Q3000040
Q1003100
Q000101.
WARRAY
R00000
R00000
NUNGET
PHEMIUMS
PANTALL
RESVAL
XMINUF
TSM.
DEC.
STM.
QINSINCL.

SATS DEFALOC

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ED

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PAGE NO.

11

CU0360 ALERTOLY
CU0012 ALCCGRP
CU0001 ALCCIT
CU0006 ALCCIT2
CU0006 ALCCIT2
CU0017 ALPHA
CU0002 BASFILE
PU0311 BEGIN.
CU0000 CC
PU0251 CCST
CU0000 CCREL
CU0120 CEP
CU0001 CLOSE
CU0004 CNTRYLOC
PU0210 CNVRT1.
CU0010 CORR
CU0013 CORR2
PU0252 COSMIN
CU0005 COST
PU0253 COUNT.
PU0254 CPAYOFF
PU0255 CPROFIT
PU0324 CRFMT.
CU0037 CTMULT
CU0007 CTSPILL
XCU021 DEC.
PU0073 DEFALOC
CU0007 DELTVAL
CU0010 DELVT
CU0002 DESIG
PU0301 UIC1.
CU0034 U1STUF
CU0035 U1STUG
CU0000 DNARMAY
CU0006 DPMN
CU0130 UPREMIUM
CU0047 UPROFIT
CU0004 DARMN
PU0214 ENDING.
CU0010 EVENTAPE
PU0000 EXIT.
CU0720 EXPASM
CU0020 FACWIRV
CU0005 FLAG
PU0324 FORMAT.
PU0323 FPGMAX
CU0021 FVAL
PU0300 GGOJOCG.

00323

00064

02313

00033

02027

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CU0046	PROFIT	02075	02075	02174	02175	02266			
CU0003	PROGRESS	00517	00517	01570	01570	01720			
CU0011	PRX	00542	00544	00544	00545	00546			
CU0000	PVRMX								
CU0003	PX	00542	00545	00546					
XU0003	Q1002100	00657	02245						
XU0006	Q1003100	01474	01651						
XU0002	Q1010100	00527	00540	01563	01713				
XU0005	Q3000000	01046	01503	02003	02011				
XU0001	Q3010000	00506	01511	02017					
XU0007	Q3010000	00000	00474						
XU0007	Q3010000	02307							
XU0002	QNSINGL								
CU0004	QUALITY	01400	01401	01544	01544				
CU0013	RADPX								
CU0000	RANGE								
CU0020	RANGEDEC								
CU1060	RANGEREFF								
PU0003	RATE	01454	01455	01461	01574	01636	01637	01655	01724
		01756	02032	01461	01462	01756	01757	01765	01740
		00550	00550						01741
CU0011	RAIM	01214							
XU0012	RDARMAY	01120							
XU0011	RDWCHD								
CU0010	REFTIME								
CU1000	REL	01375	01376	01541	01542				
XU0016	RESVAL	01657	01726	02045	02215				
CU2571	RISK								
CU0151	RVAL								
CU0007	RX	00526	00526	00537	00537				
CU0116	SAVEFIX	01047							
CU2260	SBL	01371	01372	01535	01536				
CU0040	SPEED								
CU7331	SS16								
CU0000	STALADJ								
CU1016	STARMAY								
XU0022	STH								
CU0011	STIME	00765	01007	02036					
CU1005	STR2X								
CU1365	STRX								

DATE	REFALOC	11/29/71	ED	0	PAGE NO.	19
CU0014	STRKFL	00622	00623	00624	00625	00626
CU0010	SUMPWF	01043	01043	01045	01045	01045
		02024	02244	02244	02247	02300
CU0017	SX					
CU0032	TARDEF					
CU0021	TARFAC					
CU0003	TASK	00563	00564			
CU0024	TAU					
CU0000	TGFILE	01113	01114			
CU0007	TGFLAT					
CU0010	TGILCAG					
CU0006	TGIMULT					
CU0000	TGNAME	00772	00772	01014	01014	
CU0011	TGTRAC					
CU0041	TGTWT					
XU0004	TEND.	00776	01020	01133	01203	02043
CU0050	TIME					
CU0014	TINTFAC					
CU0010	TPALOC					
CU0011	TGA					
CU0045	TCARR					
CU0013	TCAX					
CU0012	TPM					
PU0011	TS000C1.	00502				
PU0077	TS000C2.	00571				
PU0027	TS000C3.	00615				
PU0077	TS000C4.	00647				
PU0074	TS000C5.	00705				
PU0070	TS000C6.	00747				
PU0177	TS00010.	01170				
PU0130	TS00013.	01303				
PU0106	TS00014.	01334				
PU0104	TS00015.	01410				
PU0145	TS00016.	01624				
PU0173	TS00017.	01672				
PU0133	TS00020.	02111				
PU0154	TS00021.	02136				
PU0210	TS00022.	02156				
PU0230	TS00023.	02205				
PU0251	TS00024.	02236				
PU0202	TS00025.	02270				
XU0020	TSH.	01242				
CU0021	TVALTCA					
CU0000	TWRD					
PU0205	VMIN	01663				
CU0016	VC					
PU0206	VRAB	00557	01605	01746	01761	02031
PU0207	VRAM	01665	02202	02224	02225	
CU0040	VT	01670	01733	01772		
PU0210	VT1					
CU0151	VTU	01662	01664	01664	01664	
CU0000	VTDX	02054	02201	02202	02224	

5.4.15	DEFALOC				11/23/71	ED	0	PAGE NO.	21
CGU020	VTEF								
CGU010	VIMBA								
CGU015	VIMIN								
CGU012	VTC								
CGU131	VICA								
CGU000	VTP								
CGU021	VTC								
CGU002	MADOP								
CGU310	MLAT								
CGU020	MLONG								
CGU000	MPATGT								
AGU010	MARWAY								
CGU050	RTTEST								
PGU505	MS000C1								
PGU574	MS000C2								
PGU620	MS000C3								
PGU550	MS000C4								
PGU710	MS000C5								
PGU750	MS000C6								
PGU105	MS000C7								
PGU171	MS000C10								
PGU230	MS000C11								
PGU252	MS000C12								
PGU306	MS000C13								
PGU337	MS000C14								
PGU411	MS000C15								
PGU627	MS000C16								
PGU173	MS000C17								
PGU211	MS000C20								
PGU241	MS000C21								
PGU261	MS000C22								
PGU206	MS000C23								
PGU244	MS000C24								
PGU273	MS000C25								
CGU300	XDEG								
AGU017	XMINOF								
CGU770	XUP								
PGU241	XU								
CGU300	YIELD								
	CGU747 SYMCLS								

11/29/71

FIN5.5

```

SUBROUTINE FLAGST
  FLAGST 1JUN71 *****
  C
  C THIS ROUTINE READS AND INTERPRETS THE
  C FLAG RESTRICTION INPUT CARD
  C
  C *****
  CUSE MASTER 1JUN71 *****
  C USED BY ALLOCATE, MULLON, PREMIUMS, STALL, MAG, MAGOUT, PUNTCOM,
  C RESVAL, AND DEFALOC
  C
  C *****
  CCOMMON/MASTER/IMDATE,IDENTNO,ISIDE,NRPT,NCSR,NOPEN,NRECOVER
  C1,NREF,NBURY,NREV,NTYPE,NHGROUP,INTOTBASE,NPAYLOAD,NASHIYTE,NMMDTYPE
  C2,NANKBAS,NCOMPLEX,NCLASS,NALENT,NTOTS,NCONTYPE,NCONTRY
  CEQUIVALENCE(NHGROUP,NG)(NALENT,NG)
  CMASTER *****
  CFLAGST 1JUN71 *****
  C
  CCOMMON / FLAGST/ FLAGOK(9,200)
  C
  C TYPE LOGICAL FLAGOK
  C
  CFLAGST *****
  C MACHINE 1JUN71 *****
  C
  CCOMMON /MACHINE/ IREAU, IWRIT, ICOMN, IPUNCH
  C
  C MACHINE *****
  C ICDLMPY 1JUN71 *****
  C
  C THIS BLOCK IS USED FOR INPUT BUFFER FOR THE USER INPUT PARAMETERS.
  C SINCE IT REDEFINES COMMON /MAGPN/, IT SHOULD NEVER BE USED IN
  C CONJUNCTION WITH COMMON /MAGPN/.
  C
  CCOMMON /MAGPN/ INPUT(10), NVARS, NAMES(40), INVALU(2,40),
  C1 INDEX1(40), INDEX2(40), INDEX3(40), MORE, MYNAME(100),
  C2 MYFOR(100), MYTYPE(100), MYVAL(100), FVAL(100),
  C3 MYGCTC(100), NDEFLT, FILLER(5560)
  C
  CEQUIVALENCE (MYVAL, FVAL)
  C
  C ICDLMPY *****
  C TYPE LOGICAL SET
  C
  C WRITE(IWRIT, 1)
  C1 FORPAT(1) USER INPUT PARAMETER CARDS FOR OPTION FLAGREST*)
  C
  C10 HEAD (IREAU, 11) MYGROUP, MYOPT, INPUT
  C11 FORPAT(A4, A6, 10A7)
  C12 WHITE(IWRIT, 12) MYGROUP, MYOPT, INPUT
  C13 FORPAT(1X, A4, A6, 10A7)
  C14 IF(MYGROUP - 3)END) 2, 1000, 20
  C INTERPRET CARD
  C20 MYGROUP = NUMGET(MYGROUP, 4)
  C15 IF(MYGROUP) 40, 40, 30
  C20 IF(MYGROUP - NHGROUP) 50, 50, 40
  C GROUP NUMBER IN ERROR
  C

```

```

40 WRITE(UNIT, 41) MYGROUP
41 FORMAT(10X,IS,** IS AN INVALID GROUP NUMBER. REQUEST IGNORED*)
GO TO 10 CHECK OPTION
C
50 KK = MYGROUP
SET = .FALSE.
IF(MYOPT = 0) SELECT 80, 60, 80
C
60 DO 70 I = 1, 9
SELECT OPTION
FLAGOK(I, KK) = .FALSE.
70 CONTINUE
SET = .TRUE.
C
80 ITEST = NUMGET (INPUT, 80)
90 II = AMCDF(ITEST, 10)
ITEST = ITEST / 10
IF(II) 110, 110, 100
100 FLAGOK(II, KK) = SET
110 IF(ITEST) 10, 10, 50
C
1000 WRITE(UNIT, 1001)
1001 FORMAT(//50X,* FLAG RESTRICTIONS** THE FOLLOWING GROUPS ARE REST
RICTED TO THE FOLLOWING FLAGS (REGIONS). (IF A GROUP DOES NOT AP
PEAR, IT IS UNRESTRICTED.)*
WRITE (UNIT, 1002) (I, I = 1, 9)
1002 FORMAT(11X,*FLAG50/49A,913/44X,*GROUP*)
DO 1030 I = 1, NRGROUP
KKK = I
DC 1010 J = 1, 9
IF (FLAGOK(J, KKK)) 1010, 1020
1010 CONTINUE
GO TO 1030
1020 WRITE(UNIT, 1021) I, (FLAGOK(J, KKK), J = 1, 9)
1021 FORMAT(43X,15,1X,9(2X,11))
1030 CONTINUE
RETURN
END

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IDENT

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

FLAGST
MASTER
FLAGST
MACHINE
MAURPN

EXTERNAL SYMBOLS

THEND.
Q3Q1U04C
Q3R0U04C
QYWEVALL
Q8W0ICT.
NUMGET
XPCDF
TSM.
SIM.
Q8Q0UT4
SLC.
SLI.
QNSINGL.

POINTS	FLAGST	11/29/71	ED	0	PAGE NO.	4
P00460	LOGIN.	00461				
P00400	CMVRI.	00146				
P00003	CREMT.	00141				
P00001	DICT.	00130				
P00462	ENDING.	00221				
P00000	EXIT.	00131				
C01361	FILLER	00463				
P00000	FLAGGR	00242				
P00126	FLAGST	00176				
P00003	FORMAT.	00231				
C01050	FVAL					
P00141	GG00000.	00150				
P00160	GG00001.	00160				
P00176	GG00002.	00135				
P00222	GG00003.	00250				
P00304	GG00004.	00375				
P00323	GG00005.					
P00371	GG00006.					
P00470	I	00312				
C00002	ICOM	00316				
C00001	IDENTIC					
C00000	IMDATE	00404				
P00401	IN00001.	00435				
P00402	IN00002.	00355				
P00403	IN00003.					
C00203	INDEX1					
C00253	INDEX2					
C00423	INDEX3					
P00460	INITIAL.	00173				
C00000	INPUT	00155				
C00003	INWALL					
C00003	IPUNCH	00141				
C00000	IREAD	00257				
C00002	ISTOE	00252				
P00471	IT	00132				
P00472	ITEST	00344				
C00001	ITERIT	00222				
P00141	.10	00273				
P00265	.100					
P00275	.1000	00177				
P00340	.1010	00437				
P00344	.1020	00337				
P00371	.1030	00343				
P00272	.110	00254				
P00201	.20	00200				
P00206	.30					
P00211	.40	00205				
P00223	.50	00210				
P00234	.60	00232				
P00243	.70					
P00247	.80	00232				
P00253	.90	00274				
		00150				
		00176				
		00140				
		00256				
		00460				
		00336				
		00357				
		00271				
		00231				
		00166				
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		00222				
		00144				
		00300				
		00217				
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		00371				
		00411				
		00324				
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		00426				
		00456				
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		00263				
		00160				
		00272				
		00211				
		00275				
		00304				
		00344				

DATA FLAGS:

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P00003 ..1 C0136
P00031 ..100000 C0177
P00045 ..100001 C0231
P00047 ..1001 C0301
P00101 ..1002 C0310
P00115 ..1021 C0350
P00015 ..11 C0145
P00022 ..12 C0164
P00032 ..41 C0215
P00063 ..Z00001. C0360
P00473 J C0332
P00474 KK C0224
P00475 KKK C0330
C00373 KORE
C00540 MYFCHV
C01214 MYGIC
P00476 MYGROLP
C00374 MYNAME
P00477 MYOPT
C00704 MYTYPE
C01050 PYVAL
C00023 NALERT
C00013 NAMES
C00016 NASMYPE
C00010 NENDRY
C00022 NCLASS
C00028 NCNTRY
C00021 NCOMPLEX
C00004 NCCORR
C00025 NCCRTYPE
C01360 NDEFLT
C00005 NOPEN
C00013 NG
C00014 NGROUP
C00023 NOTHER
C00015 NPAYLOAD
C00006 NRECOVER
C00007 NREF
C00011 NREG
C00003 NRIPT
C00020 NTANKBAS
C00024 NTGTS
C00014 NTOTBASE
C00012 NTYPE
X00000 NUMGET
C00012 NVARS
C00017 NMMIYPE
P00004 P00000.0
P00010 P0001.0
X00003 03000040
X00002 03010040
X00005 0800101.
X00012 0800104
X00004 09000000

00340 00353 00364 00423

00441
00452

00216 00223

00176 00203 00204 00206

00165 00167 00231

00373 00373

00207 00207

00201 00247

00406 00420

00270

00335 00441 00127

5.4TS FLAGHST

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XU0015 QNSTINGL.	U0377					
P00370 SET	U0250	U0266				
XU0014 SLI.	U0153					
XU0013 SLC.	U0171					
XU0011 STM.	U0134					
XU0001 THEND.	U0137	U0306	U0346			
P00373 TS000C3.	U0326	U0174	U0321	00367		
XU0010 TSH.	U0143					
P00410 UP000C0.	U0236					
P00422 UP000C1.	U0333					
P00431 UP000C2.	U0260					
P00440 UP000C3.	U0225					
P00451 UP000C4.	U0331					
P00460 W5000C1.	U0243					
P00314 W5000C2.	U0320					
P00327 W5000C3.	U0374					
P00334 W5000C4.	U0342					
P00355 W5000C5.	U0366					
XU0007 XMCDF	U0255					
U0175 SYMBCLS						
	U0312	U0317	U0372	U0404	00411	00412
	U0341	U0354	U0416	U0423	00424	00425
	U0432	U0433	U0436	U0436		
	U0441	U0442	U0443	U0447		
	U0452	U0453	U0454	U0456		
					00413	00415
					00427	00427
	U0374					

```

FUNCTION FMUP(S)
  CSUMK      FMUP      1JUN71
  CUSE      WADARN      1JUN71
  C          *****
  C          USED BY MULCON, PREMIUMS, MAD, MADOUT, PHNTNG, RESVAL, DEFALCC,
  C          STALL, FMUP, SUMTSH, TABLEUP, ROADCRU
  C          *****
  C          COMMON /WADARN/ JGT, INACTIVE(200), TCA(200),
  C          1 TVALTCA(200), VTCA(200), MUP(200), MISC(6,200),
  C          2 SSIG(200), MINKILL, MAXKILL, MAXCOST, ILAW,
  C          3 MISDEF, MORH(200), PER(200), MUP(200), JGT, INEXT,
  C          4 MINKILX, MAXKILX, MAXCST, MISDEX, NACTV, IUX(200), ICAR(200),
  C          5 MORRX(200), PERX(200), STRX(200), STRX(200), LSTMAX
  C          *****
  C          TYPE REAL MUP, MINKILL, MAXKILL, MAXCOST
  C          TYPE REAL MINKILX, MAXKILX, MAXCSTX
  C          *****
  C          DIMENSION STARHAY(160), ISTARAY(160)
  C          EQUIVALENCE (STARHAY, ISTARAY, JGT4)
  C          *****
  C          DATA (LSTMAX = 1607)
  C          *****
  C          WADARN *****
  C          IF (ILAW .GT. 0) C, I
  C          POWER LA=
  C          1 FMUP = EXPF(-S)
  C          RETURN
  C          *****
  C          SQUARE ROOT LA=
  C          2 SS = SORTF(S)
  C          FMUP = EXPF(-SS) * (1. + SS)
  C          RETURN
  C          END

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FMUP

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

FMUP

W400PN

EXTERNAL SYMBOLS

IDENT

J0072

J0003

14726

FMUP

11/29/71

ED

0

PAGE NO.

2

P0030 REGIN.
 P0031 DICT.
 P0032 ENDING.
 P0033 EXIT.
 P0034 EXP.
 P0035 FUP
 P0036 F00001.
 P0037 F00002.
 P0038 GETPL.
 P0039 GETPL.
 P0040 IGK
 P0041 ILA.
 P0042 INACTIVE
 P0043 INITIAL.
 P0044 ISTARAY
 P0045 .1
 P0046 .2
 P0047 .ERASEM.
 P0048 JTG
 P0049 JTG
 P0050 LNEXT
 P0051 LSTMAX
 P0052 MACOST
 P0053 MACOSX
 P0054 MAXKILL
 P0055 MAXKILL
 P0056 MINKILL
 P0057 MISDEF
 P0058 MISDEX
 P0059 WGR
 P0060 WGRX
 P0061 PUP
 P0062 NACTV
 P0063 PEX
 P0064 PEX
 P0065 PFOJ02.
 P0066 WADDICT.
 P0067 RISK
 P0068 S
 P0069 SORTF
 P0070 SS
 P0071 SSI
 P0072 STAHAY
 P0073 STK2X
 P0074 STK
 P0075 TGA
 P0076 TGA
 P0077 TVALICA
 P0078 VALUE.
 P0079 VTCA
 P0080 XUP
 P0081 SYBOLS

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DATA FORMATS

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES
EXTERNAL SYMBOLS

FORMATS

FORMATS

FORMATS

QUADJECT.

IDENT

FORMATS

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ED 0

PAGE NO.

2

DATA FORMATS

PAGE NO. 3

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ED 3

P00003 BEGIN.
P00102 BEGIN.
P00001 UICF.
P00103 ENGNG.
P00000 EXIT.
P00004 FORMAT.
P00013 FORMATS.
P00003 INABS.
P00002 INITIAL.
P00000 INWCHC.
P00112 IZ.
P00055 .10.
P00022 .1.
P00060 .11.
P00063 .12.
P00066 .13.
P00071 .14.
P00074 .15.
P00077 .16.
P00025 .2.
P00030 .3.
P00032 .4.
P00036 .5.
P00041 .6.
P00044 .7.
P00047 .8.
P00052 .9.
P00004 .10000.
P00005 .10001.
P00006 .10002.
P00007 .10003.
P00010 .10004.
P00011 .10005.
P00012 .10006.
P00001 NFORMAT.
P00001 NFORMAT.
X00001 WRODICT.
C00000 WRODIN.
00000 SYMBCLS

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SUBROUTINE GETDATA
  CUSUB
  C GETDATA 1000071 *****
  C
  C THIS ROUTINE PREPARES THE STATIC DATA WORK FILES (I.E. THE WEAPON-
  C TARGET INTERACTION FILES) FOR PROGRAM ALLOC.
  C
  C MASTER 100071 *****
  C USED BY ALLOCATE, MULCON, PREMIUMS, STALL, AD, MADOUT, PRNTNOM,
  C RESVAL, AND DEFALOC
  C
  C COMMON/MASTER/INDATE,INDENTING,ISIDE,INKPT,NCORR,NDPEN,NRECOVER
  C 1,NREF,NBNDY,NREG,NTYPE,NGROUP,NTOTBASE,NPAYLOAD,NASHTYPE,NMDTYPE
  C 2,TANKBAS,NCOMPLEX,NCCLASS,NALETT,NTJTS,NCORRTYPE,NCNTRY
  C EQUIVALENCE (GROUPING) (NALETT,NOTHER)
  C
  C MASTER *****
  C TAPES 100071 *****
  C COMMON/FILES/TOTFILE(2),BASEFILE(2),MSLTIME(2),ALOCSTAR(2),
  C 1 TPAALOC(2),ALOCGRP(2),STAKFIL(2),EVENTAPE, PLANTAPE
  C
  C TYPE INTEGER TOTFILE, BASEFILE, ALOCSTAR, TPAALOC,
  C 1 ALOCGRP, STAKFIL, EVENTAPE, PLANTAPE, ALOCST2
  C
  C COMMON/FILABEL/ INDEXT, INHUNNO, INDATE, INFCRM,
  C 1 INSECR, INTIME, INLENGTH, INCOMH(5)
  C
  C COMMON/MYLABEL/ MYEGR-T, MYSECR, MYLENGTH, MYCOMM(5)
  C COMMON/ITP/ZIP
  C COMMON/IDENT/ MYIDENT
  C COMMON/ACPRINT/ ACPRINT
  C COMMON/ACR/114ORD
  C EQUIVALENCE (IACORD, IACORD)
  C
  C COMMON/LOCFIL/ACNTTOT,ALOCFIL,IMPMSL
  C
  C TYPE INTEGER ACNTTOT, ALOCST1, ALOCST2
  C
  C DATA (ALOCST1 = -3), (IMPMSL = 1)
  C
  C EQUIVALENCE (ALOCST2, ALOCSTAR(1))
  C
  C TAPES *****
  C MASTER 100071 *****
  C USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNOM, RESVAL, DEFALOC
  C
  C COMMON/MPAREG/ACREL(2)
  C DIMENSION CC(24)
  C EQUIVALENCE (CCREL(1),CC(1))
  C MASTER *****
  C MASTER 100071 *****
  C USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNOM, RESVAL, DEFALOC
  C
  C COMMON/MPATYPE/HANDE(80),CEP(80),SPEED(80),ALERTJULY(80)
  C 1,ALERTJULY(80),HANGEDE(80),ICLASS(80),HANGEDEF(80),REL(80)
  C 2,IECODE(80), IPECODE(80)
  C TYPE REAL ALERTJULY
  C MASTER *****
  C

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CUSE
C
      PAYLOAD      LUN71 *****
      USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNOM, RESVAL, DEFALOC
      COMMON/PAYLOAD/NCORMB(140),LMD(140),NCORMB2(40),LMD2(40)
      1,NAS(40),IAS(140),RC(140),NDECCYS(140),NADECCYS(40),LIRV(40)
      EQUIVALENCE (P,PAYLOAD),(NCM(1),XDEG (1)),
      PNDCCYS(1),NDECC(1)),(NADECCYS(1),
      NDECC(1)),(NCORMB(1),NMD(1))
      DIMENSION XDEG(40),NDECC(40),NADECC(40),NMD(40)
      PAYLOAD *****
      WNGRP      LUN71 *****
      USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNOM, RESVAL, DEFALOC
      STALL
      C
      COMMON/WNGRP/WNPS(200),PLAT(200),LORG(200),
      JHEG(200),ITYPE(200),TALENT(200),SBL(200),IREFUEL(200),YIELD(200)
      2,REFINE(200),EXPASM(200),WGROUP
      EQUIVALENCE(IREFUEL,ITAY)
      DIMENSION IPAY(200)
      DIMENSION ITHM(200)
      EQUIVALENCE (OTHER,PLERT)
      EQUIVALENCE (WGT,PGROUP)
      WNGRP *****
      PLANTYPE      LUN71 *****
      C
      COMMON / PLANTYPE/ INJSTMK, CORMSL, CORBOMB
      C
      PLANTYPE *****
      REF      LUN71 *****
      COMMON /REF/ RPLAT(20), RPLONG(20)
      REF *****
      CORCHAM      LUN71 *****
      C
      COMMON /CORCHAM/ PCLT(30), MCLONG(30), PCZONE(30), RPLAT(30),
      1 RPLONG(30), ENTLAT(30), ENTLONG(30), CRLENGTM(30),
      2 KORSTYLE(30), ATT-CORH(30), ATRSUBP(30), HILGATTM(30),
      3 DEFRANGE(30), NPKORDEF(30), DEFUIST(30*3), ATTIPRC(30*3),
      4 NDATA: LMAX
      C
      DIMENSION COSCUM(30), CORLEN(30), IDEFDIST(30),
      1 DISTAD(30), DISTBC(30)
      C
      EQUIVALENCE (IDEFDIST, PCZONE),
      1 (COSCUM, DEFRANGE), (CORLEN, NPKORDEF), (DISTAD, KORSTYLE),
      2 (CRLENGTM, DISTBC)
      C
      TYPE INTEGER PCZONE
      C
      DATA (NDATA = 3), (LMAX = 3)
      C
      CORCHAM *****
      DYNAMIC      LUN71 *****
      USED BY MULCON, PREMIUMS, STALL, WGT, WGROUP, PRNTNOM, RESVAL,
      DEFALOC, AND PRNTCON
      C
      COMMON/DYNAMIC/IGTNAME,INDEXNO,DESIG,TASK,CNTYLOC,FLAG,IGTMULT,

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1 TOTLAT,IGTLONG,IGTRAD,VTC,MUM(2),VC(2),MK,FVAL(3),TAUL(3),IMCLASS,
2 ICLAS,INHTYPE,TARDEF,INDPEN,DISTDF,UTSTDG,BLN,CTMULT,VT,
3 TST,I(3),PAYOFF,COST,PRGFI,OPHCFIT,PRTEST,HEGT,NUMFIX,
4 ITGI,MUP,IG(30),KRM(30),HVAL(30),PEN(30),ICARR(30),LDN
C
TYPE INTEGER TGTNAME,DESIG,TASK,CNTRYLOC,FLAG,TARDEF
C
EQUIVALENCE (DYNAMRAY,IGTNAME)
C
DATA(LDN = 45)
C
DIMENSION VTD(30)
EQUIVALENCE(VTD, RVAL)
C
DYNAMIC *****
MAD*PN LJUN71 *****
C
USED BY MULCON, PREMIUMS, MAD, MADOUT, PRNTNG, RESVAL, DEFALOC,
C
STALL, FMUP, SURTPSH, TABLEMUP, ROADCRD
C
COMMON /MAD*PN/ JGT, INACTIVE(200), TCA(200),
1 FVALTCA(200), VTC(200,2), MUP(200,2), RISK(6,200,2),
2 SSIG(200,2), MINKILL, MAKILL, MAXCOST, ILAW,
3 MISDEF, MGRN(200), PEX(200), MUP(200,2), JGTIX, LNEXT,
4 MINKIL, MAKILX, MACOSX, MISDEX, NACTY, IGX(200), TCA(200),
5 MGRX(200), PEX(200), STRX(200,2), STRX(200,2), LSTMAX
C
TYPE REAL MUP, MINKILL, MAKILL, MAXCOST
TYPE REAL MINKILX, MAKILX, MACOSX
C
DIMENSION STANRAY(160), ISTANAY(1607)
EQUIVALENCE (STANRAY, ISTANAY, JGTIX)
C
DATA (LSTMAX = 1607)
C
MAD*PN *****
CONTROL LJUN71 *****
USED BY MULCON, PREMIUMS, STALL, MAD, MADOUT, PRNTNG, DEFALOC,
C
AND PRNTCON
C
COMMON/CONTROL/STALADJ,CLOSE,MADOP,PROGRESS,QUALITY,NPASS,PRM,DELT
1VAL,CORR,STIME,LIVERIFT,CORR2,IMATCH
1,MINDAMAG,LA(2),FAMIRV,TARFAC
TYPE INTEGER MADOP
TYPE REAL MINDAMAG
C
CONTROL *****
FLAGST LJUN71 *****
COMMON / FLAGST/ FLAGOK(9,200)
C
TYPE LOGICAL FLAGOK
C
FLAGST *****
CTHYCO LJUN71 *****
COMMON/CTHYCO/CTHYCD(150)

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TYPE REAL MINMLZ, MAXMLZ, MAXCOSZ
TYPE INTEGER DESIGZ, MASKZ, CNTRYLCZ, FLAGZ, YGTNAMZ
DIMENSION INALOC(95), NALOC(95)
EQUIVALENCE (INALOC, (GINAMZ), (NALOC, YGTNAME))
DATA (LTG = 95)
FOR DEFINITIONS OF YGTNAMZ THROUGH DISTDZ, SEE COMMON /DYNAMIC/
IN SUBROUTINE MULCON.
DISTD (MCONH) DISTANCE FROM CORRIDOR ORIGIN TO TARGET
ATTDZ (MCONH) ATTRITION FROM CORRIDOR ORIGIN TO TARGET
NFIEZ NUMBER OF FIXED ASSIGNMENTS THIS TARGET ON IGFIL
LTG LENGTH OF TARGET INPUT ARRAY FROM IGFIL
***** LOCAL VARIABLES FOR SUBROUTINE GETDATA *****
DIMENSION ATTRAD(30), CROSSDST(30), ATTR(4), RATE(4), DISTT(4)
1, DPLAT(30), UPLONG(30), LATIPRG(30)
EQUIVALENCE (DPLAT, PLAT), (UPLONG, POLONG)
DIMENSION LASTGT(10)
DATA (IBOMBER = 2), (MTIMES9 = 3), (MTIMESW = 5), (NWUSCT = 32),
1 (NSLTHRAK=32), (LUNDISK=48), (NAMDIRC=8), (DC5162)
TYPE INTEGER A
EQUIVALENCE (NWESIG, VESIG), (JCNTRY, CNTRYLOC)
ATTRAD (MCONH) SUM OF PHECORRIDOR AND CORRIDOR ATTRITION
CROSSDST (MCONH) PERPENDICULAR DISTANCE FROM CORRIDOR AXIS TO 1ST
ATTR TEMPORARY STORAGE - ATTRITION
RATE TEMPORARY STORAGE - MODIFIED ATTRITION
DIST CORRIDOR ORIGIN LATITUDE
UPLAT CORRIDOR ORIGIN LONGITUDE
DPLONG CORRIDOR ORIGIN LONGITUDE
IBOMBER CLASS CODE FOR BOMBER CLASS
MTIMESK MAXIMUM NUMBER OF READ ATTEMPTS TO CORRECT ERROR
MTIMESW MAXIMUM NUMBER OF WRITE ATTEMPTS TO CORRECT ERROR
NWUSCT NUMBER OF WORDS PER SECTOR ON DISK
NSLTHRAK NUMBER OF SECTIONS PER TRACK ON THE DISK
LUNDISK LOGICAL UNIT NUMBER FOR DISK
NAMDIRC ACTIVE FILE DIRECTORY NAME
G, A ITERATION INDEXES
FIRST POSITIVE FOR FIRST TARGET ON STATIC FILE
NCONAM LOGICAL FILE NAME FOR CURRENT STATIC FILE
NCWUSE INTERNAL NUMBER OF STATIC FILE CURRENTLY IN USE
NCWAT NUMBER OF WORDS WRITTEN ON CURRENT STATIC FILE
LCONGW SECTOR ADDRESS OF LAST GOOD I/O OPERATION G - DISK
***** OPTIONAL FILEHANDLER COMMONS *****
COMMON /INTFILE/ INTUNIT, LINTF, NCWALOC, MYITP(10)
COMMON /DC5162/ LENLIST, NCWACTIV, LFNAME(30), NCWGRUS(30),

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1          NINIRNL, LINTRNL
C
C          ENTRY GETDATA
C          READ DATA FOR NEXT TARGET FROM BASIC TARGET FILE
C          (FIRST PASS ONLY)
C
C          IF (NPASS - 1) 801, 801, 10000
C
C          801 IF (FIRST) 802, 302, 804
C          802 GO TO (802, 803, 810, 821), LSTATUS(NOWNAM) + 2
C          803 LOCNOW = LOCATE(NOWNAM)
C          CALL TIMEVE(4)
C          IF THIS IS LAST TARGET, TERMINATE FILE
C
C          IF (ITGT - NTGSI) 804, 1320, 1320
C
C          804 ITGT = ITGT + 1
C          JGT = ITGT
C          READ TARGET INPUT FILE (TGTFILE) FOR THIS TARGET
C
C          806 ITP = TGTFILE(1)
C          CALL ROADWAY(ITGNAMZ, LIG)
C          TRANSFER FIRST SECTION TO DYNAMIC ARRAYS
C          DC 810 JFK = 1, 27
C          810 MARIC(JFK)=INALOC(JFK)
C          TRANSFER LATER DATA TO STATIC ARRAYS
C          MISDEF = MISDEL + TINIFAC
C          NBLN = MISDEF
C          MINKILL=MINKILL
C          MAXKILL=MAXKILL
C          810 MAXCOST=MAXCOST
C          INDYREN=INDYPEZ
C          DISTOF=DISTOFZ
C          DISTUG=DISTUGZ
C          LEAVE DISTANCE DATA AS HEAD IN
C          FILE EMROH PROTECT
C          IF (N-2) 811, 811, 809
C          809 M = 2
C          811 CPMULT=TGTMULT
C          IANNAVL = 0
C          IF (ICLASSN - 9) 901, 821, 901
C          821 IANNAVL = 1
C
C          *****
C          900 CALCULATE BASIC #PN/TGT INTERACTIONS
C          901 DC 903 I = 3, NCOBY
C          AITRAD(I) = TAITPHRE(I)*AITRCD(I)
C          A1 = TGTLAT - RELAT(I)
C          81 = DELONG ( TOTLON, HPLONG(I))
C          CHDST = ( 81 * DPLAT(I) - A1 * DPLONG(I) ) * COSCOR(I) / CORLN(I)
C          IF (CHDST-1.0-0.0) 902, 903
C          902 CHDST = -CHDST
C          903 CXCOSDST(I)=CHDST
C          DC 923 G=1, NG
C          941 K=ITYPE(I)
C          K=IMEG(I)
C          IP = IPAY(I)

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      INACTIVE(G)=0
      UC 300 I = 1, NCCRR
      300 PENALT(I) = J00
      NCCRR(G) = 0
      PEX(G) = 1.0
C
C      CHECK FOR TARGETS TO BE RESTRICTED TO WEAPONS WITH NON-ZERO PKNAV
C
C      IF ((IAMNAVL .GT. 0) .AND. (PKNAV(G) .LE. 0.0)) 954, 955, 956
C      CHECK FOR FLAG AND ENTRYLOC RESTRICTIONS
C
C      822 KKK = 6
C      LFLAG = FLAG
C      IF (LFLAG) 8049, 8049, 7394
C      7394 IF (.NOT. FLAGOK(LFLAG, KKK)) GO TO 954
C      FLAG OK
C      8049 INEXCTY = ILE(CNTRY, CTRYCU, NCNTRY)
C      IF (INEXCTY) 8051, 8051, 7398
C      7398 IF (.NOT. CTRYOK(INEXCTY, KKK)) GO TO 954
C      OKAY SO FAR
C
C      8051 CONTINUE
C      CHECK TO SEE IF DISTANCE GREATER THAN MINRANGE.
C      DISTMX = UISP(PLATIG) * LONG(G) * TGFLAT * TGLONG
C      IF (DISTMX .LT. HANGERIN(G)) GO TO 954
C      909 IF ((ICLASS(K) .NE. BOMBER) .AND. (IMIV(IP) .GT. 0)) 960, 970
C      CHECK TO SEE IF THIS WEAPON IS ALLOWED TO HIT THIS TARGET
C      960 ISYS = IMIV(IPAY(G))
C      DO 965 I = 1, NMYNAV
C      IF (ISYS = MYNAV(I)) 965, 961, 965
C      961 IF (MULTARG(I) .AND. (TGTMULT .GT. 1.0)) 970, 962
C      962 IF (TARCEF(I) .AND. (MISDEF .GT. 0)) 970, 963
C      963 MYN = MPEMII(I)
C      DC 964 KKL = 1, MYN
C      IF (IMCLASS = MYPEMII(I, KKL)) 964, 970, 964
C      964 CONTINUE
C      NO MATCH FOUND
C      GO TO 954
C      965 CONTINUE
C      MATCH FOUND OR NO RESTRICTION ON THIS SYSTEM
C
C      CHECK FOR WEAPONS RESTRICTED TO NAVAL TARGETS
C
C      970 IF ((PKNAV(G) .GT. 0) .AND. (IAMNAVL .LT. 1)) 954, 973
C      REDUCE LOCAL WITH EST FOR ASM (DISTAC(G, 1))
C      IS PROX. AIRCRAFT HAS AN ASM
C      973 TARFACT = TARFAC * (1.0 - EXPASM(G))
C      REACH = RANGE(K) * HANGERIN(G)
C      IF ((ALERT(G) .EQ. 1) 930, 931
C      930 DELAY=ALERTULY(K) 3 GO TO 932
C      931 DELAY=ALERTULY(K)
C      932 IF ((ICLASS(K) .EQ. BOMBER) 950, 904
C      CALCULATE THRODUST AND PENCT FOR BOMBERS
C      930 PEROPT = -1.0
C      VCPT = -1.0
C      KCCRR = 1
C      IF (IMEFUEL(J) .LT. 0.950) 956
C      956 REACH = HANGERDEF(K) * MANAFMUL(G)

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IF (IREFUEL(U) .EQ. 0) 9563, 9564
9503 REACH = (Z.U * HANGEREF(K) * HANFEMUL (U)) * RANGE(K) * RANGE(MUL (G))
9504 IF (IREMQUE(K) .GE. 1) 9505, 957
9505 REACHREACH=DISTG
COMMENT#INDEX 1 IS ICHRR#
957 DISTADN = 10000.
LSTCDN = 10000.
IF (PRNAV(G) .GT. 0.0) 9568, 9569
9508 ICR = LCR * KCDN = 2
CHLENGTH(2) = U.U
DISTAD(2) = DISTG(2) = DISTMINA
GO TO 9576
9509 IF (IREMQUE(K) .EQ. 0) 9566, 9567
9506 ICR = LCR = 1
CHLENGTH(1) = U.U
DISTA(1) = DISTG(1) = DISTMINA
GO TO 9576
9507 ICR = 3
LCR = KCDN
IF (IREFUEL(U)) 210, 210, 220
210 X1 = XLAT(G)
Y1 = XLONG(U)
GO TO 230
220 IR = IREFUEL(U)
X1 = RFLAT(IR)
Y1 = RFLONG(LR)
230 CONTINUE
DC 9575 1 = ICR, LCR
DISTAD(1)=DISTF(X1,Y1,ENTLAT(1),ENTLONG(1))*CHLENGTH(1)*DISTG(1)
IF (DISTAD(1).L.DISTAD(N)) 9572, 9573
9572 DISTADN = DISTAD(1)
9573 IF (DISTG(1) .LT. DISTCDN) 9574, 9575
9574 DISTCDN = DISTG(1)
9575 CONTINUE
9576 DC 953 1 = ICR, LCR
958 MGSURP = REACH-DISTAD(1)
959 IF ( MGSURP .LT. 0. ) 953, 9019
9019 IF (IREMQUE(K) .EQ. 0) .CH. (PRNAV(G) .GT. 0.0) 9020, 9030
9020 DISTT(1)=RATE(1) = 0
DISTT(2) = RATE(2) = 0
DISTT(3) = DISTG(1)
AVAILC = MGSURP / (RANGEDEC(K) - 1.0)
GO TO 9091
9030 IF (DISTG(1) .GT. 1000. ) 953, 9035
9035 IF (DISTG(1) .GT. DISTCDN + 1000. ) 953, 9037
9037 IF (DISTAD(1) .GT. 1.3 * DISTADN) 953, 9040
C*** BEGIN CALCULATION OF DOUBT PENETRATION PROBABILITY
9040 AVAILC=MGSURP/(RANGEDEC(K)-1.0)
C PRINT ECCE,10,K,KH,RANGE(K),HEAD,MGSURP,AVAILC
DC 95 FMMAT(415,410.4)
IF (AVAILC.LT.0.0) 9030,9060
9030 TEMP=0.0
9060 DISTT(1)=DEFDIST(1) $ RATE(1)=IAIRPHE(1)/DISTT(1)
9060 DISTT(3) = CROSSDIST(1)
9060 DISTT(2)=DISTG(1)-DISTT(3) $ RATE(2)=AIRSURF(1)
9091 DISTT(4) = DISTUR $ RATE(4) = AIRMCDN(1)

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IF (IRECMQUR(K).LT.1) 9093, 9095
9093 UISTT(4) = U.V
9095 RATE(3)=ATTMCONR(1)*T-RUEF*TAHFAC/UISTT(3)
UC 9100 LEG=1.4
9100 ATTR(LEG)=RATE(LEG)*UISTT(LEG)
RATE(4)=RATE(4)/U.V
C*** ALLOCATE AVAILABLE LOW ALTITUDE RANGE (SELECT NEXT LEG TO ALLOC)
9001 FORMAT(12,3F10.4)
C PRINT 8001,(LEG,ATTR(LEG),RATE(LEG),DISTT(LEG),LEG=1.4)
9150 MATMX=C.O $ LEGMX=U
9200 UC 9220 LEG=1.4
IF RATE(LEG).GT.MATMX) 9210, 9220
9210 RATEX=RATE(LEG) $ LEGMX=LEG
9220 CONTINUE
IF RATEX.EU.O. 9242,9225
C*** ALLOCATE TO LEG
9225 AVAILC=AVAILC-UISTT(LEGMX)
IF (AVAILC.GT.U.O) 9230, 9240
9230 RATE(LEGMX)=U.V
9240 ATTR(LEGMX)=HILCATTIR(1)*ATTR(LEGMX) $GO TO 9150
9240 DISTC=DISTT(LEGMX)+AVAILC
ATTR(LEGMX)=(ATTR(LEGMX)/DISTT(LEGMX))*(DISTC+HILCATTIR(1)
- AVAILC)
C*** EVALUATE PENETRATION PROB GIVE WEIGHT .25 TO RECOVERY
9242 PT = EXP((-ATTR(1)-ATTR(2)-ATTR(3))*PENFAC)
PR = EXP((-ATTR(4)*8PENFAC)
TEMP=.75*PT+.25*PT*PR
C PRINT 8001,(LEG,ATTR(LEG),RATE(LEG),DISTT(LEG),LEG=1.4)
C PRINT 8001,PT,PR,TEMP
PENALT (1) = PT
9245 CONTINUE
CCC END FUNCTION PENF
IF (VCPT.GE.TEMP) 953,955
CSUBR GETDATA1 1JUN71 *****
955 VCPT=TEMP $ KCONR = 1 $ PENOPT = PT
953 CONTINUE
TRUDIST = DISTAD(KCONR)
PENOPT HOLDS BEST PEN AT THIS POINT
PEX(G) = PENOPT $ MORR(G) = KCONR
CALL PRNTALL(20)
IF PEX(G).LT.U.OO0001)954,906
954 PEX(G)=C.OO0001
INACTIVE(G)=100 $ GO TO 923
C
C CALC MISSILE DIST AND TGA
904 TRUDIST = DISTMINX
C RESET LEAKAGE HERE
PEX(G) = (1.-RADPX)
IF (MISDEF.GT.C) 999, 998
999 PEX(G) = PEX(G) * (1.-PRIX)
998 CONTINUE
FLYTIME=TRUDIST/SPEED(K)
IF (INITSTRKEQ.1)905,910
905 FLYTIME=(1.0-COMMSL)*FLYTIME
GO TO 910
C

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C      CALC ROMBER TOA
9.6  FLYTIME=THRU(1)/SPEED(K)*REFTIME(G)
    IF (INITSTK=0) GO TO 9.10
9.7  PENTIME=(COMB*8+DISTD(KCORR)*CHLENUH(KCORR))/SPEED(K)
    IF (PENTIME+1.FLYTIME) 9.8,9.10
9.8  FLYTIME=PENTIME $ GO TO 9.10
9.10 TOA=3.FLYTIME*DELAY
9.11 IF (THRU(1) GT MEACH)*12.913
    MAKE IT PERMANENTLY INACTIVE
C      9.12 INACTIVE(G)=10V $ GO TO 9.23
C
C      COMPUTE SSSP OF TARGET COMPONENT BY WEAPON
C
C      9.13 CONTINUE
    UC 9.24 J = 1, M
    SK=5*M(J)*2*YIELD(G)**(2./3.)
    SKK = SK
    IF (ICLASS(K) = EQ, ICOMBEN) 9.27, 9.28
9.28 IF (INWD(IPAY(G)) .GT. 1) 9.29, 9.27
9.29 SKK = SK / INWD(IPAY(G))
9.27 IF (1.3 - M(J)) 9.20, 9.21, 9.21
9.20 FN=3.
    GO TO 9.22
9.21 FN=6.
9.22 SU=FN*((ICEP(K)/1.172)**2+(TGTRAD/2.448)**2)
    STK1=- (SU/(SK+SD))**FN
    STK2 = 1. - (SU / (SKK + SD)) ** FN
    IF (PKNAV(G)) 19.24, 19.24, 19.23
19.23 STK = PKNAV(G)
    STK2 = STK
19.24 KKJ = J
    STKX(G,KKJ) = STK
    STKX(G,KKJ) = STK2
9.24 CONTINUE
9.23 CONTINUE
    CALL TIMEFME(2)
C
C      LOAD OUTPUT ARRAYS
C
C      JGTX = ITGT
    MINKILX = MINKILL
    MAXKILX = MAXKILL
    MAXCQSA = MAXCOST
    MISUEX = MISUEF
    J = 0
C      LOAD ARRAYS FOR ALL ACTIVE GROUPS
    UC 807 I = 1, NG
    IF (INACTIVE(I)) 816, 816, 807
    GROUP ACTIVE ON THIS TARGET
C      816 J = J + 1
    IGA(J) = I
    TGA(I) = TGA(I)
    MORA(I) = MORA(I)
    PEAX(I) = PEAX(I)
8.7 CONTINUE

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C      NACTV = J      RECONSTRUCT COMPLETE DATA FROM FILE DATA
C      CALL SETUP
C      ITC = 7
C      IF (NACTV) 823, 823, 808
C      IFROM = MAXG + 7
C      LIMIT = LSTMA - MAXG
C      DO 823 I = IFROM, LIMIT, MAXG
C      DO 823 K = 1, NACTV
C      J = IGA(K)
C      ITC = ITC + 1
C      STARRAY(ITC) = STARRAY(I+J)
C      820 CONTINUE      CONTINUE COMPACTING IF ONLY ONE HARDNESS COMPONENT
C      IF (N-1) 824, 824, 823
C      824 IFROM = 6 + NACTV + 7
C      ITC = 5 + NACTV + 7
C      DO 825 J = 1, NACTV
C      STARRAY(ITC+1) = STARRAY(IFROM+1)
C      825 CONTINUE
C      ITC = ITC + NACTV
C      823 LNEAT = ITC
C      CALL TIMEP(3)
C      OUTPUT DATA
C      OPEN NEW FILE IF FIRST TARGET
C      IF (FIRST) 1000, 1100, 1000
C      1000 FIRST = -1000
C      NGRAT = LNEAT
C      NGRUSE = NGRUSE + 1
C      NUMSC = NGRUSE + NGRALOC
C      ZACCOE(8*1001,NGRAM) INTINDT, NUMSC
C      1001 FORMAT(A6,12)
C      IF (NUMSC = NINPRN) 1020, 1020, 1010
C      1010 NT = (LINPRN / (NWDST + NSCTRK)) + 1
C      NEW SCRATCH FILE MUST BE ALLOCATED
C      CALL ALLOCATE(LUNDISK, NGRAM, NT)
C      OPEN FILE PREVIOUSLY ALLOCATED TO DISK
C      1020 LUNDISK = 0
C      WRITE(IUNIT,1001) NGRUSE, NGRAM
C      1001 FORMAT(//, INITIATING WEAPON-TARGET INTERACTION FILE NUMBER *,12)
C      1 * NAMED * (MS)
C      CALL SEEK(NGRAM, 0)
C      GO TO 1200
C      CHECK LENGTH OF FILE
C      1110 NGRAM=NGRAM+LNEAT/NWDST+NSCTRK
C      IF (NGRAM-LUSFUL) 1200, 1110, 1110
C      END CURRENT FILE AND BEGIN ANOTHER
C      1110 CALL DECF(NGRAM)
C      LASTGT(NGRUSE) = JGTGT - 1
C      GO TO 1000
C      WRITE DATA FOR THIS TARGET ON FILE
C      1200 CALL WRITE(NGRAM, STARRAY(1), STARRAY(LNEAT))
C      CALL TIMEP(4)
C      PAID ASSIGNMENT PROCESSING

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LOCNO# = 0
1370 CALL DREAD(NC#NAM,STARAY(1), STARRAY(LSTMAX))
GO TO 1310
C
C      EOF/EST ERROR ON LAST WRITE
9110 NTIMES = 0
IITYP = 6H ECF
WRITE(IWRIT,9101) IITYP, NC#USE, NC#NAM
9101 FORMAT(/10X,15(1H*),1X,A6,*, ERROR ON WEAPON-TARGET INTERACTION FI
1LE NO. *,12,*, NAMED *,A8)
WRITE(IWRIT,9102) NTIMES*
9102 FORMAT(1X,13,*, HEREAUS WILL BE ATTEMPTED*)
GO TO 9300
C      PARITY ERROR ON LAST WRITE
9211 NTIMES#C
IITYP = 6H PARITY
WRITE(IWRIT,9101) IITYP, NC#USE, NC#NAM
WRITE(IWRIT,9102) NTIMES*
C      ATTEMPT REWRITE
9300 NTIMES = NTIMES + 1
IF (NTIMES = NTIMES#) 9310, 9310, 9400
C      TRY AGAIN
9310 CALL SEEK(NC#NAM, LOCNO#)
CALL WRITECK(NC#NAM, STARRAY(1), STARRAY(LNEXT))
9320 GO TO (9320, 903, 9300, 9300), LSTATUS(NC#NAM) + 2
C      IRRECOVERABLE ERROR
9400 WRITE(IWRIT,9401)
WRITE(ICOMM,9401)
9401 FORMAT(/*, IRRECOVERABLE I/O ERROR ON DISK. JOB TERMINATED*)
CALL ABORT
STOP
C
C      SECOND AND LATER PASSES
1000 NTIMES = 0
C      CHECK FOR COMPLETION OF LAST READ
10010 GO TO (10010,10100,10300,10400), LSTATUS(NC#NAM) + 2
C      ALL OK - CHECK FOR READ LENGTH ERROR
10100 ITEST = LOCATE(NC#NAM)
NREAD = ITEST - LOCNO#
NEXPECT = (LNEXT - 1) / NWDSCF + 1
IF (NEXPECT - NREAD) 10200, 10600, 10200
C      READ LENGTH ERROR
10200 WRITE(IWRIT,10201) NEXPECT, NREAD
10201 FORMAT(/10X,15(1H*),*, HEAD LENGTH ERROR ON WEAPON-TARGET FILE. E
EXPECTED *,15,*, SECTORS. GOT *,15)
IITYP = 6H LENGTH
GO TO 10410
C      UNEXPECTED END OF FILE
10300 IITYP = 6H ECF
GO TO 10410
C      PARITY ERROR
10400 IITYP = 6H PARITY
10410 WRITE(IWRIT,9101) IITYP, NC#USE, NC#NAM
WRITE(IWRIT,10411) NTIMES*
10411 FORMAT(1X,13,*, HEREAUS WILL BE ATTEMPTED*)

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10500 NTIMES = NTIMES + 1
      IF (NTIMES - NTIMESR) 10510, 10510, 9400
      ATTEMPT 10 REHEAD DATA
10510 CALL SEEKING(NAM, LOC=0)
      CALL DHEAD(NONAM, STARRAY(1), STARRAY(LSTMAX))
      GO TO 10010
C      INPUT ALL OK
10600 LOCNO = ITEST
      CALL TIME(4)
C      RECONSTRUCT DATA FROM INPUT FILE DATA
      CALL RECON
      IF (JTG1 = LASTGT(NCUSE)) 1370, 10700, 10700
C      START NEXT FILE
10700 IF (JTG1 - NIGTS) 10800, 1360, 1360
10800 NCUSE = NCUSE + 1
      GO TO 1365
C
C      INITIALIZING ENTRY FOR GETDATA
C      ENTRY INITGET
C
C      COMPUTE ENTRIES IN SMAT ARRAY FOR GROUP ATTRIBUTE AND FAILURE
C      MODES DEL, CC, AND HEL. THESE ARE DIFFERENT FOR MIRV AND NON MIRV
C      SYSTEMS.
C
      DC 320 KSMAT = 1, 3
      STEMP = 1.0
      DO 310 I = 1, NAT
        DC 310 I = 1, NAT
        STEMP = STEMP - SMAT(1, KSMAT)
        SMACHIRV(KSMAT) = SMAT(2, KSMAT)
        DC 320 SMACHIRV(KSMAT) = SMAT(2, KSMAT) + (STEMP * FACMIRV)
        PRECOMPUTE CORRELATOR ASSOCIATED DATA
C
        DC 661 I = 3, NCORR
        CCCCOR(I) = COS(PI*PLAT(I)/57.2957795)
        AA = RPLAT(I) - PCLAT(I)
        DPLAT(I) = AA
        BB = DELONG(DELONG(I), PCLONG(I))
        DPLONG(I) = BB
        BB = BB + CCCCOR(I)
        CORLN(I) = SINTF(AA*AA+BB*BB)
        TUEFDIST(I) = C.
        TATTROE(I) = C.
        DC 663 L = 1, LMAX
        TUEFDIST(I) = TUEFDIST(I) + DEFDIST(I, L)
        DO TATTROE(I) = TATTROE(I) + ATTPRE(I, L)
        661 CONTINUE
C
C      RESET UNACCEPTABLE RANGEDEC
C      ZERO TVALICA FOR TEST IN MULCON AT END OF PASS 1
        DC 682 I = 1, NG
        TVALICA(I) = C.
        K = ITYPE(I)
        IF (RANGEDEC(K) - LT. 1.1) 681, 682
        681 RANGEDEC(K) = 1.1
        682 CONTINUE
        FIRST = 100
        NCUSE = C
        NCWAT = C

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FIN5.5

MAX3 = MGROUP
LUSFUL = LINTRNL - 2 * LSTHAX
RETURN
END

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PAGE NO. 16

306000
305000
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307000

IDENT SETDATA

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

GE10DATA
INITGET
MASTER
FILES
FILESEL
MYLABEL
IIP
MYIDENT
MOPRINT
T=GRU
LCCFIL
MPNREG
MPNTYPE
PAYLOAD
MPNGHP
PLANITYPE
REF
CORRCHAR
DYNAMIC
MADWPN
CONTROL
FLAGST
CIRYCU
CIRYKST
RESTRICT
RANGE
PKNAVAL
FIXED
FIXEDASS
MACHINE
DEFENSE
MULADJ
PRINSED
SMAT
PAYOFF
PEN
ALCCIN
INTFILE
DNCS102

03367
03367
02952
00027
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00014
00010
00001
00001
00001
00001
00003
00024
01560
00620
04331
00003
00050
01132
00304
14726
00022
00071
00226
01652
01327
01130
00310
00120
00015
00004
00015
00007
00002
00045
00007
00036
00140
00015
00100

EXTERNAL SYMBOLS
G10100
Q300000
Q207111
Q1005100
THEND
Q8080PS
Q8081CT
LSTATUS
LOCATE
TIME
RUARRAY
DELLONG
TITLE

5.4TS GETDATA

DISTF
PNTALL
SETUP
ALLOCATE
SEEK
DESF
DWRITE
SKIP
RUNCMO
NUMGET
WRITECK
DHEAD
ACHT
RECON
XNINUF
SURTF
EXPF
COSF
DEC.
STM.
ENC.
QNSINGL.

11/29/71

ED

0

PAGE NO.

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5-+TS	GETDATA	11/29/71	ED	0	PAGE NO.	19
P03254	AI	0527	02742			
P03255	AA	02725				
X00032	ASORT	02505				
C00360	ALERTCLY	00762				
X00021	ALLOCATE	02041				
C00012	ALOCGRP					
C00001	ALOCIT					
C00006	ALOCIT2					
C00006	ALOCISR					
P00077	ATTR	01327	01341	01342	01347	
P00003	ATTRAD	01272				
C00100	ATTRCD	00515				
C00416	ATTRCRK	00514				
C00776	ATTRPRE	01247				
C00454	ATTRSUPF	02765				
P03256	AVAILCW	01243				
P03257	B1	01177				
C00002	HASFILE	01223				
P03260	BB	00525				
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P02762	W050C24.	U2767
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		U1124
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SUBROUTINE INITIALC
  INITIALC 1JUN71 *****
C
C THIS SUBROUTINE INITIALIZES VARIOUS ARRAYS
C
C MASTER 1JUN71 *****
C USED BY ALLOCATE, MULCON, PREMIUMS, STALL, MAD, MADCUI, PRINTNM,
C RESVAL, AND UEFALOC
C
COMMON/MASTER/IDENING,ISIDE,NRPT,NCORR,NOPEN,RECOVER
1,NREF,ABNTRY,NREG,NTYPE,NGROUP,NICBASE,NPAYCAU,NASMIYPE,NMHDTYPE
2,NTANKBAS,NCOMPLEX,NCLASS,NALERT,NTGTS,RCORTYPE,NCNTRY
EWUIVA-ENCE(NGROUP,NGI,NALERT,NOTHER)
CEND
C MASTER *****
C
C NUMB2 1JUN71 *****
C USED BY ALLOCATE, MULCON, MAD, AND PRINTNM
C
COMMON/NUMB2/
C
1 NTRAC(3),NTRATE(3),NTSUM(3),NATTRIB(6,200),RUNSUM(310,3)
2 NALERT(310,3),LAT(310),MAXATTRIB
CEND
C TYPE REAL LA *****
C NUMB2 *****
C
C RANGE 1JUN71 *****
C COMMON/RANGE/ RANGEMUL(200), RANRFMUL(200), RANGEMIN(200)
C
C RANGE *****
C RESTRICT 1JUN71 *****
CEND
C COMMON/RESTRICT/MYMINIV, MYMINIV(40), NPERMIT(40), MYPERMIT(40,16),
1 TBMDEF(40), MULTARG(40), MAXMIRV, MAXNP
C
C TYPE LOGICAL TBMDEF, MULTARG
C
C RESTRICT *****
C FLAGST 1JUN71 *****
C COMMON / FLAGST/ FLAGCK(9,200)
C
C TYPE LOGICAL FLAGCK
C
C FLAGST *****
C CTYRST 1JUN71 *****
COMMON/CTYRST/CTRYCK(150,200)
CEND
C TYPE LOGICAL CTRYCK
C CTYRST *****
C MACHINE 1JUN71 *****
C
COMMON /MACHINE/ IREAU, I-MIT, ICOMM, IPUNCH
C
C MACHINE *****
C MPNGRP 1JUN71 *****
C USED BY ALLOCATE, MULCON, PREMIUMS, PRINTNM, RESVAL, UEFALOC
C STALL
C

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1000
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2000
3000
4000
5000
1000
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3000
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2000

5-7S INITIALC

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

INITIALC

MASTER
222
RANGE
RESTRICT
FLAGST
CITYMST
MACHINE
MPHGRP

EXTERNAL SYMBOLS

QJQ1004C
QJQDICT.

