AEROSPACE REPORT NO.
ATR-73(7315)-1. VOL. III

DORCA II Computer Program

Volume III: Program Listing

Prepared by JAMES B. CAREY
Information Processing Division

31 August 1972

Prepared for OFFICE OF MANNED SPACE FLIGHT
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Washington, D. C.

Contract No. NASw-2301

Systems Engineering Operations
THE AEROSPACE CORPORATION

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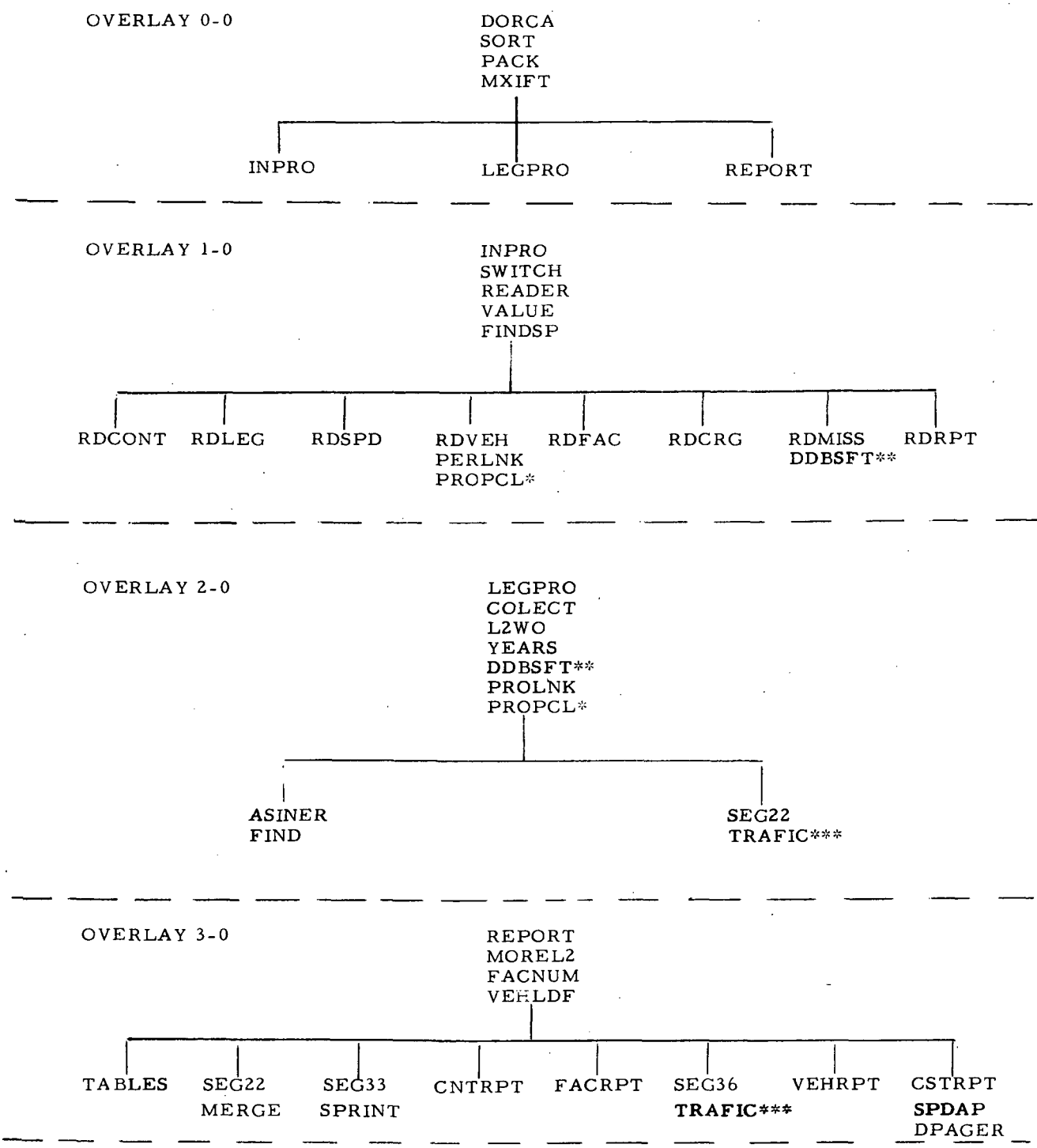
A C K N O W L E D G E M E N T

I wish to acknowledge all the people who worked so long and hard to make DORCA II a success.

