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Munitions Support for Tactical Air Operations: Program Listing for the TRACE Model

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PREFACE AND SUMMARY

For several years, Rand has been studying the uses of tactical airpower in a hypothetical large-scale, high-intensity, conventional war in Central Europe. From these studies and others has come recognition of the need to look closely at the effects of materiel support availability on tactical air operations. At the 1971 review of the Project RAND research program, Rand and its Air Force Advisory Group jointly agreed that Rand should initiate, as part of its General Purpose Forces Studies Program, a study of support demand in tactical operations. Final results of this study are presented in a series of reports:

- R-1174-PR, *Munitions Support for Tactical Air Operations: A Briefing* (U) March 1973 (Confidential).
- R-1200-PR, *Munitions Support for Tactical Air Operations: Executive Summary* (U), June 1973 (Confidential).
- R-1201-PR, *Munitions Support for Tactical Air Operations: Methodology, Applications, and Findings* (U), June 1973 (Secret).
- R-1202-PR, *Munitions Support for Tactical Air Operations: The Tactical Resources and Combat Effectiveness (TRACE) Model*, August 1973.
- R-1203-PR, *Munitions Support for Tactical Air Operations: Program Listing for the TRACE Model*, August 1973.

These reports describe (1) a new methodology relating materiel resource availability and operational capability; (2) a computer program implementing the methodology; and (3) some results obtained from applications of the methodology. The study will be of use to military budget analysts, munitions planners, logisticians, operational planners, and operational commanders. The methodology developed in this study can be used to evaluate the size and mix of theater stockpiles, analyze alternative munitions logistics systems, establish guidelines for base-level munitions stockpiles, and perform sensitivity analyses of planning factors such as sortie rates, deployment schedules, and weather.

The present report contains listings of the subroutines of the TRACE simulation model and its three auxiliary data preprocessing programs.

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I. INTRODUCTION

This report contains listings of the subroutines that constitute the TRACE simulation model. These subroutines, compiled and executed on an IBM 360/65 computer, are written primarily in FORTRAN IV. The single exception is the subroutine RANDOM, which is written in OS/360 assembly language. A description of the TRACE model and the functions of its subroutines appears in the companion report, R-1202-PR, *Munitions Support for Tactical Air Operations: The Tactical Resources and Combat Effectiveness (TRACE) Model*. The subroutines appear in alphabetical order following the main routine. The subroutines of the auxiliary programs, PRELOAD, PREPROC, and RESUPPLY, which create data sets for input to the TRACE model, follow those of TRACE. Wherever direct access data sets are used by a program, the DEFINE FILE statements appear in the main program.

II. TRACE PROGRAM LISTING

C MAIN ROUTINE OF TRACE PROGRAM
C

```
0001      IMPLICIT INTEGER*2(I-N)
0002      INTEGER*4 IRVAR
0003      COMMON /XCUM00/ D,DMIN,DMAX,DTVCHG,SORTIE,SOASGN
0004      DEFINE FILE 17(21,250,U,IRVAR)
0005      REWIND 15
0006      REWIND 16
0007      CALL INPUT
0008      CALL INTR
0009      120 D = D+1.0
0010          IF (D.GT.DMAX) GO TO 160
0011      150 CALL INITD
0012          CALL ALLUCD(X)
0013          IF (X.EQ.0.0) GO TO 155
0014          CALL FRGFLY
0015      155 CALL SUMRYD(X)
0016          GO TO 120
0017      160 CALL SUMRYR
0018          CALL EXIT
0019          END
```

```
0001      SUBROUTINE ALLUCD(X)
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /ICCM00/ MINPUT,MALLOC,MSMRYD,MFLY,MFKAG,MWX,NACTYP,
          1      NMNTYP,NBASES,NTGTYP,NMISS,NWXTYP,IFWX,IAWX,
          2      IDENT(36)
0004      GO TO (100,110),MALLOC
0005      GO TO 1000
0006      100 CALL ALLOC1(X)
0007      GO TO 200
0008      110 CALL ALLOC2(X)
0009      200 RETURN
0010      1000 WRITE (6,1001)
0011      1001 FORMAT(10X,36HALLOCATION METHOD OUT OF ALLOWED RANGE)
0012      CALL EXIT
0013      END
```

```
0001      SUBROUTINE ALLUC1(X)
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /XCCM00/ D,DMIN,DMAX,DTVCHG,SORTIE,SOASGN
0004      COMMON /XCCM02/ TTGTS(35),VALTGT(35,2)
0005      COMMON /XCCM03/ FRACM(4),FRACMT(20,4)
0006      COMMON /ICOM00/ MINPUT,MALLOC,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
1          NMNTYP,NBASES,NTGTYP,NMISS,NWATYP,IFWX,IAWX,
2          IDENT(36)
0007      COMMON /ICOM01/ NTGTSM(4),INDXTM(4,20),IORDER(4,20)
0008      IZCNT = 0
0009      KD = 2
0010      IF (D.LT.DTVCHG) KD = 1
0011      DO 200 IM = 1,NMISS
0012      X = 0.0
0013      KKT = NTGTSM(IM)
0014      IF (KKT.GT.0) GO TO 120
0015      IZCNT = IZCNT + 1
0016      GO TO 200
0017 120 DO 130 KT = 1,KKT
0018      IT = INDXTM(IM,KT)
0019      X = X + TTGTS(IT)*VALTGT(IT,KD)
0020 130 CONTINUE
0021      IF (X.EQ.0.0) IZCNT=IZCNT+1
0022      DO 180 KT = 1,KKT
0023      IT = INDXTM(IM,KT)
0024      IF (X.NE.0.0) GO TO 170
0025      FRACMT(KT,IM) = 0.0
0026      GO TO 180
0027 170 FRACMT(KT,IM) = (TTGTS(IT)*VALTGT(IT,KD))/X
0028 180 CONTINUE
0029 200 CONTINUE
0030      X = 1.0
0031      IF (IZCNT.EQ.NMISS) X=0.0
0032      RETURN
0033      END
```

```

0001      SUBROUTINE ALLOC2(X)
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /XCOM00/ D,DMIN,DMAX,DTVCHG,SGRTIE,SDASGN
0004      COMMON /XCOM02/ ITGTS(35),VALTGT(35,2)
0005      COMMON /XCOM03/ FRACM(4),FRACMT(20,4)
0006      COMMON /ICCM00/ MINPUT,MALLOC,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
1          NMNTYP,NBASES,NTGTYP,NMISS,NWXTYP,IFWX,IAWX,
2          IDENT(36)
0007      COMMON /ICCM01/ NTGTSM(4),INDXTM(4,20),IORDER(4,20)
0008      KD = 2
0009      IF (0.LT.DTVCHG) KD = 1
0010      X = 0.0
0011      DO 150 IT = 1,NTGTYP
0012      X = X + ITGTS(IT)*VALTGT(IT,KD)
0013 150 CONTINUE
0014      IF (X.EQ.0) GO TO 260
0015      DO 240 IM = 1,NMISS
0016      KKT = NTGTSM(IM)
0017      IF (KKT.LE.0) GO TO 240
0018      DO 210 KT = 1,KKT
0019      IT = INDXTM(IM,KT)
0020      FRACMT(KT,IM) = (ITGTS(IT)*VALTGT(IT,KD))/X
0021 210 CONTINUE
0022 240 CONTINUE
0023 260 RETURN
0024      END

```

```
0001      SUBROUTINE ALTER1(X)
0002      IMPLICIT INTEGER*2(1-N)
0003      COMMON /XCOM03/ FRACM(4),FRACMT(20,4)
0004      COMMON /XCCM04/ FLAGM(4),FLAGMT(4,20),TTREQ,TREQ(4),REQ(4,20)
0005      COMMON /ICOM00/ MINPUT,MALLOC,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
1          NMNTYP,NBASES,NTGTYP,NMISS,NWXTYP,IFWX,IAWX,
2          IDENT(36)
0006      COMMON /ICOM04/ JTTCNT,JTCNT(4)
0007      ITTCNT = 0
0008      X = 0.0
0009      DO 110 IM = 1,NMISS
0010      IF (FLAGM(IM).EQ.0.0) GO TO 110
0011      IF (TREQ(IM).LE.0.0) ITTCNT = ITTCNT+1
0012      X = X + FRACM(IM)
0013 110 CONTINUE
0014      IF (ITTCNT.EQ.JTTCNT) TTREQ = 0.0
0015      IF (X.EQ.0.0) GO TO 140
0016      IF (TTREQ.LE.0.0) GO TO 140
0017      JTTCNT = 0
0018      DO 130 IM = 1,NMISS
0019      IF (FLAGM(IM).EQ.0.0) GO TO 130
0020      JTTCNT = JTTCNT+1
0021      TREQ(IM) = (FRACM(IM)*TTREQ)/X
0022      JTCNT(IM) = -1
0023      CALL ALTER2(IM,Y)
0024 130 CONTINUE
0025 140 RETURN
0026      END
```

```

0001      SUBROUTINE ALTER2(IM,X)
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /XCCM03/ FRACMT(4),FRACMT(20,4)
0004      COMMON /XCCM04/ FLAGMT(4),FLAGMT(4,20),TTREQ,TREQ(4),REQ(4,20)
0005      COMMON /ICCM01/ NTGTSM(4),INDXTM(4,20),IORDER(4,20)
0006      COMMON /ICCM04/ JTCNT,JTCNT(4)
0007      ITCNT = 0
0008      X = 0.0
0009      IIT = NTGTSM(IM)
0010      IF (IIT.LE.0.0) GO TO 140
0011      DO 110 I = 1,IIT
0012      IF (FLAGMT(IM,I).EQ.0.0) GO TO 110
0013      IF (REQ(IM,I).LE.0.0) ITCNT = ITCNT+1
0014      X = X + FRACMT(I,IM)
0015 110 CONTINUE
0016      IF (ITCNT.EQ.JTCNT(IM)) TREQ(IM) = 0.0
0017      IF (X.LE.0.0) GO TO 140
0018      IF (TREQ(IM).LE.0.0) GO TO 140
0019 120 JTCNT(IM) = 0
0020      DO 130 I = 1,IIT
0021      IF (FLAGMT(IM,I).EQ.0.0) GO TO 130
0022      JTCNT(IM) = JTCNT(IM)+1
0023      REQ(IM,I) = (FRACMT(I,IM)*TREQ(IM))/X
0024 130 CONTINUE
0025 140 RETURN
0026      END

```

```
0001      SUBROUTINE ALTER3(X)
0002      IMPLICIT INTEGER*2 (I-N)
0003      COMMON /XCGM03/ FRACM(4),FRACMT(20,4)
0004      COMMON /XCGM04/ FLAGM(4),FLAGMT(4,20),TTREQ,TREQ(4),REQ(4,20)
0005      COMMON /ICGM00/ MINPUT,MALLUC,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
1          NMNTYP,NBASES,NTGTYP,NMISS,NWXTYP,IFWX,IAWX,
2          IDENT(36)
0006      COMMON /ICGM01/ NTGTSM(4),INDXTM(4,20),IORDER(4,20)
0007      COMMON /ICGM04/ JTICNT,JTCNT(4)
0008      X = 0.0
0009      ITICNT = 0
0010      DO 130 IM = 1,NMISS
0011      IF (FLAGM(IM).EQ.0.0) GO TO 130
0012      Y = 0.0
0013      KKT = NTGTSM(IM)
0014      DO 120 KT = 1,KKT
0015      IF (FLAGMT(IM,KT).EQ.0.0) GO TO 120
0016      IF (REQ(IM,KT).LE.0.0) ITICNT=ITICNT+1
0017      Y = Y + FRACMT(KT,IM)
0018      X = X + FRACMT(KT,IM)
0019      120 CONTINUE
0020      IF (Y.LE.0.0) FLAGM(IM) = 0.0
0021      130 CONTINUE
0022      IF (ITICNT.EQ.JTICNT) TTREQ = 0.0
0023      IF (X.LE.0.0) GO TO 170
0024      IF (TTREQ.LE.0.0) GO TO 170
0025      JTICNT = 0
0026      DO 160 IM = 1,NMISS
0027      IF (FLAGM(IM).EQ.0.0) GO TO 160
0028      KKT = NTGTSM(IM)
0029      DO 150 KT = 1,KKT
0030      IF (FLAGMT(IM,KT).EQ.0.0) GO TO 150
0031      JTICNT = JTICNT + 1
0032      REQ(IM,KT) = (FRACMT(KT,IM)*TTREQ)/X
0033      150 CONTINUE
0034      160 CONTINUE
0035      170 RETURN
0036      END
```

```
0001      FUNCTION BAVAIL(IB,IA,IJ,K)
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /XCCM14/ XLOAD(12,25,2)
0004      COMMON /XCCM25/ BSO(20,12),XBSO(20,12)
0005      COMMON /XCCM26/ XBMUN(20,25),XTSO(12)
0006      BAVAIL = 0.0
0007      IF (XLOAD(IA,IJ,K).LE.0.0) RETURN
0008      BAVAIL = AMIN1(XBSO(IB,IA),XBMUN(IB,IJ)/XLOAD(IA,IJ,K))
0009      RETURN
0010      END
```



```

0001      SUBROUTINE BLOSS
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /XCCM17/ TAC(12),TMUN(25)
0004      COMMON /XCCM19/ BAC(20,12),BMUN(20,25)
0005      COMMON /XCCM42/ BATTR(20,3)
0006      COMMON /ICOM00/ MINPUT,MALLUC,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
1          NMNTYP,NBASES,NTGTYP,NMISS,NWXTYP,IFWX,IAWX,
2          IDENT(36)
0007      COMMON /ICOM42/ IDGCAT(25)
0008      DO 200 IA = 1,NACTYP
0009      Y = 0.0
0010      DO 150 IB = 1,NBASES
0011      BAC(IB,IA) = BAC(IB,IA)*(1.0-BATTR(IB,1))
0012      Y = Y + BAC(IB,IA)
0013      150 CONTINUE
0014      TAC(IA) = Y
0015      200 CONTINUE
0016      DO 300 IJ = 1,NMNTYP
0017      K = IDGCAT(IJ)
0018      Y = 0.0
0019      DO 250 IB = 1,NBASES
0020      BMUN(IB,IJ) = BMUN(IB,IJ)*(1.0-BATTR(IB,K+1))
0021      Y = Y + BMUN(IB,IJ)
0022      250 CONTINUE
0023      TMUN(IJ) = Y
0024      300 CONTINUE
0025      RETURN
0026      END

```

```

0001      SUBROUTINE CHOOSE(IT,KT,IM)
0002      IMPLICIT INTEGER*2(I-N)
0003      INTEGER*4 NAME
0004      COMMON /XCOM00/ D,DMIN,DMAX,DTVCHG,SCRTIE,SOASGN
0005      COMMON /XCOM04/ FLAGM(4),FLAGMT(4,20),ITREQ,TREQ(4),REQ(4,20)
0006      COMMON /XCOM05/ SO(400)
0007      COMMON /XCOM10/ AVAIL(12,25,2)
0008      COMMON /XCOM14/ XLOAD(12,25,2)
0009      COMMON /XCOM26/ XB:UNI(20,25),XTSU(12)
0010      COMMON /XCOM27/ XOASGN
0011      COMMON /XCOM28/ XTMUN(35)
0012      COMMON /ICOM00/ MINPUT,MALLOC,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
1          NMNTYP,NBASES,NTGTYP,NMISS,NWXTYP,IFWX,IAWX,
2          IDENT(36)
0013      COMMON /ICOM05/ MLIST(400),NTLIST,ITLIST(400),JTLIST(400)
0014      COMMON /ICOM07/ LOADCL(35)
0015      COMMON /ICOM08/ NCHOIC(35),LISTCH(35,2)
0016      COMMON /ICOM09/ NEXT(2500,2),IOKPS(2500,3),NZS,NK,IPOINT(2500)
0017      DIMENSION NAME(4)
0018      DATA NAME/'HI ','MED ','LO ','NO '/
0019      MTLIST = 400
0020      ITG = LOADCL(IT)
0021      K = 1
0022      IF (IM.EQ.1) K = 2
0023      NCC = NCHOIC(IT)
0024      IC = LISTCH(IT,K)
0025      110 IF (NCC.LE.0) GO TO 155
0026      DO 150 ICC = 1,NCC
0027      IF (ICC.NE.1) IC = NEXT(IC,K)
0028      120 IW = IOKPS(IC,1)
0029      IF (IW.LT.IFWX) GO TO 150
0030      IA = IOKPS(IC,2)
0031      IF (XTSC(IA).LE.0.0) GO TO 150
0032      IJ = IOKPS(IC,3)
0033      IF (XTMUN(IJ).LE.0.0) GO TO 150
0034      IF (AVAIL(IA,IJ,ITG).LE.0.0) GO TO 150
0035      BREQ = REQ(IM,KT)*SCRTIE
0036      NT = NTLIST + 1
0037      CALL TAKE(IA,IJ,F,IT,NT,BREQ,XSENT)
0038      IF (XSENT.LE.0.0) GO TO 150
0039      NTLIST = NT
0040      IF (NT.GT.MTLIST) GO TO 1000
0041      SO(NT) = XSENT
0042      MLIST(NT) = IM
0043      ITLIST(NT) = IC
0044      JTLIST(NT) = IT
0045      XTSO(IA) = XTSO(IA)-XSENT
0046      XTMUN(IJ) = XTMUN(IJ)-XSENT*XLOAD(IA,IJ,ITG)
0047      Y = XSENT/SCRTIE
0048      IF (F.LT.1.0) Y = REQ(IM,KT)
0049      XOASGN = XOASGN+Y
0050      IF (MSMRYD.NE.1) GO TO 140
0051      WRITE (6,1) IM,IT,IA,IJ,NAME(IOKPS(IC,1)),SO(NT)
0052      140 REQ(IM,KT) = REQ(IM,KT)-Y
0053      TREQ(IM) = TREQ(IM)-Y
0054      ITREQ = ITREQ-Y
0055      IF (REQ(IM,KT).LE.0.0) GO TO 160
0056      150 CONTINUE

```

```
0057      155 CONTINUE
0058      160 RETURN
0059          1 FORMAT(29X,I1,6X,I2,2(4X,I2),4X,A4,4X,F7.2)
0060      1000 WRITE (6,1001)
0061      1001 FORMAT(10X,50HPROGRAM DIMENSIONS EXCEEDED FOR NO. OF ASSIGNMENTS)
0062          CALL EXIT
0063      END
```

```

0001      SUBROUTINE CUMAL(XPROB)
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /XCCM00/ D,DMIN,DMAX,DTVCHG,SORTIE,SOASGN
0004      COMMON /XCOM03/ FRACM(4),FRACMT(20,4)
0005      COMMON /XCCM05/ SO(400)
0006      COMMON /XCOM11/ GOAL(4,20),XACTUL(4,2),TACTUL(4,20,2)
0007      COMMON /XCOM99/ XSPACE(140)
0008      COMMON /ICCM00/ MINPUT,MALLOC,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
1          NMNTYP,NBASES,NTGTYP,NMISS,NWXTYP,IFWX,IAWX,
2          IDENT(36)
0009      COMMON /ICCM01/ NTGTSM(4),INDXTM(4,20),IORDER(4,20)
0010      COMMON /ICCM05/ MLIST(400),NTLIST,ITLIST(400),JTLIST(400)
0011      DIMENSION XXS(4,35)
0012      EQUIVALENCE (XXS,XSPACE)
0013      IF (NTLIST.LE.0) GO TO 300
0014      DO 160 IM = 1,4
0015      DO 150 IT = 1,NTGTYP
0016      XXS(IM,IT) = 0.0
0017      150 CONTINUE
0018      160 CONTINUE
0019      DO 210 KT = 1,NTLIST
0020      IM = MLIST(KT)
0021      IT = JTLIST(KT)
0022      XXS(IM,IT) = XXS(IM,IT) + SO(KT)
0023      210 CONTINUE
0024      DO 260 IM = 1,4
0025      FM = FRACM(IM)
0026      IF (MALLOC.EQ.2) FM = 1.0
0027      XACTUL(IM,1) = 0.0
0028      NNT = NTGTSM(IM)
0029      IF (NNT.LE.0) GO TO 260
0030      Y = 0.0
0031      DO 250 NT = 1,NNT
0032      IT = INDXTM(IM,NT)
0033      GOAL(IM,NT) = FRACMT(NT,IM)*FM
0034      TACTUL(IM,NT,1) = XXS(IM,IT)/SORTIE
0035      TACTUL(IM,NT,2) = TACTUL(IM,NT,2) + XPROB*XXS(IM,IT)/SORTIE
0036      Y = Y + XXS(IM,IT)
0037      250 CONTINUE
0038      XACTUL(IM,1) = Y/SORTIE
0039      XACTUL(IM,2) = XACTUL(IM,2) + XPROB*(Y/SORTIE)
0040      260 CONTINUE
0041      300 RETURN
0042      END

```

```

0001      SUBROUTINE DELMOD(IT,IC,IA,IJ,IM,IIWX)
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /XCOM09/ XKPS(2500),ATTRP(2500),ZTGT(1500),ZSU(1500)
0004      COMMON /ICOM00/ MINPUT,MALLUC,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
1          NMNTYP,NBASES,NTGTYP,NMISS,NWXTYP,IFWX,IAXX,
2          IDENT(36)
0005      COMMON /ICOM07/ LOADCL(35)
0006      COMMON /ICOM08/ NCHOIC(35),LISTCH(35,2)
0007      COMMON /ICOM09/ NEXT(2500,2),IOKPS(2500,3),NZS,NK,IPOINT(2500)
0008      IIWX = 0
0009      BEST = 0.0
0010      KT = LOADCL(IT)
0011      II = IC
0012      K = 1
0013      IF (IM.EQ.1) K = 2
0014      III = LISTCH(IT,K)
0015      II2 = III+NCHOIC(IT)-1
0016      110 II = II-1
0017      IF (II.LT.III) GO TO 120
0018      IF (IOKPS(II,2) .EQ.1A.AND.IOKPS(II,3) .EQ.IJ) GO TO 110
0019      120 II = II+1
0020      IF (II.GT.II2) GO TO 130
0021      IF (IOKPS(II,2) .NE.1A.OR.IOKPS(II,3) .NE.IJ) GO TO 130
0022      IF (IOKPS(II,1).LT.IAXX) GO TO 120
0023      IF (IM.NE.1) GO TO 125
0024      IF (XKPS(II) .LE.BEST) GO TO 120
0025      BEST = XKPS(II)
0026      GO TO 127
0027      125 X = XKPS(II)/(1.0-(1.0-ATTRP(II))*NPASS(IA,IJ,KT))
0028      IF (X.LE.BEST) GO TO 120
0029      BEST = X
0030      127 IIWX = IOKPS(II,1)
0031      IC = II
0032      GO TO 120
0033      130 RETURN
0034      END

```

```

0001      SUBROUTINE DLVR1(IT,L,IA,IC,IJ,IW)
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /XCOM05/ SO(400)
0004      COMMON /XCOM09/ XKPS(2500),ATTRP(2500),ZTGT(1500),ZSO(1500)
0005      COMMON /XCOM13/ XNEFF(12,4,2),ATTRE(12,4),ABORT(12),XJETT(12,4),
1          XRET(400),XALOSS(400),XKILLS(400)
0006      COMMON /XCOM14/ XLOAD(12,25,2)
0007      COMMON /ICOM07/ LOADCL(35)
0008      COMMON /ICOM12/ IATTCT(25),MISS(35)
0009      IS = IATTCT(IJ)
0010      IM = MISS(IT)
0011      KT = LOADCL(IT)
0012      NP = NPASS(IA,IJ,KT)
0013      XP = NP
0014      XN = XNEFF(IA,IM,IS)
0015      E = 1.0-SQRT(1.0-ATTRE(IA,IM))
0016      XD = 1.0-(1.0-ATTRP(IC))*NP
0017      XRET(L) = (ABORT(IA) + (1.0-ABORT(IA))*(1.0-XJETT(IA,IM))
1          *(1.0-ATTRE(IA,IM))*XN)*SO(L) *XLOAD(IA,IJ,KT)
0018      XALOSS(L) = (1.0-ABORT(IA))*(1.0-XJETT(IA,IM))*SO(L)
1          *(E+(1.0-E)*(XN+E+(1.0-XN)*(XD+(1.0-XD)*E)))
0019      X = (1.0-ABORT(IA))*(1.0-XJETT(IA,IM))*(1.0-E)*(1.0-XN)*SO(L)
0020      EFS = (EXPASS(NP,ATTRP(IC))/XP)*X
0021      XKILLS(L) = EFS*XKPS(IC)
0022      RETURN
0023      END

```

```

0001      SUBROUTINE DPRTA1
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /XCOM00/ D,DMIN,DMAX,DTVCHG,SCRTIE,SOASGN
0004      COMMON /XCOM17/ TAC(12),TMUN(25)
0005      COMMON /XCOM19/ BAC(20,12),BMUN(20,25)
0006      COMMON /XCOM99/ XSPACE(140)
0007      COMMON /ICCM00/ MINPUT,MALLGC,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
1          NMNTYP,NBASES,NTGTYP,NMISS,NWXTYP,IFWX,IAWX,
2          IDENT(36)
0008      DIMENSION BLOC(20)
0009      EQUIVALENCE (BLOC,XSPACE)
0010      WRITE (6,30) D,(IDENT(K),K=1,4)
0011      WRITE (6,1) (IB,IB=1,NBASES)
0012      WRITE (6,2)
0013      DO 150 IA = 1,NACTYP
0014      WRITE (6,3) IA,(BAC(IB,IA),IB= 1,NBASES)
0015      WRITE (6,4) TAC(IA)
0016 150 CONTINUE
0017      Y = 0.0
0018      DO 170 IB = 1,NBASES
0019      X = 0.0
0020      DO 160 IA = 1,NACTYP
0021      X = X + BAC(IB,IA)
0022 160 CONTINUE
0023      BLOC(IB) = X
0024      Y = Y + X
0025 170 CONTINUE
0026      WRITE (6,5) (BLOC(IB),IB=1,NBASES)
0027      WRITE (6,4) Y
0028      RETURN
0029      1 FORMAT(39X,21H/C STATUS - AT BASES//12X,4HBASE,110X,5HTOTAL/
1          3X,20(4X,I2))
0030      2 FORMAT(2X,3HA/C/1X,4HTYPE)
0031      3 FORMAT(2X,I2,1X,20F6.0)
0032      4 FORMAT(1H+,124X,F7.0)
0033      5 FORMAT(1H0,4HSUM ,20F6.0)
0034      30 FORMAT(1H1,99X,6HDAY = ,F3.0,9H, CASE = ,4A2)
0035      END

```

```

0001      SUBROUTINE DPRTA2
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /XCOM00/ D,DMIN,DMAX,DTVCHG,SURTIE,SOASGN
0004      COMMON /XCOM20/ ZLOSS(12),ZRET(25),ZKILLS(35),ZBMUN(20,25)
0005      COMMON /XCOM32/ CTSO(12),CSOFL(12),CZLOSS(12),TSO(12),SOFL(12)
0006      COMMON /XCOM99/ XSPACE(140)
0007      COMMON /ICOM00/ MINPUT,MALLUC,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
1          NMNTYP,NBASES,NTGTYP,NMISS,NWXTYP,IFWX,IAWX,
2          IDENT(36)
0008      DIMENSION XS(8)
0009      EQUIVALENCE (XS,XSPACE)
0010      WRITE (6,1)
0011      DO 150 I = 1,8
0012      XS(I) = 0.0
0013      150 CONTINUE
0014      DO 160 IA = 1,NACTYP
0015      IF (SOFL(IA).NE.0.0) GO TO 152
0016      ZLOSR = 0.0
0017      GO TO 154
0018      152 ZLOSR = ZLOSS(IA)/SOFL(IA)
0019      154 IF (CSOFL(IA).NE.0.0) GO TO 156
0020      CZLOSR = 0.0
0021      GO TO 158
0022      156 CZLOSR = CZLOSS(IA)/CSOFL(IA)
0023      158 XS(1) = XS(1) + TSO(IA)
0024      XS(2) = XS(2) + CTSO(IA)
0025      XS(3) = XS(3) + SOFL(IA)
0026      XS(4) = XS(4) + CSOFL(IA)
0027      XS(5) = XS(5) + ZLOSS(IA)
0028      XS(6) = XS(6) + CZLOSS(IA)
0029      WRITE (6,2) IA,TSO(IA),CTSO(IA),SOFL(IA),CSOFL(IA),ZLOSS(IA),
1          CZLOSS(IA),ZLOSR,CZLOSR
0030      160 CONTINUE
0031      IF (XS(3).EQ.0.0) GO TO 162
0032      XS(7) = XS(5)/XS(3)
0033      162 IF (XS(4).EQ.0.0) GO TO 164
0034      XS(8) = XS(6)/XS(4)
0035      164 WRITE (6,3) (XS(I),I=1,8)
0036      RETURN
0037      1 FORMAT(///39X,20H4/C STATUS - SUMMARY//2X,3H4/C,8X,7HSORTIES,9X,
1          7HSURTIES,9X,6HLOSSES, 8X,10HLOSSES PER/1X,4HTYPE,8X,
2          6HAVAIL.,11X,5HFLOWN,23X,12HSORTIE FLOWN/10X,11HTODAY CUM,
3          5X,11HTODAY CUM,5X,11HTODAY CUM,5X,11HTODAY CUM)
0038      2 FORMAT(2X,12,2X,2(4X,F5.0,1X,F6.0),F9.2,F7.2,F9.3,F7.3)
0039      3 FORMAT(1H0,3HSUM,2X,2(4X,F5.0,1X,F6.0),F9.2,F7.2,F9.3,F7.3)
0040      END