IDENT

00203
00064
00027
00464
01130
01327
00071
01652
00004
04231

INITIALC

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CO*172	ENDING					
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CO*3720	EXPASM					
CO*000	FLAGCK					
CO*003	FORMAT					
CO*000	I					
CO*1750	IALEKT					
CO*002	ICSM					
CO*001	IDENTAC					
CO*000	IMDATE					
CO*134	INDOUC2					
CO*135	INDOUC3					
CO*004	INITALC					
CO*170	INITIAL					
CO*1750	IGTHER					
CO*2570	IPAY					
CO*003	IPUNCH					
CO*000	IREAD					
CO*2570	IREFUEL					
CO*130	IREG					
CO*002	ISIDE					
CO*1440	ITYPE					
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CO*001	JJ					
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CO*1323	MULTARG					
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CU0010	PU00930					
CU0010	PU00940					
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CU0010	PU01190					
CU0010	PU01200					
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CU0010	PU01280					
CU0010	PU01290					
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CU0010	PU01370					
CU0010	PU01380					
CU0010	PU01390					
CU0010	PU01400					
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CU0010	PU01990					
CU0010	PU02000					
CU0010	PU02010					
CU0010	PU02020					
CU0010	PU02030					
CU0010	PU					

```

SUBROUTINE LOCRES1
  LOCRES1  LJUNT1 *****
  C
  C THIS SUBROUTINE READS AND INTERPRETS THE COUNTRY LOCATION
  C CODE RESTRICTION INPUT DATA
  C MASTER  LJUNT1 *****
  C USED BY ALLOCATE, MULCON, PREMIUMS, STALL, MAD, MADOUT, PRINTCON,
  C RESVAL, AND DEFALOC
  C
  COMMON/MASRES/IMDATE,IDENT,NC,ISIDE,INKPT,NCORH,NDPEN,RECOVER
  1,NREF,ANBNRY,AREG,ANTYPE,NGROUP,NTOTBASE,IMPATLGD,NASHTYPE,NHMDTYPE
  2,NTANKBAS,COMPLEX,NC,ASS,NALERT,NTOTIS,NCCTYPE,NCNTRY
  EQUIVALENCE (NGROUP,NGI),NALERT,NGI,LER)
  MASTER *****
  C
  C CTRYCD  LJUNT1 *****
  C
  C COMYGN/CTRYCD/CTRYCD(150)
  C
  C TYPE INTER CTRYCD
  C
  C CTRYCD *****
  C
  C CTRYST  LJUNT1 *****
  C
  C COMMON/CTRYST/CTRYST(150,200)
  C TYPE LOGICAL CTRYST
  C
  C CTRYST *****
  C
  C MACHINE  LJUNT1 *****
  C
  C COMMON /MACHINE/ IREAU, IARI, ICOMM, IPUNCH
  C
  C MACHINE *****
  C
  C IOLUPY  LJUNT1 *****
  C
  C THIS BLOCK IS USED FOR INPUT BUFFER FOR THE USER INPUT PARAMETERS.
  C SINCE IT REDEFINES COMMON /MADWPN/. IT SHOULD NEVER BE USED IN
  C CONJUNCTION WITH COMMON /MADWPN/.
  C
  C COMMON /MADWPN/ INPUT(10), NVARS, NAMES(40), INVALU(2,40),
  1 INDEX(40), INDEXE(40), INDEXZ(40), MORE, MYNAME(100),
  2 MYFORM(100), MYTYPE(100), MYVAL(100), FVAL(100),
  3 MYCIC(100), NDEFLT, FILLER(5500)
  C
  EQUIVALENCE (MYVAL, FVAL)
  C
  C IOLUPY *****
  C
  C DIMENSION INC(35)
  EQUIVALENCE (INC, INPUT)
  C TYPE LOGICAL SET
  C
  C ILLIE(1,1)
  1 FORMAT(//** USER INPUT PARAMETER CARDS FOR OPTION LOCRES1 **)
  C

```

```

10 READ (IHEAD, 11) MYGROUP, MYOPT, INOUT
11 FORMAT(A4, 20, 10A7)
12 WRITE (IUNIT, 12) MYGROUP, MYOPT, INOUT
13 FORMAT(A4, A4, A5, 10A7)
14 IF (MYGROUP = 3) THEN 20, 1000, 20
15 INTERPRET CARD
C
20 MYGROUP = NUMGET(MYGROUP, 4)
16 IF (MYGROUP) 40, 40, 30
30 IF (MYGROUP = NGROUP) 50, 50, 40
40 WRITE (IUNIT, 41) MYGROUP
41 FORMAT(10X, 15, 15) IS A INVALID GROUP NUMBER. REQUEST IGNORED*
GO TO 10
C
50 KK = MYGROUP
51 SET = .FALSE.
52 IF (MYOPT = CHSELECT) 60, 60, 80
53 SELECT OPTION
60 DO 70 I = 1, NENTRY
61 CTRYCK(I, KK) = .FALSE.
70 CONTINUE
71 SET = .TRUE.
C
80 DECODE(80, 81, INPUT) (MYVAL(I), I = 1, 70)
81 FORMAT(10I7A1, 1X)
J = 0
DO 85 I = 1, 70
82 IF (MYVAL(I) = 1) 82, 85, 82
J = J + 1
83 MYVAL(J) = MYVAL(I)
84 MYVAL(I) = 1
85 CONTINUE
86 ENCODE(2, 86, INC) (MYVAL(I), I = 1, 70)
87 FORMAT(2A1)
DO 120 I = 1, 35
88 IF (INC(I) = 1) 90, 100, 90
90 IF (INC(I) = 1) CTRYCK(I, NENTRY)
IF (I) 100, 100, 110
100 INQUIRE = NO COUNTRY CODE ON FILE
110 WRITE (IUNIT, 101) INC(I)
101 FORMAT(//, 10X) THERE IS NO COUNTRY CODE *.A2.* IN THIS TARGET SET. RE
    REQUEST IGNORED.*
GO TO 120
C
110 CTRYCK(I, KK) = SET
120 CONTINUE
GO TO 10
C
1000 WRITE (IUNIT, 1001)
1001 FORMAT(//, 47X, *COUNTRY CODE RESTRICTIONS*//, *THE FOLLOWING GROUPS A
    RE RESTRICTED TO THE FOLLOWING COUNTRY CODES (ENTRYLOC). (IF A GR
    OUP DOES NOT APPEAR, IT IS UNRESTRICTED.)*
1002 ISTART = IEND + 1
1003 IEND = IEND + 35
1004 IF (IEND.GT. NENTRY) IEND = NENTRY

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WRITE (IWRIT, 1011) (UTRYCD(I), J = 1, ISTART, IEND)
1011 FORMAT(//, 35(1A, 2X))
DO 1040 I = 1, NGRoup
  KKK = 1
  DO 1020 J = 1, ISTART, IEND
    IF (UTRYCD(J, KKK)) 1020, 1030
  1020 CONTINUE
  GO TO 1040
1030 WRITE(IWRIT, 1011) I, (UTRYCD(J, KKK), J = 1, ISTART, IEND)
1031 FORMAT(1X, I, 1A, 35(2A, 11))
1040 CONTINUE
  IF (IEND - NGRoup) 1010, 1050, 1050
1050 RETURN
      END

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P-ITS LOCRESI

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

LOCRESI

MASTEN
CTRYCU
CTRYDST
MACHINE
MADWPN

EXTERNAL SYMBOLS

TREND.
QBUIJAC
QBUCUAC
QVEVALL
QBUJCT.
NUMBER
TITLE
TSM.
DEC.
STM.
ENC.
QBACUT4
SLC.
SLI.
QNSINGL.

IDENT

JOBS7
-0157
JOJ27
00226
V1052
J0004
14251

LOCRESI

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5-15 LOCHEST

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P0037 BEGIN.	00401	00217	00220	00250	00312	00355	00413	00464	00524
P0057 CNVRFL.	00273			00322	00363	00416	00437	00473	00545
P0045 COUNT.	00172	00227	00253						
P0003 CRFMT.	00376	00463							
P0000 CTRYCC	00276	00507	00532						
P0000 CTRYCK	00304								
P0011 DEC.	00160	00171	00175	00405	00210	00214	00223	00226	00245
P0001 DICT.	00181	00305	00321	00362	00375	00407	00415	00433	00454
	00472	00521	00535						
	00445								
X0013 ENC.	00554	00637	00640						
P0041 ENDING.									
P0000 EXIT.	00642								
C01361 FILLER									
P00003 FORMAT.	00227	00325	00363						
P01050 FVAL									
P00172 6600000.	00164								
P00411 6600001.	00173								
P00227 6600002.	00212								
P00253 6600003.	00243								
P00322 6600004.	00303								
P00363 6600005.	00344								
P00416 6600006.	00405								
P00437 6600007.	00431								
P00473 6600010.	00452								
P00545 6600011.	00517								
P00448 I	00466								
	00372	00313	00315	00325	00327	00351	00353	00356	00366
		00424	00474	00477	00523	00545	00570		
C00002 ICOW*									
C00001 IDENTING	00440	00443	00444	00444	00450	00467	00513	00541	00551
P00047 IEND	00441								
C00000 IHDAT	00563	00573	00615						
P00000 IN00001.	00421	00516	00625						
P00301 IN00004.	00505	00575	00605	00635	00612	00612			
P00362 IN00005.	00530	00575	00605	00635	00612	00612			
C00000 INC	00367	00367	00373	00376					
C00003 INDEX1									
C00053 INDEX2									
C00323 INDEX3									
P00037 INITIAL.	00162								
P00000 INPUT	00206	00224	00306						
C00053 INVAL									
C00003 INVAL									
C00000 INEAL	00172								
C00002 ISINE	00442	00450	00525						
P00050 ISINAT	00400	00504							
P00551 IT	00374								
X00007 ITL	00163	00211	00211	00242	00242	00404	00404	00430	00451
C00001 IART	00451	00516	00516						
	00453	00473	00473						
P00172 *10.	00402	00402	00402						
P00430 *1010	00230								
P00447 *101001									

CU026 NCNTRY	CU0270	CU0377	CU0405	CU0405	CU0445	CU0447	CU0447	CU0552	CU0552
CU021 NCNPLEX									
CU004 NC3RH									
CU025 NCRTYPE									
CU1360 NDEFLT									
CU005 NDPEN									
CU013 NG									
CU013 NGRQUP	CU0240	CU0547	CU0547						
CU023 NCTHER									
CU015 PAYLOAD									
CU006 NRECOVER									
CU007 NREF									
CU011 NREG									
CU003 NRTP									
CU020 NTANKREAS									
CU024 NTGTS									
CU014 NTCIBASE									
CU012 NTYPE									
CU006 NUMGET	CU232								
CU012 NVARS									
CU017 NMDTYPE									
PU0563 PU000C4U	PU0565								
PU0575 PU03014U	PU0577								
XU0003 Q3000C4U	CU0417	CU0301	CU0422						
XU0002 Q3010C4U	CU0260								
XU0005 Q8001C4U	CU0000								
XU0014 Q8002U4	CU0534								
XU0004 Q900EVALL	CU0531								
XU0017 QNSINGL	CU0556								
PU0555 SET	CU0261	CU0420							
XU0016 SLI	CU0204								
XU0015 SLC	CU0222								
XU0012 STM	CU0165								
XU0001 THENO	CU0170	CU0244	CU0406	CU0521	CU0432	CU0453	CU0520	CU0471	CU0543
PU0300 TS000C1	CU0271	CU0225			CU0420	CU0361	CU0414		
PU0467 TS000C6	CU0461								
PU0547 TS000C7	CU0476								
PU0513 TS00010	CU0504								
PU0541 TS00011	CU0527								
XU0010 TSH	CU0174								
PU0567 UP000C0	CU0267	CU0316	CU0326	CU0574	CU0352	CU0357	CU0365	CU0425	CU0546
PU0601 UP000C1	CU0570	CU0571	CU0572	CU0574	CU0352	CU0357	CU0365	CU0425	CU0546
PU0610 UP000C2	CU0324	CU0335	CU0460	CU0466	CU0503	CU0512	CU0526	CU0540	CU0602
PU0621 UP000C3	CU0604	CU0606	CU0606	CU0613	CU0617	CU0617	CU0626	CU0626	CU0603
PU0630 UP000C4	CU0501	CU0611	CU0612	CU0623	CU0626	CU0626	CU0635	CU0635	
PU0674 WS000C1	CU0277								
PU0312 WS000C2	CU0317								
PU0330 WS000C3	CU0343								
PU0353 WS000C4	CU0360								
PU0366 WS000C5	CU0426								
PU0462 WS000C6	CU0470								
PU0477 WS000C7	CU0550								

5.4TS LOGRESI

PUU505 WS00010. 00514 00514
PUU530 WS00011. 00542 00542
00234 SYMBOLS

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FTn5.5

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SUBROUTINE MIRVST
  CSUMX  MIRVST  LJUN71 *****
  C      THIS SUBROUTINE READS AND INTERPRETS THE MIRV SYSTEM RESTRICTION
  C      CARDS. THE DATA ON THE RESTRICTED SYSTEMS IS PLACED IN COMMON
  C      /RESTRICT/ FOR USE BY SUBROUTINE GETDATA.
  C      RESTRICT  LJUN71 *****
  C      COMMON/RESTRICT/MYMINV, MYMINV(40), NPERMIT(40), MYPERMIT(40,16),
  C      TBMDEF(40), MULTARG(40), MAXMIRV, MAXNP
  C      TYPE LOGICAL TBMDEF, MULTARG
  C      RESTRICT *****
  C      ICDDUMY  LJUN71 *****
  C      THIS BLOCK IS USED FOR INPUT BUFFER FOR THE USER INPUT PARAMETERS.
  C      SINCE IT REDEFINES COMMON /MADPN/, IT SHOULD NEVER BE USED IN
  C      CONJUNCTION WITH COMMON /MADPN/.
  C      COMMON /MADPN/ INPUT(10), NVAR, NAMES(40), INVAL(2,40),
  C      INDEX(40), INDEX2(40), INDEX3(40), MORE, MYNAME(100),
  C      MYFCRM(100), MYTYPE(100), MYVAL(100), FVAL(100),
  C      MYGCTG(100), NDEFLT, FILLER(5500)
  C      EQUIVALENCE (MYVAL, FVAL)
  C      ICDDUMY *****
  C      DATA (MAXMIRV = 40), (MAXNP = 16), (MYMINV = 0), (NPERMIT = 40(0))
  C      MAXMIRV  MAXIMUM NUMBER OF DISTINCT MIRV NUMBERS TO BE RESTRICTED
  C      MAXNP    MAXIMUM NUMBER OF PERMITTED CLASSES PER SYSTEM
  C      MYMINV   NUMBER OF MIRV SYSTEMS IN LIST
  C      MYMIRV   MIRV NUMBER OF SYSTEM
  C      NPERMIT  NUMBER OF PERMITTED CLASSES FOR THIS SYSTEM
  C      MYPERMIT  ROLLEITH NAMES OF PERMITTED CLASSES
  C      TBMDEF   TRUE IF DEFENDED TARGETS ARE A PERMITTED TYPE
  C      MULTARG  TRUE IF MULTIPLE TARGETS ARE A PERMITTED TYPE
  C      DIMENSION IDUM(9)
  C      EQUIVALENCE (IDUM, INPUT)
  C      DC 5 1 = 1, MAXMIRV
  C      TBMDEF(1) = 0
  C      S MULTARG(1) = 0
  C      PRINT 1
  C      1 FORMAT(/* INPUT PARAMETER CARDS*)
  C      10 READ 100, IDUM
  C      100 FORMAT(A8,A2,7(A8,2X))
  C      PRINT 101, IDUM
  C      101 FORMAT(/1X,A8,A2,7(A8,2X))
  C      101 SYST = NUMGET(IDUM(1), 10)
  C      IF (ISYST) 200, 200, 20

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20 DC 30 I = 1, MYNIRV
   J = 1
   IF (ISTY - MYNIRV(I)) 30, 40, 30
30 CONTINUE
   IF (MYNIRV - LF. MAXNIRV) 35, 10
35 MYNIRV = MYNIRV + 1
   J = MYNIRV
   MYNIRV(J) = ISTY
   IF (IMERE * NPERMIT(J) * 1
   IF (IMERE * ST. MAXNP) 110, 45
45 DC 100 I = 3, 9
   ITEST = IJUM(I)
   IF (ITEST * EQ. RM ) 100, 50
50 IF (ITEST * EQ. RMDEFENDE) 60, 70
60 RMDEF(J) = 1
   GO TO 100
70 IF (ITEST * EQ. RMMULTIPLE) 80, 90
80 MULTARG(J) = 1
   GO TO 100
90 MYPERMIT(J, IMERE) = ITEST
   IMERE = IMERE + 1
   IF (IMERE * ST. MAXNP) 110, 100
100 CONTINUE
110 NPERMIT(J) = IMERE - 1
   GO TO 10
C
200 PRINT 201
201 FORMAT(27H01NIRV PERMITTED CLASSES//)
   DC 240 I = 1, MYNIRV
   IJUM(1) = IJUM(2) = RM
   NPRINT = NPERMIT(1)
   IF (RMDEF(1)) 210, 240
210 IJUM(1) = RMDEFENDE
220 IF (MULTARG(1)) 230, 240
230 IJUM(2) = RMMULTIPLE
240 PRINT 241, MYNIRV(I), (MYPERMIT(I, J), J = 1, NPRINT)
   I = IJUM(1), IJUM(2)
241 FORMAT(1X, I4, 5A, 11(A8, 2X) / (10X, 11(A8, 2X)))
   RETURN
   END

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PU0412 BEGIN.	JJ413						
PU0350 CNVR11.	U0330	U0336	U0337				
PU0420 COUNT.	U0105						
PU0403 CRFMT.	U0135	U0147	U0266	U0344			
PU0001 DICT.	U0117	U0122	U0125	U0131	U0134	U0137	U0146 U0150 U0262
	U0265	U0315	U0341				
PU0414 ENDING.	U0346	U0412					
PU0400 EXIT.	JJ415						
CU1361 FILLER							
PU0403 FORMAT.	U0212						
CU1450 FVAL							
PU0123 GG00000.	JJ115						
PU0135 GG00001.	U0123						
PU0147 GG00002.	U0135						
PU0266 GG00003.	U0260						
PLC342 GG00004.	U0313						
PU0421 I	U0100						
	U0305						
CU0400 IDUM	U0312						
PU0422 IHERE	U0312						
PU0351 IN00003.	U0205						
PU0352 IN00004.	U0241						
CU0203 INJ41	U0326						
CU0253 INJ42							
CU0323 INJ43							
PU0412 INITIAL.	U0076						
CU0300 INPUT							
CU0404 INVALU							
PU0423 ISYST	U0152						
PU0424 ITES7	U0217						
PU0123 .10	U0173						
PU0251 .100	U0221						
PU0254 .110	U0211						
PU0154 .20							
PU0260 .200	U0153						
PU0303 .210	U0302						
PU0305 .220	U0302						
PU0311 .230	U0310						
PU0313 .240	U0310						
PU0166 .30	U0165						
PU0174 .35							
PU0202 .40	U0165						
PU0212 .45	U0210						
PU0222 .50	U0220						
PU0111 .5							
PU0224 .60							
PU0231 .70	U0223						
PU0233 .80							
PU0240 .90	U0232						
PU0403 .1	U0120						
PU0434 .130000	U0220						
PU0412 .100	U0126						
PU0435 .100001	U0223						

P00036	..100002	00232							
P00047	..100003	00272							
P00050	..100004	00303							
P00051	..100005	00311							
P00022	..101	00140							
P00037	..201	00263							
P00052	..241	00316							
P00025	J	00161							
C01325	MAXMIRV	00003							
C01326	PAXNP	00207							
P00073	MIRVST	00073							
C00373	AGRE	00113							
C01323	MULTARG	00236							
C00540	MYFORM	00307							
C01414	MYGIC								
C00001	MYMIRV	00164							
C00374	MYNAME	00170							
C00000	MYNMIRV	00170							
C00121	MYPERMIT	00241							
C00704	MYTYPE	00327							
C01050	MYVAL								
C00013	NAMES								
C01360	NDEFLT								
C00051	APERMIT								
P00026	NPRINT	00203							
X00005	NUMGET	00333							
C00012	NVARS								
P00053	P0000000	00355							
P00365	P0000100	00370							
X00003	Q3000040	00300							
X00001	Q3010040	00107							
X00004	Q800100	00000							
X00012	QNSINGL	00347							
X00011	SLI	00130							
X00010	SLC	00142							
X00007	STH	00116							
C01321	TBMDEF	00110							
X00002	TEND	00121							
P00115	T5000001	00103							
P00170	T5000002	00157							
P00344	T5000004	00271							
P00333	T5000005	00325							
X00006	TSH	00124							
P00357	UP000000	00101							
P00372	UP000001	00364							
P00003	UP000002	00162							
P00100	W5000001	00206							
P00160	W5000002	00171							
P00015	W5000003	00253							
P00072	W5000004	00345							
P00326	W5000005	00334							
	VD146 SYMBOLS								

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SUBROUTINE MULCON 1JUN71 *****
C
DATA (NUNMAX=30)
DATA (N1CAX=10)
DATA (NAT=6)
DATA (N1JMAX = 2)
NUNMAX MAX NO OF WEAPONS PER TARGET
N1CAX MAX NO OF ARRIVAL BINS
NAT NUMBER OF ATTRIBUTES
NUNMAX NO OF HANDNESS COMPONENTS
MASTER 1JUN71 *****
USED BY ALLOCATE, MULCON, PREMIUMS, STALL, MAD, MADDUT, PRNTNGM,
RESVAL, AND DEFALOC
C
COMMON/MASTER/IMDATE,IDENTING,ISIDE,NRTPT,NCORR,NUPEN,NRECCVER
1NREF,NENDRY,NNEGTYPE,NRGUP,N1CTBASE,NPAYLOAD,NASMTYPE,NMHDTYPE
2NTANKBAS,NCOMPLEX,NCLASS,NALERT,N1GTG,NCCRTYPE,NCNTRY
EQUIVALENCE(NMGUP,NG)(NALERT,NC1HER)
MASTER *****
EQUIVALENCE(STKIN,INSTK)
TYPE INTEGER STKIN
ISIDE SIDE
IMDATE MONTH WITH DATE
IDENTNG DATA INPUT IDENTIFICATION NUMBER
N1RTPT NUMBER OF ROUTE POINTS
NCORR NUMBER OF CORRIDORS
NUPEN NUMBER OF DEPENETRATION CORRIDORS
NRECOVER NUMBER OF RECOVERY POINTS
NKEF NUMBER OF REFUEL POINTS
NENDRY NUMBER OF BOUNDARY POINTS
NKEG NUMBER OF REGIONS
N1TYPE NUMBER OF WEAPON TYPES
NRGUP NUMBER OF WEAPON GROUPS
N1CTBASE NUMBER OF BASES, TOTAL
NPAYLOAD NUMBER OF ENTRIES IN PAYLOAD INDEX TABLE
NASMTYPE NUMBER OF ASM TYPES
NMHDTYPE NUMBER OF WARHEAD TYPES
NTANKBAS NUMBER OF TANKER BASES
NCOMPLEX NUMBER OF COMPLEX TARGETS
NCLASS NUMBER OF WEAPON CLASSES(PRESENTLY 2)
NALERT NUMBER OF ALERT CONDITIONS(PRESENTLY 2)
N1GTG NUMBER OF TARGETS
NCCRTYPE NUMBER OF CORRIDOR TYPES
NCNTRY NUMBER OF COUNTRY LOCATION CODES
INSTK POINTS TO ACCOUT INPUT TAPE
*****
COMMON/FILES/1JUN71 *****
COMMON/FILES/1JUN71, BASFILE(2),MSLTIME(2),ALOC(2),
1 TMAPALOC(2),ALOCGRP(2),STKRPIL(2),EVENTAPE, PLANTAPE
C
TYPE INTEGER TMAPFILE, BASFILE, ALOC(2), IMPALOC,
1 ALOCGRP, STKRPIL, EVENTAPE, PLANTAPE, ALOC(2)
C
COMMON/FILABEL/ INIDENT, INRUNNO, INDATE, INFORM,
1 INSEC, INTIME, INLNUTW, INCOMM(5)
C

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C
COMMON/MTLABEL/ MYFORMT, MYSECH, MYLNGTH, MYCOMM(S)
COMMON/ITP/ITP
COMMON/PIIDENT/ PIIDENT
COMMON/ACPRINT/ ACPRINT
COMMON/IGRD/IGRD
EQUIVALENCE (I*GRD, I*WORD)
C
COMMON/LCCFIL/MPNTGT,ALCCT1,ITPMSL
C
C TYPE INTEGER MPNTGT, ALCCT1
C
C DATA (ALCCT1 = -3) * (ITPMSL = 1)
C
EQUIVALENCE (ALCCT2, ALCCTAR(1))
C
C TAPES *****
C TYPE INTEGER TOTIN, TGTOUT *****
C *****
C MPNTGT LJUNT1 *****
C USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNCH, RESVAL, DEFALCC *****
C
COMMON/MPNREG/CCREL(2J)
DIMENSION CC(2J)
EQUIVALENCE (CCREL(1),CC(1))
MPNREG *****
C
COMMON/MPNREG/CCREL(MREG)
MREG=20 MAXIMUM NUMBER OF REGIONS
CCREL COMMAND AND CONTROL RELIABILITY *****
C *****
C MPNTYPE LJUNT1 *****
C USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNCH, RESVAL, DEFALCC *****
C
COMMON/MPNTYPE/MANGE(80),CEP(80),SPEED(80),ALERTDLY(80)
1,ALERTDLY(80),MANGEDEC(80),ICLASS(80),MANGERE(80),REL(80)
2,ICHECKCODE(80), IPENHQUE(80)
TYPE REAL NALHJULY
MPNTYPE *****
C
COMMON/MPNTYPE/MANGE(MTYPE),CEP(MTYPE),SPEED(MTYPE)
1,ALERTDLY(MTYPE),NALHJULY(MTYPE),MANGEDEC(MTYPE),ICLASS(MTYPE)
2,MANGERE(MTYPE),REL(MTYPE),ICHECKCODE(MTYPE),IPENHCODE(MTYPE)
C
C MTYPE = 84 MAXIMUM NUMBER OF WEAPON TYPES
C RANGE WEAPON RANGE (NAUTICAL MILES)
C CEP WEAPON CEP (AVERAGED)
C SPEED WEAPON SPEED (KNOTS)
C ALERTDLY WEAPON DELAY WHEN ON ALERT STATUS
C NALHJULY WEAPON DELAY WHEN NOT ON ALERT STATUS
C MANGEDEC WEAPON RANGE DECREMENT FOR LOW ALTITUDE FLIGHT
C ICLASS WEAPON CLASS INDEX (1 FOR MISSILES, 2 FOR BOMBERS)
C MANGERE WEAPON RANGE WITH REFUELING (% MILES)
C REL WEAPON RELIABILITY
C ICHECKCODE EQUALS ONE FOR RECOVERY
C IPENHQUE EQUALS ZERO FOR TACTICAL AIR
C *****
C PAYLOAD LJUNT1 *****
CUSE

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C
C      USED BY ALLOCATE, MULCON, PREMIUMS, PRINTCON, RESVAL, UEFALCC
COMMON/PAYLOAD/NSBOMBL(40),IHD1(40),NCBOMB2(40),IHD2(40),
1,NASH(40),IASH(40),NCR(40),NDECOYS(40),NADECOYS(40),IMRV(40),
EQUIVALENCE (MP,MPAYLOAD), (NCM(1),ADEG (1)),
P(NDDECOYS(1),NDECOYS(1)), (NADECOYS(1),
SHADEC(1)), (NSBOMBL(1),NHD(1)),
DIMENSION ADEG(40),NDECOYS(40),NADECOYS(40),NHD(40)
PAYLOAD *****
COMMON/PAYLOAD/NSBOMBL(MP),IHD1(MP),NCBOMB2(MP),IHD2(MP)
1,NASH(MP),IASH(MP),NCR(MP),NDECOYS(MP),NADECOYS(MP)
EQUIVALENCE (MP,MPAYLOAD)
MPAYLOAD=40 MAX. NUMBER OF PAYLOAD TYPES
NCBOMBL NUMBER BOMBS OF BOMB TYPE
IHD1 BARHEAD TYPE INDEX FOR TYPE 1
NCBOMB2 DITC FOR BOMB2
IHD2 DITC FOR BOMB2
NASH NUMBER OF ASMS
IASH ASM TABLE INDEX
NCM NUMBER OF COUNTER MEASURES
NDECOYS NUMBER OF DECOYS
NADECOYS NUMBER AREA DECOYS
XUEG(1) FACTOR WHICH DEGRADES PKTA FOR WEAPON GROUP 6
NTEC NC. TERMINAL DECOYS IN MISSILE PAYLOAD
NADEC NC. AREA DECOYS IN MISSILE PAYLOAD
NHD NC. WARHEADS IN MISSILE PAYLOAD
*****
MPNGRP 1JUN71 *****
USED BY ALLOCATE, MULCON, PREMIUMS, PRINTCON, RESVAL, UEFALCC
STALL
C
C
C
COMMON/MPNGRP/MPNS(200),LAT(200),MLONG(200),
1,IMEG(200),ITYPE(200),ALEXT(200),SBL(200),IREFUEL(200),YIELD(200)
2,RETIME(200),EXPASM(200),MURGRP
EQUIVALENCE(IREFUEL,IPAY)
DIMENSION IPAY(200)
DIMENSION IOTHER(200)
EQUIVALENCE (IOther,IAlert)
EQUIVALENCE (MU,MURGRP)
MPNGRP *****
COMMON/MPNGRP/MPNS(MU),LAT(MG),MLONG(MG),IREG(MG),
1,ITYPE(MG),IAlert(MG),SBL(MG),IREFUEL(MG),YIELD(MG)
2,OSTAC(MG),MCRK)
DATA (MURGRP = 200)
MURGRP = 200 MAXIMUM NUMBER OF WEAPON GROUPS
MPNS TOTAL NUMBER OF WEAPONS IN ENTIRE GROUP
PLAT AVERAGED LATITUDE
MLONG AVERAGED LONGITUDE
IREG REGIONAL INDEX
ITYPE TYPE INDEX
IAlert INDEX OF ALERT STATUSIZERO FOR NONALERT,1 FOR ALERT)
SBL PROBABILITY OF SURVIVAL BEFORE LAUNCH
IREFUEL INDEX OF REFUELING AREA ASSIGNED TO GROUP(IZERO IF NONE
ASSIGNED -1 FOR BUDDY REFUELING)
IPAY INDEX TO PAYLOAD TABLE FOR MISSILES
YIELD YIELD OF BOMB-AVERAGED

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C      NEFTIME      TIME TO REFUEL BOMBER FROM GROUP G
C      DISTAC      DISTANCE FROM GROUP CENTROID TO CORRUPT ENTRY
CUSE   CONTROL      JUNT71 *****
C      USED BY MULCON, PREMIUMS, STALL, MAD, MADOUT, PRINTNG, DEFALOC,
C      AND PRINTCON
C
C      COMMON/CONTROL/STALADJ,CLOSE,MADOP,PROGRESS,QUALITY,NPASS,PRM,DELT
C      IVAL,COHR,STIME,VERIFY,CONRZ,IMATCH
C      1,MINDAMAG, LA(2), FALMIRV, TARFAC
C      TYPE INTEGER MADOP
C      TYPE REAL MINDAMAG
C      CONTROL *****
C      STALADJ DETERMINES WEIGHT GIVEN TO SIZE PROFIT VS EFFICIENCY
C      IN INITIAL ALLOCATION
C      CLOSE CONTROLS INITIAL SIZE OF STEP PREMIUM
C      MADOUT DETERMINES NEXT OPERATION BY MAD
C      PROGRESS MEASURES PROGRESS OF ALLOCATION
C      QUALITY DETERMINES MAXIMUM NUMBER OF CYCLES OF STALL REFINEMENT
C      NPASS MEASURES WHICH PASS
C      PRM CONTROLS INITIAL SIZE OF LINEAR PREMIUM
C      DELTVAL MAX DISCREPENCY IN IGT VALUE FOR ONE TGA BIN
C      COHR CONTROL SIZE OF CORRELATIONS
C      STIME OBSOLETE
C      VERIFY 0,1 VERIFY ALLOCATION IF 1.
C      2 TEST WITH CONRZ FOR COHR
C      MINDAMAG x MINIMUM REQUIRED MARGINAL FRACTIONAL DAMAGE
C      FALMIRV CORRELATION ARRAY FACTOR FOR MIRV SYSTEMS
C      LA(2) DAMAGE LAW USED
C      TARFAC MULTIPLIER FOR TERMINAL BOMBER DEFENSE LEVEL
C *****
C      DYNAMIC      JUNT71 *****
C      USED BY MULCON, PREMIUMS, STALL, MAD, MADOUT, PRINTNG, RESVAL,
C      DEFALOC, AND PRINTCON
C
C      COMMON/DYNAMIC/IGTNAME,INDEXNO,DESIGN,TASK,CNTRYLOC,FLAG,IGTMULT,
C      1,IGTLAT,IGTLONG,IGTRAD,VTC,MX(2),VC(2),NK,FVAL(3),TAU(3),IMCLASS,
C      2,ICLASSN,INTYPE,TARDEF,INDYPEN,DISTOF,UIDSTG,NBLN,CTMULT,VY,
C      3,IGTWT(3),PAYOFF,COST,PROFIT,DPROFIT,WRTEST,IMECT,NUMFIX,
C      4,IGTNUM,IG(30),KORM(30),HVAL(30),PEN(30),TCARR(30),LDN
C
C      TYPE INTEGER IGTNAME,DESIGN,TASK,CNTRYLOC,FLAG,TARDEF
C
C      EQUIVALENCE (DNARRAY,IGTNAME)
C
C      DATA(LDA = 45)
C
C      DIMENSION VTU(30)
C      EQUIVALENCE(VTU, RVAL)
C
C      DYNAMIC *****
C      COMMON/DYNAMIC/IC/IGTNAME,INDEXNO,IGTMULT,IGTLAT,IGTLONG,IGTRAD,VTC,M
C      1,M(2),VC(2),NK,FVAL(3),TAU(3),IMCLASS,INTYPE,TARDEF,INDYPEN,DISTOF
C      2,UIDSTG,NBLN,CIMULT,NUM,IG(30),KORR(30),VTU(30),VT
C      3,IGTWT(3),PAYOFF,COST,PROFIT,DPROFIT,WRTEST,IMECT,BLANK,ITGT

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C 4*PEN(30)
C FOR DEFINITIONS OF TGTNAME THRU TARDEF SEE/TARGET/
C NUMAX=JC MAXIMUM NUMBER OF WEAPONS PER TARGET
C INDYPEN INDEX OF DEPENDENT CORRIDOR ASSIGNED THIS TARGET
C DISTOF DISTANCE TARGET TO END OF DEPEND
C DISTOG DISTANCE TARGET TO RECOVERY BASE
C NBLN = MISDEF IF STALL ALLOCATION, =MISDEF IF DEFALO: ALLOCATION
C CTMULT CURRENT MULTIPLICITY
C VI SURVIVING TARGET VALUE
C TWTWT RUNNING TARGET *EIGHT
C PAYOFF PAYOFF ON PRESENT TARGET (PER TARGET MULTIPLE)
C COST COST ON PRESENT TARGET (PER TARGET MULTIPLE)
C PROFIT PROFIT ON PRESENT TARGET (PER TARGET MULTIPLE)
C DPROFIT CHANGE IN PROFIT SINCE LAST PASS
C WTEST USED IN PROGRAM ALLOC
C IMECT END OF TAPE SENTINAL (SET TO IMECT AFTER LAST GOOD RECORD)
C NUMFIX NUMBER FIXED WPNs THIS FIXED TGT
C ITGT TARGET INDEX INTERVAL TO ALLOCATE
C PEN PENETRATION PROB *WEAPONS ALLOCATED THIS TARGET
C NUM NUMBER OF *WEAPONS ALLOCATED THIS TARGET
C I9 INDEXES OF *WEAPONS ALLOCATED THIS TARGET
C KORR CORRIDOR
C VTU TOTAL EXPECTED UNDESTRUCTED TARGET VALUE
C TCARR WEAPON TIME OF ARRIVAL
C LUN LENGTH OF DYNAMIC ARRAY TO NUM
C *****
C COMMON/TARGET/NOT USED IN ALLOCATE, INCLUDED FOR DEFINITIONS ONLY
C COMMON/TARGET/TGTNAME, INDEANG, DESIG, TASK, CNTRYLOC, FLAG, TGTMULT,
C 1TGTLAT, TGTLONG, TGTTRAD, VIC, M, H1, H2, FVALH1, NK, FVALT1, FVALT2, TAU1,
C 2TAU2, TAL3, ICLASS, ICLCLASS, IHTYPE, TARDEF, MISDEF, MINKILL, MAXKILL,
C 4MAXCOST
C NOT MAY NOT BE USED NOT TO BE USED WITH COMMON/DYNAMIC/
C NGTE FTC MEANS FIRST TARGET COMPONENT
C TGTNAME FTC NAME
C INDEXNG FTC INDEX NUMBER
C DESIG FTC DESIGNATION CODE
C TASK FTC TASK CODE
C CNTRYLOC FTC COUNTRY LOCATION CODE
C FLAG FTC FLAG CODE
C TGTMULT NUMBER OF TARGET COMPONENTS
C TGTLAT AVERAGE LATITUDE
C TGTLONG AVERAGE LONGITUDE
C TGTTRAD FTC RADIIUS
C VIC FTC VALUE
C M FTC NUMBER OF HARDNESS COMPONENTS
C H1 FTC PSI OF 1ST HARDNESS COMPONENT
C H2 FTC PSI OF 2ND HARDNESS COMPONENT
C FVALH1 FTC FRACTIONAL VALUE 1ST HARDNESS COMPONENT
C NK FTC NUMBER OF TIME COMPONENTS
C FVALT1 FTC FRACTIONAL VALUE 1ST TIME COMPONENT
C FVALT2 FTC FRACTIONAL VALUE 2ND TIME COMPONENT
C TAU1 FTC 1ST TIME COMPONENT
C TAU2 FTC 2ND TIME COMPONENT
C TAU3 FTC 3RD TIME COMPONENT
C ICLCLASS FTC CLASS VALUE (MOLLEITH)
C ICLCLASS FTC CLASS INDEX

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C SIGP(G,N,JH) INCREASE IN VARIANCE FOR TGA SET N IF WPN G ADDED
C DIMENSION (G,N+1,JH)
C SIGD(N,N,JH) CHANGE IN VARIANCE FOR TGA SET N IF (N+1)TH WPN
C DELETED DIMENSION (N,N+1)
C DSIG(G) TEMPORARY VARIABLE VARIANCE CONTRIBUION OF WPN G
C VS SPECIFIED WPN KG DIMENSION (G)
C *****
C WADFINAL LJUN71 *****
C USED BY STALL, WAD, WADOUT, AND PRNTNCW
C
C
C COMMON/WADFINAL/
C 1 VTP(200),DELVT(30),NUMG,IG(30),ICP,ICPS,CTSPILL
C WADFINAL *****
C VTP(G) TOTAL EXPECTED UNDESTRUCTED TARGET VALUE WPN G ADDED
C DIMENSION (G)
C DELVT(N) DIFFERENCE IN EXPECTED UNDESTRUCTED TARGET VALUE (N+1)TH
C WPN
C DELETED AT TIME OF ALLOCATION
C NUMG NO WPNS ASSIGNED TGT ON OLD PASS
C IG(N) INDEX OF (N+1)TH WPN ASSIGNED ON OLD PASS
C ICP NO OF ADD AND DELETE OPERATIONS THIS PASS
C ICPS NO OF ADD AND DELETE OPERATIONS
C *****
C WADOUT LJUN71 *****
C USED BY STALL, WAD, WADOUT, AND PRNTNCW
C
C
C COMMON/WADOUT/
C 1 PVRMX,IPVRMX,PPMX,IPPMX,DVRMN,IPVRMN,DPMN,IPDMN,NUMMAX,NB
C ,TPMAX,NICA,NTCAX,VTMIN,VTMAX,ALPHA,VTEF,VTZG
C WADOUT *****
C NTGA NO TGA SETS ON TGT (NTCAP1=NTCA+1, NTCAP2=NICA+2)
C DIMENSION (1)
C MAX EFFICIENCY PVRMX AND ASSOCIATED WPN INDEX IPPMX
C MAX PROFIT PPMX AND ASSOCIATED WPN INDEX IPVRMX
C DVRMN AND IPVRMN NOT USED
C MP PROFIT DPMN AND ASSOCIATED WPN INDEX IDPMN
C NUMMAX MAX NO WPNS ALLOWED PER TARGET
C NB NUMBER WEAPONS NUM NOW ON TGT
C TPMX LARGEST PROFIT OR POTENTIAL PROFIT NOTED SO FAR
C NTGA NUMBER OF TIME ARRIVAL BINS USED
C NICA MAXIMUM NUMBER OF TIME ARRIVAL BIMS ALLOWED
C VTMIN DISTRUCTION OF TGT BELOW VTMIN CONSIDERED OF NO VALUE
C VTMAX MAXIMUM ACCEPTABLE SURV TGT VALUE
C ALPHA FACTOR ON VALUE--REQUIRED TO JUSTIFY VTMAX
C VTEF = MAX(1,VTMIN)
C *****
C WADUPN LJUN71 *****
C
C USED BY MULCON, PREMIUMS, WAD, WADOUT, PRNTNCW, RESVAL, DEFALOC,
C STALL, FHUP, SUMTSM, TABLEUP, MDALCRU
C
C
C COMMON /WADUPN/ JGTG, INACTIVE(200), TGA(200),
C 1 TVALTGA(200), VTGA(200+2), MUP(200+2), MISK(6+200+2),
C 2 SSIG(20+2), WINKILL, MAXKILL, MAXCOST, ILA*,
C 3 MISDEP, MGRM(200), PEK(200), XMUP(200+2), JGITA, LNEXT,

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4  MINKILX, MAXKILX, MAXCOST, MISDEF, NACTV, IGX(200), IGAX(200),
5  MCHRX(200), PEXX(200), STKX(200,2), STRX(200,2), LSTMAX
    9000
    10000
    11000
    12000
    13000
    14000
    15000
    16000
    17000
    18000
    19000
    316000
    317000
    318000
    319000
    320000
    321000
    322000
    323000
    324000
    325000
    326000
    327000
    328000
    329000
    330000
    331000
    332000
    333000
    334000
    335000
    336000
    337000
    338000
    339000
    1000
    2000
    3000
    4000
    5000
    6000
    7000
    8000
    9000
    10000
    11000
    12000
    13000
    14000
    15000
    16000
    17000
    18000

C  TYPE REAL MUP, MINKILL, MAXKILL, MAXCOST
C  TYPE REAL MINKILX, MAXKILX, MAXCOST
C  DIMENSION STARRAY(100), ISTARRAY(100)
C  EQUIVALENCE (STARRAY, ISTARRAY, JIGTX)
C  DATA (LSTMAX = 1607)
C  MCHRXN *****
C  FORMERLY COMMON TGTDATA OR STATIC DATA
C  TCA(G) TIME OF ARRIVAL OF WPN IN GROUP G AT TGT
C  TVALTCA(G) UNATTACHED TGT VALUE AT TCA FOR WPN IN GROUP G
C  VICA (G,JH) UNATTACHED VALUE COMP JH AT TCA FOR WPN IN GROUP G
C  MUP(G,JH) CONTRIBUTION OF WPN G TO MEAN IF ADDED (=LN(S))
C  MISK(A,G,JH) SORTF(2,SUM=CDE(GAMACDE*LN(MODEX)/LN(TK)))
C  SSIG(G,JH) SORTF(LN(S))
C  MINKILL MIN. ACCEPTABLE KILL PROB
C  MAXKILL MAX. KILL PROB DESIRED
C  MAXCOST MAX(WEAPON COST/TGT VAL) ACCEPTABLE TO ACHIEVE MINKILL
C  *****
C  DIMENSION RIGT(13)
C  *****
C  DEFENSE LJUN71 *****
C  COMMON/DEFENSE/NTX(3),PA(3),PRX(2),RADPX,TINTFAC
C  DEFENSE *****
C  *****
C  NTX ESTIMATES OF TERMINAL INTERCEPTORS PRESENT
C  PA PROBABILITY THAT NIX OCCURRED
C  PRX TERMINAL INTERCEPTOR KILL PROBABILITY AGAINST UNARMED WARM
C  MA NTX/MISDEF UPPER AND LOWER DEVIATION FROM MISDEF
C  PHA PROBABILITY THERE ARE MAX/MISDEF INTERCEPTORS
C  RADPX RANDOM AREA DEFENSE KILL PROBABILITY
C  TINTFAC MULTIPLICATION FACTOR FOR MISDEF
C  *****
C  FIXED LJUN71 *****
C  USED BY MULCON, STALL, DEFALSC, HDALGRU
C  *****
C  COMMON/FIXED/IFIGT, ISTORE(8),IFM(31), TIME(30), NFIAmps,
1  SX(5), IFIXSEG, IFIXEND, SAVEFIX, IADU
C  *****
C  TYPE LOGICAL SAVEFIX
C  DIMENSION ITIME(30), IS(S)
C  EQUIVALENCE (ITIME, TIME), (IS,SX)
C  *****
C  IFIGT INDEX OF FIRST FIXED TARGET
C  ISTORE TEMPORARY STORAGE AREA
C  IFM INDEXES OF WEAPONS FIXED THIS TARGET
C  TIME WEAPON TIME OF ARRIVAL
C  NFIAmps TOTAL NUMBER OF FIXED MISSILES
C  SA SCRATCH ARRAY
C  IFIXSEG ASSIGNMENT INPUT INDEX
C  IFIXEND ASSIGNMENT INPUT INDEX
C  SAVEFIX WRITE MSRTIME FILE ONLY IF TRUE

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C      L400      IF NEGATIVE - NO FIXED ASSIGNMENTS FROM TGTFILE
C      C         IF ZERO - FIXED ASSIGNMENTS ACCORDING TO TGTFILE
C      C         IF POSITIVE - FIXED ASSIGNMENTS FROM TGTFILE AND
C      C         CARD INPUT
C      C
C      COMMON/FIXEDASS/IFIXCMP(10), IFIXTAPE, 18CD, NLFTAR
C      C
C      IFIXTEMP TEMPORARY STORAGE AREA
C      C
C      IFIXTAPE LOGICAL UNIT NUMBER - FILEHANDLER FILE
C      C
C      18CD     LOGICAL UNIT NUMBER - BCD FILE
C      C
C      NLFTAR   NOT ZERO IF MORE FIXES FOR THIS TARGET ON TGTFILE
C      C
C      CENQ      FIXED
C      CUSE      SMAT
C      C         1JUN71
C      C
C      COMMON/SMAT/SMAT(6,5)*LSMAT,SMATMIRV(3),SHNOMIRV(3)
C      C
C      D-TAILSMAT = 3U)
C      C         SMAT
C      C
C      CSUBR     MOLCON1 /JUN71
C      C
C      TYPE INTEGER A, G9
C      TYPE REAL LAMBDA
C      DATA (NBSU)
C      DATA (G=0)
C      DATA (NINPR=3)
C      C
C      DIMENSION CURSUM(310)*NCWPS(310)
C      TYPE REAL NCWPS
C      C
C      CALL TIMEW(-1)
C      ONEN = -1.0
C      KNTGTS = NIGTS
C      C
C      SET UP FILE INDEXES
C      TGTIN = ALLOC1
C      TGTOUT = ALLOC2
C      NIGTIN = THSCRATCH
C      NIGTOUT = THALOC1AK
C      ITP = TGTFILE(1)
C      MYIDENT = THIGFILE
C      CALL SETREAD
C      ITP = TGTOUT
C      MYIDENT = NIGTOUT
C      MYLENGTH = ALLOCAR(2)
C      CALL SETWRITE
C      TEMPORARY MSLTIME FILE
C      ITP = ITHPMSL
C      MYIDENT = THSCRATCH
C      CALL SETWRITE
C      RESERVE SCRATCH FILE FOR ALLOC1 FILE
C      ITP = IGTIN
C      MYIDENT = THSCRATCH
C      CALL SETWRITE
C      SET UP DAMAGE TABLE
C      CALL SETABLE

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C      CALL RDALCHU      READ USER INPUT PARAMETERS
      ILGT = 1
      NPASS = 1
      CALL PHNICON
      CALL PHNTALL(1)

C      *****
C      C 400 ESTABLISH ATTRIBUTE INDEX TABLE
C      C 401 DC 410 G=1,NG
C      K=1 TYPE(G)
C      JATTRIB(1,0)=2
C      JATTRIB(2,0)=2*G
C      JMEG=2*NG
C      JATTRIB(3,0)=JMEG*IREG(G)
C      IF (IREG(G).EQ.0) *2,403
C      JATTRIB(3,0)=1
C      JCLASS=JMEG*REV
C      JATTRIB(4,0)=JCLASS*ICLASS(K)
C      IF (ICLASS(K).EQ.0) 404,405
C      JATTRIB(4,0)=1
C      JCTYPE=JCLASS*NCLASS
C      JATTRIB(5,0)=JCTYPE*ITYPE(G)
C      IF (ITYPE(G).EQ.0) 406,407
C      JATTRIB(5,0)=1
C      JCTHET=JCTYPE*NTYPE
C      JATTRIB(6,0)=JCTHET*ICOTHER(G)
C      IF (ICOTHER(G).EQ.0) 408,409
C      JATTRIB(6,0)=1
C      NTATTRIB=JCTHET*NCOTHER
C      JATTRIB(7,0)=NTATTRIB
C      IF (NTATTRIB.GT.MATTRIB) 411,410
C      TO PRINT (EXCESSIVE GROUP ATTRIBUTES) AND STOP
C      410 CONTINUE
C      GO TO 501
C      411 PRINT 412
C      412 FORMAT(27H EXCESSIVE GROUP ATTRIBUTES )
C      STOP

C      *****
C      C 500 CALC NUMBER OF NPS ASSOCIATED WITH EACH ATTRIBUTE (NOMP(S(J))
C      C AND INITIALIZE LAM(G)
C      C 501 DC 502 J=1,NTATTRIB
C      C 502 INITIALIZE NOMP(S(J))
C      C 502 NOMP(S(J)) = 0
C      C 504 G=1,NG
C      LAMBDA=1*G
C      DC 503 IAT=1,NAT
C      J=JATTRIB(IAT,0)
C      LAMBDA=LAM(J)*LAMBDA
C      NOMP(S(J))=NOMP(S(J))+NPS(S(G))
C      LAM(G)=LAMBDA

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      LAMF(6)=LAM(6)
504 CONTINUE
      CALL PHNTALL(11)

C *****
C 600 INITIALIZE MULCON VARIABLES
C *****
      601 MULSTEP=1
      1STEP=0
      PROGRESS=0.0
      ALLPREM=CLOSE
      PRCCMULT=.001
      SPAYOFF=0.0
      SUMCOST=0.0
      SUPRCFIT=0.0
      SPRCFIT=0.0
      SPRCFIT=0.0
      CMTST=100.0
      NUMQ=0 SIGPS=0
      PROVIDE INITIAL ESTIMATE OF DEPENDENCE OF RATE ON LOCAL LAMBDAS
      DO 602 J=1,NIA(THID)
      CURSUM(J)=0.0
      602 CONTINUE

C *****
C 603 INITIALIZE RUNNING SUMS
      DO 605 INTPRD=1,INTPRD
      WIFAC(INTPRD)=W+SQR(F(XNTGTS))
      WISUM(INTPRD)=WISUM(INTPRD)+WIFAC(INTPRD)
      DO 604 J=1,NIA(THID)
      604 RUNSUM(J,INTPRD)=NCAPS(J)/WIFAC(INTPRD)

C *****
C 605 INITIALIZE TARGET WEIGHT VARIABLES
      RTGTW(INTPRD)=1.0
      WTRATE(INTPRD)=1.0
      605 RTGTW(INTPRD)=WTRATE(INTPRD)*RTGTW(INTPRD)

C *****
C 606 INITIALIZE ALLOCATION RECORDS
      DO 605 I=1, NG
      606 NALL(I)=0
      RNALL(I)=0.0
      605 SUMPR(I)=0.0
      11GT=C
      MY3 = NTGTS / 3
      CALL INITGET
      CALL TIMEPE(1)
      GO TO 601

C *****
C 700 BRANCH TO DC CALCULATIONS FOR FIRST PASS OF TARGET TAP
C *****
C 701 CONTINUE
      CALL TIMEPE(10)
      CALL PHNTALL(21)
      CALL PHNTALL(4)
      CALL PHNTALL(5)
      CALL PHNTALL(23)

```



```

C
C
C *****
C INITIALIZATION FOR FIRED ALLOCATION
C AND CALCULATION OF WEAPON - TARGET INTERACTIONS
C
801 DC 9000 I = 1, 30
9000 IF(I)=C
      IFW(31) = 2M
      DC 9001 J=1,30
9001 KCHR(J)=C
      NUMFIX=C
      CALL GETDATA
      ISTART = IFIXBEG
      CALL PHATCON
      IF(IITGT - IIGT) 950, 926, 1001
      INPUT ERROR - CARDS OUT OF SEQUENCE
C
950 PRINT 951, IITGT, ISTORE
951 FORMAT('FIXED ASSIGNMENT REQUESTS OUT OF SEQUENCE. ONLY REQUESTS
1 PRECEDING THE FOLLOWING CARD WILL BE PROCESSED.//', I1, I10, B8)
      IITGT = 99999
      GO TO 1001
C
C SET FLAG FOR MORE FIRES BUT HEAD NEXT CARD ONLY IF THERE IS MORE
C
926 IF(31) = 2MAX
      IF(IFIABEG .GT. 30) GO TO 1001
      READ #PNS FIRED THIS IGT
      DECODE(62, 928, ISTORE(1)) (IFW(J), ITIME(J), J = IFIABEG,
1 IFIXEND), IFW(31)
C
928 FORMAT(6('03,A7),A2)
929 IF(IFI(31)=20,2M) 943, (IFIEND+GE,30) 9450, 927
927 IFIXBEG = IFIXEND + 1 $ IFIXEND = IFIXEND + 6
      IF(IFIABEG .GT. 30) IFIXEND = 30
      IF(IFIABEG) 932, 933, 932
932 IIP = IFIXABEG $ CALL ROADWAY(IFIABEG, IIGT)
      DECODE(72, 929, IFIXTEMP) (IFW(J), ITIME(J), J=IFIABEG, IFIXEND), IFW(31)
      GO TO 925
933 READ (IRCU, 929) (IFW(J), ITIME(J), J=IFIABEG, IFIXEND), IFW(31)
929 FORMAT(10A30('03,A7),A2)
      GO TO 925
9450 IF(IFIABEG) 942, 943, 942
942 IIP = IFIXABEG $ CALL ROADWAY(IFIABEG, IIGT)
      DECODE(74, 930, IFIXTEMP) (IS(1), IS(2), (ISTORE(J), J=1,8)
      GO TO 944
943 FORMAT(8A30('02,B4))
943 READ (IRCU, 930) IS(1), IS(2), (ISTORE(J), J = 1, 8)
944 IITGT = NUMGET (IST(1), IGT)
944 DC 941 J = ISTART, IFIXEND
941 IF (IFW(J) .EQ. 3M) GO TO 941
      IFW(J) = NUMGET (IFW(J), 3)
      IF (IFW(J) .LE. 0.0R) IFW(J) = 0.01
931 NUMFIX = NUMFIX + 1
      IGT(NUMFIX) = IFW(J)
      ITIME(NUMFIX) = ITIME(J)
      GO TO 941
C
951 PRINT 952, IFW(J), IITGT, DESIG

```

1522

```

1221 ITP=ITGCT1 3 CALL WARRAY(DNARRAY,LDN)
      IF (IMECT = JMECT) 1224,1231,1224
1224 IF (NUM) 1223, 1223, 1225
1225 NDT = 5 * NUM
      ITP = IGTIN
      CALL RUARWAY(IU, NDT)
      ITP = IGTCT1
      CALL WARRAY(IU, NDT)
      GO TO 1223
1221 IF ((ITGT,GT,IFINTGT),AND,(NPASS,GT,IFNPASS)) 1231, 1301
      C PROCESS COMPLETE TERMINATE ALL TAPES
1231 ITP=ITGCT1 3 CALL TERMTAPE
      ITP=ITGCT1 3 CALL TERMTAPE
      PRINT 1232
1232 FORMAT(// * END OF WEAPON = TARGET PROCESSING*//)
      CALL PRINTN(4)
      CALL PRINTN(12)
      CALL SORTMIS
      CALL TIMEF(19)
      CALL PRINTN(123)
      IF (INSTK = 0) ALLOCIA(1) RETURN
      MYIDENT = THSCHATCH
      ITP=ALGCT1 3 CALL SET READ
      MYIDENT = THALOCCTAR
      MYLENGTH = ALLOCIA(2)
      ITP=ALGCT2 3 CALL SETWRITE
1241 ITP=ALGCT1 3 CALL RUARWAY(DNARRAY,LDN)
      ITP=ALGCT2 3 CALL WARRAY(DNARRAY,LDN)
      IF (IMECT = 0) JMECT 1282, 1280
1280 IF (NUM) 1281, 1281, 1283
1283 NDT = 5 * NUM
      ITP = ALGCT1
      CALL RUARWAY(IU, NDT)
      ITP = ALGCT2
      CALL WARRAY(IU, NDT)
      GO TO 1281
1282 ITP=ALGCT1 3 CALL TERMTAPE
      ITP=ALGCT2 3 CALL TERMTAPE
      CALL TIMEF(19)
      CALL PRINTN(123)
      RETURN
C *****
C C130 REMOVE EARLIER CONTRIBUTION OF SAME TARGET TO RUNNING SUMS
C
1301 DC 1302 INTRD=ININTRD
1302 WISUM(INTRD)=WISUM(INTRD)-((GTWT(INTRD)/WTFAC(INTRD))*(CTMULT/
      IGTIMULT))
      REVCCST=0.0
      DC 1323 N=NUMO
      G=IGC(N)
      NNWP = I
      IF (KORR(N)) 1306, 1307, 1307
1306 NNWP = -KORR(N)
1307 DC 1323 NN = 1 * NNWP
      SCRPWP(G)=SUMWP(G)+CTMULT
263000
264000
265000
266000
267000
268000
269000
270000
271000
272000
273000
274000
275000
276000
277000
278000
279000
280000
281000
282000
283000
284000
285000
286000
287000
288000
289000
290000
291000
292000
293000
294000
295000
296000
297000
298000
299000
300000
301000
302000
303000
304000
305000
306000
307000
308000
309000
310000
311000
312000
313000
314000
315000
316000
317000
318000

```

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NEVCOST=NEVCOST+LAMEF(G)
KNALL(G)=KNALL(G)-CTMULT
DC 1313 IAT=I,INT
      JAJATIRID(IAT,G)
      DC 1303 INPKO=I,INIPRO
1303 NUNSUM(J,INIPRO)=NUNSUM(J,INIPRO)+(IOT*I(INIPRO)/N*TFAC(INIPRO))*
      CTMULT
1313 CONTINUE
1323 CONTINUE
      SPAYOFF=SPAYOFF-PAYOFF*CTMULT
      SUMCOST=SUMCOST-COST*CTMULT
      SPROFIT=SPROFIT-PROFIT*CTMULT
      IF (PROGRESS.LI.1.0) 1305,1305
1304 SPROFIT=SPROFIT-DPROFIT*CTMULT
1305 DPROFIT=PAYOFF-NEVCOST
C
C *****
C1400 CALL STALL FOR ALLOCATION TO TARGET AND UPDATE RUNNING
C      VARIABLES FOR NEW ALLOCATION
C *****
1401 CTSPILL=0.0
      MULCON2 1JUN71 *****
CSUBR CALL PRNTALL(6)
      CALL PRNTALL(7)
      CALL PRNTALL(8)
C FOR FIXED ALLOCATION
C FOR ALL NPASS, MISDEF GT 0, NUMFIX GT 30, CALL DEFALOC DIRECTLY
C NPASS=L,MISDEF=0,NUMFIX GT 30,READ EXCESS,PRINT ERROR,CALL STALL
C FOR ALL NPASS,ALL MISDEF,NUMFIX LT 30, CALL STALL
      IF (NPASS.GT.1) 1418,1419
1418 IF (NUMFIX.GT.30) 1420,1421
1419 IF ((IFIXEND.GE.30).AND.(IFM(31).NE.2M )) 1420, 1421
1420 IF (MISDEF.GT.G) 1420,1423
1423 PRINT 1425,ITGT
1425 FORMAT(1X,119(IH0),//7M TARGET,16,31M HAS MORE THAN 30 WEAPONS
      ,FIXED,1X,119(IH0))
1431 DECODE (6, 1425, ISTONE(8)) IFM(31)
1442 IF (IFIXTAPE.EQ. 0) 1443, 1442
1442 IF (IFIXTAPE.EQ. 5) CALL MDARRAY(IFIXTEMP, 10)
      DECODE(174,300,IFIXTEMP) IS(1), IS(2), (ISTONE(J) + J,1,8)
      GO TO 1444
1443 HEAD(1800,300) IS(1), IS(2), (ISTONE(J), J = 1,8)
1444 IFITGT = NUNGET(15(1), 10)
1429 FORMAT(4X,A2)
      IF (IFM(31).NE.2M ) 1431, 1421
1426 IF ((IVERIFY.EQ.2).AND.(PROGRESS.EQ.2.)) 1412,1427
1427 PROFIT=10.E+6
      GO TO 1412
1421 CALL TIMEE(5)
      CALL STALL
      CALL TIMEE(6)
      IF ( MISDEF .GT. G) 1412, 1407
1412 CALL DEFALOC
      CALL TIMEE(7)
1407 CONTINUE

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DC 1492 LUSLNUM
IT = IG(LU)
IF (NRBA .LT. 0) 1409, 1408
1408 KRR(LU) = KRR(LIT)
1409 PER(LU) = PER(LIT)
HVAL(LU) = DELVT(LU) / LAMEF(LIT)
1492 TCARR(LL) = TCAR(LIT)
ICPS=ICPS+ICP
C AUGMENT RUNNING SUMS
DC 1402 INTPRD=1+INTPRD
TGTWT (INTPRD)=TGTWT+I(INTPRD)
1402 WTSUM(INTPRD)=WTSUM(I+INTPRD)+TGTWT (INTPRD)*(CTMULT/TGTMULT)
C
DC 1406 NSELNUM
G=IG(N)
NMEP = 1
IF (KORD(N)) 1410, 1411, 1411
1410 NAMEP = KGRK(N)
1411 DC 1406 NN = 1, NMEP
NALL(G)=NALL(G)+CTMULT
NVAL(G)=NVAL(G)+CTMULT
UC 1405 IAT=INAT
JAJATTIR(IAT,G)
COKSUM(J)=COKSUM(J)+CTMULT
DC 1403 INTPRML=INIPKO
1403 KUNSUM(J,INTPRD)=RUNSUM(J,INTPRD)+TGTWT (INTPRD)*CTMULT
1405 CONTINUE
1406 CONTINUE
DPRCFIT=PHCFIT+OPRCFIT
DELTEFF=OPRCFIT/VALPNS
SOPRCFIT=SOPRCFIT+OPRCFIT*CTMULT
SPAYOFF=SPAYOFF+PAYOFF*CTMULT
SUPCOST=SUMCOST+COST*CTMULT
SPRCFIT = SPCFIT+PHCFIT*CTMULT
SUELTEFF=SOPRCFIT/VALPNS
CALL TIMEE(6)
CALL PRNTALL(2)
CALL PRNTALL(24)
C *****
C1500 WRITE PRESENT ALLOCATION STATE ON FILE
      *TEST=TRATE(MINTPRD)
C WRITE DYNAMIC FILE
IF (PROGRESS.GE.2) 1511,1501
1501 MYIDNT = NTGTOUT
C
C THESE MASKING EXPRESSIONS HELP NEUTRALIZE FILE I/O ERRORS
C
INDEXNO = INDEXNO + AND. 377778
IF (INCLASS .EQ. THCOMPLEX .OK. INCLASS .EQ. RMCOMPLEAD) 1509,151C
1509 INTYPE = INTYPE + AND. 778
1510 ITP = IGTOUT
      * CALL *HARRY(DHARRY, LUN)
      * IF(NUM) 1513, 1513, 1512
1512 CALL *HARRY(IG, NUM)
      * CALL *HARRY(KRR, NUM)
      * CALL *HARRY(HVAL, NUM)
      * CALL *HARRY(PER, NUM)

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CALL WHARRAY(TCARR, NUM)
1513 CALL TIME(9)
1511 PROCMULT=PROCMULT+CTMULT
1512 IF (CTSPILL+GT+.1) 1504,1503
1502 INDEX=INDEX+CTMULT
CTMULT=CTSPILL
C CORRECT PREMIUMS FOR PORTION JUST SPILLED
DC 1505 NWZ=INUMC
IGZ=IGC(NWZ)
NWEP = 1
IF (KORR(NWZ)) 1508, 1505, 1505
1508 NWEP = -KORR(NWZ)
1505 SURP=PIGZ) = SURP+PIGZ) * CTSPILL * NWEP
DC 1507 IGT = 1. * N
IF (INACTIVE(IGZ)) 1507, 1506
1506 CALL PREMIUMS(IGZ)
1507 CONTINUE
C AND PROCESS PORTION JUST SPILLED
CALL TIME(8)
GO TO 1401
1503 IF (PROCMULT+LF+TGTMULT) 701,1504
C RETURN TO PROCESS PART PREVIOUSLY SPILLED WITHOUT ADJUSTING LAMBDAS
1504 PROCMULT=.0001
IF (XKOCF(IGT,MY3) < 0.5) CALL PRNTALL(3)
IF (IGT-EG-NIGTS) 1501,1709
C *****
C 1600 REJND TAPES AND INTERCHANGE READ AND WRITE UNITS *****
C 1601 INEOT = 3HEOT
NUM = 0
IIP=IGTCUT $ CALL WHARRAY(DWHARRAY,LDN)
IIP=IGTIN $ CALL TERM(AVE)
1605 IIP=IGTCUT $ CALL TERM(TAPE)
NIAPETEM=IGTIN
TGITIN=IGTCUT
TGTCUT=TAPEIEM
NIAPETEM = NIGTIN
NIGTIN = NIGTCUT
NIGTCUT = NIAPETEM
IIP = IGTIN
MYIDENT = NIGTIN
CALL SETREAU
MYIDENT = NIGTCUT
MYLENGTH = ALLOCAR(2)
IIP=IGTCUT $ CALL SETWRITE
CALL TIME(9)
IF (INPASS-EG-3) AND (PROGRESS-175)) 1604,1606
1604 PROGRESS = 2.0 $ IVEIFY = 0 $ STRIN = ALOCTC
PRINT 1603
1603 FCRMAT(1M,119(1M))//UNSATISFACTORY PROGRESS. RUN TERMINATED*)
1606 IF (INPASS-EG-1) 1607,1615
C*** REMOVE WPN GROUPS WITH NO TARGETS
1607 DC 1608 J=1,INT(17PIR
1608 NCWPS(J)=0.0

```



```

C      DO NOT CHANGE LOCAL MULTIPLIER
C      *****
C2100 CHECK ERROR ESTIMATES FOR CONSISTENCY OF SIGNS
C      *****
C      2101 DO 2402 J=2,NINT(NTGTS)
C            IF (NCMPS(J).LT.5) 2402,2103
C2103 IF ((PROGRESS-GE.75).OR.(NPASS-GE.2)) 2104,2105
C2104 SIGN=ALERRST(J,1)
C            GO TO 2106
C2105 SIGN=(CURSUM(J)/MULSTEP)-NCMPS(J)/NTGTS
C2106 CURSUM(J)=0.0
C            DO 2102 INTPROD1,INTPRD1
C              IF (SIGN*ALERRST(J,INTPRD1) .LT. 0.0) 2402,2102
C2102 CONTINUE
C      *****
C      2301 TEMP=ALERRST(J,INTPRD1)
C2302 CORRATE=TEMP/TEMP/(NCMPS(J)/NTGTS)+SENSVITY*FSNSVITY/NTGTS
C            (NOTE FSNSVITY*.67*.0.0 NEEDED TO SUSTAIN CONVERGE-GE IN FINAL
C            CORFAC*CORRATE*MULSTEP
C            IF (CORFAC .GT. .5) 2303,2401
C2303 CORFAC=.5
C      *****
C      2401 LA(J)=LA(J)*(1.0-(CORFAC*TEMP/CNEN)/(TEMP+2.*NCMPS(J)/
C            INTGTS))
C2402 CONTINUE
C2403 LA(1)=1.0
C      *****
C      2501 VALPNS=0.0
C            VALERR=0.0
C            DO 2503 G=1,NG
C              LAMBDA=1.0
C              DO 2502 INT=1,INT
C                J=JATTRIB(LA(G))
C                LAMBDA=LA(J)*LAMBDA
C              LAM(G)=LAMBDA
C              VALPNS=VALPNS+LAMBDA*NCMPS(G)
C              VALERR=VALERR+LAMBDA*ABS(SUPPRP(G))
C2503 LAMEF(G)=LAM(G)

```



```

C
C *****
C2600 RECALCULATE THE INTEGRATION PERIODS
C
C2601 SUMSQERR=0.0
      NGP2=NG*2
      DO 2602 J=3,NGP2
        TEMP=ALERRST(J,INTPRD)
        SUMSQERR=SUMSQERR+TEMP*TEMP
      2602 SUMSQERR=SUMSQERR*TEMP
C
C *****
C      ERRMR EXPCTED STATISTICALY=TOT. #PNS. * TOT. TOT. / INT. PERIOD
C      SO CALCULATE THEORETICAL INT. PERIOD AS FOLLOWS
C
C2603 EAPINTPD=NG*P2/(SUMSQERR*NTGTS)
C
C      CALCULATE DESIRED BASIC INTEGRATION PERIOD (KINTPRD)
C2604 DESINTPD=EXPINTPD*RATIGINT
C      (NOTE WEIGHT FACTOR =1.0*1.0/DESINTPD) ---APPROX.
C
C      CALCULATE WEIGHT FACTORS
C      CRATE=RATE
C2605 WATE=MAX1F(0.0,(1.0/DESINTPD)-(2.0/(NTGTS*RATIGINT)))
      WATE=MIN1F(WATE,.07)
      IF (PROGRESS-GE.-5) 2615,2616
C2615 WATE=MIN1F(WATE,WATE)
C2616 WATE=(INTPRD)*WATE
      INTPD=INTPRD
      WATEI=WATE*(INTPRD-1.0)/NTGTS
C2606 INTPD=INTPRD-1
      WATEI=RATEI*INTPRD
      WATE=(INTPRD)=1*WATEI
      IF (INTPRD .GT. 1) 2605,2608
C2608 CONTINUE
C
C *****
C2700 EVALUATE PROGRESS
C2701 IF (PROGRESS-LE.0) 2702,2705
C2702 MULTSTEP=2
C2703 PROGRESS=.4
      I=AIT = 0
      GO TO 701
C2705 IF (PROGRESS-LE.1.0) 2713,2708
C2713 IF (PROGRESS-LE.5) 2714,2706
C2714 IF (WATE .LI. CRATE .OR. WATE .EQ. 0.0) 2706, 701
C2706 IF (WATE-NE.0.0) 2716,2707
C2716 I=AIT=0
      PROGRESS=.5
      GO TO 701
C2707 MULTSTEP=4
      PROGRESS=.75
      WATEI=NTGTS*SETTLE
      IF (I=AIT-NT.0) 2717,2718
C2717 PROGRESS = 1.0
      I=AIT=0