D. L. Bishop
N. R. Campbell
N. Dubos
R. Fires
B. J. Gold
C. L. Herring
C. F. Huff
V. N. Huff
B. C. Parfet
F. M. Perkins
J. W. Portela
R. E. Shumway
L. T. Stricker
G. W. Timpson
L. R. Whittaker
R. R. Wolfe
S. T. Wray, Jr.

AN OVERVIEW OF AN OVERLAY STRUCTURE



*, **, *** - SUBROUTINES THAT APPEAR TWICE

```
C                                                                       DORCA   2
      PROGRAM DORCA(INPUT,OUTPUT,TAPE1,TAPE2,TAPE3,TAPE4,TAPE10,TAPE11) DORCA   3
C                                                                       WED230  2
C     ON A UNIVAC  1. DELETE THE ABOVE PROGRAM CARD                     WED230  3
C                  2. SEE COMMENTS IN SUBROUTINE PACK                   WED230  4
C                  3. REMOVE DO LOOPS 5 AND 240 FROM SUBROUTINE SORT    WED130  1
C                                                                       WED230  5
C                                                                       DORCA   4
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1  2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1  3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRLABEL1  4
     1E(20),NOVEH,VEH(30)                                               LABEL1  5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1  6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1  7
      COMMON /ORGS/ NOF,NWOF,NBOF,NLOF                                  LABEL1  8
      COMMON /LOLF/ LOF,LFAC                                            LABEL1  9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/KEL,NSW,C                                             FRI011  1
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXT                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERF,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3ER,L1WOT,L1PUC,LIML1                                              WED230  1
C     ---                                                               LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CCNTRE,KOPT(5)), (IPAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
```

```
      C                                                                       LABEL134
            COMMON /SRTMOD/ MODE                                              DORCA  6
            COMMON /ASDAT/ A(2000)                                            DORCA  7
      C                                                                       DORCA  8
            INTEGER NAME(1)                                                   DORCA  9
            EQUIVALENCE (CARD(1),NAME(1))                                     DORCA 10
      C                                                                       DORCA 11
      C   ALL DATA STATEMENTS THAT EFFECT LABEL COMMON FOLLOW.                DORCA 12
      C                                                                       DORCA 13
            DATA I77,JPROP,PROPUP/07777777777777,0,0.0/                       DORCA 14
            DATA L2WOT/11/                                                    DORCA 15
            DATA L1WOT/11/                                                    WED230 5
            DATA IPLTP/10/                                                    DORCA 16
            DATA NSW,G/1,32.174/                                              FRL011 2
            DATA TBLEG(1,63),TBLEG(2,63)/6HSUB TO,6HTAL    /                  DORCA 17
            DATA TBVEH(1,31),TBVEH(2,31)/6H      G,6HRAND  /                  DORCA 18
            DATA PNAME(1,1),PNAME(2,1),PNAME(3,1)/6HOVERHE,6HAD     ,6H      / DORCA 19
            DATA MNAME(1,1),MNAME(2,1),MNAME(3,1)/6HPROPEL,6HANTS   ,6H      / DORCA 20
            DATA MNAME(1,2),MNAME(2,2),MNAME(3,2)/6HCONTAI,6HNERS   ,6H      / DORCA 21
            DATA MNAME(1,3),MNAME(2,3),MNAME(3,3)/6HVEHICL,6HES     ,6H      / DORCA 22
      C                                                                       DORCA 23
            COMMON CE(11000)                                                  WED230 7
            LOWCOR=11000                                                      WED230 8
      C                                                                       DORCA 26
    3       CALL UNPACK (J77,6,I77,30)                                        DORCA 27
      C                                                                       DORCA 28
    6       JERR=0                                                            DORCA 29
    7       JCASE=0                                                           DORCA 30
   10       REWIND IPLTP                                                      DORCA 31
      C                                                                       DORCA 32
   12       RLDATE=1970.                                                      DORCA 33
   13       TRELDT=RLDATE                                                     DORCA 34
   15       NWVEH=16                                                          DORCA 35
   16       NWEAC=3                                                           DORCA 36
   17       NWCE=0                                                            DORCA 37
   20       NWMISS=3                                                          DORCA 38
   21       NWDOR=3                                                           DORCA 39
   22       NCTMAX=20                                                         DORCA 40
   23       NLGMAX=62                                                         DORCA 41