```



```

0001      SUBROUTINE DPRTM
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /XCOM00/ D,DMIN,DMAX,DTVCHG,SURTIE,SUASGN
0004      COMMON /XCOM17/ TAC(12),TMUN(25)
0005      COMMON /XCOM19/ BAC(20,12),BMUN(20,25)
0006      COMMON /XCOM20/ ZLOSS(12),ZRET(25),ZKILLS(35),ZBMUN(20,25)
0007      COMMON /ICL000/ MINPUT,MALLUC,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
          1      NMNTYP,NBASES,NTGTYP,NMISS,NWXTYP,IFWX,IAWX,
          2      IDENT(36)
0008      WRITE (6,1) (IB,IB=1,NBASES)
0009      WRITE (6,2)
0010      DO 150 IJ = 1,NMNTYP
0011      WRITE (6,3) IJ,(BMUN(IB,IJ),IB=1,NBASES)
0012      WRITE (6,4) TMUN(IJ)
0013      150 CONTINUE
0014      IF (D.LT.DMIN) GO TO 200
0015      WRITE (6,30) D,(IDENT(K),K=1,4)
0016      WRITE (6,10) (IB,IB=1,NBASES)
0017      WRITE (6,2)
0018      DO 170 IJ = 1,NMNTYP
0019      Y = 0.0
0020      DO 160 IB = 1,NBASES
0021      Y = Y + ZBMUN(IB,IJ)
0022      160 CONTINUE
0023      WRITE (6,3) IJ,(ZBMUN(IB,IJ),IB=1,NBASES)
0024      WRITE (6,4) Y
0025      170 CONTINUE
0026      200 RETURN
0027      1 FORMAT (///39X,34HMUNITION STATUS - REMAINING STOCKS/12X,4HBASE,
          1110X,5HTOTAL/3X,20(4X,12))
          2 FORMAT (2X,3HMUN/1X,4HTYPE)
          3 FORMAT (1X,12,1X,20F6.0)
          4 FORMAT (1H+,123X,F8.0)
          10 FORMAT (39X,36HMUNITION STATUS - TODAYS CONSUMPTION/12X,4HBASE,
          1110X,5HTOTAL/3X,20(4X,12))
          30 FORMAT (1H1,99X,6HDAY = ,F3.0,9H, CASE = ,4A2)
0032      END
0033

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0001      SUBROUTINE DPRIT
0002      IMPLICIT INTEGER*2(I-N)
0003      INTEGER*4 NAME
0004      COMMON /XCOM00/ D,DMIN,DMAX,DTVCHG, SORTIE,SOASGN
0005      COMMON /XCOM02/ TTGTS(35),VALTGT(35,2)
0006      COMMON /XCOM09/ XKPS(2500),ATTRP(2500),ZTGT(1500),ZSQ(1500)
0007      COMMON /XCOM20/ ZLGSS(12),ZRET(25),ZKILLS(35),ZBMUN(20,25)
0008      COMMON /XCOM33/ CUMSU,CUMSGA
0009      COMMON /XCOM34/ ZZKILL(35),ZZMWD(35),ZZSQ(35)
0010      COMMON /XCOM35/ TTMWD(35),TTSO(35)
0011      COMMON /XCOM99/ XSPACE(140)
0012      COMMON /ICOM00/ MINPUT,MALLUC,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
1          NMNTYP,NBASES,NTGTYP,NMISS,NWXTYP,IFWX,IAWX,
2          IDENT(36)
0013      COMMON /ICOM01/ NTGTSM(4),INDXTM(4,20),IORDER(4,20)
0014      COMMON /ICOM08/ NCHOIC(35),LISTCH(35,2)
0015      COMMON /ICOM09/ NEXT(2500,2),IOKPS(2500,3),NZS,NK,IPOINT(2500)
0016      DIMENSION XS(6),YS(6)
0017      EQUIVALENCE (XS,XSPACE),(YS,XSPACE(7))
0018      DIMENSION NAME(4)
0019      DATA NAME/'CAS ','CA ',' ','AI '/
0020      IF (MSMRYD.GT.2) GO TO 180
0021      WRITE (6,1)
0022      110 IC = 0
0023      DO 170 IT = 1,NTGTYP
0024      ILINE1 = 1
0025      IACLD = 0
0026      NN = NCHOIC(IT)
0027      IF (NN.LE.0) GO TO 170
0028      DO 160 N = 1,NN
0029      IC = IC+1
0030      IA = IOKPS(IC,2)
0031      IJ = IOKPS(IC,3)
0032      IF (IA.EQ.IACLD) GO TO 120
0033      IACLD = IA
0034      IJOLD = 0
0035      ILINE2 = 1
0036      120 IF (IJ.EQ.IJOLD) GO TO 160
0037      IJOLD = IJ
0038      I = IPCINT(IC)
0039      IF (ZSQ(I).LE.0.0) GO TO 160
0040      124 IF (ILINE1.EQ.1) GO TO 140
0041      IF (ILINE2.EQ.1) GO TO 130
0042      WRITE (6,2) IJ,ZTGT(I),ZSQ(I)
0043      GO TO 160
0044      130 WRITE (6,3) IA,IJ,ZTGT(I),ZSQ(I)
0045      GO TO 150
0046      140 WRITE (6,4) IT,IA,IJ,ZTGT(I),ZSQ(I)
0047      ILINE1 = 0
0048      150 ILINE2 = 0
0049      160 CONTINUE
0050      170 CONTINUE
0051      180 IF (MSMRYD.GT.2) GO TO 210
0052      WRITE (6,30) D,IDENT(K),K=1,4)
0053      GO TO 220
0054      210 WRITE (6,11)
0055      220 WRITE (6,10)
0056      DO 230 I = 1,6

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0057      YS(I) = 0.0
0058      230 CONTINUE
0059      DO 270 IM = 1,3
0060      IMM = IM
0061      IF (IM.EQ.3) IMM = 4
0062      NNT = NTGISM(IMM)
0063      IF (NNT.LE.0) GO TO 270
0064      DO 240 I = 1,6
0065      XS(I) = 0.0
0066      240 CONTINUE
0067      WRITE (6,12) NAME(IMM)
0068      DO 250 NT = 1,NNT
0069      IT = INDXIM(IMM,NT)
0070      IF (CUMSOA.LE.0.0) GO TO 242
0071      ZZFRFL = ZZSO(IT)/CUMSOA
0072      GO TO 244
0073      242 ZZFRFL = 0.0
0074      244 IF (SORTIE.LE.0.0.OR.SOASGN.LE.0.0) GO TO 246
0075      TTFRFL = TTSO(IT)/(SORTIE*SOASGN)
0076      GO TO 248
0077      246 TTFRFL = 0.0
0078      248 XS(1) = XS(1) + ITMWD(IT)
0079      XS(2) = XS(2) + ITSO(IT)
0080      XS(3) = XS(3) + TTFRFL
0081      XS(4) = XS(4) + ZZMWD(IT)
0082      XS(5) = XS(5) + ZZSO(IT)
0083      XS(6) = XS(6) + ZZFRFL
0084      WRITE (6,13) IT,ZKILLS(IT),ITMWD(IT),TTSO(IT),TTFRFL,
1      ZZKILL(IT),ZZMWD(IT),ZZSO(IT),ZZFRFL,TTGTS(IT)
0085      250 CONTINUE
0086      DO 260 I = 1,6
0087      YS(I) = YS(I) + XS(I)
0088      260 CONTINUE
0089      WRITE (6,14) (XS(I),I=1,6)
0090      270 CONTINUE
0091      WRITE (6,15) (YS(I),I=1,6)
0092      RETURN
0093      1 FORMAT(///16X,25HTARGET STATUS - LONG FORM/25X,13HRESULTS TODAY/
1 37X,3HTGT/ 10X,13HTGT A/C MUN,13X,14HKILLS SORTIES)
0094      2 FORMAT(21X,I2,11X,F7.2,2X,F7.2)
0095      3 FORMAT(16X,I2,3X,I2,11X,F7.2,2X,F7.2)
0096      4 FORMAT(11X,I2,3X,I2,3X,I2,11X,F7.2,2X,F7.2)
0097      10 FORMAT(39X,26HTARGET STATUS - SHORT FORM//38X,13HRESULTS TODAY,
1 31X,20HRESULTS - CUMULATIVE//52X,8HFRAC. OF,36X,8HFRAC. OF,
2 8X,4HTGTS/4X,9HMISS TGT,13X,37HKILLS MWD SORTIES SOR
3T. FLOWN,7X,48HKILLS MWD SORTIES SORT. FLOWN REMAINING)
0098      11 FORMAT(////)
0099      12 FORMAT(4X,A4)
0100      13 FORMAT(11X,I2,12X,F7.2,2X,F7.2,2X,F7.2,3X,F6.4,10X,F7.2,1X,F8.2,
1 1X,F8.2,3X,F6.4,8X,F7.2)
0101      14 FORMAT(/7X,3HSUM,24X,F7.2,2X,F7.2,3X,F6.4,18X,F8.2,1X,F8.2,3X,
1 F6.4)
0102      15 FORMAT(/74X,3HALL,27X,F7.2,2X,F7.2,3X,F6.4,18X,F8.2,1X,F8.2,3X,
1 F6.4)
0103      30 FORMAT(1H1,99X,6HDAY = ,F3.0,9H, CASE = ,4A2)
0104      END

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0001      SUBROUTINE DSCHED
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /XCOM00/ D,DMIN,DMAX,DTVCHG,SDRTIE,SDASGN
0004      COMMON /XCOM03/ FRACM(4),FRACMT(20,4)
0005      COMMON /XCOM16/ SRATE(12)
0006      COMMON /XCOM17/ TAC(12),TMUN(25)
0007      COMMON /XCOM19/ BAC(20,12),BMUN(20,25)
0008      COMMON /XCOM24/ GAF(12)
0009      COMMON /XCOM30/ DAYSCH(200),XSCH(200,4)
0010      COMMON /XCOM42/ BATFR(20,3)
0011      COMMON /XCOM99/ XSPACE(140)
0012      COMMON /ICOM00/ MINPUT,MALLOD,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
1          NMNTYP,NBASES,NIGTYP,NMISS,NWXTYP,IFWX,IAWX,
2          IDENT(36)
0013      COMMON /ICOM22/ INWX(2)
0014      COMMON /ICOM30/ ITYSCH(200),IOBSCH(200),IBSCH(200),NXTSCH(200),
1          ISCHED
0015      DIMENSION XPOOL(35)
0016      EQUIVALENCE (XPOOL,XSPACE)
0017      IF (DAYSCH(ISCHED)-D) 1010,132,500
0018      132 I = ITYSCH(ISCHED)
0019      GO TO (134,136,138,150,160,170,180),I
0020      GO TO 1000
0021      134 IB = IOBSCH(ISCHED)
0022      IA = IOBSCH(ISCHED)
0023      X = XSCH(ISCHED,1)*GAF(IA)
0024      BAC(IB,IA) = BAC(IB,IA)+X
0025      TAC(IA) = TAC(IA) + X
0026      GO TO 200
0027      136 IB = IOBSCH(ISCHED)
0028      IJ = IOBSCH(ISCHED)
0029      X = XSCH(ISCHED,1)
0030      BMUN(IB,IJ) = BMUN(IB,IJ) + X
0031      TMUN(IJ) = TMUN(IJ) + X
0032      GO TO 200
0033      138 IT = IOBSCH(ISCHED)
0034      IMETH = 2
0035      CALL RPLACE(IT,IMETH)
0036      XPOOL(IT) = -1.0
0037      GO TO 200
0038      150 DO 155 K = 1,4
0039      FRACM(K) = XSCH(ISCHED,K)
0040      155 CONTINUE
0041      GO TO 200
0042      160 IB = IOBSCH(ISCHED)
0043      DO 165 K = 1,3
0044      BATFR(IB,K) = XSCH(ISCHED,K)
0045      165 CONTINUE
0046      GO TO 200
0047      170 IA = IOBSCH(ISCHED)
0048      SRATE(IA) = XSCH(ISCHED,1)
0049      GO TO 200
0050      180 DO 185 K = 1,2
0051      INWX(K) = XSCH(ISCHED,K)
0052      185 CONTINUE
0053      GO TO 200
0054      200 ISCHED = NXTSCH(ISCHED)
0055      IF (ISCHED.GT.0) GO TO 110

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```
0056      500 RETURN
0057      1000 WRITE (6,1001)
0058      1001 FORMAT(10X,20HPROGRAM ERROR-DSCHED)
0059      CALL EXIT
0060      1010 WRITE (6,1011)
0061      1011 FORMAT(10X,48HDAY ON A SCHEDULE CARD (60-67) IS LESS THAN DMIN)
0062      CALL EXIT
0063      END
```

```

0001      FUNCTION EXPASS(NP,PX)
0002      IMPLICIT INTEGER*2(I-N)
0003      Y = 0.0
0004      DO 120 I = 1,NP
0005      Z = 1
0006      Y = Y + (1.0-PX)**(Z-0.5)
0007 120 CONTINUE
0008      EXPASS = Y
0009      RETURN
0010      END
    
```

```
0001      SUBROUTINE FLYD
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /ICCM00/ MINPUT,MALLOC,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
1          NMNTYP,NBASES,NTGTYP,NMISS,NWXTYP,IFWX,IAWX,
2          IDENT(36)
0004      GO TO (100),MFLY
0005      GO TO 1000
0006      100 CALL FLY1
0007      RETURN
0008      1000 WRITE (6,1001)
0009      1001 FORMAT(10X,44HEXPECTED OUTCOME METHOD OUT OF ALLOWED RANGE)
0010      CALL EXIT
0011      END
```

```
0001      SUBROUTINE FLY1
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /ICOM00/ MINPUT,MALLUC,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
1          NMNTYP,NBASES,NTGTYP,NMISS,NWATYP,IFWX,IAWX,
2          IDENT(36)
0004      COMMON /ICOM05/ MLIST(400),NTLIST,ITLIST(400),JTLIST(400)
0005      COMMON /ICOM09/ NEXT(2500,2),IOKPS(2500,3),NZS,NK,IPOINT(2500)
0006      LLT = NTLIST
0007      IF (LLT.LE.0) GO TO 140
0008      DO 130 LT=1,LLT
0009      IM = MLIST(LT)
0010      IC = ITLIST(LT)
0011      IT = JTLIST(LT)
0012      IA = IOKPS(IC,2)
0013      IJ = IOKPS(IC,3)
0014      IWX = IOKPS(IC,1)
0015      IF (IAWX.NE.IFWX) CALL DELMOD(IT,IC,IA,IJ,IM,IWX)
0016      IF (IWX.NE.0) GO TO 120
0017      CALL NDLVRI(IT,LT,IA,IJ)
0018      GO TO 130
0019      120 CALL DLVRI(IT,LT,IA,IC,IJ,IWX)
0020      130 CONTINUE
0021      140 RETURN
0022      END
```



```
0001      SUBROUTINE FRAGD
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /ICCM00/ MINPUT,MALLOC,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
1          NMNTYP,NBASES,NTGTYP,NMISS,NWXTYP,IFWX,IAWX,
2          IDENT(36)
0004      GO TO (100), MFRAG
0005      GO TO 1000
0006      100 CALL FRAG1
0007      RETURN
0008      1000 WRITE (6,1001)
0009      1001 FORMAT(10X,38HASSIGNMENT METHOD OUT OF ALLOWED RANGE)
0010      CALL EXIT
0011      END
```

```

0001      SUBROUTINE FRAG1
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /XCOM04/ FLAGM(4),FLAGMT(4,20),TTREQ,TREQ(4),REQ(4,20)
0004      COMMON /ICCM00/ MINPUT,MALLOC,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
1          NMNTYP,NBASES,NTGTYP,NMISS,NWXTYP,IFWX,IAWX,
2          IDENT(36)
0005      COMMON /ICCM01/ NTGTSM(4),INDXTM(4,20),IORDER(4,20)
0006      COMMON /ICCM38/ NLOOP
0007      XLOOP = NLOOP
0008      DO 200 NL = 1,NLOOP
0009      TTREQ = 1.0/XLOOP
0010      CALL IFRAG1
0011      110 DO 150 IM = 1,NMISS
0012          IF (FLAGM(IM).EQ.0.0) GO TO 150
0013          KKT = NTGTSM(IM)
0014          IF (KKT.LE.0) GO TO 140
0015      120 DO 130 LT = 1,KKT
0016          KT = IORDER(IM,LT)
0017          IF (FLAGMT(IM,KT).EQ.0) GO TO 130
0018          IT = INDXTM(IM,KT)
0019          CALL CHOCSE(IT,KT,IM)
0020          IF (REQ(IM,KT).LE.0.0) GO TO 130
0021          FLAGMT(IM,KT) = 0.0
0022      130 CONTINUE
0023          IF (MALLOC.EQ.2) GO TO 150
0024          CALL ALTER2(IM,Y)
0025          IF (Y.GT.0.0.AND.TREQ(IM).GT.0.0) GO TO 120
0026          IF (TREQ(IM).LE.0.0) GO TO 150
0027      140 FLAGM(IM) = 0.0
0028      150 CONTINUE
0029          IF (MALLOC.EQ.2) GO TO 160
0030          CALL ALTER1(Y)
0031          GO TO 170
0032      160 CALL ALTER3(Y)
0033      170 IF (Y.GT.0.0.AND.TTREQ.GT.0.0) GO TO 110
0034      200 CONTINUE
0035      RETURN
0036      END

```

```

0001      SUBROUTINE FRGFLY
0002      IMPLICIT INTEGER*2(I-N)
0003      INTEGER*4 NAME
0004      COMMON /XCOM00/ D,DMIN,DMAX,DTVCHG,SDRTIE,SDASGN
0005      COMMON /XCOM15/ PERSWX(4),WXPROB(4,4)
0006      COMMON /XCOM17/ TAC(12),TMUN(25)
0007      COMMON /XCOM19/ BAC(20,12),BMUN(20,25)
0008      COMMON /XCOM20/ ZLOSS(12),ZRET(25),ZKILLS(35),ZBMUN(20,25)
0009      COMMON /XCOM25/ BSO(20,12),XBSO(20,12)
0010      COMMON /XCOM26/ XBMUN(20,25),XTSU(12)
0011      COMMON /XCOM27/ XUASGN
0012      COMMON /XCOM28/ XTMUN(35)
0013      COMMON /ICOM00/ MINPUT,MALLOCC,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
1          NMNTYP,NBASES,NTGTYP,NMISS,NWXTP,IFWX,IAWX,
2          IDENT(36)
0014      COMMON /ICOM05/ MLIST(400),NTLIST,ITLIST(400),JTLIST(400)
0015      COMMON /ICOM18/ NBLIST, IREF(800),JBLIST(800)
0016      DIMENSION NAME(4)
0017      DATA NAME/'HI ','MED ','LO ','NO '/
0018      110 IF (MWX.EQ.3) GO TO 120
0019      IF (MSMRYD.NE.1) GO TO 112
0020      WRITE (6,1) D
0021      WRITE (6,2) NAME(IFWX)
0022      112 CALL FRAGO
0023      CALL FLYD
0024      XPROB = 1.0
0025      CALL SMFLY1(XPROB)
0026      IF (MSMRYD.NE.1) GO TO 114
0027      IF (NTLIST.LE.0) GO TO 114
0028      CALL CUMAL(XPROB)
0029      K = 1
0030      CALL PRNTAL(K)
0031      114 RETURN
0032      120 DO 170 IFWX = 1,4
0033      IF (PERSWX(IFWX).LE.0.0) GO TO 170
0034      NBLIST = 0
0035      DO 126 IB = 1,NBASES
0036      DO 122 IA = 1,NACTYP
0037      XBSO(IB,IA) = BSO(IB,IA)
0038      122 CONTINUE
0039      DO 124 IJ = 1,NMNTYP
0040      XBMUN(IB,IJ) = BMUN(IB,IJ)
0041      124 CONTINUE
0042      126 CONTINUE
0043      NTLIST = 0
0044      DO 134 IJ = 1,NMNTYP
0045      XTMUN(IJ) = TMUN(IJ)
0046      134 CONTINUE
0047      XUASGN = 0.0
0048      IF (MSMRYD.NE.1) GO TO 152
0049      WRITE (6,30) D,(IDENT(K),K=1,4)
0050      WRITE (6,1) D
0051      WRITE (6,2) NAME(IFWX)
0052      152 DO 158 IA = 1,NACTYP
0053      X = 0.0
0054      DO 156 IB = 1,NBASES
0055      X = X + BSO(IB,IA)
0056      156 CONTINUE

```

```

0057      XTSU(IA) = X
0058      158 CONTINUE
0059      CALL FRAGD
0060      XPROB = PERSWX(IFWX)
0061      DO 162 IB = 1,NBASES
0062      DO 160 IJ = 1,NMNTYP
0063      ZBMUN(IB,IJ) = ZBMUN(IB,IJ) + XBMUN(IB,IJ)*XPROB
0064      160 CONTINUE
0065      162 CONTINUE
0066      SOASGN = SOASGN+XOASGN*XPROB
0067      IF (MSMKYD.NE.1) GO TO 164
0068      IF (NTLIST.LE.0) GO TO 164
0069      CALL CUMAL(XPROB)
0070      K = 1
0071      CALL PRNTAL(K)
0072      164 DO 165 IAWX = 1,4
0073      XPROB = WXPLOB(IAWX,IFWX)
0074      IF (XPROB.LE.0.0) GO TO 165
0075      CALL FLYD
0076      CALL SMFLY1(XPROB)
0077      165 CONTINUE
0078      170 CONTINUE
0079      IF (MSMKYD.NE.1) GO TO 180
0080      IFWX = 5
0081      K = 2
0082      CALL PRNTAL(K)
0083      180 RETURN
0084      1 FORMAT(10X, 19HALLOCATION FOR DAY ,F4.0/ 15X,54HFORECAST MISSI
10N TGT A/C MUN DLVRY SORTIES)
0085      2 FORMAT(18X,A4)
0086      30 FORMAT(1H1,99X,6HDAY = ,F3.0,9H, CASE = ,4A2)
0087      END