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PTMS.5

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SUPRCFIT=0.0
PFM=.9
GC TO 7C1
2718 I=AIT = I+AIT*MULSTEP
GC TO 7C1
2719 CLOSE=CLOSE+CLOSE*MULSTEP/NTGTS
I=AIT=I+AIT*MULSTEP
IF(I=AIT*GT.1.5*NTGTS) 2709,2711
2711 IF (VALERR.LT.VAL*PNS*ERRCLOS) 2709,2710
2710 IF (SUMSQERR.LT.1/(XNTGTS*NTGTS)) 2709,701
2709 PROGRESS=.0
IF (I=VERIFY.EQ.2) 2720,2721
2720 CORR = CORR2
2721 IF (INTGT = INTGT)
SIRKIN=TGTCUT
SUPRCFIT=0.0
PRINT 2722
2722 FORMAT(// * FINAL WEAPON ALLOCATIONS//)
CALL PRINTNM(4)
CALL PRINTNM(2)
GC TO 7C1
END
315000
316000
317000
318000
319000
320000
321000
322000
323000
324000
325000
326000
327000
328000
329000
330000
331000
332000
333000
334000
335000
336000
337000

```

MULCON

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

MULCON
MASTCH
FILES
FILABEL
MYLABEL
ITP
MYIDENT
NOPRINT
TACRU
LCCFIL
WPNRES
WPNTPPE
PAYLOAD
WPNRMP
CONTROL
DYNAMIC
FORMATS
LAMBDA
MULADJ
PRINTCON
222
NALLY
PAYOFF
PRINEED
PRINT
PRINTADD
PRIMULL
333
WADFINAL
WADGUT
WADPP
DEFENSE
FIXED
FIXEDASS
SWAT

IDENT
MULCON

VSJ2U
J1415
J0J27
J0J2U
J0J14
J0J1U
J0J01
J0J01
J0J01
J0J01
J0J03
J0J24
J156U
J0J2U
J4231
J0J22
J0J04
J0J02
J144U
J0J07
J0J54
J6464
J0J2U
J0J07
J0J02
J0J01
J0J12
J0J1U
J265U
J0J1U
J0J22
J4726
J0J15
J0J2U
J0J15
J0J45

EXTERNAL SYMBOLS

THEND
OBWSTOPS
Q1002100
Q1005100
Q1010100
Q1014100
Q103100
OBWDICT
TIME
SETREAD
SETWRITE
SETABLE
RDALLMD
PRINTCON
PRINTALL
INITSET
GETDATA

5.4TS MULCON

RUARWAY
NUMGET
WRARWAY
TERMIAPE
PANTHOM
SCHTMIS
STALL
DEFALOC
PREMIUMS
XACUF
SURTF
MINIF
MAXIF
TSH.
DEC.
STR.
SLC.
QNSINGUL.

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ED 0

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5.ATS	MULCON	11/29/71	ED	0	PAGE NO.	20
C04133	ALERREST	04352	04376	04427	04461	04612
C00360	ALERTOLY	04123				
P05241	ALLPHRM					
C00012	ALCCGRP					
C00006	ALCCIT	01105	01435	03023	03047	03064
C00006	ALCCIT	01436	03016	03031	03071	04131
		04131				
C00006	ALCCTAR	01456	03000	04106		
C00017	ALPHA					
C00002	BA5FILE					
P05170	BEGIN.	05173				
C00006	BPENFAC					
C00000	CC					
C00000	CCREL					
C00120	CEP					
C00001	CLOSE					
C00003	CLOSEW					
C00004	CNTBYLOC					
P05065	CNVRT1.	01722	05004	05005		
		04777				
		02137	04177	02241	02273	02322
		02324	02350	02354	03306	03336
		04344	03362	03370		
		04502	04507			
		05033				
P05242	CORFAC					
C00010	CORR					
C00013	CORR2					
P05243	CORR2E					
C00045	CCST					
P05244	COUN1	03225	03621	03744	02022	02461
		01604	01605	02601	03200	03451
		02403	02506	03757	04151	04236
		03503	03565	04303	04371	04544
		04240	04254			
		04610				
P01165	CRFAT.	01633	02203	02341	03404	05050
C00037	CTMULT	03121	03152	03160	03202	03231
		03237	03507	03540	03557	03614
		03617	03625	03735	03752	
		04244	04245	04737	03771	
C00007	CTSPILL	01747	03560	04443		
X00040	DEC.	02157	02317			
X00031	DEFALOC	03435				
C00004	DELTEFF	04612				
C00007	DELTVAL					
C00010	DELVT					
P05245	DESINP	04605				
P05245	DESINTPD	04627				
P05001	DICT.	01417	01450	01470	01510	01627
		01632	01713	02040	02060	02070
		04117	02124	02145	02255	02262
		02304	02313	02363	02440	02525
		02533	02543	02610	02632	02644
		02654	02660	02671	02744	02753
		02755	02761	02774	03034	03060
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P02250	TS00014.					
P02277	TS00015.					
P02443	TS00020.					
P02475	TS00021.					
P02473	TS00022.					
P02517	TS00023.					
P02605	TS00024.					
P03127	TS00025.					
P03220	TS00026.					
P03215	TS00027.					
P03212	TS00030.					
P03210	TS00031.					
P03474	TS00034.					
P03514	TS00035.					
P03605	TS00036.					
P03602	TS00037.					
P03577	TS00040.					
P03575	TS00041.					
P04000	TS00042.					
P04012	TS00043.					
P04155	TS00044.					
P04211	TS00045.					
P04207	TS00046.					
P04245	TS00047.					
P04261	TS00050.					
P04311	TS00051.					

DATA MULCON

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P01034	*S00003.	U1711	-1711						
P01060	*S00004.	U1701							
P01146	*S00005.	U1750							
P01155	*S00006.	U2015	-2015						
P01177	*S00007.	U2002							
P02124	*S00010.	U2031							
P02101	*S00011.	U2103							
P02112	*S00012.	U2114							
P02166	*S00013.	U2176	-2176						
P02241	*S00014.	U2251	-2251						
P02270	*S00015.	U2300	-2300						
P02330	*S00016.	U2335							
P02354	*S00017.	U2361							
P02374	*S00020.	U2444	-2444						
P02451	*S00021.	U2476	-2476						
P02464	*S00022.	U2472							
P02507	*S00023.	U2516							
P02502	*S00024.	U2604							
P03116	*S00025.	U3146							
P03133	*S00026.	U3221	-3221						
P03150	*S00027.	U3216	-3216						
P03166	*S00030.	U3213	-3213						
P03201	*S00031.	U3207							
P03244	*S00032.	U3351							
P03370	*S00033.	U3375							
P03452	*S00034.	U3473							
P03505	*S00035.	U3513							
P03516	*S00036.	U3606	-3606						
P03533	*S00037.	U3603	-3603						
P03552	*S00040.	U3600	-3600						
P03570	*S00041.	U3574							
P03761	*S00042.	U3777							
P04002	*S00043.	U4013	-4013						
P04152	*S00044.	U4154							
P04161	*S00045.	U4212	-4212						
P04176	*S00046.	U4206							
P04241	*S00047.	U4244							
P04255	*S00050.	U4260							
P04266	*S00051.	U4312	-4312						
P04304	*S00052.	U4306	-4306						
P04335	*S00053.	U4360	-4360						
P04345	*S00054.	U4354							
P04372	*S00055.	U4404							
P04414	*S00056.	U4524	-4524						
P04447	*S00057.	U4457	-4457						
P04535	*S00060.	U4500	-4500						
P04545	*S00061.	U4554							
P04612	*S00062.	U4617	-4617						
C00000	*TFAC	U3117	-3117						
C00003	*TRATE	U2005	-2005						
C00005	*TSUM	U4706	-4706						
		U1767	-1767						
		U273	-273						
		U1761	-1761						
		U3202	-3202						
		U2010	-2010						
		U2454	-2454						
		U4724	-4724						
		U1766	-1766						
		U2067	-2067						
		U2310	-2310						
		U3124	-3124						
		U3125	-3125						
		U3511	-3511						
		U3512	-3512						
		U4252	-4252						
		U4305	-4305						
		U4256	-4256						
		U4270	-4270						
		U4665	-4665						
		U4272	-4272						
		U4272	-4272						

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SUBROUTINE PREMIUMS(6)
  C SUBR
  C PREMIUMS IJUN71 *****
  C CALCULATES PREMIUM AND UPRMIUM FOR WPN IN UKCUP (G)
  C CONTROL IJUN71 *****
  C USED BY MULCON, PREMIUMS, STALL, WAD, WADOUT, PRNTNG, DEFALOC,
  C AND PRINTCN
  C
  COMMON/CCATL/STALADJ,CLOSE,WADCP,PROGRESS,QUALITY,NPASS,PRM,DELT
  1,VALCOR,STIME,VERIFY,CORR2,INCHAC
  1,MINDMAG, LAM(2), FACILRV, INREAC
  TYPE INTEGER WADCP
  TYPE REAL MINDMAG
  C
  C CONTROL *****
  C MASTER IJUN71 *****
  C USED BY ALLOCATE, MULCON, PREMIUMS, STALL, WAD, WADOUT, PRNTNG,
  C RESVAL, AND DEFALOC
  C
  COMMON/MASTER/INDATE,IDENTNG,ISTOE,AKTPT,NCORR,NUPEN,RECOVER
  1,REF,ABNDRT,NREG,NTYPE,NUMCUP,NTOTBASE,NPAYLOAD,NASHIYPE,NMUTYPE
  2,NTANKBAS,NCOMPLEX,NCCLASS,NALERT,NTGTS,NCORTYPE,NCNTRY
  EQUIVALENCE(NGROUP,NG)(NALERT,NOTHER)
  C
  C MASTER *****
  C DYNAMIC IJUN71 *****
  C USED BY MULCON, PREMIUMS, STALL, WAD, WADOUT, PRNTNG, RESVAL,
  C DEFALOC, AND PRINTCN
  C
  COMMON/DYNAMIC/IGTNAME,INDEXNG,DESIG,TASK,CNTRYLOC,FLAG,IGTMULT,
  1,IGLAT,IGLONG,IGTRAD,IGC,MH(2),VC(2),K,FVAL(J),TAU(3),JHCLASS,
  2,ICLASS,IMTYPE,TARDEF,INDPEN,DISTOF,DISTGB,NBLN,CMULT,VF,
  J TWT(13),PAYOFF,COST,PROFIT,DPROFIT,RIEST,IMEST,NUMFIX,
  * IGTNUM,IG(30),KORH(30),RYAL(30),PEN(30),ICARR(30),LDN
  C
  C TYPE INTEGER TOTNAME,DESIG,TASK,CNTRYLOC,FLAG,TARDEF
  C
  C EQUIVALENCE (DNARRAY,IGTNAME)
  C
  C UMTA(LDN = 45)
  C
  C DIMENSION VTU(JU)
  C EQUIVALENCE(VTU,RYAL)
  C
  C DYNAMIC *****
  C WPNREG IJUN71 *****
  C USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNG, RESVAL, DEFALOC
  C
  COMMON/WPNREG/UCREL(20)
  C
  C DIMENSION CC(20)
  C EQUIVALENCE (CC,REL(1),CC(11))
  C WPNREG *****
  C WPNREG IJUN71 *****
  C USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNG, RESVAL, DEFALOC
  C
  COMMON/WPNREG/CHANGE(80),CEP(80),SPEED(80),ALERTJULY(80)
  1,NALERTJULY(80),MANGEDLV(80),ICLASS(80),MANGERE(80),REL(80)
  2,INECODE(80),IPENCODE(80)

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4  PREMIUM(G)=PREMIUM(G)-TEMP1
   UPREMIUM(G)=UPREMIUM(G)+TEMP1
   IF (SUMPP(G) .GT. 100) 6,7
6  UPREMIUM(G)=UPREMIUM(G)-TEMP1-TEMP2
7  RETURN
10 PREMIUM(G)=0.0
   UPREMIUM(G)=0.0
   RETURN
12 TEMP=PM*LANEF(G)/N*P*NS(G)
   PREMIUM(G)=TEMP*(SUMPP(G)-5*CTMULT)
   UPREMIUM(G)=TEMP*(SUMPP(G)-5*CTMULT)
   IF (PHCGRESS*CTMULT) 10,14
14 FIRST=1.0
   RETURN
16 IF (FIRST) 18,1
18 FIRST = 0.0
   SMALLAM=LANEF(1)
20 DO 24 I=2,N*GROUP
22 IF (LANEF(I).LT.SMALLAM) 22,24
24 CONTINUE
   SMALLAM = LANEF(I)
   SMALLAM = SMALLAM*.5
   GO TO 1
END

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PORTS PREMIUMS

IDENT PREMIUMS

PROGRAM LENGTH:
ENTRY POINTS
BLOCK NAMES

0010
00003
0022
0027
0030
0024
0150
04231
0144
14720

PREMIUMS
CONTROL
MASTER
DYNAMIC
MEMBER
WPAITPE
WPAIGRP
LAMBDA
WPAUPN

EXTERNAL SYMBOLS
01005100
00000001.

STATUS PREMIUMS

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C00360	ALERTLY	00105	00175	00177				
P00137	BEGIN.							
C00000	CC							
C00000	CCREL							
C00120	CEP							
P00200	CL3	00020	00025					
C00001	CLOSE	00016	00010	00022	00022			
C00004	CNTRYLOC							
C00010	CORR							
C00013	CORR2							
C00005	COST							
P00207	COUNT.							
C00037	CTMULT	00123	00124	00077	00100			
C00007	DELTVL	00072	00073					
C00002	DESIG							
P00001	DICT.	00005	00142	00143				
C00034	DISTOF							
C00025	DISTOG							
C00000	DNARRAY							
C00133	EPREMIUM							
C00047	UPROFIT	00046	00037	00040	00045	00047	00053	00055
P00100	ENJING.	00102	00103					00056
P00000	EXIT.	00006	00040	00057	00063	00110	00137	00141
C00370	EXPASM	00171						
C00020	FACWIRV							
P00010	FIRST	00110	00111	00114				
C00005	FLAG							
P00013	FPOUCCI.	00151	00152					
P00032	FPOUCC2.	00153	00154					
P00041	FPOUCC3.	00155	00156					
P00052	FPOUCC4.	00157	00158					
P00060	FPOUCC5.	00163	00164					
P00005	FPOUCC6.	00161	00162					
C00021	FVAL							
P00003	G	00013	00030	00041	00052	00061	00065	
P00002	GETPL.	00144						
P00170	GETPU.	00147	00170					
C00014	H							
P00011	I	00120	00123					
C00150	IALENT							
C00140	ICLASS							
C00030	ICLASSN							
C00001	IDENT12							
C00055	IG							
C00025	IGX							
P00007	IMCLASS							
C00000	IMDATE							
C00051	IMEST							
C00031	IMTYPE							
C00014	ILAW							
C00014	IMATCH							
C00001	INACTIVE							
C00001	INDEAG							

5.ATS PREMIUMS

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CU0500	NALRICLY						
CU0016	NASMTYPE						
CU0030	NBLN						
CU0010	NENDHY						
CU0022	NCLASS						
CU0026	NCNTHY						
CU0021	NCOMPLEX						
CU0004	NCONR						
CU0025	NCRITYPE						
CU0005	NDPEN						
CU0013	NG						
CU0013	NGROUP	00120	00121				
CU0020	NK						
CU0023	NCTHER						
CU0005	NPASS						
CU0015	NPAYLOAU						
CU0006	NRECOVER						
CU0007	NREF						
CU0011	NREG						
CU0003	NRTPT						
CU0020	NTANKPAS						
CU0024	NTGTS						
CU0014	NTGTBASE						
CU0012	NTYPE						
CU0054	NUM						
CU0052	NUMFIX						
CU0017	NWHDTYPE						
CU0000	NWPKS	00070	00070				
CU0044	PAYOFF						
CU0007	PEN						
CU0066	PEX						
CU0755	PEXX						
PG0165	PFO002.						
CU0020	PREMIUM	00150	00133	00042	00042	00044	00061
		00076	00035	00042	00042	00044	00062
			00035	00035	00042	00044	00075
PG0003	PREMIUMS						
CU0006	PRM	00064	00064				
CU0046	PROFIT						
CU0003	PROGRESS						
XU0001	GL005100	00007	00103	00104			
XU0002	UB00100	00007	00007	00104			
CU0004	QUALITY	00000	00000				
CU0000	RANGE						
CU0020	RANGEDEC						
CU0000	RANGERE						
CU0010	REFTIME						
CU0000	REL						
CU0000	RISK						
CU0011	RVAL						
CU0011	SBL						
PU0012	SMALLAM	00025	00116	00126	00131	00133	00134
CU0040	SPEED						
CU0031	SS16						
CU0000	STALACJ						

S-ITS PREMIUMS

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C11016 STAGWAY
 C00011 STIME
 C14105 STR2X
 C13265 STRX
 C00010 SUPPWP
 C00032 TARDEF
 C00021 TARFAC
 C00003 TASK
 C00024 TAU
 P00013 TEMP
 P00014 TEMP1
 P00015 TEMP2
 C00007 TGTLAT
 C00010 TGTLCAG
 C00006 TGTMULT
 C00000 TGTNAME
 C00011 TGTTRAC
 C00041 TGTWT
 C00011 TCA
 C00045 TCARR
 C12135 TCAX
 P00133 TS000C1.
 C00021 TVALICA
 C00016 VC
 C00040 VT
 C00151 VTD
 C00012 VTC
 C00131 VTCA
 C00002 WADCP
 C00010 WLAT
 C00020 WLONG
 C00000 WRTST
 P00125 W000C1.
 C10770 XPUP
 C00100 YIELD
 C00003 SYMBCLS

C00027 00027 00047 00073 00074 00100 00101

C00071 00075 00102
 C00021 00043 00046 00054
 C00026 00034 00037 00055

00122

00132

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SUBROUTINE PRINTALL (ICPT)
  COUNTR PRINTALL 1JUN71 *****
  CUSE PRINTCON 1JUN71 *****
  C USED BY PRINTCON AND PRINTALL *****
  COMMON/PRINTCON/IFRSTPR,100(40)
  1*INDEXPR(40)*JPASS(40)*JTOTP(40)*LPASS(40)*LTGT(40)*
  1*INTEREC(40)*JCOUNT(40)*HYPRF(40)*MAXREQ*MPHNT*REQ
  DIMENSION 100MPR(40,8)
  EQUIVALENCE (100MPR, I-DEXPR)
  PRINTCON *****
  500 IF (100(10PT).EQ.3) 1,2
  1 CALL TIMEW(-2)
  IF ((10PT-3)*(10PT-18)*(10PT-26)) 450, 300, 450
  450 PRINT 400,10PT
  400 FORMAT(10X,9HPRINT NO.,14)
  300 CALL PHNTW(10PT)
  CALL TIMEW(-3)
  2 RETURN
  END

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2

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EO

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PRINTALL

IUENT

J0132
J0013
J0554

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

PRINTALL

PRINTCON

EXTERNAL SYMBOLS

TREND.

QUADUCT.

TIME

PRINTCON

SIM.

ONSINGL.

[illegible]

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SUBROUTINE PRINTCON
  CSUBR      PRINTCON 1JUN71 *****
  CUSE      PRINTCON 1JUN71 *****
  C         USED BY PRINTCON AND PRINTALL
  C
  COMMON/PRINTCON/IFHSTPR,100(40)
  1 INDEXPR(40)=JPASS(40)+JTGTP(40)+LPASS(40)+LTGT(40)+
  2 IKGTFRG(40)+JLCUNT(40)+MYPR(40)+MAXREQ+MPRNT+REQ
  DIMENSION IJUMPR(40,8)
  EQUIVALENCE(IJUMPR, I-DEPRH)
  PRINTCON *****
  CEND
  CUSE      CONTROL 1JUN71 *****
  C         USED BY MULCON, PREMIUMS, STALL, MAD, MADOUT, PRINTNGP, DEFALOC,
  C         AND PRINTCON
  C
  COMMON/CONTROL/STALADJ,CLOSE,MADP,PROGRESS,QUALITY,NPASS,PRM,DELT
  1 VALCON,CRSTIME,IVERIFT,CONRZ,IMATCH
  2 LPMIDAPAG, LA(12), FALMRV, TARFAC
  TYPE INTEGER MADP
  TYPE REAL MINUMAG
  CONTROL *****
  CEND
  CUSE      IFNAMIC 1JUN71 *****
  C         USED BY MULCON, PREMIUMS, STALL, MAD, MADOUT, PRINTNGP, RESVAL,
  C         DEFALOC, AND PRINTCON
  C
  COMMON/DYNAMIC/IGTNAME,INUEXN,DESIG,TASK,CNTXLOC,FLAG,ICTMULT,
  1 IGTLAT,IGTLCNG,IGTRADV(C,M,M(2)+3(2)+NKFEVAL(3)+TAU(3)+INCLASS,
  2 ICLASS,IMTYPE,TAMDEF,INDYPR,UISTOF,UISTDG,NBLN,CTMULT,VT,
  3 TGT(13),PAYOFF,CST,PRGFI,DPHGLT,WHTEST,INCEI,NUMFIX,
  4 ITGTNUM,VTG(30)+KGRN(30)+VAL(30)+PEN(30)+TSARN(30)+LDN
  C
  C         TYPE INTEGER IGTNAME,DESIG,TASK,CNTXLOC,FLAG,TARDEF
  C
  EQUIVALENCE (IGTNAME,IGTNAME)
  C
  DATA(LDA, 3 45)
  C
  DIMENSION VTD(30)
  EQUIVALENCE(VTD, NVAL)
  C
  C         DYNAMIC *****
  CEND
  CUSE      IFIPRT 1JUN71 *****
  C         USED BY ALLOCATE AND PRINTCON
  C
  COMMON/ IFIPRTN/IFIPRT(10)
  IFIPRT *****
  CEND
  DATA(MAXREQ = 40)
  DATA(MPRNT=40)
  DO 101 IPRT=1,10
  101 IFIPRT( IPRT) = 0
  DO 12 IPRT=1,MPRNT
  12 ILC(IPRT) = 1
  DO 22 IREQ=1,REQ
  22 IPRT=(INDEXPR(IREQ)
  31 IF (NPASS.NE.MYPASS) 13, 14

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13 ICOUNT(IREQ)=0
14 IF (NPASS .GE. JPASS(IREQ) .AND. NPASS .LE. LPASS(IREQ)) 16,22
15 IF (ITGT .GE. JIGT(IREQ) .AND. ITGT .LE. LTGT(IREQ)) 18, 22
16 IF (IPRNT .LT. 100) 32,33
33 LEQ=XMODF(IPRNT,100)
  IF IPRNT(LEQ)=K10 IREQ(IREQ)
  GO TO 22
32 ICOUNT(IREQ) =ICOUNT(IREQ)+1
  IF (ICOUNT(IREQ) .GE. K10 IREQ(IREQ)) 20,22
20 IGC(IPRNT)=3
22 ICOUNT(IREQ)=0
  CONTINUE
  MYPASS=NPASS
  RETURN
  END

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P00105 BEGIN.
 C00001 CLOSE
 C00004 CNTRLLOC
 C00010 CORR
 C00013 CORR2
 C00045 COST
 P00111 COUNT.
 C00037 CTRMUT
 C00007 DELTVAL
 C00002 DESIG
 P00001 DICT.
 C00034 DISTUF
 C00035 DISTOG
 C00000 DNARRAY
 C00047 DPROFIT
 P00107 ENDING.
 P00000 EXIT.
 C00020 FACWTRV
 C00005 FLAG
 C00021 FVAL
 C00014 H
 C00030 ICLASSN
 C00031 ICCUNT
 C00001 IDC
 C00051 IDUMPR
 P00045 IF0000C1.
 P00053 IF0000C2.
 C00000 IFRSTPR
 C00000 IFRPHNT
 C00055 IG
 C00027 IMCLASS
 C00051 IMEST
 C00031 IMTYPE
 C00014 IMATCH
 C00001 INDEXAG
 C00051 INDEXPR
 C00033 INDYPEN
 P00105 INITIAL.
 P00112 IPRNT
 P00113 IREQ
 C00053 IFT
 C00012 IVERIFY
 P00025 .10
 P00012 .101
 P00022 .12
 P00040 .13
 P00042 .14
 P00050 .15
 P00050 .18
 P00075 .20
 P00101 .22
 P00035 .31
 P00071 .32
 P00061 .33

00106
 00020 00021 00031 00032
 00005 00064
 00006 00104 00105 00106
 00110
 00040 00041 00071 00072 00100
 00022 00023 00076 00077
 00044 00052
 00012 00013 00067 00070
 00033 00033
 00006 00010 00015 00021 00034 00056 00061 00076
 00026 00031 00053 00053
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 00061

C00121	JPASS	00043	00043	
C00171	JTGT	00051	00051	
C00113	KCHR			
C00302	KIGTFREQ	00005	00073	
C00110	LAW	00002		
C00303	LUN	00005	00067	
C00114	LEG	00046	00046	
C00241	LPASS	00034	00054	
C00311	LTGT			
C00313	M	00003		
C00351	MAXREC			
C00015	MINDAMAG	00003	00016	
C00352	MPRNT	00036	00103	
P00115	MYPASS			
C00501	MYPRNT			
C00036	NELN			
C00020	AK	00035	00042	00102
C00005	NPASS	00026	00045	00102
C00353	NRED			
C00034	NUM			
C00052	NUMFLX			
C00044	PAYOFF			
C00007	PEN			
C00000	PHM			
P00003	PRINTCON	00003		
C00046	PROFIT			
C00003	PROGRESS			
X00001	UBQUICIT.	00000	00004	
C00004	QUALITY			
C00151	MVAL			
C00000	STALADJ			
C00011	STIME			
C00032	TARDEF			
C00021	TARFAC			
C00003	TASK			
C00024	TAU			
C00007	TGTLAT			
C00010	TGTLONG			
C00000	TGTMULT			
C00000	TGTNAME			
C00011	TGTWAO			
C00041	TGTWT			
C00045	ICAMH			
P00025	TS00002.	00017		
P00102	TS00003.	00030		
C00010	VC			
C00040	VI			
C00151	VTO			
C00012	VTC			
C00002	WADCP			
C00050	WRIEST			
P00012	WS00001.	00014		
P00022	WS00002.	00024		
P00033	WS00003.	00101		

5-4TS PHNTCN

X00002 XMONF 00003
00155 SYMBOLS

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ED

C

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7. 2. 1. 1.

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1  INDEXING, DESIG, CNTRYLOC, FLAG, TASK
   PRINT 1202
   LIMIT = XMINOF(NUM, 1)
   NEXTRA = NUM - 10
   NEXFIX = 0
C   CHECK FOR FIXED ASSIGNMENTS
C   IF (NOMFIX) 1250, 1250, 1210
C   FIND OUT HOW MANY POSITIONS ARE FIXED
C   TEST FIRST FOR DEFENSES
1210 IF (MISDEF) 1215, 1215, 1220
C   NO TERMINAL END
1215 NFIX = NMFIX
   GO TO 1240
C   COUNT NUMBER OF POSITIONS FIXED
1220 NFIXCT = 0
   DO 1230 I = 1, NUM
     NFIX = 1
     NFIXCT = NFIXCT + KMR(I)
     IF (NFIJCT - NOMFIX) 1230, 1240, 1240
1230 CONTINUE
   PRINT FIX MESSAGE
C   1240 NEXFIX = NFIX - 10
     NFIX = XMINOF(NFIX, 1)
     IF (NFIJCT - NOMFIX) 1240, 1240, 1240
1240 NEXFIX = NFIX - 10
     NFIX = XMINOF(NFIX, 1)
     PRINT 1241, (MESFIX, I = 1, NFIX)
C   1250 PRINT 1251, NPASS, IOP, CIMULT, PAYOFF, COST, PROFIT, DELTEFF,
     (IG(I), I = 1, LIMIT)
     PRINT 1252, PROGRESS, IOPSTIGMULT, SPAYOFF, SUMCOST, SPRCFIT,
     1, SDELTEFF, (KMR(I), I = 1, LIMIT)
C   CHECK IF MORE PRINTING NECESSARY
   IF (NEXTRA) 1290, 1290, 1260
C   PRINT ANOTHER SET OF INFORMATION
1260 IF (NEXFIX) 1280, 1280, 1270
1270 PRINT 1271, (MESFIX, I = 1, NEXFIX)
1280 LIMIT = LIMIT + 1
     PRINT 1281, (IG(I), I = 1, LIMIT, NUM)
     PRINT 1282, (KMR(I), I = 1, LIMIT, NUM)
1290 CONTINUE
1291 FORMAT(2X, 3H1ST, 15, 3(2X, A8), * VAL = *F8.4, * LAT = *F5.2, * LONG
1  = *F7.2, * INDEX = *I0, * DESIG = *A5, *2, 11, * TASK = *A2)
1292 FORMAT(23X, * IOP MUL: PAYOFF COST PROFIT (*20)/VMPS*)
1293 FORMAT(20X, * IOP MUL: PAYOFF COST PROFIT (*20)/VMPS*)
1294 FORMAT(1X, *PASS = *I5, *A, *CURRENT = *I5, *F0.1, 3F9.3, F10.4, * GROUP =
1  *I014)
1295 FORMAT(1X, *MPR3G, *F5.2, * CUMULATIVE = *I0, *F0.1, 3F9.3, F10.4, * COKIDC
1  = *I014)
1271 FORMAT(9X, 25A4)
1281 FORMAT( * GROUP = *2514)
1292 FORMAT( * COKIDC = *2514)
1293 IF (ALPHA.EQ.0.0) 1204, 1206
1204 PRINT 1205
1205 FORMAT(// * KILL NOT ACHIEVED*)
1206 RETURN
1 4 FMINVAL = 99999. * FMAXVAL = 0
C ***** WASTE ONE SECOND

```

```

MBARH=50000
DC 7000 LBARH=L,MBARH
7000 LBARH=L
IF (ITHDS=EW,1)3006,3008
3006 WHITE(44,30,7)
3007 FORMAT(/// 40M PASS *HCG MNR MXH V# VERR )
ITHDS=100
3008 CONTINUE
DC 3000 ITHP=L,NG
RATNAL = RNALL(ITHP)/NWPNS(ITHP)
IF (RATNAL=0)FMAXRNAL)3001,3002
3001 FMAXRNAL = RATNAL
3002 IF (RATNAL=0)FMINRNAL)3003,3004
3003 FMINRNAL = RATNAL
3004 CONTINUE
WHITE (44,3004) NPASS,PROGRESS,FMINRNAL,FMAXRNAL,VALWPNS,VALEHR
C*****IC WASTE ONE SECOND
MBARH=50000
DC 7001 LBARH=L,MBARH
7001 LBARH=L
3004 FORMAT(15,F6.2,2F6.3,2F8.3)
RETURN
4 PRINT 1081
PRINT 1005, VALWPNS ,VALEHR
1081 FORMAT(1H )
1005 FORMAT (7X,6ML,MBDA,11X,4RNALL,10X,5HRNALL,4X,11HRNALL/NWPNS,3X,8M
1VALWPNS=F13.4,3X,8M VALEHR=F13.4)
DC 40 I=L,NG
RATPRIN=RNALL(1)/NWPNS(1)
40 PRINT 1006,I,LAM(1),RNALL(1),RATPRIN
1006 FORMAT(1X,13,F10.6,3X,110,5X,F10.0,3X,F10.3)
RETURN
5 PRINT 1007,(1,1=L,1,NINTPRD)
1007 FORMAT(10X,3115)
PRINT 1008,(MIFAC(1),1=L,1,NINTPRD)
1008 F - MAT(6H MIFAC,4X,3E15.5)
PRINT 1009,(MTHATE(1),1=L,1,NINTPRD)
1009 FORMAT(7H MTHATE,3X,3E15.5)
PRINT 1010,(MISUM(1),1=L,1,NINTPRD)
RETURN
21 CONTINUE
1010 FORMAT(6H MISUM,4X,3E15.5)
PRINT 1011,(J,LA(J), (MUNSUM(J,K),K=1,NINTPRD) , (ALERREST(J,L),L=1,
1INTPRD),J=1,NINTPRD)
1011 FORMAT(18X,2HLA,8X,6MUNSUM,27X,8ALERREST/(15,3X,E12.3,2X,3E12.3
1,2X,3F12.3))
RETURN
6 PRINT 1012,1IGI,IGNAME,IgT,1AT,IGILONG,IGTRAD,IgTMUL,I,CTMULT,NK
1,1HCLASS,1MYPE,TARDEF,MISDEF,MINKILL,MAXKILL,MAXCOST,FVAL,7AU
1012 FORMAT(15X,7MTGTC ,8X,7HTGTNAME,7X,6MTGTLAT,3X,7HTGILONG,4X,6HTG
1THAD,3X,7HTGTMLT,4X,6CTMUL,5X,17,5X,48,3X,5F10.2,110//
110X,7HIMCLASS,4X,6MIMTYPE,4X,6HTARDEF,4X,6HMISDEF,4X,7HMKILL
2,3X,7HMKILL,4X,7HMACCOST,10X,48,2X,48,2[10,3F10.2//
15M FVAL,3F10.2,1/5H TAU ,3F10.2)
RETURN
7 PRINT 1013,1IGI,VIC,M,VOC,M

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1013 FORMAT(11X,4H1101,7X,3HVC,9X,1H/5X,11U,F10.2,110/5M VC 2F10.2/
15M M 2F10.2/)
PRINT 1014
1014 FORMAT(11X,4M 10A,2X,4M 1VAL1CA,2X,8M VTCA(1),2X,8M MUP(1),1X,8M
1SSIG(1),2X,8M VTCA(2),2X,8M MUP(2),2X,8M 1SSIG(2))
DO 70 I=1,NG
70 PRINT 1015,1,TC(A(I),TVALTCA(I),VTCA(I,J),MUP(I,J),1SSIG(I,J),J=1,M
1)
1015 FORMAT(15,8F10.2)
RETURN
8 CONTINUE
PRINT 1016,(I,1=1,6),(I,1=1,6)
GO TO (81,8J)M
80 PRINT 1017,(I,((MISK(A,I,J),A=1,6),J=1,M),I=1,NG)
GO TO 83
81 PRINT 1018,(I,MISK(A,I,1),A=1,6),I=1,NG)
1080 FORMAT(15,2X,6F9.2)
1016 FORMAT(75M MISK,2X,3HJ=1,2X,2HMA=1,2,519, 2X,3HJ=2,2X,2HMA=,12,519)
1017 FORMAT(15,2X,6F9.2,2X,6F9.2)
83 RETURN
12 CONTINUE
PRINT 1018,NUM,NTCA,MADCP,NMAU
1018 FORMAT(75M NUM=11C,5X,5HNTCA=1,0,5X,6HMAUCP=110,5X,3HMAU=110,5X,2HMG
1=110)
10XMINCF(NICA+2,6)
INT 1019,(NL,NL=1,NM)
1019 30MAT(30X,2HMA=18,511C)
PRINT 1020,(NM,P(NL),NL=1,ND)
1020 FORMAT(4H NIP,2X,6(1,9,1X))
PRINT 1021,(VAL(NL),NL=1,ND)
DO 574 JIND=1,M
1021 FORMAT(4H VAL,20X,6F10.4)
PRINT 1022,JIND
1022 FORMAT(73M M=15)
DO 575 JAKAY=1,6
KZU
DO 588 AIND=1,ND
KAK+2
GO TO (593,592,591,590,594,595),JAKAY
593 WORDIN=V(NIND,JIND)
GO TO 589
592 WORDIN=V(NIND,JIND)
GO TO 589
591 WORDIN=V(NIND,JIND)
GO TO 589
590 WORDIN=V(NIND,JIND)
GO TO 589
594 WORDIN=V(NIND,JIND)
GO TO 589
595 WORDIN=V(NIND,JIND)
589 CALL FORMATS
CSUBR PRINTNOMI 29SEP71 *****
IFC(K)NFORMI
588 CONTINUE
GO TO (587,586,585,584,583,582),JAKAY
587 PRINT 1023,ITILE(JAKAY),(V(NIND,JIND),NIND=1,ND)

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GO TO 575
500 PRINT IFOR,ITITLE(JAR-Y),(S(NIND,JIND),NIND=1,NJ)
GO TO 575
505 PRINT IFOR,ITITLE(JAR-Y),(VS(NIND,JIND),NIND=1,NJ)
GO TO 575
504 PRINT IFOR,ITITLE(JAR-Y),(VSN(NIND,JIND),NIND=1,NJ)
GO TO 575
503 PRINT IFOR,ITITLE(JAR-Y),(MU(NIND,JIND),NIND=1,NJ)
GO TO 575
502 PRINT IFOR,ITITLE(JAR-Y),(SIG(NIND,JIND),NIND=1,NJ)
575 CONTINUE
574 PRINT 576,V1
576 FORMAT(4H V1=F10.5)
578 RETURN
13 CONTINUE
NMAX=NCF(NICA*2.0)
1084 FORMAT(50X,2HN=18,511)
1082 FORMAT(4X,1HG,1X,4MI(04,3X,7MI(04,7X,3HVTP,3X,7MP(EMIU,0X,4MC
1SIG(0X,4MSIUP)
DC 6130 JH=1,M
PRINT 1022,JH
PRINT 1082
PRINT 1084,(NL,NL=1,NJ)
DC 130 I=1,NJ
130 PRINT 1025,1,ICA(1),IAU(ICA(1),VTP(1),PREMIUM(1),DS(1,1,JH),(SIGP
11,NL,JH),NL=1,NJ)
6130 CONTINUE
1025 FORMAT(215,11,0,3F10.4,0F10.4)
1025 IF(NUM,0,0) 132,135
133 CONTINUE
DC 6131 JH=1,M
PRINT 1022,JH
PRINT 1085
PRINT 1084,(NL,NL=1,NJ)
1005 FORMAT(4X,1HG,7X,3HVTD,2X,8HOP(EMIU,31X,4MSIGD)
K=IG(NJ)
DC 131 NJ=1,NJ
PRINT 1026,IG(NJ),VTD(NJ),DPREMIUM(K),(SIGD(NJ,NL,JH),NL=1,NJ)
1026 FORMAT(15,2F10.4,25X,0F10.4)
131 CONTINUE
6131 CONTINUE
132 RETURN
11 CONTINUE
PRINT 1030,VAL,PNS,VNLEH
PRINT 1031,(1,0,AM(1),1,1,1,NG)
1030 FORMAT (779X,1NG,17X,3H1AM,7X,8HVAL,PNS=F13.4,3X,7HVALEHRS,F13.4)
1031 FORMAT (11,0,10X,0F10.0)
RETURN
10 CONTINUE
PRINT 1032,PROFIT,COST,IPMX,ALPHA,MINKILL,MAXKILL,MAXCOST
PRINT 1033,PVRMX,IPVRX,PPMX,IPPMX,OPMX,LOPMX
1032 FORMAT(1M,7HPCFIF=F10.2,5X,SMCCST=F10.2,5X,5MTPMX=F10.2,
1 ALPHA=F10.2/1X,8HMINKILL=F10.2,5X,8HMAXKILL=F10.2,5X,
2 BMAXCOST=F10.2)
1033 FORMAT(1M,8HPPMX=F10.2,2H (13,1H),2X,5HPPMX=F10.2,2H (13,1H),2X

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V4 = (VTEF - VTEF) * ALPHA = 0PREMIUM(MYG)
V5 = 0
V6 = V4 - LAMEF(MYG)
V7 = 0PREMIUM(MYG)
V8 = 0PREMIUM(MYG)
42 PRINT IC39, MY9, INACTIVE(MYG), V1, LAMEF(MYG), V2, V3, V4, V5,
1 V6, V7, V8, PEX(MYG), MOMR(MYG)
1039 FORMAT(15,14,9F11.3,F0.3,15)
1139 RETURN
22 CONTINUE
91 PRINT IC40
1040 FORMAT(17,22H PONTIAL *EAPONS)
PRINT IC38
40 93 JKE=1*NG
IF(INACTIVE(JKE))93,915
915 MY6 = JKE
V1=V1-VTP(JKE)
V2 = V1 - LAMEF(MYG)
V3 = V1 / LAMEF(MYG)
VTEF = MAX1F(VTMIN, VTP(MYG))
V4 = (VTEF - VTEF) * ALPHA + PREMIUM(MYG)
V1=VTEF*ALPHA
V6 = V4 - LAMEF(MYG)
V7 = V4 - LAMEF(MYG)
IF (V6) 920, 930, 930
920 V5 = V4 / LAMEF(MYG)
930 VECORR = (1.0+STALADJ*VTA/(VTA-V6*PREMIUM(MYG)))/(1.0+STALADJ)
V5 = 1.0 + (V6 / LAMEF(MYG)) * V5 CORR
940 V7 = PREMIUM(MYG)
V8 = 0PREMIUM(MYG)
PRINT IC39, MY9, INACTIVE(MYG), V1, LAMEF(MYG), V2, V3, V4, V5,
1 V6, V7, V8, PEX(MYG), MOMR(MYG)
93 CONTINUE
90 TO 99,95,96)*AUCP
94 PRINT IC41,STALPRIN,G
1041 FORMAT(17,34H DECISION MADE NEAR STALPRIN =15,4H ADD,19)
90 TO 99
95 PRINT IC42,STALPRIN,I9(NE)
1042 FORMAT(17,34H DECISION MADE NEAR STALPRIN =15,7H DELETE,19)
90 TO 99
96 PRINT IC43,STALPRIN
1043 FORMAT(17,34H DECISION MADE NEAR STALPRIN =15,24H RECALL PRIOR
1 ALLOCATION)
90 TO 99
97 PRINT IC44,STALPRIN
1044 FORMAT(17,34H DECISION MADE NEAR STALPRIN =15,27H TERMINATE ST
1 ALL ALLOCATION)
99 RETURN
20 CONTINUE
6000 PRINT 6CC1,PAYOFF,CCSI,PROFIT,1,SUMPREM,IBENEFIT,PPPA,TPMA
1,UPPM
6001 FORMAT(19,40HPAYOFF,11X,4MCCSI,4X,6MPROFIT,8X,7MSUMPREM,7X,18HTBENE
1FIT,11X,4MPPMA,11X,4MPPMA,11X,4MDPPM/8F15.5/)
RETURN
C
C

```

TIMING INFORMATION


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23 PRINT 2301
2301 FORMAT('OBTAINING INFORMATION',//, MULCON **, 3(' GETDATA *'), *
1, MULCON **, 2(' SUBROUTINE '), 3(' MULCON *'), * INITIALIZE PEN
2, 'ETRATION RECONSTRUCT FILE I/O PREPROCESS STALL DEFALCC
3 POST-PROCESS FILE I/O MULTIPLIER*')
CALL TIME101
RETURN
C REQUESTED DUMP
24 PRINT 2401
2401 FORMAT('OBTAINED DUMP*')
CALL ABC1
RETURN
C INACTIVE ARRAY
25 PRINT 2501
2501 FORMAT('CINACTIVE FLAUS*')
2501 PRINT 0561, (INACTIVE(L), L = 1, NG)
6501 FORMAT(20(1A,15))
RETURN
C PENETRATION PROBABILITIES
26 IF (ITGT - ITGTSAV) 2601, 2603, 2601
2601 IIGISAV = ITGT
2602 PRINT 2602, ITGTSAV
2602 FORMAT (/, 'TARGET ', 15, ' GROUP KCHR **, 2X, *PENETRATIC, PROBABILITY
IES BY COMNUCH*,
2603 PRINT 2603, NG, MGRNIG), (PENALTY), 1 = 1, NCORR)
2604 FORMAT(1X, 14, 15, 2X, 20F0.3/12X, 20F0.3)
RETURN
27 PRINT 2007, HAIM
2007 FORMAT ( 6H HAIM=, F10.2)
RETURN
28 PRINT 2008, VTUA
2008 FORMAT ( 17H IN MESVAL VT0= ,F8.3)
2014 I = 1, NG
IIPP = ITYPE(I)
IMSS = IREG(I)
IF ( NWEPI(I) .GT. V) 2010, 2014
2010 PRINT 2015, NWEPI(I), 1
2014 CONTINUE
2015 FORMAT(1X,15, * WEAPONS FROM GROUP *,13)
RETURN
END

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50-15 PRATNCW

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ED 0

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IDENT PRATNCW

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

PRATNCW
5634
11766
0027
0022
0304
0024
11560
4231
1440
0007
06464
0020
0007
0002
0001
0012
0010
12650
0010
0022
0020
0032
14726
0015
0002
0036

PASTEM
CONTROL
DYNAMIC
WPNREG
WPNTHRE
WPNGRP
LAMBDA
MULADJ
222
NALLY
PAYOFF
PRINCEED
PHINI
PRINWADD
PRIMULL
333
#ADFINAL
WAGOUT
PAYLOAD
LOCDEF
WAGUPN
DEFENSE
FORMATS
PEN
THRU.
GIGSIOC
GRUOICT.
FORMATS
TIMEHE
ABORT
AMINUF
MAILF
STH.
SLC.
ONSINGL.

EXTERNAL SYMBOLS

P05152 A	03146	03153	03203	03210	05304	11/29/71	ED	0	PAGE NO.	13
X00006 ACHT	04777	02732	04137	04446	04560	04561	04564			
C04133 ALERTREST	02732	02732	05534							
C00360 ALERTDLY	02987	02406								
C00017 ALPHA	02406	05534								
P05505 BEGIN.	05522									
C00006 BENFAC										
C00000 CC	04076	02076								
C00000 CREL										
C00120 CEP	02005									
C00001 CLOSE										
C00003 CLOSER										
C00004 CNTRLLOC										
P05154 CNVRTI.	02125	02047	02050	02051	02053	02054	02056	02057	02060	02064
	02045	02066	02067	02070	02071	02072	02073	02074	02077	02114
	02116	02117	02120	02121	02122	02123	02124	02125	02126	02127
	02233	02235	02237	02240	02241	02242	02244	02253	02267	02271
	02275	02276	02277	02301	02310	02311	02312	02313	02314	02315
	02500	02502	02503	02531	02532	02533	02534	02535	02536	02537
	02524	02545	02566	02707	02711	02720	02733	02754	02755	02756
	02760	02761	02762	02763	02764	02765	02766	02770	02771	02772
	03014	03015	03016	03052	03052	03053	03062	03063	03064	03110
	03141	03152	03202	03207	03227	03231	03233	03235	03237	03261
	03323	03343	03443	03451	03466	03474	03511	03517	03534	03542
	03565	03602	03610	03631	03654	03676	03716	03720	03721	03723
	04116	04133	04134	04136	04137	04141	04142	04143	04153	04154
	04156	04157	04160	04200	04201	04202	04203	04206	04211	04213
	04225	04227	04250	04251	04251	04254	04257	04261	04262	04322
	04325	04326	04330	04332	04347	04351	04367	04370	04371	04372
	04374	04376	04400	04410	04466	04470	04472	04474	04475	04500
	04501	04502	04503	04504	04506	04507	04526	04530	04532	04536
	04637	04640	04641	04642	04643	04644	04646	04647	04670	04703
	04706	04717	04730	04741	04742	04743	04745	04746	04750	04752
	05023	05044	05054	05056	05065	05102	05113	05140	05142	
C00010 CORR										
C00013 CORR2										
C00045 COST	02241	04134	04371	04742	02512	02512	02406	02406	02406	02417
P05557 COUNT.	02426	02426	02447	02450	02456	02456	02456	02456	02456	02456
P00031 CRFMT.	02441	02102	02406	02406	02406	02406	02406	02406	02406	02406
	03031	02515	02535	02535	02571	02612	02633	02654	02676	03006
	03634	03037	03077	03221	03221	03221	03242	03270	03311	03332
	04217	03644	03644	03756	04022	04061	04125	04163	04163	04172
	04515	04232	04241	04265	04274	04335	04354	04362	04403	04424
	05047	04524	04675	04711	04722	04733	04755	04764	04777	05011
	04236	02236	02762	04374	05151					05032
C00037 CTMULT										
C00007 CTSPILL	04375	04375								
C00004 DELTEFF	02243	02243								
C00007 DELTVAL										
C00310 DELVT										
C00002 DESIG	04124	02023	02026	02043	02101	02111	02131	02134	02137	02203
P00001 DICT.	01770	02225	02230	02261	02264	02316	02325	02342	02347	02367

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ED

0

PAGE NO.

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P2500 66000147 02487
P2524 66000157 02516
P2535 66000167 02524
P2555 66000177 02544
P2572 66000207 02572
P2583 66000217 02582
P2594 66000227 02593
P2597 66000237 02594
P2748 66000247 02575
P2800 66000257 02747
P2831 66000267 03007
P2837 66000277 03031
P2873 66000307 03043
P29125 66000317 03100
P29170 66000327 03130
P29221 66000337 03171
P29242 66000347 03222
P29270 66000357 03251
P29311 66000367 03270
P29332 66000377 03311
P29346 66000407 03336
P29377 66000417 03426
P29503 66000427 03461
P29528 66000437 03504
P29551 66000447 03527
P29574 66000457 03552
P29587 66000467 03575
P29634 66000477 03625
P29657 66000507 03647
P29685 66000517 03657
P29705 66000527 03655
P29746 66000537 03711
P29774 66000547 03764
P29802 66000557 03774
P29822 66000567 03782
P29861 66000577 03792
P29893 66000607 03792
P29925 66000617 04103
P29946 66000627 04126
P29963 66000637 04145
P29972 66000647 04164
P29997 66000657 04173
P30034 66000667 04220
P30041 66000677 04233
P30065 66000707 04242
P30071 66000717 04266
P30085 66000727 04314
P30097 66000747 04342
P30102 66000747 04354
P30103 66000757 04362
P30113 66000767 04403
P30124 66000777 04446
P30132 66001007 04461
P30154 66001017 04516

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PKATAC

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EO U

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P00720	..1020	U3573	
P00731	..1021	U3314	
P00737	..1022	U3341	
P01012	..1025	U3714	
P01037	..1026	U3035	
P01045	..1030	U4075	
P01066	..1031	U4106	
P01073	..1032	U4131	
P01132	..1033	U4151	
P01333	..1034	U4345	
P01352	..1035	U4J57	
P01374	..1036	U4365	
P01412	..1037	U4406	
P01423	..1038	U4421	
P01440	..1039	U4404	
P01455	..1040	U4521	
P01404	..1041	U4066	
P01501	..1042	U4701	
P01510	..1043	U4715	
P01534	..1044	U4726	
P00022	..1080	U3174	
P00477	..1081	U2521	
P00702	..1082	U3602	
P00753	..1084	U3070	
P01020	..1085	U3777	
P00110	..1201	U2112	
P00147	..1202	U2135	
P00250	..1205	U2414	
P00102	..1241	U2212	
P00166	..1251	U2231	
P00207	..1252	U2265	
P00230	..1271	U2326	
P00234	..1281	U2350	
P00442	..1282	U2370	
P00065	..133	U2044	
P00331	..2000	U2024	
P01741	..2007	U5100	
P01746	..2008	U5111	
P01755	..2015	U5135	
P01227	..2200	U4223	
P01477	..2201	U4271	
P01323	..2204	U4317	
P01011	..2301	U4761	
P01066	..2401	U4774	
P01073	..2501	U3006	
P01706	..2602	U3043	
P01727	..2604	U3052	
P 70	..3004	U4472	
P00257	..3007	U4436	
P01170	..5001	U4107	
P01423	..5003	U4176	
P01242	..5005	U4236	
P01272	..5008	U4245	
P00745	..570	U3030	

[illegible]

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5.415 PRINTING

CU0024	ATGTS	CU230	U3230	U3242	U3242	U3635	U3635				
CU0013	ATCA										
CU0014	NTCAPAX										
CU0014	NTCTBASE										
CU0000	NTX										
CU0012	NTYPE										
CU0054	NUM										
CU0052	NUMFIX										
CU0010	NUMMAX										
CU0036	NUMG										
CU0011	NH										
CU0011	NH2										
CU0000	NHMD										
CU0017	NHMDTYPE										
CU0000	NHPS										
CU0000	NHPS										
CU0000	SPROFIT										
PU5203	PU0000C.U										
PU5225	PU0003.U										
PU5241	PU0004.U										
PU5255	PU0005.U										
PU5276	PU0006.U										
PU5312	PU0007.U										
PU5330	PU0010.U										
PU5340	PU0012.U										
PU5362	PU0013.U										
PU5303	PU0014.U										
CU0044	PAYOFF										
CU0027	PEH										
CU0000	PENALT										
CU0060	PEX										
CU0022	PF0000C2										
CU0006	PKTX										
CU0002	PPMX										
CU0020	PREMILM										
CU0006	PRM										
PU1700	PRINTING										
CU0001	PROCMULTI										
CU0040	PROFIT										
CU0003	PROGRESS										
CU0011	PRX										
CU0000	PVRMA										
CU0003	PX										
CU0002	Q1005100										
CU0003	QBODICT										
CU0013	QASINGL										
CU0004	QUALITY										
CU0013	RADPX										
CU0000	RANGE										
CU0020	RANGEDEC										
CU0000	RANGEREFE										
CU0002	RATIOINT										

STATUS	PRATING	LOC-01	TREND	ED	11/29/71	PAGE NO.	25
		0205	0210	0213	0224	0236	0241
		0237	0250	0252	0253	0255	0256
		0307	0303	0307	0312	0316	0317
		0356	0301	0324	0357	0372	0374
		0372	0400	0402	0405	0410	0411
		0423	0463	0472	0435	0436	0437
		0505	0502	0510	0514	0515	0516
		0506			0514		
		0501	0302				
			0435	0475			
		0435					
		0602					
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		0722					</

SATS	PRINTING	11/29/71	ED	C	PAGE NO.	27
C00151	VTD	U4040	04440	U4444		
P05032	VTDEF	U4445				
C00000	VTDX	U5112				
C00020	VTEF	U4446	04557	U4563	U4564	
C00016	VTMAX					
C00015	VTMIN	U4444				
C00012	VTC	U2120	04327	U4366	U4366	
C01131	VICA	U3061				
C00000	VTP	U3722				
P05033	VTEF	U4556	04542	U4551	U4555	
C00021	VIZC					
C00002	VADCP	U3232	U4655	04655		
C00010	VLAT	U2050				
C00020	VLONG	U3051				
C00000	WCRDIA	U3371	U3375	03401	03411	03415
C00050	WTEST	U3415				
P02033	W5000C1.	U2105				
P02165	W5000C2.	U2177				
P02216	W5000C3.	U2223				
P02251	W5000C4.	U2257				
P02306	W5000C5.	U2314				
P02333	W5000C6.	U2340				
P02354	W5000C7.	U2362				
P02375	W5000C8.	U2403				
P02427	W5000C9.	U2430				
P02451	W5000C10.	U2466				
P02513	W5000C11.	U2514				
P02541	W5000C12.	U2570				
P02602	W5000C13.	U2607				
P02622	W5000C14.	U2630				
P02643	W5000C15.	U2651				
P02694	W5000C16.	U2672				
P02716	W5000C17.	U2724				
P02731	W5000C18.	U2737				
P02706	W5000C19.	U2743				
P03063	W5000C20.	U3076				
P03060	W5000C21.	U3070				
P03107	W5000C22.	U3113				
P03116	W5000C23.	U3122				
P03150	W5000C24.	U3155				
P03165	W5000C25.	U3161				
P03160	W5000C26.	U3165				
P03205	W5000C27.	U3212				
P03201	W5000C28.	U3216				
P03260	W5000C29.	U3265				
P03300	W5000C30.	U3306				
P03321	W5000C31.	U3327				
P03336	W5000C32.	U3324				
P03350	W5000C33.	U3350				
P03356	W5000C34.	U3427				
P03447	W5000C35.	U3455				
P03472	W5000C36.	U3500				
P03515	W5000C37.	U3523				

DATA PRINTING

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ED 0

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PU3540	WS00046	U3546	
PU3563	WS00047	U3571	
PU3566	WS00050	U3614	
PU3647	WS00051	U3755	
PU3675	WS00052	U3702	
PU3711	WS00053	U3751	
PU3735	WS00054	U3743	
PU3784	WS00055	U4070	
PU4012	WS00056	U4017	
PU4026	WS00057	U4064	
PU4050	WS00060	U4056	
PU4113	WS00061	U4122	
PU4300	WS00062	U4340	
PU4429	WS00063	U4514	
PU4534	WS00064	U4654	
PU5021	WS00065	U5027	
PU5063	WS00066	U5071	
PU5122	WS00067	U5150	
CU0000	MTFAC	U2623	
CU0003	MTBATE	U2644	
CU0006	MTSCM	U2665	
CU0360	ZDEG	U2202	
CU0007	AMINCF	U3245	
CU0003	AMU	U3640	
CU0776	AMUP		
CU3100	YIPID		
U1353 SYMBCLS			

```

SUBROUTINE PUNCHM
  PUNCHM :JUN71 *****
C
C   THIS SUBROUTINE PUNCHES LAGRANGE MULTIPLIER VALUES.
C
C   NUMB2  JUN71 *****
C   USED BY ALLOCATE, MULCON, MAG, AND PRINTNG
C
COMMON/222/
1  MIFAC(3),MTRATE(3),MISUM(3),MATTRIB(6,200),MUNSUM(310,3)
2  MALLERREST(310,3),MAL310,MXATTRIB
C
C   TYPE REAL LA *****
C   NUMB2 *****
C   MASTER  JUN71 *****
C   USED BY ALLOCATE, MULCON, PREMIUMS, STALL, MAD, MADOUT, PRINTNG,
C   RESVAL, AND DEFALOC
C
COMMON/MASTER/IMDATE,IDENTNG,ISIDE,MNPT,NCORR,NCPEN,MRECOVER
1  MNREF,MNDRY,MNEG,MNTYPE,MNGROUP,MNTOBASE,MNPAYLOAD,MNASHTYPE,MNMDTYPE
2  MNANKRAS,MNCOMPLEX,MNCLASS,MNALER,MNLTGTS,MNCRITY,MNENTRY
EQUIVALENCE(MNGROUP,MN)(MALER,MNOTHER)
C
C   MASTER *****
C   MACHINE  JUN71 *****
C
COMMON /MACHINE/ IREAU, IRRIT, ICOM, IPUNCH
C
C   MACHINE *****
C
I = 1
METRO = 3HALL
LCU = 2
WRITE(IRRIT, 1) METRO, I, LA(LCU)
WRITE(IPUNCH, 2) METRO, I, LA(LCU)
1  FORMAT(1X, A6, 2X, I10, F10.5)
2  FORMAT(2X, 2X, I10, F10.5)
METRO = 5HGROUP
DC 100 I = 1, NG
LCU = 2 + I
WRITE(IRRIT, 1) METRO, I, LA(LCU)
WRITE(IPUNCH, 2) METRO, I, LA(LCU)
LCU = 2 + NG
METRO = 6HREGION
UC 200 I = 1, NREG
LCU = LCU + 1
WRITE(IRRIT, 1) METRO, I, LA(LCU)
200 WRITE(IPUNCH, 2) METRO, I, LA(LCU)
LCU = LCU + NREG
METRO = 5HCLASS
UC 300 I = 1, NCLASS
LCU = LCU + 1
WRITE(IRRIT, 1) METRO, I, LA(LCU)
300 WRITE(IPUNCH, 2) METRO, I, LA(LCU)
LCU = LCU + NCLASS
METRO = 4HTYPE
DC 400 I = 1, NTYPE
LCU = LCU + 1

```

PT 5.5

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PAGE NO.

2

```
WRITE (UNIT, 1) METRO, I, LA(LCU)
DOU WRITE(IPUNCH, 2) METRO, I, LA(LCU)
LCU = LCU + 1
WRITE(SHOWER)
DOU 500 I = 1, NCTHER
LCU = LCU + 1
WRITE(UNIT, 1) METRO, I, LA(LCU)
DOU WRITE(IPUNCH, 2) METRO, I, LA(LCU)
RETURN
END
```

37000
38000
39000
40000
41000
42000
43000
44000
45000
46000
47000

DATES PUNCHM

PUNCHM

IDENT

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

00357
00027

PUNCHM

222
MASTER
MACHINE

06464
00027
00000

EXTERNAL SYMBOLS

THEND.
QSDICT.
PNTNCH
SIM.
QNSIMUL.

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P00354	LCU	00104	00146	00162	00200	00225
P00355	LCUD	00104	00146	00162	00200	00225
P00356	METRO	00104	00146	00162	00200	00225
C00463	MAXATTIR	00104	00146	00162	00200	00225
C00023	NALENT	00104	00146	00162	00200	00225
C00016	NAMTYPE	00104	00146	00162	00200	00225
C00010	NBNDRY	00104	00146	00162	00200	00225
C00022	NCLASS	00104	00146	00162	00200	00225
C00026	NCMTHY	00104	00146	00162	00200	00225
C00021	NCOMPLEX	00104	00146	00162	00200	00225
C00004	NCSRK	00104	00146	00162	00200	00225
C00025	NCRTYPE	00104	00146	00162	00200	00225
C00005	NUPEN	00104	00146	00162	00200	00225
C00013	NG	00104	00146	00162	00200	00225
C00013	NGROUP	00104	00146	00162	00200	00225
C00023	NOTHER	00104	00146	00162	00200	00225
C00015	NPAYLOAD	00104	00146	00162	00200	00225
C00006	NRECOVER	00104	00146	00162	00200	00225
C00007	NREF	00104	00146	00162	00200	00225
C00011	NREG	00104	00146	00162	00200	00225
C00003	NRPT	00104	00146	00162	00200	00225
C00020	NTANKBAS	00104	00146	00162	00200	00225
C00024	NTGTS	00104	00146	00162	00200	00225
C00014	NTGTRASE	00104	00146	00162	00200	00225
C00012	NTYPE	00104	00146	00162	00200	00225
C00017	NWHDTYPE	00104	00146	00162	00200	00225
X00003	PRNTING	00104	00146	00162	00200	00225
P00027	PUNCH	00104	00146	00162	00200	00225
X00002	UBODICT	00104	00146	00162	00200	00225
X00005	UN-SINGL	00104	00146	00162	00200	00225
C00271	MUNSUM	00104	00146	00162	00200	00225
X00004	STH	00104	00146	00162	00200	00225
X00001	TENDU	00104	00146	00162	00200	00225
P00125	TS00001	00104	00146	00162	00200	00225
P00167	TS00002	00104	00146	00162	00200	00225
P00032	TS00003	00104	00146	00162	00200	00225
P00075	TS00004	00104	00146	00162	00200	00225
P00040	TS00005	00104	00146	00162	00200	00225
P00072	TS00001	00104	00146	00162	00200	00225
P00134	TS00002	00104	00146	00162	00200	00225
P00177	TS00003	00104	00146	00162	00200	00225
P00042	TS00004	00104	00146	00162	00200	00225
P00305	TS00005	00104	00146	00162	00200	00225
C00000	WTFAC	00104	00146	00162	00200	00225
C00003	WTRATE	00104	00146	00162	00200	00225
C00006	WTSUM	00104	00146	00162	00200	00225
C00132	SYMBOLS	00104	00146	00162	00200	00225

0091

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```

C IFIXEND ASSIGNMENT INPUT INDEX
C SAVEFIX WRITE MSLTIME FILE ONLY IF TRUE
C IADD IF NEGATIVE - NO FIXED ASSIGNMENTS FROM TGTFILE
C IF ZERO - FIXED ASSIGNMENTS ACCORDING TO TGTFILE
C IF POSITIVE - FIXED ASSIGNMENTS FROM TGTFILE AND
C CARD INPUT
C
C COMMON/FIXEDASS/IFIXTEMP(10), IFIXTAPE, IBCD, NLFIAR
C
C IFIXTEMP TEMPORARY STORAGE AREA
C IFIXTAPE LOGICAL UNIT NUMBER - FILEHANDLER FILE
C IB CD LOGICAL UNIT NUMBER - WCD FILE
C
C NLFIAR NOT ZERO IF MORE FIXES FOR THIS TARGET ON TGTFILE
C
CEND
C
C SMAT 1JUN71 *****
C
C COMMON/SMAT/SMAT(6*5)*LSMAT,SMATMIRV(3),SMNCHIRV(3)
C
C DATA(LSMAT = 30)
C SMAT *****
C DIMENSION LABEL(5)
C DATA(LABEL = 8H DBL, 8H CC, 8H REL, 8H PEN,
C 1 8H SIK)
C
C DIMENSION IFORMAT(5)
C DATA (IFORMAT = 8H(1H0*AB*06H = *.,1H *8H* BY *.,3HAB))
C DIMENSION NAMPRNT(5)
C
C DATA (NAMPRNT = 8HFIRSTPAS, 7MFIRSTAR, 8HLASTPASS, 6HLASTAR,
C 1 7MTGTFNEW)
C
C DIMENSION IOPFIX(3), ISUBFIX(5)
C DATA (IOPFIX = 6HFIXGT, 7HNOFIXES, 6HFIXNOM)
C DATA (ISUBFIX = 4HTAPE, 7HBCDTAPE, 4HDISK, 6HNCSAVE, 7HADDONLY)
C NUEFLT = 50
C INT = 2H18
C IF = 4HF8.4
C IA = 2HAB
C NSAVPR = 1
C IAMFIX = 0
C
C SET UP PARAMETER DEFAULTS
C
C DC 10 I = 1, NDEFLT
C FVAL(I) = 0.0
C MYFORM(I) = IF
C MYCTO(I) = 1
C MYTYPE(I) = 7HDEFAULT
C 10 CONTINUE
C
C MYNAME(I) = 6HIMATCH
C MYFORM(I) = INT

```

C	MYGCTC(1) = 2	56000
C	MYNAME(2) = 9MINTPRD	57000
C	FVAL(2) = 2.0	58000
C	MYNAME(3) = 9MATICINT	59000
C	FVAL(3) = 2.0	60000
C	MYNAME(4) = 9MSNSTVTY	61000
C	FVAL(4) = 0.1	62000
C	MYNAME(5) = 9HFSNSTVTY	63000
C	FVAL(5) = 1.0	64000
C	MYNAME(6) = 9MGLSE	65000
C	FVAL(6) = 1.05	66000
C	MYNAME(7) = 9HDELTVL	67000
C	FVAL(7) = .005	68000
C	MYNAME(8) = 9MPRM	69000
C	FVAL(8) = .5	70000
C	MYNAME(9) = 9MSTALADJ	71000
C	FVAL(9) = .5	72000
C	MYNAME(10) = 9MGLSE	73000
C	FVAL(10) = 4.0	74000
C	MYNAME(11) = 9MQUALITY	75000
C	FVAL(11) = .5	76000
C	MYNAME(12) = 9MCCR	77000
C	FVAL(12) = .5	78000
C	MYNAME(13) = 9MTARFAC	79000
C	FVAL(13) = .1	80000
C	MYNAME(14) = 9MIVERIFY	81000
C	MYFORM(14) = INT	82000
C	MYGCTC(14) = 2	83000
C	MYNAME(15) = 9MCCR2	84000
C	MYNAME(16) = 9MSETTLE	85000
C	FVAL(16) = 1.0	86000
C	MYNAME(17) = 9MRFAC	87000
C	FVAL(17) = 1.0	88000
C	MYNAME(18) = 9MERCLOS	89000
C	MYFORM(18) = 9MFS.6	90000
C	FVAL(18) = .001	91000
C	MYNAME(19) = 9MPTX	92000
		93000
		94000
		95000
		96000
		97000
		98000
		99000
		100000
		101000
		102000
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		106000
		107000
		108000
		109000
		110000
		111000

```

C      C      FVAL(19) = .95      NAUPI
C      MYNAME(20) = SHRADPRX
C      MINDAMAG
C      MYNAME(21) = BMINDAMAG
C      RA
C      MYNAME(22) = GMLCWFCAC
C      MYNAME(23) = THHIGHFAC
C      MYNAME(24) = RMYRQBLCG
C      MYNAME(25) = RMPCRBHIGH
C      LAW
C      MYNAME(26) = EHLAW
C      MYFORM(26) = IA
C      MYGOTO(26) = 3
C      MYVAL(26) = GM POWER
C      TINTFAC
C      MYNAME(27) = TMTINTFAL
C      FVAL(27) = 1.0U
C      SWAT
C      THIS ARRAY USES ELEMENTS 28-57
C      DC 20 I = 28, 57
C      MYNAME(I) = 4SWAT
C      CONTINUE
C      FVAL(29) = FVAL(30) = FVAL(32) = FVAL(37) = FVAL(38) = FVAL(43)
C      1 = FVAL(48) = .10
C      FVAL(35) = FVAL(44) = FVAL(49) = FVAL(50) = .2
C      FVAL(41) = .05
C      FVAL(36) = .30
C      FVAL(31) = .40
C      FACIRV
C      MYNAME(58) = THFACIRV
C      SET UP STANDARD PRINTS
C      DC 30 J = 1, MAXREQ
C      INDEXPR(1) = 0
C      JPASS(1) = JTGT(I) = KTGFREQ(I) = 1
C      LPASS(I) = LTG(I) = Y999
C      CONTINUE
C      INDEXPR(1) = 1
C      INDEXPR(2) = 2
C      INDEXPR(3) = 4
C      INDEXPR(4) = 10
C      NNEG = 4
C      DC 40 I = 1, 5
C      MYPR(1) = TRUEFAULT
C      CONTINUE
C      KTGFREQ(3) = 50
C      HEAD PARAMETER CARDS
C      WRITE(LUNIT, 99)
C      99 FORMAT(10XEN INPUT PARAMETER CARDS FOR OPTION ALLOCATED)
C      100 READ (HEAD, LUI) INPUT

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101 FORMAT (IQA8)
WRITE(IIRIT, IJ2) INPUT
102 FORMAT(/IX, IQA8)
CALL GETVALU(INPUT, NVARS, NAMES, INVALU, INDEX1,
1 INDEX2, INDEX3, MORE)
IF (NVARS) 200, 2000, 110
C
C INTERPRET INPUT
110 IAMFIX = JLE(NAMES(1), IOPTFI, 3)
IF (IAMFIX) GO TO 2000
DO 1000 I = 1, NVARS
KKK = I
IIST = NAMES(I)
IAM = ILE(IIST, MYNAME, NOFLT)
IF (IAM) 120, 120, 150
CHECK FOR PRINT
120 IF (IIST = SMPRINT) 130, 200, 130
130 IAM = ILE(IIST, NAMPRINT, 5)
IF (IAM) 135, 135, 280
135 IF (IIST = 7MSPRINT) 140, 300, 140
ENGR = "G MATCH
140 WRITE(IIRIT, I41) IIST
141 FORMAT(/Z5X, " UNABLE TO DECRYPT VARIABLE NAME ",
1 A8.00. INPUT REQUEST IGNORED*)
GO TO 1000
C INPUT PARAMETER
150 IF (IIST = EQ, 4MSWAT) IAM = IAM + INDEX1(I) + (6 * (INDEX2(I) - 1)) - 1
MYTYPE(IAM) = OM INPUT
MYFRM = MYGOIC(IAM)
GO TO (151, 152, 153), MYFRM
FLGATING POINT
151 DECODE(10, 1001, INVALU(1, KKK)) FVAL(IAM)
GO TO 1000
C INTEGER
152 MYVAL(IAM) = NUMGET(INVALU(1, KKK)) + 161
GO TO 1000
C ALPHANUMERIC
153 MYVAL(IAM) = INVALU(1, KKK)
GO TO 1000
C
C PDALCHD1 1JUN71 *****
CSUBR PRINT REQUEST
C
C 200 IIST = NUMGET(INVALU(1, KKK)) + 161
CHECK FOR REQUEST IN RANGE
IF (IIST) 250, 250, 210
210 IF (IIST = MPRINT) 220, 220, 215
215 I12 = IIST - 100
IF (I12 = (MPRINT + 1 - I12)) 250, 250, 220
220 NREQ = NREQ + 1
IF (NREQ = MAXREQ) 240, 240, 230
TO MANY REQUESTS
230 WRITE(IIRIT, 231) MAXREQ
231 FORMAT(/Z5X, " TOO MANY PRINT REQUESTS. ONLY FIRST ",
1 I3, " PROCESSED")
NREQ = NREQ - 1

```

```

      GO TO 1000
C
  240 INDEXP(NREQ) = ITEST
      MYPRM(NREQ) = OM INPI
      NSAVPR = NREQ
      GO TO 1000
C
      REQUEST OUT OF RANGE
  250 WRITE(IWRIT, 251) ITEST
  251 FORMAT('//10A:PRINT REQUEST NUMBER *,110,* IS OUT OF RANGE. REQU
      TEST IGNORED')
      NSAVPR = NREQ + 1
      GO TO 1000
C
      PRINT REQUEST INFORMATION
  260 KKKK = IAW + 1
      IUMPR(NSAVPR, KKKK) = NUMGET(INVALU(I, KKKK), 16)
      GO TO 1000
C
      PRINT CANCELLATION REQUEST
C
  300 ITEST = NUMGET(INVALU(I, KKKK), 16)
      IF (ITEST) 1000, 1000, 310
  310 IF (ITEST) = MPNNT) 320, 320, 1000
      SEARCH FOR PRINT TO BE CANCELLED
  320 DO 330 JK = 1, NREQ
      IF (INDEXPR(JK) = ITEST) 330, 340, 330
  330 CONTINUE
      GO TO 1000
C
  340 MYPRM(JK) = 6HREMOVED
      JPASS(JK) = 999999
      GO TO 1000
C
      1000 CONTINUE
      1001 FORMAT(1600)
      IF (MORE) 2000, 2000, 100
C
      PRINT RESULTS
C
  2000 WRITE(IWRIT, 2001)
  2001 FORMAT('USER INPUT PARAMETERS FOR OPTION ALLSCATE')
C
      PRINT REQUESTS
      WRITE(IWRIT, 2002)
C
  2002 FORMAT('//27A:PRINT REQUESTS*//5X, 7HREQUEST, *X, SHIPASS, 6X,
      1 4H1GT, 5A, SHLPASS, 6A:4H1GT, 6A:6FREQ  MQUE*')
      DO 2010 I = 1, NREQ
      WRITE(IWRIT, 2003) (IUMPR(I, KJL), KJL = 1, 6), MYPRM(I)
  2003 FORMAT(16110, 2X, A8)
      2010 CONTINUE
C
      WRITE (IWRIT, 2011)
  2011 FORMAT('//25A:OTHER PARAMETERS')
      DO 2100 I = 1, NUEFLT
      IF (CMAT(3) = MYFORM(I)
      WRITE(IWRIT, 1FORMAT) MYNAME(I), MYVAL(I), MYTYPE(I)

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WRITE(INRIT, 102) INPUT
IADD = C
IFIXTAPE = 0
IUCD = IREAU
SAVEFIX = .TRUE.
CALL GETVALU(INPUT, NVARS, NAMES, INVALU, INDEX1, INDEX2, INDEX3, MORE)
IAM = ITLE(NAMES(1), ISUBFIX, 3)
IF (IAM) JULL, 3010, 3020
      ERROR
C
3010 WRITE(INRIT, 3011) NAMES(1)
3011 FORMAT(/10A, 'CANNOT DECIPHER COMMAND *1A8.*. COMMAND FIXTGT ASS
      LUED*)
      GO TO 3030
C
3020 GO TO (3030, 3040, 3050), IAM
C
3030 IF TGT = 9999 FIXTGT COMMAND
      RETURN
C
3040 IADD = -1
      NOFIXES
      SAVEFIX = .FALSE.
      IF TGT = 9999
      RETURN
      FLINCM
C
3050 IADD = -1
      IANFIX = 2
      GO TO 3056
C
3055 CALL GETVALU(INPUT, NVARS, NAMES, INVALU, INDEX1, INDEX2, INDEX3,
      MORE)
3056 IF (NVARS-IANFIX + 1) 3060, 5000, 3060
3060 DO 4000 I = IANFIX, NVARS
      IAM = ITLE(NAMES(I), ISUBFIX, 5)
      KKK = I
      GO TO (3070, 3080, 3110, 3120, 3130, 3140), IAM + 1
C
3070 WRITE(INRIT, 141) NAMES(1)
      ERROR
      GO TO 4000
      TAPE
C
3080 IIP = NUMGET(INVALU(1, KKK), 16)
      MYIDNT = 8 * IANFIX
      IF (IIP) 3090, 3090, 3100
3090 IIP = 9
3100 IFIXTAPE = IIP
      CALL SETREAD
      GO TO 4000
      BCUTAPE
C
3110 IUCD = NUMGET(INVALU(1, KKK), 16)
      REMIND IUCD
      GO TO 4000
      DISK
C
3120 MYIDNT = INVALU(1, KKK)
      IIP = -9
      GO TO 3100
      NO SAVE
C
3130 SAVEFIX = .FALSE.