   24       LASTLG=63                                                         DORCA 42
```

```
 25          NVHMAX=30                                    DORCA  43
 26          NBMISS=1                                     DORCA  44
 27          NPREF=0                                      DORCA  45
 30          MIVA=250                                     DORCA  46
 31          MIFA=600                                     DORCA  47
 32          MTBL=200                                     DORCA  48
 33          MAXC=100                                     DORCA  49
 34          MAXF=100                                     DORCA  50
 35          MAXI=400                                     DORCA  51
 36          MAXA=MAXI                                    DORCA  52
 37          MODE=0                                       DORCA  53
 40          DO 100 I=1,10                                DORCA  54
 44    100   KOPT(I)=0                                    DORCA  55
       C                                                  DORCA  56
 46    110   DO 120 I=NBMISS,LOWCOR                       DORCA  57
 53    120   DDR(I)=0.0                                   DORCA  58
       C                                                  DORCA  59
 55          DO 130 I=1,2000                              DORCA  60
 61    130   A(I)=0                                       DORCA  61
       C                                                  DORCA  62
       C                                                  DORCA  63
 63          FYEAR=3000                                   DORCA  64
 63          LYEAR=0                                      DORCA  65
 64          NVMAX=0                                      DORCA  66
 65          NAFAC=0                                      DORCA  67
 65          MAYSPR=0                                     DORCA  68
 66          NOSF=10*NWFAC                                DORCA  69
 70          NOSC=10*NWCF                                 DORCA  70
 72          CALL INPRO                                   DORCA  71
 73          CALL LEGPRO                                  DORCA  72
       C     EXECUTE REPORT GENERATOR                     DORCA  73
       C                                                  DORCA  74
 74          CALL REPORT                                  DORCA  75
       C                                                  DORCA  76
 75          JCASE=JCASE+1                                DORCA  77
       C                                                  DORCA  78
 77          LAST=NLMISS+510                              DORCA  79
100          LAST1=NBDDB+NBLK*510-1                       DORCA  80
103          NLDDB=NBDDB+NDDB*NWDDB-1                     DORCA  81
106          LAST1=MIN0(LAST1,NLDDB)                      DORCA  82
```

```
      LAST=MAX0(LAST,LAST1,MAXSPR)                                      DORCA 83
      IGAP=LOWCOR-LAST                                                  DORCA 84
C                                                                       DORCA 85
      PRINT 140, JCASE,JERR,LNGTH,NDUP,IGAP,LOWCOR,NLMTSS,NLDUP,MAXSPR  DORCA 86
C                                                                       DORCA 87
C                                                                       DORCA 88
      IF (NAME(1).NE.6HEND   ) GO TO 110                                DORCA 89
C                                                                       DORCA 90
      REWIND IPLTP                                                      DORCA 91
      STOP 1                                                            DORCA 92
C                                                                       DORCA 93
C                                                                       DORCA 94
C                                                                       DORCA 95
  140 FORMAT (1H1,30X,5HCASE ,I2/1H0,I5,31H FATAL ERRORS...A RUNNING TOTDORCA 96
     1AL/1H0,I5,15H PHASE  I ITEMS/1H0,I5,15H PHASE II ITEMS/1H0,I5,29H DORCA 97
     2CELLS OF UNUSED BLANK COMMON/40H0      LOWCOR  PHASE I  PHASE II  DORCA 98
     3SPRINT/1H ,I12,I9,I10,I8/1H1)                                     DORCA 99
      END                                                               DORCA100
```

```
      SUBROUTINE SORT (A,MM,NN,LL)                                      SORT    2
C GIVEN MATRIX A OF MM ROWS AND NN COLUMNS, THIS ROUTINE SORTS THE       SORT    3
C COLUMNS INTO INCREASING ORDER BASED ON ELEMENT NUMBER N = LL OF EACH   SORT    4
C COLUMN. TIME IS PROPORTIONAL TO NN*LOG(NN)                             SORT    5
C  ORDERING IS BY INTEGER SUBTRACTION, THUS FLOATING POINT               SORT    6
C    NUMBERS MUST BE IN NORMALIZED FORM.                                 SORT    7
C  ARRAYS IU(K) AND IL(K) PERMIT SORTING UP TO 2**(K+1)-1 ELEMENTS       SORT    8
C       R. SINGLETON, SEPTEMBER 1968                                     SORT    9
      INTEGER A(MM,NN),IU(16),IL(16),T,TT,Z                             SORT   10
      COMMON /SRTMOD/ MODE                                              SORT   12
C     IF MODE = 0, NEGATIVE NUMBERS WILL BE REPOSITIONED AT THE HIGH    SORT   13
C        END OF THE MATRIX (ALPHANUMERIC SORT)                          SORT   14
C     IF MODE IS NONZERO, NUMBERS ARE ORDERED ALGEBRAICALLY INCREASING. SORT   15
      DO 5 J=1,NN                                                       WED130  2