```

```

0001      SUBROUTINE IFRAG1
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /XCCM00/ D,DMIN,DMAX,DTVCHG, SORTIE,SOASGN
0004      COMMON /XCOM02/ ITGTS(35),VALTGT(35,2)
0005      COMMON /XCOM03/ FRACM(4),FRACMT(20,4)
0006      COMMON /XCOM04/ FLAGM(4),FLAGMT(4,20),TTREQ,TREQ(4),REQ(4,20)
0007      COMMON /XCOM99/ XSPACE(140)
0008      COMMON /ICCM00/ MINPUT,MALLOC,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
1          NMNTYP,NBASES,NTGTYP,NMISS,NWATYP,IFWX,IAWX,
2          IDENT(36)
0009      COMMON /ICCM01/ NTGTSM(4),INDXTM(4,20),IORDER(4,20)
0010      COMMON /ICCM04/ JTTCNT,JTCNT(4)
0011      COMMON /ICCM99/ ISPACE(400)
0012      DIMENSION IRR(20)
0013      EQUIVALENCE (IRR,ISPACE)
0014      DIMENSION XTEMP(20)
0015      EQUIVALENCE (XTEMP,XSPACE)
0016      KD = 1
0017      IF (D.GE.DTVCHG) KD = 2
0018      JTCNT = 0
0019      DO 130 IM = 1,NMISS
0020      JTCNT(IM) = 0
0021      NNT = NTGTSM(IM)
0022      IF (NNT.GT.0) GO TO 110
0023      FLAGM(IM) = 0.0
0024      TREQ(IM) = 0.0
0025      GO TO 130
0026 110 FM = FRACM(IM)*TTREQ
0027      TREQ(IM) = FM
0028      FLAGM(IM) = 1.0
0029      IF (FM.EQ.0.0) FLAGM(IM) = 0.0
0030      IF (MALLOC.EQ.1.AND.FM.NE.0.0) JTTCNT = JTTCNT+1
0031      DO 115 NT = 1,NNT
0032      IT = INDXTM(IM,NT)
0033      XTEMP(NT) = VALTGT(IT,KD)
0034 115 CONTINUE
0035      CALL ORDER(NNT,XTEMP,IRR)
0036      DO 120 NT = 1,NNT
0037      FT = FM*FRACMT(NT,IM)
0038      REQ(IM,NT) = FT
0039      FLAGMT(IM,NT) = 1.0
0040      IF (FT.EQ.0.0) FLAGMT(IM,NT) = 0.0
0041      IF (FT.NE.0.0) JTCNT(IM)=JTCNT(IM)+1
0042      IORDER(IM,IRR(NT)) = NT
0043 120 CONTINUE
0044      IF (MALLOC.EQ.2) JTTCNT = JTTCNT+JTCNT(IM)
0045      IF (JTCNT(IM).LE.0) FLAGM(IM) = 0.0
0046 130 CONTINUE
0047      RETURN
0048      END

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0001      SUBROUTINE INCARD(KBASES)
0002      IMPLICIT INTEGER*2(I-N)
0003      INTEGER*4 ITLOC,ITT
0004      COMMON /XCUM00/ D,DMIN,DMAX,DTVCHG,SCRTIE,SUASGN
0005      COMMON /XCUM02/ ITGTS(35),VALTGT(35,2)
0006      COMMON /XCUM03/ FRACM(4),FRACMT(20,4)
0007      COMMON /XCUM09/ XKPS(2500),ATTRP(2500),ZTGT(1500),ZSO(1500)
0008      COMMON /XCUM13/ XNEFF(12,4,2),ATTRE(12,4),ABURT(12),XJETT(12,4),
1          XRET(400),XALUSS(400),XKILLS(400)
0009      COMMON /XCUM15/ PERSWX(4),WXPROB(4,4)
0010      COMMON /XCUM16/ SRATE(12)
0011      COMMON /XCUM19/ BAC(20,12),BMUN(20,25)
0012      COMMON /XCUM21/ WXDIST(4),WXERR,FWXIS(4,4)
0013      COMMON /XCUM23/ WSWGHT(4,4),AWXDST(4),WXC1,WXC2
0014      COMMON /XCUM24/ GAF(12)
0015      COMMON /XCUM30/ DAYSCH(200),XSCH(200,4)
0016      COMMON /XCUM36/ XSPEC(2),SXKPS(100,2)
0017      COMMON /XCUM39/ TTGTSO(35),RRATE(35,2),POOL(35),TEQUIV(35),
1          FAVAIL(35)
0018      COMMON /XCUM42/ BATTR(20,3)
0019      COMMON /XCUM43/ RF(30)
0020      COMMON /XCUM45/ XT14
0021      COMMON /XCUM99/ XSPACE(140)
0022      COMMON /ICUM00/ MINPUT,MALLOCC,MSMKYD,MFLY,MFRAG,MWX,NACTYP,
1          NMNTYP,NBASES,NTGTYP,NMISS,NWXTYP,IFWX,IAWX,
2          IDENT(36)
0023      COMMON /ICUM09/ NEXT(2500,2),IGKPS(2500,3),NZS,NK,IPOINT(2500)
0024      COMMON /ICUM21/ ISEED(3),IFWXCH(4,3)
0025      COMMON /ICUM22/ INWX(2)
0026      COMMON /ICUM30/ ITYSCH(200),IOBSCH(200),IBSCH(200),NXTSCH(200),
1          ISCHED
0027      COMMON /ICUM36/ ISPEC(2)
0028      COMMON /ICUM38/ NLOOP
0029      COMMON /ICUM39/ ISRCE(35),KSRCE(35)
0030      COMMON /ICUM40/ IRTIME(10),IRLOC(35)
0031      COMMON /ICUM42/ IDGCAT(25)
0032      COMMON /ICUM43/ NINSTR,IRDAY1(30),IRDAY2(30),IRDAYD(30),MATRX(30)
0033      COMMON /ICUM44/ MBASES,MMNTYP,MACTYP,MTGTYP,MDAYS,MMAX,MMAX
0034      COMMON /ICUM45/ MRLIST,MSCHED,MINSTR
0035      DIMENSION XIN(8)
0036      DIMENSION BTEST1(20),BTEST2(20)
0037      DIMENSION BTEST3(20)
0038      EQUIVALENCE (XIN,XSPACE),(BTEST1,XSPACE(9)),(BTEST2,XSPACE(29))
0039      EQUIVALENCE (BTEST3,XSPACE(49))
0040      NRLIST = 0
0041      ITEN = 10
0042      NINSTR = 0
0043      150 READ(5,2,END=900) IC,IA,IT,IJ,IB,IM,IW,ID,(XIN(K),K=1,8)
0044      WRITE(6,7) IC,IA,IT,IJ,IB,IM,IW,ID,(XIN(K),K=1,8)
0045      DO 160 I = 1,8
0046      IF (IC.LT.1*ITEN) GO TO 170
0047      160 CONTINUE
0048      GO TO 1010
0049      170 GO TO (200,300,400,500,600,700,800),I
0050      200 ICC = IC-2
0051      GO TO (210,250,260),ICC
0052      GO TO 1010
0053      210 NBASES = XIN(1)

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0054      IF (NBASES.LT.1.OR.NBASES.GT.MBASES) GO TO 1040
0055      UMIN = XIN(2)
0056      UMAX = XIN(3)
0057      UTVCHG = XIN(4)
0058      IF (UMAX.LT.UMIN.OR.UMAX.GT.MDAYS) GO TO 1080
0059      ATTRPF = XIN(5)
0060      IF (ATTRPF.EQ.1.0) GO TO 214
0061      DO 212 I = 1,NK
0062      ATTRP(I) = ATTRP(I)*ATTRPF
0063 212 CONTINUE
0064 214 IF (XIN(6).LE.0) GO TO 150
0065      NLGCP = XIN(6)
0066      GO TO 150
0067 250 IF (MALLOC.EQ.2) GO TO 254
0068      X = 0.0
0069      DO 252 IM = 1,4
0070      FRACM(IM) = XIN(IM)
0071      X = X+FRACM(IM)
0072 252 CONTINUE
0073      IF (X.GT.1.0) GO TO 1060
0074      GO TO 150
0075 254 FRACM(1) = XIN(1)
0076      FRACM(3) = 1.0-XIN(1)
0077      FRACM(2) = 1.0
0078      FRACM(4) = 1.0
0079      GO TO 150
0080 260 DO 262 KS = 1,2
0081      IT = XIN(2*KS-1)
0082      IF (IT.LT.0.OR.IT.GT.NTGTYT) GO TO 1030
0083      ISPEC(KS) = IT
0084      XSPEC(KS) = XIN(2*KS)
0085 262 CONTINUE
0086      GO TO 150
0087 300 ICC = 10-9
0088      GO TO (320,330,340,350,360,370),ICC
0089      GO TO 1010
0090 320 WXERR = XIN(1)
0091      DO 322 K = 1,NWXTYP
0092      WXDIST(K) = XIN(K+1)
0093 322 CONTINUE
0094      IF (NWXTYP.EQ.1) GO TO 326
0095      DO 324 K = 2,NWXTYP
0096      WXDIST(K) = WXDIST(K)+WXDIST(K-1)
0097 324 CONTINUE
0098 326 IF (WXDIST(NWXTYP).NE.1.0) GO TO 1020
0099      GO TO 150
0100 330 IF (IW.LT.1.OR.IW.GT.NWXTYP) GO TO 1030
0101      DO 332 K = 1,NWXTYP
0102      FWXIS(IW,K) = XIN(K)
0103 332 CONTINUE
0104      DO 334 K = 2,4
0105      FWXIS(IW,K) = FWXIS(IW,K) + FWXIS(IW,K-1)
0106 334 CONTINUE
0107      IF (FWXIS(IW,4).NE.1.0) GO TO 1050
0108      GO TO 150
0109 340 DO 342 K = 1,3
0110      ISEED(K) = XIN(K)
0111 342 CONTINUE
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0112      GO TO 150
0113      350 DO 352 K = 1,2
0114          INWX(K) = XIN(K)
0115          IF (XIN(K).LT.1.0.OR.XIN(K).GT.4.0) GO TO 1030
0116      352 CONTINUE
0117      GO TO 150
0118      360 WXC1 = XIN(1)
0119          WXC2 = XIN(2)
0120          XT14 = 0.0
0121      GO TO 150
0122      370 IF (IW.LE.0.OR.IW.GT.4) GO TO 1030
0123          AXXDST(IW) = XIN(1)
0124          PERSWX(IW) = XIN(2)
0125          DO 372 K = 1,4
0126              WXXGHI(IW,K) = XIN(K+2)
0127      372 CONTINUE
0128      GO TO 150
0129      400 ICC = IC-19
0130          GO TO (1010,405), ICC
0131      GO TO 1010
0132      405 IF (IJ.LT.1.OR.IJ.GT.NMNTYP) GO TO 1030
0133          IF (XIN(1).LT.1.0.OR.XIN(1).GT.2.0) GO TO 1090
0134          IDGCAT(IJ) = XIN(1)
0135      GO TO 150
0136      500 ICC = IC-29
0137          GO TO (510,520,530), ICC
0138      GO TO 1010
0139      510 IF (IB.LT.1.OR.IB.GT.MBASES) GO TO 1030
0140          IF (IB.GT.KBASES) KBASES = IB
0141          BTEST1(IB) = 1.0
0142          DO 512 K = 1,4
0143              I1A = XIN(2*K-1)
0144              IF (I1A.LE.0) GO TO 512
0145              IF (I1A.GT.NACTYP) GO TO 1030
0146              BAC(IB,I1A) = XIN(2*K)
0147      512 CONTINUE
0148      GO TO 150
0149      520 IF (IB.LT.1.OR.IB.GT.MBASES) GO TO 1030
0150          IF (IB.GT.KBASES) KBASES = IB
0151          BTEST2(IB) = 1.0
0152          DO 522 K = 1,4
0153              IJ = XIN(2*K-1)
0154              IF (IJ.LE.0) GO TO 522
0155              IF (IJ.GT.NMNTYP) GO TO 1030
0156              BMUN(IB,IJ) = XIN(2*K)
0157      522 CONTINUE
0158      GO TO 150
0159      530 IF (IB.LT.1.OR.IB.GT.MBASES) GO TO 1030
0160          IF (IB.GT.KBASES) KBASES = IB
0161          BTEST3(IB) = 1.0
0162          DO 535 K = 1,3
0163              BATR(IB,K) = XIN(K)
0164      535 CONTINUE
0165      GO TO 150
0166      600 ICC = IC-39
0167          GO TO (1010,620,630,640,650), ICC
0168      GO TO 1010
0169      620 IF (IA.LT.1.OR.IA.GT.NACTYP) GO TO 1030
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0170          SRATE(IA) = XIN(1)
0171          ABORT(IA) = XIN(2)
0172          GAF(IA) = XIN(3)
0173          GO TO 150
0174          630 IF (IA.LT.1.OR.1A.GT.NACTYP) GO TO 1030
0175          DO 632 IM = 1,4
0176          XJETT(IA,IM) = XIN(IM)
0177          632 CONTINUE
0178          GO TO 150
0179          640 IF (IA.LT.1.OR.1A.GT.NACTYP) GO TO 1030
0180          DO 642 IM = 1,4
0181          ATTRE(IA,IM) = XIN(IM)
0182          642 CONTINUE
0183          GO TO 150
0184          650 IF (IA.LT.1.OR.1A.GT.NACTYP) GO TO 1030
0185          N = 0
0186          DO 654 IM = 1,4
0187          DO 652 IS = 1,2
0188          N = N+1
0189          XNEFF(IA,IM,IS) = XIN(N)
0190          652 CONTINUE
0191          654 CONTINUE
0192          GO TO 150
0193          700 ICC = IC-49
0194          GO TO (710,720,730), ICC
0195          GO TO 1010
0196          710 IF (IT.LT.1.OR.IT.GT.NTG1YP) GO TO 1030
0197          TTGTS(IT) = XIN(1)
0198          TTGTSU(IT) = XIN(1)
0199          DO 712 K = 1,2
0200          VALTGT(IT,K) = XIN(1+K)
0201          712 CONTINUE
0202          GO TO 150
0203          720 IF (IT.LT.1.OR.IT.GT.NTG1YP) GO TO 1030
0204          ISRCE(IT) = XIN(1)
0205          RRATE(IT,1) = XIN(2)
0206          RRATE(IT,2) = XIN(3)
0207          PUCL(IT) = XIN(4)
0208          TEQUIV(IT) = XIN(5)
0209          FAVAIL(IT) = XIN(6)
0210          ITS = ISRCE(IT)
0211          IF (ITS.EQ.0) GO TO 150
0212          IF (KSRCE(ITS).NE.0) GO TO 2002
0213          KSRCE(ITS) = IT
0214          IF (TEQUIV(IT).LE.0.0) GO TO 2004
0215          GO TO 150
0216          730 IF (IT.LT.1.OR.IT.GT.NTG1YP) GO TO 1030
0217          IF (IRLOC(IT).GT.0) GO TO 2006
0218          NRLIST = NRLIST + 1
0219          IF (NRLIST.GT.MRLIST) GO TO 2008
0220          IRTIME(NRLIST) = XIN(1)
0221          IRLOC(IT) = NRLIST
0222          IF (XIN(1).LE.0) GO TO 2010
0223          GO TO 150
0224          800 ICC = IC-59
0225          GO TO (805,805,830,1010,840,850,860,865,870),ICC
0226          GO TO 1010
0227          805 DO 825 K = 1,4

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0228      IF (XIN(2*K-1).LE.0.0) GO TO 825
0229      ISCHED = ISCHED + 1
0230      IF (ISCHED.GT.MSCHED) GO TO 1095
0231      DAYSCH(ISCHED) = ID
0232      IBSCH(ISCHED) = IB
0233      XSCH(ISCHED,1) = XIN(2*K)
0234      GO TO (810,820),ICG
0235      GO TO 1010
0236      810 ITYSCH(ISCHED) = 1
0237      IA = XIN(2*K-1)
0238      IF (IA.GT.NACTYP) GO TO 1030
0239      IOBSCH(ISCHED) = IA
0240      GO TO 825
0241      820 ITYSCH(ISCHED) = 2
0242      IJ = XIN(2*K-1)
0243      IF (IJ.GT.NMNTYP) GO TO 1030
0244      IOBSCH(ISCHED) = IJ
0245      825 CONTINUE
0246      GO TO 150
0247      830 IF (IT.LT.1.OR.IT.GT.NITGTP) GO TO 1030
0248      ISCHED = ISCHED + 1
0249      IF (ISCHED.GT.MSCHED) GO TO 1095
0250      IBSCH(ISCHED) = IT
0251      DAYSCH(ISCHED) = ID
0252      ITYSCH(ISCHED) = 3
0253      GO TO 150
0254      840 ISCHED = ISCHED + 1
0255      IF (ISCHED.GT.MSCHED) GO TO 1095
0256      DAYSCH(ISCHED) = ID
0257      ITYSCH(ISCHED) = 4
0258      DO 845 K = 1,4
0259      XSCH(ISCHED,K) = XIN(K)
0260      845 CONTINUE
0261      GO TO 150
0262      850 ISCHED = ISCHED + 1
0263      IF (ISCHED.GT.MSCHED) GO TO 1095
0264      DAYSCH(ISCHED) = ID
0265      ITYSCH(ISCHED) = 5
0266      IBSCH(ISCHED) = IB
0267      IF (IB.GT.KBASES) KBASES = IB
0268      IF (IB.LT.1.OR.IB.GT.MBASES) GO TO 1030
0269      DO 855 K = 1,3
0270      XSCH(ISCHED,K) = XIN(K)
0271      855 CONTINUE
0272      GO TO 150
0273      860 IF (IA.LT.1.OR.IA.GT.NACTYP) GO TO 1030
0274      ISCHED = ISCHED + 1
0275      IF (ISCHED.GT.MSCHED) GO TO 1095
0276      DAYSCH(ISCHED) = ID
0277      IOBSCH(ISCHED) = IA
0278      XSCH(ISCHED,1) = XIN(1)
0279      ITYSCH(ISCHED) = 6
0280      GO TO 150
0281      865 ISCHED = ISCHED + 1
0282      IF (ISCHED.GT.MSCHED) GO TO 1095
0283      DAYSCH(ISCHED) = ID
0284      DO 866 K = 1,2
0285      XSCH(ISCHED,K) = XIN(K)
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0286      IF (XIN(K).LT.1.0.OR.XIN(K).GT.4.0) GO TO 1030
0287      866 CONTINUE
0288      ITYSCH(ISCHE) = 7
0289      GO TO 150
0290      870 NINSTR = NINSTR+1
0291      IF (NINSTR.GT.MINSTR) GO TO 1070
0292      IRDAY1(NINSTR) = XIN(1)
0293      IRDAY2(NINSTR) = XIN(2)
0294      IRDAYD(NINSTR) = XIN(3)
0295      RF(NINSTR) = XIN(4)
0296      MATRX(NINSTR) = XIN(5)
0297      IF (IRDAY1(NINSTR).GT.IRDAY2(NINSTR)) GO TO 2016
0298      IF(MATRX(NINSTR).GT.MMMAX) GO TO 2000
0299      GO TO 150
0300      900 RETURN
0301      1 FORMAT(12,14X,8I7)
0302      2 FORMAT(8I2,8F7.0)
0303      3 FORMAT(12,35A2)
0304      4 FORMAT(1H1,4X,10HINPUT DECK)
0305      5 FORMAT(10X,12,35A2)
0306      6 FORMAT(10X,12,14X,5X,12,7(10X,12))
0307      7 FORMAT(10X,8I2,8F12.4)
0308      8 FORMAT(///10X,34HNO. OF WPN-AC-TGT VALUES OF KPS = ,15/
1          10X,37HNO. OF WPN-AC-TGT-WX VALUES OF KPS = ,15)
0309      1010 WRITE (6,1011)
0310      1011 FORMAT(10X,43HCARD TYPE ON PRECEEDING CARD DOES NOT EXIST)
0311      CALL EXIT
0312      1020 WRITE (6,1021)
0313      1021 FORMAT(10X,58HSUM OF ACTUAL WX PROBABILITIES ON TYPE 10 CARD LESS
1          1THAN 1)
0314      CALL EXIT
0315      1030 WRITE (6,1031)
0316      1031 FORMAT(10X,48HAN INDEX ON PRECEEDING CARD OUT OF ALLOWED RANGE)
0317      CALL EXIT
0318      1040 WRITE (6,1041)
0319      1041 FORMAT(10X,79HTHE NO. OF BASES ON THE TYPE 03 CARD EITHER LESS THA
1          IN ONE OR EXCEEDS DIMENSIONS)
0320      CALL EXIT
0321      1050 WRITE (6,1051)
0322      1051 FORMAT(10X,53HSUM OF ENTRIES ON PRECEEDING TYPE 11 CARD LESS THAN
1          11)
0323      CALL EXIT
0324      1060 WRITE (6,1061)
0325      1061 FORMAT(10X,39HSUM OF ALLOCATION FRACTIONS EXCEEDS 1.0)
0326      CALL EXIT
0327      1070 WRITE (6,1071)
0328      1071 FORMAT(10X,52HPROGRAM DIMENSIONS EXCEEDED FOR NO. OF TYPE 68 CARDS
1          1)
0329      CALL EXIT
0330      1080 WRITE (6,1081)
0331      1081 FORMAT(10X,87HTHE MAX. NO. OF DAYS FOR THE RUN IS EITHER LESS THAN
1          1 MIN. OR EXCEEDS PROGRAM DIMENSIONS)
0332      CALL EXIT
0333      1090 WRITE (6,1091)
0334      1091 FORMAT(10X,62HVULNERABILITY CATEGORY ON PRECEEDING CARD OUT OF ALL
1          10WED RANGE)
0335      CALL EXIT
0336      1095 WRITE (6,1096)
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0337      1096 FORMAT(10X,81HPROGRAM DIMENSIONS EXCEEDED FOR NO. OF TYPE 60, 61,
          162, 64, 65, 66, AND 67 EVENTS)
0338      CALL EXIT
0339      2000 WRITE (6,2001)
0340      2001 FORMAT(10X,44HRESUPPLY ARRAY REQUESTED EXCEEDS NO. ON DISK)
0341      CALL EXIT
0342      2002 WRITE (6,2003) ITS
0343      2003 FORMAT(10X,37HMORE THAN ONE TGT TYPE REFERS TO TGT ,12,24H AS A RE
          1PLACEMENT SOURCE)
0344      CALL EXIT
0345      2004 WRITE (6,2005)
0346      2005 FORMAT(10X,44HTGT EQUIV. FACTOR IS ZERO ON PRECEEDING CARD)
0347      CALL EXIT
0348      CALL EXIT
0349      2006 WRITE (6,2007) IT
0350      2007 FORMAT(10X,33HTWG TYPE 52 CARDS APPEAR FOR TGT ,12)
0351      CALL EXIT
0352      2008 WRITE (6,2009)
0353      2009 FORMAT(10X,44HNO. OF REPAIRABLE TARGETS EXCEEDS DIMENSIONS)
0354      CALL EXIT
0355      2010 WRITE (6,2011)
0356      2011 FORMAT(10X,60HREPAIR TIME ON PRECEEDING CARD IS LESS THAN OR EQUAL
          1 TO ZERO)
0357      CALL EXIT
0358      2016 WRITE (6,2017)
0359      2017 FORMAT(10X,58HDAY 1 IS GREATER THAN DAY 2 ON THE PRECEEDING TYPE 6
          18 CARD)
0360      CALL EXIT
0361      END
    
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0001      SUBROUTINE INERR(KC,ERR)
0002      IMPLICIT INTEGER*2(I-N)
0003      WRITE (6,1000) KC
0004      ERR = 1.0
0005      RETURN
0006 1000  FORMAT(10X,7HA TYPE ,12,16H CARD IS MISSING)
0007      END
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0001      SUBROUTINE INITD
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /XCOM00/ D,DMIN,DMAX,DTVCHG, SORTIE,SOASGN
0004      COMMON /XCOM02/ TTGTS(35),VALTGT(35,2)
0005      COMMON /XCOM09/ XKPS(2500),ATTRP(2500),ZTGT(1500),ZSO(1500)
0006      COMMON /XCOM10/ AVAIL(12,25,2)
0007      COMMON /XCOM11/ GOAL(4,20),XACTUL(4,2),TACTUL(4,20,2)
0008      COMMON /XCOM14/ XLOAD(12,25,2)
0009      COMMON /XCOM16/ SRATE(12)
0010      COMMON /XCOM17/ TAC(12),TMUN(25)
0011      COMMON /XCOM19/ BAC(20,12),BMUN(20,25)
0012      COMMON /XCOM20/ ZLOSS(12),ZRET(25),ZKILLS(35),ZBMUN(20,25)
0013      COMMON /XCOM25/ BSO(20,12),XBSO(20,12)
0014      COMMON /XCOM30/ DAYSCH(200),XSCH(200,4)
0015      COMMON /XCOM31/ DMWD(90,4),DSOFL(90)
0016      COMMON /XCOM32/ CTSO(12),CSOFL(12),CZLOSS(12),TSO(12),SOFL(12)
0017      COMMON /XCOM35/ TTMWD(35),TTSO(35)
0018      COMMON /XCOM36/ XSPEC(2),SXKPS(100,2)
0019      COMMON /XCOM39/ TTGTSO(35),RRATE(35,2),POOL(35),TEQUIV(35),
1      FAVAIL(35)
0020      COMMON /XCOM40/ RECON(10,90)
0021      COMMON /XCOM99/ XSPACE(140)
0022      COMMON /ICOM00/ MINPUT,MALLOCC,MSMRD,MFLY,MFRAG,MWX,NACTYP,
1      NMNTYP,NBASES,NTGTYP,NMISS,NWXTYP,IFWX,IAWX,
2      IDENT(36)
0023      COMMON /ICOM01/ NTGTSM(4),INDXTM(4,20),IORDER(4,20)
0024      COMMON /ICOM05/ MLIST(400),NTLIST,ITLIST(400),JTLIST(400)
0025      COMMON /ICOM08/ NCHGIC(35),LISTCH(35,2)
0026      COMMON /ICOM09/ NEXT(2500,2),IDKPS(2500,3),NZS,NK,IPOINT(2500)
0027      COMMON /ICOM12/ IATTCT(25),MISS(35)
0028      COMMON /ICOM18/ NBLIST,IREF(800),JBLIST(800)
0029      COMMON /ICOM30/ ITYSCH(200),IOBSCH(200),IBSCH(200),NXTSCH(200),
1      ISCHED
0030      COMMON /ICOM36/ ISPEC(2)
0031      COMMON /ICOM39/ ISRCE(35),KSRCE(35)
0032      COMMON /ICOM40/ IRTIME(10),IRLOC(35)
0033      COMMON /ICOM44/ MBASES,MMNTYP,MACTYP,MTGTYP,Mdays,MMAX,MMMAX
0034      DIMENSION XPOOL(35)
0035      EQUIVALENCE (XPCOL,XSPACE)
0036      DO 105 IT = 1,NTGTYP
0037      ITS = ISRCE(IT)
0038      IF (ITS) 105,104,102
0039      102 XPOOL(IT) = (TTGTS(ITS)*FAVAIL(IT))/TEQUIV(IT)
0040      GO TO 105
0041      104 XPOOL(IT) = POOL(IT)
0042      105 CONTINUE
0043      ID = D
0044      CALL RSPLY(ID)
0045      130 IF (ISCHED.GT.0) CALL DSCHED
0046      CALL WXD
0047      IMETH = 1
0048      DO 135 IT = 1,NTGTYP
0049      IF (ISRCE(IT).LT.0.OR.RRATE(IT,1).LE.0.0.OR.XPOOL(IT).LE.0.0)
1      GO TO 132
0050      CALL RPLACE(IT,IMETH)
0051      132 IRL = IRLCC(IT)
0052      IF (IRL.LE.0) GO TO 135
0053      NDD = ID-1+IRTIME(IRL)

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```
0054      IF (NDD.GT.MDAYS) GO TO 134
0055      RECON(1RL,NDD) = ZKILLS(IT)
0056      134 ITGTS(IT) = ITGTS(IT) + RECON(1RL,1D)
0057      135 CONTINUE
0058      CALL BLCSS
0059      146 X = 0.0
0060      DO 160 IA = 1,NACTYP
0061      Y = SRATE(IA)*TAC(IA)
0062      X = X+Y
0063      TSC(IA) = Y
0064      DO 150 IJ = 1,NMNTYP
0065      DO 148 KT = 1,2
0066      AVAIL(IA,IJ,KT) = 0.0
0067      148 CONTINUE
0068      150 CONTINUE
0069      160 CONTINUE
0070      SORTIE = X
0071      SQASGN = 0.0
0072      IFWX = NwXTYP
0073      IAWX = NwXTYP
0074      NBLIST = 0
0075      DO 185 IB = 1,NBASES
0076      DO 180 IA = 1,NACTYP
0077      BSO(IB,IA) = BAC(IB,IA)*SRATE(IA)
0078      DO 175 IJ = 1,NMNTYP
0079      DO 170 KT = 1,2
0080      IF (XLOAD(IA,IJ,KT).LE.0.0) GO TO 170
0081      165 X = AMIN1(BSO(IB,IA),BMUN(IB,IJ)/XLOAD(IA,IJ,KT))
0082      AVAIL(IA,IJ,KT) = AVAIL(IA,IJ,KT) + X
0083      170 CONTINUE
0084      175 CONTINUE
0085      180 CONTINUE
0086      DO 182 IJ = 1,NMNTYP
0087      ZBMUN(IB,IJ) = 0.0
0088      182 CONTINUE
0089      185 CONTINUE
0090      DO 220 IM = 1,4
0091      DMWD(1D,IM) = 0.0
0092      XACTUL(IM,2) = 0.0
0093      NNT = NTGISM(IM)
0094      IF (NNT.LE.0) GO TO 220
0095      DO 210 NT = 1,NNT
0096      TACTUL(IM,NT,2) = 0.0
0097      210 CONTINUE
0098      220 CONTINUE
0099      DO 230 IA = 1,NACTYP
0100      ZLCSS(IA) = 0.0
0101      SOFL(IA) = 0.0
0102      230 CONTINUE
0103      NTLIST = 0
0104      DO 240 IT = 1,NTGTYP
0105      ZKILLS(IT) = 0.0
0106      TIMWD(IT) = 0.0
0107      ITSC(IT) = 0.0
0108      240 CONTINUE
0109      DO 250 IJ = 1,NMNTYP
0110      ZRET(IJ) = 0.0
0111      250 CONTINUE
```

```

0112      DO 260 I = 1,NZS
0113          ZSU(I) = 0.0
0114          ZTGT(I) = 0.0
0115      260 CONTINUE
0116          DO 275 KS = 1,2
0117              IT = ISPEC(KS)
0118              IF (IT.LE.0) GO TO 275
0119              NNT = NCHOIC(IT)
0120              IF (NNT.LE.0) GO TO 275
0121              K = 1
0122              IF (MISS(IT).EQ.1) K = 2
0123              KT = L1STCH(IT,K)
0124              DO 270 NT = 1,NNT
0125                  LT = KT+NT-1
0126                  XKPS(LT) = SXKPS(NT,KS)*(TTGTS(IT)/XSPEC(KS))
0127      270 CONTINUE
0128      275 CONTINUE
0129      280 RETURN
0130      END
    
```



```

0001      SUBROUTINE INITR
0002      IMPLICIT INTEGER*2 (I-N)
0003      COMMON /XCOM00/ D,DMIN,DMAX,DTVCHG,SGRTIE,SDASGN
0004      COMMON /XCOM02/ TTGTS(35),VALTGT(35,2)
0005      COMMON /XCOM09/ XKPS(2500),ATTRP(2500),ZTGT(1500),ZSO(1500)
0006      COMMON /XCOM17/ TAC(12),TMUN(25)
0007      COMMON /XCOM19/ BAC(20,12),BMUN(20,25)
0008      COMMON /XCOM20/ ZLOSS(12),ZRET(25),ZKILLS(35),ZBMUN(20,25)
0009      COMMON /XCOM24/ GAF(12)
0010      COMMON /XCOM32/ CTSO(12),CSOFL(12),CZLOSS(12),TSO(12),SUFL(12)
0011      COMMON /XCOM33/ CUMSO,CUMSOA
0012      COMMON /XCOM34/ ZZKILL(35),ZZMWD(35),ZZSO(35)
0013      COMMON /XCOM36/ XSPEC(2),SXKPS(100,2)
0014      COMMON /XCOM40/ RECON(10,90)
0015      COMMON /ICOM00/ MINPUT,MALLOC,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
1          NMNTYP,NBASES,NTGTYP,NMISS,NWXTYP,IFWX,IAWX,
2          IDENT(36)
0016      COMMON /ICOM01/ NTGTS(4),INDXTM(4,20),IORDER(4,20)
0017      COMMON /ICOM08/ NCHOIC(35),LISTCH(35,2)
0018      COMMON /ICOM12/ IATTCT(25),MISS(35)
0019      COMMON /ICOM30/ ITYSCH(200),IOBSCH(200),IBSCH(200),NXTSCH(200),
1          ISCHED
0020      COMMON /ICOM36/ ISPEC(2)
0021      COMMON /ICOM44/ MBASES,MMNTYP,MACTYP,MTGTYP,MUAYS,MMAX,MMAX
0022      COMMON /ICOM45/ MRLIST,MSCHED,MINSTR
0023      SLIST = 100
0024      D = DMIN-1.0
0025      WRITE (6,30) D, (IDENT(K),K=1,4)
0026      WRITE (6,31) (IDENT(K),K=1,35)
0027      IF (ISCHED.NE.0) CALL SCHED
0028      IF (MWX.EQ.3) CALL WXR3
0029      ID = -2
0030      CALL RSPY(ID)
0031      DO 105 ID = 1,MDAYS
0032      DO 102 IRL = 1,MRLIST
0033      RECON(IRL,ID) = 0.0
0034      102 CONTINUE
0035      105 CONTINUE
0036      DO 110 IJ = 1,NMNTYP
0037      TMUN(IJ) = 0.0
0038      110 CONTINUE
0039      DO 120 IA = 1,NACTYP
0040      TAC(IA) = 0.0
0041      CTSO(IA) = 0.0
0042      CSOFL(IA) = 0.0
0043      CZLOSS(IA) = 0.0
0044      120 CONTINUE
0045      CUMSO = 0.0
0046      CUMSOA = 0.0
0047      DO 150 IB = 1,NBASES
0048      DO 125 IJ = 1,NMNTYP
0049      TMUN(IJ) = TMUN(IJ)+BMUN(IB,IJ)
0050      125 CONTINUE
0051      DO 130 IA = 1,NACTYP
0052      BAC(IB,IA) = BAC(IB,IA)*GAF(IA)
0053      TAC(IA) = TAC(IA) + BAC(IB,IA)
0054      130 CONTINUE
0055      150 CONTINUE