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PTNS.5

```

C      GC TO 4000      ADDONLY
      3100 IADD = +1
      4000 CONTINUE
      IF (MORE) 5000,5000,4010
      4010 READ(HEAD, 101) INPUT
      WRITE(101, 102) INPUT
      IAMFIX = 1
      GC TO 3055
      HEAD FIRST FIXED ASSIGNMENT CARD
      5000 IF (IFIXTAPE) 5100, 5200, 5100
      5100 ITP = IFIXTAPE
      CALL ROADWAY(IFIXTEMP, 10)
      DECODE(174,5201,(FIXTEMP) IS(1), IS(2), (ISTORE(J),J=1,8)
      GC TO 5300

C      5200 READ (1800, 5201)      IS(1), IS(2), (ISTORE(J),J=1,8)
      5201 FORMAT(A8,A2,8A8)
      5300 IFGT = NUNGET(15(1), 10)
      RETURN
      END
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RUALCRU

IDENT

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

J2257
J0401
J0020
J0014
J0010
J0001
J0001
J0001
J0001
J0001
J0003
J0004
14251
J0022
J0007
J0054
J0010
J0015
J0012
J0120
J0015
J0045

RUALCMD

FILES
FILABEL
MYLADEL
IIP
MYLUENT
NGPRINT
TACKU
LCCFIL
MACHINE
HAUXPN
CONTROL
MULAUJ
PRINTCON
PRIMULL
DEFENSE
IFIPMNT
FIXED
FIXEDASS
SMAT

EXTERNAL SYMBOLS

THEND.
Q301004C
Q0001CT.
GETVALU
ITLE
NUMGET
SEIHEAD
ROADRAY
REW.
TSM.
DEC.
STM.
SLO.
SLI.
QNSINGL.

5.4.15 HDALCHL

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CU0012 ALSCRP
CU0001 ALSC11
CU0006 ALSC12
CU0006 ALSC1A
PU136 AN000C4
CU0002 BASFILE
PU2202 BEGIN.
CU0006 BENFAC
CU0001 CLOSE
CU0003 CLOSER
PU2103 CNVRT1.
CU0010 CORR
CU0013 CORR2
PU2234 CCUNT.
PU0032 CRFMT.
XU0013 DEC.
CU0004 DELTEFF
CU0007 DELTVAL
PU0001 DICT.
PU2204 ENDING.
CU0002 ERRCLCS
CU0016 EVENTAPE
PU0000 EXIT.
CU0020 FACIRV
CU1361 FILLER
PU0032 FORMAT.
CU0004 FSMSTVTV
CU0050 FVAL
XU0004 GETVALU
PU0073 GG000CC.
PU0706 GG000C1.
PU0721 GG000C2.
PU0006 GG000C3.

CU0032

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P01044	GG0000C4.	01033	00602	00604	00632	00637	00655	00657	00741	00744	00747
P01117	GG0000C5.	01107	01242	01263	01267	01303	01306	01324	01373	01375	01377
P01144	GG0000C6.	01134	01426	01433	01433	01674	01712	01766	02116		
P01232	GG0000C7.	01224									
P01241	GG000010.	01233									
P01267	GG000011.	01246									
P01302	GG000012.	01274									
P01324	GG000013.	01312									
P01365	GG000014.	01353									
P01414	GG000015.	01406									
P01443	GG000016.	01415									
P01547	GG000017.	01535									
P01556	GG000020.	01550									
P01571	GG000021.	01557									
P01627	GG000022.	01617									
P01717	GG000023.	01706									
P02007	GG000024.	01775									
P02022	GG000025.	02010									
P02053	GG000026.	02033									
P02075	GG000027.	02055									
P02235	I	00416	00602	00604	00632	00637	00655	00657	00741	00744	00747
		01011	01215	01263	01267	01303	01306	01324	01373	01375	01377
		01404	01426	01433	01433	01674	01712	01766	02116		
		00412	00570								
P02236	IA	01571	01572	01636	01637	01645	01764	01765	01151	01334	01335
P02237	IAD	00756	00767	01016	01021	01040	01052	01056			
	IAM	01372	01376	01513	01630	01674	01677				
		00415	00735	01531	01646	01657	01662	02023			
		01575	01575	01747	01747	02054	02054				
P02240	IAMFIX										
C00013	IACD										
C00002	ICOMM										
C00431	ICOUNT										
C00001	IDC										
C00051	IDUMPR										
P02241	IF	01161	01162	01256	01256						
C00114	IFIXREG	00411	00426								
C00115	IFIXEXD										
C00012	IFIXTAPS	01573	01573	01736	01736	02024	02026	02026	02026		
C00000	IFIXTEMP	02032	02036								
P00010	IFORMAT	00032	01310	01315							
C00000	IFRSTPR										
C00000	IFTGT	01634	01635	02100	02100						
C00000	IFTPHAT										
C00011	IFW										
P02242	IGCIC.	01026	01631	01700							
C00014	IMATCH	01444	01444								
P02104	INOCOC3.	01031	01054	01061	01154	01163	01720	01742	01753	02171	
P02105	INOCOC5.	01101	02162	02200	02136						
P02106	INOCOC7.	01255	02110	02122	02136						
P02107	INOCOC11.	01430	02110	02121	02152						
C00007	INCOMM										
C00002	INDATE										
C00203	INDEX1	00725	01016	01605	01654						
C00253	INDEX2	00725	01012	01605	01654						
C00323	INDEX3	00726	01606	01655							

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C00051	INDEXPR	00647	00651	00652	01124	01201
C00003	INFORM	00641	00650	00652	01124	01201
C00000	INIDENT	00641	00650	00652	01124	01201
P02202	INITIAL	00641	00650	00652	01124	01201
C00006	INLGTH	00641	00650	00652	01124	01201
C00000	INPUT	00641	00650	00652	01124	01201
C00001	INRUMAC	00641	00650	00652	01124	01201
C00004	INSECR	00641	00650	00652	01124	01201
P02243	INT	00641	00650	00652	01124	01201
C00005	INTIME	00641	00650	00652	01124	01201
C00003	INVALU	00641	00650	00652	01124	01201
P00022	ISPTFIX	00641	00650	00652	01124	01201
C00003	IPUNCH	00641	00650	00652	01124	01201
C00000	IREAU	00641	00650	00652	01124	01201
C00107	IS	00641	00650	00652	01124	01201
C00001	ISTORE	00641	00650	00652	01124	01201
P00025	ISURFIA	00641	00650	00652	01124	01201
P02244	IT2	00641	00650	00652	01124	01201
P02245	ITEST	00641	00650	00652	01124	01201
C00050	ITIME	00641	00650	00652	01124	01201
X00005	ITLE	00641	00650	00652	01124	01201
C00002	ITMPMSL	00641	00650	00652	01124	01201
C00000	ITP	00641	00650	00652	01124	01201
C00000	ITWCRF	00641	00650	00652	01124	01201
C00012	IWRIT	00641	00650	00652	01124	01201
P00433	.10	00641	00650	00652	01124	01201
P00673	.100	00641	00650	00652	01124	01201
P01015	.1000	00641	00650	00652	01124	01201
P00137	.100001	00641	00650	00652	01124	01201
P00740	.100002	00641	00650	00652	01124	01201
P01011	.100003	00641	00650	00652	01124	01201
P01022	.100004	00641	00650	00652	01124	01201
P01533	.100005	00641	00650	00652	01124	01201
P01534	.100006	00641	00650	00652	01124	01201
P00731	.110	00641	00650	00652	01124	01201
P00700	.120	00641	00650	00652	01124	01201
P00763	.130	00641	00650	00652	01124	01201
P00772	.135	00641	00650	00652	01124	01201
P00775	.140	00641	00650	00652	01124	01201
P01007	.150	00641	00650	00652	01124	01201
P01031	.151	00641	00650	00652	01124	01201
P01045	.152	00641	00650	00652	01124	01201
P01054	.153	00641	00650	00652	01124	01201
P00607	.20	00641	00650	00652	01124	01201
P01061	.200	00641	00650	00652	01124	01201
P01223	.2000	00641	00650	00652	01124	01201

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PU1607 .2010
 PU167J .210
 PU1324 .2100
 PU1673 .215
 PU1102 .220
 PU1341 .2200
 PU1340 .2210
 PU1352 .2220
 PU1376 .2230
 PU1106 .230
 PU1122 .240
 PU1131 .250
 PU1151 .280
 PU0645 .30
 PU1163 .300
 PU1547 .3000
 PU1616 .3010
 PU1830 .3020
 PU1634 .3030
 PU1636 .3040
 PU1644 .3050
 PU1850 .3055
 PU1854 .3056
 PU1682 .3060
 PU1705 .3070
 PU1720 .3080
 PU1733 .3090
 PU1172 .310
 PU1735 .3100
 PU1142 .3110
 PU1753 .3120
 PU1760 .3130
 PU1764 .3140
 PU1176 .320
 PU1204 .330
 PU1210 .340
 PU0662 .40
 PU1766 .4000
 PU1774 .4010
 PU2124 .5000
 PU2126 .5100
 PU2154 .5200
 PU2175 .5300
 PU2207 .ERASEM.
 PU0632 ..100C00
 PU0633 ..100C01
 PU0634 ..100C02
 PU0635 ..100C03
 PU0636 ..100C04
 PU0637 ..100C05
 PU0640 ..100C06
 PU0641 ..100C07
 PU0642 ..100C08
 PU0643 ..100C09

U1672 U1672
 U1337 U1340
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 U1104 U1105
 U1066 U1067
 U0771
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 U1015
 U1020
 U1077
 U1100
 U1371

P00044	..100C10	00465
P00045	..100C11	00471
P00046	..100C12	00475
P00047	..100C13	00501
P00050	..100C14	00505
P00051	..100C15	00511
P00052	..100C16	00515
P00053	..100C17	00521
P00054	..100C18	00526
P00055	..100C19	00530
P00056	..100C20	00534
P00057	..100C21	00540
P00060	..100C22	00542
P00061	..100C23	00546
P00062	..100C24	00552
P00063	..100C25	00554
P00064	..100C26	00556
P00065	..100C27	00560
P00066	..100C28	00562
P00067	..100C29	00564
P00070	..100C30	00566
P00071	..100C31	00573
P00072	..100C32	00575
P00073	..100C33	00605
P00074	..100C34	00627
P00075	..100C35	00660
P00117	..100C36	00761
P00120	..100C37	00773
P00140	..100C38	01010
P00141	..100C39	01022
P00160	..100C40	01125
P00200	..100C41	01210
P00264	..100C42	01332
P00265	..100C43	01337
P00266	..100C44	01341
P00267	..100C45	01343
P00270	..100C46	01346
P00271	..100C47	01350
P00305	..100C48	01367
P00373	..100C49	01726
P00201	..1001	01036
P00107	..101	00677
P00112	..102	00712
P00121	..141	01001
P00204	..2001	01227
P00215	..2002	01236
P00250	..2003	01251
P00255	..2011	01277
P00272	..2201	01356
P00306	..2231	01411
P00323	..2232	01420
P00142	..231	01112
P00161	..251	01137
P00343	..3001	01553

01540 02000
01562 02013
01711

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PU0374	..5201	02036							
PU0076	..99	00670							
PU2208	..NSTIFF.	01400							
PU1351	..Z000C1.	01046							
PU1065	..Z000C2.	01062							
PU1160	..Z000C3.	01155							
PU1167	..Z000C4.	01164							
PU1672	..Z000C5.	01097							
PU1724	..Z000C6.	01721							
PU1746	J	01743							
PU2246	J	02045	02047	02065	02067	02071			
PU2247	JK	01177	01204	01211					
PU2250	JKS	01422	01424	01436					
CU0121	JPASS	00643	01213	01214					
CU0171	JTGP	00642							
PU2251	KJL	01253	01260	02132					
PU2252	KKK	00745	01075	02166					
CU0361	KTKTFREU	01152	00664						
PU0003	LABEL	00032	01344	01347	01347	01351	01351	01362	
CU0016	LAW	01342							
CU0241	LPASS	00644							
CU0036	LSMAT	00032							
CU0311	L16T	00644							
CU0551	MAXREQ	00634	01104	01113					
CU0015	MINDAMAG	01514							
CU0373	MORE	00726	01606	01655	01772				
CU0552	MPRNT	01071	01075	01075	01173	01173			
CU0004	MSLTPE								
CU0003	MYCOM								
CU0540	MYCOM	00426	00427	00437	00524	00524	00543	00571	01307
CU0000	MYCOMT	01307							
PU2254	MYFRM	01025							
CU1214	MYG6TC	00430	00525	00572	01024				
CU0000	MYIDENT	01727	01755	01755					
CU0002	MYLENGTH								
CU0374	MYNAME	00435	00442	00442	00446	00446	00452	00456	00462
		00462	00466	00472	00472	00476	00476	00502	00506
		00512	00516	00522	00522	00527	00527	00531	00535
		00535	00541	00547	00547	00553	00553	00555	00557
		00561	00563	00565	00565	00567	00567	00576	00606
		00606	00630	00754	01316	01316	01332	00576	
		00661	01126	01126	01211	01212	01263		
CU0501	MYPRNT	00661							
CU0001	MYSECR	00431	01023	01024	01321				
CU0704	MYTYPE	00574	01052	01053	01057	01057	01335	01443	01443
CU1150	MYVAL	01475							
CU0013	NAMES	00724	00733	00750	01604	01611	01623	01653	01667
		01713							
PU0015	NAMPRNT								
CU1360	NDEFIT	00032							
CU0106	NFIAMP5	00405	00420	00420	00755	01326	01326	01333	01370

SATS

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C00000	MINTPRD	01102	01102	01103	01117	01117	01120	01123	01123	01127	01144
C00014	NLFTR	01144	01205	01271	01271	01271					
C00030	NPRIAT	01130	01146	02175							
C00005	NPASS										
C00553	NREQ	01453									
P02255	NSAVPR	01463	01156	01165	01722	01744	02075	01656	01656	01770	01770
C00000	NTATTIB	01723	00727	01217	01617	01603	01652				
C00000	NTX										
X00006	NUMGET	01510									
X00012	NVARS	01462									
P02110	P0000C+U										
P02124	P00002+U										
P02160	P00003+U										
C00006	PKTX										
C00017	PLANTAPE										
C00006	PRM										
C00001	PRCCHULT										
C00003	PROGRESS										
C00011	PRX	01522	01524	01524							
C00003	PX	01577	01640	01761							
X00002	Q0010C4U	01600	01602								
X00003	Q0001C1	01470									
X00017	QNSINGL	01512									
C00004	QUALITY	01450									
C00013	RADPX										
C00002	RATICINT										
P00001	RDALCRD	01401									
X00010	RDARHAY	01430									
X00011	NEW	01750									
C00001	MINTPRD	01446									
P02256	MINTPRD	01516	01520	01520							
C00007	RX	01641	01762								
C00110	SAVEFIX										
C00005	SDELTEFF	01737									
X00007	SETREAD	01502	02002								
C00005	SETTLE	00701	01564	02015							
X00016	SLI	00714	01360	02015							
X00015	SLC	01402	01431	01431							
C00000	SMAT										
C00037	SMATHIRV										
C00042	SMOCHIRV	01452									
C00003	SNSTVTY	01464	01710								
C00000	STALADJ	01407	01416								
X00014	STM										
C00011	STIME										
C00014	STRKFL										
C00107	SX	01474	01474								
C00021	TARFAC										
C00000	TGFILE	00071	00704	01004	01342	01345	01441	01441	01441	01441	01441
X00001	TREND	01322	01363	01363	01412	01412	01412	01412	01412	01412	01412

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CUGJ5U TIME					
CUGJ14 TINTFAC					
CUGJ10 IMPALCC					
PUGJ34 TS000C1.	U1526				
PUGJ40 TS000C3.					
PUGJ27 TS000C5.	U1526				
PUGJ05 TS000C6.					
PUGJ71 TS000C7.					
PUGJ30 TS000C1.					
PUGJ70 TS000C15.					
PUGJ12 TSH.					
CUGJ00 TSH.					
PUGJ15 UP000C0.					
PUGJ31 UP000C2.					
PUGJ45 UP000C3.					
PUGJ05 UP000C5.					
PUGJ15 UP000C7.					
PUGJ14 UP000C1.					
CUGJ07 VALEMR					
CUGJ05 VALWPN					
CUGJ02 WADCP					
CUGJ00 WPNTR					
PUGJ24 WS000C1.					
PUGJ05 WS000C2.					
PUGJ40 WS000C3.					
PUGJ60 WS000C4.					
PUGJ44 WS000C5.					
PUGJ00 WS000C6.					
PUGJ45 WS000C7.					
PUGJ55 WS000C10.					
PUGJ00 WS000C11.					
PUGJ70 WS000C12.					
PUGJ30 WS000C13.					
PUGJ42 WS000C14.					
PUGJ66 WS000C15.					
PUGJ44 WS000C16.					
PUGJ60 WS000C17.					
U0564 SYMBOLS					

```

SUBROUTINE HEADMUL
  READMUL 1JUN71 *****
C
C THIS SUBROUTINE HEADS LAGRANGE MULTIPLIER VALUES
C
C MACHINE 1JUN71 *****
C
COMMON /MACHINE/ IREAU, IIRII, ICONH, IPUNCH
C
C MACHINE *****
C
MASTER 1JUN71 *****
C
USED BY ALLOCATE, MULLON, PREMIUMS, STALL, *AU, *ADCU, PRINTNG,
RESVAL, AND DEFALOC
C
COMMON/MASTER/IMDATE, JDATE, ISIDE, *KPT, *NCORR, *NDPEN, *NRECOVER
I*REF, *NPRDRT, *NREG, *NTYPE, *NGROUP, *NTOTASE, *NPAYCAU, *NASHI*TYPE, *NWHOTYPE
2, *NTANKM, *NCOMPLEXCLASS, *NALERI, *NTOTSEN, *NCORTYPE, *NCNTRY
EQUIVALENCE(NGMGRP, NG) (NALERI, *NOTHER)
C
MASTER *****
C
NUMB2 1JUN71 *****
C
USED BY ALLOCATE, MULLON, *AD, AND PHNINCW
C
COMMON/222/
1 *IFAC(3), *NTHATE(3), *NLSUM(3), *JATHIB(6, 200), *RUNSUM(310, 3)
2 *ALEHREST(310, 3), *LA(310), *MAATTRIB
C
TYPE REAL LA *****
C
NUMB2 *****
C
100 HEAD (IREAU, 1, 1) *METRO, NUMBA, V
101 FORMATTAB, 2X, 11C, F10.0)
102 *WHITE(1, 1), 102) *METRO, NUMBA, V
102 FORMATTAB, 1X, 2X, 11C, F10.0)
200 IF(METRO - 7) *END LAM) 200, 1000, 200
210 IF(METRO - 5) *SMALL) 220, 210, 220
210 LCU = 2
60 TO 900
220 IF(METRO - 5) *NGROUP) 240, 230, 240
230 LCU = NUMBA + 2
60 TO 900
240 IF(METRO - 6) *NREGION) 260, 250, 260
250 LCU = 2 + NG + NUMBA
60 TO 900
260 IF(METRO - 5) *NCLASS) 280, 270, 280
270 LCU = 2 + NG + NHEG + NUMBA
60 TO 900
280 IF(METRO - 4) *NTYPE) 300, 290, 300
290 LCU = 2 + NG + NHEG + NCLASS + NUMBA
60 TO 900
300 IF(METRO - 5) *NOTHER) 1100, 310, 1100
310 LCU = 2 + NG + NHEG + NCLASS + NTYPE + NUMBA
60 TO 900
C
900 LA (LCU) = V
60 TO 100
C
1000 RETURN
C

```

PTMS.5

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11.0 WHITE(UNIT, 1101)

11.1 FORMAT(//# UNRECOGNIZED ATTRIBUTE NAME - CARD IGNORED*)

00 TO 100

C

END

37000
38000
39000
40000
41000

544TS HEADMUL

IDENT READMUL

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

READMUL
MACHINE
MASTER
222

UITS
UUA2
UUA4
UUA7
UUA64

EXTERNAL SYMBOLS
THEND.
ORDDICT.
TSM.
SIM.
ONSINGL.

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D. TS HEADMUL

CU4133	ALERMEST	CU107	CU055	CU070	CU071	CU072	CU075	CU076	CU077	CU078	CU079	CU080	CU081	CU082	CU083	CU084	CU085	CU086	CU087	CU088	CU089	CU090	CU091	CU092	CU093	CU094	CU095	CU096	CU097	CU098	CU099	CU100	CU101	CU102	CU103	CU104	CU105	CU106	CU107	CU108	CU109	CU110	CU111	CU112	CU113	CU114	CU115	CU116	CU117	CU118	CU119	CU120	CU121	CU122	CU123	CU124	CU125	CU126	CU127	CU128	CU129	CU130	CU131	CU132	CU133	CU134	CU135	CU136	CU137	CU138	CU139	CU140	CU141	CU142	CU143	CU144	CU145	CU146	CU147	CU148	CU149	CU150	CU151	CU152	CU153	CU154	CU155	CU156	CU157	CU158	CU159	CU160	CU161	CU162	CU163	CU164	CU165	CU166	CU167	CU168	CU169	CU170	CU171	CU172	CU173	CU174	CU175	CU176	CU177	CU178	CU179	CU180	CU181	CU182	CU183	CU184	CU185	CU186	CU187	CU188	CU189	CU190	CU191	CU192	CU193	CU194	CU195	CU196	CU197	CU198	CU199	CU200	CU201	CU202	CU203	CU204	CU205	CU206	CU207	CU208	CU209	CU210	CU211	CU212	CU213	CU214	CU215	CU216	CU217	CU218	CU219	CU220	CU221	CU222	CU223	CU224	CU225	CU226	CU227	CU228	CU229	CU230	CU231	CU232	CU233	CU234	CU235	CU236	CU237	CU238	CU239	CU240	CU241	CU242	CU243	CU244	CU245	CU246	CU247	CU248	CU249	CU250	CU251	CU252	CU253	CU254	CU255	CU256	CU257	CU258	CU259	CU260	CU261	CU262	CU263	CU264	CU265	CU266	CU267	CU268	CU269	CU270	CU271	CU272	CU273	CU274	CU275	CU276	CU277	CU278	CU279	CU280	CU281	CU282	CU283	CU284	CU285	CU286	CU287	CU288	CU289	CU290	CU291	CU292	CU293	CU294	CU295	CU296	CU297	CU298	CU299	CU300	CU301	CU302	CU303	CU304	CU305	CU306	CU307	CU308	CU309	CU310	CU311	CU312	CU313	CU314	CU315	CU316	CU317	CU318	CU319	CU320	CU321	CU322	CU323	CU324	CU325	CU326	CU327	CU328	CU329	CU330	CU331	CU332	CU333	CU334	CU335	CU336	CU337	CU338	CU339	CU340	CU341	CU342	CU343	CU344	CU345	CU346	CU347	CU348	CU349	CU350	CU351	CU352	CU353	CU354	CU355	CU356	CU357	CU358	CU359	CU360	CU361	CU362	CU363	CU364	CU365	CU366	CU367	CU368	CU369	CU370	CU371	CU372	CU373	CU374	CU375	CU376	CU377	CU378	CU379	CU380	CU381	CU382	CU383	CU384	CU385	CU386	CU387	CU388	CU389	CU390	CU391	CU392	CU393	CU394	CU395	CU396	CU397	CU398	CU399	CU400	CU401	CU402	CU403	CU404	CU405	CU406	CU407	CU408	CU409	CU410	CU411	CU412	CU413	CU414	CU415	CU416	CU417	CU418	CU419	CU420	CU421	CU422	CU423	CU424	CU425	CU426	CU427	CU428	CU429	CU430	CU431	CU432	CU433	CU434	CU435	CU436	CU437	CU438	CU439	CU440	CU441	CU442	CU443	CU444	CU445	CU446	CU447	CU448	CU449	CU450	CU451	CU452	CU453	CU454	CU455	CU456	CU457	CU458	CU459	CU460	CU461	CU462	CU463	CU464	CU465	CU466	CU467	CU468	CU469	CU470	CU471	CU472	CU473	CU474	CU475	CU476	CU477	CU478	CU479	CU480	CU481	CU482	CU483	CU484	CU485	CU486	CU487	CU488	CU489	CU490	CU491	CU492	CU493	CU494	CU495	CU496	CU497	CU498	CU499	CU500	CU501	CU502	CU503	CU504	CU505	CU506	CU507	CU508	CU509	CU510	CU511	CU512	CU513	CU514	CU515	CU516	CU517	CU518	CU519	CU520	CU521	CU522	CU523	CU524	CU525	CU526	CU527	CU528	CU529	CU530	CU531	CU532	CU533	CU534	CU535	CU536	CU537	CU538	CU539	CU540	CU541	CU542	CU543	CU544	CU545	CU546	CU547	CU548	CU549	CU550	CU551	CU552	CU553	CU554	CU555	CU556	CU557	CU558	CU559	CU560	CU561	CU562	CU563	CU564	CU565	CU566	CU567	CU568	CU569	CU570	CU571	CU572	CU573	CU574	CU575	CU576	CU577	CU578	CU579	CU580	CU581	CU582	CU583	CU584	CU585	CU586	CU587	CU588	CU589	CU590	CU591	CU592	CU593	CU594	CU595	CU596	CU597	CU598	CU599	CU600	CU601	CU602	CU603	CU604	CU605	CU606	CU607	CU608	CU609	CU610	CU611	CU612	CU613	CU614	CU615	CU616	CU617	CU618	CU619	CU620	CU621	CU622	CU623	CU624	CU625	CU626	CU627	CU628	CU629	CU630	CU631	CU632	CU633	CU634	CU635	CU636	CU637	CU638	CU639	CU640	CU641	CU642	CU643	CU644	CU645	CU646	CU647	CU648	CU649	CU650	CU651	CU652	CU653	CU654	CU655	CU656	CU657	CU658	CU659	CU660	CU661	CU662	CU663	CU664	CU665	CU666	CU667	CU668	CU669	CU670	CU671	CU672	CU673	CU674	CU675	CU676	CU677	CU678	CU679	CU680	CU681	CU682	CU683	CU684	CU685	CU686	CU687	CU688	CU689	CU690	CU691	CU692	CU693	CU694	CU695	CU696	CU697	CU698	CU699	CU700	CU701	CU702	CU703	CU704	CU705	CU706	CU707	CU708	CU709	CU710	CU711	CU712	CU713	CU714	CU715	CU716	CU717	CU718	CU719	CU720	CU721	CU722	CU723	CU724	CU725	CU726	CU727	CU728	CU729	CU730	CU731	CU732	CU733	CU734	CU735	CU736	CU737	CU738	CU739	CU740	CU741	CU742	CU743	CU744	CU745	CU746	CU747	CU748	CU749	CU750	CU751	CU752	CU753	CU754	CU755	CU756	CU757	CU758	CU759	CU760	CU761	CU762	CU763	CU764	CU765	CU766	CU767	CU768	CU769	CU770	CU771	CU772	CU773	CU774	CU775	CU776	CU777	CU778	CU779	CU780	CU781	CU782	CU783	CU784	CU785	CU786	CU787	CU788	CU789	CU790	CU791	CU792	CU793	CU794	CU795	CU796	CU797	CU798	CU799	CU800	CU801	CU802	CU803	CU804	CU805	CU806	CU807	CU808	CU809	CU810	CU811	CU812	CU813	CU814	CU815	CU816	CU817	CU818	CU819	CU820	CU821	CU822	CU823	CU824	CU825	CU826	CU827	CU828	CU829	CU830	CU831	CU832	CU833	CU834	CU835	CU836	CU837	CU838	CU839	CU840	CU841	CU842	CU843	CU844	CU845	CU846	CU847	CU848	CU849	CU850	CU851	CU852	CU853	CU854	CU855	CU856	CU857	CU858	CU859	CU860	CU861	CU862	CU863	CU864	CU865	CU866	CU867	CU868	CU869	CU870	CU871	CU872	CU873	CU874	CU875	CU876	CU877	CU878	CU879	CU880	CU881	CU882	CU883	CU884	CU885	CU886	CU887	CU888	CU889	CU890	CU891	CU892	CU893	CU894	CU895	CU896	CU897	CU898	CU899	CU900	CU901	CU902	CU903	CU904	CU905	CU906	CU907	CU908	CU909	CU910	CU911	CU912	CU913	CU914	CU915	CU916	CU917	CU918	CU919	CU920	CU921	CU922	CU923	CU924	CU925	CU926	CU927	CU928	CU929	CU930	CU931	CU932	CU933	CU934	CU935	CU936	CU937	CU938	CU939	CU940	CU941	CU942	CU943	CU944	CU945	CU946	CU947	CU948	CU949	CU950	CU951	CU952	CU953	CU954	CU955	CU956	CU957	CU958	CU959	CU960	CU961	CU962	CU963	CU964	CU965	CU966	CU967	CU968	CU969	CU970	CU971	CU972	CU973	CU974	CU975	CU976	CU977	CU978	CU979	CU980	CU981	CU982	CU983	CU984	CU985	CU986	CU987	CU988	CU989	CU990	CU991	CU992	CU993	CU994	CU995	CU996	CU997	CU998	CU999

D-15 HEADL

CU0020 ACNTY
 CU0021 ACMPLEX
 CU0004 ACORR
 CU0025 ACRTYPE
 CU0005 ADPEN
 CU0013 NG
 CU0014 NGROUP
 CU0023 NOTHER
 CU0015 NPAYLOAD
 CU0006 NRECOVER
 CU0007 NREF
 CU0011 NREG
 CU0003 NRTPT
 CU0020 NTANKBAS
 CU0024 NTGTS
 CU0014 NTOTBASE
 CU0012 NTYPE
 PU0173 NUNBA
 CU0017 NNMOTYPE
 XU0002 GRQDICT.
 XU0005 GNSINGL.
 PU0042 HEADMLL
 CU0071 RUNSIP
 XU0004 STM.
 XU0001 TEND.
 XU0003 TSM.
 PU0174 V
 CU0000 WIFAC
 CU0003 WIFATE
 CU0006 WTSUM
 CU0124 SYMCLS

CU0116 00117 00145 00134 00135 00144 00145
 CU0126 00135 00145
 CU0146 00071 00110 00120 00127 00137 00147
 CU0056 00043
 CU000C 00105
 CU0042 00064 00157 00073 00162
 CU006C 0005C 00057 00072 00151

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SUBROUTINE RECON
  CSUBH RECON 1JUN71 *****
  C
  C THIS SUBROUTINE USES THE DATA INPUT ON THE WEAPON-TARGET INTER-
  C ACTION DATA FILES TO RECONSTRUCT THE FULL SET OF WEAPON-TARGET
  C INFORMATION
  C
  C ENTRY SETUP IS USED WHEN NO UNPACKING OF THE FILE DATA IS REQUIRED
  C
  CUSE WADPN 1JUN71 *****
  C
  C USED BY MULCON, PREMIUMS, WAD, WADOUT, PRINTNW, MESVAL, DEFALOC,
  C STALL, FMUP, SORTMNH, TABLEMUP, MDALCRU
  C
  CCOMMON /WAD=PN/ JTGT, INACTIVE(200), TGA(200),
  C 1 TVALTGA(200), VTGA(200,2), MUP(200,2), MISC(6,200,2),
  C 2 SSIG(200,2), MINKILL, MAXKILL, MAXCOST, ILAW,
  C 3 MISDEF, MORN(200), PEX(200), AMUP(200,2), JTGTIX, LNEXT,
  C 4 MINKILX, MAXKILX, MAXCOSA, MISDEX, NACTV, IAX(200), TGA(200),
  C 5 MORN(200), PEX(200), STAX(200,2), STREX(200,2), LSTMAX
  C
  C TYPE REAL MUP, MINKILL, MAXKILL, MAXCOST
  C TYPE REAL MINKILX, MAXKILX, MAXCOSA
  C
  C DIMENSION STARRAY(1607), ISTARRAY(1607)
  C EQUIVALENCE (STARRAY, ISTARRAY, JTGTIX)
  C
  C DATA (LSTMAX = 1607)
  C
  CEND
  CUSE WADPN 1JUN71 *****
  C
  C USED BY MULCON, PREMIUMS, STALL, WAD, WADOUT, PRINTNW, RESVAL,
  C DEFALOC, AND PRINTCON
  C
  CCOMMON/DYNAMIC/TOTNAME,INDEXNO,DESIG,TASK,CNTRYLOC,FLAG,TGTMULT,
  C 1 TGLAT,TGLONG,TGTRAD,VIC,MH(2),VC(2),ANK,PVAL(3),TAU(3),IMCLASS,
  C 2 ICLASSN,INTYPE,TARDEF,INDYPEN,DISTDF,UISTDG,NHLN,CTMULT,VT,
  C 3 TGTWT(3),PAYOFF,COST,PHCFIT,DPHCFIT,RTTEST,INECT,NUMFIX,
  C 4 ITGT,NUMVIG(30),KORR(30),HVAL(30),PEN(30),TGARR(30),LDN
  C
  C TYPE INTEGER TOTNAME,DESIG,TASK,CNTRYLOC,FLAG,TARDEF
  C EQUIVALENCE (DGNARRAY,TOTNAME)
  C
  C DATA (LDN = 45)
  C
  C DIMENSION VIG(30)
  C EQUIVALENCE (VIG, RVAL)
  C
  C DYNAMIC *****
  C WPNTYPE 1JUN71 *****
  C
  C USED BY ALLOCATE, MULCON, PREMIUMS, PRINTNW, RESVAL, DEFALOC
  C
  CCOMMON/WPNTYPE/RANGE(80),CEP(80),SPEED(80),ALEKTULY(80)
  C 1,RELKTULY(80),RANGEDEC(80),ICLASS(80),MANGERE(80),REL(80)

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C
CUSE C      SMAT      1JUN71 *****
C      COMMON/SMAT(6*5)*LDMAT,SMATMIRV(3)*SMQMIRV(3)
C      DATA(LSMAT = 3J)
CUSE C      SMAT *****
C      PAYOFF 1JUN71 *****
C      USED BY WAD AND PENTON
C      COMMON/PAYOFF/
C      ITRENEFIT
C      1*SMAT *****
C      PAYOFF *****
C      DATA (LBOMBER = 2)
C      LBOMBER BOMBER CLASS CODE
C      SMAT FAILURE MODE ATTRIBUTE MATHTA
C      FIRST DIMENSION IS ATTRIBUTE NUMBER
C      SECOND DIMENSION IS FAILURE MODE NUMBER
C      MAT NUMBER OF ATTRIBUTES
C      SMATMIRV TEMPORARY STORAGE FOR GROUP ATTRIBUTE ENTRIES FOR
C      MIV SYSTEMS
C      SMQMIRV TEMPORARY STORAGE FOR GROUP ATTRIBUTE ENTRIES FOR
C      NON MIV SYSTEMS
C      TYPE INTEGER G: A
C      ISYS = 1
C      MAXG = MGNMUP
C      CLEAR DATA ARRAYS
C      DC 100 I = 1, MAXG
C      INACTIVE(I) = 100
C      100 CONTINUE
C      NIGCLR = MAXG * 24 + 3
C      DC 200 I = 1, NIGCLR
C      200 ICA(I) = 0.0
C      LOAD DIRECT DATA
C      JIGT = JIGTA
C      MINKILL = MINNIX
C      MAXKILL = MAXKILX
C      MAXCOST = MAXCOSA
C      MISDEF = MISUEA
C      NN1 = NACTIV + 1
C      NN2 = NN1 + NACTIV
C      NN3 = NN2 + NACTIV
C      DC 300 I = 1, NACTIV
C      K = ICA(I)
C      INACTIVE(K) = 0
C      TJA(K) = STARRAT(NN1 + I)
C      MERR(K) = ISTARRAT(NN2 + I)
C      PEL(K) = STARRAT(NN3 + I)

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300 CONTINUE
C
C      DECOMPRESS SIK ARRAYS
C
C      FIRST LOAD DATA I-TC VTCA AND AMUP ARRAYS
IFROM = NACTV * 4 + 7
NA = N * NACTV
DC 400 KJ = 1.0
DC 400 I = 1.0 NACTV
K = IGR(I)
IFROM = IFROM + 1
VTCA(K*J) = STARRAY(IFROM)
AMUP(K*J) = STARRAY(IFROM + N)
400 CONTINUE
C      LOAD SIK ARRAYS AND CLEAR OTHER ARRAYS
NA = 2 * MAXG
DC 410 I = 1.0 NA
SIKX(I) = VTCA(I)
SIKX(I) = AMUP(I)
VTCA(I) = 0.0
AMUP(I) = 0.0
410 CONTINUE
C
C      ENTRY SETUP
C
C      RECONSTRUCT INFORMATION
ILAM = C
IF(LAM(I) .EQ. RMSUMBER) .AND. (IGTRAD .GT. 0.0) ILAM = 100
DC 923 I = 1.0 NACTV
G = IGR(I)
K = ITYPE(G)
KH = INEG(G)
IP = IPAY(G)
C      SET UP CORRECT SWAT ARRAY
IF (ISYS) 943, 949, 943
943 ISYS = C
DC 942 II = 1.0 3
942 SWAT(2,II) = SINCMIRV(II)
949 CONTINUE
IF(ICLASS(K) .NE. INUMBER) .AND. (IMINV(IP) .GT. 0) 960, 1000
960 ISYS = IMIRV(IP)
DC 971 IJ = 1.0 3
971 SWAT(2,IJ) = SINCMIRV(IJ)
1000 IF (IGA(G) - .0001) 914, 914, 916
914 FVALTC=1.0 $ GC TC 917
916 FVALTC=0.0
DC 915 KTE=LINK
TEMP=IGA(G)/TAU(KT)
915 FVALICA=FVALICA+FVAL(AT)/(1.0+TEMP**4)
917 FVALICA(G)=FVALICA+VTC
SP(1)=-LOGF(SBLIG))
SP(2)=-LOGF(CC(KH))
SP(3)=-LOGF(DEL(K))
SP(4)=-LOGF(PEATG))
REL=CC(KH)*SBL(G)*DEL(K)*PEAT(G)

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122000

PT05.5

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PAGE NO. 5

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RELTA = RELT / (1. - WKIX)
RELTL = SM(1) * SM(2) * SM(3) * SM(4)
UC 924 JALW
VICA(G,J) = VC(J) * EVALTJA
SIK = STAX(G,J)
SM(5) = -LOGF(SIK)
SSK = STKRELTL
SSKL = SM(5) * RELTL
SSS1 = -SSK
APUP(G,J) = 1.0 - RELTA * STK2X(G,J)
IF (PKNAV(G)) 1926, 1926, 1925
1925 APUP(G,J) = 1.0 - (RELTA * SIK)
1926 MUP(G,J) = TABLEMUP(5,S)
SSIU(G,J) = MUP(G,J) / SSKL
UC 924 A110N41
QUANT(A) = 0
UC 925 L1105
925 QUANT(A) = QUANT(A) * SM(L) * SMAT(A,L)
926 RISK(A,G,J) = QUANT(A)
C
923 CONTINUE
CALL TIMEPE(3)
RETURN
END

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RECON

POINTS

RECON

IDENT

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

RECON
SETUP

WADAPN
DYNAMIC
WPNTYPE
WPRGRP
WPNNEV
PAYLOAU
CONTROL
DEFENSE
PRNAVAL
SMAT
PATOFF

WUT06
WU022
WU177

W4726
W0304
W1360
W4231
W0024
W0020
W0022
W0015
W0310
W0445
W0007

EXTERNAL SYMBOLS

QUQUICT
TABLEMUP
TIMEHE
LOUF

5.15

RECON

11/29/71

ED

0

PAGE NO.

7

P00467	A	00427	00433	00437	00445	00450	00567			
P00300	ALERTICLY									
P00531	BEGIN.	00433								
P00000	CC	00332	00350	00351						
P00000	CCREL									
P00120	CEP									
P00001	CLOSE									
P00004	ENTRYLOC									
P00010	CRQ									
P00013	CORR2									
P00045	COST									
P00052	CCUNT.	00034	00035	00046	00047	00072	00073	00136	00166	00167 00304
P00037	CTMULT	00024								
P00007	DELTVL									
P00002	DESIG									
P00001	DICT.	00024								
P00034	DISTDG									
P00035	DISTDG									
P00000	DNARWAY									
P00047	DRPCFIT									
P00034	ENDING.	00025	00026	00046	00031	00032	00032	00033		
P00000	EXIT.	00036								
P00320	EXPASM									
P00020	FACMIRV									
P00000	FLAG									
P00021	FORMAT.									
P00021	FVAL	00205	00315	00316	00317	00321	00371			
P00053	FVALICA	00216	00300	00270	00305	00323	00410	00613		
P00070	G	00221	00223							
P00014	H									
P00054	I	00032	00034	00044	00046	00067	00072	00102	00113	00120 00133
P00054	I	00136	00164	00167	00216	00217	00460			
P01750	IALENT									
P00310	IASM									
P00020	IBCMEM	00250								
P00040	ICLASS	00247	00247							
P00030	ICLASSM									
P00010	IF000C1.									
P00052	IF000C2.									
P00055	IF000C	00123	00143	00144	00144	00150				
P00055	IG									
P00055	IGX									
P00027	IMCLASS	00074	00074	00140	00140	00220				
P00031	IMEST									
P00031	IMTYPE									
P00056	II	00237	00241	00521						
P00057	IJ	00261	00263	00535						
P00154	ILAW	00203	00204	00213	00214					
P00014	IMATCH									
P00050	IMIRV	00253	00253	00257	00257					
P00071	IN000C3.	00146	00477	00511	00627					
P00072	IN000C6.	00241	00513	00525						
P00073	IN00011.	00263	00527	00541						

1630

DATE	HECEN	11/29/71	ED	0	PAGE NO.	9
PU0067	L	00436	00603			
CU0016	LAW	00205				
CU0303	LDN	CU020				
CU1617	LNEXT					
CU0004	LOGF	00333	00345	00375		
CU0030	LSMAI	CU020				
CU1725	LSTMAX	CU124	00160	00456	00456	
CU0013	L	CU124				
CU1053	MAXCOST	00057				
CU1622	MAXCOST	00056				
PU0070	MAXG	CU031	00163			
CU1052	MAXKILL	00056				
CU1621	MAXKILL	00055				
CU0430	MG					
CU0430	MGRUP	00027				
CU0015	MINDAWAG					
CU1051	MINKILL	00055				
CU1620	MINKILL	00054				
CU1055	MISDEF	00060				
CU1623	MISDEF	00057				
CU1056	MISDEX	CU111				
CU1245	MORR					
CU0017	MP					
PU0017	MPAYLCAD					
CU1751	PUP	00423	00063	00064	00121	00125
CU1624	NACTV	CU133	00461	00461	00121	00125
CU0500	NADEC					
CU0500	NADECCYS					
CU0500	NALRTDLY					
CU0240	NAM	00452				
CU0006	NAT					
CU0030	NBLN					
CU0360	NCH					
CU0430	NDECCYS					
CU0020	NK	00301	00163	00165		
PU0671	NN	CU126				
PU0672	NN1	CU082				
PU0673	NN2	CU084				
PU0674	NN3	CU066				
CU0600	NBCHMB1					
CU0120	NBCHMB2					
CU0005	NPASS					
CU0430	NIDEC					
PU0675	NIDCLR					
CU0000	NTX	CU043				
CU0054	NUM					
CU0052	NUMFIX					
CU0000	NWHD					
CU0000	NWPN					
CU0000	CPRFIT					
PU0477	PU0001.0	00502				
PU0513	PU0002.0	00516				
PU0527	PU0003.0	00532				

RECON

PU0543	PU0005.0	CU547				
PU0561	PU0006.0	CU564				
PU0575	PU0007.0	CU000				
CU0044	PAYOFF					
CU0027	PEN	CU116	CU343	CU344	CU353	CU354
CU0066	PEX					
CU12755	PEXX					
CU0000	PKNAV	CU411	CU411			
CU0006	PKTX	CU356	CU356			
CU0006	PRM					
CU0046	PROFIT					
CU0003	PROGRESS					
CU0011	PRX					
CU0003	PX					
XU0001	QBODICT.	CU000	CU023	CU020		
CU0004	QUALITY					
PU0011	QUA.T	CU433	CU442	CU443	CU446	
CU0013	RADPX					
CU0000	RANGE					
CU0020	RANGEDEC					
CU1060	RANGERE					
PU0022	RECON	CU022				
CU0010	REFTIME					
CU1200	REL	CU337	CU337	CU352	CU353	
PU0076	RELT	CU355	CU360	CU400		
PU0077	RELT	CU363	CU402			
PU0100	RELTA	CU361	CU404	CU413		
CU2371	RISK	CU447	CU447			
CU0151	RVAL					
CU0007	RX					
CU2260	SBL	CU325	CU325	CU351	CU352	
PU0177	SETUP	CU177				
PU0003	SM	CU331	CU330	CU343	CU350	
CU0000	SMAT	CU244	CU260	CU441	CU441	
CU0037	SMATMIRV	CU265	CU265			
CU0042	SMNGMIRV	CU243	CU243			
CU0001	SPAYOFF					
CU0040	SPEED					
CU0003	SPRSFIT					
CU7331	SSIG	CU425	CU425			
PU0101	SSK	CU401	CU403			
PU0102	SSKL	CU402	CU424			
PU0103	SSS	CU404	CU421			
CU0000	STALADJ					
CU1016	STARRAY	CU104	CU104	CU115	CU115	CU153
CU0011	STIME			CU145	CU153	CU153
PU0104	STK	CU374	CU400	CU414		
CU1105	STK2A	CU172	CU405	CU405		
CU1265	STKA	CU171	CU373			
CU0002	SUMCOST					
CU0004	SUMPHEN					
XU0002	TABLEMUP	CU417				
CU0032	TARDEF					
CU0021	TARFAC					

5.4TS	MECON		11/29/71	EO	0	PAGE NO.	12
	P00432	WS00014.					
	P00440	WS00015.					
	C00360	XDEG					
	C10776	AMUP					
	C03100	YIELD					
		WS0453					
		WS0444					
		WS154					
		WS171					
		WS174					
		WS407					
		WS407					
		WS416					
		WS416					
		WS42C					
		SYMBOLS					

```

SUBROUTINE MESVAL
  CSUBR      RESVAL  IJUN71 *****
  CUSE      WPREG   IJUN71 *****
  C         USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNOM, RESVAL, DEFALCC
  C
  COMMON/WPREG/CCREL(20)
  DIMENSION CCREL(20)
  EQUIVALENCE (CCREL(1),CC(1))
  WPREG      IJUN71 *****
  WPREG      IJUN71 *****
  C         USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNOM, RESVAL, DEFALCC
  C         STALL
  C
  COMMON/WPREG/WPNS(200),WLAT(200),WLONG(200),
  IIRG(200),ITYPE(200),IALERT(200),SBL(200),IREFUEL(200),YIELD(200)
  2 * REFTIME(200),EXPASK(200),WRCUP
  EQUIVALENCE (IREFUEL,IPAY)
  DIMENSION IPAY(200)
  EQUIVALENCE (ICTHET,IALERT)
  DIMENSION ICTHET(200)
  EQUIVALENCE (IMU,WGROUP)
  EQUIVALENCE (IMU,WGROUP)
  WPREG      IJUN71 *****
  WPREG      IJUN71 *****
  C         USED BY MULCON, PREMIUMS, WAD, WADOUT, PRNTNOM, RESVAL, DEFALCC
  C
  COMMON/LAMBDA/
  COMMON/LAMBDA/
  LAMBDA      IJUN71 *****
  LAMBDA      IJUN71 *****
  C         USED BY MULCON, PREMIUMS, WAD, WADOUT, PRNTNOM, RESVAL, DEFALCC
  C
  1 DIMENSION LAM(200),SURPWP(200),PREMIUM(200),UPREMIUM(200)
  TYPE REAL LAM,LAMEF
  EQUIVALENCE ( LAM(1), LAMEF(1))
  LAMBDA      IJUN71 *****
  LAMBDA      IJUN71 *****
  C         USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNOM, RESVAL, DEFALCC
  C
  COMMON/WPNTYPE/RANGE(80),CEP(80),SPEED(80),ALERTDLY(80)
  1,ALERTDLY(80),MANGEDC(80),ICLASS(80),MANGREF(80),REL(80)
  2,IRECKODE(80),IPENIQUE(80)
  TYPE REAL NALRTDLY
  WPNTYPE      IJUN71 *****
  WPNTYPE      IJUN71 *****
  C         USED BY ALLOCATE, MULCON, PREMIUMS, STALL, WAD, WADOUT, PRNTNOM,
  C         RESVAL, A-D DEFALCC
  C
  COMMON/MASTER/INDATE,IDENTNO,ISIDE,NRTPT,NCGRP,NDPEN,NRECOVER
  1,NREF,NBNDRT,NREG,NITYPE,NGROUP,NTGIBASE,NPAYLOAD,NASHITYPE,NWHDTYPE
  2,NTANKHAS,NCOMPLEX,NCLASS,NALETT,NTGTS,NCORTYPE,NCNTRY
  EQUIVALENCE (NGROUP,NG) (NALETT,NOTHER)
  MASTER      IJUN71 *****
  MASTER      IJUN71 *****
  C         USED BY MULCON, PREMIUMS, STALL, WAD, WADOUT, PRNTNOM, RESVAL,
  C         DEFALCC, AND PRINTCON
  C
  COMMON/DYNAMIC/IGTNAME,INDEXNO,DESIG,TASK,CNTRYLOC,FLAG,IGTMULT,
  1,IGTLAT,IGTLONG,IGTRAD,VIC,NH(2),VC(2),NK,EVAL(3),TAU(3),INCLASS,
  2,ICLASSA,INTYPE,TARGET,INDYPEN,DISTOF,DISTOG,NBLN,CTMULT,VT,

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3      TGTWT(3),PAYOFF,LCOST,PROFIT,OPHPCFIT,WRITES,INECT,NUMFIX,
4      ITGT,MUM,JG(30),KCRK(30),RVAL(30),PEN(30),TCARR(30),LDN
C
C      TYPE INTEGER TGTNAME,JES16,TASK,CNTNLYCC,FLAG,TARDEF
C      EQUIVALENCE (ONARRAY,IGTNAME)
C      DATA(LDA = 45)
C      DIMENSION VTG(30)
C      EQUIVALENCE(VTG, RVAL)
C      DYNAMIC *****
C      PAYLOAD LJUN71 *****
C      USED BY ALLOCATE, MULCON, PREMIUMS, PRNTNOM, RESVAL, UEFALOC
C
C      COMMON/PAYLOAD/NBCHMB1(40),IMHD1(40),NGBCHMB2(40),IMHD2(40)
C      1,NASHM(40),IASH(40),NCH(40),NDECCYS(40),NADECCYS(40),IMIRV(40)
C      EQUIVALENCE (MP,MPAYLOAD),(NCH(1),XDEG (1)),
C      PINDECCYS(1),NTUEC(1)),(NADECCYS(1),
C      SNADEC(1)),(NBCHMB1(1),NMBU(1))
C      DIMENSION XDEG(40),NTUEC(40),NADEC(40),NMBU(40)
C      PAYLOAD *****
C      LOCDEF LJUN71 *****
C      USED BY PRNTNOM, RESVAL, AND DEFALOC
C
C      COMMON/LOCDEF/VTGX,NBEP(200),RATM
C      LOCDEF *****
C      DEFENSE LJUN71 *****
C      COMMON/DEFENSE/NTX(3),PAX(3),PRTXRX(2),PRX(2),RADPX,TINTFAC
C      DEFENSE *****
C      WADNPN LJUN71 *****
C
C      USED BY MULCON, PREMIUMS, WAD, WADOUT, PRNTNOM, RESVAL, DEFALOC,
C      STALL, FMUP, SORTM5H, TABLEMUP, RDALCRU
C
C      COMMON /WADNPN/ JGTG, INACTIVE(200), TCA(200),
C      1 TVALTCA(200), VTCA(200,2), MUP(200,2), RISK(6,200,2),
C      2 SSIG(200,2), MINKILL, MAXKILL, MAXCOST, ILAW,
C      3 MISDEF, MCHM(200), PER(200), XMUP(200,2), JIGTX, LNEXT,
C      4 MINKILX, MAXKILX, MAXCOSA, MISDEX, NACTV, IGA(200), TGA(200),
C      5 MCRRX(200), PERX(200), STKX(200,2), STK2X(200,2), LSTMAX
C
C      TYPE REAL MUP, MINKILL, MAXKILL, MAXCOST
C      TYPE REAL MINKILX, MAXKILX, MAXCOSA
C
C      DIMENSION STARMAY(160), ISTAHAY(1607)
C      EQUIVALENCE (STARHAY, ISTARAY, JIGTX)
C      DATA (LSTMAX = 16C7)
C
C      WADNPN *****
C      TYPE REAL NTXJ
C      TYPE REAL NCHJ
C      DIMENSION JGAL(30)
C      ORDER WEAPONS BY TIME OF ARRIVAL

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NCBJ = C
NN=0
DC 10 J=1,NG
K = ITYPE(I)
KK = IPAY(I)
IF ( NCHEP(I) .GT. 0) 9, 10
9 NN=NN+1
IF ( NN .GT. 30) 15,7
7 JGX(NN) = I
8 NCBJ = NCBJ+NCHEP(I)*(NMH(KK)*NTDEC(KK))*SBL(I)*CCREL(IREG(I))*NE
*LC(ITYPE(I)) * (1.00 - RADPX)
10 CONTINUE
IF (NN.EQ.1)35,15
15 MM=NN-1
NN=NN+1
DC 30 J=1,NN
DC 20 I=1,MM
NA=JGX(I)
NM=JGX(I+1)
IF (TCA(NA).LT.(CA(NB)) <0.19
19 JGX(I)=NM
JGX(I+1)=NA
20 CONTINUE
30 CONTINUE
35 VIDX=0.
DC 300 NN=1,3
82 NIX=NTX(NN)*PATX
PMK = MINIF (PATX , NTX / NCBJ)
99 V2=0.
DC 250 J=1,M
VI=VG(J)-VTCA(JGX(I),J)
S = 0.
DC 200 I=1,NN
NMJGX(I)
KK = IPAY(N)
K = ITYPE(N)
IF (I - NN) 150, 182, 150
150 NI=JGX(I+1)
152 S = S + (NMH(KK)*NCHEP(N))*TABLEMUP(PMK*(1. - PMK) * AMUP(N+J))
153 VI = VI + (VTCA(N+J) - VTCA(NI,J)) * FMUP(S)
GO TO 200
182 S = S + (NMH(KK)*NCHEP(N))*TABLEMUP(PMK*(1. - PMK) * XMUP(N+J))
VI = VI + VTCA(N+J) * FMUP(S)
200 CONTINUE
210 FORMAT (1H , 315, 3F10.2)
250 V2=V2+VI
300 VTDX=VTDX+PMK*(NN)*V2
CALL PRNTALL(20)
RETURN
END

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S-STS

RESVAL

11/29/71

ED

0

PAGE NO.

4

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

RESVAL

#PNREG
#PNRGNP
LAMBDA
LAMBDA
WPNTRY
MASTER
DYNAMIC
PAYLOAD
LSCDEF
DEFENSE
WPUKPN
14726

IDENT

RESVAL

00456
00050

00024
04231
01440
01560
00027
00304
00620
00312
00015

EXTERNAL SYMBOLS

Q1004100
Q000100
TABLEMUP
FMUP
PHNTALL
MINIF

S.ATS	RESVAL	ED	0	PAGE NO.	6
C01440	I TYPE	00061	00102	00103	00240
C00050	I MH01				00241
C00170	I MH02				
P00127	.10	00066			
P00135	.15	00074			
P00245	.150	00244			
P00250	.152				
P00271	.153				
P00303	.182	00243			
P00161	.19	00157			
P00164	.20	00160			
P00332	.200	00302			
P00334	.250				
P00165	.30				
P00342	.300				
P00171	.35				
P00075	.7	00134			
P00077	.8	00073			
P00174	.82				
P00070	.9				
P00210	.99				
P00425	.EASER.				
P00042	.210	00112	00125	00203	00206
P00423	.NSTIFF.	00275	00307	00316	00322
P00440	J	00102	00116	00120	00223
P00003	JGX	00141	00212	00215	00336
C00000	JTGT	00076	00151	00162	00220
C11616	JTGTX				
P00441	K	00062	00242		
P00442	KK	00064	00105	00254	00307
C00113	KRR				
C00000	LAM				
C00000	LAMEF				
C00303	LON	00042			
C11617	LNEXT				
C14725	LSTMAX	00042			
C00013	M	00340			
C10153	MACCOST				
C11622	MACCSX				
C16152	MAXKILL				
C11621	MAXKILX				
C04230	MG				
C04230	MGGCUP				
X00006	MINIF	00204			
C10151	PINKILL				
C11620	PINKILX				
C16155	P150EF				
C11623	P15DEX				
P00443	MMH	00136	00145		
C10156	MORR				
C12445	MORRX				
P00041	MP				
P00041	MPAYLCAD				

11/29/71

DATE

MESVAL

DATE	MESVAL	ED	PAGE NO.
CU1751	MUP		
PU0444	N		
PU0445	N1		
PU0446	NA		
CU1624	NACTV		
CU0500	NADEC		
CU0500	NADECCYS		
CU0023	NALERT		
CU0500	NALRTDLY		
CU0240	NASH		
CU0016	NASMTYPE		
PU0447	NB		
CU0336	NBLN		
CU0010	NBNDRY		
CU0022	NCLASS		
CU0360	NCM		
CU0026	NCNTRY		
CU0021	NCOMPLEX		
CU0004	NCORR		
CU0025	NCRTYPE		
CU0430	NDECCYS		
CU0005	NDPEN		
CU0013	NG		
CU0013	NGRUP		
CU0020	NK		
PU0451	NNN		
PU0355	NGBJ		
CU0000	NGBMB1		
CU0120	NGBMB2		
CU0023	NCTHER		
CU0001	NCEP		
CU0015	NPAYLOAD		
CU0006	NREGOVEN		
CU0007	NREF		
CU0011	NREG		
CU0003	NRTPT		
CU0020	NTANKBAS		
CU0430	NTDEC		
CU0024	NTGTS		
CU0014	NTGTBASE		
CU0000	NTX		
PU0356	NTXI		
CU0012	NTYPE		
CU0054	NUM		
CU0052	NUMFIX		
CU0000	NWHD		
CU0017	NWHDTYPE		
CU0000	NWPN		
PU0361	PU0001.0		
CU0044	PAYOFF		
CU0007	PEN		
CU0466	PEX		
CU1755	PEX		

CU0006 PKTX
 CU0020 PREMILM
 XU0005 PNTALL
 CU0046 PROFIT
 CU0011 PRX
 PU0052 PPK
 CU0003 PX
 XU0001 QLOU*100
 XU0002 QROGICT.
 CU0013 MADPA
 CU0000 RANGE
 CU0020 RANGEDEC
 CU1060 HANGREF
 CU0311 HATM
 CU0340 REFTIME
 CU1200 HEL
 PU0050 HESVAL
 CU0571 HISK
 CU0151 HVAL
 CU0007 RX
 PU0053 S
 CU0220 SBL
 CU0240 SPEED
 CU1331 SSIG
 CU1010 STARRAY
 CU1405 STK2X
 CU1365 STKX
 CU0310 SURPAP
 XU0003 TABLEMUP
 CU0032 TARDEF
 CU0003 TASK
 CU0024 TAU
 CU0007 TGLAT
 CU0010 TGLONG
 CU0006 TGTMULT
 CU0000 TGTNAME
 CU0011 TGTAD
 CU0041 TGTMT
 CU0014 TINTFAC
 CU0311 TCA
 CU0245 TCARR
 CU1235 TCAX
 PU0130 TS000C1.
 PU0167 TS000C2.
 PU0165 TS000C3.
 PU0340 TS000C5.
 PU0334 TS000C6.
 CU0021 TVALICA
 PU0367 UP000C1.
 PU0400 UP000C7.
 PU0407 UP0001U.
 PU0054 V1
 PU0455 V2
 CU0010 V3

CU201 -0201 00206
 CUJ51

CU207 00251 00253 00304 00306
 CU343 00343
 CU113 00113
 CUJ51 00J51
 CU123 00124

CU121 00121
 CUJ5C 00J5C

CU226 00226 00270 00300 00322 00323 00326
 CU115 00115

CU264 00317

CU154 00154 00156 00156

CU057 00057
 CU143 00143
 CU146 00146
 CU231 00231

CU142 00142 00213 00337 00370 00371 00372 00376 00376
 CU235 00235 00402 00403 00405
 CU247 00247 00410 00411 00412 00414
 CU225 00225 00301 00302 00330 00331 00335
 CU211 00211 00334 00335 00344
 CU222 00222


```

SUBROUTINE RANGEMOD
  CSUBR      RANGEMOD  LJUN71 *****
  C          THIS ROUTINE ADJUSTS WEAPON GROUP RANGES FOR THE *EAPON
  C          ALLOCATION PHASE
  C
  CUSE       *PNTYPE  LJUN71 *****
  C          USED BY ALLOCATE, MULLON, PREMIUMS, PRINTNG, MESVAL, DEFALOC
  C
  C          COMMON/*PNTYPE/RANGE(80),CEP(80),SPEED(80),ALERTDLY(80)
  C          1,ALRTDLY(80),RANGEDEL(80),*ICLASS(80),*MANGREF(80),*REL(80)
  C          2,INCODE(80),*IPENCODE(80)
  C          TYPE REAL NALRTDLY
  C
  CEND       *PNTYPE *****
  CUSE      RANGE  LJUN71 *****
  C
  C          COMMON/RANGE/ RANGEMUL(200), *MANGREF(200), RANGEMIN(200)
  C
  C          RANGE *****
  C          IDUMMY  LJUN71 *****
  C
  C          THIS BLOCK IS USED FOR INPUT BUFFER FOR THE USER INPUT PARAMETERS.
  C          SINCE IT REDEFINES COMMON /*MANGREF, IT SHOULD NEVER BE USED IN
  C          CONJUNCTION WITH COMMON /*MANGREF.
  C
  C          COMMON /*MANGREF/ INPUT(10), *MANGREF, *MANGREF(40), *INVALU(2,40),
  C          1 INDEX1(40), INDEX2(40), INDEX3(40), *MORE, *MYNAME(100),
  C          2 *MYFORM(100), *MYTYPE(100), *MYVAL(100), *FVAL(100),
  C          3 *MYGCT(100), *ADEFLT, *FILLER(5560)
  C
  C          EQUIVALENCE (MYVAL, FVAL)
  C
  C          IDUMMY *****
  C          *MANGREF  LJUN71 *****
  C          USED BY ALLOCATE, MULLON, PREMIUMS, PRINTNG, MESVAL, DEFALOC
  C          STALL
  C
  C          COMMON/*MANGREF/*MANGREF(200),*LAT(200),*MLONG(200),
  C          *INREF(200),*IYPE(200),*ALENT(200),*SBL(200),*INREFUEL(200),*YIELD(200)
  C          2 * REFTIME(200), *EXPASH(200), *MANGREF
  C          EQUIVALENCE(INREFUEL,*IYPE)
  C          DIMENSION *IYPE(200)
  C          EQUIVALENCE (ISOTHER,*ALENT)
  C          EQUIVALENCE (MANGREF,*MANGREF)
  C          *MANGREF *****
  C
  C          TYPE INTEGER G
  C
  C          PRINT 900
  C          900 FORMAT(/5X,*USEM INPUT INFORMATION
  C          1GE OLD RANGEREFF NEW MANGEREFF//)
  C
  C          40 READ 901, (INPUT(1), I = 1, 4)
  C          901 FORMAT(3A8,4B)
  C          G = NUNGET(INPUT(1), 10)

```

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```

9.5 DECODE(3J,9.5,INPUT(1)) R, RF
  FORMAT(10X,CF(0.0))
  IF (G) 80, 80, JC
30 RANGEMUL(G) = R
  IF (RF .LE. 0) 40, 50
40 RANGEMUL(G) = R
  GO TO 6C
50 RANGEMUL(G) = RF
60 K = ITYPE(G)
  K = RANGE(K) * RANGEMUL(G)
  RF = RANGEREFF(K) * RANGEMUL(G)
  PRINT902, (INPUT(1), 1 = 1, 4), G, RANGE(K), R, RANGEREFF(K), RF
9.2 FORMAT(1X,3A0,40,3X,1J,2(3X,F8.2),4X,F8.2,6X,F8.2)
  GO TO 2C
C
C ENTRY MINNNGE
C
  PRINT 906
9.6 FORMAT(7X USER INPUT INFORMATION GROUP MINIMUM RANGE=)
70 READ 903, (INPUT(1), I=1, 3)
903 FORMAT(2A0,44)
  G = NUMGET(INPUT(1), 10)
  DECODE(20,90, INPUT(1)) RMIN
  IF (G) 80, 80, 71
71 RANGEMIN(G) = RMIN
  PRINT 904, (INPUT(1), I=1, 3), G, RMIN
9.4 FORMAT(2X,2A0,44,4X,1J,5X,F9.2)
  GO TO 7C
80 RETURN
  END

```

20000
21000
22000
23000
24000
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30000
31000
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33000
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35000
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49000

3

PAGE NO.

33

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ANGEMACU

INDEX

00332
00223
00100
01560
01130
14251
14231

MIN PAGE 2
RANGE 00 2
PAGE TYPE 2
RANGE 00 2
PAGE TYPE 2
RANGE 00 2
PAGE TYPE 2

PROGRAM LENGTH	ENTRY POINTS	BLOCK NAMES
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
10	10	10
11	11	11
12	12	12
13	13	13
14	14	14
15	15	15
16	16	16
17	17	17
18	18	18
19	19	19
20	20	20
21	21	21
22	22	22
23	23	23
24	24	24
25	25	25
26	26	26
27	27	27
28	28	28
29	29	29
30	30	30
31	31	31
32	32	32
33	33	33
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36	36	36
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38	38	38
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40	40	40
41	41	41
42	42	42
43	43	43
44	44	44
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48	48	48
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51	51	51
52	52	52
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59	59	59
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67	67	67
68	68	68
69	69	69
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72	72	72
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74	74	74
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80	80	80
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85	85	85
86	86	86
87	87	87
88	88	88
89	89	89
90	90	90
91	91	91
92	92	92
93	93	93
94	94	94
95	95	95
96	96	96
97	97	97
98	98	98
99	99	99
100	100	100

EXTERNAL SYMBOLS

THEY,
THROUGH
NUMBER
101.
DEC.
HIS
UNUSUAL.

DATA	NAME	11/29/71	ED	0	PAGE NO.	4
CU0320	ALERTDLY					
CU0317	BEGIN.					
CU0120	CEP					
CU0310	CNVRT11.	00141	00142	00143	00217	00262
CU0003	CRFMT.	00303	00307	00312		
CU0005	DEC.	00114	00252	00312		
CU0001	DICT.	00136	00257			
CU0321	ENDING.	00104	00113	00132	00177	00225
CU0000	EXIT.	00231	00237	00260	00275	
CU0320	EXPASM	00226	00313			
CU0321	FILLER					
CU0321	FORMAT.					
CU0150	FVAL					
CU0314	G					
CU0114	GG00009.	00134	00151	00163	00207	00306
CU0131	GG00001.	00106				
CU0146	GG00002.	00114				
CU0222	GG00003.	00135				
CU0235	GG00004.	00175				
CU0252	GG00005.	00227				
CU0266	GG00006.	00235				
CU0312	GG00007.	00256				
CU0325	I	00273				
CU0170	IALERT	00121	00125	00201	00242	00301
CU0140	ICLASS	00121	00125	00201	00242	00301
CU0203	INDEX1					
CU0253	INDEX2					
CU0323	INDEX3					
CU0317	INITIAL.	00105	00133	00140	00203	00261
CU0000	INPUT	00124	00124	00203	00245	00302
CU0063	INVALU					
CU0170	ISOTHER					
CU0270	IPAY					
CU0140	IPENMSOE					
CU01320	IRECMSOE					
CU0270	IREFUEL					
CU0130	IREG					
CU0140	ITYPE	00164				
CU0114	.20	00222				
CU0150	.30					
CU0155	.40	00154				
CU0160	.50	00154				
CU0163	.60	00157				
CU0235	.70	00312				
CU0270	.71					
CU0313	.80	00147	00267	00267		
CU0003	.900	00111				
CU0024	.901	00117				
CU0034	.902	00206				
CU0065	.903	00240				

P0071 ..934
 P0030 ..905
 P0053 ..936
 P00326 K
 C04230 MG
 C04230 MGROUP
 P00223 MINRNGE
 C00373 MORE
 C00340 MYFORM
 C01614 MYGIC
 C00374 MYNAME
 C00704 MYTYPE
 C01050 MYVAL
 C00500 NALRTDLY
 C00013 NAMES
 C01360 NDEFLT
 X00003 NUNGET
 C00012 NVARS
 C00000 NWPNS
 X00002 QBDICT.
 X00007 UNSINGL.
 P00027 R
 C00000 RANGE
 C00020 RANGEDEC
 C00020 RANGEEMIN
 C00000 RANGEEMUL
 C01060 RANGEREFF
 C00010 RANGEMUL
 C00010 REFTIME
 C01000 REL
 P00330 RF
 P00331 RMIN
 P00102 RANGECOD
 C02260 SBL
 C00000 SPEED
 X00006 STM.
 X00001 THEMU.
 X00004 TSH.
 C00310 FLAT
 C00020 WLONG
 P00122 WSO0001.
 P00002 WSO0002.
 P00043 WSO0003.
 P00001 WSO0004.
 C03100 YIELD
 00137 SYMBOLS

00276
 00140
 00232
 00165
 00210
 00223
 00252
 00131
 00000
 00115
 00142
 00106
 00271
 00151
 00171
 00156
 00143
 00203
 00102
 00107
 00112
 00115
 00126
 00206
 00247
 00305

00261
 00166
 00210
 00224
 00155
 00210
 00272
 00152
 00172
 00157
 00153
 00270
 00274
 00127
 00236
 00274
 00220
 00144

00212
 00171
 00211
 00167
 00162
 00174
 00216
 00172
 00173

00310

00264

00250

00433

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```

SUBROUTINE SETABLE
  COUN = 1
  CUSE = 1
  C2NO = 1
  SETABLE = 1
  TABLE = 1
  COMMON /TABLE/ TABLE(1001)
  TABLE = 1
  S = 0.0
  EPS = .00001
  TABLE(1) = 10.0
  DO 3 K = 2, 1001
    S = S + .001
    X = 1.
    1 SS = EXP(-X) * (1. + X)
    EMK = (SS - S) / SS
    IF (ABS(EMK) - EPS) 3, 3, 2
    2 X = X * (1. + X) / X * EMK
    GO TO 1
    3 TABLE(K) = X
  RETURN
END