5     A(LL,J)=MXIFT(A(LL,J), 24)                                        WED130  3
23    II=1                                                              SORT   17
23    NR=MM                                                             SORT   18
24    JJ=NN                                                             SORT   19
25    IF (JJ.LE.1) RETURN                                               SORT   20
31    N=LL                                                              SORT   21
C DIVIDE MATRIX INTO TWO MATRICES, ONE POSITIVE AND ONE NEGATIVE,        SORT   23
C IF ALPHANUMERIC SORT WAS REQUESTED.                                    SORT   24
32    MARK=2                                                            SORT   26
33    IF (MODE.NE.0) GO TO 50                                           SORT   27
34    LAST=JJ+1                                                         SORT   28
36    IFIRST=0                                                          SORT   29
37 10 LAST=LAST-1                                                       SORT   30
41    IF (LAST.LE.1) GO TO 40                                           SORT   31
42    IF (A(N,LAST).LT.0) GO TO 10                                      SORT   32
46 20 IFIRST=IFIRST+1                                                   SORT   33
50    IF (IFIRST.GE.LAST) GO TO 40                                      SORT   34
52    IF (A(N,IFIRST).GE.0) GO TO 20                                    SORT   35
56    DO 30 Z=1,NR                                                      SORT   36
70    T=A(Z,IFIRST)                                                     SORT   37
71    A(Z,IFIRST)=A(Z,LAST)                                             SORT   38
72 30 A(Z,LAST)=T                                                       SORT   39
74    GO TO 10                                                          SORT   40
77 40 IF ((LAST.LE.0).OR.(LAST.EQ.JJ)) GO TO 50                         SORT   41
107   MARK=1                                                            SORT   42
107   IFIRST=LAST+1                                                     SORT   43
```

```
111         JJ=LAST                                                  SORT   44
112  50     I=II                                                     SORT   46
113         J=JJ                                                     SORT   47
115         M=1                                                      SORT   48
116  60     IF (I.GE.J) GO TO 170                                    SORT   50
121  70     K=I                                                      SORT   51
122         IJ=(J+I)/2                                               SORT   52
124         T=A(M,IJ)                                                SORT   53
130         IF (A(M,I).LE.T) GO TO 90                                SORT   54
135         DO 80 Z=1,NR                                             SORT   55
147         T=A(Z,IJ)                                                SORT   56
150         A(Z,IJ)=A(Z,I)                                           SORT   57
151  80     A(Z,I)=T                                                 SORT   58
153         T=A(M,IJ)                                                SORT   59
162  90     L=J                                                      SORT   60
163         IF (A(M,J).GE.T) GO TO 140                               SORT   61
171         DO 100 Z=1,NR                                            SORT   62
202         T=A(Z,IJ)                                                SORT   63
203         A(Z,IJ)=A(Z,J)                                           SORT   64
204  100    A(Z,J)=T                                                 SORT   65
206         T=A(M,IJ)                                                SORT   66
214         IF (A(M,I).LE.T) GO TO 140                               SORT   67
221         DO 110 Z=1,NR                                            SORT   68
233         T=A(Z,IJ)                                                SORT   69
234         A(Z,IJ)=A(Z,I)                                           SORT   70
235  110    A(Z,I)=T                                                 SORT   71
237         T=A(M,IJ)                                                SORT   72
246         GO TO 140                                                SORT   73
246  120    DO 130 Z=1,NR                                            SORT   74
260         TT=A(Z,L)                                                SORT   75
261         A(Z,L)=A(Z,K)                                            SORT   76
262  130    A(Z,K)=TT                                                SORT   77
266  140    L=L-1                                                    SORT   78
270         IF (A(M,L).GT.T) GO TO 140                               SORT   79
276         TT=A(M,L)                                                SORT   80
277  150    K=K+1                                                    SORT   81
301         IF (A(M,K).LT.T) GO TO 150                               SORT   82
306         IF (K.LE.L) GO TO 120                                    SORT   83
310         IF (L-I.LE.J-K) GO TO 160                                SORT   84
313         IL(M)=I                                                  SORT   85
```

```
315           IU(M)=L                                                  SORT  86