```

```
0056      DO 158 KS = 1,2
0057      IT = ISPEC(KS)
0058      IF (IT.LE.0) GO TO 158
0059      NNT = NCHOIC(IT)
0060      IF (NNT.LE.0) GO TO 158
0061      IF (NNT.GT.SLIST) GO TO 1030
0062      K = 1
0063      IF (MISS(IT).EQ.1) K = 2
0064      KT = LISTCH(IT,K)
0065      DO 155 NT = 1,NNT
0066      LT = KT+NT-1
0067      SXKPS(NT,KS) = XKPS(LT)
0068 155 CONTINUE
0069      IF (ITGTS(IT).GT.XSPEC(KS)) GO TO 1020
0070 158 CONTINUE
0071 160 DO 170 IM = 1,4
0072      NTGISM(IM) = 0
0073 170 CONTINUE
0074      DO 180 IT = 1,NTGTYP
0075      ZKILLS(IT) = 0.0
0076      ZZKILL(IT) = 0.0
0077      ZZMWD(IT) = 0.0
0078      ZZSO(IT) = 0.0
0079      IM = MISS(IT)
0080      IF (IM.EQ.3) IM = 4
0081      N = NTGISM(IM) + 1
0082      IF (N.GT.20) GO TO 1010
0083      NTGISM(IM) = N
0084      INDXIM(IM,N) = IT
0085 180 CONTINUE
0086      NN = NTGISM(1)
0087      NTGISM(3) = NN
0088      IF (NN.EQ.0) GO TO 195
0089      DO 190 N = 1,NN
0090      INDXIM(3,N) = INDXIM(1,N)
0091 190 CONTINUE
0092 195 CALL DPRTA1
0093      CALL DPRTM
0094 200 RETURN
0095      30 FORMAT(1H1,99X,6HDAY = ,F3.0,9H, CASE = ,4A2)
0096      31 FORMAT(10X,5HCASE ,35A2//)
0097 1010 WRITE (6,1011)
0098 1011 FORMAT(10X,69HPROGRAM DIMENSIONS EXCEEDED FOR NO. OF TGT TYPES PER
      1 MISSION CATEGORY)
0099      CALL EXIT
0100 1020 WRITE (6,1021)
0101 1021 FORMAT(10X,67HNO. OF TGTS FOR TRUE/FALSE TGT TYPE EXCEEDS NO. ON T
      1HE TYPE 05 CARD)
0102      CALL EXIT
0103 1030 WRITE (6,1031)
0104 1031 FORMAT(10X,57HNO. OF KPS VALUES FOR A TRUE/FALSE TGT EXCEEDS DIMEN
      1SIONS)
0105      CALL EXIT
0106      END
```

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0001      SUBROUTINE INPUT
0002      IMPLICIT INTEGER*2(1-N)
0003      COMMON /XCOM02/ TTGTS(35),VALTGT(35,2)
0004      COMMON /XCOM03/ FRACM(4),FRACMT(20,4)
0005      COMMON /XCOM09/ XKPS(2500),ATTRP(2500),ZTGT(1500),ZSD(1500)
0006      COMMON /XCOM13/ XNEFF(12,4,2),ATTRE(12,4),ABORT(12),XJEIT(12,4),
1          XRET(400),XALOSS(400),XKILLS(400)
0007      COMMON /XCOM14/ XLOAD(12,25,2)
0008      COMMON /XCOM16/ SRATE(12)
0009      COMMON /XCOM19/ BAC(20,12),BMUN(20,25)
0010      COMMON /XCOM21/ WXDIST(4),WXERR,FWXIS(4,4)
0011      COMMON /XCOM23/ WXWGHT(4,4),AWXDST(4),WXC1,WXC2
0012      COMMON /XCOM45/ XT14
0013      COMMON /XCOM99/ XSPACE(140)
0014      COMMON /ICCM00/ MINPUT,MALLUC,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
1          NMNTYP,NBASES,NTGTYP,NMISS,NWXTYP,IFWX,IAWX,
2          IDENT(36)
0015      COMMON /ICCM07/ LOACL(35)
0016      COMMON /ICCM08/ NCHUIC(35),LISTCH(35,2)
0017      COMMON /ICCM09/ NEXT(2500,2),IOKPS(2500,3),NZS,NK,IPOINT(2500)
0018      COMMON /ICCM12/ IATTCT(25),MISS(35)
0019      COMMON /ICCM21/ ISEED(3),IFWXCH(4,3)
0020      COMMON /ICCM22/ INWX(2)
0021      COMMON /ICCM30/ ITYSCH(200),IOBSCH(200),IBSCH(200),NXTSCH(200),
1          ISCHED
0022      COMMON /ICCM36/ ISPEC(2)
0023      COMMON /ICCM38/ NLOOP
0024      COMMON /ICCM39/ ISRCE(35),KSRCE(35)
0025      COMMON /ICCM40/ IRTIME(10),IRLUC(35)
0026      COMMON /ICCM42/ IDGCAT(25)
0027      COMMON /ICCM44/ MBASES,MMNTYP,MACTYP,MTGTYP,MDAYS,MMAX,MMMAX
0028      COMMON /ICCM45/ MRLIST,MSCHED,MINSTR
0029      DIMENSION BTEST1(20),BTEST2(20)
0030      DIMENSION BTEST3(20)
0031      EQUIVALENCE (XIN,XSPACE),(BTEST1,XSPACE(9)),(BTEST2,XSPACE(29))
0032      EQUIVALENCE (BTEST3,XSPACE(49))
0033      DO 105 I = 1,3
0034      DO 100 M = 1,2
0035      IFWXCH(M,1) = 1+1
0036      IFWXCH(M+2,1) = 1
0037      100 CONTINUE
0038      105 CONTINUE
0039      IFWXCH(2,1) = 1
0040      IFWXCH(3,3) = 4
0041      MMAX = 20
0042      MMAX = 10
0043      MMNTYP = 25
0044      MSCHED = 200
0045      MACTYP = 12
0046      MDAYS = 90
0047      MBASES = 20
0048      NWXTYP = 4
0049      MRLIST = 10
0050      NMISS = 4
0051      MINSTR = 30
0052      NZSMAX = 1500
0053      NKMAX = 2500
0054      KBASES = 0.0

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0055      ISCHED = 0
0056      ISPEC(1) = 0
0057      ISPEC(2) = 0
0058      NLOOP = 1
0059      WRITE (6,4)
0060      READ (5,3) IC, (IDENT(K), K=1,35)
0061      WRITE (6,5) IC, (IDENT(K), K=1,35)
0062      IF (IC.NE.1) GO TO 1090
0063      READ (5,1) IC, MINPUT, MALLUC, MFRAG, MFLY, MSMRYD, MWX
0064      WRITE (6,6) IC, MINPUT, MALLUC, MFRAG, MFLY, MSMRYD, MWX
0065      IF (IC.NE.2) GO TO 1000
0066      READ (15) NACTYP, NTGTYP, NMNTYP,
1          (LOADCL(IT), MISS(IT), IT=1, NTGTYP),
2          (IATTCT(IJ), (XLOAD(IA, IJ, K), K=1, 2), IA=1, NACTYP),
3          IJ=1, NMNTYP)
0067      REWIND 15
0068      DO 110 IB = 1, MBASES
0069      BTEST1(IB) = -1.0
0070      BTEST2(IB) = -1.0
0071      BTEST3(IB) = -1.0
0072      DO 108 IA = 1, NACTYP
0073      BAC(IB, IA) = 0.0
0074      108 CONTINUE
0075      DO 109 IJ = 1, NMNTYP
0076      BMUN(IB, IJ) = 0.0
0077      109 CONTINUE
0078      110 CONTINUE
0079      NBASES = 0
0080      WXERR = -1.0
0081      DO 120 K = 1, 4
0082      FWXS(K,1) = -1.0
0083      120 CONTINUE
0084      DO 125 IJ = 1, NMNTYP
0085      IOGCAT(IJ) = -1.0
0086      125 CONTINUE
0087      ISEED(1) = -1
0088      FRACM(1) = -1.0
0089      DO 130 IT = 1, NTGTYP
0090      TTGTS(IT) = -1.0
0091      KSRCE(IT) = 0
0092      ISRCE(IT) = -1
0093      IRLOC(IT) = -1
0094      130 CONTINUE
0095      DO 140 IA = 1, NACTYP
0096      SRATE(IA) = -1.0
0097      XJETT(IA,1) = -1.0
0098      ATTRE(IA,1) = -1.0
0099      XNEFF(IA,1,1) = -1.0
0100      140 CONTINUE
0101      XT14 = -1.0
0102      DO 142 IW = 1, 4
0103      AWWXST(IW) = -1.0
0104      142 CONTINUE
0105      INWX(1) = -1
0106      READ (16) NZS, NK, (XKPS(L), ATTRP(L), IPOINT(L), (IOKPS(L,M), M=1,3),
1          (NEXT(L,M), M=1,2), L=1, NK),
2          (NCHOIC(IT), (L1STCH(IT,KT), KT=1,2), IT=1, NTGTYP)
0107      REWIND 16

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0108      IF (NZS.GT.NZSMAX) GO TO 1010
0109      IF (NK.GT.NKMAX) GO TO 1020
0110      CALL INCARD(KBASES)
0111      900 ERR = 0.0
0112      IF (KBASES.GT.NBASES) GO TO 1080
0113      KC = 3
0114      IF (NBASES.LT.1) CALL INERR(KC,ERR)
0115      DO 910 IB = 1,NBASES
0116      KC = 30
0117      IF (BTEST1(IB).LE.0.0) CALL INERR(KC,ERR)
0118      KC = 31
0119      IF (BTEST2(IB).LE.0.0) CALL INERR(KC,ERR)
0120      KC = 32
0121      IF (BTEST3(IB).LE.0.0) CALL INERR(KC,ERR)
0122      910 CONTINUE
0123      IF (MWX.NE.1) GO TO 925
0124      KC = 10
0125      IF (WXERR.LT.0.0) CALL INERR(KC,ERR)
0126      DO 920 K = 1,4
0127      KC = 11
0128      IF (FWXIS(K,1).LT.0) CALL INERR(KC,ERR)
0129      920 CONTINUE
0130      KC = 12
0131      IF (ISEED(1).LT.0) CALL INERR(KC,ERR)
0132      925 KC = 4
0133      IF (FRACM(1).LT.0) CALL INERR(KC,ERR)
0134      DO 930 IT = 1,NTGTYP
0135      KC = 50
0136      IF (ITGTS(IT).LT.0) CALL INERR(KC,ERR)
0137      930 CONTINUE
0138      938 DO 940 IA = 1,NACTYP
0139      KC = 41
0140      IF (SRATE(IA).LT.0.0) CALL INERR(KC,ERR)
0141      KC = 42
0142      IF (XJETT(IA,1).LT.0.0) CALL INERR(KC,ERR)
0143      KC = 43
0144      IF (ATTRE(IA,1).LT.0.0) CALL INERR(KC,ERR)
0145      KC = 44
0146      IF (XNEFF(IA,1,1).LT.0.0) CALL INERR(KC,ERR)
0147      940 CONTINUE
0148      IF (MWX.NE.2) GO TO 950
0149      KC = 13
0150      IF (INWX(1).LT.0) CALL INERR(KC,ERR)
0151      950 IF (MWX.NE.3) GO TO 954
0152      KC = 14
0153      IF (XT14.LT.0.0) CALL INERR(KC,ERR)
0154      KC = 15
0155      DO 952 IW = 1,4
0156      IF (AWXUST(IW).LT.0.0) CALL INERR(KC,ERR)
0157      952 CONTINUE
0158      954 DO 956 IT = 1,NTGTYP
0159      IF (IRLOC(IT).GT.0.AND.ISRCE(IT).GE.0) GO TO 2012
0160      956 CONTINUE
0161      KC = 21
0162      DO 960 IJ = 1,NMNTYP
0163      IF (IDGCAT(IJ).LE.0) CALL INERR(KC,ERR)
0164      960 CONTINUE
0165      998 IF (ERR.GT.0.0) CALL EXIT

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```
0166      ID = -1
0167      CALL RSPLY(10)
0168      RETURN
0169      1 FORMAT(12,14X,8I7)
0170      2 FORMAT(8I2,8F7.0)
0171      3 FORMAT(12,35A2)
0172      4 FORMAT(1H1,4X,10HINPUT DECK)
0173      5 FORMAT(10X,I2,35A2)
0174      6 FORMAT(10X,I2,14X,5X,I2,7(10X,I2))
0175      7 FORMAT(10X,8I2,8F12.4)
0176      1000 WRITE (6,1001)
0177      1001 FORMAT(10X,47HCARD TYPE 02 IS NOT THE SECOND CARD IN THE DECK)
0178      CALL EXIT
0179      1010 WRITE (6,1011)
0180      1011 FORMAT(10X,50HNO. OF AC-TGT-MUN VALUES OF KPS EXCEEDS DIMENSIONS)
0181      CALL EXIT
0182      1020 WRITE (6,1021)
0183      1021 FORMAT(10X,64HNO. OF AC-TGT-MUN-DELIVERY MODE VALUES OF KPS EXCEED
        IS DIMENSIONS)
0184      CALL EXIT
0185      1080 WRITE (6,1081)
0186      1081 FORMAT(10X,79HBASE INDEX ON A TYPE 30, 31, OR 32 CARD GREATER THAN
        1 NUMBER ON THE TYPE 03 CARD)
0187      CALL EXIT
0188      1090 WRITE (6,1091)
0189      1091 FORMAT(10X,46HCARD TYPE 01 IS NOT THE FIRST CARD IN THE DECK)
0190      CALL EXIT
0191      2012 WRITE (6,2013) II
0192      2013 FORMAT(10X,49HBOTH A TYPE 51 AND A TYPE 52 CARD APPEAR FOR TGT ,
        1      I2)
0193      CALL EXIT
0194      END
```

```
0001      SUBROUTINE NDLVR1(IT,L,IA,IJ)
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /XCOM05/ SO(400)
0004      COMMON /XCOM13/ XNEFF(12,4,2),ATTRE(12,4),ABORT(12),XJETT(12,4),
1          XRET(400),XALOSS(400),XKILLS(400)
0005      COMMON /XCOM14/ XLOAD(12,25,2)
0006      COMMON /ICGM07/ LOADCL(35)
0007      COMMON /ICUM12/ IATTCT(25),MISS(35)
0008      KT = LOADCL(IT)
0009      IM = MISS(IT)
0010      XRET(L) = (ABORT(IA) + (1.0-ABORT(IA))*(1.0-XJETT(IA,IM))
1          *(1.0-ATTRE(IA,IM)))*SO(L) *XLOAD(IA,IJ,KT)
0011      XALOSS(L) = (1.0-ABORT(IA))*(1.0-XJETT(IA,IM))
1          *ATTRE(IA,IM)*SO(L)
0012      XKILLS(L) = 0.0
0013      RETURN
0014      END
```

```
0001      .      FUNCTION NPASS(IA,IJ,KT)
0002      IMPLICIT INTEGER*2(II-N)
0003      COMMON /XCOM14/ XLOAD(12,25,2)
0004      COMMON /ICCM12/ IATTCT(25),MISS(35)
0005      NPASS = 1
0006      IF (IATTCT(IJ).EQ.1) NPASS = XLOAD(IA,IJ,KT)
0007      RETURN
0008      END
```



```
0001      SUBROUTINE ORDER(I1,VALUE,IRR)
0002      IMPLICIT INTEGER*2(I-N)
0003      DIMENSION VALUE(I1),IRR(I1)

      C
      C      RETURNS IRR(I) = RANKING OF VALUE(I) - LARGEST VALUE RANKED 1
      C

0004      DO 100 I = 1,I1
0005          IRR(I) = 0
0006      100 CONTINUE
0007          DO 150 J = 1,I1
0008              IF (IRR(I).GT.0) GO TO 150
0009              IBIG = 0
0010              IEQUAL = 0
0011              X = VALUE(I)
0012              DO 130 J = 1,I1
0013                  IF (VALUE(J)-X) 130,120,110
0014      110 IBIG = IBIG+1
0015                  GO TO 130
0016      120 IEQUAL = IEQUAL + 1
0017                  IRR(J) = -1
0018      130 CONTINUE
0019                  IF (IEQUAL.NE.1) GO TO 135
0020                  IRR(I) = IBIG+1
0021                  GO TO 150
0022      135 IBIG = IBIG+1
0023                  DO 140 J = 1,I1
0024                      IF (IRR(J).NE.-1) GO TO 140
0025                      IRR(J) = IBIG
0026                      IBIG = IBIG+1
0027      140 CONTINUE
0028      150 CONTINUE
0029      RETURN
0030      END
```

```

0001      SUBROUTINE PRINTA(/XARRAY/)
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /ICOM44/ MBASES,MMNTYP,MACTYP,MTGTYP,MDAYS,MMAX,MMMAX
0004      DIMENSION XARRAY(20,25)
0005      WRITE (6,1) (IB,IB=1,MBASES)
0006      WRITE (6,2)
0007      DO 150 IJ = 1,MMNTYP
0008      WRITE (6,3) IJ,(XARRAY(IB,IJ),IB=1,MBASES)
0009      XTOTAL = 0.0
0010      DO 140 IB = 1,MBASES
0011      XTOTAL = XTOTAL + XARRAY(IB,IJ)
0012 140 CONTINUE
0013      WRITE (6,4) XTOTAL
0014 150 CONTINUE
0015      RETURN
0016      1 FORMAT(///12X,4HBASE,110X,5HTOTAL/3X,20(4X,I2))
0017      2 FORMAT(2X,3HMUN/1X,4HTYPE)
0018      3 FORMAT(1X,I2,1X,20F6.0)
0019      4 FORMAT(1H+,123X,F8.0)
0020      END

```

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0001      SUBROUTINE PRNTAL(K)
0002      IMPLICIT INTEGER*2(I-N)
0003      INTEGER*4 NAME
0004      COMMON /XCCM00/ D,DMIN,DMAX,DTVCHG,SCRTIE,SOASGN
0005      COMMON /XCCM03/ FRACM(4),FRACMT(20,4)
0006      COMMON /XCCM11/ GOAL(4,20),XACTUL(4,2),TACTUL(4,20,2)
0007      COMMON /ICOM00/ MINPUT,MALLOC,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
1          NMNTYP,NBASES,NTGTYP,NMISS,NWXTYP,IFWX,IAWX,
2          IDENT(36)
0008      COMMON /ICOM01/ NTGISM(4),INDXTM(4,20),IORDER(4,20)
0009      DIMENSION NAME(5)
0010      DATA NAME/'HI ','MED ','LU ','NO ','ALL '/
0011      WRITE (6,30) D,(IDENT(IK),IK=1,4)
0012      WRITE (6,1) NAME(IFWX)
0013      DO 140 IM = 1,4
0014          NNT = NTGISM(IM)
0015          IF (NNT.LE.0) GO TO 140
0016          WRITE (6,2) IM
0017          IF (MALLOC.EQ.2) GO TO 120
0018          WRITE (6,3) FRACM(IM)
0019      120 WRITE (6,4) XACTUL(IM,K)
0020          WRITE (6,5)
0021          DO 130 NT = 1,NNT
0022              IT = INDXTM(IM,NT)
0023              WRITE (6,6) IT,GOAL(IM,NT),TACTUL(IM,NT,K)
0024      130 CONTINUE
0025      140 CONTINUE
0026      RETURN
0027      1 FORMAT(10X, 20HALLOCATION FRACTIONS//12X,11HFORECAST = ,A4)
0028      2 FORMAT(/15X,10HMISSION = ,I1/)
0029      3 FORMAT(17X,4HGCAL,F7.2)
0030      4 FORMAT(17X,6HACTUAL,F5.2/)
0031      5 FORMAT(26X,7HTARGETS/20X,15HNO. GOAL ACTUAL)
0032      6 FORMAT(20X,12,2F6.2)
0033      30 FORMAT(1H1,99X,6HDAY = ,F3.0,9H, CASE = ,4A2)
0034      END

```

SUBROUTINE RANDOM

```

RAND      TITLE *CALL RANDOM(R)*
* DATE OF SOURCE DECK - 5/28/68
* DATE OF WRITE UP - 5/28/68
RSTART    START
A1         SAVE (14,12)
          BALR 10,0
          USING *,10
          B     MAINCODE
RAN        DS   OH
          SAVE (14,12)
          CNOP 2,4
A2         BALR 10,0
          S     10,8(10)
          B     MAINCODE
          DC    A(A2-A1)
NEXTR      SAVE (14,12)
          CNOP 2,4
A25        BALR 10,0
          S     10,8(10)
          B     MAINCODE
          DC    A(A25-A1)
RANDOM      DS   OH
          SAVE (14,12)
          CNOP 2,4
A3         BALR 10,0
          S     10,8(10)
          B     MAINCODE
          DC    A(A3-A1)
MAINCODE   ST   13,SAVEA+4
          LR   12,13
          LA   13,SAVEA
          ST   13,8(12)
          LR   11,15
          LR   9,1
          C    11,ARSTART
          BNE  GENR
          L    9,0(9)
          L    9,0(9)
          ST   9,RF
          OI   RF+3,X*01*
          B    RETRN
          L    7,RF
GENR        * IS STARTING NUMBER INITIALIZED?
          LTR  7,7
          BNZ  GENR10      YES, GO ON.
* NO, PICK UP A RANDOM ODD INTEGER FOR A STARTING NUMBER.
          ST   1,RF
          OI   RF+3,X*01*
          L    7,RF
GENR10      M    6,GEN
          ST   7,RF
          A    7,OPNINRVL
          BC   14,**8      NO OVERFLOW
          TIME TU
          ST   0,RF
          IC   6,HEX
          SRDL 6,8

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ST      7,TRANSIT
LE      0,TRANSIT      REG 0 CARRIES BACK N IN FNC CALL
AE      0,NORM
L       13,SAVEA+4
MVI     12(13),X'FF'
C       11,ARAN
BNE     REPLACE
LM      14,15,12(13)
LM      1,12,24(13)
BR      14
REPLACE L       5,0(,9)
        STE     0,0(,5)   RETURN RANDOM NUMBER.
        C       11,ANEXTR IS IT NEXTR CALL?
        BNE     RETRN    NO,RETURN
        L       5,4(,9)   YES, SAVE RF.
        L       7,RF
        ST      7,0(,5)
RETRN   L       13,SAVEA+4
        RETURN  (14,12)
        ENTRY   RSTART
ARSTART DC      A(RSTART)
        ENTRY   RAN
ARAN    DC      A(RAN)
        ENTRY   NEXTR
ANEXTR  DC      A(NEXTR)
        ENTRY   RANDOM
SAVEA   DS      18A(0)
RF      DC      F'0'
TRANSIT DS      F
CPNINRVL DC     F'128'
GEN     DC      X'48C27395'
NORM    DC      E'0.0'
MEX     DC      X'40'
END