```

1000
52000
2000
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
12000
13000
14000
15000
16000

IDENT SETABLE

00063
00003
01751

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES
EXTERNAL SYMBOLS
OBJECT.
EXPP

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```

SUBROUTINE SCRTMIS
  CSUBR   SCRTMIS  20CCT71  *****
  C
  C THIS SUBROUTINE SORTS THE INFORMATION ON THE
  C MSLTIME FILE INTO ASCENDING GROUP NUMBER ORDER. THIS FILE CONTAINS
  C THE TIMING INFORMATION FOR THE FIXED MISSILES
  C
  CUSE    FIXED  LJUNT1 *****
  C       USED BY MULCON, STALL, DEFALOC, MDALCRU
  C
  C       COMMON/FIXED/IFIGT, ISTORE(8), IFW(31), TIME(30), NFIX*PS,
  C       1      SX(5), IFIXBEG, IFIXEND, SAVEFIX, IADD
  C
  C       TYPE LOGICAL SAVEFIX
  C       DIMENSION ITIME(30), IS(5)
  C       EQUIVALENCE (ITIME, TIME), (IS, SX)
  C
  C       IFIGT  INDEX OF FIRST FIXED TARGET
  C       ISTORE TEMPORARY STORAGE AREA
  C       IFW    INDEXES OF WEAPONS FIXED THIS TARGET
  C       TIME   WEAPON TIME OF ARRIVAL
  C       NFIX*PS TOTAL NUMBER OF FIXED MISSILES
  C       SX     SCRATCH ARRAY
  C       IFIXBEG ASSIGNMENT INPUT INDEX
  C       IFIXEND ASSIGNMENT INPUT INDEX
  C       SAVEFIX WHITE MSLTIME FILE ONLY IF TRUE
  C       IADD   IF NEGATIVE - NO FIXED ASSIGNMENTS FROM TOTFILE
  C              IF ZERO - FIXED ASSIGNMENTS ACCORDING TO TOTFILE
  C              IF POSITIVE - FIXED ASSIGNMENTS FROM TOTFIL* AND
  C                      CARD INPUT
  C
  C       COMMON/FIXED*SS/IFIXTEMP(10), IFIXTAPE, IBCD, NLFTAR
  C
  C       IFIXTEMP TEMPORARY STORAGE AREA
  C       IFIXTAPE LOGICAL UNIT NUMBER - FILEHANDLER FILE
  C       IBCD    LOGICAL UNIT NUMBER - BCD FILE
  C
  C       NLFTAR  NOT ZERO IF MORE FIXES FOR THIS TARGET ON TOTFILE
  C
  C       FIXED *****
  C       WADUPN  LJUNT1 *****
  C
  C       USED BY MULCON, PREMIUMS, WAD, WADOUT, PHNTNO, MESVAL, DEFALOC,
  C       STALL, PHUP, SCRTMIS, TABLEUP, MDALCRU
  C
  C       COMMON /WADUPN/ JGTG, INACTIVE(200), ICAI(200),
  C       1  TVALTCAI(200), VTCM(200*2), MUP(200*2), MISC(6*200*2),
  C       2  SSIG(200*2), MINKILL, MAXKILL, MAXCOST, ILA*,
  C       3  MISPEF, MCHM(200), PEX(200), XAUP(200*2), JGTGX, LNEXT,
  C       4  MINKILA, MAXKILA, MAXCOSA, MISDEX, IACTV, IUXI(200), ICAI(200),
  C       5  MCHRA(200), PEXI(200), STRX(200*2), STRX(200*2), LSTMAX
  C
  C       TYPE REAL MUP, MINKILL, MAXKILL, MAXCOST
  C       TYPE REAL MINKILA, MAXKILA, MAXCOSA
  C
  C       DIMENSION STARRAY(1607), LSTAWAY(1607)

```

```

EQUIVALENCE (STARAY, ISTARAY, JTGTX)
DATA (LSTMAX = 1007)
C
CEND
CUSE
      WADNPN *****
      TAPES 1JUN71 *****
      COMMON/FILES/TUTFILE(1),BASFILE(2),MSLTIME(2),ALOCSTAR(2),
1      TMPALOC(2),ALOCGRP(2),STRKFIL(2),EVENTAPE, PLANTAPE
C
C      TYPE INTEGER TUTFILE, BASFILE, ALOCSTAR, TMPALOC,
1      ALOCGRP, STRKFIL, EVENTAPE, PLANTAPE, ALOC2
C
C      COMMON/FILABEL/ INIDENT, INRUNNG, INDATE, INFORM,
1      INSECR, INTIME, INLNGTH, INCOMM(S)
C
C      COMMON/MYLABEL/ MYFORMT, MYSECR, MYLNTH, MYCOMM(S)
C      COMMON/ITP/ITP
C      COMMON/PTIDENT/ MYIDENT
C      COMMON/ACPRINT/ ACPRINT
C      COMMON/TWGRD/ITWORD
EQUIVALENCE (ITWORD, ITWORD)
C
C      COMMON/LSCFIL/MPNTGT,ALOC1,ITPMSL
C
C      TYPE INTEGER MPNTGT, ALOC1
C
C      DATA (ALOC1 = -3) * (ITPMSL = 1)
C
C      EQUIVALENCE (ALOC2, ALOCSTAR(1))
C
CEND
C      TAPES *****
C
C      DIMENSION D(6000), FIATCA(1000), IFIXCA(1000), IGFIX(1000),
1      NDEXFIX(1000), DFIX(1000), TFIX(1000), INDX(1000)
C
C      TYPE INTEGER OFIX, TFIX
C
C      EQUIVALENCE (D, FIATCA, IFIXCA, JGT), (IGFIX, O(1001)),
1      (NDEXFIX,D(2001)), (DFIX,D(3001)), (TFIX,D(4001)),
2      (INDX, D(5001))
C
C      FIATCA (IFIXCA) TIME OF ARRIVAL
C      IGFIX GROUP NUMBER
C      NDEXFIX INDEX NUMBER OF TARGET
C      DFIX TARGET DESIGNATOR CODE
C      TFIX TARGET TASK SUBTASK CODE
C
C      TYPE LOGICAL IPRT
C      DATA (MAXIN = 1000), (LREC=5), (IPRT=.FALSE.)
C      MAXIN MAXIMUM NUMBER OF MISSILES SORTED SIMULTANEOUSLY
C      LREC LENGTH OF FIXED MISSILE RECORD
C
C      MSLTIM = MSLTIME(1)
C      ITP = ITPMSL
C      CALL TERMTAPE
C      IF (NFIAPS) 100, 100, 200

```

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FTNS-5

```

C
C      NO FIXED WEAPONS IN FILE
C
100 ITP = MSLIM
    MYLNGTH = LREC
    MYIDENT = 7MMSLTIME
    CALL SETWRIT
    ITWCRD = 999
    DO 110 I = 1, LREC
110  CALL WRWCRD
    CALL TERMTAPE
    PRINT 1001
    RETURN
C
C      FIXED MISSILES
C
200 NTIMES = NFIA*PS/ MAXIN
    NEXTA = AMOUF(NFIA*PS, MAXIN)
    IN = 10
    ICUT = 9
    ITP = ICUT
    MYIDENT = 7MSCHATCH
    CALL SETWRIT
    ITWCRD = 999
    DO 210 I = 1, LREC
210  CALL WRWCRD
    CALL TERMTAPE
    ITP = ITMPMSL
    MYIDENT = 8MSCHATCH
    CALL SETREAD
    MYDENSY = 7MSCHATCH
    MYLNGTH = (NFIA*PS + 1) * 5
C
C      220 IF (NTIMES) 500, 500, 500
C
C      300 IF = IN
    IN = ICUT
    ICUT = IT
    ITP = ICUT
    MYIDENT = MYDENSY
    CALL SETWRIT
    ITP = IN
    MYIDENT = 7MSCHATCH
    CALL SETREAD
    ITP = ITMPMSL
    DO 330 I = 1, MAXIN
    CALL RDARRAY(15, LREC)
    IGFIX(1) = IS(1)
    NUDEXFIX(1) = IS(2)
    UFIX(1) = IS(3)
    YFIX(1) = IS(4)
    INOX(1) = 0
    IF (IS(5) - 1H ) 320, 310, 320
310  FIXICA(1) = -99999.99
    GO TO 330
320  DECODE(5, 321, IS(5)) F

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87000
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89000
90000

```

321 FORMAT(F5.2)
FIXTCA(I) = I
330 CONTINUE
C
C      SORT NEXT BLOCK OF MISSILES
CALL ORDER(IGFIX, INDA, MAXIN)
CALL REORDER(INDX, MAXIN, 5, IGFIX, NOEXFIX, OFIX, YFIX,
1      FIXTCA, 0, 0)
C
C      MENGE COME AND TAPE
C
C      IF (IPRT) PRINT 1002
ITP = IN
CALL RDARRAY(IS, LREC)
DO 430 I = 1, MAXIN
C      DETERMINE LOWER GROUP NUMBER
400 IF (IGFIX(I) - IS(I)) 420, 410, 410
C      TAPE IS LOWER OR EQUAL
410 ITP = ICUT
CALL WARRAY(IS, LREC)
IF (IPRT) PRINT 1003, IS
ITP = IN
CALL RDARRAY( IS, LREC)
GO TO 400
C
C      COME GROUP NUMBER IS LOWER
420 ITP = ICUT
ITWORD = IGFIX(I)
CALL WRWORD
ITWORD = NOEXFIX(I)
CALL WRWORD
ITWORD = OFIX(I)
CALL WRWORD
ITWORD = YFIX(I)
CALL WRWORD
ITWORD = FIXTCA(I)
CALL WRWORD
IF (IPRT) PRINT 1003, IGFIX(I), NOEXFIX(I), OFIX(I), YFIX(I), FIXTCA(I)
430 CONTINUE
C
C      TERMINATE FILES
ITP = ICUT
ITWORD = 999
DO 440 I = 1, LREC
440 CALL WRWORD
CALL TERMTAPE
ITP = IN
CALL TERMTAPE
NTIMES = NTIMES + 1
IF (NTIMES) 900, 500, 300
C
C      BLOCK COMPLETE. FINISH REMAINDER OF FILE
500 IF (NEXTTA) 510, 510, 540
C
C      LAST BLOCK WAS COMPLETE. COPY TAPE
510 ITP = ICUT

```

91000
92000
93000
94000
95000
96000
97000
98000
99000
100000
101000
102000
103000
104000
105000
106000
107000
108000
109000
110000
111000
112000
113000
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115000
116000
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134000
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136000
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138000
139000
140000
141000
142000
143000
144000
145000
146000

FTNS.5

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5

```

MYIDENT = 7MSCHATCH
CALL SETHEAD
MYLENGTH = NFIX*PS + LMEC
ITP = MSLTIM
MYIDENT = 7MSLTIME
CALL SETWRITE
520 ITP = ICUT
CALL ROADWAY(IIS, LREC)
PRINT IC03, IS
ITP = MSLTIM
CALL WARRAY(IIS, LREC)
IF (IS(1) = 999) 520, 530, 530
530 ITP = ICUT
CALL TERTAPE
ITP = MSLTIM
CALL TERTAPE
GO TO 900

C
C      MORE ON TEMPORARY FILE
C 540 MYDENS = 7MSLTIME
IN = MSLTIM
MAXIN = NEXTRA
IPRT = .TRUE.
GO TO 300

C
C      PROCESS FINISHED TERMINATE INPUT FILE
C 900 ITP = ITPMSL
CALL TERTAPE
RETURN

C
1001 FORMAT(// * NO FIXED MISSILE INFORMATION SAVED)
1002 FORMAT(// * SORTED FIXED MISSILES// * GROUP INDEACN DESIG TASK ARRI
      1VAL TIME)
1003 FORMAT(1X, 14, 3X, IS, 2X, AS, 2X, A2, 3X, FI0.3)
END
147000
148000
149000
150000
151000
152000
153000
154000
155000
156000
157000
158000
159000
160000
161000
162000
163000
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170000
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172000
173000
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175000
176000
177000
178000
179000
180000
181000

```

5.415 SORTMIS

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

SORTMIS

00576
00065

IDENT

SORTMIS

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ED

0

PAGE NO.

6

FIXED
FIXEDASS
WAUMPN
14726
FILES
FILABEL
MYLABEL
ITP
MYIDENT
NCHIDENT
TCHND
LOCFL
EXTERNAL SYMBOLS
TREND
Q3000040
Q3010040
Q000100
TERMTAPE
SETWRIT
WNRQ0
SETWRITE
SETREND
RDARMAY
ORDER
REGURER
WNRARMAY
ARQOF
DEC.
STM.
SLO.
QNSINGL.

5-15 SCATHIS

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ED 0

PAGE NO.

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CU0012	ALCGRP								
CU0001	ALCCT1								
CU0006	ALCCT2								
CU0006	ALCCTAR								
CU0002	ASFILE								
PU0557	BEGIN.								
PU0550	CNVRT1.								
PU0006	CRFMT.								
CU0000	D								
XU0017	DEC.								
CU0670	DF14								
PU0001	DICT.								
PU0560	ENDING.								
CU0016	EVENTAPE								
PU0000	EXIT.								
CU0000	FIXTCA								
PU0006	FORMAT.								
FG0133	GG00000.								
PU0264	GG00001.								
PU0316	GG00002.								
PU0353	GG00003.								
PU0430	GG00004.								
PU0520	GG00005.								
PU0565	I								
CU0017	IADD								
CU0013	IBCD								
CU0014	IFIX8EG								
CU0015	IFIXEND								
CU0012	IFIXTAPE								
CU0000	IFIXTEMP								
CU0000	IFIXTCA								
CU0000	IFTGT								
CU0011	IFW								
CU1750	IGFIA								
CU1625	IGX								
CU1554	ILAW								
PU0566	IN								
CU0001	INACTIVE								
CU0007	INCSMM								
CU0002	INDATE								
CU1910	INDEX								
CU0003	INFORM								
CU0000	INIDENT								
PU0557	INITIAL.								
CU0006	INLNSTH								
CU0001	INRNAC								
CU0004	INSECR								
CU0005	INTIME								
PU0567	ICUT								
CU0035		00235	00274	00301	00326	00364	00420	00420	
CU0045		00205	00207	00216	00316	00353	00447	00543	
CU0044		00274	00300						
CU0070									
CU0046		00206	00210	00331	00361	00433	00462	00501	00530

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SC-TMIS

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PAGE NO.

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C14105 STR2X
C13265 STRX
CU0014 STRKFIL
CU0107 SX
PU0575 T
XU0005 TERMTAPE
XU0640 TFIX
CU0000 TGFIFILE
XU0001 TMEND.
CU0050 TIME
CU0010 TMPALOC
CU0311 TGA
C12135 TGA
PU0121 TS000C1.
PU0163 TS000C2.
PU0270 TS000C3.
PU0431 TS000C4.
PU0443 TS000C5.
CU0021 TVALTGA
CU0000 TMSRU
CU1131 VTGA
CU0000 WPNTGT
XU0015 WRARRAY
XU0007 WRMCHD
PU0116 WS000C1.
PU0160 WS000C2.
PU0230 WS000C3.
PU0325 WS000C4.
PU0440 WS000C5.
XU0016 XMCDF
CU0776 XMUP
CU0265 SYMBCLS

CU261 U0264
CU0075 U0123
CU0243 U0243
CU131 U0262
CU0445 U0451
CU0400 U0400
CU0351 U0426
CU0314 U0516
CU0405 U0405
CU0405 U0405
CU0333 U0522
CU1116 U0160
CU1122 U0122
CU1164 U0164
CU0271 U0271
CU0432 U0432
CU0444 U0444
CU142 U0142

CU0356 CU0372 CU0376 CU0402 CU0406 CU0440


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CEND      PRINT *****
CUSE      WADOUT 1JUN71 *****
C          USED BY STALL, MAD, WADOUT, AND PRINTNG *****
C
C          COMMON/WADOUT/
C          1      PVRMX,IPVRMX,PPMX,IPPMX,DVRMN,DPVRMN,DPMN,DPDMN,NUMMAX,NUM
C          2      ,TPMX,NICANTOMAX,VIMIN,VIMAX,ALPHA,VTEF,VTCZ
C          3      WADOUT *****
C          4      WADFINAL 1JUN71 *****
C          5      USED BY STALL, MAD, WADOUT, AND PRINTNG *****
C
C          1      COMMON/WADFINAL/
C          2      VIP(200),DELVI(30),NUMC,IGS(30),ICP,ICPS,CTSPILL
C          3      WADFINAL *****
C          4      TYPE INTEGER CPP *****
C          5      DIMENSION ISTRJED(30) *****
C
C          WADMPN 1JUN71 *****
C
C          USED BY MULCON, PREMIUMS, MAD, WADOUT, PRINTNG, RESVAL, DEFALOC,
C          STALL, FRUP, SUTRSH, TABLEUP, RDALCRD *****
C
C          COMMON /WADMPN/ JTST, INACTIVE(200), TCA(200),
C          1      TVALTCA(200), VTCA(200,2), MUP(200,2), MISC(6,200,2),
C          2      SSIG(200,2), PINKILL, MAXKILL, MAXCOST, ILA*,
C          3      MISDEF, MOMM(200), PEX(200), MUP(200,2), JTIX, LNEXT,
C          4      MINKILL, MAXKILA, MAXCOSA, MISDEX, NACTV, IGA(200), TCA(200),
C          5      MOHRX(200), PEX(200), STRX(200,2), STRX(200,2), LSTMAX
C
C          TYPE REAL MUP, MINKILL, MAXKILL, MAXCOST
C          TYPE REAL MINKILA, MAXKILA, MAXCOSA
C
C          DIMENSION STARRAY(160/), ISTARAY(160/),
C          EQUIVALENCE (STARRAY, ISTARAY, JTIXA)
C
C          DATA (LSTMAX = 160/),
C          1      WADMPN *****
C          2      FIXED 1JUN71 *****
C          3      USED BY MULCON, STALL, DEFALOC, RDALCRD *****
C
C          COMMON/FIXED/IFTGT, ISTORE(8),IFW(31), TIME(30), NFIXMPS,
C          1      SX(5), IFABEG, IFKEND, SAVEFIX, IADU
C
C          TYPE LOGICAL SAVEFIX
C          DIMENSION ITIME(30), IS(5),
C          EQUIVALENCE (ITIME, TIME), (IS,SX)
C
C          IFTGT  INDEX OF FIRST FIXED TARGET
C          ISTORE  TEMPORARY STORAGE AREA
C          IFW  INDEXES OF WEAPONS FIXED THIS TARGET
C          TIME  WEAPON TIME OF ARRIVAL
C          NFIXMPS  TOTAL NUMBER OF FIXED MISSILES
C          SA  SCAIACH ARMY
C          IFABEG  ASSIGNMENT INPUT INDEX

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C      IFIXEND      ASSIGNMENT INPUT INDEX
C      SAVEFIX      WRITE MSLTIME FILE ONLY IF TRUE
C      IADD          IF NEGATIVE - NO FIXED ASSIGNMENTS FROM TGTFILE
C      C            IF ZERO - FIXED ASSIGNMENTS ACCORDING TO TGTFILE
C      C            IF POSITIVE - FIXED ASSIGNMENTS FROM TGTFILE AND
C      C            CARD INPUT
C      COMMON/FIXEDASS/IFIXTEMP(10), IFIXTAPE, IBCD, NLFTAR
C
C      IFIXTEMP      TEMPORARY STORAGE AREA
C      IFIXTAPE      LOGICAL UNIT NUMBER - FILEHANDLER FILE
C      IBCD          LOGICAL UNIT NUMBER - BCD FILE
C
C      NLFTAR        NOT ZERO IF MORE FIXES FOR THIS TARGET ON TGTFILE
C
C      C            FIXED *****
C      C            #PNGRP 1JUN71 *****
C      C            USED BY ALLOCATE, MULLON, PREMIUMS, PRNTNCH, RESVAL, DEFALOC
C      C            STALL *****
C
C      COMMON/PNGRP/PNS(200),ALAI(200),WLONG(200),
C      1IREG(200),ITYPE(200),IALERT(200),SBL(200),IREFUEL(200),YIELD(200)
C      2, REFTIME(200), EXPASH(200), MGRKUP
C      EQUIVALENCE(IREFUEL,IPAY)
C      DIMENSION IPAY(200)
C      DIMENSION IOTHER(200)
C      EQUIVALENCE (ISOTHER,I-LEET)
C      EQUIVALENCE (MGRKUP,MGRGRP)
C      #PNGRP *****
C      #PNTYPE 1JUN71 *****
C      USED BY ALLOCATE, MULLON, PREMIUMS, PRNTNCH, RESVAL, DEFALOC
C
C      COMMON/PNTYPE/RANGE(80),CEP(80),SPEED(80),ALERTIDLY(80)
C      1,ALRTDLY(80),MANGEDC(80),ICLASS(50),MANGERE(80),REL(80)
C      2,IRECNO(80), IPENMOUE(80)
C      TYPE REAL NALRTDLY
C      #PNTYPE *****
C      TAPES 1JUN71 *****
C      COMMON/FILES/TGTFILE(2),BASFILE(2),MSLTIME(2),ALCOTAR(2),
C      1 TMPALOC(2),ALOGRP(2),STRKFL(2),EVENTAPE, PLANTAPE
C
C      TYPE INTEGER TGTFILE, BASFILE, ALCOTAR, TMPALOC,
C      1 ALOGRP, STRKFL, EVENTAPE, PLANTAPE, ALCOTAR
C
C      COMMON/FILABEL/ INIDENT, INRUNNO, INDATE, INFORM,
C      1 INSECR, INTIME, INLNTH, INCOMM(5)
C
C      COMMON/MYLABEL/ MYFORMT, MYSECR, MYLNTH, MYCOMM(5)
C      COMMON/ITP/ITP
C      COMMON/MYIDENT/ MYIDENT
C      COMMON/NOPRINT/ NOPRINT
C      COMMON/TWCRU/ITCRD
C      EQUIVALENCE (ITCRD, ITCRD)
C
C      COMMON/LCCFIL/MPNTGT,ALCOT1,ITMPMSL

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C          TYPE INTEGEM WPNTGT, WLOCT1
C          OMTA (ALOC11 = -3) * (IMPMSL = 1)
C          EQUIVALENCE (ALOC12, WLOCT1R(1))
C          TAPES *****
CEND        IGTried(1) = U *****
C          SETUP PORTION OF STALL (BLOCK 1)
C          IF ((VERIFY *SQ.2).AND.(PROGRESS*EQ.2.1190.2
C IF EQ 2 RECALCULATE OLD ALLOCATION WITH NEW CORRELATIONS
C          C
C          IF(NUMFIX*GT.0) 128,129
C          PUT DOWN FIXED WPNS
C          DELTSAVE=DELTVL
C          NMULT = CTMULT
C          WADDP=1 $ SIMLPRIN=244
C          CALL WAC
C          NIEMPS=NUMFIX
C          DC 123 J=1,NTMP
C          IF(NPASS*GT.1) 124,125
C          G=IGC(J)
C          GO TO 126
C          G=IG(J)
C          FOR NPASS GT 1,DEFALOC ALLOCATION ON LAST PASS,PUT FIAXED WPNS DOWN
C          WADDP=3
C          NMWEP=1
C          IF(KORR(J))131,132,134
C          NMWEP=KORR(J)
C          NIEMPS=NTMP+1-NMWEP
C          DC 133 AN=1,NMWEP
C          IF(INACTIVE(G)*EQ.100) 444,445
C          CHECK INACTIVE FLAGS OF FIXED WPNS
C          PRINT 446, G, TOTNAME, INDEKNO, ITGT
C          FCMPAT(//IX,119(11)*//,19H *EAPONS FROM GROUP,13,20H CANNOT REACH
C          1 TARGET,1X,46,11H = INDEK = 15,//IX,119(11)*//
C          NUMFIX = NUMFIX - 1
C          GO TO 123
C          445 STALPRIN=707
C          INACTIVE(G)=U
C          IF(NPASS*GT.1) 443, 447
C          447 K = ITYPE(G)
C          IF((ICLASS(K)*EQ. 1).AND. SAVEFIX) 448,443
C          448 IS(1) = G
C          IS(2) = INDEKNO = 1
C          IS(3) = DESIG
C          IS(4) = TASK
C          IS(5) = ITIME(J)
C          DC 449 JX = 1, NMULT
C          IS(2) = IS(2) + 1
C          ITP = ITMPMSL
C          CALL WARRAY(15, 5)
C          449 NFJWPS = NFJWPS + 1
C          443 CALL WAC
C          DELVT(NUM) = VIG

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133 CONTINUE
123 CONTINUE
C
C GO TO 127
C TO INITIALIZE FOR ZERO WPNS (BLOCK 2)
129 DELTSAVE=DELVAL
3 WADCP=1
STALPRIN=202
CALL WAD
IF (NUMFIX*GT*U) 130,127
127 NN=0
C
C 15 THERE ANY WPN WITH POS POT PROFIT (BLOCK 3)
4 IF (PPMX*GT*U*U15*89)
C
C ADD WEAPON WITH MAX POTENTIAL EFFICIENCY (BLOCK 4)
5 WADCP=3
G=IPVRMX
STALPRIN=204
6 CALL WAD
C
C IF MORE PROFIT AVAIL GO TO ALLOCATION LOOP (POINT 4)
7 IF (PPMX*GT*U*U) 30*9
C
C IF NO MORE PROFIT AVAIL SELECT BEST SINGLE WPN AND EXIT ***
9 IF (IDPMN*EQ*IPPMX) 89*10
10 STALPRIN=206
NN=IDPMN
5 WADCP=4
5 CALL WAD
G=IPPMX
5 WADCP=3
5 CALL WAD
5 GO TO 89
C
C INITIAL ALLOCATION LOOP (FOR MULTIPLE WPN TARGETS)
C
C ADD WEAPON WITH GREATEST POTENTIAL EFFICIENCY (BLOCK 1)
30 WADCP=3
G=IPVRMX
STALPRIN=301
IGTRIED(1)=G
IF (INTC*LI*NTICAMAX) 29*85
29 IF (NUM*LT*NUMMAX) 31*40
31 CALL WAD
C
C UC ALL WPNS ALLOCATED STILL HAVE POS PROFIT (BLOCK 2)
32 IF (IDPMN*GE*U*U) 36*33
C
C DELETE WEAPON LEAST PROFITABLE (BLOCK 3)
33 WADCP=6
STALPRIN=303
NN=IDPMN

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FTN5.5

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34 CALL WAD
35 GO TO 32
C
C IS THERE ANOTHER WEAPON WITH POS POTENTIAL PROFIT (BLOCK 4)
C CYCLE UNTIL NO MORE PROFIT AVAILABLE
36 IF (PVRMX.GT.1.0000001)30,37
C
C ARE MORE THAN ONE WEAPON ASSIGNED (BLOCK 5)
37 IF (NUM.GT.1)46,10
C GO TO REFINEMENT LOOP
C
C MULTIPLE WPN REFINEMENT LOOP
C
C INITIALIZE LOOP AND TEST FOR NON-PROFITABLE WPNs (BLOCK 2)
46 ITRY=0
  NREMOVE = 0
  KCUNT=0
  IPOINT = NUM
47 NTRIED=1
  NSTORE=1
48 IF (DPMN .GE. 0.0) 54,51
49 IGTried(1)=5
  GO TO 47
C
C REMOVE WPN WITH MINIMUM PROFIT (BLOCK 3)
51 NADCP=4
  STALPRIN=403
  N=IDPMN
  NTRIED=0
  NSTORE=0
  ITRY=0
52 CALL WAD
53 GO TO 48
C
C TEST FOR ADDITIONAL WPN WITH POS. POT. PROFIT (BLOCK 4)
54 IF (PVRMX.GT.1.0000001)55,58
C
C ADD WPN WITH MAX ADDITIONAL PROFIT (BLOCK 1)
55 NADCP=3
  GRIPPMX
  STALPRIN=401
  IF (INTGAL.T.NTCAMAX)59,85
59 IF (NUM.LT.NUMMAX)56,8.
56 CALL WAD
C
C TEST TO SEE IF SAME WPN JUST REMOVED (BLOCK 1A)
C IF (G .EQ. ITRY) 57,49
C IF SO NOTE SUCCESSFUL TRY
  NTRIED=NTRIED+1
  NSTORE=NSTORE+1

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      IGTried(INSTORE)=IGTRY
      GO TO 48
C
C   IF ONLY ONE WPN CHECK AVAIL OF OTHER ONE WPN ESTS (BLOCK 5)
      58 IF (NUM .EQ. 1) GO 65
C
C   IS IT FINISHED (BLOCK 7)
      64 NTRIED=NTRIED+1
      65 KCUNT=KCUNT+1
      66 IF (KCUNT.GT.NUM*QUALITY) 89,67
      67 IF (NTRIED.GE.NUM) 89,62
      62 IPCINT = IPCINT + 1
      63 IF (IPCINT.GT.NUM) 63,63
      63 IPCINT = NUMFIX+1
C
C   SELECT WPN TO REMOVE (BLOCK 10)
      69 N# = IPCINT
      IGTTRY=IG(N#)
      DC 72 ISTOREX = 1, NSIGRE
      71 IF (IGTRY .EQ. IGTried(ISTOREX)) 64, 72
      72 CONTINUE
C
C   REMOVE WPN SELECTED (BLOCK 11)
      73 WADCP#4
      STALPRIN=11
      75 CALL WAD
      76 GO TO 55
C
C   SUBSTITUTE HIGHER PROFIT WPN--IGNORE EFFICIENCY
      80 NREMOVE=NREMOVE+1
      81 IF (NREMOVE.GE.NUM) 89,81
      81 IF (G.EQ.IG(N#)) 89,51
C
C   RELAX TCA ERROR ALLOWANCE, TRY AGAIN
      85 IF (INTCA .GE. 1000) 89, 86
      86 DELTVAL = 2.0 * DELTVAL
      GO TO 3
C
C   PRINT TERMINATION STATE
      89 WADCP#2
      DELTVAL = DELTSAVE
      CALL WAD
      92 IF (VT - VIMAX) 83, 83, 82
      83 RETURN
C
C   DUPLICATE OLU ALLOCATION
      90 WADCP = 1
      91 IF (NBLN .GE. 0) 93, 94

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FTNS.5

94 RETURN
93 STALPRIN=501
CALL WAD
91 IF(INUM+LT.NUMC) 92,B9
92 WADCP = 3
C ADD OLD WPN GROUPS
9 = IGC(INUM + 1)
STALPRIN = 502
CALL WAD
GO TO 91
END

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237000
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242000
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247000

167C

DATA

STALL

IDENT

STALL

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

MASTER
CONTROL
DYNAMIC
PHINEED
PHINI
HAUCUT
HAUFINAL
WAUNPN
FIXED
FIXEDASS
WPNKMP
WPNKMP
FILES
FILABEL
MYLABEL
IIP
MYIDENT
NGPRINT
TACKU
LOCPIL

00070
00102
00027
00022
00304
00002
00001
00022
00010
14720
00120
00015
04231
01500
00020
00014
00010
00001
00001
00001
00001
00003

EXTERNAL SYMBOLS

Q1Q1Q100
THEND.
Q3Q00040
Q1Q03100
Q8Q0ICT.
WAD
WRARAY
STM.
UNSLINGL.

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CU0360	ALERTDLY					
CU0312	ALCCGRP					
CU0001	ALCCTI	00041				
CU0006	ALCCT2					
CU0009	ALCCTAR					
CU0017	ALPHA	00604				
CU0002	BASFILE	00603				
CU0036	BEGIN.	00637				
CU0120	CEP					
CU0001	CLOSE					
CU0004	CNTRYLOC					
CU0035	CNVRTI.	00175	00177	00200	00201	
CU0010	CRR					
CU0013	CRR2					
CU0045	COST					
CU0041	CRFMT.	00204				
CU0037	CIMULT	00122				
CU0407	CISPIII					
CU0051	DELTSAVE	00121	00275	00574	00575	
CU0007	DELTVAL	00120	00120			
CU0010	DELTVAL	00263	00264			
CU0010	DELYT	00233	00234			
CU0002	DESIG	00104	00131			
CU0001	DICT.	00400	00442			
CU0034	DISTDF					
CU0035	DISTDG					
CU0000	DNARMAY					
CU0009	DPMN	00366		00422	00422	
CU0047	DPROFIT					
CU0004	OVRMN					
CU0040	ENDING.	00105	00605			
CU0016	EVENTAPE					
CU0000	EXIT.	00661				
CU0370	EXPASH					
CU0020	FACMIRV					
CU0005	FLAG					
CU0041	FORMAT.					
CU0021	FVAL					
CU0001	G					
CU0004	GG00000.					
CU0014	H					
CU0017	IADD					
CU0150	IALERT					
CU0013	IBCD					
CU0740	ICLASS					
CU0030	ICLASSR					
CU0001	IDENTAC					
CU0007	IDPMN					
CU0005	IDVMA					
CU0112	IF00001.					
CU0024	IF00002					
CU0114	IFIXREG					

CU0115 IFIXEND						
CU0112 IFIXTAPE						
CU0000 IFIXTEMP						
CU0000 IFIXTGT						
CU0011 IFW	00146	00533	00534	00562	00562	
CU0055 IG	00142	00625	00626			
CU0347 IGC	00107	00355	00473	00540		
PU0003 IGTTRY	00412	00465	00472	00535	00537	
CU0652 IGTTRY						
CU1625 IGX						
CU0027 INCLASS						
CU0000 INDATE						
CU0051 INEGT						
CU0031 INTYPE						
CU0154 ILAW						
CU0014 INATCH						
CU0001 INACTIVE	00166	00212	00212			
CU0007 INCOMP						
CU0002 INDATE	00200	00231				
CU0001 INDEXAC						
CU0033 INDYPEN						
CU0003 INFORM						
CU0000 INIDENT						
PU0636 INITIAL	00105					
CU0006 INLENGTH						
CU0001 INRUNAC						
CU0004 INSECR						
CU0005 INTIME						
CU0405 ICP						
CU0406 IOPS						
CU1750 IOTHER						
CU2570 IPAY						
CU1440 IPENCODE						
PU0653 IPPOINT	00416	00521	00523	00530	00531	
CU0003 IPPMX	00327	00340	00450	00451		
CU0001 IPVPMX	00314	00315	00350	00351		
CU1320 IRECMODE						
CU2570 IREFUEL						
CU1130 IREG	00230	00230	00233	00234	00235	
CU0107 IS	00245	00252				
CU0002 ISIDE						
CU11616 ISSTARAY						
CU0001 ISTCKE						
PU0654 ISTCREX	00536	00540	00542			
CU0053 ITGT	00201	00241				
CU0050 ITIME	00240					
CU0002 ITMPMSL	000002	00246				
CU0000 ITP	00247	00247				
CU0000 ITWCRD						
CU1440 ITYPE	00217	00217				
CU0012 IVERIFY	00107	00110				
PU0331 .10	00327	00407				
PU0270 .123	00206					

5-7S STALL

P00141 .124	U0137	U0140	
P00145 .125	U0144		
P00150 .126	U0273	U0304	U0305
P00306 .127			
P00120 .128	U0116	U0117	
P00274 .129	U0305		
P00132 .130	U0155		
P00156 .131	U0154	U0155	
P00161 .132			
P00265 .133	U0111	U0114	
P00115 .12			
P00361 .29	U0571		
P00276 .3	U0325	U0405	
P00347 .30			
P00364 .31	U0401		
P00366 .32	U0370		
P00372 .33			
P00377 .34			
P00401 .35	U037C	U0371	
P00402 .36	U0404	U0404	
P00406 .37			
P00310 .4	U0215	U0223	U0226
P00260 .443			
P00170 .444	U0167		
P00207 .445	U0214	U0215	
P00216 .447			
P00227 .448			
P00253 .449	U0363	U0363	
P00411 .46	U043C		
P00417 .47	U0443	U0474	
P00422 .48	U0466		
P00426 .49			
P00313 .5	U0424	U0563	
P00431 .51			
P00441 .52			
P00443 .53	U0424	U0425	
P00444 .54	U0552		
P00447 .55			
P00462 .56			
P00467 .57	U0446	U0446	
P00475 .58			
P00457 .59			
P00320 .6	U0517		
P00521 .62			
P00526 .63	U0541		
P00500 .64	U0476		
P00502 .65			
P00504 .66	U0513	U0513	
P00515 .67	U0524	U0525	
P00531 .69			
P00322 .7			
P00537 .71			
P00542 .72	U0541		
P00545 .73			

5-715	11/29/71	ED	0	PAGE NO.	13
STAL					

[illegible]

C00030	NBLN	00007	00010				
C00010	NBNDRY						
C00022	NCLASS						
C00020	NCNTRY						
C00021	NCOMPLEX						
C00004	NCORR						
C00025	NCORTYPE						
C00005	NDPEN						
C00106	NFIXWPS	00253	00253	00254			
C00013	NG						
C00013	NGROUP						
C00020	NK						
C00014	NLFTAR						
F00051	NMULT	00124	00250				
P00062	NK	00164	00265				
P00063	NNREP	00152	00160	00162	00266		
C00000	ACPRINT						
C00023	ACTHER						
C00005	NPASS						
C00015	NPAYLOAD	00136	00136	00213	00213		
C00005	NRECOVER						
C00007	NREF						
C00011	NREG						
C00004	NRECOVER	00413	00553	00554			
C00002	NSTORE	00421	00437	00471	00472	00473	00543
C00020	NSTORE						
P00066	NTANKBAS	00133	00161	00163	00271		
C00024	NTGTS						
C00013	NTGA	00356	00356	00454	00454	00504	00564
C00014	NTGMAX	00357	00455				
C00014	NTOTBASE						
P00007	NTOTBASE	00420	00436	00467	00470	00501	00515
C00012	NTYPE						
C00054	NUM						
C00052	NUMFIX	00263	00361	00361	00406	00414	00457
C00010	NUMMAX	00504	00504	00516	00516	00524	00457
C00036	NUMO	00625	00115	00132	00132	00204	00555
C00011	NUMTYPE	00621	00362	00460	00460	00303	00526
C00000	NWPN	00306	00307	00333	00376	00532	00561
C00000	NWPN						
C00000	NWPN						
C00044	PAYOFF						
C00007	PEN						
C10066	PEX						
C12755	PEX						
C00017	PLANTAPE						
C00002	PPMX	00310	00310	00322	00322		
C00006	PPM						
C00000	PROFIT						
C00003	PROGRESS	00112	00112				
C00000	PVRMA	00402	00402	00444	00444		
X00004	Q1003100	00511					

DATE

STALL

X00001	Q1010100	00123							
X00003	Q3000040	00224							
X00005	Q8000000	00000	00103						
X00011	QNSINGL.	00034							
X00004	QUALITY	00510							
X00000	RANGE								
X00020	RANGEDEC								
X01000	RANGEREFF								
X03010	HEFTIME								
X01200	REL								
X02571	RISK								
X00151	RVAL								
X00110	SAVEFIX	00225							
X02260	SBL								
X00040	SPEED								
X07331	SSIG								
X00000	STALADJ								
X00102	STALL								
X00000	STALPRIN								
		00102	00207	00317	00300	00300	00317	00331	00353
		00127	00374	00453	00433	00433	00547	00547	00615
		00353	00630						
		00630							
		00171							
X00010	STARWAY								
X00010	STM.								
X00011	STIME								
X14105	STK2X								
X13005	STKX								
X00014	STRKFIL								
X00107	SA								
X00032	TARDEF								
X00021	TARFAC								
X00003	TASK								
X00004	TAU								
X00000	TGFILE								
X00007	TGTLAT								
X00010	TGTLONG								
X00000	TGTMULT								
X00000	TGTNAME								
X00011	TGTRAD								
X00041	TGTRT								
X00002	THEND.								
X00050	TIME								
X00010	TPALSC								
X00311	TCA								
X00245	TCARH								
X12135	TCAX								
X00012	TPMX								
X00271	TS00001.	00135							
X00200	TS00002.	00164							
X00450	TS00003.	00243							
X00543	TS00004.	00536							
X00021	IVALTCA								
X00000	IMCRU								
X00010	VC								
X00040	VT								

DATA	STALL	11/29/71	ED	C	PAGE NO.	16
C00151	VTO					
C00020	VTEF					
C00016	VTMAX					
C00015	VTMIN					
C00012	VTG					
C01131	VTGA					
C00000	VTG					
C00021	VTGZ					
X00006	WAD					
C00002	WADCP					
C00310	WLAT					
C00020	WLONG					
C00000	WPNTGT					
X00007	WARRAY					
C00050	WTEST					
P00136	W5000C1					
P00165	W5000C2					
P00244	W5000C3					
P00537	W5000C4					
C10776	WNUF					
C03100	YIELD					
C0520	SYMBOLS					

```

C      FUNCTION TABLEUP(S)
C      TABLEUP  IJUN71
C      *****
C      THIS FUNCTION COMPUTES THE VALUE OF MUP AS A FUNCTION OF THE
C      SINGLE SHOT SURVIVAL PROBABILITY, S.  IT USES A TABLE LOOKUP IN
C      COMMON /TABLE/ FOR THE SQUAREROOT DAMAGE LAW.
C      *****
CUSE  TABLE  IJUN71 *****
C      COMMON /TABLE/ TABLE(IJUN71)
C      TABLE *****
C      MAUNPA  IJUN71 *****
C      *****
C      USED BY MULCON, PREMIUMS, MAD, MADOUT, PMNTING, RESVAL, DEFALOC,
C      STALL, FMP, SUMTSM, TABLEUP, MDALCQ
C      *****
C      COMMON /MADPA/ JGTI, INACTIVE(200), TGA(200),
C      1  TVALTGA(200), VTGA(200*2), MUP(200*2), KISK(6*200*2),
C      2  SSIG(200*2), MINKILL, MAXKILL, MAXCOST, ILAW,
C      3  MISDEP, MGRH(200), PEK(200), AMUP(200*2), JGTIX, LNEXT,
C      4  MINKILX, MAXKILX, MAXCOSX, MISUEX, NACTV, IGX(200), TGA(200),
C      5  MORRATZ(200), PEXI(200), STRX(200*2), LSTMAX
C      *****
C      TYPE REAL MUP, MINKILL, MAXKILL, MAXCOST
C      TYPE REAL MINKILX, MAXKILX, MAXCOSX
C      *****
C      DIMENSION STARMAY(150), ISTARAY(1607)
C      EQUIVALENCE (STARAY, ISTARAY, JGTIX)
C      *****
C      DATA (LSTMAX = 1607)
C      *****
C      MAUNPA *****
C      *****
C      IF (ILAW) 1, 1, 2
C      EXPONENTIAL LAW
C      1 TABLEUP = -LOGF(S)
C      RETURN
C      *****
C      2 I = X = S * LOGU. + 1.
C      H = X - 1
C      Y = TABLE(1) + (H * (TABLE(I+1) - TABLE(I)))
C      TABLEUP = Y * Y
C      RETURN
C      END

```

POINTS TABLEMUP

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

TABLEMUP

TABLE
WADUPM

EXTERNAL SYMBOLS

Q1W1C10C
Q1W1J100
QWJ0D1C1.
L50F

IDENT

00102
00003

01751
14726

TABLEMUP

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ED 0

PAGE NO.

2

DATA TABLE

P00037	REGIN.	00055	00064	00070	00043	00037	00040	00041	00041
P00001	DICT.	00005	00014	00042	00043	00037	00040	00041	00041
P00056	ENDING.	00006	00016	00035	00043	00037	00040	00041	00041
P00000	EXIT.	00002	00051	00052	00051	00051	00052	00052	00052
P00012	PRODOC1.	00053	00054	00054	00054	00054	00054	00054	00054
P00017	PRODOC2.	00044	00047	00047	00047	00047	00047	00047	00047
P00073	SETPL.	00023	00026	00027	00026	00026	00026	00026	00026
P00070	I	00007	00007	00007	00007	00007	00007	00007	00007
C10025	IGA	00006	00006	00006	00006	00006	00006	00006	00006
C10154	ILA	00010	00011	00011	00010	00010	00010	00010	00010
C00001	INACTIVE	00013	00013	00013	00013	00013	00013	00013	00013
P00037	INITIAL.	00006	00006	00006	00006	00006	00006	00006	00006
C10016	ISTANAY	00010	00011	00011	00010	00010	00010	00010	00010
P00012	.1	00013	00013	00013	00013	00013	00013	00013	00013
P00017	.2	00013	00013	00013	00013	00013	00013	00013	00013
C00000	JTGT	00013	00013	00013	00013	00013	00013	00013	00013
C10016	JGTG	00013	00013	00013	00013	00013	00013	00013	00013
C10017	LNEXT	00013	00013	00013	00013	00013	00013	00013	00013
A00004	LOGF	00013	00013	00013	00013	00013	00013	00013	00013
C14725	LSIMAX	00013	00013	00013	00013	00013	00013	00013	00013
C10153	PAXCOSY	00013	00013	00013	00013	00013	00013	00013	00013
C10122	MAXCOSX	00013	00013	00013	00013	00013	00013	00013	00013
C10152	MAXKILL	00013	00013	00013	00013	00013	00013	00013	00013
C10021	MAXKIL	00013	00013	00013	00013	00013	00013	00013	00013
C10151	MINKILL	00013	00013	00013	00013	00013	00013	00013	00013
C10020	MINKILX	00013	00013	00013	00013	00013	00013	00013	00013
C10155	MISDEF	00013	00013	00013	00013	00013	00013	00013	00013
C10023	MISDEX	00013	00013	00013	00013	00013	00013	00013	00013
C10150	MORR	00013	00013	00013	00013	00013	00013	00013	00013
C12445	MORRX	00013	00013	00013	00013	00013	00013	00013	00013
C01751	MUP	00013	00013	00013	00013	00013	00013	00013	00013
C10024	NACTV	00013	00013	00013	00013	00013	00013	00013	00013
C10466	PEX	00013	00013	00013	00013	00013	00013	00013	00013
C12755	PEXX	00013	00013	00013	00013	00013	00013	00013	00013
P00055	PF000C2.	00013	00013	00013	00013	00013	00013	00013	00013
X00002	Q100310V	00013	00013	00013	00013	00013	00013	00013	00013
X00001	Q101010V	00013	00013	00013	00013	00013	00013	00013	00013
X00003	QB00101.	00013	00013	00013	00013	00013	00013	00013	00013
P00077	H	00013	00013	00013	00013	00013	00013	00013	00013
C02071	KISK	00013	00013	00013	00013	00013	00013	00013	00013
P00003	S	00013	00013	00013	00013	00013	00013	00013	00013
C07031	SSIG	00013	00013	00013	00013	00013	00013	00013	00013
C10100	STARAY	00013	00013	00013	00013	00013	00013	00013	00013
C14105	STK2X	00013	00013	00013	00013	00013	00013	00013	00013
C13205	SIXX	00013	00013	00013	00013	00013	00013	00013	00013
C00000	TABLE	00013	00013	00013	00013	00013	00013	00013	00013
P00003	TABLEMUP	00013	00013	00013	00013	00013	00013	00013	00013
C00011	TCA	00013	00013	00013	00013	00013	00013	00013	00013
C12135	TGAX	00013	00013	00013	00013	00013	00013	00013	00013
C00021	TVALTCA	00013	00013	00013	00013	00013	00013	00013	00013
P00030	VALUE.	00013	00013	00013	00013	00013	00013	00013	00013
C01131	VTCA	00013	00013	00013	00013	00013	00013	00013	00013
P00100	X	00013	00013	00013	00013	00013	00013	00013	00013

3-15 TABLEMUP

CLC770 XKUP

PJ0101 Y

00070 SYMBOLS

00034

00034

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ED

0

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FT-5.5

```

SUBROUTINE TIMEPRT
  CSUBR   TIMEPRT  1JUN71
  C
  C      THIS SUBROUTINE PRINTS THE TIMING INFORMATION FOR
  C      THE OPTIONS WHICH PRECEDE WEAPON ALLOCATION
  C
  CALL TIMEPRT(-2)
  PRINT 101
  101 FORMAT('TIMING INFORMATION FOR PREVIOUS OPTIONS',//* INITIALIZE
  21*)
  CALL TIMEPRT(-3)
  CALL TIMEPRT(0)
  RETURN
  END
  
```

1000
67000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
12000
13000
14000

5. TS TIMEPRT

PROGRAM LENGTH
ENTRY POINTS TIMEPRT
EXTERNAL SYMBOLS
THEND.
QBQDICT.
TIMEWE
STN.

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ED 0

PAGE NO.

2

IDENT TIMEPRT

U0062
U0030

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SATS TIMEPRT

PU0056 BEGIN.
 PU0003 CRFMT.
 PU0001 DICT.
 PU0057 ENDING.
 PU0000 EXIT.
 PU0003 FORMAT.
 PU0046 GG0000G.
 PU0056 INITIAL.
 PU0060 .ERASER.
 PU0003 ..101
 X00002 0800DICT.
 X00004 STM.
 X00001 THEND.
 X00003 TIMEPE
 PU0030 TIMEPRT
 00017 SYMBCLS

00056
 00046
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 00051

00047
 00052

```

SUBROUTINE MAU
  MAU      LJUN71
  (VERSION MAU 2)
  MASTER   LJUN71
  USED BY  ALLOCATE, MULCON, PREMIUMS, STALL, MAD, MADOUT, PRINTCON,
           RESVAL, AND DEFALOC
  COMMON/MASTER/IMDATE, IDENING, ISIDE, NRTPT, NCCORR, NDPEN, NRECCOVEN
1  NREF, NBRNDY, NREG, NTYPE, NNGROUP, NITCTBASE, NPAYLOC, NASHI, NTYPE, NHDTYPE
2  NANKBAS, NCOMPLEX, NCLASS, NALERT, NIGTS, NCONTTYPE, NCNTRY
  EQUIVALENCE (NNGROUP, NG) (NALERT, NCTHER)
  MASTER
  CONTROL  LJUN71
  USED BY  MULCON, PREMIUMS, STALL, MAD, MADOUT, PRINTCON, DEFALOC,
           AND PRINTCON
  COMMON/CONTROL/STALADJ, CLOSE, MADOP, PROGRESS, QUALITY, NPASS, PRM, DELT
  IVAL, CORR, STIME, IVERIF, CONR2, IMATCH
1  MINDAMAG, LAM(2), FALMIRV, IANFAC
  TYPE INTEGER MAUCP
  TYPE REAL MINDAMAG
  CONTROL
  DYNAMIC  LJUN71
  USED BY  MULCON, PREMIUMS, STALL, MAD, MADOUT, PRINTCON, RESVAL,
           DEFALOC, AND PRINTCON
  COMMON/DYNAMIC/IGTNAME, INDEKNG, DESIG, TASK, CNTRYLOC, FLAG, TGTMULT,
  IGTAT, TGTLONG, IGTAD, VTCM, M(2), VC(2), NK, EVAL(3), TAU(3), ICHCLASS,
  ICLASSN, IHTYPE, IDEF, INDYPER, DISOF, DISIDG, NBLN, CTMULT, VT,
  3  TGTMT(3), PAYOFF, COST, PROFIT, DPROFIT, WRTST, IMECT, NUMFIA,
  *  IGT, NUM, IG(30), KCRN(30), PEN(30), TCARR(30), LDN
  TYPE INTEGER TGTNAME, DESIG, TASK, CNTRYLOC, FLAG, TARDEF
  EQUIVALENCE (DNARRAY, IGTNAME)
  DATA (LDN = 45)
  DIMENSION VTD(30)
  EQUIVALENCE (VTD, AVAL)
  DYNAMIC
  LAMBDA  LJUN71
  USED BY  MULCON, PREMIUMS, MAD, MADOUT, PRINTCON, RESVAL, DEFALOC
  COMMON/LAMBDA/
  LAMEF(200), SURRWP(200), PREMIUM(200), UPREMIUM(200)
1  DIMENSION LAM(200)
  TYPE REAL LAM, LAMEF
  EQUIVALENCE (LAM(1), LAMEF(1))
  LAMBDA
  LAMB2  LJUN71
  USED BY  ALLOCATE, MULCON, MAD, AND PRINTCON
  COMMON/222/

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```

1      WIFC(3),WTRATE(3),WTSUM(3),WATTRIB(6,200),WWSUM(310,3)
2      WALEXREST(310,3),LA(310),MAXATTRIB
      TYPE REAL LA
      CENSU      NUMB2 *****
      CUSE      PAYOFF LJUN71 *****
      C          USED BY WAD AND PRINTNG *****
      C
      COMMON/PAYOFF/
      1      OP=CF11,SPAYOFF,SUMCOST,SPROFIT,SUMPREM,
      1      L,NAT
      CENSU      PAYOFF *****
      CUSE      PRINEED LJUN71 *****
      C          USED BY STALL, WAD, AND PRINTNG *****
      C
      COMMON/PRINEED/N*G
      TYPE INTEGER G
      CENSU      PRINEED *****
      CUSE      NUMB3 LJUN71 *****
      C          USED BY WAD AND PRINTNG *****
      C
      COMMON/333/
      1      WMP(101,VAL(101),V(11,2),MU(10,2),SIG(10,2),
      1      S(1,2),VS(10,2),VSN(11,2),ITCA(200),ADDTCA(200),
      2      SIG(200,10,2),SIG(30,10,2),DSIG(200,2)
      TYPE REAL MU
      CENSU      NUMB3 *****
      CUSE      WADOUT LJUN71 *****
      C          USED BY STALL, WAD, WADOUT, AND PRINTNG *****
      C
      COMMON/WADOUT/
      1      PVMAX,IPVMAX,PPMAX,IPPMX,DVPMX,IUVPMX,DPMX,IOPMX,NUMMAX,Nu
      1      ITPMAX,ITCA,NTCA,MAXX,VTMIN,VTMAX,ALPHA,VTEF,VTZO
      CENSU      WADOUT *****
      CUSE      WADFINAL LJUN71 *****
      C          USED BY STALL, WAD, WADOUT, AND PRINTNG *****
      C
      COMMON/WADFINAL/
      1      VIP(200),DELVI(30),NUMG,IGC(30),ICP,ICPS,CTSPILL
      CENSU      WADFINAL *****
      CUSE      WADAPN LJUN71 *****
      C          USED BY MULCON, PREMIUMS, WAD, WADOUT, PRINTNG, RESVAL, DEFALOC,
      C          STALL, FMUP, SUMTSH, TABLEUP, MDALCRU
      C
      COMMON/WADAPN/ JTGT, INACTIVE(200), TCA(200),
      1      TVALICA(200), VTGA(200,2), MUP(200,2), RISK(6,200,2),
      2      SSIG(20,2), MINKILL, MAXKILL, MAXCOST, ILA,
      3      MISDEF, MGR(200), PEX(200), XMUP(200,2), JIGIX, LNEXT,
      4      MINKILA, MAXKILA, MAXCOSA, MISDEX, NACTV, IGX(200), TCA(200),
      5      MGRX(200), PEX(200), STKX(200,2), STKX(200,2), LSTMAX
      TYPE REAL MUP, MINKILL, MAXKILL, MAXCOST
      TYPE REAL MINKILA, MAXKILA, MAXCOSA
      C
      DIMENSION STANAY(1607), ISTANAY(1607)

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```

C      CALL SPLIT
      IF((CTMULTI.GT.SURP).AND.(SURP.GT.1.))9J7.7
9J7 ISURP=SURP
      CNGMULTI=CTMULTI-ISURP
      CTSPILL=CTSPILL+CNGMULT
      CIMULT=ISURP
      UC 911 NWZ=1,NUMC
      GZ=IGC(NWZ)
911 SURPWP(GZ)=SURPWP(GZ)+CNGMULT
      DC 908 NWZ = 1,NUM
      GZ = IG(NWZ)
908 SURPWP(GZ)=SURPWP(GZ)+CNGMULT
      DC 930 GZ = 1,NW
930 CALL PREMIUMS(GZ)
C      7 SURPWP(G)=SURPWP(G)-CIMULT
      CALL PREMIUMS(G)
      ASSIGN 8 TO LVCALDSG
      GC TO 100
      8 GC TO 200
      C      CALL ADDSIG AND ADDIND
      10 ASSIGN 12 TO LVCAL
      GC TO 400
      C      CALL CALPAY,CALPOT,CALDEL
      C
      12 CALL WADOUT
      DELVT(NUK) = VTDNUM) - V1
      PAYOFF=VIC-V1
      C      USE PAYOFF CORRECTED FOR MAXKILL(VTEF) AND MINKILL(ALPHA)
      PRCFIT=PAYOFF-COST
      TBNEFIT=(VIC-VTEF)+ALPHA-COST-SUMPREM
      IF(TBNEFIT.GT.0)14.16
      14 TRM=TBNEFIT+PPMX
      16 CONTINUE
      CALL PRNTALL(20)
      RETURN
C      *****
C      DELETE MPN CONTROL
C
      18 G=1G(NW)
      ICP=ICP+1
      COST=COST-LAMEF(G)
      SUMPREM=SUMPREM+UPREMIUM(G)
      IF(PPGRESS.EQ.1.0) 21.19
      21 SURP=SURPWP(G)*.5
C
      C      CALL SPLIT
      IF((CTMULTI.GT.SURP).AND.(SURP.GT.1.))9J9.19
9J9 ISURP=SURP
      CNGMULTI=CTMULTI-ISURP
      CTSPILL=CTSPILL+CNGMULT
      CIMULT=ISURP
      UC 912 NWZ=1,NUMC
      GZ=IGC(NWZ)
912 SURPWP(GZ)=SURPWP(GZ)+CNGMULT

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      UC 910 ANZ = 1.0UM
      GZ = IG(NMZ)
      910 SURPWP(GZ)=SURPWP(GZ)*CNGMULT
      UC 920 GZ = 1.0UM
      920 CALL PREMIUMS(GZ)
C
      19 SURPWP(G)=SURPWP(G)*C1MULT
      CALL PREMIUMS(G)
      ASSIGN 20 TO LVICALUSG
      GO TO 100
      20 GO TO 300
C
      21 CALL SUBSIG AND SUBINW
      22 ASSIGN 24 TO LVICAL
      GO TO 400
C
      CALL CALPAY,CALPOT,AND CALDEL
      24 GO TO 12
C
      *****
      ERROR PRINT IF PROGRAM LOOPS -- NEG FOR BAD WAD CALL
      *****
C
      40 LOOP=LOOP-100
      41 PRINT 42 * LOOP
      42 FORMAT ( 6H LOOP= ,I4 )
      43 RETURN
C
      *****
      LOCAL ROUTINE INITIALIZE OF WAD2
      *****
C
      50 CONTINUE
      51 NOME=0
      52 NTCAP=0
      NTCAP1=1
      NTCAP2=2
      NWP(1)=C
      VAL(1)=VTC
      DO 54 JH=1,M
        MU(1,JH)=0.0
        SIG(1,JH)=0.0
        V(1,JH)=VC(JH)
        V(2,JH)=0.0
        S(1,JH)=1.0
        VS(1,JH)=0.0
        VSN(1,JH)=0.0
        VSN(2,JH)=VC(JH)
      54 VT=VTZ0+VTC
      CALL PRNTALL(12)
      UC 5- JGD = 1.0UM
      IF (INACTIVE(IGJ).GT.1.0)545,55
      545 IF (INACTIVE(IGJ).LT.3.0)57,55
      55 JG = IGC
      INACTIVE(JG)=0
      ITC1 JG=2
      IACTSA(JG)=1
      VTP(JG)=0.
      CALL PREMIUMS(JG)

```

[illegible]

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DC 226 IGD = LONG
IF (INACTIVE(IGD)/226) 221
221 I(33)=IGD
222 IF (NRD .LT. ITC(1333))=IADDTCA(I333) 226,222
223 DC 224 J333=1,M
224 SIGP(I333,NRDT,J333)=SIGP(I333,NRDT,J333)+OSIG(I333,J333)
226 CONTINUE
GC TO 202
232 CONTINUE
C *****
C LOCAL SUBROUTINE ADDIND OF #AU2
C UPDATES INDEXES FOR ADDITION OF WEAPON FROM GROUP G)
C *****
250 K95=6
IADDTCAK=IADDTCA(K95)
IF (IADDTCAK .EQ. C) 2/0,252
252 ITCAK=ITCA(K95)
IVALTCAK=IVALTC(A(K95))
DC 258 IGS=1,N9
IF (INACTIVE(IGS)) 258,253
253 IF (ITCA(IGS) .EQ. ITCAK) 260,254
254 IF (ITCA(IGS) .GT. ITCAK) 256,258
256 ITC(IGS)=ITCA(IGS)+1
258 CONTINUE
GC TO 2/0
260 IF (IADDTCA(IGS) .EQ. C) 256,262
262 IF (IVALTC(IGS)/IVALTCAK .LT. 1-DELTVL) 256,264
264 IF (IVALTC(IGS)/IVALTCAK .GT. 1-DELTVL) 258,266
266 IADDTCA(IGS)=C
268 GC TO 258
270 NUM=N9+1
NITCA=NITCA+IADDTCAK
NITCAP=NITCA+1
NITCAP2=NITCA+2
IF (IADDTCAK .EQ. 1) 2/2,276
272 VAL(ITCAK)=IVALTCAK
DC 274 JH=1,M
V(ITCAK,JH)=VITCA(K95,JH)
274 V(NITCAP2,JH)=V(C
V(ITCAK)=C
276 NAP(ITCAK)=NAP(ITCAK)+1
GC TO 1C
C *****
C LOCAL SUBROUTINE SUBSIG OF #AU2
C (MODIFIES ALL SIG,SIGP,AND SIGD FOR DELETION OF N(M WEAPON)
C *****
300 N44=N9
K94=IG(N44)
ITCAK=ITCA(K94)
ISUBTCAR=C
IF (NAP(ITCAK) .EQ. 1) 302,304
302 ISUBTCAR=1
304 DC 318 NR44=ITCAK,NITCAP1

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```

NRT4=NRD4-ISUBTCAK
IF(NRT4.LT. ITCAK) 1306,305
305 CONTINUE
C***** UPDATE ACTUAL
DC 306 J44=1,M
V(NRT4,J44)=V(NRD4,J44)
MU(NRT4,J44)=MU(NRD4,J44)=MUP(KG4,J44)
SIG(NRT4,J44)=SIG(NRD4,J44)+SIG(NM4,NRD4,J44)
306 VAL(NRT4)=VAL(NRD4)
NRP(NRT4)=NRP(NRD4)
C***** UPDATE POTENTIAL
DC 312 IG0 = 1,M
IF(INACTIVE(IG0))312,307
307 IG4=IG0
IF(NRD4.LT. ITCAK)=IADTCA(IG4) 312,308
308 DC 310 J44=1,M
310 SIG(IG4,NRT4,J44)=SIG(IU4,NRD4,J44)+DSIG(IG4,J44)
312 CONTINUE
C***** UPDATE DELETED
DC 317 NM4=1,M
IG4=IG(NM44)
IF(NM44.LT. ITCAK)=IADDTCA(IG44) 317,314
314 DC 316 J44=1,M
316 SIG(NM44,NM44,J44)=SIG(NM44,NM44,J44)+DSIG(IG44,J44)
317 CONTINUE
62 TO 318
C** UPDATE POTENTIAL (PMSERVE LCST ICA)
1306 DC 1312 IG4=1,M
IF(INACTIVE(IG4))1312,1307
1307 IF(ITCA(IG4).EQ. ITCAK) 1308,1312
1308 DC 1310 J44=1,M
SIG(IG4,NM44,J44)=SIG(IU4,NM44,J44)+DSIG(IG4,J44)
1310 CONTINUE
1312 CONTINUE
C**
DC 1317 NM4=1,M
IG4=IG(NM44)
IF(ITCA(IG44).EQ. ITCAK) 1314,1317
1314 DC 1316 J44=1,M
SIG(NM44,NM44,J44)=SIG(NM44,NM44,J44)+DSIG(IG44,J44)
1316 CONTINUE
1317 CONTINUE
318 CONTINUE
NUM1=NUM-1
C*****
DC 322 NM44=NUM,NUM1
IG(NM44)=IG(NM44+1)
DELT(NM44) = DELT(NM44 + 1)
NTCAF=NTCAPI-ISUBTCAK
DC 321 A4=1,NTCAF
320 DC 320 J44=1,M
SIG(NM44+1,J44)=SIG(NM44+1,NM44,J44)
321 CONTINUE
322 CONTINUE
C

```

```

C *****
C LOCAL SUBROUTINE SUBIND OF MAU2
C (UPDATES INDEXES FOR DELETION OF NWITH MPN)
C *****
350 IF (ISUBTCAK.EQ.1) 352,361
352 DC 360 IGT=1,NG
   IF (INACTIVE(IGT)) 360,353
353 IF (ITCA(IGT).EQ.ITCAK) 354,356
354 IADDTCA(IGT)=1
   GO TO 360
356 IF (ITCA(IGT).GT.110AK) 358,360
358 ITCA(IGT)=ITCA(IGT)-1
360 CONTINUE
361 NUMNUM=1
   NITCA=ITCA-ISUBTCAK
   NITCAP1=NITCA+1
   NITCAP2=NITCA+2
   IF (ISUBTCAK.EQ.C) 362,364
362 N=PI(ITCAK)=N+PI(ITCAK)-1
   GO TO 22
364 VAL(NITCAP2)=0.0
   DC 366 JJJJJ=1,M
366 V(NITCAP2,JJJJ)=0.0
   GO TO 22

C *****
C LOCAL SUBROUTINE CALPAY OF MAU2
C *****
400 VT=0.0
   VTZO=0.0
   DC 406 J=1,M
   DC 405 A=1,NITCAP1
   XMUMU(N,J)
   IF (XMUEQ.U.) 402,403
402 S(N,J)=1.0
   GO TO 404
403 CONTINUE
   S(N,J)=FMUP(XMU+XMU/(XMU+SIG(N,J)))
404 CONTINUE
   VS(N,J)=(V(N,J)-V(N+1,J))*S(N,J)
405 VSN(N+1,J)=VSN(N,J)+VS(N,J)
   SC=FMUP(XMU)
   VTZO=VC(J)*SC+VTZO
406 VT=VT+VSN(NITCAP2,J)
   CALL PHNTALL(12)

C *****
C LOCAL SUBROUTINE CALPOT OF MAU2
C *****
   CALL PRNTALL(14)
501 DC 512 IGD=1,NG
   IF (INACTIVE(IGD)) 512,502
502 IGI=IGD
   VIP(IGI)=0.0
   DC 510 JI=1,M
   XMU1=FMUP(IGI,J1)

```

```

      N1=ITCA(I01)
      IF(IADDTCA(I01))503,504
503 N1=N1-1
      C=====
      CALC REVISED      VSN(N1+1,J1) FOR PRECEDING MPN
      VSN1=VSN(N1,J1)+(V(N1,J1)-VTCA(I01,J1))*S(N1,J1)
      CALC VS AND VSN FOR PCT MPN
      XMU=MU(N1,J1)*MUPI
      S1 = FMUP(XMU * AMU / (SIGP(I01,N1,J1) + SIG(N1,J1) * XMU))
      VSN1=VSN1+S1*(VTCA(I01,J1)-V(N1+1,J1))
      C  CALL PRNTALL(I0)
      N1=N1+1
      GO TO 500
504      VSN1=VSN(N1,J1)
506      N1=N1+1
      C  CALC REVISED S FOR CONCURRENT AND SUCCEEDING MPNS
      DC 500 N1=NSTART,NTCAP1
      XMU=MU(N1,J1)*MUPI
      S1 = FMUP(XMU * AMU / (SIGP(I01,N1,J1) + SIG(N1,J1) * XMU))
      VSN1=VSN1+S1*(V(N1,J1)-V(N1+1,J1))
      C  CALL PRNTALL(I0)
      CONTINUE
510      VTP(I01)=VTP(I01)+VSN1
512      CONTINUE
      C  *****
      C  LOCAL SUBROUTINE CALUCL OF MAD2
      CALL PRNTALL(I7)
502      DC 612 N2=1,NUM
      VTD(N2)=0.0
      IG2=IG(N2)
      DC 610 J2=1,M
      NSTART=ITCA(IG2)
      VSN1=VSN(N1,J2)
      IF(NMP(N1,J2)*EQ.1)604,606
      CORRECT VS AND VSN FOR PREVIOUS MPN
504      N2=N1+1
      NSTART=N1+1
      S1=S(N2,J2)
      VSN1=VSN(N2,J2)+S(N2,J2)*(V(N2,J2)-V(N2+2,J2))
      C  CALL PRNTALL(I0)
      CORRECT CONCURRENT AND SUCCEEDING TCA SETS
506      MUPI=MUP(IG2,J2)
      DC 608 N2=NSTART,NTCAP1
      XMU=MU(N2,J2)*MUPI
      S1 = FMUP(XMU * AMU / (SIG(N2,J2) + SIG(N2+2,J2) * XMU))
      VSN1=VSN1+S1*(V(N2,J2)-V(N2+1,J2))
      C  CALL PRNTALL(I0)
      CONTINUE
510      VTD(N2)=VTD(N2)+VSN1
512      CONTINUE
      GO TO LOCAL
      END

```

S-STS

WAD

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

WAD

MASTER
CONTROL
DYNAMIC
LAMBDA
222
PAYOFF
PRINCE
333
WADOUT
WADFINAL
WADPH
PMTWADG
Q1Q1WAD
Q1Q3100
TEND.
Q1Q1CT.
PMTALL
WADOUT
PREMIUMS
FRUP
MINIF
STR.
QNSINGL.

IDENT

W3452
W0011
W0027
W0022
W0304
V1440
V6464
W0007
W0002
12650
W0022
W0010
14726
W0012

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EXTERNAL SYMBOLS

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CU0133 ALERHEST
 CU0117 ALPHA
 PU3327 BEGIN.
 CU0001 CLOSE
 PU3366 CNGMULT
 CU0004 CNTRYLOC
 PU2163 CNVAT1.
 CU0010 CDR
 CU0013 CORR2
 CU0045 CSST
 PU3367 CCUNT.
 PU0004 CREMT.
 CU0037 CTMULT.
 CU0047 CTSPILL
 CU0007 DELTVAL
 CU0310 DELVT
 CU0002 DESIG
 PU0001 DICT.
 CU0034 DISTOF
 CU0035 DISTOG
 CU0000 DNARMAY
 CU0006 DPMN
 CU0130 DPREMIUM
 CU0047 DPRECFT
 CU2030 DSIG
 CU0004 DVMN
 PU3334 ENDING.
 PU0000 EXIT.
 CU0020 FACIRV
 CU0005 FLAG
 X00010 FMUP
 PU0004 FORMAT.
 CU0021 FVAL
 CU0001 G
 PU3370 GAM
 PU0025 GGOQOCC.
 PU2160 GZ
 CU0014 H
 CU0530 IADDTCA
 PU3371 IADDTCAK
 PU3372 IAT4
 CU0030 ICLASSN
 CU0001 IDENTAC
 CU0007 IDPMN

CU0046 00243
 CU3332
 CU0140 00163 00200 00321 00323 00344 00361
 CU422 00633
 CU0042 00043 00106 00111 00111 00241 00244 00267 00267
 CU272 00272 00172 00173 00336 00337 00353 00354 00445 00447 00532
 CU155 00156 00603 00762 00764 01020 01022 01143 01145 01275 01277
 CU534 01332 01334 01366 01370 01421 01423 01464 01465 01507 01555
 CU1556 01577 01600 01765 02111 02113
 CU425 00124 00135 00135 00150 00216 00304 00305 00316
 CU123 00316 00331 00377 00377 00377 00377
 CU141 00141 00143 00143 00322 00324 00324
 CU1103 01104 01111 01112 01451
 CU236 00236 01450 01451
 CU013 00016 00025 00031 00063 00206 00221 00232 00256 00367 00402
 CU417 00424 00472 00521 00541 00615 00630 01617 01633 01653 01657
 CU1737 02003 02031 02127
 CU274 00274
 CU634 00634 00766 01024 01301 01336 01372 01425
 CU014 00103 00261 00425 03330 03331 03332 03332
 CU3337
 CU540 01016 01632 01736 02002 02126
 CU107 00107 00120 00120 00214 00222 00244 00264 00270 00270
 CU301 00301 00375 00375 00403 00560 00560 00650 01033 01033
 CU576 00617 00617 00632
 CU415 00161 00175 00176 00204 00211 00341 00342 00356 00357
 CU160 00365 00370 00372
 CU516 00516 00654 00752 00752 01010 01010 01036 01075 01075
 CU115 01116 01265 01265 01322 01322 01516 01707 01707
 CU655 00666 01040 01123 01132
 CU577 02417

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P02223	IN00070.	01277	01370	02324	02341	02566	02603	02565			
P02224	IN00071.	01276	01367	02324	02340	02543	02562				
P02225	IN00072.	01278	01367	02325	02343	02564	02600				
P02226	IN00075.	01334	01423	02605	02616	02622	02637	03114			
P02227	IN00076.	01333	01422	02542	02560	02605	02617	02623			
P02230	IN00077.	01333	01422	02621	02635	03141	02702				
P02231	IN00101.	01465	02642	02652	02654	02666					
P02232	IN00104.	01556	02704	02716	03266						
P02233	IN00105.	01577	02720	02734	02741	02753					
P02234	IN00106.	01600	02722	02737	02741	02754					
P02235	IN00110.	01643	02721	02736	03267						
P02236	IN00112.	01700	02716	02760	02777	03234					
P02237	IN00113.	01714	01752	01765	02757	03002	03015				
P02240	IN00114.	01720	01766	02756	02774	03002	03016				
P02241	IN00115.	01727	01766	02761	03000	03003	03020				
P02242	IN00120.	02054	03036	03056	03315	03064	03100				
P02243	IN00122.	02071	02112	03035	03054	03064	03077				
P02244	IN00123.	02074	02111	03037	03057						
P02245	IN00124.	02101	03040	03060	03306						
P02246	IN00125.	02112	03022	03033	03041	03062	03065	03102			
C00001	INACTIVE	00500	00500	00504	00504	00513	00513	00567	01000	01053	
		01053	01255	01255	01353	01353	01511	01665	01665		
C00001	INDEXAC										
C00033	INDYPEN										
P03330	INITIAL.	00014									
C00005	ICP	00060									
C00006	ICPS		00061	00075	00075	00104	00104	00265	00265	00266	
C00003	IPPMX										
C00001	IPVRMX										
C00002	ISIDE										
C10016	ISTARAY										
P03403	ISUBTCAR	01176	01203	01211	01453	01501	01531	0154C			
P03404	ISURP	00134	00137	00144	00315	00320	00325				
C00053	ITGT										
C00020	ITCA										
P03405	ITCAR	00514	00515	00655	00656	00750	00750	01006	01043	01056	
		01056	01062	01062	01066	01066	01067	01172	01263	01320	
		01320	01350	01356	01411	01412	01513	01513	01520	01523	
		01524	01704	01704	02051	02051					
		00657	00674	01044	01057	01063	01135	01155	01177	01204	
		01213	01357	01413	01514	01521	01542	03253			
C00012	IVERIFY										
P00042	.1	00036									
P00227	.10	01162									
P00560	.100	00225	00406								
P00571	.101										
P00011	.102										
P00620	.104	00610									
P00623	.106										
P00541	.108	00570									
P00231	.12	00227	00412								
P01346	.1306	01214									
P01355	.1307										
P01361	.1308										

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PG0252 .14					
PG0255 .16					
PG0262 .18					
PG0375 .19					
PG0062 .2					
PG0407 .20					
PG0650 .20C					
PG0663 .202					
PG0677 .204					
PG0720 .206					
PG0755 .208					
PG0301 .21					
PG0765 .210					
PG0771 .212					
PG0410 .22					
PG1002 .221					
PG1013 .222					
PG1023 .224					
PG1027 .226					
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PG0412 .24					
PG1033 .250					
PG1042 .252					
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PG1061 .254					
PG1065 .256					
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PG1074 .260					
PG1100 .262					
PG1106 .264					
PG1114 .266					
PG1117 .268					
PG1120 .270					
PG1134 .272					
PG1150 .274					
PG1157 .276					
PG0024 .3					
PG1163 .300					
PG1202 .302					
PG1204 .304					
PG1215 .305					
PG1233 .306					
PG1257 .307					
PG1270 .308					
PG1300 .310					
PG1304 .312					
PG1325 .314					
PG1337 .316					
PG1341 .317					
PG1354 .1360					
PG1413					
PG0074 .00251					
PG0060 .00300					
PG0557 .00306					
PG0405 .00307					
PG0226 .00311					
PG0332 .00312					
PG0675 .00675					
PG0753 .00753					
PG0754 .00754					
PG1545 .01562					
PG1011 .01011					
PG1001 .01012					
PG0676 .00676					
PG0410 .01041					
PG1060 .01060					
PG1077 .01077					
PG1054 .01054					
PG1060 .01060					
PG1076 .01076					
PG1104 .01104					
PG1112 .01112					
PG1041 .01041					
PG1133 .01133					
PG0022 .00022					
PG0407 .00407					
PG1201 .01201					
PG1213 .01213					
PG1206 .01206					
PG1266 .01266					
PG1256 .01256					
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PG1324 .01324					

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 PU1464 .320
 PU1471 .321
 PU1475 .322
 PU1501 .350
 PU1503 .352
 PU1513 .353
 PU1516 .354
 PU1520 .356
 PU1523 .358
 PU1525 .360
 PU1526 .361
 PU1542 .362
 PU1546 .364
 PU1557 .366
 PU0413 .40
 PU0065 .4
 PU1563 .400
 PU1605 .402
 PU1610 .403
 PU1622 .404
 PU1625 .405
 PU1642 .406
 PU0415 .41
 PU0074 .410
 PU0425 .43
 PU0426 .50
 PU0034 .5
 PU1662 .501
 PU1667 .502
 PU1711 .503
 PU1752 .504
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 PU2012 .508
 PU0426 .51
 PU2015 .510
 PU2025 .512
 PU0430 .52
 PU0462 .54
 PU0503 .545
 PU0507 .55
 PU0552 .56
 PU2071 .5604
 PU0554 .57
 PU0075 .6
 PU2034 .602
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 PU2101 .606
 PU2136 .608
 PU2141 .610
 PU2151 .612
 PU0214 .7
 PU0226 .8
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U1515

U1512
U1502

U1541

U0041

U0230

U1604

U1607

U0072

U0072

U0037

U0081

U0023

U1710

U1710

U1751

U1666

U0501

U0506

U004C

Q2061

U0117

U0224

U1517 U1522 U1522

U0411

U0073

U0502 U0505 U0506

U0125 U0126 U0130 U0131

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CU0012	NTYPE					
CU0054	NUM					
CU0052	NUMFIX					
CU0036	NUMLI					
CU0010	NUMMAX					
CU0046	NUMC					
CU0037	NUMP1					
CU0011	NW					
CU0011	NW2					
CU0040	NW3					
CU0041	NW4					
CU0042	NW44					
CU0043	NW444					
CU0017	NWHDTYPE					
CU0000	NWP					
CU0044	NWRT					
CU0045	NWRT4					
CU0046	NWZ					
CU0000	SPRCFIT					
CU0026	P00002.0					
CU0006	P00004.0					
CU0024	P00005.0					
CU0030	P00006.0					
CU0010	P00007.0					
CU0027	P00010.0					
CU0062	P00011.0					
CU0076	P00012.0					
CU0017	P00013.0					
CU0040	P00015.0					
CU0064	P00016.0					
CU0005	P00017.0					
CU0021	P00020.0					
CU0042	P00021.0					
CU0054	P00022.0					
CU0070	P00023.0					
CU0004	P00025.0					
CU0020	P00026.0					
CU0074	P00027.0					
CU0070	P00030.0					
CU0002	P00031.0					
CU0022	P00032.0					
CU0035	P00033.0					
CU0064	P00034.0					
CU0044	PAYOFF					
CU0007	PEN					
CU0066	PEX					
CU0075	PEXX					
CU0002	PPMX					
CU0020	PREMIUM					
CU0007	PREMIUMS					
CU0006	PRM					

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X00005	PRTALL	00015	00024	00030	00033	00037
C00006	PRCFIT	00067	00241	00115	00276	00276
C00003	PROGRESS	00115	00276	00276	00276	00276
C00000	PRMX	00136	00317	00314	00000	00000
X00002	Q1003100	00133	00314	00012	00000	00000
X00001	Q1010100	00133	00314	00012	00000	00000
X00004	Q8000100	00000	00000	00000	00000	00000
X00013	Q8000100	00000	00000	00000	00000	00000
C00004	QUALITY	00020	00027	00033	00033	00033
P02257	RELCON..	00524	00555	00612	00616	00616
C02571	RISK	00611	00612	00616	00616	00616
C02271	RUNSUM	00056	00057	00166	00166	00166
C00151	RVAL	00076	00141	00141	00141	00141
C00122	S	00131	00133	00134	00134	00134
C00004	S1	00052	00117	00117	00117	00117
C00076	SIG	00117	00117	00117	00117	00117
C10/00	SIGD	00123	00123	00123	00123	00123
C00040	SIGP	00124	00125	00125	00125	00125
P03447	SC	00130	00131	00131	00131	00131
C00001	SPAYOFF	00135	00135	00135	00135	00135
C00003	SPROFIT	00141	00141	00141	00141	00141
C07331	SSIG	00141	00141	00141	00141	00141
C00000	STALADJ	00141	00141	00141	00141	00141
C11616	STARRAY	00141	00141	00141	00141	00141
X00012	STH.	00141	00141	00141	00141	00141
C00011	STIME	00141	00141	00141	00141	00141
C14105	STK2X	00141	00141	00141	00141	00141
C13265	STKX	00141	00141	00141	00141	00141
C00002	SUMCOST	00141	00141	00141	00141	00141
C00004	SUMPREM	00141	00141	00141	00141	00141
P03450	SURP	00141	00141	00141	00141	00141
C00010	SURPWP	00141	00141	00141	00141	00141
C00032	TARDEF	00141	00141	00141	00141	00141
C00021	TARFAC	00141	00141	00141	00141	00141
C00003	TASK	00141	00141	00141	00141	00141
C00024	TAU	00141	00141	00141	00141	00141
C00005	TBENEFIT	00141	00141	00141	00141	00141
C00007	TGLAY	00141	00141	00141	00141	00141
C00010	TGLGAG	00141	00141	00141	00141	00141
C00006	TGTMULT	00141	00141	00141	00141	00141
C00000	TGTNAME	00141	00141	00141	00141	00141
C00011	TGTNAME	00141	00141	00141	00141	00141
C00041	TGTWI	00141	00141	00141	00141	00141
X00003	TEND.	00141	00141	00141	00141	00141
C00012	TG4	00141	00141	00141	00141	00141

DATE	TIME	ED	0	PAGE NO.	22					
P02505	UP00012.	00757	02501	02506	02507	02510	02515	02516		
P02526	UP00013.	01015	02522	02527	02530	02531	02536	02537		
P02550	UP00015.	01406	02535	02544	02553	02553	02552	02552		
P02573	UP00016.	01272	01363	02567	02574	02575	02576	02603	02604	02620
P02612	UP00017.	01311	01342	01403	01431	02606	02613	02614	02615	02620
P02630	UP00020.	01327	01416	02624	02631	02632	02633	02640	02641	
P02646	UP00021.	01444	01476	02642	02647	02650	02651	02653	02653	
P02661	UP00022.	01455	01472	02655	02662	02663	02664	02666	02667	
P02675	UP00023.	01461	02671	02676	02677	02700	02702	02703		
P02711	UP00025.	01552	02705	02712	02713	02714	02716	02717	02740	
P02727	UP00026.	01570	01647	02723	02730	02731	02732	02737		
P02746	UP00027.	01574	02556	02742	02750	02751	02752	02755	02755	
P02766	UP00030.	01616	02022	02754	02762	02770	02771	02772	03001	03020
P03010	UP00031.	01706	01713	01750	01762	02253	03004	03012	03014	03021
P03026	UP00032.	02036	02152	02247	03022	03030	03031	03032	03034	
P03046	UP00033.	02046	02146	02251	03042	03050	03051	03052	03063	
P03072	UP00034.	02065	02106	02250	03066	03074	03075	03076	03103	
P03105	UP00035.	02122	03106	03107	03110	03116	03116			
P03120	UP00037.	02667	03121	03122	03123	03132	03133			
P03135	UP00040.	03136	01410	03136	03137	03140	03142	03142		
P03144	UP00041.	03062	03065	03145	03146	03147	03156	03157		
P03161	UP00042.	03073	03162	03163	03164	03166	03166			
P03170	UP00044.	03146	03171	03172	03173	03175	03175			
P03177	UP00046.	03104	03200	03201	03202	03206	03206	03216		
P03210	UP00047.	03511	03223	03211	03212	03213	03216			
P03220	UP00050.	01335	03221	03222	03223	03225	03225	03236		
P03227	UP00051.	01671	02555	03231	03232	03233	03236	03236		
P03240	UP00052.	03262	01171	03241	03242	03243	03250	03250		
P03252	UP00053.	03060	01045	01175	03253	03254	03255	03257	03257	
P03261	UP00054.	00434	01131	01537	03262	03263	03264	03270	03270	
P03272	UP00055.	01165	03273	03274	03275	03277	03277	03307		
P03301	UP00056.	02044	02252	03303	03304	03305	03314	03316	03316	
P03311	UP00057.	01757	02053	03312	03313	03314	03316			
P03320	UP00060.	00652	03321	03322	03323	03326	03326			
C00024	Y	00453	00454	00455	00704	00704	00706	00706	01147	01150
C00012	VAL	01250	01547	01550	00734	00735	00736	01135	01147	01151
C00016	VS	00452	00453	00462	00462	00547	00550	01636	01637	01645
C000146	VS	00460	01024	01626	01625	01625	01626	01644	01644	01753
C000172	VS	00461	00463	00463	01625	01625	01626	01644	01644	01753
C00005	VS	02054	02055	02077	01745	01745	01745	02010	02011	02055
C00040	VT	01722	01723	01745	01745	01745	01745	02010	02011	02055
C000151	VT	02056	02077	02100	02134	02135	02143	02143	02143	02143
C00020	VTEF	00235	00240	00470	00470	01563	01564	01642	01642	01645
C00016	VTEF	00242	00243	02042	02142	02142	02144	02144	02144	02144
C00015	VTEF	00056	00056	00056	00055	00237	00237	00242	00242	00466
C00015	VTEF	00052	00052	00052	00052	00052	00052	00052	00052	00466
C00012	VTEF	00051	00051	00051	00051	00051	00051	00051	00051	00466
C00013	VTEF	00544	00544	00544	00544	00544	00544	00544	00544	00466
C00000	VTEF	00517	00517	00517	00517	00517	00517	00517	00517	00466
C00000	VTEF	02020	02020	02020	02020	02020	02020	02020	02020	02020

C0002d1	C0002e1	C0002f1	C0002g1	C0002h1	C0002i1	C0002j1	C0002k1	C0002l1	C0002m1	C0002n1	C0002o1	C0002p1	C0002q1	C0002r1	C0002s1	C0002t1	C0002u1	C0002v1	C0002w1	C0002x1	C0002y1	C0002z1	C0003a1	C0003b1	C0003c1	C0003d1	C0003e1	C0003f1	C0003g1	C0003h1	C0003i1	C0003j1	C0003k1	C0003l1	C0003m1	C0003n1	C0003o1	C0003p1	C0003q1	C0003r1	C0003s1	C0003t1	C0003u1	C0003v1	C0003w1	C0003x1	C0003y1	C0003z1	C0004a1	C0004b1	C0004c1	C0004d1	C0004e1	C0004f1	C0004g1	C0004h1	C0004i1	C0004j1	C0004k1	C0004l1	C0004m1	C0004n1	C0004o1	C0004p1	C0004q1	C0004r1	C0004s1	C0004t1	C0004u1	C0004v1	C0004w1	C0004x1	C0004y1	C0004z1	C0005a1	C0005b1	C0005c1	C0005d1	C0005e1	C0005f1	C0005g1	C0005h1	C0005i1	C0005j1	C0005k1	C0005l1	C0005m1	C0005n1	C0005o1	C0005p1	C0005q1	C0005r1	C0005s1	C0005t1	C0005u1	C0005v1	C0005w1	C0005x1	C0005y1	C0005z1	C0006a1	C0006b1	C0006c1	C0006d1	C0006e1	C0006f1	C0006g1	C0006h1	C0006i1	C0006j1	C0006k1	C0006l1	C0006m1	C0006n1	C0006o1	C0006p1	C0006q1	C0006r1	C0006s1	C0006t1	C0006u1	C0006v1	C0006w1	C0006x1	C0006y1	C0006z1	C0007a1	C0007b1	C0007c1	C0007d1	C0007e1	C0007f1	C0007g1	C0007h1	C0007i1	C0007j1	C0007k1	C0007l1	C0007m1	C0007n1	C0007o1	C0007p1	C0007q1	C0007r1	C0007s1	C0007t1	C0007u1	C0007v1	C0007w1	C0007x1	C0007y1	C0007z1	C0008a1	C0008b1	C0008c1	C0008d1	C0008e1	C0008f1	C0008g1	C0008h1	C0008i1	C0008j1	C0008k1	C0008l1	C0008m1	C0008n1	C0008o1	C0008p1	C0008q1	C0008r1	C0008s1	C0008t1	C0008u1	C0008v1	C0008w1	C0008x1	C0008y1	C0008z1	C0009a1	C0009b1	C0009c1	C0009d1	C0009e1	C0009f1	C0009g1	C0009h1	C0009i1	C0009j1	C0009k1	C0009l1	C0009m1	C0009n1	C0009o1	C0009p1	C0009q1	C0009r1	C0009s1	C0009t1	C0009u1	C0009v1	C0009w1	C0009x1	C0009y1	C0009z1	C0010a1	C0010b1	C0010c1	C0010d1	C0010e1	C0010f1	C0010g1	C0010h1	C0010i1	C0010j1	C0010k1	C0010l1	C0010m1	C0010n1	C0010o1	C0010p1	C0010q1	C0010r1	C0010s1	C0010t1	C0010u1	C0010v1	C0010w1	C0010x1	C0010y1	C0010z1	C0011a1	C0011b1	C0011c1	C0011d1	C0011e1	C0011f1	C0011g1	C0011h1	C0011i1	C0011j1	C0011k1	C0011l1	C0011m1	C0011n1	C0011o1	C0011p1	C0011q1	C0011r1	C0011s1	C0011t1	C0011u1	C0011v1	C0011w1	C0011x1	C0011y1	C0011z1	C0012a1	C0012b1	C0012c1	C0012d1	C0012e1	C0012f1	C0012g1	C0012h1	C0012i1	C0012j1	C0012k1	C0012l1	C0012m1	C0012n1	C0012o1	C0012p1	C0012q1	C0012r1	C0012s1	C0012t1	C0012u1	C0012v1	C0012w1	C0012x1	C0012y1	C0012z1	C0013a1	C0013b1	C0013c1	C0013d1	C0013e1	C0013f1	C0013g1	C0013h1	C0013i1	C0013j1	C0013k1	C0013l1	C0013m1	C0013n1	C0013o1	C0013p1	C0013q1	C0013r1	C0013s1	C0013t1	C0013u1	C0013v1	C0013w1	C0013x1	C0013y1	C0013z1	C0014a1	C0014b1	C0014c1	C0014d1	C0014e1	C0014f1	C0014g1	C0014h1	C0014i1	C0014j1	C0014k1	C0014l1	C0014m1	C0014n1	C0014o1	C0014p1	C0014q1	C0014r1	C0014s1	C0014t1	C0014u1	C0014v1	C0014w1	C0014x1	C0014y1	C0014z1	C0015a1	C0015b1	C0015c1	C0015d1	C0015e1	C0015f1	C0015g1	C0015h1	C0015i1	C0015j1	C0015k1	C0015l1	C0015m1	C0015n1	C0015o1	C0015p1	C0015q1	C0015r1	C0015s1	C0015t1	C0015u1	C0015v1	C0015w1	C0015x1	C0015y1	C0015z1	C0016a1	C0016b1	C0016c1	C0016d1	C0016e1	C0016f1	C0016g1	C0016h1	C0016i1	C0016j1	C0016

[illegible]

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SUBROUTINE MAOUT
  CUSER  MAOUT  LANC71  *****
  C      *****
  CUSE   MASTER  LANC71  *****
  C      *****
  C      USED BY ALLOCATE, MULCON, PREMIUMS, STALL, MAD, MAOUT, PRINTNG,
  C      RESVAL, AND DEFALCC
  C
  COMMON/MASTER/INDATE,IDENTING,ISIDE,NKPT,NCORR,NDPEN,NRECQVEN
  1,REF,NENDY,NREG,NTYPE,NMCON,NTOTRASE,NPAYLCAU,NASMIYPE,NHNDTYPE
  2,TANKBAS,NCOMPLEX,NCLASS,NALERT,NTGTS,NCORRTYPE,NCHTRY
  EQUIVALENCE(NMCON,NG)(NALERT,NCHTRY)
  CEND   MASTER  *****
  CUSE   CONTROL  LANC71  *****
  C      *****
  C      USED BY MULCON, PREMIUMS, STALL, MAD, MAOUT, PRINTNG, DEFALCC,
  C      AND PRINTCON
  C
  COMMON/CONTROL/STALADJ,CLOSE,MADDP,PHONHSS,QUALITY,NPASS,PRM,DELT
  1,VAL,COHR,STIME,VERIFY,CMR2,IMATCH
  1,PTDANAG,LA(12),FALMIRV,IAHFAC
  TYPE INTEGER MAOUT
  TYPE REAL MINDANAG
  CEND   CONTROL  *****
  CUSE   DYNAMIC  LANC71  *****
  C      *****
  C      USED BY MULCON, PREMIUMS, STALL, MAD, MAOUT, PRINTNG, RESVAL,
  C      DEFALCC, AND PRINTCON
  C
  COMMON/DYNAMIC/TOTNAME,INDEXNO,DESIG,TASK,CNTNLYCC,FLAG,TGTMULT,
  1,TGTLAT,IGILONG,IGTRAU,VTG,M,M(2),VC(2),NK,FVAL(3),TAU(3),INCLASS,
  2,ICLASS,IMTYPE,TARDEF,INDYPER,DISTDF,DISIDG,NBLN,CTMULT,VT,
  3,TGWT(3),PAYCF,COST,PROCF1,UPROCF1,WRTEST,INECT,NUMFIX,
  4,ITGT,NUM,IG(30),KORR(30),NVAL(30),PEN(30),ICARR(30),LDN
  C
  TYPE INTEGER TOTNAME,DESIG,TASK,CNTNLYCC,FLAG,TARDEF
  C
  EQUIVALENCE (UNAME,IG(NAME))
  C
  DATA (LUN = 45)
  C
  DIMENSION VTG(30)
  EQUIVALENCE(VTG, RVAL)
  C
  CEND   DYNAMIC  *****
  CUSE   LAMBDA  LANC71  *****
  C      *****
  C      USED BY MULCON, PREMIUMS, MAD, MAOUT, PRINTNG, RESVAL, DEFALCC
  C
  COMMON/LAMBDA/
  1 LAMEF(200),SURPWP(200),PREMIUM(200),UPREMIUM(200)
  TYPE REAL LAM(200)
  TYPE REAL LAM, LAMEF
  EQUIVALENCE ( LAM(1), LAMEF(1) )
  CEND   LAMBDA  *****
  CUSE   NAUFINAL  LANC71  *****
  C      *****
  C      USED BY STALL, MAD, MAOUT, AND PRINTNG
  C
  COMMON/NAUFINAL/

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1      VTR(200),DELVI(30),NUMG,IGG(30),ICP,ICPS,CTSP,ILL
CEND  WAUFINAL *****
CUSE  WADOUT  LJUN71 *****
C      USED BY STALL, WAD, WADOUT, AND PMWINGM
C
C
C      COMMON/WADOUT/
1      PVRMA,IPVRMA,PPMA,IPPMX,DVMMN,IDVRMN,DPMN,IDPMN,NUMMAX,M
1      IPMA,NICAN,IGMAA,VIMIN,VTMAX,ALPHA,VTEF,VIZC
CEND  WADOUT *****
CUSE  WADOUT  LJUN71 *****
C      USED BY MULCON, PREMIUMS, WAD, WADOUT, PRNTNC, MESVAL, DEFALOC,
C      STALL, FMUP, SORTPSH, TABLEUP, HDALCRU
C
C      COMMON /WADPN/ JTG, INACTIVE(200), TCA(200),
1      IVALTCA(200), VTG(200,2), MUP(200,2), MISK(0,200,2),
2      SSIG(200,2), MINKILL, MAXKILL, MAXCOST, ILAM,
3      MISDEF, MCH(200), PEX(200), AMUP(200,2), JTGTX, LNEXT,
4      MINKILX, MAXKILX, MAXCOSA, MISDEX, NACTV, LXA(200), TCA(200),
5      MCHRX(200), PEX(200), SIKX(200,2), STRX(200,2), LSTMAX
C
C      TYPE REAL MUP, MINKILL, MAXKILL, MAXCOST
C      TYPE REAL MINKILX, MAXKILX, MAXCOSA
C
C      DIMENSION STARMAY(1007), ISTARAY(1007)
C      EQUIVALENCE (STARAY, ISTARAY, JTGTX)
C
C      DATA ILSTMAX = 1607
C
CEND  WADPN *****
C      DATA (VALMAX=1000.)
C      TYPE LOGICAL REEVAL
C *****
C      INACTIVE KEY
C      -100 ON TARGET UG NOT SET INACTIVE
C      0 NOW ACTIVE
C      100 PERMANENTLY INACTIVE--SHORT OF RANGE
C      200 INACTIVE THIS PASS--NEGATIVE PROFIT AS FIRST WEAPON--OR
C      EFFICIENCY MUCH LESS THAN 1 LATEM
C      300 TENTATIVELY INACTIVE THIS PASS UNLESS CHANGE IN ALPHA REVIVES
C      IT IN REEVALUATION CYCLE OF WADOUT
C      CALL PHATALL(IJ)
300 IF (IMATCH.NE.O) 390,600
C ***** THEN MEANTHREPT VIMIN AND VTMAX
350 IF (WADOP.EQ.1) 400,450
400 SYNTHIN=VIMIN
VIMIN=O.O 3 IFLGNN=O
IF (SV7*IN.NE.O) 410,420
410 IFLGNN=1
420 SYNTHAX=VTMAX
VTMAX=VIMIN
IFLGMX=C
IF (SVTMAX.LI..99999V) 430,600
430 IFLGMX=1 5 VIMAX=O.O
440 GC TO 600
C *****

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140 IF (INACTIVE(JG).LT.10.000)10,35
C   SKIP OVER (1) AND (2)
35 IF (REVAL) 37, 36
C   IF REVAL SET 3 TO ZERO, OTHERWISE TO 2
36 INACTIVE(JG)=2000
   GO TO 10
37 INACTIVE(JG)=0
C   EVALUATE REMAINING ACTIVE (0 OR -1)
40 IF (VIP(JG).LT.VMIN)41,42
41 VIP=VMIN $ GO TO 43
42 VIP=VIP(JG)
43 VUIF = (VIP-VIPEF)
   IF ((VUIF/VTQ).LT. MINDAWAG) 69, 44
44 CONTINUE
   BENEFIT = VUIF*ALPHA*PREMIUM(JG)
   PPC = VUIF * ALPHA - LAMEF(JG)
   PF = BENEFIT-LAMEF(JG)
   VIABTEF=ALPHA
   IF (PP.GT.PPMA)5,6
5   PP=PPMA
   LPPMA=JG
6   IF (PP) 610, 620, 620
610 PVR = BENEFIT / LAMEF(JG)
   GO TO 500
620 PVRCONM = (1.0 + STAL-UJ * VIA / (VIA - PPC)) / (1.0 + STAL-UJ)
   PVM = 1.0 + ((PP/LAMEF(JG)) * PVRCONM)
C   ROUND-OFF COMPUTABILITY CHECK
500 IF (PVR-(PVM-1.0)) 510,510,7
510 CONTINUE
C   PRINT 511, JG, PP, PVR, PVM, PVR
C 511 FORMAT(1X,15I2(2A,16,2A,15,7))
   IF (PP) 520, 540, 530
520 PVR = .999999 $ GO TO 7
530 PVR = 1.000001 $ GO TO 7
7   IF (PVR.GT.PVRMA)8,62
8   PVRMA=PVR
   IF PVRMA=JG
62 IF (PVRMALE.1.000001) 64,68
C   CALCULATE FACTOR FOR ALPHA
64 RFACI=(1.0)*LAMEF(JG)-PREMIUM(JG)/VUIF
65 FACTOR=RFACI
C
68 IF (INACTIVE(JG).LT.0.00970
69 INACTIVE(JG)=0 $ GO TO 10
C   CONSIDER PARKING INACTIVE UNLESS NOW NEW
70 IF (PVR.GT.1.0) 10,72
72 IF (NUM.EH.0)75,73
73 IF (PVR.LT.0.1174910
74 IF (DPMN.GT.0.0)75,10
C   MAKE TENTATIVELY INACTIVE
75 INACTIVE(JG)=30000
C 10 PRINT JG,3,JG,INACTIVE(JG),VIP(JG),PREMIUM(JG)
C 10 BENEFIT,PP,PVM,PVRMA
C   CONTINUE
   CALL PRINTALL (10)

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FTMS.5

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IF(PVRMX.LE.1.0) 110,200
CHECK FOR MINKILL
C 110 IF(VT.GT.VTMAX)120,200
C 120 RAISE EFF TOT VALUE AND REEVALUATE--UNLESS COST ALREADY TOO HIGH
125 IF(COSTALT.(MACCOST*VTC)) 125,190
127 IF(FACTOR.GT. 100.) 130,127
127 IF(ALPHA.GE.FACTOR) 130,130
130 ALPHA=FACTOR
REEVAL = .TRUE.
CALL PNTALL(10)
GO TO 3
RETURN IF MINKILL CANNOT BE ACHIEVED
C 190 CONTINUE
200 CONTINUE
CALL PNTALL (10)
RETURN
END
147000
148000
149000
150000
151000
152000
153000
154000
155000
156000
157000
158000
159000
160000
161000
162000
163000

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DATA

WADOUT

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ED

0

PAGE NO.

6

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

WADOUT

MASTER
CONTROL
DYNAMIC
LAMBDA
WADFINAL
WADOUT
WADWPN

EXTERNAL SYMBOLS

Q3U1004C
TREND.
Q3U0004C
Q3U0004C
PRNTALL
XWINOF
SIM.
QNSINGL.

IDENT

WADOUT

00003
00045
00027
00022
00304
01440
00410
00022
14726

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CU0017 ALPHA	00337	00337	00351	00507	00514
PU0533 REGIN.	00241	00337	00342	00343	00514
PU0550 BENEFIT	00252	00341	00364		00514
CU0001 CLOSE					
CU0004 CNTRYLOC	00144	00147	00152	00153	00160
PU0532 CNVRTI.					
CU0010 CORR					
CU0013 CORR2					
CU0045 COST	00204	00221	00301	00302	
PU0557 COUNT.					
PU0004 CRFAT.					
CU0037 CTMOLT					
CU0047 CTSPILL					
CU0007 DELTVAL					
CU0010 DELVT					
CU0002 DESIG	00047	00052	00176	00470	00525
PU0001 DICT.					
CU0034 DISTOF					
CU0035 DISTUG					
CU0000 DNARNAY					
PU0560 DP	00255	00262	00263	00460	00460
CU0006 DPMN	00173	00255			
CU0130 DPREMIUM	00242				
CU0047 DPRCFIT					
CU0004 DVARMN	00527	00533			
PU0535 ENDING.					
PU0000 EXIT.	00275	00441	00510	00513	
CU0020 FACIRV					
PU0561 FACTOR					
CU0005 FLAG					
PU0004 FORMAT.					
CU0021 FVAL					
PU0163 GG00000.	00137				
CU0014 H					
CU0030 ICLASSN					
CU0001 IDENTAC					
CU0007 IDPMN	00174	00265			
CU0005 IDVARM					
PU0562 IFLGMN	00070	00120	00131	00150	
PU0563 IFLGMX	00076	00106	00117	00152	
CU0055 IG	00205	00223	00223	00223	
CU0037 IGO					
CU1625 IGI					
CU0027 IGLASS					
CU0000 IMDATE					
CU0005 IMEST					
CU0031 IMTYPE					
CU0154 ILAW					
CU0014 IMATCH	00054	00135	00303	00303	00315
CU0001 INACTIVE	00210	00226	00306	00306	00316
CU0001 INDEXNO	00317	00442	00446	00464	
CU0033 INDYPEN					
PU0523 INITIAL.	00050				

C00405 ICP						
C00406 ICP5						
C00403 IPBMX						
C00401 IPVRM						
C00402 ISIDE						
C00403 ISIDAY						
C00405 IIGI						
C00412 IVERIFY						
P00466 .1						
P00465 .10						
P00475 .110						
P00462 .12						
P00500 .123						
P00504 .125						
P00507 .127						
P00513 .130						
P00266 .14						
P00306 .140						
P00260 .15						
P00252 .16						
P00270 .17						
P00407 .18						
P00524 .190						
P00170 .2						
P00524 .200						
P00172 .3						
P00232 .31						
P00235 .32						
P00227 .33						
P00311 .35						
P00314 .36						
P00316 .37						
P00354 .380						
P00356 .390						
P00360 .400						
P00320 .40						
P00367 .410						
P00323 .41						
P00471 .420						
P00326 .42						
P00102 .430						
P00330 .43						
P00105 .440						
P00336 .44						
P00106 .450						
P00111 .460						
P00114 .470						
P00355 .5						
P00405 .500						
P00411 .510						
P00414 .520						
P00416 .530						
P00432 .600						
P00461 .6						
J0273	J0360	J0451	J0456	J0457	J0462	J0462
J0274	J0426					
J0257						
J0505	J0506					
J0511	J0257					
J0256						
J0251						
J0250						
J0503	J0504	J0511	J0512			
J0165	J0165					
J0474	J0477					
J0167	J0523					
J0231	J0231					
J0234						
J0307	J0310					
J0313						
J0304	J0305					
J0406						
J0322	J0322					
J0325						
J0334	J0335					
J0057						
J0107						
J0113						
J0367						
J0407	J0407					
J0412	J0412					
J0413						
J0055	J0101	J0105	J0113	J0122	J0125	
J0354						

S.ITS	WADOUT	11/29/71	ED	0	PAGE NO.	9
P00137 .601	U0136					
P00163 .602	U0362					
P00364 .610	U0362					
P00370 .620	U0422					
P00427 .62	U0431					
P00432 .64	U0431					
P00440 .65	U0431					
P00442 .68	U0431					
P00445 .69	U0431					
P00120 .700	U0410					
P00420 .7	U0443					
P00447 .70	U0443					
P00123 .710	U0451					
P00126 .720	U0451					
P00432 .72	U0451					
P00455 .73	U0451					
P00460 .74	U0451					
P00463 .75	U0451					
P00423 .8	U0371					
P00537 .ERASEM.	U0371					
P00004 .730	U0142					
P00504 JG	U0206					
C00000 JTGT	U0224					
C11610 JTGT	U0224					
C00113 KCR	U0224					
C00000 LAM	U0224					
C00000 LAMEF	U0224					
C00016 LAM	U0253					
C00303 LDN	U0433					
C11617 LNET	U0003					
C14725 LSTMAX	U0003					
C00013 M	U0500					
C10153 MAXCOST	U0500					
C11622 MAXCOST	U0500					
C10152 MAXKILL	U0500					
C11621 MAXKILL	U0500					
C00015 MINDAMAG	U0500					
C10151 MINKILL	U0500					
C11620 MINKILL	U0500					
C14155 MISDEF	U0500					
C11623 MISDEF	U0500					
C10150 MHR	U0500					
C12445 MHR	U0500					
C01751 MUP	U0500					
C11624 NACTV	U0500					
C00023 NALEMT	U0500					
C00016 NASMTYPE	U0500					
C00036 NBLN	U0500					
C00010 NBNDRY	U0500					
C00022 NCLASS	U0500					
C00020 NCNTHY	U0500					
C00021 NCOMPLEX	U0500					
C00004 NCRH	U0500					

1-4TS

WAGU1

CU0025 NCRTYPE
CU0005 NDPEN
PU0565 NFIXED
CU0013 NG
CU0013 NGROUP
CU0020 NK
CU0023 NOTHER
CU0005 NPASS
CU0015 NPAYLOAD
CU0006 NRECOVER
CU0007 NREF
CU0011 NREG
CU0003 NRTPT
CU0020 NTANKBAS
CU0024 NTGTS
CU0013 NTCA
CU0014 NTGMAX
CU0014 NTGBASE
CU0012 ATYPE
PU0566 NU
CU0054 NUM
CU0052 NUMFIX
CU0010 NUMMAX
CU00346 NUMC
CU0011 NW
CU0017 AWHOTYPE
PU0567 NAX
CU0044 PAYOFF
CU0020 PEN
CU0466 PEX
CU0755 PEXX
PU0570 PP
CU0002 PPMK
PU0571 PPC
CU0020 PREMIUM
CU0006 PRM
XU0005 PRNTALL
CU0046 PRSFIT
CU0003 PRSGRESS
PU0572 PVR
PU0573 PVRCORR
CU0000 PVRMX
XU0001 Q3000C40
XU0004 Q3010C40
XU0004 Q3010C40
XU0010 QNSINGL
CU0004 QUALITY
PU0530 REEVAL
PU0574 WFACI
CU0571 RISK
CU0151 KVAL
CU0733 SSIG
CU0000 STALADJ
CU0016 STARHAY

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CU0200
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CU0215
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CU0201
CU0204
CU0221
CU0264
CU0267

CU0347
CU0270
CU0345
CU0340

CU0352
CU0271
CU0371
CU0340

CU0361
CU0353

CU0401
CU0356

CU0411
CU0356

CU0051
CU0520
CU0524

CU0366
CU0401
CU0272
CU0311
CU0000
CU0531

CU0404
CU0403
CU0421
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CU0046

CU0415
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CU0455
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STH.	SYMBOLS
X00007	SYM.
C00011	TIME
C14105	STRZA
C13265	STKX
C00010	SURPWP
P00575	SVTMAX
P00578	SVTAIA
C00032	TARDEF
C00021	TARFAC
CJJ0C3	TASK
C00024	TAU
C00007	TGTLAT
C00010	TGTLONG
CJ0000	TGTMULT
CJ0000	TGTNAME
C00011	TGTRAD
C00041	TGTW1
X00002	TEND.
C00311	TGA
C00045	TGARR
C12135	TQAX
C00012	TPMX
P00213	TS00001.
P00270	TS00002.
P00467	TS00003.
C00021	TVALTCA
P00003	VALMAX
P00577	VDIF
C00010	VC
C00040	VT
C00000	VTA
C00151	VTO
P00601	VTEF
C00020	VTEF
C00016	VTHAX
C00015	VTHIN
C00012	VTC
C01131	VTDCA
C00000	VTP
P00602	VPEF
C00021	VTCZ
C00002	WADDQ
P00045	WADOUT
C00050	WRITEI
00205	WS00001.
P00223	WS00002.
P00303	WS00003.
X00006	XMINOF
C10776	XMUP
J0407	SYMBOLS

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```

C      C      INDICATOR FOR TARGET WHICH IS A CITY
C      CUSE    CITY    15APRT1 *****
C      C      COMMON/CITY/ICITY
C      CEND    CITY *****
C      DATA (ICITY=0)
C      C      SCRATCH FILE USED BY PROCSIMP
C      CUSE    SCRATCH 15APRT1 *****
C      C      COMMON/SCRATCH/ISCRATCH
C      CEND    SCRATCH *****
C      DATA (ISCRATCH = -2)
C      DATA (IBLANK = 8H )
C      PRINT PROGRAM VERSION
C      CALL VALOCOUT
C      CALL STORAGE
C      CALL TIME(-1)
C      INITIALIZE FILEHANDLER
C      MYIDENT=7HALOCOUT
C      CALL INITAPE
C      POSITION BASEFILE FOR READ
C      BASFILE(1)=8
C      ITR=BASEFILE(1)
C      MYIDENT=7MBASFILE
C      CALL SETREAD
C      HAS BASFILE FORMAT CHANGED
C      ITSTBSFL=8HNOV 70
C      IF (INFORM .NE. ITSTBSFL)12,14
C      12 CONTINUE
C      13 PRINT 13, ITSTBSFL, INFORM
C      13 FORMAT (///1X,15(1H),5X,33H WRONG BASFILE FORMAT. REQUESTED ,AB,
C      15H GOT ,AB)
C      STOP
C      14 CONTINUE
C      INSEL=BASEFILE(1)
C      IF (INSEL)15,16
C      READ COMMON BLOCKS /MASTER/, /FILES/, /MPHREG/ FROM BASFILE
C      CALL RDARRAY(1,INDATE,23)
C      CALL SKIP(545)
C      CALL RDARRAY(1,GTFILE,16)
C      CALL SKIP(1444)
C      CALL RDARRAY(CCREL,20)
C      CALL SKIP(80)
C      READ /NTYPE/ FROM BASFILE
C      CALL RDARRAY(CEP,80)
C      CALL SKIP(480)
C      CALL RDARRAY(REL,80)
C      CALL SKIP(1120)
C      READ /NGROUP/ FROM BASFILE

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CALL RDARRAY(IREG,400)
CALL SKIP(200)
CALL RDARRAY(SBL,200)
CALL SKIP(200)
CALL RDARRAY(YIELD,200)
READ END SENTINEL
CALL SKIP(6958)
CALL ROWORD
IF (ITWORD .NE. 8HRRRRRRR)1000,1200
1000 CONTINUE
PRINT 1100,ITWORD
1100 FORMAT (///74H ERROR IN SKIPPING TO POSTDATA PORTION OF BASFILE.
      1END SENTINEL READ WAS ,AB)
CALL ABORT
1200 CONTINUE
C      POSITION TMPALOC FOR WRITE
      MYIDENT=THTMPALOC
      MYLNGETH=TMPALOC(2)
      ITP=TMPALOC(1)
C      CALL SETWRITE
      POSITION ALOCTAR FILE FOR READ
      MYIDENT=HALOCTAR
      ITP=ALOCTAR(1)
C      CALL SETREAD
      POSITION SCRATCH FILE FOR WRITE
      MYIDENT=THSCRATCH
      MYLNGETH=1000000
      ITP=ISCRATCH
C      CALL SETWRITE
      READ PRINT OPTION CARD FOR BASFILE AND ALOCTAR FILES
      IPINDAT PRINT FREQUENCY FOR ALOCTAR DATA BLOCKS
C      ISNAPDYN NUMBER OF ARRAYS AT BEG OF ALOCTAR FILE TO BE DUMPED
C      IWDSPDYN NUMBER OF WORDS PRINTED AT BEG AND END OF FIRST
C      IWDSPDYN ISNAPDYN ARRAYS ON ALOCTAR FILE (NO PRINT IF 0)
C      IWDSPDYN NUMBER OF WORDS PRINTED AT BEG AND END OF COMPLEX TARGET
C      ARRAYS FROM BASFILE (NO PRINT IF 0)
      READ 111,IPINDAT,ISNAPDYN,IWDSPDYN,IWDSPDYN
111 FORMAT(410)
      IF(IPINDAT(185FL)=IWDSPDYN)
C      READ DBZ SELECTION LOGIC CARD
C      CALL DBZSEL
C      IREC IS ALOCTAR INPUT RECORD COUNTER
      IREC=0
C      11 IREC=IREC+1
      UPDATE /IFTPRINT/ TO REFLECT USER PRINT OPTIONS FOR ALOCTAR
      ITP=ALOCTAR(1)
      IALCTR=ALOCTAR(1)
      IF(IREC-ISNAPDYN+1)16,18,20
16 CONTINUE
      IFTPRINT(IALCTR)=IWDSPDYN
      GO TO 20
18 CONTINUE
      IFTPRINT(IALCTR)=0
20 CONTINUE
      READ FIRST LDYNAM WORDS OF /DYNAMIC/ FROM ALOCTAR
      CALL RDARRAY(TGTNAME,LDYNAM)

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C ARE ANY WEAPONS ASSIGNED TO THE TARGET
  IF (NUM)202,202,201
201 CONTINUE
C READ WEAPON DATA FOR NUM WEAPONS INTO /DYNAMIC/ FROM ALOCTAR
  CALL RDARRAY(IG,NUM)
  CALL RDARRAY(KORR,NUM)
  CALL RDARRAY(VTO,NUM)
  CALL RDARRAY(PEN,NUM)
  CALL RDARRAY(TOARR,NUM)
202 CONTINUE
C HAS END OF INFORMATION BEEN REACHED ON ALOCTAR
  IF (IMEOT-NE,3HEOT) 25,200
25 IF (NUM)27,26
C ARE ANY WEAPONS ASSIGNED TO THE TARGET
26 CONTINUE
  ITP=BASFILE(1)
C WAS ORIGINAL TARGET A MULTIPLE TARGET
  IF (ITGTMULT.GE.2.0)290,270
  MULTIPLE TARGET
C 260 MULT=CTMULT
C READ 8 WORD RECORD FROM / TARGET/ ON BASFILE FOR EACH
  TARGET ELEMENT INTO /MULTTGT/
  DO 262 I=1,MULT
    CALL RDARRAY(MULTTGT,LMULTTGT)
262 CONTINUE
  IS TARGET COMPLEX
270 IF (IMCLASS.EQ.8MCOMPLEXD.OR.IMCLASS.EQ.7MCOMPLEX) 272,280
272 ICOMP=INTYPE
C FOR A COMPLEX TARGET READ 29 WORD RECORD FROM /TARGET/ ON BASFILE
  INTO /TARGET/
  DO 274 I=1,ICOMP
    CALL RDARRAY(TARGET,LTARGET)
274 CONTINUE
280 GO TO 11
C FILL /STRK/ WITH TARGET DATA
27 NAME=TOBNAME $ INDEX=INDEXNO $ DSIG=DESIG $ TSM=TASK
  CNTRL=CNTRYLOC $ FLG=FLAG $ JMCLASS=JMCLASS $ JCLASS=JCLASS
  JTYPE=INTYPE $ TLAT=TLAT $ TLONG=TLONG $ IATLOC=IATLOC
  ITPREM=0 $ IDPM=INDYPM $ DIST=DISTDF $ DISTO=DISTO
  MULT=0 $ ICOMP=0 $ NUM=NUM $ MAPX=MAPX
  RESET VALUES OF ITPREM, MULT, AND ICOMP DEPENDING ON IMCLASS VALUE
  IF (IMCLASS=4)0,1(ICLASS=5)60,50,60
30 IF (ICLASS=4)0,1(ICLASS=5)60,50,60
40 ICOMP=INTYPE
50 ITPREM=1
60 IF (IMCLASS.EQ.7MCOMPLEX) 70,80
70 ICOMP=INTYPE
80 IF (ITGTMULT.GE.2.0)90,100
90 MULT=CTMULT
C FILL /STRK/ WITH WEAPON DATA
100 NUM=NUM
  DO 110 I=1,NN
    IGG(I)=IG(I) $ KOR(I)=KORR(I) $ DLAT(I)=0. $ DLONG(I)=0.
    TOA(I)=TOARR(I) $ RELVAL(I)=VTO(I)/PEN(I) $ PENN(I)=PEN(I)
110 CONTINUE
C CALL PROCSIMP, PROCMULT, OR PROCCOMP FOR SIMPLE, MULTIPLE, OR

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C      COMPLEX TARGETS. PROCHULT READS ONE RECORD FROM BASFILE FOR EACH
C      TARGET ELEMENT. PROCCOMP READS A RECORD CONTAINING ADDITIONAL
C      COMPLEX TARGET DATA FROM BASFILE AND CONTROLS SELECTION OF
C      OPTIMAL AIM POINTS. BOTH PROCHULT AND PROCCOMP USE PROCSIMP TO
C      WRITE STRIKE RECORDS ON AN INTERMEDIATE FILE.
      IF (ICOMP.EQ.0) 120,150
120 IF (NULL.EQ.0) 125,140
125 IF (TOTRAD) 145,130
130 CALL PROCSIMP
      GO TO 10
140 CALL PROCHULT
      GO TO 10
145 IF (NUM-1) 111,130,146
C      TARGET IS A CITY
146 CALL FILTGT
      ICOMP=1 $ ICITY=1
150 CALL PROCCOMP
      GO TO 10
C      CHECK PRINT FREQUENCY SPECIFICATION AND DETERMINE WHETHER TO
C      PRINT /STRK/.
      IF (IPINDAT.EQ.0) 80 TO 11
      IF (IREC-IREC/IPINDAT)*IPINDAT) 11,112
112 CALL TIMEH(-2)
      PRINT 113,ITGT
113 FORMAT(1H0,26H-----TARGET NUMBER IS 15,10H-----)
      PRINT 115,NAME,INDEX,JMCLASS,JMTYPE,TLAT,TLONG,IATLOC,ITPREM,
      1IDPN,DISF,DISG,MULL,-----P,NDISG,CNTRLC,PLG,TSK
115 FORMAT(1H0,5X,4NAME,9I,23INDEX JMCLASS JMTYPE,4X,
      1 4TLAT,4X,5HTLONG,2X,6IATLOC,2X,6MITPREM,2X,4MIOPM,3X,9HDISF,
      2X,5HDISG,2X,4HMULL,2X,5HICOMP,3X,1HN,3X,5HOSIS,1X,2HCL,1X,1MF,
      34H TSK/4X,A8,17,3X,A8,1X,A8,F6.1,F9.1,16,18,17,
      43X,F6.1,2X,F6.1,2X,13,4X,12,3X,13,3X,A5,1X,A2,1X,11,1X,A2)
      PRINT 116
116 FORMAT(1H0,9X,3HIGG,10X,3HKOR,11X,4HOLAT,12X,5HDLONG,12X,3HTOA,
      1 10X,6HRELVAL,6X,4HPENN)
      DO 117 1=1,N
117 PRINT 118,(STRK(I,J),J=1,7)
118 FORMAT(10X,13,10X,12,10X,2(F7.4,9X),F6.1,10X,F6.1,4X,F6.4)
      PRINT 1180,TSTRAD,VTO,M,H,VO,NK,FVAL,TAU
1180 FORMAT(8H TSTRAD=F6.2,5H VTO=F6.2,3H M=11,3H H=2F7.3,4H VO=2F7.3,
      1 4H NK=11,6H FVAL=3F5.3,5H TAU=3F6.3)
      CALL TIMEH(-3)
      GO TO 11
C      END OF FILE ON ALOCTAR
200 IEOY = 1 $ CALL PROCSIMP
C      RELEASE AND REWIND BASFILE AND ALOCTAR FILES
      ITP=ALOCTAR(1)
      CALL TERMTAPE
      ITP=BASFILE(1)
      CALL TERMTAPE
      FINISH CURRENT WRITE. WRITE END-OF-FILE. AND REWIND SCRATCH FILE.
      ITP=SCRATCH
      CALL TERMTAPE
      CALL TIMEH(2)
C      USE ALOCTUT2 TO REARRANGE SCRATCH FILE IN WEAPON GROUP ORDER AND
C      TO WRITE TMPALOC OUTPUT FILE.

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CALL ALOCOUT2
MYIDENT = 7X1315FILE
CALL DEACTIV
PRINT 7777

WRITE (44,7777)

7777 FORMAT (41H ***** PROCESSOR ALOCOUT COMPLETED *****)
STOP
END

247000
248000
249000
250000
251000
252000
253000
254000

IDENT ALOCOUT

01400
00346
00014
00012
00001
00001
00010
00001
00001
00001
00027
00020
00024
01700
00035
00010
00303
00350
00001
00001

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

ALOCOUT
FILABEL
IFTPRINT
ITP
MYIDENT
MYLABEL
NOPRINT
THORD
MASTER
FILES
WPNREG
WGROUP
TARGET
MULTTGT
DYNAMIC
STRK
CITY
SCRATCH

EXTERNAL SYMBOLS

Q00ENTRY
THEN.
Q00STOPS
Q1010100
Q00DICT.
VALOCOUT
STORAGE
TIME
INITAPE
SETREAD
R0ARRAY
SKIP
RDWORD
ABORT
SETWRITE
D00SEL
PROCSTMP
PROCMULT
FILTGT
PROCCOMP
TERMTAPE
ALOCOUT2
DEACTIV
TSH.
STH.
SLO.
QNSINGL.

5.ATS	ALOCOUT	12/29/71	ED	PAGE NO.	1
C00014	H	01213			
P01365	I	00663	00700	00706	
P01366	IALCTR	00606	00611	01014	01020
C00013	IATLOC	00742	01125	01152	01174
P00006	IBLANK				01321
P01367	IBSPL	00421	00566		
C00000	ICITY	00006	01002		
C00030	ICLASS	00731	00731	00765	00766
C00343	ICOMP	00676	00710	00753	00774
C00001	IDENTNO	01060	01133	00774	01003
C00015	IOPN	00745	00745		
C00346	IEOT	C00346	01241		
P00072	IF00001.				
C00000	IFTRANT	00423	00566	00567	00607
C00055	I8	00622	01021	00611	00612
C00020	I88	01022	01022		
C00027	INCLASS	00667	00667	00727	00760
C00000	INDATE	00426	00672	00727	00760
C00051	IMEOT	00006	00637		
C00031	IMTYPE	00675	00733	00773	01002
P01313	IN00004.	01164	01314	00773	01002
C00007	INCOHM				
C00002	INDATE				
C00001	INDEX	00716	01120		
C00001	INDEXNO	00715	00715		
C00033	INDYPEN	00744	00744		
C00003	INFORM	00400	00411	00411	
C00000	INIDENT				
X00011	INITAPE				
C00006	INLNETH	00366			
C00001	INRUNNO				
C00004	INSECR				
C00005	INTIME				
P01370	IPIN04T	00556	01072	01073	
P01371	IREF	00573	00575	01070	01074
C00000	IRES	00464			
C00000	ISCRATCH	00006	00545	01255	
C00002	ISIDE				
P01372	ISNAPDYN	00560	00602		
C00345	ISTAPE	00006			
C00053	ITGT	01106	01106		
C00000	ITP	00371	00372	00530	00546
C00014	ITPREM	00645	01246	00536	00577
P01373	ITS78SFL	00743	00775	01252	00577
C00000	ITWORD	00400	00407	01256	00546
C00310	ITYPE	00506	00506	00515	00546
P01374	IWDSM0Y	00561	00605		
P01375	IWDSMPPD	00562	00565		
P00511	.1000				
P01012	.100	01006			
P01065	.10	01047	01052		
P01067	.100001				

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P01070	.100002	01066							
P00574	.11	00712	01055	01067	01074	01249			
P01036	.110								
P01075	.112								
P01155	.117								
P00403	.12								
P00523	.1200	00510							
P01041	.120								
P01043	.125								
P01045	.130	01054							
P00420	.14	00402							
P01050	.140	01042							
P01053	.145	01044							
P01056	.146								
P01063	.150	01040							
P00405	.16	00404							
P00610	.18	00603							
P00613	.20	00604	00607						
P01241	.200	00641							
P00620	.201								
P00637	.202	00617	00617						
P00642	.25								
P00644	.26								
P00651	.260	00630							
P00663	.262								
P00667	.270	00650							
P00713	.27	00643							
P00675	.272	00671							
P00706	.274								
P00712	.280	00674							
P00763	.30	00762							
P00773	.40	00772							
P00775	.50	00771	00772						
P00777	.60								
P01002	.70	01001							
P01004	.80	01006							
P01007	.90	00360							
P01343	.ERASER.	01237							
P00007	..100000	00364							
P00010	..100001	00373							
P00011	..100002	00377							
P00035	..100003	00507							
P00035	..100004	00523							
P00056	..100005	00533							
P00037	..100006	00541							
P00063	..100007	00640							
P00064	..100008	00670							
P00065	..100009	00673							
P00066	..100010	00761							
P00067	..100011	01000							
P00034	..100012	01266							
P00036	..1100	00514							
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P00105	..115					
P00231	..116					
P00262	..118					
P00302	..1180					
P00012	..13					
P00335	..7777					
P01376	J					
C00007	JCLASS					
C00006	JHCLASS					
C00010	JHYPE					
C00056	KOR					
C00113	KORR					
P00005	LDYNAM					
P00004	LHULTTST					
P00003	LYARGET					
C00013	M					
C00004	MSLTIME					
C00342	MULL					
C00000	MULTTGT					
C00003	MYCOMM					
C00000	MYFORNT					
C00000	MYIDENT					
C00002	MYLN8TH					
C00001	MYSECR					
C00344	N					
C00023	NALERT					
C00000	NAME					
C00016	NASMTYPE					
C00036	NBLN					
C00010	NENDRY					
C00022	NCLASS					
C00026	NCNTRY					
C00021	NCOMPLEX					
C00004	NCORR					
C00025	NCORTYPE					
C00005	NDBEN					
C00013	NDRGROUP					
C00020	NK					
P01377	NN					
C00347	NNFIX					
C00005	NPRINT					
C00015	NPAYLOAD					
C00006	NRECOVER					
C00007	NREF					
C00011	NREG					
C00003	NRTPT					
C00020	NTANKBAS					
C00024	NTOTS					
C00014	NTOTBASE					
C00012	NTYPE					
C00054	NUM					
		01105				
		01115				
		01146				
		01160				
		01203				
		00406				
		01275				
		01167				
		01334				
		00732				
		00730				
		00734				
		01024				
		01023				
		00653				
		00665				
		00752				
		01011				
		01041				
		01041				
		01132				
		00374				
		00374				
		00524				
		00524				
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		00755				
		01134				
		01176				
		00714				
		01116				
		01220				
		01013				
		00757				
		00003				
		00016				
		01012				
		00616				
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		00642				
		00642				
		00754				
		00754				

5.4TS ALOCOUT

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C00052	NUMFIX	00756	00756						
C00017	NUMTYPE								
P01314	P00000-U	01316							
P01326	P00001-U	01331							
C00044	PAYOFF								
C00207	PEN	00633	01032	01033	01034				
C00304	PENN	01034	01035						
C00017	PLANTAPE								
X00024	PRGCCOMP	01063							
X00022	PRCCMULT	01050							
X00021	PRCCSIMP	01045							
C00046	PROFIT								
X00004	Q1010100	00632	01010						
X00005	Q800ICT.	00000	00347						
X00001	Q800ENTRY	00351							
X00003	Q800STOPS	00416	01307						
X00033	Q800SINGL.	01311							
X00013	RDARRAY	00424	00432	00440	00446	00454	00470	00474	00476
		00626	00631	00634	00660	00703			
X00015	RDWORD	00504							
C01540	REL	00454							
C00246	RELVAL	01052							
C00620	SBL	00472							
X00012	SETREAD	00375	00537						
X00017	SETWRITE	00531	00547						
X00014	SNIP	00427	00435	00443	00451	00457	00473	00501	
X00032	SLO.	01211	01215	01222	01226				
X00031	STK.	00404	00512	01103	01113	01144	01156	01201	01273
X00007	STORAGE	00355							01301
C00020	STRK7	01165							
C00014	STRKFIL								
C00032	TARDEF	00741							
C00000	TARGET	00705							
C00003	TASK	00721							
C00024	TAU	01230							
X00025	TERMTAPE	01247	01253	01257					
C00000	TGFFILE	00434							
C00007	TGTLAT	00735							
C00010	TGTLONG	00737							
C00006	TGTMULT	00664							
C00000	TGTNAME	00615							
C00011	TGTRAD	01043							
C00041	TGTWT								
X00062	THEMD.	00413	00517	00563	01110	01141	01147	01172	01231
X00010	TIMEHE	00361	01077	01235	01261				01276
C00011	TLAT	00736							
C00012	TLONG	00740	00736	01123					
C00010	TMPALOC	00525	00527	00527	00527				
C00010	TQA	01030							
C00245	TOARR	00636	01027						
P00665	TSD0001.	00457							
P00710	TSD0002.	00702							
P01037	TSD0003.	01017							
P01176	TSD0004.	01154							

5.4TS	ALOCOUT			12/20/71	ED	0	PAGE NO.	14
X00030	TSM.							
C00003	TSK	00552	00722	01140				
P01320	UP00000.	00722	00664	00701	00707	01015	01152	01321
		00656	01325			01175	01314	01322
P01333	UP00001.	01325	01170	01327	01334	01335	01336	01323
X00006	VALOCOUT	01163						
C00016	VO	00353						
C00040	VT	01217						
C00151	VTD		01031	01031				
C00012	VTD	00630						
C00050	WRTST	01206						
P00640	WS00001.	00666	00666					
P00703	WS00002.	00711	00711					
P01021	WS00003.	01036						
P01155	WS00004.	01177	01177					
P01164	WS00005.	01171						
C01130	YIELD	00500						
	00417 SYMBOL-S							


```

10 IF(NEXT.EQ.INRECKX) 40,11
11 CALL RDARRAY(STRK,LSTRK)
C   CHECK FOR EOT
C   IF(JMCLAS.EQ.3HEOT) 40,12
C   IF NEW INDEX, INCREMENT IBETA, STORE TOT DATA.
12 IF(INDEX.EG.INHOLD) 30,15
15 IBETA = IBETA + 1
   IF(IBETA.GT.MYAR) 60 TO 200
200 DECODE (5,200,DSIG)DSIG1
   DECODE (2,300,TSK)TSK1
300 FORMAT(R2)
   DECODE (2,300,CNTRLC)CNTRLC1
   CALL IPUT(KEYT11,IBETA,INDEX,ITD1)
   CALL IPUT(KEYT12,IBETA,IATLOC,ITD1)
   CALL IPUT(KEYT13,IBETA,ITPREM,ITD1)
   CALL IPUT(KEYT14,IBETA,ISK1,ITD1)
   KTLAT=(TLAT*90.)+45000.**5 $ KTLONG=TLONG+45000.**5
   CALL IPUT(KEYT21,IBETA,KTLAT,ITD2)
   CALL IPUT(KEYT22,IBETA,KTLONG,ITD2)
   CALL IPUT(KEYT31,IBETA,IDPEN,ITD3)
   KDOUT=DOUT*10 $ KOREC=DREC*10
   CALL IPUT(KEYT32,IBETA,KDOUT,ITD3)
   CALL IPUT(KEYT33,IBETA,KOREC,ITD3)
   CALL IPUT(KEYT41,IBETA,DSIG1,ITD4)
   CALL IPUT(KEYT42,IBETA,CNTRLC1,ITD4)
   CALL IPUT(KEYT43,IBETA,FL6,ITD4)
   INHOLD=INDEX
30 NEXT=NEXT + 1
   KDLAT=DLAT*2.1+45000.**5 $ KDLONG=(DLONG*2.1)+45000.**5
   KTOA=(TOA*100.)+10
   KRVAL=RELVAL*1000
   CALL IPUT(KEYW11,NEXT,KDLAT,IMD1)
   CALL IPUT(KEYW12,NEXT,KDLONG,IMD1)
   CALL IPUT(KEYW13,NEXT,KTOA,IMD1)
   CALL IPUT(KEYW21,NEXT,KRVAL,IMD2)
   CALL IPUT(KEYW22,NEXT,IIFIX,IMD2)
   CALL IPUT(KEYW21,NEXT,IS,IMD2)
   CALL IPUT(KEYW22,NEXT,KORR,IMD2)
   CALL IPUT(KEYW23,NEXT,IBETA,IMD2)
   GO TO 10
40 CALL ORDER(IMD2,ISEQ,NEXT)
   CALL REORDER(ISEQ,NEXT,2,IMD1,IMD2,0,0,0,0,0)
C INCOR=INDEX OF SORTED ARRAYS IN CORE, NREAD=INDEX OF ARRAYS ON FILES
C
C   INCOR=1 $ NREAD=0
C ITAPE=FILE LAST (OR CURRENTLY BEING) WRITTEN ON, ITAPE=LUN OF ITAPE
C
C   IF(ITAPE=1) 42,44,46
C FIRST SCRATCH FILE WRITTEN
C
C 42 CONTINUE
   ITAPE=1

```


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```

ITAPER=ITAPE1
MYLNTH=40000
MYIDENT=THSCRATCH
ITP = ITAPER
CALL SETWRITE
ITAPER=ITAPE2
ITP=ITAPER
MYIDENT=THSCRATCH
MYLNTH = 40000
CALL SETWRITE
ITP=ITAPER
K=3 - ITAPE
GO TO 56

C
C ITAPER=FILE BEING READ FROM
C
44 ITAPE=2 S ITAPER=ITAPE2 S ITAPER=ITAPE1
GO TO 48
46 ITAPE=1 S ITAPER=ITAPE1 S ITAPER=ITAPE2
48 CONTINUE
ITP=ITAPER
MYIDENT=THSCRATCH
CALL SETREAD
MYLNTH=40000
ITP=ITAPER
MYIDENT=THSCRATCH
CALL SETWRITE
K=3 - ITAPE
NWDAP(ITAPE)=NEXT+NWDAP(K)
50 ITP=ITAPER
DO 52 I=1,2
CALL RDNWORD
52 INWD(I)=ITWORD S NREAD=NREAD+1
ITP=ITAPER
51 IF(INWD(2).LT.IWD2(INCR)) 53,62
53 DO 55 I=1,2
ITWORD=INWD(I)
55 CALL WRWORD
56 IF(NREAD.EQ.NWDAP(K)) 57,50
56 NWDAP(ITAPE)=NEXT+NWDAP(K)
57 DO 60 I=INCR,NEXT
DO 59 J=1,2
ITWORD = IWD1(I)
IF(J.EQ.2)ITWORD=IWD2(I)
59 CALL WRWORD
60 CONTINUE
GO TO 75
62 DO 64 I=1,2
ITWORD =IWD1(INCR)
IF(I.EQ.2)ITWORD=IWD2(INCR)
64 CALL WRWORD
INCR=INCR+1
IF(INCR.GT.NEXT) 66,51
66 NLEFT=NWDAP(K)-NREAD
NWD2=2*NLEFT
DO 67 I=1,2

```

120000
129000
130000
131000
132000
133000
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136000
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180000
181000

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```

ITWORD=INWORD(1)
67 CALL WRWORD
DO 70 I=1,NVDS
  ITP=ITAPER
  CALL RWWORD
  ITP=ITAPEW
70 CALL WRWORD
75 ITP=ITAPER S CALL TERMTAPE S ITP=ITAPEW S CALL TERMTAPE
  IF (JMCCLASS.EQ.3HEOT) 100,Y
100 ITP=ISCRATCH S CALL TERMTAPE S INOWPNS=INWDTAP(ITAPE)
102 CALL STRKOUT
  PRINT 150, INOWPNS,IBETA
150 FORMAT(3H ALOCOUT PROCESSING COMPLETED ON .15.9H WEAPONS,.15.9H T
  TARGETS)
  CALL TIMEW(3)
  CALL TIMEW(0)
  RETURN
200 PRINT 201,MTARG
201 FORMAT(1H1/3HTHE MAXIMUM NUMBER OF TARGET ELEMENTS AND COMPONENTS
  1 15.19H WAS BEEN EXCEEDED )
  CALL ABORT
  END

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182000
183000
184000
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203000

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IDENT ALOCOUT2

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

ALOCOUT2	IDENT	ALOCOUT2
STRTOT	01213	
ITP	00073	
MYIDENT	00027	
TWORD	00001	
MYLABEL	00001	
PI LABEL	00010	
IFTPRT	00014	
SCRATCH	00012	
1	00001	
11	11444	
12	11444	
13	07640	
WGROUP	07640	
ALOC	01604	
KEYS	00002	
	00024	

EXTERNAL SYMBOLS

THENO.
Q1G10100
Q000100
Q000100
KEYNAME
SETREAD
ROARRAY
IPUT
ORDER
REORDER
SETWRITE
ROWORD
WYWORD
TEMTAPE
STAKOUT
TIMEWE
ABORT
DEC.
STM.
QNSINGL.