```

MAGIC NUMBER 5**13

```
0001      SUBROUTINE RPLACE(IT,IMETH)
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /XCOM02/ TTGTS(35),VALTGT(35,2)
0004      COMMON /XCOM20/ ZLOSS(12),ZRET(25),ZKILLS(35),ZBMUN(20,25)
0005      COMMON /XCOM39/ TTGTSO(35),RRATE(35,2),POOL(35),TEQUIV(35),
0006      1      FAVAIL(35)
0006      COMMON /XCOM99/ XSPACE(140)
0007      COMMON /ICOM39/ ISRCE(35),KSRCE(35)
0008      DIMENSION XPOOL(35)
0009      EQUIVALENCE (XPOOL,XSPACE)
0010      GO TO (140,142),IMETH
0011      GO TO 1000
0012      140 X = ZKILLS(IT)
0013      GO TO 144
0014      142 X = TTGTSO(IT)-TTGTS(IT)
0015      144 X = AMIN1(X*RRATE(IT,IMETH),XPOOL(IT))
0016      IF (X.LE.0.0) GO TO 200
0017      KS = KSRCE(IT)
0018      IF (KS.LE.0) GO TO 150
0019      DIV = TTGTS(IT) + X
0020      IF (DIV.GT.0.0) GO TO 146
0021      FAVAIL(KS) = 1.0
0022      GO TO 150
0023      146 FAVAIL(KS) = (FAVAIL(KS)*TTGTS(IT)+X)/DIV
0024      150 TTGTS(IT) = TTGTS(IT) + X
0025      ITS = ISRCE(IT)
0026      IF (ITS.EQ.0) GO TO 160
0027      X = X*TEQUIV(IT)
0028      DIV = TTGTS(ITS)-X
0029      IF (DIV.GT.0.0) GO TO 155
0030      FAVAIL(IT) = 1.0
0031      TTGTS(ITS) = 0.0
0032      GO TO 200
0033      155 FAVAIL(IT) = (TTGTS(ITS)*FAVAIL(IT)-X)/DIV
0034      TTGTS(ITS) = TTGTS(ITS) -X
0035      GO TO 200
0036      160 POOL(IT) = POOL(IT)-X
0037      200 RETURN
0038      1000 WRITE (6,1001)
0039      1001 FORMAT(10X,20HPROGRAM ERROR-RPLACE)
0040      CALL EXIT
0041      END
```

```

0001      SUBROUTINE RSPLY(ID)
0002      IMPLICIT INTEGER*2(I-N)
0003      INTEGER*4 IRLVAR,IRL
0004      COMMON /XCOM00/ D,DMIN,DMAX,DTVCHG, SORTIE,SOASGN
0005      COMMON /XCOM09/ XKPS(2500),ATTRP(2500),ZTGT(1500),ZSU(1500)
0006      COMMON /XCOM19/ BAC(20,12),BMUN(20,25)
0007      COMMON /XCOM30/ DAYSCH(200),XSCH(200,4)
0008      COMMON /XCOM43/ RF(30)
0009      COMMON /ICOM00/ MINPUT,MALLOC,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
1          NMNTYP,NBASES,NTGTYP,NMISS,NWXTYP,IFWX,IAXX,
2          IDENT(36)
0010      COMMON /ICOM30/ ITYSCH(200),IOBSCH(200),IBSCH(200),NXTSCH(200),
1          ISCHED
0011      COMMON /ICOM43/ NINSTR,IRDAY1(30),IRDAY2(30),IRDAYD(30),MATRX(30)
0012      COMMON /ICOM44/ MBASES,MMNTYP,MACTYP,MTGTYP,MDAYS,MMAX,MMAX
0013      COMMON /ICOM99/ ISPACE(400)
0014      DIMENSION TMATRX(20,25)
0015      DIMENSION LOAD(20),KMATRX(10,20,25),LOCMTX(30)
0016      EQUIVALENCE (LOAD,ISPACE),(TMATRX,ZSO)
0017      DIMENSION ISET(20)
0018      IF (ID.GT.0) GO TO 300
0019      IF (ID.EQ.-2) GO TO 200
0020      DO 110 MA = 1,MMAX
0021      LOAD(MA) = 0
0022      110 CONTINUE
0023      M = 0
0024      IF (NINSTR.EQ.0) GO TO 400
0025      IRL = 1
0026      READ (17*IRL) (ISET(MA),MA=1,MMAX)
0027      DO 130 N = 1,NINSTR
0028      MA = MATRX(N)
0029      IF (LOAD(MA).NE.0) GO TO 120
0030      IF (ISET(MA).EQ.0) GO TO 1020
0031      M = M + 1
0032      IF (M.GT.MMAX) GO TO 1000
0033      LOAD(MA) = M
0034      IRL = MA+1
0035      READ (17*IRL) ((KMATRX(M ,IB,IJ),IJ=1,MMNTYP),IB=1,MBASES)
0036      120 LOCMTX(N) = LOAD(MA)
0037      130 CONTINUE
0038      GO TO 400
0039      200 NFNISH = 0
0040      DO 220 IB = 1,MBASES
0041      DO 210 IJ = 1,MMNTYP
0042      TMATRX(IB,IJ) = 0.0
0043      210 CONTINUE
0044      220 CONTINUE
0045      NCNTSH = 0
0046      IX = ISCHED
0047      GO TO 240
0048      230 IF (ITYSCH(IX).NE.2) GO TO 235
0049      NCNTSH = 1
0050      IB = IBSCH(IX)
0051      IJ = IOBSCH(IX)
0052      TMATRX(IB,IJ) = TMATRX(IB,IJ) + XSCH(IX,1)
0053      235 IX = NXTSCH(IX)
0054      240 IF (IX.GT.0) GO TO 230
0055      IF (NINSTR.EQ.0) GO TO 280

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0056      DO 270 N = 1,NINSTR
0057      ND = ((IRDAY2(N)-IRDAY1(N))/IRDAYD(N))+1
0058      XDAYS = ND
0059      M = LOCMTX(N)
0060      DO 260 IB = 1,NBASES
0061      DO 250 IJ = 1,NMNTYP
0062      XX = KMATRIX(M,IB,IJ)
0063      TMATRIX(IB,IJ) = TMATRIX(IB,IJ) + XDAYS*RF(N)*XX
0064      250 CONTINUE
0065      260 CONTINUE
0066      270 CONTINUE
0067      280 IF (NINSTR.EQ.0.AND.NCNISH.EQ.0) GO TO 400
0068      WRITE (6,30) D,(IDENT(K),K=1,4)
0069      WRITE (6,1) MDAYS
0070      IF (NCNISH.EQ.0) GO TO 290
0071      WRITE (6,2)
0072      290 CALL PRINTA(TMATRIX)
0073      GO TO 400
0074      300 IF (NINSTR.EQ.NFNISH) GO TO 400
0075      DO 330 N = 1,NINSTR
0076      IF (ID.NE.IRDAY1(N)) GO TO 330
0077      M = LOCMTX(N)
0078      DO 320 IB = 1,NBASES
0079      DO 310 IJ = 1,NMNTYP
0080      BMUN(IB,IJ) = BMUN(IB,IJ) + RF(N)*KMATRIX(M,IB,IJ)
0081      310 CONTINUE
0082      320 CONTINUE
0083      IRDAY1(N) = IRDAY1(N) + IRDAYD(N)
0084      IF (IRDAY1(N).LE.IRDAY2(N)) GO TO 330
0085      IRDAY1(N) = MDAYS + 1
0086      NFNISH = NFNISH + 1
0087      330 CONTINUE
0088      400 RETURN
0089      1 FORMAT(10X ,42HCUMULATIVE MUNITION RESUPPLY SCHED ON DAY ,13)
0090      2 FORMAT(15X,36HSCHED INCLUDES TYPE 61 CARD RESUPPLY)
0091      30 FORMAT(1H1,99X,6HDAY = ,F3.0,9H, CASE = ,4A2)
0092      1000 WRITE (6,1001)
0093      1001 FORMAT(10X,50HNO. OF RESUPPLY ARRAYS REQUIRED EXCEEDS DIMENSIONS)
0094      CALL EXIT
0095      1020 WRITE (6,1021)
0096      1021 FORMAT(10X,45HRESUPPLY ARRAY REQUESTED HAS NOT BEEN DEFINED)
0097      CALL EXIT
0098      END
```



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0001      SUBROUTINE SCHED
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /XCOM30/ DAYSCH(200),XSCH(200,4)
0004      COMMON /ICOM30/ ITYSCH(200),IUBSCH(200),IBSCH(200),NXTSCH(200),
          1      ISCHED
0005      COMMON /ICOM39/ ISRCE(35),KSRCE(35)
0006      COMMON /ICOM99/ ISPACE(400)
0007      DIMENSION JTEMP(200),IRR(200)
0008      EQUIVALENCE (JTEMP,ISPACE), (IRR,ISPACE(201))
0009      DIMENSION ITEMP(35)
0010      EQUIVALENCE (ITEMP,ISPACE)
0011      CALL ORDER(ISCHED,DAYSCH,IRR)
0012      DO 150 N = 1,ISCHED
0013      JTEMP(IRR(N)) = N
0014      150 CONTINUE
0015      NN1 = ISCHED-1
0016      IF (NN1.LE.0) GO TO 170
0017      DO 160 N = 1,NN1
0018      NXTSCH(JTEMP(ISCHED-N+1)) = JTEMP(ISCHED-N)
0019      160 CONTINUE
0020      170 NXTSCH(JTEMP(1)) = 0
0021      ISCHED = JTEMP(ISCHED)
0022      I = ISCHED
0023      NSLIST = 0
0024      DNOW = 0.0
0025      200 IF (ITYSCH(I).NE.3) GO TO 240
0026      IF (ISRCE(IBSCH(I)).LT.0) GO TO 1010
0027      IF (DAYSCH(I).NE.DNOW) GO TO 220
0028      IT = IBSCH(I)
0029      DO 210 N = 1,NSLIST
0030      IF (IT.EQ.ITEMP(N)) GO TO 1000
0031      210 CONTINUE
0032      GO TO 230
0033      220 DNOW = DAYSCH(I)
0034      NSLIST = 0
0035      IT = IBSCH(I)
0036      230 NSLIST = NSLIST + 1
0037      ITEMP(NSLIST) = IT
0038      240 I = NXTSCH(I)
0039      IF (I.GT.0) GO TO 200
0040      RETURN
0041      1000 WRITE (6,1001) IT,DNOW
0042      1001 FORMAT(10X,43HMORE THAN ONE TYPE 62 CARDS APPEAR FOR TGT ,I2,9H, 0
          IN DAY ,F3.0)
          CALL EXIT
0043      1010 WRITE (6,1011) IBSCH(I)
0044      1011 FORMAT(10X,31HA TYPE 62 CARD APPEARS FOR TGT ,I2,29H, BUT A TYPE 5
          11 CARD DOES NOT)
          CALL EXIT
0046      END
0047

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0001      SUBROUTINE SMFLY1(XPROB)
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /XCOM00/ D,DMIN,DMAX,DTVCHG, SORTIE, SOASGN
0004      COMMON /XCOM02/ TTGTS(35), VALTGT(35,2)
0005      COMMON /XCOM05/ SD(400)
0006      COMMON /XCOM09/ XKPS(2500), ATTRP(2500), ZTGT(1500), ZSD(1500)
0007      COMMON /XCOM13/ XNEFF(12,4,2), ATTRE(12,4), ABORT(12), XJETT(12,4),
1          XRET(400), XALUSS(400), XKILLS(400)
0008      COMMON /XCOM18/ SB(800)
0009      COMMON /XCOM19/ BAC(20,12), BMUN(20,25)
0010      COMMON /XCOM20/ ZLOSS(12), ZRET(25), ZKILLS(35), ZBMUN(20,25)
0011      COMMON /XCOM26/ XBMUN(20,25), XTSO(12)
0012      COMMON /XCOM31/ DMWD(90,4) , DSOF(90)
0013      COMMON /XCOM32/ CTSO(12), CSOF(12), CZLOSS(12), TSO(12), SOFL(12)
0014      COMMON /XCOM35/ TTMWD(35), TTSO(35)
0015      COMMON /XCOM99/ XSPACE(140)
0016      COMMON /ICOM00/ MINPUT, MALLUC, MSMRYD, MFLY, MFRAG, MWX, NACTYP,
1          NMNTYP, NBASES, NTGTYP, NMISS, NWXTYP, IFWX, IAWX,
2          IDENT(36)
0017      COMMON /ICOM05/ MLIST(400), NTLIST, ITLIST(400), JTLIST(400)
0018      COMMON /ICOM09/ NEXT(2500,2), IOKPS(2500,3), NZS, NK, IPOINT(2500)
0019      COMMON /ICOM12/ IATTCT(25), MISS(35)
0020      COMMON /ICOM18/ NBLIST , IREF(800), JBLIST(800)
0021      DIMENSION XK(35), FK(35)
0022      EQUIVALENCE (XK,XSPACE), (FK,XSPACE(36))
0023      ID = D
0024      LLB = NBLIST
0025      IF (LLB.LE.0) GO TO 340
0026      DO 120 LB = 1, LLB
0027          IB = JBLIST(LB)
0028          IR = IREF(LB)
0029          IT = JTLIST(IR)
0030          IA = IOKPS(ITLIST(IR),2)
0031          IJ = IOKPS(ITLIST(IR),3)
0032          F = SB(LB)/SO(IR)
0033          YLOSS = F*XALUSS(IR)
0034          BAC(IB,IA) = BAC(IB,IA) - YLOSS*XPROB
0035          YRET = F*XRET(IR)
0036          ZBMUN(IB,IJ) = ZBMUN(IB,IJ) + YRET*XPROB
0037          XBMUN(IB,IJ) = XBMUN(IB,IJ) + YRET*XPROB
0038      120 CONTINUE
0039      KD = 1
0040      IF (D.GE.DTVCHG) KD=2
0041      LLT = NTLIST
0042      IF (LLT.LE.0) GO TO 340
0043      DO 150 IT = 1, NTGTYP
0044          XK(IT) = 0.0
0045      150 CONTINUE
0046      DO 310 LT = 1, LLT
0047          IT = JTLIST(LT)
0048          IC = ITLIST(IT)
0049          I = IPOINT(IC)
0050          IA = IOKPS(IC,2)
0051          IJ = IOKPS(IC,3)
0052          XS = SO(LT)*XPROB
0053          ZSG(I) = ZSG(I) + XS
0054          TTSO(LT) = TTSO(IT) + XS
0055          SOFL(IA) = SOFL(IA) + XS

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0056      ZLOSS(IA) = ZLOSS(IA) + XALOSS(LT)*XPROB
0057      ZRET(IJ) = ZRET(IJ) + XRET(LT)*XPROB
0058      XK(IT) = XK(IT) + XKILLS(LT)
0059      310 CONTINUE
0060      DO 320 IT = 1,NTGTYP
0061      IF (XK(IT).EQ.0.0) GO TO 320
0062      FK(IT) = AMIN1(1.0,TTGTS(IT)/XK(IT))
0063      ZKILLS(IT) = ZKILLS(IT) + AMIN1(XK(IT),TTGTS(IT))*XPROB
0064      320 CONTINUE
0065      DO 330 LT = 1,LLT
0066      IT = JTLIST(LT)
0067      IMM = MISS(IT)
0068      IF (IMM.EQ.3) IMM = 4
0069      I = IPOINT(ITLIST(LT))
0070      XM = FK(IT)*VALTGT(IT,KD)*XKILLS(LT)*XPROB
0071      ZTGT(I) = ZTGT(I) + FK(IT)*XKILLS(LT)*XPROB
0072      TIMWD(IT) = TIMWD(IT) + XM
0073      DMWD(ID,IMM) = DMWD(ID,IMM) + XM
0074      330 CONTINUE
0075      340 RETURN
0076      END
```

```

0001      SUBROUTINE SPRT
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /XCOM00/ D,DMIN,DMAX,DTVCHG,SURTIE,SOASGN
0004      COMMON /XCCM31/ DMWD(90,4) ,DSOFL(90)
0005      COMMON /XCOM99/ XSPACE(140)
0006      COMMON /ICGM00/ MINPUT,MALLOC,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
1          NMNTYP,NBASES,NTGTYP,NMISS,NWXTYP,IFWX,IAWX,
2          IDENT(36)
0007      DIMENSION CDMWD(4)
0008      EQUIVALENCE (CDMWD,XSPACE)
0009      WRITE (6,30) D,(IDENT(K),K=1,4)
0010      WRITE (6,1) (IDENT(K),K=1,35)
0011      ID1 = DMIN
0012      ID2 = DMAX
0013      DO 110 IM = 1,4
0014      CDMWD(IM) = 0.0
0015      110 CONTINUE
0016      CDSOFL = 0.0
0017      DO 150 ID = ID1,ID2
0018      CDSOFL = CDSOFL + DSOFL(ID)
0019      DO 140 IM = 1,3
0020      IMM = IM
0021      IF (IM.EQ.3) IMM = 4
0022      CDMWD(IMM) = CDMWD(IMM) + DMWD(ID,IMM)
0023      CDMWD(3) = CDMWD(3) + DMWD(ID,IMM)
0024      DMWD(1C,3) = DMWD(ID,3) + DMWD(ID,IMM)
0025      140 CONTINUE
0026      WRITE (6,2) ID, DSOFL(ID),CDSOFL,DMWD(ID,1),
1          CDMWD(1),DMWD(ID,2),CDMWD(2),DMWD(ID,4),CDMWD(4),DMWD(ID,3),
2          CDMWD(3)
0027      150 CONTINUE
0028      RETURN
0029      1 FORMAT(39X,15HSUMMARY FOR RUN/20X,35A2///
1          21X,13HSURTIES FLOWN,29X,24HMILITARY WORTH DESTROYED/
2          49X,3HCAS,15X,2HCA,16X,2HAI,16X,3HALL/
3          11X,3HDAY,8X,11HDAILY CUM,4X,4(7X,11HDAILY CUM))
0030      2 FORMAT(12X,I2, 5X,F7.0,F8.0,4X,4(F10.0,F8.0))
0031      30 FORMAT(1H1,99X,6HDAY = ,F3.0,9H, CASE = ,4A2)
0032      END

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0001      SUBROUTINE SUMRY
0002      IMPLICIT INTEGER*2(1-N)
0003      COMMON /XCOM00/ D,DMIN,DMAX,DTVCHG,SGRTIE,SOASGN
0004      COMMON /XCOM02/ ITGTS(35),VALTGT(35,2)
0005      COMMON /XCOM17/ TAC(12),TMUN(25)
0006      COMMON /XCOM19/ BAC(20,12),BMUN(20,25)
0007      COMMON /XCOM20/ ZLOSS(12),ZKET(25),ZKILLS(35),ZBMUN(20,25)
0008      COMMON /XCOM31/ DMWD(90,4),DSOFL(90)
0009      COMMON /XCOM32/ CTSO(12),CSOFL(12),CZLOSS(12),TSO(12),SOFL(12)
0010      COMMON /XCOM33/ CUMSO,CUMSOA
0011      COMMON /XCOM34/ ZZKILL(35),ZZMWD(35),ZZSO(35)
0012      COMMON /XCOM35/ TTMWD(35),TTSO(35)
0013      COMMON /ICOM00/ MINPUT,MALLOD,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
1          NMNTYP,NBASES,NTGTYP,NMISS,NWXTYP,IFWX,IAWX,
2          IDENT(36)
0014      DO 160 IJ = 1,NMNTYP
0015      X = 0.0
0016      DO 150 IB = 1,NBASES
0017      Y = BMUN(IB,IJ) - ZBMUN(IB,IJ)
0018      BMUN(IB,IJ) = ZBMUN(IB,IJ)
0019      ZBMUN(IB,IJ) = Y
0020      IF (BMUN(IB,IJ).LT.1.0) BMUN(IB,IJ) = 0.0
0021      X = X + BMUN(IB,IJ)
0022      150 CONTINUE
0023      TMUN(IJ) = X
0024      160 CONTINUE
0025      DO 170 IA = 1,NACTYP
0026      TAC(IA) = TAC(IA) - ZLOSS(IA)
0027      CTSO(IA) = CTSO(IA) + TSO(IA)
0028      CSOFL(IA) = CSOFL(IA) + SOFL(IA)
0029      CZLOSS(IA) = CZLOSS(IA) + ZLOSS(IA)
0030      170 CONTINUE
0031      CUMSO = CUMSO + SORTIE
0032      CUMSOA = CUMSOA + SORTIE*SOASGN
0033      DO 190 IT = 1,NTGTYP
0034      ITGTS(IT) = ITGTS(IT) - ZKILLS(IT)
0035      IF (ITGTS(IT).LT.1.0) ITGTS(IT) = 0.0
0036      ZZKILL(IT) = ZZKILL(IT) + ZKILLS(IT)
0037      ZZMWD(IT) = ZZMWD(IT) + TTMWD(IT)
0038      ZZSO(IT) = ZZSO(IT) + TTSO(IT)
0039      190 CONTINUE
0040      DO 220 IA = 1,NACTYP
0041      X = 0.0
0042      DO 210 IB = 1,NBASES
0043      IF (BAC(IB,IA).LT.1.0) BAC(IB,IA) = 0.0
0044      X = X + BAC(IB,IA)
0045      210 CONTINUE
0046      TAC(IA) = X
0047      220 CONTINUE
0048      ID = D
0049      DSOFL(ID) = SORTIE*SOASGN
0050      RETURN
0051      END

```

```
0001      SUBROUTINE SUMRYD(X)
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /XCOM00/ D,DMIN,DMAX,DTVCHG, SORTIE,SOASGN
0004      COMMON /ICCM00/ MINPUT,MALLUC,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
1          NMNTYP,NBASES,NTGTYP,NMISS,NWXTYP,IFWX,IAWX,
2          IDENT(36)
0005      CALL SUMRY
0006      IF (X.LE.0.0) SOASGN = 0.0
0007      IF (MSMRYD.GE.5) GO TO 200
0008 100 WRITE (6,30) D,(IDENT(K),K=1,4)
0009      WRITE (6,1) D
0010      WRITE (6,2) SORTIE,SOASGN
0011      IF (SOASGN.LE.0.0) GO TO 200
0012      CALL DPRTT
0013      IF (MSMRYD.GE.4) GO TO 200
0014      CALL DPRTA1
0015      CALL DPRTM
0016      CALL DPRTA2
0017 200 RETURN
0018      1 FORMAT(10X, 16HSUMMARY FOR DAY ,F4.0)
0019      2 FORMAT(//15X,26HTOTAL SORTIES AVAILABLE = ,F10.2/
1          15X,37HFRACTION OF TOTAL SORTIES ASSIGNED = ,F7.3)
0020      30 FORMAT(1H1,99X,6HDAY = ,F3.0,9H, CASE = ,4A2)
0021      END
```

```

0001      SUBROUTINE SUMRYR
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /XCOM00/ D,DMIN,DMAX,DTVCHG,SGRTIE,SOASGN
0004      COMMON /ICOM00/ MINPUT,MALLOD,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
1          NMNTYP,NBASES,NTGTYP,NMISS,NWXTYP,IFWX,IAWX,
2          IDENT(36)
0005      D = DMAX
0006      IF (MSMRYD.LE.2) GO TO 150
0007      MSMRYD = 1
0008      WRITE (6,30) D,(IDENT(K),K=1,4)
0009      CALL DPRTT
0010      CALL DPRTA1
0011      CALL DPRTM
0012      CALL CPRTA2
0013      150 CALL SPRT
0014      RETURN
0015      30 FORMAT(1H1,99X,6HDAY = ,F3.0,9H, CASE = ,4A2)
0016      END

```

```

0001      SUBROUTINE TAKE(IA,IJ,F,IT,1,BREQ,XSENT)
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /XCCM14/ XLOAD(12,25,2)
0004      COMMON /XCCM18/ SB(800)
0005      COMMON /XCCM25/ BSO(20,12),XBSO(20,12)
0006      COMMON /XCCM26/ XBMUN(20,25),XTSO(12)
0007      COMMON /ICOM00/ MINPUT,MALLOC,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
1          NMNTYP,NBASES,NTGTYP,NMISS,NWXTYP,IFWX,IAWX,
2          IDENT(36)
0008      COMMON /ICOM07/ LOADCL(35)
0009      COMMON /ICOM18/ NBLIST          ,IREF(800),JBLIST(800)
0010      MBLIST = 800
0011      K = LOADCL(IT)
0012      F = 0.0
0013      XSENT = 0.0
0014      BB = 0.0
0015      DO 150 IB = 1,NBASES
0016      BB = BB + BAVAIL(IB,IA,IJ,K)
0017      150 CONTINUE
0018      IF (BB.LE.0.0) RETURN
0019      F = BREQ/BB
0020      XSENT = BREQ
0021      IF (F.LE.1.0) GO TO 160
0022      F = 1.0
0023      XSENT = BB
0024      160 DO 200 IB = 1,NBASES
0025      X = F*BAVAIL(IB,IA,IJ,K)
0026      IF (X.LE.0.0) GO TO 200
0027      NB = NBLIST + 1
0028      IF (NB.GT.MBLIST) GO TO 1000
0029      NBLIST = NB
0030      SB(NB) = X
0031      IREF(NB) = 1
0032      JBLIST(NB) = IB
0033      E = XBSO(IB,IA)-(XBMUN(IB,IJ)/XLOAD(IA,IJ,K))
0034      XBMUN(IB,IJ) = XBMUN(IB,IJ)-X*XLOAD(IA,IJ,K)
0035      XBSO(IB,IA) = XBSO(IB,IA)-X
0036      IF (F.LE.1.0) GO TO 200
0037      IF (E.LT.0.0) GO TO 190
0038      180 XBMUN(IB,IJ) = 0.0
0039      IF (E.GT.0.0) GO TO 200
0040      190 XBSO(IB,IA) = 0.0
0041      200 CONTINUE
0042      RETURN
0043      1000 WRITE (6,1001)
0044      1001 FORMAT(10X,61HPROGRAM DIMENSIONS EXCEEDED FOR NO. OF ASSIGNMENTS F
          FROM BASES)
0045      CALL EXIT
0046      END

```



```
0001      SUBROUTINE WXD
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /ICOM00/ MINPUT,MALLOC,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
          1      NMNTYP,NBASES,NTGTYP,NMISS,NWXTYP,IFWX,IAWX,
          2      IDENT(36)
0004      GO TO (100,110,200),MWX
0005      GO TO 1000
0006      100 CALL WXD1
0007      GO TO 200
0008      110 CALL WXD2
0009      200 RETURN
0010      1000 WRITE (6,1001)
0011      1001 FORMAT(10X,35HWEATHER METHOD OUT OF ALLOWED RANGE)
0012      CALL EXIT
0013      END
```

```
0001      SUBROUTINE WXD1
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /XCOM21/ WXDIST(4),WXERR,FWXIS(4,4)
0004      COMMON /ICLM00/ MINPUT,MALLOC,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
          1      NMNTYP,NBASES,NTGTYP,NMISS,NWXTYP,IFWX,IAWX,
          2      IDENT(36)
0005      COMMON /ICGM21/ ISEED(3),IFWXCH(4,3)
0006      CALL RSTART(ISEED(1))
0007      CALL NEXTR(R,ISEED(1))
0008      DO 110 IW = 1,4
0009      IF (R.LE.WXDIST(IW)) GO TO 120
0010      110 CONTINUE
0011      GO TO 1000
0012      120 IAWX = IW
0013      IFWX = IW
0014      CALL RSTART(ISEED(2))
0015      CALL NEXTR(R,ISEED(2))
0016      IF (R.GT.WXERR) GO TO 200
0017      CALL RSTART(ISEED(3))
0018      CALL NEXTR(R,ISEED(3))
0019      DO 130 K = 1,3
0020      KK = IFWXCH(IW,K)
0021      IF (R.LE.FWXIS(IW,KK)) GO TO 140
0022      130 CONTINUE
0023      GO TO 1000
0024      140 IFWX = KK
0025      200 RETURN
0026      1000 WRITE (6,1001)
0027      1001 FORMAT(10X,19HRANDOM NO. IN ERROR)
0028      CALL EXIT
0029      END
```

```
0001      SUBROUTINE WXD2
0002      IMPLICIT INTEGER*2 (I-N)
0003      COMMON /ICCM00/ MINPUT,MALLOC,MSMRYD,MFLY,MFRAG,MWX,NACTYP,
1          NMNTYP,NBASES,NTGTYP,NMISS,NWXTYP,IFWX,IAWX,
2          IDENT(36)
0004      COMMON /ICCM22/ INWX(2)
0005      IAWX = INWX(1)
0006      IFWX = INWX(2)
0007      RETURN
0008      END
```

```

0001      SUBROUTINE WXR3
0002      IMPLICIT INTEGER*2(1-N)
0003      INTEGER*4 NAME
0004      COMMON /XCCM15/ PERSWX(4),WXPROB(4,4)
0005      COMMON /XCOM23/ WXWGHT(4,4),AWXDST(4),WXC1,WXC2
0006      DIMENSION NAME(4)
0007      DATA NAME/'HI ','MED ','LO ','NO '/
0008      ETA = .00001
0009      DO 110 I = 1,4
0010      IF (PERSWX(I).LT.0.0.OR.PERSWX(I).GT.1.0) GO TO 1020
0011 110 CONTINUE
0012      W = WXC1+WXC2
0013      IF (W.LT.0.0.OR.W.GT.1.0+ETA) GO TO 1030
0014      X = 0.0
0015      DO 120 I = 1,4
0016      X = X+AWXDST(I)
0017 120 CONTINUE
0018      IF (X.LT.1.0-ETA.OR.X.GT.1.0+ETA) GO TO 1000
0019      DO 140 I = 1,4
0020      X = 0.0
0021      DO 130 J = 1,4
0022      X = X+WXWGHT(I,J)
0023 130 CONTINUE
0024      IF (X.LT.1.0-ETA.OR.X.GT.1.0+ETA) GO TO 1010
0025 140 CONTINUE
0026      DO 170 IAWX = 1,4
0027      PY = PERSWX(IAWX)+(1.0-PERSWX(IAWX))*(WXC1+WXC2*AWXDST(IAWX))
0028      DO 160 IFWX = 1,4
0029      IF (IFWX.NE.1AWX) GO TO 150
0030      WXPROB(IAWX,IFWX) = PY*AWXDST(IAWX)
0031      GO TO 160
0032 150 WXPROB(IAWX,IFWX) = (1.0-PY)*AWXDST(IAWX)*WXWGHT(IAWX,IFWX)
0033 160 CONTINUE
0034 170 CONTINUE
0035      DO 190 J = 1,4
0036      X = 0.0
0037      DO 180 I = 1,4
0038      X = X+WXPROB(I,J)
0039 180 CONTINUE
0040      PERSWX(J) = X
0041 190 CONTINUE
0042      WRITE (6,1)
0043      DO 210 IAWX = 1,4
0044      WRITE (6,2) NAME(IAWX),(WXPROB(IAWX,IFWX),IFWX=1,4),AWXDST(IAWX)
0045 210 CONTINUE
0046      WRITE (6,3) (PERSWX(I),I=1,4)
0047      RETURN
0048      1 FORMAT(10X, 13HWEATHER TABLE/
0049      1 23X,11HFORECAST WX/25X,26HH1 MED LO NO/
0050      2 10X,9HACTUAL WX)
0051      2 FORMAT(13X,A4,6X,F5.3,3(3X,F5.3),5X,F5.3)
0052      3 FORMAT(/23X,F5.3,3(3X,F5.3))
0053      1000 WRITE (6,1001)
0054      1001 FORMAT(10X,56HMX METHOD 3 - SUM OF ACTUAL WEATHER PROB. NOT EQUAL
0055      1TO 1)
0056      CALL EXIT
0057      1010 WRITE (6,1011) I
0058      1011 FORMAT(10X,48HMX METHOD 3 - SUM OF WEIGHTING FACTORS FOR TYPE ,I1,

```

```
      1 18H WX NOT EQUAL TO 1)
0056      CALL EXIT
0057 1020 WRITE (6,1021) I
0058 1021 FORMAT(10X,38HWX METHOD 3 - PERS. FORECAST FOR TYPE ,11,
      1 25H WX NOT IN INTERVAL (0,1))
0059      CALL EXIT
0060 1030 WRITE (6,1031)
0061 1031 FORMAT(10X,58HWX METHOD 3 - SUM OF SKILL CONSTANTS NOT IN INTERVAL
      1 (0,1))
0062      END
```

III. AUXILIARY PROGRAM PRELOAD