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X00020	ABORT	01121	01075	01077	01116	00322	00323	00136	00143	00150	00155
P00073	ALOCOUT2	00073	00273	00310	00311			00225	00232	00237	00250
P01126	BEGIN.	01127						00405	00411	00415	00421
C00034	CNTRLC	00377						00403	00417	00536	00546
P01163	CNTRLC1	00401						00430	00441	00444	00476
P01125	CNVRT1.	00360	00400	01075	01116			00131	00143	00150	00155
P01164	COUNT.	00263	00273	00274	00311	00322	00323	00220	00232	00237	00250
P00015	CREMT.	00364	01102	01121				00403	00411	00415	00421
X00021	DEC.	00355	00365	00375				00417	00536	00544	00567
P00001	DICT.	00075	00100	00105				00430	00441	00444	00476
		00162	00167	00174				01040	01053	01062	01067
		00337	00356	00363				00131	00143	00150	00155
		00437	00443	00447				00220	00232	00237	00250
		00552	00556	00562				00403	00411	00415	00421
		00711	00734	00762				00417	00536	00544	00567
		00712	01101	01103				00430	00441	00444	00476
		00512	00512	00512				01040	01053	01062	01067
		00517	00517	00517				00131	00143	00150	00155
		00452	00452	00452				00220	00232	00237	00250
		00456	00456	00456				00403	00411	00415	00421
		00357	00357	00357				00417	00536	00544	00567
		00361	00361	00361				00430	00441	00444	00476
		00076	00076	00076				01040	01053	01062	01067
		01131	01131	01131				00131	00143	00150	00155
		00505	00505	00505				00220	00232	00237	00250
		00245	00245	00245				00403	00411	00415	00421
		00354	00354	00354				00417	00536	00544	00567
		00364	00364	00364				00430	00441	00444	00476
		00374	00374	00374				01040	01053	01062	01067
		01070	01070	01070				00131	00143	00150	00155
		01111	01111	01111				00220	00232	00237	00250
		00260	00260	00260				00403	00411	00415	00421
		00727	00727	00727				00417	00536	00544	00567
		01020	01020	01020				00430	00441	00444	00476
		00413	00413	00413				01040	01053	01062	01067
		00255	00255	00255				00131	00143	00150	00155
		00464	00464	00464				00220	00232	00237	00250
		00257	00257	00257				00403	00411	00415	00421
		00451	00451	00451				00417	00536	00544	00567
		00564	00564	00564				00430	00441	00444	00476
		00560	00560	00560				01040	01053	01062	01067
		00612	00612	00612				00131	00143	00150	00155
		00344	00344	00344				00220	00232	00237	00250
		00076	00076	00076				00403	00411	00415	00421
		00254	00254	00254				00417	00536	00544	00567
		01064	01064	01064				00430	00441	00444	00476
		00267	00267	00267				01040	01053	01062	01067
		00304	00304	00304				00131	00143	00150	00155
		00320	00320	00320				00220	00232	00237	00250
		01074	01074	01074				00403	00411	00415	00421
		00334	00334	00334				00417	00536	00544	00567
		00334	00334	00334				00430	00441	00444	00476
		00506	00506	00506				01040	01053	01062	01067
		00506	00506	00506				00131	00143	00150	00155
		00506	00506	00506				00220	00232	00237	00250
		00506	00506	00506				00403	00411	00415	00421
		00506	00506	00506				00417	00536	00544	00567
		00506	00506	00506				00430	00441	00444	00476
		00506	00506	00506				01040	01053	01062	01067
		00506	00506	00506				00131	00143	00150	00155
		00506	00506	00506				00220	00232	00237	00250
		00506	00506	00506				00403	00411	00415	00421
		00506	00506	00506				00417	00536	00544	00567
		00506	00506	00506				00430	00441	00444	00476
		00506	00506	00506				01040	01053	01062	01067
		00506	00506	00506				00131	00143	00150	00155
		00506	00506	00506				00220	00232	00237	00250
		00506	00506	00506				00403	00411	00415	00421
		00506	00506	00506				00417	00536	00544	00567
		00506	00506	00506				00430	00441	00444	00476
		00506	00506	00506				01040	01053	01062	01067
		00506	00506	00506				00131	00143	00150	00155
		00506	00506	00506				00220	00232	00237	00250
		00506	00506	00506				00403	00411	00415	00421
		00506	00506	00506				00417	00536	00544	00567
		00506	00506	00506				00430	00441	00444	00476
		00506	00506	00506				01040	01053	01062	01067
		00506	00506	00506				00131	00143	00150	00155
		00506	00506	00506				00220	00232	00237	00250
		00506	00506	00506				00403	00411	00415	00421
		00506	00506	00506				00417	00536	00544	00567
		00506	00506	00506				00430	00441	00444	00476
		00506	00506	00506				01040	01053	01062	01067
		00506	00506	00506				00131	00143	00150	00155
		00506	00506	00506				00220	00232	00237	00250
		00506	00506	00506				00403	00411	00415	00421
		00506	00506	00506				00417	00536	00544	00567
		00506	00506	00506				00430	00441	00444	00476
		00506	00506	00506				01040	01053	01062	01067
		00506	00506	00506				00131	00143	00150	00155
		00506	00506	00506				00220	00232	00237	00250
		00506	00506	00506				00403	00411	00415	00421
		00506	00506	00506				00417	00536	00544	00567
		00506	00506	00506				00430	00441	00444	00476
		00506	00506	00506				01040	01053	01062	01067
		00506	00506	00506				00131	00143	00150	00155
		00506	00506	00506				00220	00232	00237	00250
		00506	00506	00506				00403	00411	00415	00421
		00506	00506	00506				00417	00536	00544	00567
		00506	00506	00506				00430	00441	00444	00476
		00506	00506	00506				01040	01053	01062	01067
		00506	00506	00506				00131	00143	00150	00155
		00506	00506	00506				00220	00232	00237	00250
		00506	00506	00506				00403	00411	00415	00421
		00506	00506	00506				00417	00536	00544	00567
		00506	00506	00506				00430	00441	00444	00476
		00506	00506	00506				01040	01053	01062	01067
		00506	00506	00506				00131	00143	00150	00155
		00506	00506	00506				00220	00232	00237	00250
		00506	00506	00506				00403	00411	00415	00421
		00506	00506	00506				00417	00536		

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C00004 INSECR
C00005 INTIME
P00003 INWORD
X00007 IPUT

C00000 ISCRATCH
C00000 ISEO
P00010 ITAPE
P00012 ITAPE1
P00013 ITAPE2
P00173 ITAPER
C00001 ITAPEW

C00000 ITD1
C00000 ITD2
C00000 ITD3
C00000 ITD4
C00000 ITP

C00014 ITPREM
C00000 ITWORD

C07640 IND1

C07640 IND2

P00251 .1
P00333 .10
P01057 .100
P00353 .100001
P00354 .100002
P00756 .100003
P00761 .100004
P01000 .100005
P01003 .100006
P01066 .102
P00336 .11
P00344 .12
P00347 .15
P01111 .200
P00510 .30
P00243 .4
P00576 .40
P00016 .42
P00647 .44
P00654 .46
P00661 .48
P00264 .5
P00704 .50
P00722 .51
P00712 .52
P00726 .53
P00733 .55

00714	00722	00731	01021	00436	00442	00446	00462	00466	00472	00476
00404	00410	00414	00420	00551	00555	00561	00565	00571		
00502	00535	00541	00545	00330	00331	00331	00331	00331		
00243	00243	00251	00251	00600	00604	00604	00604	00604		
00275	00276	00324	00324	00655	00700	00702	00744	01063		
00613	00617	00645	00650							
00617	00652	00655								
00631	00650	00657	00661	00704	01031	01044				
00632	00653	00660	00625	00642	00642	00651	00651	00656	00656	00671
00620	00620	00625	00625	01035	01035	01050				
00671	00717	00720	01035	00417	00423					
00264	00265	00407	00413							
00441	00445	00471								
00451	00465	00501	00505							
00475	00501	00505								
00244	00244	00252	00252	00331	00332	00326	00326	00332	00333	00443
00643	00662	00662	00672	00672	00705	00705	00720	00721	01032	01032
01036	01036	01045	01045	01051	01051	01060	01060			
00417	00712	00731	00732	00753	00753	00760	00760	00775	00775	01002
00712	00712	01021	00315	00540	00544	00550	00565	00752	00752	00774
01002	00301	00314	00315							
00300	00301	00314	00313	00554	00560	00564	00570	00574	00600	00606
00774	00277	00312	00313	01001	01001					
00277	00277	00312	00313							
00723	00724	00757	00757							
00303	00575									
00352	00352									
00755										
00777										
00334										
00343										
00346										
00353										
00346										
00335	00343									
00615										
00614										
00615										
00653										
00740										
01011	01012									

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P00710	WS000005.	00715	
P00730	WS000006.	00736	
P00747	WS000007.	00767	00767
P00751	WS000010.	00764	
P00773	WS000011.	01006	
P01020	WS000012.	01026	
P01031	WS000013.	01043	01043

00315 SYMBOLS


```

SUBROUTINE COMPRESS (OPENTOL)
  CSUBR      COMPRESS 180CT71 *****
  CUSE       1      180CT71 *****
  C
  COMMON/1/X(150),Y(150),V(150),RADL(50),VTOA(50,30),S(50,30),
  1 VEFF(50,30),X(30),Y(30),POEL(30),ERDEL(30),YDSCL(30),
  2 VESC(30),NI,NJ,DUM(18)
  DATA (NUMMAX=30), (NJ=50)
  C
  CEND
  C
  CUSE
  1 ISKIPDGZ 25JAM71 *****
  COMMON/ISKIPDGZ/ISKIPDGZ *****
  CEND
  TYPE INTEGER OPENTOL
  C-----IF OPENTOL=1, TOLERANCES WILL BE OPENED, IF NECESSARY, TO CUT DOWN
  C THE NUMBER OF TARGETS TO 40
  C-----IF OPENTOL=0, TOLERANCES WILL NOT BE CHANGED
  DATA(NTRIES=0)
  NTRIES=NTRIES+OPENTOL
  TO RESET NTRIES TO ZERO WHEN OPENTOL =0
  C
  ITOL=0
  N=MIN(RADL,NJ)
  DTOL= RADL(N)/10.
  DTOL= DTOL**2
  RADLTOL= .05
  NJM= NJ-1
  IF (NJ.LT.2) 9,100
  100 CONTINUE
  DO 1 J=1,NJM
  J1= J+1
  NRADLJ= 1
  DO 2 K=J1,NJ
  11 CONTINUE
  D2= (X(J)-X(K))**2 + (Y(J)-Y(K))**2
  IF (D2.LE.DTOL) 3,2
  3 IF (ABS((RADL(J)-RADL(K))/(RADL(J)+RADL(K))),LT,RADLTOL) 4,2
  4 VI(J)= VI(J)+VI(K)
  RADL(J)= (NRADLJ+RADL(J)+RADL(K))/(NRADLJ+1)
  NRADLJ= NRADLJ+1
  DO 5 I=1,NI
  5 VTOA(J,I)=VTOA(J,I)+VTOA(K,I)
  DO 6 M=K,NJM
  X(M)= X(M+1)
  Y(M)= Y(M+1)
  VI(M)= VI(M+1)
  DO 12 I=1,NI
  12 VTOA(M,I)= VTOA(M+1,I)
  6 RADL(M)= RADL(M+1)
  NJ= NJ-1
  NJM= NJ-1
  IF (K.LE.NJ) 11,1
  2 CONTINUE
  1 CONTINUE
  IF (OPENTOL.EQ.1) 20,9
  20 CONTINUE
  20 IF (NJ.LE.40) 7,8

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FTN5.5

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PAGE NO.

2

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9 ITOL=ITOL+1
  DTOL= 2.*DTOL
  RADTOL= 2.*RADTOL
  GO TO 160
7 IF (ITOL.EQ.0) 9,10
9 RETURN
10 PRINT 1000,ITOL
1000 FORMAT(23H0000TOLERANCES DOUBLED *13,11,69TIMES IN SUBROUTINE COM
1PRESS TO REDUCE NUMBER OF TARGET POINTS TO 40./1X,7HTARGET *AB,13H
2 INDEX NUMBER,110//)
  NENTRIES= NENTRIES+1
  IF (NENTRIES.GE.201200.201
200 ISKIPD62=1
201 CONTINUE
  RETURN
  END
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1746

5.4TS COMPRESS

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ED 0

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3

IDENT COMPRESS

PROGRAM LENGTH 00445
ENTRY POINTS 00042
BLOCK NAME

1 1444
ISKIP00Z 00001

EXTERNAL SYMBOLS
THEND.
ORODICT.
IMIN
STH.
QNSINGL.

5.ATS COMPRESS

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ED 0

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P00366 BEGIN.	00402	00410	00414				
P00302 CMVRT1.	00267						
P00042 COMPRESS	00042						
P00431 COUNT.	00165	00167	00211	00212			
P00006 CRPAT.	00272						
P00432 D2	00115	00116					
P00433 D2TOL	00061	00062	00062	00116	00253	00254	
P00001 DICT.	00044	00053	00264	00271	00367	00370	
C11422 DUM1							
P00403 ENDING.	00045	00261	00300	00364	00365	00365	00366
C11266 ERDEL							
P00000 EXIT.	00406						
P00006 FORMAT.							
P00047 P000001.	00376	00377					
P00244 P000002.	00400	00401					
P00417 GETPL.	00371						
P00407 GETPU.	00376	00413					
P00272 0000000.	00262						
P00434 I	00161	00205	00342				
X00003 IMIN	00052						
P00303 IN000004.	00166	00306	00316	00332	00346		
P00304 IN000005.	00166	00320	00330	00333	00347		
P00305 IN000006.	00212	00334	00350	00352	00362		
P00364 INITIAL:	00045						
C00000 ISKIP082	00276	00277					
P00435 ITOL	00051	00251	00252	00257	00266		
P00072 .100	00070	00070	00256				
P00240 .1	00232						
P00262 .10	00260						
P00104 .11	00232	00233					
P00213 .12							
P00234 .2	00117	00134	00135				
P00246 .20							
P00276 .200	00274						
P00300 .201	00275						
P00120 .3	00117						
P00136 .4							
P00170 .5							
P00216 .6							
P00257 .7							
P00751 .8	00247	00250					
P00261 .9	00250						
P00420 .ERASER.	00071	00243	00111	00114	00115	00131	00132
	00150	00154	00154	00155	00124	00131	00132
P00006 .1000	00285						
P00436 J	00073	00076	00104	00120	00240	00313	
P00437 J1	00077	00101					
P00440 K	00101	00106	00122	00127	00140	00234	00235
P00441 M	00055	00057	00175	00200	00216	00234	00235
P00004 MJ							
P00005 NENTRIES	00046	00050	00272	00273			
C11420 NI	00163	00207	00207	00207			
C11421 NJ	00054	00064	00064	00066	00057	00225	00231
	00236	00246	00246		00225	00226	00231
							00236

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FUNCTION CUMINV(Z)
  CSUBR      CUMINV  11/04/68 *****
  DIMENSION A(3),B(3)
  DATA ((A(I),I=1,3),2.515517,.802853,.010328)
  DATA ((B(I),I=1,3),1.432786,.189269,.001308)
  IF(Z<=5)2,1,1
  1 X=1.0-Z
  2 X=Z
  3 V=SQRT(LOGF(1.0/(1-X)))
  SUMN=A(1)+V*(A(2)+A(3)*V)
  SUMD=1.0+V*(B(1)+V*(B(2)+B(3)*V))
  ANS=V-SUMN/SUMD
  IF(Z<=5)4,5,5
  4 CUMINV=ANS
  RETURN
  5 CUMINV=ANS
  END

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S.4TS CUMINV 12/29/71 ED 0 PAGE NO. 2

CUMINV

IDENT

00132
00011

PROGRAM LENGTH
ENTRY POINTS
EXTERNAL SYMBOLS

CUMINV

0000ICT.
SCRTF
LOGF

P00003 A	00011	00037	00040	00041
P00125 ANS	00050	00054	00056	
P00006 B	00011	00042	00043	00044
P00061 BEGIN.	00103	00112	00116	
P00011 CUMINV	00011			
P00001 DICT.	00013	00033	00036	00065
P00104 ENDING.	00014	00055	00057	00061
P00000 EXIT.	00110			
P00015 P00001.	00073	00074		
P00021 P00002.	00075	00076		
P00024 P00003.	00077	00100		
P00050 P00004.	00101	00102		
P00121 GETPL.	00066			
P00111 GETPU.	00071	00115		
P00061 INITIAL.	00014			
P00020 .1	00017			
P00024 .2	00017			
P00026 .3	00023			
P00054 .4	00053			
P00056 .5	00052			
P00122 .ERASER.	00027	00030	00031	00034
X00003 LOGP	00032			
P00103 P00002.	00012			
X00001 QSDICT.	00000			
X00002 SQRTF	00035			
P00126 SUMD	00046			
P00127 SUMN	00042			
P00130 V	00037			
P00060 VALUE.	00055			
P00131 X	00022			
P00011 Z	00015			
0003Y SYMBOLS				
			00041	00043
			00044	00045
			00047	00047
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			00051	


```

SUBROUTINE DOZSEL
  CSUBR DOZSEL 180CT71
  CUSE 1 10CT71
  C
  COMMON/1/X(50),Y(50),VI(50),RADL(50),VTOA(50,30),S(50,30),
  1 VEFF(50,30),X(30),Y(30),PDEL(30),ENDEL(30),YDSCL(30),
  2 VESC(30),NI,NJ,CUMI(18)
  DATA (NUMMAX=30), (MJ=50)
  C
  CEND 1 *****
  DATA (JREAD=1)
  DATA (EPSI=1.E-7),(EPS2=1.E-10)
  C-----IFLAG=1 (NO PRINTS, ALL WEAPONS ARE ASSIGNED TO (0,0) AND EXIT)
  C-----IFLAG=0 (NO PRINTS)
  C-----IFLAG=1 (INITIAL PRINT OF INPUT, PLUS STATE PRINT AFTER LAYDOWN
  C-----IFLAG=2 (ALL IFLAG=1 PRINTS PLUS STATE PRINT AT EACH ITERATION
  C-----IFLAG=1 AND AGAIN AFTER FINDMIN)
  C-----IFLAG=2 IN FINDMIN)
  C-----IMAX=1 WILL CAUSE DOZSEL TO SKIP FINDMIN
  C-----IMAX=2... WILL CAUSE THAT NO (AT MOST) OF ITERATIONS IN
  C-----FINDMIN
  C
  DIMENSION XX(60),XG(60)
  IF (JREAD.EQ.1) 45,41
  40 JREAD=0
  READ 2000, IFLAG,IMAX
  2000 FORMAT(2I10)
  41 CONTINUE
  1006 DO 5 I=1,NI
  5 X(I)= 0.
  5 Y(I)= 0.
  RETURN
  1009 CONTINUE
  ICOUNT=0
  DO 1 I=1,NI
  DO 2 J=1,NJ
  2 S(J,I)=1.
  1 CONTINUE
  CALL VAL(VESCTOT)
  DO 30 I=1,NI
  DVALMAX=0.
  DO 20 J=1,NJ
  VALTEST=VHARG(I,XG(J),Y0(J))
  IF VALTEST=0VALMAX) 20,10,10
  10 DVALMAX=VALTEST
  JI=J
  20 CONTINUE
  X(I)=X0(JT) 5 Y(I)=Y0(JT)
  CALL MOVE(I,XG(JT),Y0(JT))
  CALL VAL(VESCTOT)
  30 CONTINUE
  DO 3 I=1,NI
  XG(2*I-1)=X(I)
  XG(2*I)=Y(I)
  3 CONTINUE

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1064 IF (IFLAG.EE.1) 1004,1003
      CONTINUE
      CALL SEEINPUT
      CALL SEECALC (VSCOTOT,XG)
1003 CONTINUE
      IF (INJALE.1) 1005,1010
1010 CONTINUE
      IF (IMAX.LE.0) 1005,1011
1011 CONTINUE
      CALL PERTBLD(XG)
      IFLAG=IFLAG
1012 CONTINUE
      CALL FINDMIN(XG,2*NI,IMAX,EP51,EP52,XX,FMIN,IFLAG1)
      DO 4 I=1,NI
        X(I)=XX(2*I-1)
        Y(I)=XX(2*I)
      4 CONTINUE
      IF (IFLAG1.LE.1) 1006,1007
1006 CONTINUE
      CALL SEECALC (FMIN,XX)
1005 CONTINUE
      CALL TIMEW(1)
1007 CONTINUE
      IF (ICOUNT.LT.1) 200,130
200 CONTINUE
      VALPTST=0.
      VALADDL=0.
      ITST=0
      JTEST=3
      DO 115 I=1, N2
        DO 110 J=1, NJ
          VALPTST=VMARG(I,XG(J),Y0(J))
          IF (VALPTST=VALADDL) 110,110,100
100 ITST=I
      JTEST=J
      VALADDL=VALPTST
110 CONTINUE
115 CONTINUE
      IF (ITST) 130,130,120
120 X(ITST)=XG(JTEST) S Y(ITST)=Y0(JTEST)
      CALL MOVE(ITST,XG(JTEST),Y0(JTEST))
      DO 122 I=1,NI
        XG(2*I-1)=X(I)
        XG(2*I)=Y(I)
122 CONTINUE
      IF (IFLAG.EE.1) 123,127
123 CONTINUE
      PRINT 125,ITEST,JTEST,XG(JTEST),Y0(JTEST)
125 FORMAT (1M0,4SM)
      C 14,34H IS PLACED ON TARGET POINT NUMBER ,14/1X,
      C 16H LOCATED AT X0 = ,F9.6,7H, Y0 = ,F9.6//
127 CONTINUE
      ICOUNT=ICOUNT+1
      GO TO 1012
130 CONTINUE
      RETURN

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FTNS.5

END

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105000

5.4TS 00ZSEL

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ED

0

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00ZSEL

IDENT

00731

00240

11444

PROGRAM LENGTH

ENTRY POINTS

BLOCK NAMES

EXTERNAL SYMBOLS

00ZSEL

1

THEND.
QSDOTCT.

VAL

VMARG

MOVE

SEEINPUT

SEECALC

PERTBLD

FINDMIN

TIMEME

TSH.

STH.

QMSINGL.

5.4.73	007SEL	12/20/71	ED	0	PAGE NO.	5
P00700	BEGIN.	00701				
P00631	CHWRT1.	00254				
P00710	COUNT.	00271				
		00266				
P00200	CRPMT.	00261				
P00240	00240	00240				
P00601	00242	00242				
	00500	00500				
		00334				
		00243				
		00454				
		00455				
		00703				
		00451				
		00456				
		00501				
		00250				
		00610				
		00263				
		00457				
		00302				
		00255				
		00445				
		00270				
		00256				
		00314				
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SATS

00ZSEL

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ED

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P00315 .2	00245	00342	00355	00360	00521	00526	00541	00545	00560
P00401 .30	00450								
P00421 .3	00613								
P00472 .4	00253								
P00246 .40	00344								
P00262 .41	00367								
P00275 .5	00530								
P00704 .ERASER.	00562								
P00203 .125	00307								
P00200 .2000	00244								
P00350 .Z00001.	00356								
P00373 .Z00002.	00514								
P00534 .Z00003.	00554								
P00366 .Z00004.	00371								
P00722 JREAD	00267								
P00723 JT	00461								
P00724 JTEST	00311								
P00174 MJ	00371								
X00005 MOVE	00267								
C11420 NI	00461								
C11421 NJ	00311								
P00173 NUMMAX	00342								
P00635 P00000.U	00267								
P00653 P00001.U	00461								
P00665 P00002.U	00311								
C11230 PDEL	00371								
X00010 PENTBLD	00267								
X00002 QSDICT.	00461								
X00015 QNSINGL.	00311								
C00226 RADL	00342								
C03244 S	00267								
X00007 SEECALC	00461								
X00006 SEINPUT	00311								
X00014 SYN.	00342								
X00001 THEND.	00267								
X00012 TIMEHE	00461								
P00300 TS00001.	00311								
P00322 TS00002.	00342								
P00320 TS00003.	00267								
P00403 TS00004.	00461								
P00361 TS00005.	00311								
P00423 TS00006.	00342								
P00474 TS00007.	00267								
P00550 TS00010.	00461								
P00546 TS00011.	00311								
P00605 TS00012.	00342								
X00013 TSH.	00267								
P00643 UP00000.	00461								
P00657 UP00001.	00311								
P00672 UP00002.	00342								
X00003 VAL	00267								

S.4TS	06ZSEL	12/20/71	ED	0	PAGE NO.	7
P00725	VALADDL	00512	00536	00543		
P00726	VALFTST	00511	00536	00542		
P00727	VALTEST	00352	00354			
C04200	VEFF					
C11362	VESC					
P00730	VESCTOT	00326	00400	00432		
C00144	VI					
X00004	VHAR0	00346	00532			
C00310	VTOA					
P00273	WS00001.	00277	00323			
P00304	WS00002.	00323				
P00315	WS00003.	00317	00404			
P00333	WS00004.	00404				
P00343	WS00005.	00360				
P00415	WS00006.	00422				
P00466	WS00007.	00473				
P00520	WS00010.	00551	00551			
P00527	WS00011.	00545				
P00577	WS00012.	00604				
C00000	X0	00343	00350	00362	00366	00373
		00566	00617	00620	00415	00527
		00273	00274	00364	00415	00467
C11134	X	00577				
P00077	X0	00416	00420	00443	00453	00600
P00003	XX	00455	00466	00470	00501	00602
C00062	Y0	00364	00351	00365	00374	00530
C11172	Y	00275	00276	00417	00417	00471
C11324	Y0SCL					
	00201 SYMBOLS					
					00555	00561
					00557	00577
					00562	00621
					00601	00601

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      CSUBR
      FUNCTION ERGOT1(I)
      ERGOT1= 24MAY71 *****
      DIMENSION X(10),WIZ(3)
      DATA(WIZ,38198801,.26784919,.20871215)
      DATA((X(I),I=1,10),10(0.0))
      EQUIVALENCE(K,X1)
      RETURNS NEXT NUMBER IN MOST UNIFORM ERGODIC
      SERIES(BETWEEN ZERO AND ONE), UP TO 10
      SERIES(I=1:10) CAN BE RUN IN PARALLEL.
      (TO AVOID A FIXED PHASE RELATION BETWEEN
      TWO SERIES, ONE CAN CALL ERGOT2(I) OR
      ERGOT3(I) TO GIVE LESS UNIFORM BUT
      NON-COMENSURATE SERIES.)
      L=1 $ GO TO 10
      ENTRY ERGOT2
      L=2 $ GO TO 10
      ENTRY ERGOT3
      L=3
      10 J=I $ IF(J.GT.10)75,12
      12 X(J)=X(J)+WIZ(L)
      ERGOT1=MOD(X(J),1.)
      RETURN
      75 PRINT 80
      80 FORMAT(1BH BAD CALL ON ERGOT)
      RETURN
      END

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25000

5.ATS ERGOT1

PROGRAM LENGTH
ENTRY POINTS

ERGOT1
ERGOT2
ERGOT3

EXTERNAL SYMBOLS

THENG.
QSDICT.
MODF
STH.

IDENT

00233
00027
00033
00043

ERGOT1

12/20/71

ED

0

PAGE NO.

2

5.4TS ER00T1

3

PAGE NO.

0

ED

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P00075 BEGIN.
P00021 CREMT.
P00001 DICT.
P00112 ENDING.
P00027 ER00T1
P00035 ER00T2
P00043 ER00T3
P00000 EXIT.
P00021 FORMAT.
P00051 PR00001.
P00127 GETPL.
P00117 GETPU.
P00073 GG00000.
P00021 I
P00075 INITIAL.
P00051 .10
P00056 .12
P00065 .75
P00021 .80
P00151 J
P00020 K
P00132 L
X00003 MODF
P00111 PF00002.
X00002 Q0001CT.
X00004 SYH.
X00001 THEND.
P00074 VALUE.
P00015 WIZ
P00003 X
P00020 XK
00037 SYMBOLS

00111 00120 00124
00073 00037 00045
00031 00040 00046
00032 00067 00072
00027 00073 00075
00035 00063 00064
00043 00067 00076
00116 00073 00075
00107 00110 00101
00102 00123 00101
00105 00123 00101
00065 00063 00064
00051 00040 00046
00032 00042 00042
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00052 00053 00055
00034 00042 00050
00062 00062 00057
00106 00106 00044
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00021 00021 00021

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12/20/71

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SUBROUTINE FILTGT
  CSUBR      FILTGT      15APR71 *****
  C          FILL /TARGET/ FROM/DYNAMIC/ FOR USE WHEN MULTIPLE TARGET IS A
  C          CITY AND WILL BE PROCESSED AS COMPLEX
  C          DYNAMIC      15APR71 *****
  C
  COMMON/DYNAMIC/TGTNAME,INDEXNO,DESIG,TASK,CNTRYLOC,FLAG,TOTMULT,
  1TGTLAT,TOTLONG,TOTRAD,VTO,M(2),VO(2),NK,PVAL(3),TAU(3),ICLASS,
  2ICLASS,INTYPE,TARDEF,INDPEN,DISTOP,DISTOP,NBLN,CMULT,VTO,
  3TGT(3),PAYOFF,COST,PHOFT,DPROFIT,INTEST,IHEOT,NUNFIX,ITOT,NUM,
  4IG(30),MCRR(30),VTO(30),PEN(30),TOARR(30)
  TYPE INTEGER TGTNAME,DESIG,TASK,CNTRYLOC,FLAG,TARDEF
  DATA(LDYNAM=9), (IHEOT=0)

  C          DYNAMIC *****
  C          TARGET      15APR71 *****
  C
  COMMON/TARGET/TARGET(29)
  DATA (LTARGET = 29)

  C          TARGET *****
  C
  DIMENSION ITARGET(29)
  EQUIVALENCE (TARGET,ITARGET)
  TARGET(1)=TGTNAME
  ITARGET(2)=INDEXNO
  TARGET(3)=DESIG
  TARGET(4)=TASK
  TARGET(5)=CNTRYLOC
  TARGET(6)=FLAG
  TARGET(7)=TOTMULT
  TARGET(8)=TGTLAT
  TARGET(9)=TOTLONG
  TARGET(10)=TOTRAD
  TARGET(11)=VTO
  ITARGET(12)=M
  TARGET(13)=M(1)
  TARGET(14)=M(2)
  TARGET(15)=VO(1)/VTO
  ITARGET(16)=NK
  TARGET(17)=PVAL(1)
  TARGET(18)=PVAL(2)
  TARGET(19)=TAU(1)
  TARGET(20)=TAU(2)
  TARGET(21)=TAU(3)
  TARGET(22)=ICLASS
  ITARGET(23)=ICLASS
  TARGET(24)=INTYPE
  RETURN
  END

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5.4TS F1LTGT

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

F1LTGT

DYNAMIC
TARGET

EXTERNAL SYMBOLS Q88DICT.

00125
00005

00303
00035

IDENT

F1LTGT

12/23/71

EO

0

PAGE NO.

2

5.4TS

PILTGT

C00012 VTO

C00050 WRTST

00065 SYMBOLS

00065

00054

00054

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ED

0

PAGE NO.

4

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SUBROUTINE FINDMIN(X0,N,IMAX,E1,E2,X,F1,IFLAG)
  CSUBR  FINDMIN 10CT71 *****
  C      X0 = INITIAL GUESS AT MIN POSN          INPUT *****
  C      N = NUMBER OF VARIABLES                INPUT *****
  C      IMAX = MAX NUMBER OF ITERATIONS         INPUT *****
  C      E1 = TOLERANCE                         INPUT *****
  C      E2 = TOLERANCE                         INPUT *****
  C      X = MIN POSN AS DETERMINED BY FINDMIN   OUTPUT *****
  C      F1 = MIN FUNCTION VALUE OBTAINED
  C      IFLAG = 0 IF CONVERGED, -1 IF NOT, -2 IF POOR GRADIENT COMPONENT(S).
  C      IFLAG SET OR 0 IN INPUT ALLOWS ADD PRINT OUTPUT AT EA ITER
  C      DEFINE TWO SUBROUTINES, GRADF(X,G), F2BMIN(X,F)
  C      DIMENSION X0(60),X(60)
  C      COMMON/11/H(60,60),X1(60),X2(60),X3(60),X4(60),X5(60),
  C      1 S(60),G0(60),G(60),DX(60),X4(60),Y(60),DUMX(700)
  C      DO 1 I=1,N
  C      DO 2 J=1,N
  C      2 H(I,J)= 0.
  C      H(I,I)= 1.
  C      1 X(I)= X0(I)
  C      ITER= 0
  C      CALL F2BMIN(X,F1)
  C      FC= F1
  C      CALL GRADF(X,G)
  C      DO 3 I=1,N
  C      S(I)=0.,S G(I)= G(I)
  C      DO 4 J=1,N
  C      4 S(I)= S(I) - H(I,J)*G(J)
  C      3 CONTINUE
  C
  C      IF (IFLAG.EQ.-2) .AND..401
  C      400 CALL SEECALC(F1,X)
  C      401 CONTINUE
  C      IF (IFLAG) 301,301,300
  C      300 CONTINUE
  C
  C      PRINT 2000
  C      2000 FORMAT(20X, 2H X,20X,2H G,20X,2H S,20X, 4H SIG,20X,2H Y //)
  C      DO 300 I=1,N
  C      PRINT 2001, X(I),G(I),S(I),SIG(I),Y(I)
  C      2001 CONTINUE
  C      2001 FORMAT(15X,F13.8,X,F13.8,X,F13.8,X,F13.8,X,F13.8,X,F13.8//)
  C      PRINT 2002
  C      2002 FORMAT(/ / 43X, 9H H MATRIX //)
  C      DO 300 I=1,N
  C      3001 PRINT 2003, (H(I,J),J=1,N)
  C      2003 FORMAT(1X,7(F13.6,2X))
  C      PRINT 2006,F1,ITER
  C      2006 FORMAT(/1X,16H F1 AT ABOVE X = E13.5,10X, 6H ITER= I3//)
  C
  C      301 CONTINUE
  C      900TS= 0.
  C      DO 5 I=1,N
  C      5 900TS = 900TS + G(I)*S(I)
  C      IF (900TS) 6,7,6
  C      7 900TS= -F1

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6 CONTINUE
  DO 8 J=1,N
    DX(J)= (-ABS(F1)/600TS)*S(J)
    X1(J)= X(J)
    K=1
  IF (IFLAG) 303,303,302
302 CONTINUE
  C
  PRINT 2007,6DOTS
  2007 FORMAT(/ / 2X, 8H 6DOTS = E13.5 //)
  PRINT 2008
  2008 FORMAT(/ / 2X,11H INITIAL DX //)
  PRINT 2009, (DX(J),J=1,N)
  2009 FORMAT(1X, 7(F13.6,2X))
  C
  303 CONTINUE
    DO 10 J=1,N
      X2(J)= X1(J)+ DX(J)
      CALL F28MIN(X2,F2)
      IF (IFLAG) 305,305,304
    304 CONTINUE
  C
  PRINT 2010,F2
  2010 FORMAT(/ / 20X, 4H F2= E13.5 //)
  C
  305 CONTINUE
    IF (F2,6E,F1) 20,11
    DO 12 J=1,N
      DX(J)= 2*DX(J)
      X3(J)= X2(J)+ DX(J)
      CALL F28MIN(X3,F3)
      IF (IFLAG) 307,307,306
    306 CONTINUE
  C
  PRINT 2011,F3
  2011 FORMAT(/ / 20X, 4H F3= E13.5 //)
  C
  307 CONTINUE
    IF (F3,LT,F2) 13,30
    F1=F2
    F2=F3
    DO 14 J=1,N
      X1(J)= X2(J)
      X2(J)= X3(J)
      GO TO 11
    20 F3= F2
    DO 21 J=1,N
      X3(J)= X2(J)
      X2(J)= X1(J)+ DX(J)/2.
      21 CALL F28MIN(X2,F2)
      22 IF (F2,LE,F3,AND,F2,LE,F1) 30,41
      30 SUM2= 0.
      SUM3= 0.
      SMAG= 0.
      DO 31 J=1,N
        SUM2= SUM2 + (X2(J)-X1(J))**2
      31 CONTINUE

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SUM3= SUM3 + (X3(J)-X1(J))**2
31 SMAG= SMAG + (S(J))**2
SUM2= SORTF(SUM2)
SUM3= SORTF(SUM3)
SMAG= SORTF(SMAG)
Y2= SUM2/SMAG
Y3= SUM3/SMAG
SMALLA= (Y2*(F3-F1)-Y3*(F2-F1))/(Y3*Y2*(Y3*Y2))
SMALLB= (F2-F1-SMALLA*Y2*Y2)/Y2
C=.5*SMALLB/SMALLA
DO 32 J=1,N
  DX(J) = C*S(J)
32 X4(J)= X1(J)+ DX(J)
  CALL F28MIN(X4,F4)
  IF (IFLAG) 309,309,308
308 CONTINUE
      C
      PRINT 2012
      2012 FORMAT(// 40X,22H PARABOLIC FIT VALUES //)
      PRINT 2013,SMAG,Y2,Y3,SMALLA,SMALLB,C
      2013 FORMAT(1X,5HSMAG=E12.4,2X,3HY2=E12.4,2X,3HY3=E12.4,2X,2HSMALLB=E12.4,
        X2X,2HB=E12.4,2X,2HCB=E12.4//)
      PRINT 2014,F1,F2,F3,F4
      2014 FORMAT(10X,3HF1=E13.5, 5X,3HF2=E13.5,9X,3HF3=E13.5,5X,3HF4=E13.5
        X//)
      C
      309 CONTINUE
      IF (F4.LE.F1.AND.F4.LE.F2) 33,36
      33 F1= F4
      DO 34 J=1,N
        34 SIG(J)= X4(J)-X(J)
      GO TO 50
      36 IF (F1.F2) 37,37,39
      37 DO 38 J=1,N
        38 SIG(J)= X1(J)-X(J)
      GO TO 50
      39 F1=F2
      DO 40 J=1,N
        40 SIG(J)= X2(J)-X(J)
      GO TO 50
      41 K= K+1
      DO 42 J=1,N
        42 DX(J)= DX(J)/10.
      IF (K.LE.6) 9,100
      100 CONTINUE
      IFLAG=-2
      RETURN
      50 DO 51 J=1,N
        51 X(J)= X(J)+ SIG(J)
      DO 52 J=1,N
        IF (SIG(I).LE.(E1*ABS(FX0(I)))) 52,60
      52 CONTINUE
      IF (SMAG.LE.(E2*ABS(F0))) 53,60
      53 RETURN
      60 IF (ITER.LT.IMAX) 61,54
      54 CONTINUE

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12/20/71

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IFLAG=1
RETURN
61 CALL GRADF(X,8)
DO 62 J=1,N
62 Y(J)=G(J)-G0(J)
SDOTY=0.
DO 63 J=1,N
SDOTY=SDOTY + SIG(J)*Y(J)
X4(J)=0.
X3(J)=0.
X2(J)=0.
63 X1(J)=0.
IF (SDOTY.EQ.0.) 71,66
64 DO 64 I=1,N
DO 65 J=1,N
X4(I)=X4(I) -M(I,J)*Y(J)
65 X3(I)=X3(I) +M(J,I)*Y(J)
64 CONTINUE
YHY=0.
DO 67 J=1,N
67 YHY=YHY + Y(J)*X4(J)
IF (YHY.EQ.0.) 71,68
68 DO 68 I=1,N
DO 70 J=1,N
H=H + A * 8
70 H(I,J)=H(I,J) + SIG(I)*SIG(J)/SDOTY + X4(I)*X3(J)/YHY
69 CONTINUE
GO TO 83
71 DO 72 I=1,N
DO 73 J=1,N
73 H(I,J)=0.
72 H(I,I)=1.
83 ITER=ITER + 1
GO TO 200
END

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5.4TS FINDMIN 12/20/71 ED 0 PAGE NO. 5

IDENT FINDMIN

PROGRAM LENGTH 02007
ENTRY POINTS 00234
BLOCK NAMES 11 11444

EXTERNAL SYMBOLS
THEND.
QBODICT.
F28MIN
GRADF
SEECALC
SORTF
STH.
QMSINGL.

5.4TS	FINDMIN	12/20/71	ED	0	PAGE NO.	6				
P01466	BEGIN.	01742	01749	00365	00420	00440	00442	00516	00541	00575
P01763	C	00775	01004	00365	01036	01037	01047	01051	01052	01053
P01426	CNVRT1.	00360	00362	01033	00494	00473	00474	00555	00556	00611
P01764	COUNT.	00633	01032	00316	00670	00721	00722	01003	01073	01074
		00251	00252	00652	01147	01166	01167	01237	01240	01252
		00612	00651	01131	01146	01132	01147	01237	01240	01252
		01113	01114	01131	01146	01132	01147	01237	01240	01252
P00003	CRFMT.	01253	01302	01304	01331	01332	01335	01407	01407	01425
		00346	00374	00402	00433	00445	00521	00550	00636	01025
		01042	01056	00300	00334	00342	00345	00376	00401	00410
P00001	DICT.	00236	00273	00444	00513	00520	00523	00547	00564	00572
		00426	00435	00630	00635	00701	00742	00745	01021	01024
		00577	00622	01041	01055	01230	01471	01472	01473	01473
		01027	01041	00540	00560	00614	00615	00617	00673	00673
C10150	DUMX	01006	01010	01150	01152	01152	01152	01152	01152	01152
C07464	DX	01203	01203	01220	01226	01466	01467	01470	01470	01470
C00003	E1	00216	00216	00213	00213	00213	00213	00213	00213	00213
P00003	E2	00215	00215	00215	00215	00215	00215	00215	00215	00215
P01735	ENDING.	00237	00237	00237	00237	00237	00237	00237	00237	00237
P01765	EXIT.	01740	01740	01740	01740	01740	01740	01740	01740	01740
P01765	F0	00216	00216	00216	00216	00216	00216	00216	00216	00216
P01766	F1	00216	00216	00216	00216	00216	00216	00216	00216	00216
P01766	F2	00216	00216	00216	00216	00216	00216	00216	00216	00216
X00003	F25MIN	00216	00216	00216	00216	00216	00216	00216	00216	00216
P01767	F3	00216	00216	00216	00216	00216	00216	00216	00216	00216
P01770	F4	00216	00216	00216	00216	00216	00216	00216	00216	00216
P00003	FINDMIN	00216	00216	00216	00216	00216	00216	00216	00216	00216
P00003	FORMAT.	00216	00216	00216	00216	00216	00216	00216	00216	00216
P00247	FP00001.	01506	01507	01506	01506	01506	01506	01506	01506	01506
P00262	FP00002.	01500	01501	01500	01500	01500	01500	01500	01500	01500
P00263	FP00003.	01625	01626	01625	01625	01625	01625	01625	01625	01625
P00266	FP00004.	01510	01511	01510	01510	01510	01510	01510	01510	01510
P00274	FP00005.	01623	01707	01623	01623	01623	01623	01623	01623	01623
P00275	FP00006.	01655	01656	01655	01655	01655	01655	01655	01655	01655
P00301	FP00007.	01624	01624	01624	01624	01624	01624	01624	01624	01624
P00314	FP00010.	01512	01513	01512	01512	01512	01512	01512	01512	01512
P00327	FP00011.	01514	01515	01514	01514	01514	01514	01514	01514	01514
P00331	FP00012.	01714	01715	01714	01714	01714	01714	01714	01714	01714
P00335	FP00013.	01647	01652	01647	01647	01647	01647	01647	01647	01647
P00336	FP00014.	01716	01717	01716	01716	01716	01716	01716	01716	01716
P00357	FP00015.	01627	01630	01627	01627	01627	01627	01627	01627	01627
P00372	FP00016.	01516	01517	01516	01516	01516	01516	01516	01516	01516
P00423	FP00017.	01520	01521	01520	01520	01520	01520	01520	01520	01520
P00431	FP00020.	01522	01523	01522	01522	01522	01522	01522	01522	01522
P00437	FP00021.	01657	01660	01657	01657	01657	01657	01657	01657	01657
P00451	FP00022.	01524	01525	01524	01524	01524	01524	01524	01524	01524
P00464	FP00023.	01661	01662	01661	01661	01661	01661	01661	01661	01661
P00471	FP00024.	01526	01527	01526	01526	01526	01526	01526	01526	01526
P00475	FP00025.	01663	01664	01663	01663	01663	01663	01663	01663	01663
P00502	FP00026.	01631	01632	01631	01631	01631	01631	01631	01631	01631
P00507	FP00027.	01720	01721	01720	01720	01720	01720	01720	01720	01720

P00544	FP00030.	01530	01531				
P00553	FP00031.	01532	01533				
P00557	FP00032.	01633	01634				
P00566	FP00033.	01722	01723				
P00601	FP00034.	01665	01666				
P00607	FP00035.	01534	01535				
P00624	FP00036.	01724	01725				
P00642	FP00037.	01667	01670				
P00647	FP00040.	01536	01537				
P00665	FP00041.	01540	01541				
P00707	FP00042.	01671	01672				
P00717	FP00043.	01542	01543				
P00755	FP00044.	01673	01674				
P00760	FP00045.	01675	01676				
P00771	FP00046.	01710	01711				
P01000	FP00047.	01544	01545				
P01015	FP00050.	01726	01727				
P01046	FP00051.	01701	01702				
P01057	FP00052.	01703	01704				
P01065	FP00053.	01705	01706				
P01071	FP00054.	01546	01547				
P01076	FP00055.	01635	01636				
P01102	FP00056.	01653	01654				
P01111	FP00057.	01550	01551				
P01116	FP00060.	01637	01640				
P01123	FP00061.	01677	01700				
P01127	FP00062.	01552	01553				
P01134	FP00063.	01641	01642				
P01144	FP00064.	01554	01555				
P01157	FP00065.	01730	01731				
P01164	FP00066.	01556	01557				
P01170	FP00067.	01643	01644				
P01172	FP00070.	01645	01646				
P01201	FP00071.	01502	01503				
P01203	FP00072.	01612	01613				
P01211	FP00073.	01560	01561				
P01215	FP00074.	01616	01617				
P01222	FP00075.	01606	01607				
P01225	FP00076.	01732	01733				
P01231	FP00077.	01622					
P01235	FP00100.	01562	01563				
P01250	FP00101.	01564	01565				
P01300	FP00102.	01566	01567				
P01321	FP00103.	01570	01571				
P01327	FP00104.	01572	01573				
P01351	FP00105.	01574	01575				
P01372	FP00106.	01576	01577				
P01404	FP00107.	01600	01601				
P01420	FP00110.	01602	01603				
C07474	GO	00311	01242				
C07570	G	00301	00310				
P01771	GDOTS	00446	00457				
P01751	GETPL.	01473	01504				
P01741	GETPU.	01476	01604				
		00322	00361				
		00457	00461				
		01610	01620				
		01614	01630				
		00455	00477				
		00455	00515				
		01231	01241				
		01241	01241				
		00361	00361				
		00465	00465				
		01712	01712				
		01745	01745				

SATS FINDMIN

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P00346	GG00000.	00340							
P00370	GG00001.	00352							
P00402	GG00002.	00374							
P00427	GG00003.	00406							
P00445	GG00004.	00433							
P00521	GG00005.	00511							
P00527	GG00006.	00521							
P00550	GG00007.	00527							
P00600	GG00010.	00570							
P00636	GG00011.	00626							
P01025	GG00012.	01017							
P01042	GG00013.	01025							
P01056	GG00014.	01042							
X00004	GRADF	00277							
C00000	H	00253							
P01772	I	01311							
		00241							
		00427							
		01343							
P00706	IF00001.	00704							
P01061	IF00002.	01060							
P00003	IFLAG	00331							
P00003	IMAX	01222							
P01427	IN00001.	00252							
P01430	IN00002.	00257							
P01431	IN00005.	01303							
P01466	INITIAL.	00237							
P01773	IYER	00271							
P00557	.10								
P00261	.11								
P01157	.100	01156							
P00604	.11	00602							
P00616	.12								
P00641	.13								
P00655	.14								
P00661	.20	00602							
P00253	.2								
P00302	.200	01424							
P00673	.21								
P00703	.22								
P00711	.30	00637							
P00340	.303								
P00370	.3000								
P00325	.3								
P00406	.3001								
P00445	.301	00337							
P00311	.302								
P00350	.303	00510							
P00370	.304								
P00600	.305	00567							
P00626	.306								
P00636	.307	00625							
P01017	.308								
P01056	.309	01016							

S.ATS FINDMIN

		12/20/71	ED	0	PAGE NO.	10
P01774 J		00421 00467 00474 00534 00537 00542 00551				
		00556 00605 00612 00663 00670 00715 00722 00776 01003				
		01067 01074 01107 01125 01132 01142 01147 01162 01233				
		01240 01246 01253 01303 01325 01332 01347 01354 01402 01457				
P01775 K		00506 01140 01141 01154 00372 00423 00431 00451 00471 00544 00553				
P00003 N		00247 00266 00314 00327 01000 01071 01111 01127 01144 01211				
		00607 00647 00665 00717 01321 01327 01351 01404 01420				
		01235 01250 01300 01321				
P01432 P00000.U		00413 00437 00452 00465 00492 00521 00534 00537 00542 00551				
P01451 P00001.U		00413 00437 00452 00465 00492 00521 00534 00537 00542 00551				
F01504 P00002.U		00413 00437 00452 00465 00492 00521 00534 00537 00542 00551				
P01604 P00003.		00413 00437 00452 00465 00492 00521 00534 00537 00542 00551				
P01610 P00004.		00413 00437 00452 00465 00492 00521 00534 00537 00542 00551				
P01614 P00005.		00413 00437 00452 00465 00492 00521 00534 00537 00542 00551				
P01620 P00006.		00413 00437 00452 00465 00492 00521 00534 00537 00542 00551				
P01650 P00007.		00413 00437 00452 00465 00492 00521 00534 00537 00542 00551				
P01712 P00010.		00413 00437 00452 00465 00492 00521 00534 00537 00542 00551				
P01734 P00011.		00413 00437 00452 00465 00492 00521 00534 00537 00542 00551				
X00002 08001CT.		00413 00437 00452 00465 00492 00521 00534 00537 00542 00551				
X00010 QMSINGL.		00413 00437 00452 00465 00492 00521 00534 00537 00542 00551				
C07400 S		00413 00437 00452 00465 00492 00521 00534 00537 00542 00551				
		00235 00310 00322 00323 00363 00456 00500 00501 00733 00733 01005				
P01776 SDOTY		00235 00310 00322 00323 00363 00456 00500 00501 00733 00733 01005				
X00005 SEECALC		00235 00310 00322 00323 00363 00456 00500 00501 00733 00733 01005				
C07304 SIG		00235 00310 00322 00323 00363 00456 00500 00501 00733 00733 01005				
		01035 01256 01256 01266 01360 01360 01360 01360 01360 01360				
P01777 SMAG		01035 01256 01256 01266 01360 01360 01360 01360 01360 01360				
P02001 SMALLA		01035 01256 01256 01266 01360 01360 01360 01360 01360 01360				
P02001 SMALLB		01035 01256 01256 01266 01360 01360 01360 01360 01360 01360				
X00006 SORTF		01035 01256 01256 01266 01360 01360 01360 01360 01360 01360				
X00007 STM.		01035 01256 01256 01266 01360 01360 01360 01360 01360 01360				
		00341 00341 00341 00341 00341 00341 00341 00341 00341 00341				
P02002 SUM2		00341 00341 00341 00341 00341 00341 00341 00341 00341 00341				
P02003 SUM3		00341 00341 00341 00341 00341 00341 00341 00341 00341 00341				
X00001 THEMD.		00341 00341 00341 00341 00341 00341 00341 00341 00341 00341				
		01040 01040 01040 01040 01040 01040 01040 01040 01040 01040				
P00266 TS00001.		01040 01040 01040 01040 01040 01040 01040 01040 01040 01040				
P00256 TS00002.		01040 01040 01040 01040 01040 01040 01040 01040 01040 01040				
P00327 TS00003.		01040 01040 01040 01040 01040 01040 01040 01040 01040 01040				
P00325 TS00004.		01040 01040 01040 01040 01040 01040 01040 01040 01040 01040				
P00372 TS00005.		01040 01040 01040 01040 01040 01040 01040 01040 01040 01040				
P00431 TS00006.		01040 01040 01040 01040 01040 01040 01040 01040 01040 01040				
P00423 TS00007.		01040 01040 01040 01040 01040 01040 01040 01040 01040 01040				
P00441 TS00010.		01040 01040 01040 01040 01040 01040 01040 01040 01040 01040				
P00505 TS00011.		01040 01040 01040 01040 01040 01040 01040 01040 01040 01040				
P00544 TS00012.		01040 01040 01040 01040 01040 01040 01040 01040 01040 01040				
P00563 TS00013.		01040 01040 01040 01040 01040 01040 01040 01040 01040 01040				
P00621 TS00014.		01040 01040 01040 01040 01040 01040 01040 01040 01040 01040				
P00660 TS00015.		01040 01040 01040 01040 01040 01040 01040 01040 01040 01040				
P00700 TS00016.		01040 01040 01040 01040 01040 01040 01040 01040 01040 01040				
P00740 TS00017.		01040 01040 01040 01040 01040 01040 01040 01040 01040 01040				
P01012 TS00020.		01040 01040 01040 01040 01040 01040 01040 01040 01040 01040				
P01101 TS00021.		01040 01040 01040 01040 01040 01040 01040 01040 01040 01040				
P01121 TS00022.		01040 01040 01040 01040 01040 01040 01040 01040 01040 01040				

5.4TS FINDMIN

	12/20/71	ED	0	PAGE NO.	12
C07114 X2	01263				
	00561				
C07210 X3	00723				
	00617				
C07760 X4	01363				
	01010				
C10054 Y	01363				
P02004 Y2	00365				
P02005 Y3	00752				
P02006 YHY	00754				
	01324				
	01264				
	00565				
	00723				
	00623				
	01014				
	01075				
	00616				
	01133				
	00655				
	00616				
	01133				
	00655				
	01257				
	01266				
	01307				
	01312				
	01333				
	00770				
	00773				
	01033				
	00656				
	00727				
	01261				
	01310				
	00671				
	01313				
	01314				
	01310				
	01334				
	01362				
	00671				
	00676				
	00702				
	01314				
	01334				
	01362				

00456 SYMBOLS

FTN5.5

12/29/71

PAGE NO.

1

```

SUBROUTINE F28MIN(XX,P)
  CSUBR  F28MIN  15APR71
  CUSE   1      10CT71
  C
  COMMON/I,X0(50),Y0(50),VI(50),RADL(50),VTOA(50.30),S(50.30),
  1 VEFF(50.30),X(30),Y(30),PDEL(30),ERDEL(30),YDSCL(30),
  2 VESC(30),NI,NJ,DUM(18)
  DATA (NUMMAX=30), (MJ=50)
  C
  CEND
  1 *****
  DIMENSION XX(60)
  DO 1 I=1,NI
  CALL MOVE(I,XX(2*I-1),XX(2*I))
  1 CONTINUE
  CALL VAL(F)
  RETURN
  END
  1000
  10000
  2000
  1000
  2000
  3000
  4000
  5000
  6000
  2000
  3000
  4000
  5000
  6000
  7000
  8000
  9000

```

5.4TS F28MIN

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

F28MIN

EXTERNAL SYMBOLS

1

IDENT

00113
00005

11444

F28MIN

12/20/71

EO

0

PAGE NO.

2

GGDDICT.
MOVE
VAL

P00051	BEGIN.	00074	00102	00106				
P00001	DICT.	00007	00021	00032	00054	00055		
C11422	DUM1							
P00075	ENDING.	00010	00034	00051	00052	00053	00053	
C11266	ERDEL							
P00000	EXIT.	00100						
P00005	F	00033						
P00005	P28MIN	00005						
P00016	PP00001.	00063						
P00017	PP00002.	00064						
P00022	PP00003.	00067	00070					
P00023	PP00004.	00065	00066					
P00033	PP00005.	00073						
P00111	GETPL.	00056	00071					
P00101	GETPU.	00061	00105					
P00112	I	00012	00022	00025	00044			
P00035	IN00001.	00015	00036	00047				
P00051	INITIAL.	00010						
P00025	I							
P00022	Z00001.	00016	00017					
P00004	MJ	00020						
X00002	MOVE	00027	00027					
C11420	N							
C11421	NJ							
P00003	NUMMAX	00041						
P00036	P00000.U							
C11230	PDEL	00062						
P00071	PF00002.	00072						
P00074	PF00003.	00000	00006					
X00001	Q00DICT.							
C00226	RADL							
C03244	S							
P00027	TS00001.	00014	00024	00026	00037	00044	00045	00046
P00043	UP00000.	00013						00050
X00003	VAL	00031						
C06200	VEFF							
C11362	VESC							
C00144	VI							
C00310	VTOA							
P00015	WS00001.	00030	00030					
C11134	X							
C00000	X0							
P00005	XX	00016	00017	00022	00023			
C11172	Y							
C00062	Y0							
C11324	YDCL							

00056 SYMBOLS

FTNS.5

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PAGE NO.

1

```

SUBROUTINE GRADF (XX,G)
  CSUBR  GRADF  15APR71
  CUSE   1      10CT71
  C
  COMMON/1/X0(50),Y0(50),VI(50),RADL(50),VTOA(50,30),S(50,30),
  1  VEFF(50,30),X(30),Y(30),PDEL(30),ERDEL(30),YDSCL(30),
  2  VESC(30),NI,NJ,DUM1(18)
  DATA (NUMMAX=30), (MJ=50)
  C
  DIMENSION XX(60),G(60)
  DO 1 I=1,MJ
    G(2*I-1)=-VMARG(I,XX(2*I-1),.001,XX(2*I))/,001
    G(2*I)=-VMARG(I,XX(2*I-1),XX(2*I),.001)/,001
  1 CONTINUE
  RETURN
  END
  CEND

```

1000
11000
2000
1000
2000
3000
4000
5000
6000
2000
3000
4000
5000
6000
7000
8000
9000

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PAGE NO.

1

```

SUBROUTINE GRADF(XX,0)
  CSUBP  GRADF  ISAPRT
  CUSE   1      10CT71
  C
  COMMON/1/X0(50),Y0(50),VI(50),RADL(50),VTOA(50,30),S(50,30),
  1  VEFF(50,30),X(30),Y(30),PDEL(30),EMDEL(30),YDSCL(30),
  2  VESC(30),NI,NJ,OUNI(18)
  DATA (NUMMAX=30), (NJ=50)
  C
  CEND
  1
  DIMENSION XX(60),G(60)
  DO 1 I=1,NI
    G(2+I-1)=-VMARG(I,XX(2+I-1)+.001,XX(2+I))/,001
    G(2+I)=-VMARG(I,XX(2+I-1),XX(2+I)+.001)/,001
  1 CONTINUE
  RETURN
  END

```

1000
11000
2000
1000
2000
3000
4000
5000
6000
2000
3000
4000
5000
6000
7000
8000
9000

P00051 BEGIN.	00074	00102	00106				
P00001 DICT.	00007	00021	00032	00054	00055		
C11422 DUMI.							
P00015 ENDING.	00010	00034	00051	00052	00053	00053	
C11266 ERDEL							
P00000 EXIT.	00100						
P00005 F	00033						
P00005 P26MIN	00005						
P00016 P00001.	00063						
P00017 P00002.	00064						
P00022 P00003.	00067	00070					
P00023 P00004.	00065	00066					
P00033 P00005.	00073						
P00111 GETPL.	00056	00071					
P00101 GETPU.	00061	00105					
P00112 I	00012	00022	00025	00044			
P00035 IN00001.	00015	00036	00047				
P00051 INITIAL.	00010						
P00025 .1							
P00022 .200001.	00016	00017					
P00004 MJ	00020						
X00002 MOVE	00027	00027					
C11420 NI							
C11421 NJ							
P00003 NUMMAX	00041						
P00036 P00000.U							
C11230 PDEL	00062						
P00071 PF00002.	00072						
P00074 PF00003.	00000	00006					
X00001 Q80DICT.							
C00226 RADL							
C03244 S	00014	00024	00026	00037	00044	00045	00046
P00027 TS00001.	00013	00024	00026	00037	00044	00045	00046
P00043 UP00000.	00031						
X00003 VAL							
C06200 VEFF							
C11362 VESC							
C00144 VI							
C00310 VTOA							
P00015 WS00001.	00030	00030					
C11134 X							
C00000 X0							
P00005 XX	00016	00017	00022	00023			
C11172 Y							
C00002 Y0							
C11324 YDSCL							
00056 SYMBOLS							

5.4TS

3RADF

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

3RADF

1

EXTERNAL SYMBOLS

QSDICT.
VMARG

IDENT

00137

00005

11444

3RADF

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ED

0

PAGE NO.

2

P00663 BEGIN.
P00135 COUNT.
P00001 DICT.
C11422 DUM1
P00116 ENDING.
C11266 ERDEL
P00000 EXIT.
P00020 FPG0001.
P00022 FPG0002.
P00027 FPG0003.
P00031 FPG0004.
P00032 FPG0005.
P00033 FPG0006.
P00040 FPG0007.
P00043 FPG0010.
P00005 G
P00132 GETPL.
P00122 GETPU.
P00005 GRADE
P00136 I
P00047 IN00001.
P00063 INITIAL.
P00044 .I
P00133 .ERASER.
P00026 .Z00001.
P00040 .Z00002.
P00004 MJ
C11420 NI
C11421 NJ
P00003 NUMMAX
P00050 P00000.U
C11230 PDEL
P00107 PF00002.
P00115 PF00003.
X00001 Q88DICT.
C00226 RADL
C03244 S
P00046 TS00001.
P00055 UP00000.
C00200 VEFF
C11362 VESC
C00144 VI
X00002 VMARG
C00310 VTOA
P00020 WS00001.
C00000 X0
C11134 X
P00005 XX
C11172 Y
C00062 Y0
C11324 YDCL
00063 SYMBOLS

00115 00123 00127
00016 00017
00007 00025 00037 00066 00067
00010 00046 00063 00064 00065 00065
00121 00101
00100 00077
00102 00112
00076 00106
00111 00104
00075 00114
00105 00031
00070 00043
00073 00107
00005 00126
00012 00026 00040 00045 00056
00017 00050 00061
00010 00026 00035 00041
00014 00014
00053
00074
00110
00000 00006
00015
00013
00024
00045
00020 00022 00027 00032 00034 00040 00062 00062

```

SUBROUTINE GRADF (XX,G)
  CSUBR  GRADF  15A071
  CUSE   1      10CT71
  C
    COMMON/1/X0(50),Y0(50),V0(50),RADL(50),VTOA(50,30),S(50,30),
     1 VEFF(50,30),X(30),Y(30),PDEL(30),ERDEL(30),YDSC(30),
     2 VESC(30),NI,NJ,DUM1(18)
    DATA (NUMMAX=30), (NJ=50)
  C
  CEND
    DIMENSION XX(60),G(60)
    DO 1 I=1,NI
      G(2*I-1)=-VMARG(I,XX(2*I-1),.001,XX(2*I))/,.001
      G(2*I)=-VMARG(I,XX(2*I),.001,XX(2*I))/,.001
    1 CONTINUE
    RETURN
  END

```

1000
11000
2000
1000
2000
3000
4000
5000
6000
2000
3000
4000
5000
6000
7000
8000
9000

5.4TS

3RADF

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

GRADF

1

EXTERNAL SYMBOLS

QSQDICT.
VMARG

IDENT

00137
00005
11444

GRADF

12/20/71

ED

0

PAGE NO.