```

C      TRACE PRELOAD PROGRAM - MAIN ROUTINE
C      READS DATA FROM CARDS AND LOADS DISK DATA SETS
C
0001      IMPLICIT INTEGER*2(I-N)
0002      INTEGER*4 NAMEA,NAMEB,ITVAR,ITL
0003      COMMON /ICOM01/ NAMEA(5),NAMEB(2,2),ITVAR,ITL
0004      DEFINE FILE 10(35,1200,U,ITVAR)
0005      CALL INITR
0006      CALL INCTRL
0007      CALL INCARD
0008      CALL TESTD
0009      CALL OUTDSK
0010      CALL EXIT
0011      END
    
```

```
0001      BLOCK DATA
0002      IMPLICIT INTEGER*2(I-N)
0003      INTEGER*4 NAMEA,NAMEB,ITVAR,ITL
0004      INTEGER*4 ISIZEX
0005      COMMON /XCCM01/ XZERO,ISIZEX
0006      COMMON /ICCM01/ NAMEA(5),NAMEB(2,2),ITVAR,ITL
0007      COMMON /ICCM02/ KLIM(5,4),NCARD,NF,IMINI,ISIZEI,NFL
0008      DATA XZERO/0.0/
0009      DATA NAMEA/'AC ','TGT ','MUN ',' WX ','CARD'/
0010      DATA NAMEB/' INP','UT ',' OUT','PUT '/
0011      DATA KLIM/5*0 ,3*0,3,0,12,35,35,0,4,12,35,25,3,0/
0012      DATA NCARD/0/,NF/10/,IMINI/-1/,ISIZEI/2479/,ISIZEX/35325/
0013      END
```



```

0001      SUBROUTINE INCARD
0002      IMPLICIT INTEGER*2(I-N)
0003      INTEGER*4 NAMEA,NAMEB,ITVAR,ITL
0004      COMMON /XCOM02/ XKPS(35,12,25,3),ATTRP(35,25,3),XLGAD(12,25,4)
0005      COMMON /ICOM01/ NAMEA(5),NAMEB(2,2),ITVAR,ITL
0006      COMMON /ICOM02/ KLIM(5,4),NCARD,NF,IMIN1,ISIZE1,NFL
0007      COMMON /ICOM03/ IAREF(12),ITREF(35),IJREF(35,2),
1          IAYES(12),ITYES(35),IJYES(25,3),
2          INKPS(35,12,4),INATTR(35,4),INLOAD(12,35)
0008      DIMENSION XIN(10)
0009      250 READ (5,1,END=600) KC,KA,KIT,KJJ,NC,(XIN(K),K=1,NF)
0010      IF (KC.LE.73.AND.NCARD.EQ.1) GO TO 1000
0011      IF (KC.GT.73.AND.NCARD.EQ.0) CALL TESTR
0012      KCC = KC-70
0013      GO TO (300,350,400,450,500,550), KCC
0014      GO TO 1040
0015      300 IAA = XIN(1)
0016      IF (KTEST(KAA,1,1).NE.0.OR.ITEST(IAA,1,2).NE.0) GO TO 2000
0017      IAREF(KAA) = IAA
0018      IF (IAA.LE.0) GO TO 250
0019      K = 1
0020      IF (IAYES(IAA).NE.0) GO TO 1095
0021      IAYES(IAA) = 1
0022      GO TO 250
0023      350 ITT = XIN(1)
0024      IF (KTEST(KTT,2,1).NE.0.OR.ITEST(ITT,2,2).NE.0) GO TO 2000
0025      ITREF(KTT) = ITT
0026      IF (ITT.LE.0) GO TO 250
0027      K = 2
0028      IF (ITYES(ITT).NE.0) GO TO 1095
0029      ITYES(ITT) = 1
0030      GO TO 250
0031      400 IJJ = XIN(1)
0032      IWW = XIN(2)
0033      IF (KTEST(KJJ,3,1).NE.0.OR.ITEST(IJJ,3,2).NE.0) GO TO 2000
0034      IF (IJJ.NE.0.AND.KTEST(IJJ,3,2).NE.0) GO TO 2000
0035      IJREF(KJJ,1) = IJJ
0036      IJREF(KJJ,2) = IWW
0037      IF (IJJ.LE.0) GO TO 250
0038      K = 3
0039      IF (IJYES(IJJ,IWW).NE.0) GO TO 1095
0040      IJYES(IJJ,IWW) = 1
0041      GO TO 250
0042      450 IF (KTEST(KAA,1,1).NE.0.OR.KTEST(KTT,2,1).NE.0.OR.
1          KTEST(KJJ,3,1).NE.0) GO TO 2000
0043      IF (INKPS(KTT,KAA,NC).NE.0) GO TO 1030
0044      INKPS(KTT,KAA,NC) = 1
0045      IAA = IAREF(KAA)
0046      ITT = ITREF(KTT)
0047      IF (IAA.LE.0.OR.ITT.LE.0) GO TO 250
0048      II = NF
0049      IF (NC.EQ.KLIM(5,1)) II = NFL
0050      NN = (NC-1)*NF
0051      DO 460 I = 1,II
0052      KJJ = NN + I
0053      IJJ = IJREF(KJJ,1)
0054      IF (IJJ.LE.0) GO TO 460
0055      IWW = IJREF(KJJ,2)

```

```

0056      XKPS(ITT,IAA,IJJ,IWW) = XIN(1)
0057      460 CONTINUE
0058      GO TO 250
0059      500 IF (KTEST(KIT,2,1).NE.0.OR.KTEST(NC,5,1).NE.0) GO TO 2000
0060      IF (INATTR(KIT,NC).NE.0) GO TO 1030
0061      INATTR(KIT,NC) = 1
0062      ITT = ITREF(KIT)
0063      IF (ITT.EQ.0) GO TO 250
0064      II = NF
0065      IF (NC.EQ.KLIM(5,1)) II = NFL
0066      NN = (NC-1)*NF
0067      DO 510 I = 1,II
0068      KJJ = NN+1
0069      IJJ = IJREF(KJJ,1)
0070      IF (IJJ.LE.0) GO TO 510
0071      IWW = IJREF(KJJ,2)
0072      ATTRP(ITT,IJJ,IWW) = XIN(1)
0073      510 CONTINUE
0074      GO TO 250
0075      550 IF (KTEST(KAA,1,1).NE.0.OR.KTEST(KJJ,3,1).NE.0) GO TO 2000
0076      IF (INLOAD(KAA,KJJ).NE.0) GO TO 1030
0077      INLOAD(KAA,KJJ) = 1
0078      IAA = IAREF(KAA)
0079      IJJ = IJREF(KJJ,1)
0080      IF (IAA.EQ.0.OR.IJJ.EQ.0) GO TO 250
0081      DO 570 K = 1,2
0082      IF (XLOAD(IAA,IJJ,K+2).EQ.1.0) GO TO 560
0083      XLOAD(IAA,IJJ,K) = XIN(K)
0084      XLOAD(IAA,IJJ,K+2) = 1.0
0085      GO TO 570
0086      560 IF (XLOAD(IAA,IJJ,K).NE.XIN(K)) GO TO 1050
0087      570 CONTINUE
0088      GO TO 250
0089      600 RETURN
0090      1 FORMAT(4I2,2X,I2,10F6.0)
0091      1000 WRITE (6,1001) IC
0092      1001 FORMAT(10X,7H TYPE ,I2,34H REFERENCE CARD IMPROPERLY LOCATED)
0093      CALL EXIT
0094      1030 WRITE (6,1031)
0095      1031 FORMAT(10X,62H THE INDEXING INFORMATION ON THE FF CARD APPEARS MORE
          1 THAN ONCE)
          GO TO 2002
0096      1040 WRITE (6,1041) KC
0097      1041 FORMAT(10X,18H ILLEGAL CARD TYPE ,I2,26H APPEARS IN DATA CARD DECK)
0098      CALL EXIT
0099      1050 WRITE (6,1051) IJJ,IAA
0100      1051 FORMAT(10X,29H INCONSISTENT LOAD DATA - MUN ,I2, 4H,AC ,I2)
0101      CALL EXIT
0102      1095 WRITE (6,1096) NAMEA(K)
0103      1096 FORMAT(10X,10H THE TRACE ,A4,50H INDEX ON THE FF CARD IS REFERENCED
          1 MORE THAN ONCE)
          GO TO 2002
0104      2000 WRITE (6,2001)
0105      2001 FORMAT(10X,45H AN INDEX ON FF CARD OUT OF CONTROL CARD RANGE)
0106      2002 WRITE (6,2003) KC,KAA,KIT,KJJ,NC,(XIN(K),K=1,NF)
0107      2003 FORMAT(20X,4I2,2X,I2,10F8.4)
0108      CALL EXIT
0109      END
0110
0111

```

```
0001      SUBROUTINE INCTRL
0002      IMPLICIT INTEGER*2(I-N)
0003      INTEGER*4 NAMEA,NAMEB,ITVAR,ITL
0004      INTEGER*4 KK,MM
0005      COMMON /ICCM01/ NAMEA(5),NAMEB(2,2),ITVAR,ITL
0006      COMMON /ICCM02/ KLIM(5,4),NCARD,NF,IMIN1,ISIZE1,NFL
0007      200 READ (5,7) KC,((KLIM(K,M),K=1,3),M=1,2)
0008      IF (KC.NE.70) GO TO 1070
0009      DO 220 K = 1,3
0010      KK = K
0011      DO 210 M = 1,2
0012      MM = M+2
0013      IF (KTEST(KLIM(K,M),KK,MM).NE.0) GO TO 1080
0014      210 CONTINUE
0015      220 CONTINUE
0016      K = 4
0017      M = 2
0018      IF (KTEST(KLIM(4,2),4,4).NE.0) GO TO 1080
0019      K = 5
0020      M = 1
0021      IX = KLIM(3,1)/NF
0022      JX = KLIM(3,1)-IX*NF
0023      NFL = NF
0024      IF (JX.EQ.0) GO TO 230
0025      NFL = JX
0026      IX = IX+1
0027      230 KLIM(5,1) = IX
0028      IF (KTEST(KLIM(5,1),5,3).NE.0) GO TO 1080
0029      RETURN
0030      7 FORMAT(I2,10X,6I6)
0031      1070 WRITE (6,1071)
0032      1071 FORMAT(10X,30HFIRST CARD IS NOT CONTROL CARD)
0033      CALL EXIT
0034      1080 WRITE (6,1081) NAMEA(K),(NAMEB(L,M),L=1,2)
0035      1081 FORMAT(10X,7HNO. OF ,3A4,27H TYPES NOT IN ALLOWED RANGE)
0036      CALL EXIT
0037      END
```

```
0001      SUBROUTINE INITR
0002      IMPLICIT INTEGER*2(I-N)
0003      INTEGER*4 ISIZEX
0004      INTEGER*4 IL
0005      COMMON /XCOM01/ XZERO,ISIZEX
0006      COMMON /XCOM02/ XKPS(35,12,25,3),ATTRP(35,25,3),XLGAD(12,25,4)
0007      COMMON /ICOM02/ KLIM(5,4),NCARD,NF,IMIN1,ISIZE1,NFL
0008      COMMON /ICOM03/ IAREF(12),ITREF(35),IJREF(35,2),
1          IAYES(12),ITYES(35),IJYES(25,3),
2          INKPS(35,12,4),INATTR(35,4),INLGAD(12,35)
0009      DIMENSION ILOC(2479),XLOC(35325)
0010      EQUIVALENCE (ILOC,IAREF),(XLOC,XKPS)
0011      DO 100 I = 1,ISIZE1
0012          ILOC(I) = 0
0013      100 CONTINUE
0014      DO 110 IL = 1,ISIZEX
0015          XLOC(IL) = 0.0
0016      110 CONTINUE
0017      RETURN
0018      END
```

```
0001      INTEGER FUNCTION ITEST*2(I,K,J)
0002      IMPLICIT INTEGER*2(I-N)
0003      INTEGER*4 K,J
0004      COMMON /ICOM2/ KLIM(5,4),NCARD,NF,IMIN1,ISIZE1,NFL
0005      ITEST = 0
0006      IF (I.GE.0.AND.I.LE.KLIM(K,J)) GO TO 120
0007 110 ITEST = 1
0008 120 RETURN
0009      END
```

```

0001      INTEGER FUNCTION KTEST*2(I,K,J)
0002      IMPLICIT INTEGER*2(I-N)
0003      INTEGER*4 K,J
0004      COMMON /ICOM02/ KLIM(5,4),NCARD,NF,IMINI,ISIZEI,NFL
0005      KTEST = 0
0006      IF (I.GT.0.AND.I.LE.KLIM(K,J)) GO TO 120
0007      110 KTEST = 1
0008      120 RETURN
0009      END
    
```

```

0001      SUBROUTINE OUTDSK
0002      IMPLICIT INTEGER*2(1-N)
0003      INTEGER*4 NAMEA,NAMEB,ITVAR,ITL
0004      INTEGER*4 ISIZEX
0005      COMMON /XCOM01/ XZERO,ISIZEX
0006      COMMON /XCOM02/ XKPS(35,12,25,3),ATTRP(35,25,3),XLCAD(12,25,4)
0007      COMMON /ICOM01/ NAMEA(5),NAMEB(2,2),ITVAR,ITL
0008      COMMON /ICOM02/ KLIM(5,4),NCARD,NF,IMIN1,ISIZE1,NFL
0009      COMMON /ICOM03/ IAREF(12),ITREF(35),IJREF(35,2),
1          IAYES(12),ITYES(35),IJYES(25,3),
2          INKPS(35,12,4),INATTR(35,4),INLCAD(12,35)
0010      REWIND 11
0011      WRITE (6,5)
0012      MTT = KLIM(2,2)
0013      MWT = KLIM(4,2)
0014      MJT = KLIM(3,2)
0015      MAT = KLIM(1,2)
0016      MMA = KLIM(1,4)
0017      MMJ = KLIM(3,4)
0018      DO 680 IT = 1,MTT
0019      DO 670 IJ = 1,MJT
0020      DO 660 IW = 1,MWT
0021      IF (ATTRP(IT,IJ,IW).GT.0.0) GO TO 660
0022      DO 650 IA = 1,MAT
0023      IF (XKPS(IT,IA,IJ,IW).LE.0.0) GO TO 650
0024      WRITE (6,6) IT,IA,IJ,IW
0025      650 CONTINUE
0026      660 CONTINUE
0027      670 CONTINUE
0028      ITL = IT
0029      WRITE (10*ITL) (((XKPS(IT,IA,IJ,IW),IW=1,3),XZERC,IJ=1,MMJ),
1          IA = 1,MMA)
0030      680 CONTINUE
0031      MWT = KLIM(4,4)
0032      WRITE (11) MAT,MTT,MJT,
1          (IMIN1,IMIN1,IT=1,MTT),
2          (IMIN1,((XLCAD(IA,IJ,K),K=1,2),IA=1,MAT),IJ=1,MJT),
3          (((ATTRP(IT,IJ,IW),IW=1,MWT),XZERC,IT=1,MTT),IJ=1,MJT)
0033      REWIND 11
0034      RETURN
0035      5 FORMAT(95H0 INDICES OF -TGT- -A/C- -MUN- -WX- WHEN THERE EXISTS
1A KPS GT ZERO AND A TERM. ATTR. LE ZERC//)
0036      6 FORMAT(17X,12,216,15)
0037      END

```

```
0001      SUBROUTINE TESTD
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /ICOM02/ KLIM(5,4),NCARD,NF,IMIN1,ISIZE1,NFL
0004      COMMON /ICOM03/ IAREF(12),ITREF(35),IJREF(35,2),
1          IAYES(12),ITYES(35),IJYES(25,3),
2          INKPS(35,12,4),INATTR(35,4),INLOAD(12,35)
0005      600 MTT= KLIM(2,1)
0006      MJT = KLIM(3,1)
0007      MCT = KLIM(5,1)
0008      MAT = KLIM(1,1)
0009      KJ = 0
0010      DO 640 KT = 1,MTT
0011      IF (ITREF(KT).EQ.0) GO TO 640
0012      KC = 75
0013      KA = 0
0014      DO 610 NC = 1,MCT
0015      IF (INATTR(KT,NC).NE.1) GO TO 1090
0016      610 CONTINUE
0017      KC = 74
0018      DO 630 KA = 1,MAT
0019      IF (IAREF(KA).EQ.0) GO TO 630
0020      DO 620 NC = 1,MCT
0021      IF (INKPS(KT,KA,NC).NE.1) GO TO 1090
0022      620 CONTINUE
0023      630 CONTINUE
0024      640 CONTINUE
0025      KC = 76
0026      KT = 0
0027      NC = 0
0028      DO 644 KA = 1,MAT
0029      IF (IAREF(KA).EQ.0) GO TO 644
0030      DO 642 KJ = 1,MJT
0031      IF (IJREF(KJ,1).EQ.0) GO TO 642
0032      IF (INLOAD(KA,KJ).NE.1) GO TO 1090
0033      642 CONTINUE
0034      644 CONTINUE
0035      RETURN
0036      1090 WRITE (6,1091) KC,KA,KJ,KT,NC
0037      1091 FORMAT(10X,10HCARD TYPE ,I2,22H DATA MISSING FOR A/C ,I2,
1          6H, MUN ,I2,6H, TGT ,I2,11H, CARD NO. ,I2)
0038      CALL EXIT
0039      END
```



```

0001      SUBROUTINE TESTR
0002      IMPLICIT INTEGER*2(I-N)
0003      INTEGER*4 NAMEA,NAMEB,ITVAR,ITL
0004      COMMON /ICOM01/ NAMEA(5),NAMEB(2,2),ITVAR,ITL
0005      COMMON /ICOM02/ KLIM(5,4),NCARD,NF,IMIN1,ISIZE1,NFL
0006      COMMON /ICOM03/ IAREF(12),ITREF(35),IJREF(35,2),
1          IAYES(12),ITYES(35),IJYES(25,3),
2          INKPS(35,12,4),INATTR(35,4),INLOAD(12,35)

0007      NCARD = 1
0008      MTT = KLIM(2,1)
0009      WRITE (6,2)
0010      DO 110 KT = 1,MTT
0011      IF (ITREF(KT).GT.0) GO TO 110
0012      WRITE (6,3) KT
0013  110 CONTINUE
0014      WRITE (6,8)
0015      MAT = KLIM(1,1)
0016      DO 120 KA = 1,MAT
0017      IF (IAREF(KA).GT.0) GO TO 120
0018      WRITE (6,3) KA
0019  120 CONTINUE
0020      WRITE (6,4)
0021      MJT = KLIM(3,1)
0022      DO 130 KJ = 1,MJT
0023      IF (IJREF(KJ,1).GT.0) GO TO 130
0024      WRITE (6,3) KJ
0025  130 CONTINUE
0026      K = 2
0027      MTT = KLIM(2,2)
0028      DO 140 I = 1,MTT
0029      IF (ITYES(I).LE.0) GO TO 1000
0030  140 CONTINUE
0031      K = 1
0032      MAT = KLIM(1,2)
0033      DO 150 I = 1,MAT
0034      IF (IAYES(I).LE.0) GO TO 1000
0035  150 CONTINUE
0036      K = 3
0037      MJT = KLIM(3,2)
0038      DO 160 IJ = 1,MJT
0039      DO 155 L = 1,3
0040      IF (IJYES(IJ,L).GT.0) GO TO 160
0041  155 CONTINUE
0042      GO TO 1000
0043  160 CONTINUE
0044      RETURN
0045      2 FORMAT(36H1 INDICES OF INPUT TARGETS DELETED//)
0046      3 FORMAT(10X,12)
0047      4 FORMAT(38H0 INDICES OF INPUT MUNITIONS DELETED//)
0048      8 FORMAT(32H0 INDICES OF INPUT A/C DELETED//)
0049  1000 WRITE (6,1001) NAMEA(K),I
0050  1001 FORMAT(10X,A4,11H INDEX NO. ,12,24H HAS NOT BEEN REFERENCED)
0051      CALL EXIT
0052      END

```

IV. AUXILIARY PROGRAM PREPROC

```
C      MAIN ROUTINE OF PROGRAM PREPRCC
0001      IMPLICIT INTEGER*2(I-N)
0002      INTEGER*4 ITVARI,ITVART,ITVARO,ITL
0003      COMMON /ICOM01/ ITVARI,ITVART,ITVARO,ITL
0004      COMMON /ICCM04/ IPGM,MPRNT
0005      DEFINE FILE 10(35,1200,U,ITVARI)
0006      DEFINE FILE 12(35,1200,U,ITVART)
0007      DEFINE FILE 14(35,1200,U,ITVARO)
0008      CALL INCTRL
0009      CALL INTR
0010      CALL SETNEG
0011      I1 = 1
0012      I2 = 2
0013      IF (IPGM.NE.4) CALL IODEF(I1,I2)
0014      CALL SETLIM
0015      IF (IPGM.GT.2) CALL INCATA
0016      CALL TESTA
0017      CALL TESTB
0018      CALL TESTC
0019      CALL LCKPS
0020      IF (IPGM.NE.3.AND.IPGM.NE.4) GO TO 120
0021      CALL MLT
0022      120 IF (IPGM.EQ.5) CALL COPY
0023      CALL TABLE
0024      CALL PRINT
0025      IF (IPGM.GT.1) CALL OUTDSK
0026      CALL EXIT
0027      END
```

```

0001      SUBROUTINE COPY
0002      IMPLICIT INTEGER*2(I-N)
0003      INTEGER*4 ITVARI, ITVART, ITVARO, ITL
0004      INTEGER*4 IDEFI, IDEFT, IDEFO, IDEFC
0005      INTEGER*4 IKPSI, IKPST, IKPSO, IKPSC
0006      COMMON /ICOM01/ ITVARI, ITVART, ITVARO, ITL
0007      COMMON /ICOM02/ IDEFI, IDEFT, IDEFO, IDEFC
0008      COMMON /ICOM03/ IKPSI, IKPST, IKPSO, IKPSC
0009      COMMON /ICOM05/ IX(3,5), IXMAX, ITBENT, MCRDR
0010      COMMON /ICOM06/ NCOPY, NMULT, NKKPS, NP, KP
0011      COMMON /ICOM08/ NEW(3,35), KSAVE(3,35)
0012      COMMON /ICOM12/ LOADCL(35), MISS(35)
0013      COMMON /ICOM13/ IATTCT(25)
0014      COMMON /XCOM02/ XXXKPS(12,25,4)
0015      COMMON /XCOM03/ XLOAD(12,25,2), XATTRP(35,25,4)
0016      EQUIVALENCE (IA, IX(1,1)), (IT, IX(2,1)), (IJ, IX(3,1))
0017      EQUIVALENCE (JACTYP, IX(1,2)), (JTGTY, IX(2,2)), (JMNTYP, IX(3,2))
0018      EQUIVALENCE (KACTYP, IX(1,3)), (KTGTY, IX(2,3)), (KMNTYP, IX(3,3))
0019      EQUIVALENCE (MACTYP, IX(1,4)), (MTGTY, IX(2,4)), (MMNTYP, IX(3,4))
0020      EQUIVALENCE (JACTYP, IX(1,5)), (JTGTY, IX(2,5)), (JMNTYP, IX(3,5))
0021      IF (NCOPY.LE.0) GO TO 200
0022      DO 150 IT = 1, JTGTYP
0023      ITL = NEW(2, IT)
0024      READ (IKPSC, ITL) (((XXXKPS(IA, IJ, IW), IW=1,4), IJ=1, JMNTYP),
1      IA=1, MACTYP)
0025      ITL = IT
0026      WRITE (IKPST, ITL) (((XXXKPS(NEW(1, IA), NEW(3, IJ), IW), IW=1,4),
1      IJ=1, MMNTYP), IA=1, MACTYP)
0027 150 CONTINUE
0028      IKPSC = IKPST
0029      REWIND IDEFT
0030      WRITE (IDEFT) JACTYP, JTGTYP, JMNTYP,
1      (LOADCL(NEW(2, IT)), MISS(NEW(2, IT))),
2      IT = 1, JTGTYP),
3      (IATTCT(NEW(3, IJ)), ((XLOAD(NEW(1, IA), NEW(3, IJ), K),
4      K=1,2), IA=1, JACTYP), IJ=1, JMNTYP),
5      (((XATTRP(NEW(2, IT), NEW(3, IJ), IW), IW=1,4),
6      IT=1, JTGTYP), IJ=1, JMNTYP)
0031      REWIND IDEFT
0032      IDEFC = IDEFT
0033      I3 = 3
0034      CALL ICDEF(I3, I3)
0035 200 RETURN
0036      END

```

```

0001      SUBROUTINE ENTERT
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /ICCM05/ IX(3,5),IXMAX,MTRENT,MORDR
0004      COMMON /ICCM06/ NCOPY,MMULT,NEWKPS,NP,KP
0005      COMMON /ICCM09/ LOCSHK(35),LOC(35)
0006      COMMON /ICCM10/ IPOINT(2500),ICKPS(2500,3),NEXT(2500,2)
0007      COMMON /ICCM11/ NCHCIC(35),LISTCH(35,2)
0008      COMMON /XCOM01/ XKPS(2500),ATTRP(2500)
0009      COMMON /XCOM02/ XXKPS(12,25,4)
0010      COMMON /XCOM03/ XLOAD(12,25,2),XATTRP(35,25,4)
0011      EQUIVALENCE (IA, IX(1,1)),(IT, IX(2,1)),(IJ, IX(3,1))
0012      EQUIVALENCE (NACTYP,IX(1,2)),(MTGTYP,IX(2,2)),(NMNTYP,IX(3,2))
0013      EQUIVALENCE (KACTYP,IX(1,3)),(KTGTYP,IX(2,3)),(KMNTYP,IX(3,3))
0014      EQUIVALENCE (MACTYP,IX(1,4)),(MTGTYP,IX(2,4)),(MMNTYP,IX(3,4))
0015      EQUIVALENCE (JACTYP,IX(1,5)),(JTGTYP,IX(2,5)),(JMNTYP,IX(3,5))
0016      ITP = 0
0017      LOCSHK(IT) = KP
0018      NCH = 0
0019      DO 180 IA = 1,KACTYP
0020      DO 170 IJ = 1,KMNTYP
0021      DO 160 IW = 1,4
0022      IF (XXKPS(IA,IJ,IW).EQ.0.0) GO TO 160
0023      NCH = NCH+1
0024      P = KP + 1
0025      IF (KP.GT.MTBENT) GO TO 1000
0026      IOKPS(KP,1) = IW
0027      IOKPS(KP,2) = IA
0028      IOKPS(KP,3) = IJ
0029      XKPS(KP) = XXKPS(IA,IJ,IW)
0030      ATTRP(KP) = XATTRP(IT,IJ,IW)
0031      IF (ITP.NE.IT) GO TO 140
0032      K1 = KP-1
0033      DO 130 I = 2,3
0034      IF (IOKPS(KP,I).NE.IOKPS(K1,I)) GO TO 140
0035      130 CONTINUE
0036      GO TO 150
0037      140 NP = NP + 1
0038      ITP = IT
0039      150 IPCINT(KP) = NP
0040      160 CONTINUE
0041      170 CONTINUE
0042      180 CONTINUE
0043      IF (NCH.GT.MORDR) GO TO 1010
0044      NCHCIC(IT) = NCH
0045      RETURN
0046      1000 WRITE (6,1001)
0047      1001 FORMAT(10X,57HNO. OF ENTRIES IN WEAPON EFFECTS TABLE EXCEEDS DIMEN
          1SIONS)
0048      CALL EXIT
0049      1010 WRITE (6,1011) IT
0050      1011 FORMAT(10X,20HNO. ENTRIES FOR TGT ,12,38H EXCEEDS DIMENSIONS OF OR
          1DERING ARRAYS)
0051      CALL EXIT
0052      END

```

```
0001      SUBROUTINE INCTRL
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /ICDM04/ IPGM,MPRNT
0004      READ (5,1) IC,IPGM,MPRNT
0005      IF (IC.NE.90) GO TO 1000
0006      IF (IPGM.LT.1.OR.IPGM.GT.5) GO TO 1010
0007      IF (MPRNT.LT.1.OR.MPRNT.GT.3) GO TO 1020
0008      RETURN
0009      1  FORMAT(I2,14X,2I7)
0010      1000 WRITE (6,1001)
0011      1001 FORMAT(10X,30HFIRST CARD IS NOT CONTROL CARD)
0012      CALL EXIT
0013      1010 WRITE (6,1011)
0014      1011 FORMAT(10X,45HPROGRAM CONTROL VARIABLE OUT OF ALLOWED RANGE)
0015      CALL EXIT
0016      1020 WRITE (6,1021)
0017      1021 FORMAT(10X,43HPRINT CONTROL VARIABLE OUT OF ALLOWEC RANGE)
0018      CALL EXIT
0019      END
```

```

0001      SUBROUTINE INDATA
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /ICCM04/ IPGM,MPRNT
0004      COMMON /ICCM05/ IX(3,5),IXMAX,NTBENT,MORDR
0005      COMMON /ICCM06/ NCOPY,NMULT,NEWKPS,NP,KP
0006      COMMON /ICCM07/ NBRE(35),LAST(35)
0007      COMMON /ICCM08/ NEW(3,35),KSAVE(3,35)
0008      COMMON /ICCM09/ LOC SHK(35),LOC(35)
0009      COMMON /ICCM10/ IPOINT(2500),ICKPS(2500,3),NEXT(2500,2)
0010      COMMON /ICCM12/ LOADCL(35),MISS(35)
0011      COMMON /ICCM13/ IATTCT(25)
0012      COMMON /ICCM14/ ITMULT(70),IAX(70),ITYPM(70)
0013      COMMON /ICCM16/ IC
0014      COMMON /XCCM01/ XKPS(2500),ATTRP(2500)
0015      COMMON /XCCM03/ XLOAD(12,25,2),XATTRP(35,25,4)
0016      COMMON /XCCM04/ XMULT(70)
0017      COMMON /XCCM06/ XIN(8)
0018      EQUIVALENCE (IA, IX(1,1)),(IT, IX(2,1)),(IJ, IX(3,1))
0019      EQUIVALENCE (NACTYP,IX(1,2)),(NTGTYP,IX(2,2)),(NMNTYP,IX(3,2))
0020      EQUIVALENCE (KACTYP,IX(1,3)),(KTGTYP,IX(2,3)),(KMNTYP,IX(3,3))
0021      EQUIVALENCE (MACTYP,IX(1,4)),(MTGTYP,IX(2,4)),(MMNTYP,IX(3,4))
0022      EQUIVALENCE (JACTYP,IX(1,5)),(JTGTYP,IX(2,5)),(JMNTYP,IX(3,5))
0023      INTEGER*4 NAME
0024      DIMENSION NAME(3)
0025      DATA NAME/' AC ','TGT ','MUN '/
0026      KPSLOC = 0
0027      250 REAC (5,1,END=400) IC, IA, IT, IJ, (XIN(K),K=1,8)
0028      IF (IC.NE.98.AND.IPGM.EQ.5) GO TO 1080
0029      ICC = IC-90
0030      GO TO (260,270,280,290,300,310,310,320), ICC
0031      GO TO 1010
0032      260 DO 262 K = 1,3
0033      CALL SET(K,IX)
0034      262 CONTINUE
0035      NEWKPS = 1
0036      NT = NBRE(IT) + 1
0037      NBRE(IT) = NT
0038      IF (NT.EQ.1) LOC(IT) = KPSLOC
0039      IF (NT.NE.1) NEXT(LAST(IT)+1,1) = KPSLOC
0040      LAST(IT) = KPSLOC
0041      IOKPS(KPSLOC+1,2) = IA
0042      IOKPS(KPSLOC+1,3) = IJ
0043      DO 264 IW = 1,4
0044      XKPS(KPSLOC+IW) = XIN(IW)
0045      254 CONTINUE
0046      KPSLOC = KPSLOC+4
0047      GO TO 250
0048      270 DO 272 K=2,3
0049      CALL SET(K,IX)
0050      272 CONTINUE
0051      DO 274 IW = 1,4
0052      XATTRP(IT,IJ,IW) = XIN(IW)
0053      274 CONTINUE
0054      GO TO 250
0055      280 DO 282 K = 1,3,2
0056      CALL SET(K,IX)
0057      282 CONTINUE
0058      DO 284 K = 1,2

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0059      XLGAC(IA,IJ,K) = XIN(K)
0060      284 CONTINUE
0061      GO TO 250
0062      290 K = 3
0063      CALL SET(K,IX)
0064      IATTCT(IJ) = XIN(1)
0065      IF (IATTCT(IJ).LT.1.OR.IATTCT(IJ).GT.2) GO TO 1050
0066      GO TO 250
0067      300 K = 2
0068      CALL SET(K,IX)
0069      LOADCL(IT) = XIN(1)
0070      MISS(IT) = XIN(2)
0071      IF (LOADCL(IT).LT.1.OR.LOADCL(IT).GT.2) GO TO 1060
0072      IF (MISS(IT).LT.1.OR.MISS(IT).GT.3) GO TO 1070
0073      GO TO 250
0074      310 NMULT = NMULT + 1
0075      ITPM(NMULT) = IC
0076      ITMULT(NMULT) = IT
0077      IAX(NMULT) = IA
0078      XMULT(NMULT) = XIN(1)
0079      IF (XIN(1).LT.0) GO TO 1000
0080      GO TO 250
0081      320 NCOPY = NCOPY+1
0082      ICNT = 0
0083      DO 322 IK = 1,3
0084      IF (IX(IK,1).LE.0) GO TO 322
0085      K = IK
0086      ICNT = ICNT + 1
0087      322 CONTINUE
0088      IF (ICNT.NE.1) GO TO 1020
0089      IK = IX(K,1)
0090      IF (IK.LT.1.OR.IK.GT.IX(K,3)) GO TO 1030
0091      II = XIN(1)
0092      IF (II.LE.0) GO TO 324
0093      IF (II.GT.IX(K,3)) IX(K,5) = II
0094      IF (IX(K,5).GT.IX(K,4)) GO TO 1090
0095      IF (NEW(K,II).NE.0) GO TO 1040
0096      NEW(K,II) = IK
0097      324 KSAVE(K,IK) = 1
0098      GO TO 250
0099      400 RETURN
0100      1 FORMAT(4I2,8X,8F7.0)
0101      1000 WRITE (6,1001)
0102      1001 FORMAT(10X,41HMULTIPLIER ON A 96 OR 97 CARD IS NEGATIVE)
0103      CALL EXIT
0104      1010 WRITE (6,1011) IC
0105      1011 FORMAT(10X,18HILLEGAL CARD TYPE ,I2,26H APPEARS IN DATA CARD DECK)
0106      CALL EXIT
0107      1020 WRITE (6,1021)
0108      1021 FORMAT(10X,27HA TYPE 98 CARD IS AMBIGUOUS)
0109      CALL EXIT
0110      1030 WRITE (6,1031) NAME(K)
0111      1031 FORMAT(10X,3HAN ,A4,39H INDEX CN A TYPE 98 CARD DOES NOT EXIST)
0112      CALL EXIT
0113      1040 WRITE (6,1041) NAME(K),IK
0114      1041 FORMAT(10X,22HA TYPE 98 CARD COPIES ,A4,20H DATA INTO LOCATION ,
1          I2,15H MORE THAN ONCE)
0115      CALL EXIT

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```
0116      1050 WRITE (6,1051) IJ
0117      1051 FORMAT(10X,28HATTACK CATEGORY OF MUNITION ,I2,14H OUT OF BOUNDS)
0118      CALL EXIT
0119      1060 WRITE (6,1061) IT
0120      1061 FORMAT(10X,21HLOAD CLASS OF TARGET ,I2,14H OUT OF BOUNDS)
0121      CALL EXIT
0122      1070 WRITE (6,1071) IT
0123      1071 FORMAT(10X,27HMISSION CATEGORY OF TARGET ,I2,14H OUT OF BOUNDS)
0124      CALL EXIT
0125      1080 WRITE (6,1081) IC
0126      1081 FORMAT(10X,45HPROGRAM CONTROL VARIABLE IS 5, BUT CARD TYPE ,I2,
        1      26H APPEARS IN DATA CARD DECK)
0127      CALL EXIT
0128      1090 WRITE (6,1091)
0129      1091 FORMAT(10X,31HA COPY INDEX EXCEEDS DIMENSIONS)
0130      CALL EXIT
0131      END
```

```

0001      SUBROUTINE INITR
0002      IMPLICIT INTEGER*2(I-N)
0003      INTEGER*4 IDEFI, IDEFT, ICEFO, IDEFC
0004      INTEGER*4 IKPSI, IKPST, IKPSO, IKFSC
0005      COMMON /ICOM02/ IDEFI, IDEFT, ICEFO, IDEFC
0006      COMMON /ICOM03/ IKPSI, IKPST, IKFSC, IKPSC
0007      COMMON /ICOM04/ IPGM, MPRNT
0008      COMMON /ICOM05/ IX(3,5), IXMAX, MTBENT, MORDR
0009      COMMON /ICOM06/ NCOPY, NMULT, NEWKPS, NP, KP
0010      COMMON /ICOM07/ NBRE(35), LAST(35)
0011      COMMON /ICOM08/ NEW(3,35), KSAVE(3,35)
0012      EQUIVALENCE (IA, IX(1,1)), (IT, IX(2,1)), (IJ, IX(3,1))
0013      EQUIVALENCE (NACTYP, IX(1,2)), (NTGTYP, IX(2,2)), (NMNTYP, IX(3,2))
0014      EQUIVALENCE (KACTYP, IX(1,3)), (KTGTYP, IX(2,3)), (KMNTYP, IX(3,3))
0015      EQUIVALENCE (MACTYP, IX(1,4)), (MTGTYP, IX(2,4)), (MMNTYP, IX(3,4))
0016      EQUIVALENCE (JACTYP, IX(1,5)), (JTGTYP, IX(2,5)), (JMNTYP, IX(3,5))
0017      IXMAX = 35
0018      MTBENT = 2500
0019      MORDR = 925
0020      IX(1,4) = 12
0021      IX(2,4) = 35
0022      IX(3,4) = 25
0023      IDEFI = 11
0024      IDEFT = 13
0025      IDEFC = 15
0026      IKPSI = 10
0027      IKPST = 12
0028      IKPSC = 14
0029      NCOPY = 0
0030      NMULT = 0
0031      NEWKPS = 0
0032      DO 110 IT = 1, MTGTYP
0033      NBRE(IT) = 0
0034 110 CONTINUE
0035      DO 140 K = 1, 3
0036      DO 120 M = 1, 2
0037      IX(K,M) = 0
0038 120 CONTINUE
0039      DO 130 M = 1, IXMAX
0040      NEW(K,M) = 0
0041      KSAVE(K,M) = 0
0042 130 CONTINUE
0043 140 CONTINUE
0044      IF (IPGM.NE.4) REWIND ICEFI
0045      IF (IPGM.EQ.5) REWIND IDEFT
0046      IF (IPGM.NE.1) REWIND ICEFO
0047      IF (IPGM.GT.2) REWIND IDEFC
0048      IDEFC = IDEFI
0049      IKPSC = IKPSI
0050      RETURN
0051      END

```

```

0001      SUBROUTINE IODEF(IO,M)
0002      IMPLICIT INTEGER*2(I-N)
0003      INTEGER*4 IDEFI,IDEFT,IDEFO,IDEFC
0004      COMMON /ICCM02/ IDEFI,IDEFT,IDEFO,IDEFC
0005      COMMON /ICCM05/ IX(3,5),IXMAX,ITBENT,MCRDR
0006      COMMON /ICCM12/ LOADCL(35),MISS(35)
0007      COMMON /ICCM13/ IATTCT(25)
0008      COMMON /XCOM03/ XLOAD(12,25,2),XATTRP(35,25,4)
0009      EQUIVALENCE (IA, IX(1,1)),(IT, IX(2,1)),(IJ, IX(3,1))
0010      EQUIVALENCE (NACTYP,IX(1,2)),(NTGTYP,IX(2,2)),(NMNTYP,IX(3,2))
0011      EQUIVALENCE (KACTYP,IX(1,3)),(KTGTYP,IX(2,3)),(KMNTYP,IX(3,3))
0012      EQUIVALENCE (MACTYP,IX(1,4)),(MTGTYP,IX(2,4)),(MMNTYP,IX(3,4))
0013      EQUIVALENCE (JACTYP,IX(1,5)),(JTGTYP,IX(2,5)),(JMNTYP,IX(3,5))
0014      IF (IO.EQ.2) GO TO 150
0015      IF (IO.EQ.3) GO TO 140
0016      REAC (IDEFC) (IX(K,M),K=1,3),
1          (LOADCL(IT),MISS(IT),IT=1,NTGTYP),
2          (IATTCT(IJ),((XLCAD(IA,IJ,K),K=1,2),IA=1,NACTYP),
3          IJ=1,NMNTYP),
4          (((XATTRP(IT,IJ,IW),IW=1,4),IT=1,NTGTYP),
5          IJ=1,NMNTYP)
0017      REWIND IDEFC
0018      RETURN
0019      140 READ (IDEFC) (IX(K,M),K=1,3),
1          (LOADCL(IT),MISS(IT),IT=1,JTGTYP),
2          (IATTCT(IJ),((XLCAD(IA,IJ,K),K=1,2),IA=1,JACTYP),
3          IJ=1,JMNTYP),
4          (((XATTRP(IT,IJ,IW),IW=1,4),IT=1,JTGTYP),
5          IJ=1,JMNTYP)
0020      REWIND IDEFC
0021      RETURN
0022      150 WRITE (IDEFO) (IX(K,M),K=1,3),
2          (LOADCL(KT),MISS(KT),KT=1,KTGTYP),
3          (IATTCT(KJ),((XLCAD(KA,KJ,K),K=1,2),KA=1,KACTYP),
4          KJ=1,KMNTYP),
5          (((XATTRP(KT,KJ,KW),KW=1,4),KT=1,KTGTYP),
6          KJ=1,KMNTYP)
0023      REWIND IDEFO
0024      RETURN
0025      END

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```

0001      SUBROUTINE LDKPS
0002      IMPLICIT INTEGER*2(I-N)
0003      INTEGER*4 ITVAR,ITVART,ITVARO,ITL
0004      INTEGER*4 IKPSI,IKPST,IKPSO,IKPSC
0005      COMMON /ICOM01/ ITVAR,ITVART,ITVARO,ITL
0006      COMMON /ICOM03/ IKPSI,IKPST,IKPSO,IKPSC
0007      COMMON /ICOM04/ IPGM,MPRNT
0008      COMMON /ICOM05/ IX(3,5),IXMAX,MTBENT,MORDR
0009      COMMON /ICOM06/ NCOPY,NMULT,NEWKPS,NP,KP
0010      COMMON /ICOM07/ NBRE(35),LAST(35)
0011      COMMON /ICOM09/ LOCCHK(35),LOC(35)
0012      COMMON /ICOM10/ IPOINT(2500),ICKPS(2500,3),NEXT(2500,2)
0013      COMMON /XCOM01/ XKPS(2500),ATTRP(2500)
0014      COMMON /XCOM02/ XXKPS(12,25,4)
0015      EQUIVALENCE (IA, IX(1,1)),(IT, IX(2,1)),(IJ, IX(3,1))
0016      EQUIVALENCE (NACTYP,IX(1,2)),(NTGTYP,IX(2,2)),(NMNTYP,IX(3,2))
0017      EQUIVALENCE (KACTYP,IX(1,3)),(KTGTYP,IX(2,3)),(KMNTYP,IX(3,3))
0018      EQUIVALENCE (MACTYP,IX(1,4)),(MTGTYP,IX(2,4)),(MMNTYP,IX(3,4))
0019      EQUIVALENCE (JACTYP,IX(1,5)),(JTGTYP,IX(2,5)),(JMNTYP,IX(3,5))
0020      DIMENSION INKPS(12,25)
0021      DO 300 IT = 1,KTGTYP
0022      DO 130 IJ = 1,KMNTYP
0023      DO 120 IA = 1,KACTYP
0024      INKPS(IA,IJ) = -1
0025      120 CONTINUE
0026      130 CONTINUE
0027      IF (NEWKPS.LE.0) GO TO 165
0028      ITL = IT
0029      IF (IPGM.EQ.4) GO TO 140
0030      READ (IKPSC*ITL) (((XXKPS(IA,IJ,IW),IW=1,4),IJ=1,MMNTYP),
1      IA = 1,MACTYP)
0031      140 NNT = NBRE(IT)
0032      IF (NNT.LE.0) GO TO 165
0033      DO 160 N = 1,NNT
0034      IF (N.EQ.1) K = LOC(IT)
0035      IF (N.NE.1) K = NEXT(LAST(IT)+1,1)
0036      IA = ICKPS(K+1,2)
0037      IJ = ICKPS(K+1,3)
0038      INKPS(IA,IJ) = 1
0039      LAST(IT) = K
0040      DO 150 IW = 1,4
0041      XXKPS(IA,IJ,IW) = XKPS(K+IW)
0042      150 CONTINUE
0043      160 CONTINUE
0044      165 IJ1 = 1
0045      IF (IT.LE.NTGTYP.AND.KACTYP.LE.NACTYP) IJ1 = NMNTYP + 1
0046      IF (IJ1.GT.KMNTYP) GO TO 190
0047      DO 180 IJ = IJ1,KMNTYP
0048      IA1 = 1
0049      IF (IT.LE.NTGTYP.AND.IJ.LE.NMNTYP) IA1 = NACTYP+1
0050      IF (IA1.GT.KACTYP) GO TO 180
0051      DO 170 IA = IA1,KACTYP
0052      IF (INKPS(IA,IJ).LT.0) GO TO 1C00
0053      170 CONTINUE
0054      180 CONTINUE
0055      190 IF (NEWKPS.LE.0) GO TO 300
0056      WRITE (IKPST*ITL) (((XXKPS(IA,IJ,IW),IW=1,4),IJ=1,MMNTYP),
1      IA = 1,MACTYP)

```

```
0057      300 CONTINUE
0058          IF (NEWKPS.GT.0) IKPSC = IKPST
0059      400 RETURN
0060     1000 WRITE (6,1001) IT,IA,IJ
0061     1001 FORMAT(10X,48HVALUES OF EXP. KILLS PER SORTIE MISSING FOR TGT ,
      1      I2,6H, A/C ,I2,6H, MUN ,I2)
0062          CALL EXIT
0063          END
```

```

0001      SUBROUTINE MULT
0002      IMPLICIT INTEGER*2(I-N)
0003      INTEGER*4 ITVARI,ITVART,ITVARO,ITL
0004      INTEGER*4 IKPSI,IKPST,IKPSO,IKPSC
0005      COMMON /ICCM03/ IKPSI,IKPST,IKPSO,IKPSC
0006      COMMON /ICCM05/ IX(3,5),IXMAX,MTBENT,MORDR
0007      COMMON /ICCM06/ NCOPY,NMULT,NEWKPS,NP,KP
0008      COMMON /ICCM14/ ITMULT(70),IAX(70),ITYPM(70)
0009      COMMON /XCOM02/ XXKPS(12,25,4)
0010      COMMON /XCOM04/ XMULT(70)
0011      EQUIVALENCE (IA, IX(1,1)),(IT, IX(2,1)),(IJ, IX(3,1))
0012      EQUIVALENCE (NACTYP,IX(1,2)),(KTGTYP,IX(2,2)),(MMNTYP,IX(3,2))
0013      EQUIVALENCE (KACTYP,IX(1,3)),(KTGTYP,IX(2,3)),(KMNTYP,IX(3,3))
0014      EQUIVALENCE (MACTYP,IX(1,4)),(MTGTYP,IX(2,4)),(MMNTYP,IX(3,4))
0015      EQUIVALENCE (JACTYP,IX(1,5)),(JTGTYP,IX(2,5)),(JMNTYP,IX(3,5))
0016      IF (NMULT.LE.0) GO TO 200
0017      DO 140 N = 1,NMULT
0018      IT = ITMULT(N)
0019      IF (IT.LT.1.OR.IT.GT.KTGTYP) GO TO 1000
0020      IF (IAX(N).GT.KACTYP) GO TO 1010
0021      IF (ITYPM(N).EQ.96.AND.IAX(N).LT.1) GO TO 1010
0022      IF (ITYPM(N).EQ.97.AND.IAX(N).LT.0) GO TO 1010
0023      140 CONTINUE
0024      DO 150 IT = 1,KTGTYP
0025      ITL = IT
0026      READ (IKPSC,ITL) (((XXKPS(IA,IJ,IW),IW=1,4),IJ=1,MMNTYP),
1      IA = 1,MACTYP)
0027      DO 180 N = 1,NMULT
0028      IF (IT.NE.ITMULT(N)) GO TO 180
0029      DO 170 IA = 1,KACTYP
0030      IF (ITYPM(N).EQ.96.AND.IA.NE.IAX(N)) GO TO 170
0031      IF (ITYPM(N).EQ.97.AND.IA.EQ.IAX(N)) GO TO 170
0032      DO 160 IW = 1,4
0033      DO 150 IJ = 1,KMNTYP
0034      XXKPS(IA,IJ,IW) = XXKPS(IA,IJ,IW)*XMULT(N)
0035      150 CONTINUE
0036      160 CONTINUE
0037      170 CONTINUE
0038      180 CONTINUE
0039      WRITE (IKPST,ITL) (((XXKPS(IA,IJ,IW),IW=1,4),IJ=1,MMNTYP),
1      IA = 1,MACTYP)
0040      190 CONTINUE
0041      IKPSC = IKPST
0042      200 RETURN
0043      1000 WRITE (6,1001) IT
0044      1001 FORMAT(10X,9HTGT TYPE ,I2,45H CN A TYPE 96 OR 97 CARD OUT OF ALLOW
1ED RANGE)
0045      CALL EXIT
0046      1010 WRITE (6,1011) IAX(N)
0047      1011 FORMAT(10X,9HA/C TYPE ,I2,40H CN A 96 OR 97 CARD OUT OF ALLOWED RA
1NGE)
0048      CALL EXIT
0049      END

```

```
0001      SUBROUTINE ORDER(II,VALUE,IRR)
0002      IMPLICIT INTEGER*2(I-N)
0003      DIMENSION VALUE(1),IRR(1)

      C
      C      RETURNS IRR(II) = RANKING OF VALUE(I) - LARGEST VALUE RANKED 1
      C

0004      DO 100 I = 1,II
0005      IRR(I) = 0
0006      100 CONTINUE
0007      DO 150 I = 1,II
0008      IF (IRR(I).GT.0) GO TO 150
0009      IBIG = 0
0010      IEQUAL = 0
0011      X = VALUE(I)
0012      DO 130 J = 1,II
0013      IF (VALUE(J)-X) 130,120,110
0014      110 IBIG = IBIG+1
0015      GO TO 130
0016      120 IEQUAL = IEQUAL + 1
0017      IRR(J) = -1
0018      130 CONTINUE
0019      IF (IEQUAL.NE.1) GO TO 135
0020      IRR(I) = IBIG+1
0021      GO TO 150
0022      135 IBIG = IBIG+1
0023      DO 140 J = 1,II
0024      IF (IRR(J).NE.-1) GO TO 140
0025      IRR(J) = IBIG
0026      IBIG = IBIG+1
0027      140 CONTINUE
0028      150 CONTINUE
0029      RETURN
0030      END
```

```
0001      SUBROUTINE ORDERT(IT, KK)
0002      IMPL IC IT INTEGER *2 (I-N)
0003      COMMON /ICOM10/ IPOINT (2500), ICKPS (2500, 3), NEXT (2500, 2)
0004      COMMON /ICOM11/ NCHOIC (35), LISTCH (35, 2)
0005      COMMON /ICOM12/ LOADCL (35), MISS (35)
0006      COMMON /ICOM13/ IATTCT (25)
0007      COMMON /ICOM15/ IRR (925), JTEMP (925)
0008      COMMON /XCCM01/ XKPS (2500), ATTRP (2500)
0009      COMMON /XCCM03/ XLOAD (12, 25, 2), XATTRP (35, 25, 4)
0010      COMMON /XCCM05/ XTEMP (925)
0011      NCH = NCHOIC (IT)
0012      KKT = 1
0013      IF (MISS (IT).EQ.1) KKT = 2
0014      DO 200 KT = 1, KKT
0015      IF (KT.EQ.1) GO TO 150
0016      CALL ORDER (NCH, XKPS (KK), IRR (1))
0017      GO TO 175
0018      150 DO 170 N = 1, NCH
0019      NL = KK+N-1
0020      IA = ICKPS (NL, 2)
0021      IJ = ICKPS (NL, 3)
0022      LCL = LOADCL (IT)
0023      IF (XLOAD (IA, IJ, LCL).NE.0.0) GO TO 160
0024      XTEMP (N) = 0.0
0025      GO TO 170
0026      160 NPASS = 1
0027      IF (IATTCT (IJ).EQ.1) NPASS = XLOAD (IA, IJ, LCL)
0028      XTEMP (N) = XKPS (NL) / (1.0 - (1.0 - ATTRP (NL)) ** NPASS)
0029      170 CONTINUE
0030      CALL ORDER (NCH, XTEMP (1), IRR (1))
0031      175 DO 180 N = 1, NCH
0032      JTEMP (IRR (N)) = N
0033      180 CONTINUE
0034      NCH1 = NCH-1
0035      DO 190 N = 1, NCH1
0036      NEXT (JTEMP (N)+KK-1, KT) = JTEMP (N+1)+KK-1
0037      190 CONTINUE
0038      NEXT (JTEMP (NCH)+KK-1, KT) = 0
0039      LISTCH (IT, KT) = JTEMP (1)+KK-1
0040      200 CONTINUE
0041      RETURN
0042      ENC
```



```
0001      SUBROUTINE OUTDSK
0002      IMPLICIT INTEGER*2(I-N)
0003      INTEGER*4 ITVARI,ITVART,ITVARO,ITL
0004      INTEGER*4 IKPSI,IKPST,IKPSO,IKPSC
0005      COMMON /ICOM01/ ITVARI,ITVART,ITVARO,ITL
0006      COMMON /ICOM03/ IKPSI,IKPST,IKPSC,IKPSC
0007      COMMON /ICOM05/ IX(3,5),IXMAX,MTBENT,MORDR
0008      COMMON /XCOM02/ XXXKPS(12,25,4)
0009      EQUIVALENCE (IA, IX(1,1)),(IT, IX(2,1)),(IJ, IX(3,1))
0010      EQUIVALENCE (NACTYP,IX(1,2)),(NTGTYP,IX(2,2)),(NMNTYP,IX(3,2))
0011      EQUIVALENCE (KACTYP,IX(1,3)),(KTGTYP,IX(2,3)),(KMNTYP,IX(3,3))
0012      EQUIVALENCE (MACTYP,IX(1,4)),(MTGTYP,IX(2,4)),(MMNTYP,IX(3,4))
0013      EQUIVALENCE (JACTYP,IX(1,5)),(JTGTYP,IX(2,5)),(JMNTYP,IX(3,5))
0014      I2 = 2
0015      I3 = 3
0016      CALL ICDEF(I2,I3)
0017      DO 150 IT = 1,KTGTYP
0018      ITL = IT
0019      READ (IKPSC,ITL) (((XXXKPS(IA,IJ,IW),IW=1,4),IJ=1,MMNTYP),
1          IA = 1,MACTYP)
0020      WRITE (IKPSC,ITL) (((XXXKPS(IA,IJ,IW),IW=1,4),IJ=1,MMNTYP),
1          IA = 1,MACTYP)
0021 150 CONTINUE
0022      RETURN
0023      END
```

```

0001      SUBROUTINE PRINT
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /ICCM04/ IPGM,MPRNT
0004      IF (MPRNT.LE.1) GO TO 120
0005      CALL PRINTX
0006      IF (MPRNT.LE.2) GO TO 120
0007      CALL PRINTV
0008      120 RETURN
0009      END
    