2

P00063	BEGIN.	00115	00123	00127				
P00135	COUNT.	00016	00017	00037	00066	00067		
P00001	DICT.	00007	00025					
C11422	DUM1							
P00116	ENDING.	00010	00046	00063	00064	00064	00065	00065
C11266	ERDEL							
P00000	EXIT.	00121						
P00020	FP00001.	00100	00101					
P00020	FP00002.	00102						
P00027	FP00003.	00076	00077					
P00031	FP00004.	00111	00112					
P00032	FP00005.	00075						
P00033	FP00006.	00105	00106					
P00040	FP00007.	00103	00104					
P00043	FP00010.	00113	00114					
P00005	G	00031	00043					
P00132	GETPL.	00070	00107					
P00122	GETPU.	00073	00126					
P00005	GRADF	00005						
P00136	I	00012	00026	00040	00045	00056		
P00047	IN00001.	00017	00050	00061				
P00063	INITAL.	00010						
P00044	I		00026	00035	00041			
P00133	ERASER.	00022						
P00026	Z00001.	00023						
P00040	Z00002.	00033						
P00004	MJ							
C11420	NI	00014	00014					
C11421	NJ							
P00003	NUMMAX							
P00050	P00000.U	00053						
C11230	POEL	00074						
P00107	PF00002.	00110						
P00115	PF00003.	00060	00006					
X00001	Q0001CT.							
C00226	RADL							
C03244	S							
P00046	T500001.	00015						
P00055	U000000.	00013	U0051	00056	00057	00060	00062	00062
C06200	VEFF							
C11362	VESC							
C00144	VI							
X00002	VKARG	00024	00036					
C00310	VTOA							
P00020	W500001.	00045						
C00300	X0							
C11134	X							
P00005	XX	00020	00022	00027	00032	00034	00040	
C11172	Y							
C00062	Y0							
C11324	Y0SCL							
00063	SYMBOLS							

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FTNS.5

```

FUNCTION IMAX(ARRAY,NARRAY)
  IMAX  11/04/68 *****
  CSUBR DIMENSION ARRAY(2) *****
        AS=1.
        GO TO 1
  ENTRY IMIN
        AS=-1.
  1 M=1
    DO 2 I=2,NARRAY
      IF (A*(ARRAY(I)-ARRAY(M))) 2,2,3
  2 CONTINUE
  3 M=I
  2 IMAX=M
  RETURN
  END
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
12000
13000
14000

```

S.4TS IMAX

PROGRAM LENGTH IMAX
ENTRY POINTS IMIN
EXTERNAL SYMBOLS Q8QDICT.

IDENT

00110
00003
00011

IMAX

12/20/71

EO

0

PAGE NO.

2

P00104 A	00019	00016	00031		
P00003 ARRAY	00026	00030			
P00042 BEGIN.	00064	00073	00077		
P00105 COUNT.	00024	00025			
P00001 DICT.	00005	00013	00045	00046	
P00065 ENDING.	00006	00014	00040	00042	00044
P00000 EXIT.	00071				
P00022 FP00001.	00062	00063			
P00026 FP00002.	00054	00055			
P00030 FP00003.	00056	00057			
P00102 GETPL.	00047	00060			
P00072 GETPU.	00052	00076			
P00106 I	00021	00025	00033	00036	
P00003 IMAX	00003				
P00011 IMIN	00011				
P00042 INITIAL.	00006	00014			
P00017 .1	00010				
P00035 .2	00032				
P00033 .3					
P00107 M	00020	00027	00034	00037	
P00003 MARRAY	00022				
P00060 PF00002.	00053				
P00064 PFC0003.	00061				
X00001 QB0001.	00000	00004	00012		
P00037 TS00001.	00023				
P00041 VALUE.	00040	00070			
P00026 WS00001.	00036				
00033 SYMBOLS					


```

SUBROUTINE LREORDER(ISEQ, N, LOGAR)
  CSUBR  LREORDER  210CT70 *****
  C
  C THIS ROUTINE REORDERS A LOGICAL ARRAY ACCORDING TO THE SEQUENCE
  C ARRAY, ISEQ. THE ALGORITHM IS THE SAME AS USED IN SUBROUTINE
  C REORDER.
  C
  C DIMENSION LOGAR(N), ISEQ(N)
  C TYPE LOGICAL LOGAR, L
  C
  10 I = 1
  20 IF (I = ISEQ(I)) 30, 70, 30
  30 IF (ISEQ(I)) 70, 70, 40
  40 ITEMP = I
  50 L = LOGAR(I)
  50 NEXT = ISEQ(I)
  ISEQ(I) = ISEQ(NEXT)
  LOGAR(I) = LOGAR(NEXT)
  I = NEXT
  IF (ISEQ(I) = ITEMP) 50, 60, 50
  60 ISEQ(I) = -ISEQ(I)
  LOGAR(I) = L
  GO TO 10
  C
  70 IF (I = N) 80, 90, 90
  80 I = I + 1
  90 DO 100 J = 1, N
  100 ISEQ(J) = XABSF(ISEQ(I))
  RETURN
  END

```

1000
 51000
 2000
 3000
 4000
 5000
 6000
 7000
 8000
 9000
 10000
 11000
 12000
 13000
 14000
 15000
 16000
 17000
 18000
 19000
 20000
 21000
 22000
 23000
 24000
 25000
 26000
 27000
 28000
 29000
 30000

5.4TS LREORDER

PROGRAM LENGTH
ENTRY POINTS
EXTERNAL SYMBOLS
LREORDER
Q3000040
Q3010040
Q3001040

IDENT
00176
00003

LREORDER

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ED

0

PAGE NO.

2

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FINS.5

```

SUBROUTINE MOVE(IM,XM,YM)
  CSUBR      MOVE      15APR71
  CUSE       1         10CT71
  C
    COMMON/I,XO(50),YO(50),VI(50),RADL(50),VTA(50,36),S(50,30),
     1 VEFF(50,30),X(30),Y(30),POEL(30),ERDEL(30),YOSCL(30),
     2 VESC(30),NI,NJ,DUM1(10)
    DATA (NUMMAX=30), (MJ=50)
  C
  GENQ      1
    DO 10 J=1,NJ
      RZ=XO(J)-XM**2 + (YO(J)-YM)**2
      AM=RADL(J)*YOSCL(IM)
      S(J,IM)= 1.-POEL(IM)*SSKPC(1,A,ERDEL(IM),R2)
    10 CONTINUE
    RETURN
  END

```

5.ATS

MOVE

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

MOVE

EXTERNAL SYMBOLS

1

IDENT

00156
00005

11444

MOVE

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2

5.4TS

MOVE

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3

P00152 A
P00100 BEGIN.
P00153 COUNT.
P00001 DICT.
C11422 DUM1
P00130 ENDING.
C11266 ERDEL
P00000 EXIT.
P00020 P00001.
P00023 P00002.
P00027 P00003.
P00071 P00004.
P00144 GETPL.
P00134 GETPU.
P00005 IM
P00051 IN00003.
P00101 INITIAL.
P00046 .10
P00145 .ERASER.
P00049 .200001.
P00154 J
P00064 NJ
P00005 MOVE
C11420 NI
C11421 NJ
P00003 RUMMAX
P00055 P00000.U
C11230 PDEL
P00117 P00002.
P00123 P00003.
P00127 P00004.
X00001 Q0001CT.
P00155 R2
C00226 RADL
P00053 RELCON.
C00244 S
X00002 SSKPC
P00050 T000001.
P00061 UP00000.
P00070 UP00001.
C00200 VEFF
C11362 VESC
C00144 VI
C00310 VTOA
P00022 W000001.
C00000 X0
C11134 X
P00005 XM
C00062 Y0
C11172 Y
C11324 Y0SCL
P00005 YM
00064 SYMBOLS

00034 00040
00127 00135 00141
00014 00021 00104 00105
00007 00037 00106 00103 00103 00103
00010 00050 00101 00102 00102 00103 00103
00035 00041
00133 00114
00113 00122
00121 00126
00125 00116
00115 00117
00106 00117
00111 00123
00020 00071
00017 00055
00016 00065 00076
00024 00025 00030 00031 00031
00035 00035
00012 00017 00062
00005
00014 00014
00057 00042
00042 00042
00112
00120
00124
00000
00032 00041
00032 00033
00044 00045
00036
00015
00013
00052
00047 00047
00032 00032
00023 00023
00026 00026
00033 00033
00027 00027

```

SUBROUTINE PERTBLD(XG)
  CSUBR  PERTBLD  24MAY71
  C----- PERTURBS LAYDOWN WPN POSN PRIOR TO DGZSEL CALL ON FINDMIN
  CUSE    1      10CT71
  C
  COMMON/I,XG(50),Y0(50),VI(50),RADL(50),VTOA(50,30),S(50,30),
  1 VEFF(50,30),X(30),Y(30),PDEL(30),ERDEL(30),YDSEL(30),
  2 VESC(30),NI,NJ,DUMI(18)
  DATA (NUMMAX=30), (NI=50)
  C
  CEND    1
  DIMENSION XG(1)
  DO 1 I=1,NI
    RL=10000.
  C----- DO 5... LOOP FINDS LETHAL TARGET RADIUS (RL) ASSOC WITH WPN I
  C----- IF MORE THAN ONE RL ASSOC WITH SAME POSN, SMALLER RL CHOSEN
    DO 5 M=1,NJ
      IF (X(I).EQ.X0(M).AND.Y(I).EQ.Y0(M)) 2,5
      IF (X(I).EQ.X0(M).AND.Y(I).GT.Y0(M)) 2,5
      2 RL=MINI(RL,RADL(M))
      5 CONTINUE
      IF (RL.EQ.100000.) 1,3
      3 CONTINUE
      FJI=0.
      FJM=0.
      FJY=0.
      DO 10 J=1,NJ
        FJI=FJI+VEFF(J,I)
        FJM=FJM+VEFF(J,I)*X0(J)
        FJY=FJY+VEFF(J,I)*Y0(J)
      10 CONTINUE
      FJM=FJM/FJI
      FJY=FJY/FJI
      RMAG=SQRT((FJM-X(I))**2+(FJY-Y(I))**2)
      CL=ERGT(1)*(RL/A.)/RMAG
      X(I)=X(I)+CL*(FJM-X(I))
      Y(I)=Y(I)+CL*(FJY-Y(I))
      XG(2*I-1)=X(I)
      XG(2*I)=Y(I)
      1 RETURN
  END

```

5.475 PERTBLD

IOENT PERTBLD

00245

PROGRAM LENGTH

ENTRY POINTS

BLOCK NAMES

1

EXTERNAL SYMBOLS

Q8QDICT.

ERGOT1

SORTF

MIN1F

00005

11444

5.4TS PERTBLD

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00310 YTOA					
P00015 W500001.					
P00024 W500002.					
P00055 W500003.					
C11134 X					
C00000 X0					
P00005 X0					
C11172 Y					
C00062 Y0					
C11124 YDCL					
00100 SYMBOLS					
00135					
00034					
00067					
00024					
00061					
00127					
00026					
00027					
00074					
00075					
00116					
00117					
00120					
00120					
00125					
00100					
00100					
00122					
00122					
00124					
00124					
00125					
00125					
00130					
00130					


```

X(I)=0.
Y(I)=0.
I=I8(I) $ K=TYPE(I8) $ IR=IR-(I8)
PDEL(I)=PENN(I)-CCREL(IR)-SBL(I8)*REL(K)
YMIN=XMINIF(YMIN,YIELD(I8))
ERDEL(I)=CEP(K)
25 YDCL(I)=YIELD(I8)**(1./3.)
J=0
1TP=BASEFILE(1)
PROCESS EACH TARGET ELEMENT
DUM1(1)=0.
DUM1(2)=0.
DO 90 JM=1,ICOMP
  READ DATA FROM BASEFILE FOR NEXT TARGET ELEMENT
  IF(ICITY)26,27
26 ICITY=0 $ GO TO 28
27 CALL RDARRAY(TARGET,LTARGET)
28 CONTINUE
  DUM1(1)=DUM1(1)+TGTTRAD
  DUM1(2)=DUM1(2)+(TGTLAT-TLAT)+(TGTLONG-TLONG)
  FOR EACH WPN I ON TGT CALCULATE FRACTIONAL VAL OF WPN I AT TOA
  FV(1)=FVAL(1) $ FV(2)=FVAL(2) $ FV(3)=1.-FV(1)-FV(2)
  DO 40 I=1,N $ FVAL(I)=0.
  DO 30 K=1,NK
    TEMP=TOA(I)/TAU(K)
    FVALT(I)=FVAL(I)*FV(K)/(1.-TEMP**4)
30 CONTINUE
  RECORD INITIAL VALUE OF TGT COMP FOR EACH HARDNESS COMPONENT
  VO(1)=VTO-FVALH1
  VO(2)=VTO-VO(1)
  PROCESS EACH TARGET COMPONENT SEPARATELY
  DO 60 JM=1,M
    IF(TGTTRAD-EG.0.)50,60
    SET OFFSETS DX AND DY TO 0.
50 DX=0. $ DY=0. $ XJA=1.
    ASSIGN 60 TO LVELIN $ GO TO 200
  SET UP ELEMENTS FOR AREA TARGET
  RCRIT=H(JM)*YDMIN**(1./3.)
  JAS(1)=2.*TGTTRAD/RCRIT**1.5 $ XJA=JA
  DO 70 J=1,JA
    DX=TGTTRAD*CUMINV(ERGT1(1))/2.448
    DY=TGTTRAD*CUMINV(ERGT2(2))/2.448
    ASSIGN 70 TO LVELIN $ GO TO 200
70 CONTINUE
80 CONTINUE
90 CONTINUE
  NJ=J $ NJM=J
  CALL TIME(2)
  IF(DUM1(1)-EG.0.-AND.DUM1(2)-EG.0.)GO TO 100
  CALL COMPRESS(0)
  CALL DOZSEL
  CONVERT TARGET AIM OFFSETS TO DIFFERENCES IN LATITUDE, LONGITUDE
100 DO 120 I=1,N
  DLAT(I)=Y(I)/60.
  DLONG(I)=X(I)/(60.*COSP(TLAT+.01745329257))
120 CONTINUE

```

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101005
101005
102000
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104300
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107000
108000

5.4TS PROCCOMP

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ED

0

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5

IDENT PROCCOMP

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

PROCCOMP

00724
00146

STAK
IFTPRINT
IYP
FILES
MASTER
MPHRES
WGROUP
TARGET
CITY
1
ISKIP08Z

EXTERNAL SYMBOLS

Q2007111
Q1010108
THEND.
GEOOICT.
ORDER
REORDER
ROARRAY
CUMING
ER001
ER002
TIMEHE
COMPRESS
D02SEL
PROCSIMP
MINIF
COSF
STH
QNSINGL.

S.47S PROCCOMP

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03

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C00012	ALOGRP
C00006	ALCTAR
C00002	BASFILE
P00552	BEGIN.
C00000	CCREL
C01449	CEP
C00804	CNTALC
P00004	CNTRYLOC
P00625	CNVRT1.
X00014	CNVRSS
X00020	COSP
P00703	COUNT.
F00107	CRMT.
X00010	CUMINV
C00002	DSTG
X00015	DESEL
P00001	DICT.
C00016	DISTR
C00017	DISTO
C00114	DLAT
C00152	DLONG
C00002	DSIG
C11422	DUNI
P00704	OX
P00705	OY
P00655	ENDING.
C11246	ERDEL
X00011	ERR071
X00012	ERR072
C00216	EVENTAPE
P00000	EXIT.
C00005	FLAG
C00005	FLB
P00107	FORMAT.
P00101	FV
C00020	FVAL
P00016	FVALM1
P00011	FVALT
P00531	G000000.
C00014	H
P00706	I
C00003	IATLOC
C00000	ICITY
C00026	ICLASS
C00303	ICOMP
C00001	IDENTNO
C00015	IDFN
C00036	IEOT
P00453	IF00001.
C00000	IPTRANT
P00707	IS

5.4TS PROCCOMP

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7

C00020	160	00161	00204	00205	00512				
C00025	INCLASS								
C00030	INDATE								
C00036	IN00007.	00512	00627	00641	00650				
C00041	INDEX	00543							
C00041	INDEXNO	00544							
C00052	INITIAL.	00151							
C00052	IR	00212							
C00059	IR50	00211	00214						
C11362	IR20	00154	00160	00167	00167				
C00063	IS02	00167	00511						
C00062	IS10E	00107	00533	00533	00551	00552			
C00060	ISX1PD02								
C00345	ISTAPE	00247	00247						
C00060	ITP	00207	00207						
C00310	ITYPE	00454							
C00484	.106	00452	00455						
C00456	.108001	00552							
C00457	.108002	00354	00430						
C00506	.120	00525							
C00507	.130								
C00521	.200								
C00537	.210								
C00617	.220								
C00173	.24								
C00232	.25								
C00237	.26	00256							
C00261	.27	00256							
C00264	.28	00260							
C00323	.30								
C00524	.301	00524	00525						
C00535	.3010	00534							
C00553	.3020	00534							
C00332	.40								
C00350	.50								
C00355	.60	00347							
C00431	.70	00427							
C00434	.80	00353							
C00437	.90								
C00560	.ERASER	00233	00240	00272	00275	00324	00326	00327	00356
		00373	00407	00412	00421	00424	00502	00504	00516
		00575							
P00107	.3011	00540							
P00226	.Z00001.	00223							
P00711	J	00244							
P00712	JA	00376	00442	00521	00522	00555	00562	00562	00565
C00067	JCLASS		00432						
P00713	JH	00343	00363	00434	00577				
C00006	JMCLASS								
C00010	JMTYPE								
P00714	JH	00253	00437						
P00715	JH	00403	00431						
P00716	K	00210	00217	00312	00316				

5.4TS PROCCOMP

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C00056 KOK	00162	00513						
P00104 LTARGET	00263							
P00717 LVELIN	00354	00430	00421					
C00013 M	00435	00435						
X00017 MINIF	00224							
P00106 MJ	00524							
C00004 MSLTIME								
C00342 MULL	00155	00160	00170	00176	00176	00334	00444	00467
C00344 M	00511	00607	00607					00467
	00541	00541						
C00023 MAlert								
C00000 NAME								
C00016 NASHTYPE								
C00010 NENDRY								
C00022 NCLASS								
C00026 NENTRY								
C00021 NCOMPLEX								
C00004 NCONR								
C00025 NGORTYPE								
C00005 NOPEN								
C00013 NGROUP								
C11420 NI	00445	00445	00520	00527	00553	00553		
C11421 NJ	00443	00443						
C00017 NK	00313	00313						
C00347 NMPFIX								
C00015 NPAYLOAD								
C00006 NRECOVER								
C00007 NREF								
C00011 NREG								
C02003 NSTPT								
C00020 NTANKBAS								
C00024 NTOTS								
C00014 NTOTBASE								
C00012 NTYPE								
P00105 NUMMAX								
C00017 NNMOTYPE								
X00005 CROER	00152	00165						
P00027 P00000.U	00632							
C11230 PDEL	00221	00221						
C00304 PENN	00163	00213	00213	00514				
C00017 PLANTAPE								
P00146 PROCCOMP	00196							
X00016 PROCSIMP	00516							
X00002 QIC10100	00375							
X00001 Q2007111	00235							
X00004 Q3001CT.	00000							
X00022 QNSIMBL.	00624							
C00226 RADL	00601							
P00720 RCRIT	00367							
X00007 RDARRAY	00261							
C01560 REL	00220							
C00246 RELVAL	00163							
X00006 REORDER	00156							
C03244 S								

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```

SUBROUTINE PROCMULT
  CSUBR      PROCMULT 18OCT71 *****
  C          FOR EACH ELEMENT OF A MULTIPLE TARGET PROCMULT READS ONE RECORD -
  C          /MULTTOT/ = FROM BASFILE, CREATES SEPARATE TARGET COORDINATES FOR
  C          THE ELEMENT, PUTS /MULTTOT/, TLAT, AND TLONG IN /STRK/, AND CALLS
  C          PROCSTMP TO OUTPUT THE STRIKE RECORD
  C          CUBE
  C          STRK      15APR71 *****
  C          COMMON/STRK/NAME,INDEX,DSIG,TSK,CNTRLC,FLG,JMCLASS,JMTYPE,
  C          1TLAT,TLONG,IATPRM,IPRM,DISP,DISTG,100(30),MOR(30),
  C          2ZLAT(30),ZLONG(30),TOA(30),RELVAL(30),PENN(30),MULL,ICORP,N,
  C          3ISTAPE,IEOT,NNFIX
  C          TYPE INTEGER DSIG,TSK,CNTRLC,FLG
  C          CENO
  C          STRK      *****
  C          MULTTOT 15APR71 *****
  C          COMMON/MULTTOT/MULTTOT(8)
  C          DATA (MULTTOT = 8)
  C          CENO
  C          MULTTOT *****
  C          DIMENSION TMULTOT(8)
  C          EQUIVALENCE(TMULTOT,MULTTOT)
  C          CUBE
  C          FILES      15APR71 *****
  C          COMMON/FILES/TOTFILE(2),BASFILE(2),MSLTIME(2),ALOCYAR(2),
  C          1TMPALOC(2),ALOCORP(2),STRKFL(2),EVENTAPE,PLANTAPE
  C          1STRKFL,EVENTAPE,PLANTAPE
  C          CENO
  C          FILES      *****
  C          IFTPRNT 15APR71 *****
  C          COMMON/IFTPRNT/IFTPRNT(10)
  C          CENO
  C          IFTPRNT *****
  C          ITP      15APR71 *****
  C          COMMON/ITP/ITP
  C          CENO
  C          ITP      *****
  C          DATA(ANGLE=0.0)
  C          SET FOR USE IF ALOCOUT IS RUNNING IN DEBUG MODE
  C          TLAT=TLAT
  C          TLONG=TLONG
  C          INDEX=INDEX-1
  C          DO 40 I=1,MULL
  C          ITP=BASFILE(I)
  C          READ MULTIPLE TARGET DATA FROM BASFILE
  C          CALL READARRAY(MULTTOT,LMULTTOT)
  C          NAME=MULTTOT(1) $ INDEX=MULTTOT(2) $ DSIG=MULTTOT(3)
  C          TSK=MULTTOT(4) $ CNTRLC=MULTTOT(5) $ FLG=MULTTOT(6)
  C          TLAT=MULTTOT(7) $ TLONG=MULTTOT(8)

```

FTNS.5

C WRITE STRIKE DATA RECORD FOR EACH TARGET
40 CALL PROCSIMP
 RETURN
 END

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39000
40000
41000
42000

5.4TS PROCMULT

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3

IDENT PROCMULT

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

00001
00003

PROCMULT

STRK

00350

MULTTGT

00010

FILES

00020

IFIPRNT

00012

ITP

00001

EXTERNAL SYMBOLS

Q0001CI.

RDARRAY

PROCSIMP

5-ATS PROCMULT

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4

C00012 ALOCBP
C00006 ALOCAR
P00004 ANGLE
C00002 BASFILE
P00004 BEGIN.
C00004 CNTRLC
P00001 DICT.
C00016 DISTF
C00017 DISTG
C00114 OLAT
C00152 OLONG
C00002 DSIG
P00055 ENOING.
C00016 EVENTAPE
P00000 EXIT.
C00005 FLG
P00056 I
C00013 IA7LOC
C00343 ICOMP
C00015 IDPN
C00346 IEDY
C00000 IFTMNT
C00020 IGG
C00001 INDEX
P00054 INITIAL.
C00345 ISTAPE
C00000 ITP
C00014 ITPREM
P00046 .40
C00007 JCLASS
C00006 JHCLASS
C00010 JHTYPE
C00056 KOR
P00003 LMULTTOT
C00004 MSLTIME
C00342 MULL
C00000 MULTTBT

00021 00021
00054 00037
00037 00024
00007 00047

00033 00033
00010 00053
00055 00041
00041 00050

00015 00015 00016 00031 00031

00022 00022

00025

00051 00026 00030 00030 00032 00034 00036 00036

00027 00027

00005 00006
00000 00023

00011 00011 00043 00043
00012 00012 00045 00045
00013 00013 00045 00045
00014 00014

5

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5.4TS PROCMULT

00010	TMALOC			
00000	TMULTOT			00044
00010	TOA			
00051	TS00001.	00042	00042	00044
00003	TSK	00020		
00021	WS00001.	00035	00035	
	00073 SYMBOLS	00052	00052	

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```

SUBROUTINE PROCSIMP
  CSUBR   PROCSIMP 14DECT1 *****
  C
  C   PROCSIMP MOVES THE TARGET AND WEAPON DATA INTO /STRKTGT/ AND
  C   WRITES STRIKE RECORDS ON THE INTERMEDIATE (SCRATCH) FILE WHICH
  C   IS LATER REORDERED BY ALOCOUT2 TO PRODUCE TMPALOC
  C
  C   COMMON/STRKTGT/NAMEX,INDEX,DSIG,TSK,CNTRLCX,FLGX,JHCLASSX,
  C   JCLASSX,JHTYPEX,ILATX,TLONGX,ATLOCX,TPREMX,IDPEN,DOUT,DREC,IOX,
  C   ZKORRX,OLATX,OLONGX,TOAX,RELVALX,ITFIX
  C   TYPE INTEGER DSIG,TSK,CNTRLCX,FLGX
  C   DIMENSION TOUT(23),WOUT(6)
  C   EQUIVALENCE (TOUT,NAMEX),(WOUT,IOX)
  C
  C   DATA (LSTRKTGT=23), (LDATAW=6), (LDATAT=16)
  C
  CUSE    STRK   15APR71 *****
  C
  C   COMMON/STRK/NAME,INDEX,DSIG,TSK,CNTRLC,FLG,JHCLASS,JHTYPE,
  C   ILAT,TLONG,ATLOC,ITPREM,IDPN,DISTF,DISTG,IGG(30),KOR(30),
  C   ZDLAT(30),ZDLONG(30),TOA(30),RELVAL(30),PENN(30),MULTICOMP,N,
  C   STAPE,IEOT,NFIX
  C   TYPE INTEGER DSIG,TSK,CNTRLC,FLG
  C
  CEND    STRK *****
  C
  C   DIMENSION TIN(16),WIN(30,6)
  C   EQUIVALENCE (TIN,NAME),(WIN,IGG)
  C
  CUSE    ITP   15APR71 *****
  C
  C   COMMON/ITP/ITP *****
  C
  CEND    ITP *****
  C
  C   COMMON/MYIDENT/MYIDENT *****
  CUSE    MYIDENT 15APR71 *****
  C
  C   COMMON/SCRATCH/ISCRATCH *****
  C
  CEND    SCRATCH *****
  C
  C   IF (IEOT) 2,5
  C   JHCLASSX=SHOOT
  C   MYIDENT=7HSCRATCH
  C   ITP=ISCRATCH
  C   CALL WRARRAY(TOUT,LSTRKTGT)
  C   RETURN
  C
  C   5 NEXTANFIX
  C   TRANSFER TARGET DATA FROM /STRK/ TO /STRKTGT/ (FIRST 16 WORDS)
  C   DO 10 I=1,LDATAT
  C   10 TOUT(I) = TIN(I)
  C   FOR ONE WEAPON AT A TIME TRANSFER WPN DATA FROM /STRK/ TO
  C   /STRKTGT/ AND WRITE ONE RECORD ON THE SCRATCH FILE.
  C   DO 40 J=1,N
  C   20 I=1,LDATAW
  C   20 WOUT(I)=WIN(J,I)
  C   ITP=ISCRATCH
  C   MYIDENT=7HSCRATCH

```

FTNS.5

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```

IF (KORRX)25,27,27
C   SET NN EQUAL TO NUMBER OF MISSILES IN GROUP ALLOCATED TO THIS TOT
C   AND SET KORRX (PENETRATION CORRIDOR) TO ZERO.
25  NN=KORRX
   KORRX=0
C   TEST NUMBER OF WEAPONS ALLOCATED BY FIXED ASSIGNMENT CAPABILITY
   IF (NPIX) 253,252,250
253  NPIX=NPIX-NN
C   SET INDICATOR TO 0 OR 1 WHEN NPIX IS 0 OR GREATER THAN 1.
   IIFIX=1
   GO TO 255
252  IIFIX=0
   GO TO 255
253  PRINT 254,NPIX
254  FORMAT(18H ** ERROR--NPIX =,I10)
   CALL ABORT
255  CONTINUE
C   WRITE NN STRIKE RECORDS ON SCRATCH FILE.
   DO 26 K=1,NN
26  CALL WRARRAY(TOUT,LSRKTOT)
   GO TO 40
27  CONTINUE
C   TEST NUMBER OF WEAPONS ALLOCATED BY FIXED ASSIGNMENT
C   CAPABILITY, AND SET IIFIX INDICATOR TO 1 UNLESS NPIX
C   REDUCES TO 0.
   IF (NPIX)253,272,270
270  NPIX=NPIX-1
   IIFIX=1
   GO TO 274
272  IIFIX=0
274  CONTINUE
C   WRITE A STRIKE RECORD ON SCRATCH FILE.
30  CALL WRARRAY(TOUT,LSRKTOT)
40  CONTINUE
   RETURN
   END

```

40000
41000
42000
43000
44000
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72000
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74000
75000

5.4TS PROCSIMP

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

PROCSIMP

STARTOT
STRK
ITP
MYIDENT
SCRATCH

EXTERNAL SYMBOLS

THEND.
GOTOICT.
WRARRAY
ABORT
STH.
QNSINGL.

IDENT

LC223
00020

PROCSIMP

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ED

0

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3

5.4TS PROCSTMP

12/20/71

ED 0

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X00004	ABORT	00124
C00013	ATLOCK	
P00210	BEGIN.	00211
C00004	CNTRLC	
C00004	CNTRLCX	
P00160	CAVRT1.	00121
P00215	COUNT.	00046 00062 00064
P00006	CRFMT.	00045
P00001	DICT.	00124
C00016	DISTF	00022
C00017	DISTG	00035 00116 00123 00125 00131 00150
C00114	DLAT	
C00022	DLATX	
C00152	DLONG	
C00023	DLONGX	
C00016	DOOT	
C00017	DREC	
C00002	DSIG	
C00002	DSIGX	
P00212	ENDING.	00023 00037 00156 00210 00211
P00000	EXIT.	00213
C00005	FLS	
C00005	FLSX	
P00006	FORMAT.	00026 00030 00073
P00124	G000000.	00114
P00216	I	00042 00046 00057 00063 00170
C00013	IATLOC	
C00343	ICOMP	
C00015	IDREN	
C00015	IDPM	
C00346	IEOT	00024 00024
C00020	IG	
C00020	IGX	
C00026	IFIX	00110 00111 00112 00113 00143 00144 00145 00146
P00161	ING0002.	00063 00162 00176 00206
C00001	INDEX	
C00001	INDEXX	
P00210	INITIAL.	00023
C00000	ISCRATCH	00032 00071 00071
C00345	ISTAPE	
C00003	ITP	00033 00033 00072 00072
C00014	ITPREM	
P00047	.10	00025
P00026	.2	
P00065	.20	00076
P00100	.25	
P00106	.250	
P00112	.252	00104
P00114	.253	00135
P00126	.255	00111 00113
P00130	.26	
P00137	.27	00076 00077
P00141	.270	
P00145	.272	00140

5.4TS PROCSIMP

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P00147	.274	00144			
P00147	.30	00136			
P00152	.40	00025			
P00040	.5	00026			
P00005	..100000	00030			
P00007	..100001	00073			
P00010	..100002	00117			
P00011	..254	00053			
P00217	J	00152	00203		
C00007	JCLASS				
C00007	JCLASSX				
C00006	JCLASS	00027	00027		
C00006	JCLASSX				
C00010	JHYPE				
C00010	JHYPEX	00127	00133		
P00220	K				
C00056	KOR	00075	00100	00102	00103
C00021	KORRX	00044			
P00005	LDATAT	00061			
P00004	LDATAN	00132	00151		
P00003	LSTRKTOT	00031	00074		
C00342	MULL	00154			
C00000	MYIDENT				
C00344	N				
C00000	NAME	00041	00104	00107	00141
C00000	NAMEX	00101	00106	00120	00137
P00221	NPFX	00040	00107		00142
P00222	NN	00040	00134		
P00347	NNFX	00105			
P00162	P00000.U	00200			
P00176	P00001.U				
C00304	PENN	00020			
P00020	PROCSIMP	00000	00021		
X00002	Q80ICT.	00157			
X00006	QNSIMBL.				
C00246	RELVAL	00115			
C00025	RELVALX	00122			
X00005	STM.	00047			
X00001	THEND.				
C00000	TIN				
C00021	TLAT				
C00011	TLATX				
C00012	TLONG				
C00012	TLONGX				
C00210	TOA				
C00024	TOAX	00036	00050	00132	00151
C00005	TCUT				
C00014	TPREMX	00045			
P00052	TS00001.	00055			
P00154	TS00002.	00062			
P00071	TS00003.	00127			
P00134	TS00004.				
C00003	TSK				
C00003	TSKX				

SATS PROCIMP

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ED 0

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P00167 UP00000.
P00202 UP00001.
C00020 WIN
C00020 ROUT
X00003 WRARRAY
P00047 W00001.
P00056 W00002.
P00065 W00003.
P00130 W00004.
00165 SYMBOLS

00043 00060 00162 00170 00171 00172 00174 00175
00054 00153 00176 00203 00204 00205 00207 00207
00065 00065 00066 00066 00066 00066 00066 00066
00066 00130 00130 00147 00155 00155 00155 00155
00051 00070 00135 00135 00135 00135 00135 00135

12/20/71

```

SUBROUTINE SEECALC (VECTOT,XX)
      CSUBR      SEECALC      ISAPRT1
      CUBE      1      LOCTT1
      C
      COMMON/1/X0(50),Y0(50),Z0(50),RADL(50),VTOA(50,30),S(50,30),
      1      VEPF(50,30),X(30),Y(30),POEL(30),ENDEL(30),YDSEL(30),
      2      VESCC(30),NI,NJ,DUM1(10)
      DATA (NUMMAA20), (NJ=50)
      C
      CEND      1
      DIMENSION XX(60)
      CALL TIME1(-2)
      PRINT 500
      500 FORMAT(/,51X,25HDOZSEL COMPUTATION VALUES /)
      2000 IF (NJ.GT.5) 2000,2001
      2000 NJ=5
      GO TO 2002
      2001 NJ=NI
      2002 CONTINUE
      PRINT 501
      501 FORMAT(4H WPN,25X,14X,14X,14X,25H1,13X,25H2,13X,25H3,13X,
      X25H4,13X,25H5/)
      DO 2003 I=1,NI
      PRINT 502,I,XX(2*I-1),XX(2*I),S(J,I),J=1,NJ)
      2003 CONTINUE
      502 FORMAT(14,11X,7(F15.6))
      PRINT 503,VECTOT
      503 FORMAT(/,30X,28H TOTAL ESCAPED TARGET VALUE= F(5.0)/)
      CALL TIME1(-3)
      RETURN
      END

```

5.475 SEECALC

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

SEECALC

EXTERNAL SYMBOLS

1

THEND.
ORDDICT.
TIME
STH.
QNSINGOL.

IDENT

00305
00073
11444

SEECALC

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ED

0

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2

5-ATS SEECALC

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ED

0

P00240	BEGIN.	00262	00270	00274	00133	00173			
P00205	CHVAT1.	00140	00142	00144	00176				
P00005	CHVAT.	00112	00127	00166					
P00001	DICT.	00075	00102	00106	00111	00123	00126	00135	00161 00170 00175 00201
		00243	00244						
C11422	DUM1	00076	00203	00240	00241	00241	00242	00242	
P00263	ENDING.								
C11266	ERDEL	00266							
P00000	EXIT.								
P00005	FORMAT.								
P00141	FORJ001.	00260	00261						
P00143	FP00002.	00256	00257						
P00172	FP00003.	00252	00253						
P00277	GETPL.	00245	00254						
P00267	GETPU.	00250	00273						
P00112	GG00000.	00104							
P00127	GG00001.	00121							
P00162	GG00002.	00133							
P00176	GG00003.	00166							
P00302	I	00130							
P00206	IN00001.	00137	00162	00217					
P00207	IN00002.	00141	00210	00222					
P00240	INITIAL.	00151	00211	00224	00226	00236			
P00115	.2000	00076							
P00117	.2001	00113	00114						
P00121	.2002	00116							
P00162	.2003								
P00300	.ERASER.	00100	00103	00177	00202				
P00305	.500	00107							
P00017	.501	00124							
P00051	.502	00136							
P00040	.503	00171							
P00303	J	00146	00154	00233					
P00004	HJ								
C11420	NI	00164	00164	00117	00117				
C11421	NJ	00112	00112	00156					
P00304	NJ1	00116	00120						
P00003	NUMMAX								
P00210	P00000.U	00214							
P00226	P00001.U	00230							
C11230	PDEL								
P00254	PF00002.	00251							
P00262	PF00003.	00255							
X00002	Q0001CT.	00000	00074						
X00005	QNSINGL.	00204							
C00324	RADL								
C00344	S	00152	00152						
P00073	SEECALC	00073							
X00004	STH.	00105	00122	00134	00167				
X00001	TEND.	00110	00125	00160	00174				
X00003	TIME	00101	00200						
P00164	TS00001.	00132							
P00156	TS00002.	00150							
P00216	UP00000.	00131	00163	00212	00217	00220	00221	00224	00225

SATS	SPECIALC	12/20/71	EO	0	PAGE NO.	4
P00232	UP000001.	00147	00155	00226	00233	00234
C00200	VEFF					
C11362	VESC					
P00005	VESCTOT	00172				
C00144	VI					
C00310	WTOA					
P00133	WS00001.	00165	00165			
P00151	WS00002.	00157	00157			
C11134	X					
C00000	X0	00142	00143			
P00005	KX					
C00062	Y0					
C11172	Y					
C11324	YDCL					
	00103 SYMBOLS					

FTNS.5

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PAGE NO.

1

```

SUBROUTINE SEEINPUT
  CSUBR      SEEINPUT 12APR71
  CUBE       1      10CT71
  C
  COMMON/1/XO(50),YO(50),VI(50),RADL(50),VTOA(50,30),S(50,30),
  1  VEFF(50,30),X(30),Y(30),PDEL(30),ERDEL(30),YDSEL(30),
  2  VESC(30),MINJ,OUNI(18)
  DATA (NUMMAX=30), (HJ=50)
  C
  CEND
  1  EQUIVALENCE (IA1,A1),(IA2,A2),(IA3,A3),(IA4,A4)
  CALL TIMEHE(-2)
  PRINT 500
  500 FORMAT(1H1,50X,25MTGT DATA INPUT TO OGSSEL /)
  2000 NJ1=7
  IF (NJ1-7) 2000,2001
  2001 NJ1=10
  2002 CONTINUE
  PRINT 501
  501 FORMAT(1H1,TOTEL,23X,1H1,14X,1H2,14X,1H3,14X,1H4,14X,1H5,14X,1H6,
  1  X14X,1H7/)
  1A1=2HXC
  1A2= 2HYO
  1A3= 2HVI
  1A4= 4HRAOI
  PRINT 502,1,(XO(J),J=1,NJ1)
  PRINT 502,A2,(YO(J),J=1,NJ1)
  PRINT 502,A4,(RADL(J),J=1,NJ1)
  PRINT 502,A3,(VI(J),J=1,NJ1)
  502 FORMAT(1X,A8,6X,7(F15.6))
  DO 2003 I=1,NJ1
  PRINT 503,I,(VTOA(J,I),J=1,NJ1)
  2003 CONTINUE
  503 FORMAT(1X,5HVTOA(12,1H),6X,7(F5.3,6))
  PRINT 504
  504 FORMAT(/,27X,3HMPN,11X,4HPODEL,10X,5HMERDEL,10X,5HYDSEL /)
  PRINT 505,(I,PDEL(I),ERDEL(I),YDSEL(I),I=1,NJ1)
  505 FORMAT(27X,13,3(F15.6))
  CALL TIMEHE(-3)
  RETURN
END

```

5.4TS SEEINPUT 12/20/71 ED 0 PAGE NO. 2

IDENT SEEINPUT

PROGRAM LENGTH 00437
ENTRY POINTS 00135
BLOCK NAMES 11444

EXTERNAL SYMBOLS
THEND.
QBOOICT.
TIME
STH.
QNSINBL.

5.4TS SEEINPUT

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03

PAGE NO.:

●

P00003	A1	002003
P00004	A2	00223
P00005	A3	00267
P00006	A4	00245
P00030	SEGIN.	00430
P00040	CNVRT.	00202
P00011	CRFMT.	00360
P00001	DICT.	00154
		00262
C11422	DUM1	00146
P00031	ENDING.	00361
C11266	EXDEL	00431
P00000	EXIT.	00171
P00011	FORMAT.	00146
P00154	GG00000.	00153
P00171	GG00001.	00176
P00217	GG00002.	00217
P00341	GG00003.	00241
P00263	GG00004.	00263
P00305	GG00005.	00311
P00333	GG00006.	00337
P00345	GG00007.	00345
P00371	GG00010.	00306
P00034	I	00172
P00003	I41	00173
P00004	I42	00174
P00005	I43	00175
P00006	I44	00176
P00040	IN00002.	00322
P00040	INITIAL.	00140
P00157	..2000	00155
P00161	..2001	00160
P00163	..2002	00142
P00033	..2003	00171
P00032	..ERASER.	00171
P00056	..100000	00174
P00057	..100001	00175
P00060	..100002	00151
P00061	..100003	00166
P00011	..500	00201
P00024	..501	00314
P00062	..502	00342
P00072	..503	00360
P00106	..504	00203
P00126	..505	00277
P00035	J	00335
		00154
		00160
P00010	MJ	00104
C11420	NJ	00007
C11421	NJ1	00007
P00036	NJ1	00007
P00007	NUMMAX	00007
P00002	NUMMAX	00007
P00002	NUMMAX	00007

00210	00224	00232	00246	00254	00270	00276	00316	00324	00350
00261	00362								
00171	00305	00337	00345	00371					
00144	00150	00183	00165	00170	00200	00216	00221	00240	00243
00265	00304	00313	00332	00341	00344	00347	00370	00374	
00376									
00173	00174	00175							
00315	00333	00352	00355	00357	00363	00422			
00402	00412	00414	00426						
00156									
00145	00372	00375							
00222	00244	00266							
00206	00211	00225	00230	00233	00247	00252	00255	00271	00274
00317	00325	00407							
00335	00365	00365							
00154	00161	00161							
00162	00213	00235	00257	00301	00327				

5.ATS SEEINPUT

	12/20/71	ED	0	PAGE NO.	*				
P00414 P00001.U	00417								
C11230 PDEL	00357								
X00002 G0001CT.	00000								
X00005 GNSINGL.	00377								
C00226 RADL	00253								
C03244 S									
P00135 SEEINPUT	00135								
X00004 STM.	00147								
X00001 THEM0.	00152								
X00003 TIMEWE	00143								
P00213 T500001.	00205								
P00235 T500002.	00227								
P00257 T500003.	00251								
P00301 T500004.	00273								
P00335 T500005.	00310								
P00327 T500006.	00321								
P00365 T500007.	00354								
P00406 UP00000.	00204								
	00407								
P00421 UP00001.	00307								
C00200 VEFF									
C11362 VESC									
C00144 VI	00275								
C00310 VTOA	00323								
P00206 W500001.	00214								
P00230 W500002.	00236								
P00252 W500003.	00280								
P00274 W500004.	00302								
P00311 W500005.	00336								
P00322 W500006.	00330								
P00355 W500007.	00366								
C00000 X0	00207								
C11134 X									
C00002 Y0	00231								
C11172 Y									
C11324 YDCL	00362								
00126 SYMBOLS									
	00212	00226	00234	00250	00272	00300	00320	00326	00402
	00410	00411	00413	00413	00422	00424	00426	00427	
	00334	00353	00364	00415	00423				
	00275	00275	00275	00275	00275	00275	00275	00275	00275
	00214	00214	00214	00214	00214	00214	00214	00214	00214
	00236	00236	00236	00236	00236	00236	00236	00236	00236
	00280	00280	00280	00280	00280	00280	00280	00280	00280
	00302	00302	00302	00302	00302	00302	00302	00302	00302
	00336	00336	00336	00336	00336	00336	00336	00336	00336
	00330	00330	00330	00330	00330	00330	00330	00330	00330
	00366	00366	00366	00366	00366	00366	00366	00366	00366
	00207	00207	00207	00207	00207	00207	00207	00207	00207
	00231	00231	00231	00231	00231	00231	00231	00231	00231
	00362	00362	00362	00362	00362	00362	00362	00362	00362

```

SUBROUTINE STRKOUT
  CSUBR   STRKOUT   IOUT71
  C       WRITES ON OUTTAPE
  COMMON/STRKSUM/KC,UP,NTSTRK,NCORR,NSTRK(30)
  DIMENSION STRKSUM(33)
  EQUIVALENCE(STRKSUM(1),KGROUP)
  DIMENSION IPT(30),ICSEQ(30),ICORIN(30)
  DATA ((LSTRKSUM=33),(ICMAX=30)
  RAID    25JAN71
  CUSE     COMMON/RAID/NS,KORLOC,IGRP
  CEND      RAID
  CEND      COMMON/1/I1D1(4000),IWD1(900)
  CEND      COMMON/11/I1D2(4000),IWD2(900)
  CUSE     DATA (INRECHAX=900)
  CEND      KEYS
  CUSE     COMMON/KEYS/KEY11,KEY12,KEY13,KEY14,KEY15,KEY16,KEY17,KEY18,KEY19,KEY20,KEY21,KEY22,KEY23,KEY24,KEY25
  CEND      KEYS
  CUSE     ALOC
  CEND      ALOC
  CUSE     COMMON/ALOC/INOMPNS,ITAPEW
  CEND      ALOC
  CUSE     ITP
  CEND      ITP
  C       COMMON/ITP/ITP
  C       ITP
  C       TWORD
  C       COMMON/TWORD/ITWORD
  C       TWORD
  C       EQUIVALENCE (ITWORD,TWORD)
  C       FILABEL
  C       COMMON/FILABEL/INIDENT,INRUNNO,INDATE,INFORM,INSECR,INTIME,
  C       1INLNSTH,INCOMM(5)
  C       FILABEL
  C       IFIPRNT
  C       COMMON/IFIPRNT/IFIPRNT(10)
  C       IFIPRNT
  C       FILES
  C       COMMON/FILES/TGTFIL(2),BASFILE(2),MSLTIME(2),ALOC(2),
  C       1TMPALOC(2),ALOCGRP(2),STRKFIL(2),EVENTAPE,PLANTAPE
  C       TYPE INTEGER TGTFIL,BASFILE,MSLTIME,ALOC(2),TMPALOC,ALOCGRP,
  C       1STRKFIL,EVENTAPE,PLANTAPE
  C       FILES
  C       DATA
  C       COMMON/DATA/IOUTDAT2,IOUTDAT3,IOUTDATP
  C       DATA
  C       READ 152,IOUTDAT1,IOUTDATP

```

```

152 FORMAT(2I10)
202 READ 202, IOUTDAT2, IOUTDAT3, JOUTDATP
202 FORMAT (3I10)
11 I = 1 S IMAX = INOWPNS
LASTGRP = 0 S IBEGIN = 1
ITP = ITAPEW S CALL SETREAD
ILEFT = 1 S GO TO 175
INITIALIZE TO READ NEW GROUP
9 IGO = IGET(KEYW21, I, IWD2)
ICOR = IGET(KEYW22, I, IWD2)
DO 10 IC = 1, 30
10 NSTRK(I, IC) = 0
NSTRK = 0
ICORIN(1) = ICOR
NC = 1 S IPT{NC} = 1
13 NSTRK(NC) = NSTRK(NC) + 1
IF(1-BE, IMAX) 100, 15
15 IF(1-BE, INRECHMAX) 14, 16
14 ILEFT = 2 S GO TO 171
16 I = I + 1
17 IGO = IGET(KEYW21, I, IWD2)
IF(1-BE, 100) 20, 110
20 IC = IGET(KEYW22, I, IWD2)
IF(IC-EG, ICOR) 13, 25
25 NC = NC + 1 S IPT{NC} = 1 S NSTRK = NSTRK + NSTRK(NC-1) S ICORIN(NC) = IC
ICOR = IC S GO TO 13
100 LASTGRP = 1
ITP = ITAPEW S CALL TERMTEPE
ITP = TMAPLOC(1)
110 NSTRK = NSTRK + NSTRK(NC)
KGROUP = 100
NCGR = NCORR = NC
ORDER CORRIDDERS BY NO. OF STRKS. ICOMPLEMENT TO SET HIGH TO
C L-y SEQUENCE.)
DO 130 J = 1, ICNAX
130 NSTRK(J) = NSTRK(J)
CALL ORDER(NSTRK, ICSEQ, ICNAX)
RESTONE NSTRK TO POSITIVE NOS.
DO 150 J = 1, ICNAX
150 NSTRK(J) = -NSTRK(J)
CALL REORDER(ICSEQ, ICNAX, 3, NSTRK, I, I, ICORIN, 0, 0, 0, 0)
WRITE OUT STRKSUM BLOCK
ITMP = TMAPLOC(1)
ITPRNT(ITMP) = IOUTDAT1
CALL WRANPRY(STRKSUM, LSTRKSUM)
IF(IOUTDATP-EG, 0) 80 TO 160
IF(1-IOUTDATP) = IOUTDATP) 160, 154
154 CALL TIMEW(-2)
155 FORMAT(1M1, 9MKGROUP = , 14, 3X, 9HNTSTRK = , 16, 3X, 6HNCORR = , 12, 3X,
, 8HICORR = , 12(3X, 15))
PRINT 156, (NSTRK(I, ICOR), ICORR = 1, NCORR)
156 FORMAT(3X, 6HNSTRK = , 12(3X, 15))
CALL TIMEW(-3)
160 IGRP = 100
C WRITE OUT RAIDSTRK BLOCK FOR EACH CORRIDD

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78000

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PAGE NO.

3

```

DO 170 J=1,NC
  KOR=ICORIN(J)
  LOC=IPT(J)
  NS=NSTRK(J)
  C 170 CALL WARDSTK
    IF THIS WAS LAST GROUP, RETURN,
    IF (LASTERP.EQ.0) 9,200
  171 NMOV = NSTRK * NSTRK(NC)
    ISHFT = INRECMAX - NMOV
    DO 172 I=1, NMOV
      IMOVFM = IMOV * ISHFT
      IND1(IMOV)=IND1(IMOVFM)
      IND2(IMOV)=IND2(IMOVFM)
  1721 CONTINUE
    DO 1722 IP = 1, NC
      1722 IPT(IP) = IPT(IP) - ISHFT
      IBEGIN = NMOV + 1
      173 IMAX = IMAX - ISHFT
      175 NREC=XHINOF(IMAX, INRECMAX)
      ITP=ITAPEV
      DO 177 I = IBEGIN, NREC
        DO 176 J=1, 2
          CALL RDWORD
          IF (J.EQ.1) IND1(I)=ITHORD
          IF (J.EQ.2) IND2(I)=ITHORD
      177 CONTINUE
      179 I = IBEGIN
      ITP = TMPALOC(1)
      GO TO (9,17) ILEFT
  200 KGRQUP=3HEOT
      ITP = TMPALOC(1)
      CALL WRARRAY(STRKSUM, LSTRKSUM)
      CALL TERNTAPE
      RETURN
    END

```

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79000
80000
81000
82000
83000
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86000
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88000
89000
90000
91000
92000
93000
94000
95000
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97000
98000
99000
100000
101000
101100
102000
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104000
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107000
108000
109000
110000
111000
112000

```

5.4TS STKOUT

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ED 0

PAGE NO.

4

IDENT STKOUT

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

00703
00211
00041
00004
11444
11
00024
00002
00001
00001
00014
00012
00020
00003

STKOUT
STKSUM
RAID
I
KEYS
ALOC
ITP
THORD
FILABEL
FTPRNT
FILES
DATA

EXTERNAL SYMBOLS

THEND.
QBCDICT.
SETREAD
IGET
TERMTAPE
ORDER
REORDER
WRARRAY
TIME
WRROSTRK
ROWORD
XMINOF
TSM.
STM.
ONSINBL.

5.475 STRAIGHT

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7

[illegible]

X00015 TSH.	00216	00230
C00000 TWORD		
X00010 WRRARY	00423	00635
X00012 WROSTRK	00522	
P00272 W00001.	00274	
P00371 W00002.	00373	
P00405 W00003.	00407	
P00455 W00004.	00461	00461
P00472 W00005.	00477	00477
P00513 W00006.	00526	00526
P00543 W00007.	00552	
P00560 W00010.	00562	
P00577 W00011.	00621	00621
P00601 W00012.	00616	
X00014 XMINOF	00567	
00254 SYMBOLS		

FTNS.5

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1

```

SUBROUTINE VAL(VESCTOT)
  CSUBR      VAL      15APR71
  CUSE      1      10CT71
  C
  COMMON/1/X(150),Y(150),Z(150),RADL(50),VTOA(50,30),S(50,30),
  1 VEFF(50,30),X(30),Y(30),PDEL(30),ERDEL(30),YDSC(30),
  2 VESC(30),NI,NJ,DUM1(18)
  DATA (NUMMAX=30), (NJ=50)
  C
  VESCTOT=0
  DO 170 J=1,NJ
    VSURV=VI(J)
    VTOAOLD=VI(J)
    DO 150 I=1,NI
      VESC(I)=VSURV*(1-VTOA(J,I)/VTOAOLD)
      VSURV=VSURV*(1-VTOA(J,I)/VTOAOLD)
    150 VTOAOLD=VTOA(J,I)
    VESCJ=VSURV
    DO 160 I=1,NI
      J=NI-I+1
      VEFF(J,I)=VESCJ/S(J,I)
    160 VESCJ=VESCJ+VESC(I)
    170 VESCTOT=VESCTOT+VESCJ
  CONTINUE
  RETURN
  END

```

S.ATS VAL 12/20/71 ED 0 PAGE NO. 2

	IDENT	VAL
PROGRAM LENGTH	00176	
ENTRY POINTS	00005	
BLOCK NAMES	11444	
EXTERNAL SYMBOLS	1	
	Q880DICT.	

S.ATS

VAL

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ED 0

PAGE NO.

3

P00127 RESIN.
P00167 COUNT.
P00001 DICT.
C11422 DUMI.
P00150 ENDING.
C11266 EXDEL
P00000 EXIT.
P00011 FP00001.
P00070 FP00002.
P00072 FP00003.
P00164 GETPL.
P00154 GETPU.
P00170 I
P00171 II
P00100 IN00003.
P00127 INITIAL.
P00042 .150
P00063 .160
P00073 .170
P00172 J
P00004 MJ
C11420 NI
C11421 NJ
P00003 NUMMAX
P00101 P00050.U
P00113 P00001.U
C11239 PDEL
P00147 PF00002.
X00001 Q00DICT.
C00226 RADL
C03244 S
P00075 TS00001.
P00044 TS00002.
P00070 TS00003.
P00105 UP00000.
P00120 UP00001.
P00005 VAL
C00200 VEFF
C11362 VESC
P00173 VESCJ
P00005 VESCTOT
C00144 VI
P00174 VSURV
C00310 VTOA
P00175 VTOAOLD
P00016 WS00001.
P00032 WS00002.
P00054 WS00003.
C00000 XO
C11134 X
C00042 Y0
C11172 Y
C11324 YDSCL
00065 SYMBOLS

00147 00155 00161
00027 00031 00053
00007 00132 00133
00010 00077 00127 00130 00131 00131
00153 00146
00145 00144
00143 00141
00142 00134
00137 00160
00023 00030
00050 00055
00030 00060
00010 00101
00013 00016 00073 00106
00025 00025 00050 00051 00054 00054
00075 00075
00103
00116
00140
00000 00006
00037 00037 00061 00061
00015
00026
00052
00014
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00005
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00017
00020
00032
00022
00076
00045
00067
00035 00064 00065
00060 00063 00066
00070 00072 00072
00017 00021 00021
00034 00036 00041
00032 00040 00042
00033 00041 00043
00076

00112 00112
00125 00126

12/20/71

PTNS.S

```

FUNCTION VMARG(IT,XT,YT)
  CSUBR  VMARG  15APRT1 *****
  CUSE  1  10CT1 *****
  C
    COMMON/1/X0(50),Y0(50),V1(50),RADL(50),VTOA(50,30),S(50,30),
    1 VEFF(50,30),X(50),Y(30),PDEL(30),ERDEL(30),YOSCL(30),
    2 VESC(30),NI,NJ,DUM1(18)
    DATA (NUMMAG=90), (MJ=50)
  C
  CEND  1 *****
        DVAL=0
        DO 10 J=1,NJ
          R2= (X0(J)-XT)**2 + (Y0(J)-YT)**2
          A= RADL(J)*YOSCL(IT)
          ST=1-PDEL(IT)*SSKPC(1,A,ERDEL(IT),R2)
          DVAL= DVAL + VEFF(J,IT)*(S(J,IT)-ST)
        10 CONTINUE
        VMARG=DVAL
        RETURN
        END

```

1000
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5000
6000
7000
8000
9000
10000
11000
12000

INENT VMAR0

PROGRAM LENGTH 00170
ENTRY POINTS 00005
BLOCK NAMES 11444

EXTERNAL SYMBOLS 1
0000ICT.
SSKPC

S.ATS

VMARG

P00005 YT 00030

03067 SYMBOLS

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EC

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```

CEND      FILES      *****
CUSE      DATA      25JAN71 *****
          COMMON/IOUTDAT2,IOUTDAT3,IOUTDATP *****
          DATA      *****
          TYPE INTEGER DESIG1,TASK1,CNTRYLC1 *****
          NT=NS *****
          NN=NS *****
          JGROUP=IGRP *****
          JCORR=KOR *****
          DO 200 I=1,NN *****
          J=LOC-1 + 1 *****
          IBETA      = IGET(KEYW23,J,IWD2) *****
          IF (JCORR .GT. 0)100,110 *****
100 CONTINUE *****
          INDEXNO(I) = IGET(KEYT11,IBETA,ITD1) *****
          TSTLAT(I)   = IGET(KEYT21,IBETA,ITD2)/45000.-90. *****
          TOTLONG(I)  = IGET(KEYT22,IBETA,ITD2)/45000. *****
          TIMEPREM(I) = IGET(KEYT13,IBETA,ITD1) *****
          IDEPEN(I)   = IGET(KEYT31,IBETA,ITD3) *****
          DISTOUT(I)  = IGET(KEYT32,IBETA,ITD3)/10 *****
          DISTREC(I)  = IGET(KEYT33,IBETA,ITD3)/10 *****
          ATTRLOC(I)  = IGET(KEYT12,IBETA,ITD1) *****
          RVAL(I)     = IGET(KEYW24,J,IWD2)/1000. *****
          DELAT(I)    = IGET(KEYW11,J,IWD1)/45000.-2. *****
          DELONG(I)   = IGET(KEYW12,J,IWD1)/45000.-2. *****
          DESIG1      = IGET(KEYT41,IBETA,ITD4) *****
          ENCODE (8,300,DESIG(I))DESIG1 *****
          FORMAT (RS) *****
          TASK1       = IGET(KEYT14,IBETA,ITD1) *****
          ENCODE (8,310,TASK(I))TASK1 *****
310 FORMAT (R2)      = IGET(KEYT42,IBETA,ITD4) *****
          CNTRYLC1    = IGET(KEYT43,IBETA,ITD4) *****
          ENCODE (8,310,CNTRYLOC(I))CNTRYLC1 *****
          FLAG(I)     = IGET(KEYT43,IBETA,ITD4) *****
          GO TO 120 *****
110 CONTINUE *****
          INDEXNO(I) = IGET(KEYT11,IBETA,ITD1) *****
          TSTLAT(I)   = IGET(KEYT21,IBETA,ITD2)/45000.-90. *****
          TOTLONG(I)  = IGET(KEYT22,IBETA,ITD2)/45000. *****
          RVAL(I)     = IGET(KEYW24,J,IWD2)/1000. *****
          DELAT(I)    = IGET(KEYW11,J,IWD1)/45000.-2. *****
          DELONG(I)   = IGET(KEYW12,J,IWD1)/45000.-2. *****
          DESIG1      = IGET(KEYT41,IBETA,ITD4) *****
          ENCODE (5,300,DESIG(I))DESIG1 *****
          TASK1       = IGET(KEYT14,IBETA,ITD1) *****
          ENCODE (2,310,TASK(I))TASK1 *****
          CNTRYLC1    = IGET(KEYT42,IBETA,ITD4) *****
          ENCODE (2,310,CNTRYLOC(I))CNTRYLC1 *****
          FLAG(I)     = IGET(KEYT43,IBETA,ITD4) *****
120 CONTINUE *****
          I8FIX(I)    = IGET(KEYW25,J,IWD2) *****
200 CONTINUE *****
          I7MPALOC=I7MPALOC(I) *****
          I7TPRINT(I7MPALOC) = IOUTDAT2 *****
          CALL BRARAY(NT,3) *****
          I7TPRINT(I7MPALOC) = IOUTDAT3 *****

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IF (JCORR .GT. 0)130,140
130 CONTINUE
  CALL WRARRAY(INDEXNO,NN)
  CALL WRARRAY(TOTLAT,NN)
  CALL WRARRAY(TGTLONG,NN)
  CALL WRARRAY(TIMEPREM,NN)
  CALL WRARRAY(IDEPEN,NN)
  CALL WRARRAY(DISTOUT,NN)
  CALL WRARRAY(DISTREC,NN)
  CALL WRARRAY(ATTRLOC,NN)
  CALL WRARRAY(RVAL,NN)
  CALL WRARRAY(DELAT,NN)
  CALL WRARRAY(DELONG,NN)
  NLOG = (NN-1)/32 + 1
  CALL WRARRAY(18FIX,NLOG)
  CALL WRARRAY(DESIG,NN)
  CALL WRARRAY(TASK,NN)
  CALL WRARRAY(CNTRYLOC,NN)
  CALL WRARRAY(FLAG,NN)
  GO TO 250
140 CONTINUE
  DO 141 I=1,NN
141 RVAL(I)=RVALM(I)
  CALL ORDER(RVALM,INDEX,NN)
  DO 142 I=1,NN
142 RVAL(I)=-RVALM(I)
  CALL REORDER(INDEX,NN,6,INDEXNO,TOTLAT,TOTLONG,RVALM,
    IDELAT,DELONG,0)
  CALL REORDER(INDEX,NN,4,DESIGN,TASK,CNTRYLOC,FLAG,0,0,0)
  CALL LREORDER(INDEX,NN,18FIX)
  CALL WRARRAY(INDEXNO,NN)
  CALL WRARRAY(TOTLAT,NN)
  CALL WRARRAY(TGTLONG,NN)
  CALL WRARRAY(RVALM,NN)
  CALL WRARRAY(DELAT,NN)
  CALL WRARRAY(DELONG,NN)
  NLOG = (NN-1)/32 + 1
  CALL WRARRAY(18FIX,NLOG)
  CALL WRARRAY(DESIG,NN)
  CALL WRARRAY(TASK,NN)
  CALL WRARRAY(CNTRYLOC,NN)
  CALL WRARRAY(FLAG,NN)
250 CONTINUE
  IF (JOUTDATP.EQ.0)80 TO 255
260 IF (10RP-(10RP/JOUTDATP)*JOUTDATP)255,210
210 CALL TIME(-2)
  IF (JCORR)210,214
2101 PRINT 211,NT,JGROUP,JCORR
211 FORMAT(6HNT = ,I3,3X,9HJGROUP = ,I3,3X,9HJCORR = ,I3/
  1X,9HINDEXNO ,6HTOTLAT,6X,TOTLONG,6X,6HTPREM ,6HIDEPEN ,
  2 7HDISTOUT,3X,7HDISTREC,3X,7HATTRLOC,4X,4HRVAL,6X,4HDLAT,6X,
  3 5HDELONG,2X,7H18FIX ,I3X,5HDESIG,1X,2HCL,1X,1HF,1X,3HTSK)
  DO 212 I=1,NT
212 PRINT 213,I,INDEXNO(I),TOTLAT(I),TOTLONG(I),TIMEPREM(I),IDEPEN(I),
  1 DISTOUT(I),DISTREC(I),ATTRLOC(I),RVAL(I),DELAT(I),DELONG(I)
  2 ,18FIX(I),DESIG(I),CNTRYLOC(I),FLAG(I),TASK(I)

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PAGE NO.

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```

212 CONTINUE
213 FORMAT(1X,I4,I6,F9.3,3X,F10.3,F9.2,I4,F10.2,F9.3,F10.2,
1F9.3,F11.3,4X,L1,I4,3X,A5,1X,A2,I2,2X,A2)
CALL TIMEHE(-3)
GO TO 255
214 PRINT 215,NT,JGROUP,JCORR
215 FORMAT(6HNT = ,I6,3X,6HJGROUP = ,I3,3X,8HJCORR = ,I3/
14X,7HINDEXNO.4X,6HTOTLAT,5X,7HTOTLONG,5X,4HRRVAL,7X,4HDLAT,7X,
25HDLONG,29H LFIX I DESIG CL F TSK )
DO 216 I=1,NT
PRINT 217,I,INDEXNO(I),TOTLATM(I),TOTLONG(I),RVALM(I),DELATM(I),
IDELONGM(I),IDFIX(I),IDESIGN(I),CNTRYLCM(I),FLAGM(I),TASKM(I)
216 CONTINUE
217 FORMAT(1X,I4,I6,F10.3,F12.3,F9.2,F12.3,F11.3,5X,L1,I5,2X,A5,1X,
1A2,I2,2X,A2)
CALL TIMEHE(-3)
255 CONTINUE
RETURN
END

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149000
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162000
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166000

WRDSTRK

PROGRAM LENGTH
ENTRY POINTS
BLOCK NAMES

WRDSTRK 01335
00232
RAID 00004
1 11444
11 11444
12 07640
13 07640
2 40246
KEYS 00024
ITP 00001
IPTPRINT 00012
FILES 00020
DATA 00003

EXTERNAL SYMBOLS

THEND.
Q3Q10040
Q9QEVALL
Q9QDICT.
IGET
WRARRAY
ORDER
REORDER
LREORDER
TIME
STH.
ENC.
Q8GOUT4
QNSINGL.

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S.4TS WRROSTAK

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2

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C00002	JCRRR	00245	00245	00257	00260	00673	00673	01117	01117	01130	01215
C00001	JGRDUP	00243	00243	01127	01214						
C60002	JOUTDATP	01100	01100	01105	01105	01110					
C00000	KEYT11	00264	00504								
C00001	KEYT12	00356									
C00002	KEYT13	00315									
C00003	KEYT14	00441	00610								
C00004	KEYT21	00272	00512								
C00005	KEYT22	00304	00524								
C00006	KEYT31	00325									
C00007	KEYT32	00332									
C00010	KEYT33	00344									
C00011	KEYT41	00423	00572								
C00012	KEYT42	00460	00626								
C00013	KEYT43	00476	00644								
C00014	KEYW11	00377	00546								
C00015	KEYW12	00411	00560								
C00016	KEYW13										
C00017	KEYW21										
C00020	KEYW22										
C00021	KEYW23										
C00022	KEYW24	00255	00535								
C00023	KEYW25	00366									
C00001	KOR	00651									
C00001	LCC	00244	00244								
C00002	LCC	00250	00250								
C00011	LREORDER	01026									
C00003	MLTME										
P01333	NL08	00743	00746	01060	01063			00714	00717	00722	00725
P01334	NN	00241	00657	00700	00703	00711	00716	00717	00717	00722	00725
		00733	00736	00737	00751	00754	00757	00762	00765	00777	01001
		01021	01030	01034	01037	01042	01045	01050	01053	01054	01066
		01074	01077								01071
C00000	NS	00236	00236	00240	00240						
C00000	NT	00237	00237	00670	01125	01125	01176	01176	01212	01212	01256
X00007	ORDER	00774									01256
C00017	PLANTAPE										
X00002	Q3010040	00654									
X00004	Q8001040	00000	00233								
X00015	Q8001040	01162									
X00003	Q9000000	01157	01237								
X00016	QMSINGL	01271									
X00010	REORDER	01010	01017								
C21143	RVAL	00374	00374	00730	01154						
C10627	RVALM	00543	00543	00771	00771	00772	00776	01005	01005	01006	01015
X00013	STH.	01234	01136	01207	01223						01045
C00014	STRKFIL	01122									
C31423	TASK	00444	00451	00754	01172						
P01267	TASK1	00443	00452	00612	00620						
C24407	TASKM	00613	00617	01023	01071	01252					
C00000	TGTFIL										
C02117	T8TLAT	00300	00301	00703							

S.ATS	WORDSTRK	12/20/71	ED	0	PAGE NO.	9
C05073	TGTLONGM	01233	01131	01173	01216	01253
X00001	THEND	01014				
X00012	TIMEHE	00472				
C06347	TIMEPREM	01262				
C00010	TMALOC	00711				
P00057	TS00001.	00532				
P00774	TS00002.	00454				
P01010	TS00003.	01202				
P01176	TS00004.	00322				
P01256	TS00005.	00661				
X00006	WRARRAY					
		00932				
		00435				
		01114				
		00322				
		00661				
		00247				
		00766				
		01002				
		01134				
		01221				
		00666				
		00734				
		01051				
		00232				
		00660				
		00773				
		01007				
		01177				
		01257				
		00676				
		00744				
		01061				
		00701				
		00747				
		01064				
		00707				
		00755				
		01072				
		00712				
		00760				
		01075				
		00715				
		01032				
		00720				
		01035				
		00723				
		01040				
		00726				
		01043				
		00731				
		01046				
		00240				
		SYMBOLS				