```

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0001      SUBROUTINE PRINTV
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /ICCM05/ IX(3,5),IXMAX,MTBENT,MORDR
0004      COMMON /ICCM09/ LOCCHK(35),LOC(35)
0005      COMMON /ICCM10/ IPOINT(2500),ICKPS(2500,3),NEXT(2500,2)
0006      COMMON /ICCM11/ NCHOIC(35),LISTCH(35,2)
0007      COMMON /XCOM01/ XKPS(2500),ATRP(2500)
0008      EQUIVALENCE (IA, IX(1,1)),(IT, IX(2,1)),(IJ, IX(3,1))
0009      EQUIVALENCE (NACTYP,IX(1,2)),(KTGTYP,IX(2,2)),(NMNTYP,IX(3,2))
0010      EQUIVALENCE (KACTYP,IX(1,3)),(KTGTYP,IX(2,3)),(KMNTYP,IX(3,3))
0011      EQUIVALENCE (MACTYP,IX(1,4)),(MTGTYP,IX(2,4)),(MMNTYP,IX(3,4))
0012      EQUIVALENCE (JACTYP,IX(1,5)),(JTGTYP,IX(2,5)),(JMNTYP,IX(3,5))
0013      DIMENSION PLOC(12)
0014      DIMENSION MJ1(9),MJ2(9),ILOCC(3)
0015      MM = KMNTYP/3
0016      IF (MM*3.LT.KMNTYP) MM = MM + 1
0017      ML = KMNTYP-(MM-1)*3
0018      DO 110 M = 1,MM
0019      MJ1(M) = (M-1)*3+1
0020      MJ2(M) = (M-1)*3+3
0021      110 CONTINUE
0022      MJ2(MM) = KMNTYP
0023      DO 180 IA = 1,KACTYP
0024      DO 170 M = 1,MM
0025      II = 3
0026      IF (M.EQ.MM) II = ML
0027      DO 115 I = 1,II
0028      ILOCC(I) = (M-1)*3+I
0029      115 CONTINUE
0030      WRITE (6,1) IA,M,MM
0031      WRITE (6,2) (ILOCC(I),I=1,II)
0032      WRITE (6,4)
0033      DO 160 IT = 1,KTGTYP
0034      DO 120 L = 1,12
0035      PLOC(L) = 0.0
0036      120 CONTINUE
0037      KK = LOCCHK(IT) + 1
0038      NCH = NCHOIC(IT)
0039      DO 140 N = 1,NCH
0040      KA = ICKPS(KK+N-1,2)
0041      IF (KA.LT.IA) GO TO 140
0042      IF (KA.GT.IA) GO TO 150
0043      KJ = ICKPS(KK+N-1,3)
0044      IF (KJ.LT.MJ1(M)) GO TO 140
0045      IF (KJ.GT.MJ2(M)) GO TO 150
0046      KW = ICKPS(KK+N-1,1)
0047      PLOC((KJ-(M-1)*3-1)*4+KW) = XKPS(KK+N-1)
0048      140 CONTINUE
0049      150 KK = 12
0050      IF (M.EQ.MM) KK = ML*4
0051      WRITE (6,3) IT,(PLOC(K),K=1,KK)
0052      160 CONTINUE
0053      170 CONTINUE
0054      180 CONTINUE
0055      RETURN
0056      1 FORMAT(1H1,5X,9HA/C TYPE ,I2,7H, PAGE ,I2,4H OF ,I2)
0057      2 FORMAT (//8X,3HMUN,18X,I2,2(30X,I2))
0058      3 FORMAT(10X,I3,1X,12F8.4)

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0059

4 FORMAT(10X,97HTGT

H M

L N H M

CC60

1 L N
END

H M

L N

```

0001      SUBROUTINE PRINTX
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /ICOM05/ IX(3,5),IXMAX,MTBENT,MCRDR
0004      COMMON /ICOM09/ LCCSHK(35),LOC(35)
0005      COMMON /ICOM10/ IPOINT(2500),ICKPS(2500,3),NEXT(2500,2)
0006      COMMON /ICOM11/ NCHOIC(35),LISTCH(35,2)
0007      EQUIVALENCE (IA, IX(1,1)),(IT, IX(2,1)),(IJ, IX(3,1))
0008      EQUIVALENCE (NACTYP,IX(1,2)),(KTGTYP,IX(2,2)),(NMNTYP,IX(3,2))
0009      EQUIVALENCE (KACTYP,IX(1,3)),(KTGTYP,IX(2,3)),(KMNTYP,IX(3,3))
0010      EQUIVALENCE (MACTYP,IX(1,4)),(MTGTYP,IX(2,4)),(MMNTYP,IX(3,4))
0011      EQUIVALENCE (JACTYP,IX(1,5)),(JTGTYP,IX(2,5)),(JMNTYP,IX(3,5))
0012      DIMENSION MJ1(4),MJ2(4),JROW(35,6),IROW(32),ICOL(32),JCOL(4)
0013      DIMENSION ISUM(8),KSUM(8),ILOCC(8)
0014      DATA LC/' 0'/,LX/' X'/
0015      MM = KMNTYP/8
0016      IF (MM*8.LT.KMNTYP) MM = MM + 1
0017      ML = KMNTYP-(MM-1)*8
0018      DO 110 M = 1,MM
0019      MJ1(M) = (M-1)*8+1
0020      MJ2(M) = (M-1)*8+8
0021      110 CONTINUE
0022      MJ2(MM) = KMNTYP
0023      DO 210 IA = 1,KACTYP
0024      JSUM = 0
0025      DO 114 IW = 1,6
0026      JCOL(IW) = 0
0027      DO 112 IT = 1,KTGTYP
0028      JRCW(IT,IW) = 0
0029      112 CONTINUE
0030      114 CONTINUE
0031      DO 200 M = 1,MM
0032      II = 8
0033      IF (M.EQ.MM) II = ML
0034      DO 115 I = 1,II
0035      ILOCC(I) = (M-1)*8+I
0036      115 CONTINUE
0037      WRITE (6,1) IA,M,MM
0038      WRITE (6,2) (ILOCC(I),I=1,II)
0039      IF (M.EQ.MM) GO TO 116
0040      WRITE (6,3)
0041      GO TO 117
0042      116 WRITE (6,4)
0043      117 DO 118 K = 1,32
0044      ICOL(K) = 0
0045      118 CONTINUE
0046      DO 120 K = 1,8
0047      ISUM(K) = 0
0048      KSUM(K) = 0
0049      120 CONTINUE
0050      DO 160 IT = 1,KTGTYP
0051      DO 125 L = 1,32
0052      IROW(L) = 0
0053      125 CONTINUE
0054      KK = LCCSHK(IT) + 1
0055      NCH = NCHOIC(IT)
0056      DO 140 N = 1,NCH
0057      KA = ICKPS(KK+N-1,2)
0058      IF (KA.LT.IA) GO TO 140

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0059      IF (KA.GT.IA) GO TO 150
0060      KJ = ICKPS(KK+N-1,3)
0061      IF (KJ.LT.MJ1(M)) GO TO 140
0062      IF (KJ.GT.MJ2(M)) GO TO 150
0063      KW = IOKPS(KK+N-1,1)
0064      LI = KJ-(M-1)*8
0065      LL = (LI-1)*4+KW
0066      IROW(LL) = LX
0067      ISUM(LI) = ISUM(LI) + 1
0068      ICCL(LL) = ICOL(LL) + 1
0069      JCCL(KW) = JCOL(KW) + 1
0070      JROW(IT,KW) = JROW(IT,KW) + 1
0071      JROW(IT,5) = JROW(IT,5) + 1
0072      JSUM = JSUM+1
0073      140 CONTINUE
0074      150 KK = 32
0075      IF (M.EQ.MM) KK = ML*4
0076      KKK = 8
0077      IF (M.EQ.MM) KKK = ML
0078      DO 154 K = 1, KKK
0079      DO 152 IW = 1, 4
0080      IF (IROW((K-1)*4+IW).NE.LX) GO TO 152
0081      JROW(IT,6) = JROW(IT,6) + 1
0082      KSUM(K) = KSUM(K) + 1
0083      GO TO 154
0084      152 CONTINUE
0085      154 CONTINUE
0086      WRITE (6,5) IT, (IROW(K), K=1, KKK)
0087      IF (M.NE.MM) GO TO 160
0088      WRITE (6,6) (JROW(IT,K), K=1, 6)
0089      160 CONTINUE
0090      KK = 32
0091      IF (M.EQ.MM) KK = ML*4
0092      WRITE (6,7) (ICOL(K), K=1, KKK)
0093      IF (M.NE.MM) GO TO 170
0094      WRITE (6,8) (JCOL(K), K=1, 4)
0095      170 KK = 8
0096      IF (M.EQ.MM) KK = ML
0097      WRITE (6,9) (ISUM(K), K=1, KKK)
0098      IF (M.NE.MM) GO TO 180
0099      WRITE (6,10) JSUM
0100      180 WRITE (6,11) (KSUM(K), K=1, KKK)
0101      200 CONTINUE
0102      210 CONTINUE
0103      RETURN
0104      1 FORMAT(1H1,5X,9HA/C TYPE ,I2,7F, PAGE ,I2,4H OF ,I2)
0105      2 FORMAT(/,8X,3HMUN,8X,I2,7(10X,I2))
0106      3 FORMAT(10X,100HTGT H M L N H M L N H M L N H M L
0107      1N H M L N H M L N H M L N H M L N)
0108      4 FORMAT(10X,120HTGT H M L N H M L N H M L N H M L
0109      1N H M L N H M L N H M L N H M L N H M L N ALL
0110      2MUN)
0111      5 FORMAT(10X,I3,2X,A2,31(1X,A2))
0112      6 FORMAT(1H+,109X,4I3,2I4)
0113      7 FORMAT(/,5X,3HSUM,6X,32I3)
0114      8 FORMAT(1H+,109X,4I3,2I4)
0115      9 FORMAT(5X,3HALL,11X,I3,7(9X,I3))
0116      10 FORMAT(1H+,121X,I4)

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0114
0115

11 FORMAT (5X,3HTGT,11X,I3,7(9X,I3))
END

```
0001      SUBROUTINE SET(K,/IX/)
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /ICOM16/ IC
0004      COMMON /XCCM06/ XIN(8)
0005      INTEGER*4 NAME
0006      DIMENSION NAME(3)
0007      DATA NAME/' AC ','TGT ','MUN '/
0008      DIMENSION IX(3,5)
0009      IF (IX(K,1).LE.0) GO TO 1010
0010      IF (IX(K,1).LE.IX(K,2)) GO TO 110
0011      IF (IX(K,1).GT.IX(K,3)) IX(K,3) = IX(K,1)
0012      IF (IX(K,3).GT.IX(K,4)) GO TO 1000
0013      110 RETURN
0014      1000 WRITE (6,1001) NAME(K),IX(K,4)
0015      1001 FORMAT(10X,10HNUMBER OF ,A4,24H TYPES EXCEEDS LIMIT OF ,I2)
0016      CALL EXIT
0017      1010 WRITE (6,1011) NAME(K)
0018      1011 FORMAT(10X,4HTHE ,A4,29H INDEX ON FF CARD IS IN ERROR)
0019      1012 WRITE (6,1013) IC,(IX(K,1),K=1,3),(XIN(K),K=1,8)
0020      1013 FORMAT(20X,4I2,8X,8F10.4)
0021      CALL EXIT
0022      END
```



```
0001      SUBROUTINE SETLIM
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /ICOM05/ IX(3,5),IXMAX,MTBENT,MCRDR
0004      DO 110 L = 1,3
0005      IX(L,3) = IX(L,2)
0006      IX(L,5) = IX(L,3)
0007 110 CONTINUE
0008      RETURN
0009      END
```

```
0001      SUBROUTINE SETNEG
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /ICOM05/ IX(3,5),IXMAX,ITBENT,MORDR
0004      COMMON /ICOM12/ LOADCL(35),MISS(35)
0005      COMMON /ICOM13/ IATTCT(25)
0006      COMMON /XCOM03/ XLOAD(12,25,2),XATTRP(35,25,4)
0007      EQUIVALENCE (IA, IX(1,1)),(IT, IX(2,1)),(IJ, IX(3,1))
0008      EQUIVALENCE (NACTYP,IX(1,2)),(MTGTYP,IX(2,2)),(MMNTYP,IX(3,2))
0009      EQUIVALENCE (KACTYP,IX(1,3)),(KTGTYP,IX(2,3)),(KMNTYP,IX(3,3))
0010      EQUIVALENCE (MACTYP,IX(1,4)),(MTGTYP,IX(2,4)),(MMNTYP,IX(3,4))
0011      EQUIVALENCE (JACTYP,IX(1,5)),(JTGTYP,IX(2,5)),(JMNTYP,IX(3,5))
0012      DO 110 IT = 1,MTGTYP
0013      LOADCL(IT) = -1
0014      110 CONTINUE
0015      DO 160 IJ = 1,MMNTYP
0016      IATTCT(IJ) = -1
0017      DO 120 IT = 1,MTGTYP
0018      DO 120 IW = 1,4
0019      XATTRP(IT,IJ,IW) = -1.0
0020      120 CONTINUE
0021      130 CONTINUE
0022      DO 150 IA = 1,MACTYP
0023      DO 140 K = 1,2
0024      XLOAD(IA,IJ,K) = -1.0
0025      140 CONTINUE
0026      150 CONTINUE
0027      160 CONTINUE
0028      RETURN
0029      END
```

```

0001      SUBROUTINE TABLE
0002      IMPLICIT INTEGER*2(I-N)
0003      INTEGER*4 ITVARI,ITVART,ITVARO,ITL
0004      INTEGER*4 IKPSI,IKPST,IKPSO,IKPSC
0005      COMMON /ICOM01/ ITVARI,ITVART,ITVARO,ITL
0006      COMMON /ICOM03/ IKPSI,IKPST,IKPSO,IKPSC
0007      COMMON /ICOM04/ IPGM,MPRNT
0008      COMMON /ICOM05/ IX(3,5),IXMAX,MTBENT,MORDR
0009      COMMON /ICOM06/ NCOPY,AMULT,NEWKPS,NP,KP
0010      COMMON /ICOM10/ IPOINT(2500),ICKPS(2500,3),NEXT(2500,2)
0011      COMMON /ICOM11/ NCHOIC(35),LISTCH(35,2)
0012      COMMON /XCOM01/ XKPS(2500),ATTRP(2500)
0013      COMMON /XCOM02/ XXXKPS(12,25,4)
0014      EQUIVALENCE (IA, IX(1,1)),(IT, IX(2,1)),(IJ, IX(3,1))
0015      EQUIVALENCE (NACTYP,IX(1,2)),(NTGTYP,IX(2,2)),(NMNTYP,IX(3,2))
0016      EQUIVALENCE (KACTYP,IX(1,3)),(KTGTYP,IX(2,3)),(KMNTYP,IX(3,3))
0017      EQUIVALENCE (MACTYP,IX(1,4)),(MTGTYP,IX(2,4)),(MMNTYP,IX(3,4))
0018      EQUIVALENCE (JACTYP,IX(1,5)),(JTGTYP,IX(2,5)),(JMNTYP,IX(3,5))
0019      KP = 0
0020      NP = 0
0021      DO 150 IT = 1,KTGTYP
0022      ITL = IT
0023      READ (IKPSC,ITL) ((XXXKPS(IA,IJ,IW),IW=1,4),IJ=1,MMNTYP),
1      IA = 1,MACTYP)
0024      CALL ENTERT
0025      IF (NCHOIC(IT).LE.0) GO TO 150
0026      KK = KP-NCHOIC(IT)+1
0027      CALL ORDERT(IT,KK)
0028      150 CONTINUE
0029      IF (IPGM.LE.2) GO TO 200
0030      WRITE (16) NP,KP,(XKPS(L),ATTRP(L),IPOINT(L),(ICKPS(L,M),M=1,3),
1      (NEXT(L,M),M=1,2),L=1,KP),
2      (NCHOIC(IT),(LISTCH(IT,KT),KT=1,2),IT=1,KTGTYP)
0031      REWIND 16
0032      200 RETURN
0033      END

```

```
0001      SUBROUTINE TESTA
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /ICOM05/ IX(3,5),IXMAX,MTBENT,MORDR
0004      COMMON /ICCM12/ LOADCL(35),MISS(35)
0005      COMMON /ICOM13/ IATTCT(25)
0006      EQUIVALENCE (IA, IX(1,1)),(IT, IX(2,1)),(IJ, IX(3,1))
0007      EQUIVALENCE (NACTYP,IX(1,2)),(NTGTYP,IX(2,2)),(NMNTYP,IX(3,2))
0008      EQUIVALENCE (KACTYP,IX(1,3)),(KTGTYP,IX(2,3)),(KMNTYP,IX(3,3))
0009      EQUIVALENCE (MACTYP,IX(1,4)),(MTGTYP,IX(2,4)),(MMNTYP,IX(3,4))
0010      EQUIVALENCE (JACTYP,IX(1,5)),(JTGTYP,IX(2,5)),(JMNTYP,IX(3,5))
0011      DO 110 IJ = 1,KMNTYP
0012      IF (IATTCT(IJ).LT.0) GO TO 1000
0013      110 CONTINUE
0014      DO 120 IT = 1,KTGTYP
0015      IF (LOADCL(IT).LT.0) GO TO 1010
0016      120 CONTINUE
0017      RETURN
0018      1000 WRITE (6,1001) IJ
0019      1001 FORMAT(10X,38HVALUE FOR ATTACK CATEGORY OF MUNITION ,I2, 11H IS MI
0020      CALL EXIT
0021      1010 WRITE (6,1011) IT
0022      1011 FORMAT(10X,31HVALUE FOR LOAD CLASS OF TARGET ,I2,11H IS MISSING)
0023      CALL EXIT
0024      END
```

```
0001      SUBROUTINE TESTB
0002      IMPLICIT INTEGER*2 (I-N)
0003      COMMON /ICOM05/ IX(3,5),IXMAX,MTBENT,MORDR
0004      COMMON /XCCM03/ XLOAD(12,25,2),XATTRP(35,25,4)
0005      EQUIVALENCE (IA, IX(1,1)),(IT, IX(2,1)),(IJ, IX(3,1))
0006      EQUIVALENCE (VACTYP,IX(1,2)),(MTGTYP,IX(2,2)),(NMNTYP,IX(3,2))
0007      EQUIVALENCE (KACTYP,IX(1,3)),(KTGTYP,IX(2,3)),(KMNTYP,IX(3,3))
0008      EQUIVALENCE (MACTYP,IX(1,4)),(MTGTYP,IX(2,4)),(MMNTYP,IX(3,4))
0009      EQUIVALENCE (JACTYP,IX(1,5)),(JTGTYP,IX(2,5)),(JMNTYP,IX(3,5))
0010      DO 150 IJ = 1,KMNTYP
0011      DO 120 IT = 1,KTGTYP
0012      DO 110 IW = 1,4
0013      IF (XATTRP(IT,IJ,IW).LT.0.0) GO TO 1000
0014      110 CONTINUE
0015      120 CONTINUE
0016      DO 140 IA = 1,KACTYP
0017      DO 130 K = 1,2
0018      IF (XLOAD(IA,IJ,K).LT.0.0) GO TO 1010
0019      130 CONTINUE
0020      140 CONTINUE
0021      150 CONTINUE
0022      RETURN
0023      1000 WRITE (6,1001) IT,IJ,IW
0024      1001 FORMAT(10X,48HVALUE FOR ATTRITION PER PASS MISSING FOR TARGET ,
0025      1 I2,10H,MUNITION ,I2,15H,DELIVERY MODE , I2)
0025      CALL EXIT
0026      1010 WRITE (6,1011) IA,IJ,K
0027      1011 FORMAT(10X,35HVALUE FOR A/C LOAD MISSING FOR A/C ,I2,10H,MUNITION
0028      1,I2,12H,LOAD CLASS ,I2)
0028      CALL EXIT
0029      END
```

```

0001      SUBROUTINE TESTC
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /ICOM05/ IX(3,5),IXMAX,MTBENT,MORDR
0004      COMMON /ICCM06/ NCOPY,NMULT,NEWKFS,NP,KP
0005      COMMON /ICCM08/ NEW(3,35),KSAVE(3,35)
0006      INTEGER*4 NAME
0007      DIMENSION NAME(3)
0008      DATA NAME/' AC ','TGT ','MUN '/
0009      IF (ACCPY.LE.0) GO TO 150
0010      DO 140 K = 1,3
0011      MM = IX(K,3)
0012      DO 130 M = 1,MM
0013      IF (NEW(K,M).EQ.0) GO TO 120
0014      IF (KSAVE(K,M).NE.1) GO TO 1000
0015      GO TO 130
0016      120 NEW(K,M) = M
0017      130 CONTINUE
0018      MM = IX(K,5)
0019      IF (MM.LE.IX(K,3)) GO TO 136
0020      M1 = IX(K,3) + 1
0021      DO 135 M = M1,MM
0022      IF (NEW(K,M).EQ.0) GO TO 1310
0023      135 CONTINUE
0024      136 IF (MM.GE.IX(K,4)) GO TO 140
0025      M1 = MM+1
0026      MM = IX(K,4)
0027      DO 137 M = M1,MM
0028      NEW(K,M) = M
0029      137 CONTINUE
0030      140 CONTINUE
0031      150 RETURN
0032      1000 WRITE (6,1001) NAME(K),M
0033      1001 FORMAT(10X,21H A TYPE 98 CARD CCPYS ,A4,20H DATA INTO LOCAT ION ,
1          12,26H WHICH HAS NOT BEEN COPIED)
0034      CALL EXIT
0035      1010 WRITE (6,1011)
0036      1011 FORMAT(10X,21H NEW COPY INDICES FOR ,A4,19H ARE NOT CONTINUOUS)
0037      CALL EXIT
0038      END

```

V. AUXILIARY PROGRAM RESUPPLY

```

0001      C      MAIN ROUTINE OF RESUPPLY PROGRAM
0002      IMPLICIT INTEGER*2(I-N)
0003      INTEGER*4 IRVAR,IRL
0004      COMMON /ICGM00/ IRVAR,IRL
0005      DEFINE FILE 17(21,250,U,IRVAR)
0006      CALL INPUT
0007      200 CALL PRINT
0007      CALL EXIT
0008      END
    
```



```

0001      SUBROUTINE INPUT
0002      IMPLICIT INTEGER*2(I-N)
0003      INTEGER*4 IRVAR,IRL
0004      COMMON /ICOM00/ IRVAR,IRL
0005      COMMON /ICOM01/ MBASES,MMNTYP,MMATRX
0006      COMMON /ICOM02/ IMATRX(20,25,20)
0007      COMMON /ICOM03/ MPRNT
0008      COMMON /ICOM04/ ISET(20)
0009      DIMENSION XIN(8)
0010      MBASES = 20
0011      MMNTYP = 25
0012      MMATRX = 20
0013      IZERO = 0
0014      WRITE (6,10)
0015      READ (5,1) IC,MPRNT,MUSE
0016      WRITE (6,4) IC,MPRNT,MUSE
0017      IF (IC.NE.80) GO TO 1000
0018      MCHG = 0
0019      IF (MUSE.NE.1) GO TO 130
0020      DO 120 M = 1,MMATRX
0021      ISET(M) = 0
0022      120 CONTINUE
0023      GO TO 150
0024      130 IRL = 1
0025      READ (17,IRL) (ISET(M),M=1,MMATRX)
0026      DO 140 M = 1,MMATRX
0027      IF (ISET(M).EQ.0) GO TO 140
0028      IRL = M + 1
0029      READ (17,IRL) ((IMATRX(IB,IJ,M),IJ=1,MMNTYP),IB=1,MBASES)
0030      140 CONTINUE
0031      150 READ (5,2,END=500) IC,IJ,MA,(XIN(K),K=1,8)
0032      WRITE (6,3) IC,IJ,MA,(XIN(K),K=1,8)
0033      IF (IC.NE.81) GO TO 1010
0034      200 MCHG = 1
0035      IF (IJ.LT.1.OR.IJ.GT.MMNTYP) GO TO 1020
0036      IF (MA.LT.1.OR.MA.GT.MMATRX) GO TO 1030
0037      IF (ISET(MA).NE.0) GO TO 240
0038      CALL SETZ(IMATRX(1,1,MA))
0039      ISET(MA) = 1
0040      240 DO 250 K = 1,4
0041      IB = XIN(2*K-1)
0042      IF (IB.LE.0) GO TO 250
0043      IF (IB.GT.MBASES) GO TO 1040
0044      IMATRX(IB,IJ,MA) = XIN(2*K)
0045      250 CONTINUE
0046      GO TO 150
0047      500 IF (MCHG.EQ.0) GO TO 600
0048      IRL = 1
0049      NZERO = MMNTYP*MBASES-MMATRX
0050      WRITE (17,IRL) (ISET(M),M=1,MMATRX),(IZERO,N=1,NZERO)
0051      DO 520 M = 1,MMATRX
0052      IF (ISET(M).EQ.0) GO TO 520
0053      IRL = M+1
0054      WRITE (17,IRL) ((IMATRX(IB,IJ,M),IJ=1,MMNTYP),IB=1,MBASES)
0055      520 CONTINUE
0056      600 RETURN
0057      1 FORMAT(12,14X,8I7)
0058      2 FORMAT(12,4X,12,2X,12,4X,8F7.0)

```

```
0059      3 FORMAT(10X,I2,4X,I2,2X,I2,4X,8F12.4)
0060      4 FORMAT(10X,I2,14X,8(10X,I2))
0061      10 FORMAT(1H1,9X,21H INPUT DATA CARD DECK)
0062      1000 WRITE (6,1001)
0063      1001 FORMAT(10X,30HFIRST CARD IS NOT CONTROL CARD)
0064      CALL EXIT
0065      1010 WRITE (6,1011)
0066      1011 FORMAT(10X,30HILLEGAL CARD TYPE ON PRECEEDING CARD)
0067      CALL EXIT
0068      1020 WRITE (6,1021)
0069      1021 FORMAT(10X,52HMUNITIGN INDEX ON PRECEEDING CARD EXCEEDS DIMENSIONS
1)
0070      CALL EXIT
0071      1030 WRITE (6,1031)
0072      1031 FORMAT(10X,59HRESUPPLY ARRAY NUMBER ON PRECEEDING CARD EXCEEDS DIM
ENSIONS)
0073      CALL EXIT
0074      1040 WRITE (6,1041)
0075      1041 FORMAT(10X,49HBASE NUMBER ON PRECEEDING CARD EXCEEDS DIMENSIONS)
0076      CALL EXIT
0077      END
```

```
0001      SUBROUTINE PRINT
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /ICOM01/ MBASES,MMNTYP,MMATRX
0004      COMMON /ICOM02/ IMATRX(20,25,20)
0005      COMMON /ICOM03/ MPRNT
0006      COMMON /ICOM04/ ISET(20)
0007      IF (MPRNT.EQ.0) GO TO 600
0008      DO 150 MA = 1,MMATRX
0009      IF (ISET(MA).EQ.0) GO TO 150
0010      WRITE (6,1) MA
0011      CALL PRINTI(IMATRX(1,1,MA))
0012 150 CONTINUE
0013 600 RETURN
0014      1 FORMAT (1H1,9X,24HMUNITION RESUPPLY ARRAY ,I2)
0015      END
```

```
0001      SUBROUTINE PRINTI(/IARRAY/)
0002      IMPLICIT INTEGER*2(I-N)
0003      INTEGER*4 ITOTAL
0004      COMMON /ICOM01/ MBASES,MMNTYP,MMATRX
0005      DIMENSION IARRAY(20,25)
0006      WRITE (6,1) (IB,IB=1,MBASES)
0007      WRITE (6,2)
0008      DO 150 IJ = 1,MMNTYP
0009      WRITE (6,3) IJ,(IARRAY(IB,IJ),IB=1,MBASES)
0010      ITOTAL = 0
0011      DO 140 IB = 1,MBASES
0012      ITOTAL = ITOTAL + IARRAY(IB,IJ)
0013 140 CONTINUE
0014      WRITE (6,4) ITOTAL
0015 150 CONTINUE
0016      RETURN
0017      1 FORMAT(///12X,4HBASE,11CX,5HTOTAL/3X,20(4X,12))
0018      2 FORMAT(2X,3HMUN/1X,4HTYPE)
0019      3 FORMAT(1X,12,1X,20I6)
0020      4 FORMAT(1H+,123X,18)
0021      END
```

```

0001      SUBROUTINE SETZ(IARRAY)
0002      IMPLICIT INTEGER*2(I-N)
0003      COMMON /ICOM1/ MBASES,MMNTYP,MMATRIX
0004      DIMENSION IARRAY(20,25)
0005      DO 150 IB = 1,MBASES
0006      DO 140 IJ = 1,MMNTYP
0007      IARRAY(IB,IJ) = 0
0008      140 CONTINUE
0009      150 CONTINUE
0010      RETURN
0011      END
    
```