316           I=K                                                      SORT  87
317           M=M+1                                                    SORT  88
320           GO TO 180                                                SORT  89
321   190     IL(M)=K                                                  SORT  90
323           IU(M)=J                                                  SORT  91
325           J=L                                                      SORT  92
326           M=M+1                                                    SORT  93
327           GO TO 180                                                SORT  94
327   170     M=M-1                                                    SORT  95
331           IF (M.EQ.0) GO TO 230                                    SORT  96
333           I=IL(M)                                                  SORT  97
334           J=IU(M)                                                  SORT  98
336   180     IF (J-I.GE.11) GO TO 70                                  SORT  99
341           IF (I.EQ.II) GO TO 60                                    SORT 100
343           GO TO 200                                                SORT 101
343   190     I=I+1                                                    SORT 102
345   200     IF (I.EQ.J) GO TO 170                                    SORT 103
347           T=A(N,I+1)                                               SORT 104
354           IF (A(N,I).LE.T) GO TO 190                               SORT 105
361           K=I                                                      SORT 106
362   210     DO 220 Z=1,NR                                            SORT 107
375           KK=A(Z,K+1)                                              SORT 108
376           A(Z,K+1)=A(Z,K)                                          SORT 109
377   220     A(Z,K)=KK                                                SORT 110
401           K=K-1                                                    SORT 111
402           IF (K.EQ.0) GO TO 190                                    SORT 112
406           IF (T.LT.A(N,K)) GO TO 210                               SORT 113
413           GO TO 190                                                SORT 114
413   230     IF(MARK.NE.2)GO TO 250                                   WED130  4
415           DO 240 J=1,NN                                            WED130  5
417   240     A(LL,J)=MXIFT(A(LL,J),-24)                               WED130  6
433           RETURN                                                   WED130  7
433   250     II=IFIRST                                                WED130  8
434           JJ=NN                                                    SORT 118
435           MARK=2                                                   SORT 119
437           GO TO 50                                                 SORT 120
437           END                                                      SORT 121
```

```
      SUBROUTINE PACK (V,NBITS,PW,B)                                    PACK   2
C     ISOLATE RIGHTMOST NBITS BITS OF VARIABLE V AND INSERT THEM INTO PAPACK   3
C     WORD PW STARTING AT BIT NUMBER B  BIT POSITIONS ARE NUMBERED 0 THRPACK   4
C     FROM LEFT TO RIGHT                                                PACK   5
C     ON CDC 6600, RIGHTMOST 36 BITS OF A 60-BIT WORD ARE USED.)        PACK   6
C                                                                       PACK   7
C     ON A UNIVAC...PACK AND MXIFT ARE REPLACED BY THE FOLLOWING CARDS  WED230 9
C                                                                       WED23010
C     SUBROUTINE PACK (V,NBITS,PW,B)                                    WED23011
C     INTEGER V,PW,B                                                    WED23012
C     DATA I77/0777777777777/                                           WED23013
C     IF((V.EQ.I77).AND.(NBITS.LT.6))V=0                                WED23014
C     B=IABS(B)                                                         WED23015
C     FLD(B,NBITS,PW)=V                                                 WED23016
C     RETURN                                                            WED23017
C     ENTRY UNPACK(V,NBITS,PW,B)                                        WED23018
C     B=IABS(B)                                                         WED23019
C     V=FLD(B,NBITS,PW)                                                 WED23020
C     RETURN                                                            WED23021
C     END                                                               WED23022
C                                                                       WED23023
      INTEGER V,PW,B                                                    PACK   8
      V=IABS(V)                                                         PACK   9
 7    MASK=-MXIFT(777000000000000000B,NBITS-51)                         PACK  10
17    MV=MASK.AND.V                                                     PACK  11
20    LSHIFT=36-NBITS-B                                                 PACK  12
22    IF (LSHIFT.GT.0) MV=MXIFT(MV,LSHIFT)                              PACK  13
27    MS=-MXIFT(MASK,LSHIFT)                                            PACK  14
35    PW=PW.AND.MS                                                      PACK  15
36    PW=PW.OR.MV                                                       PACK  16
37    RETURN                                                            PACK  17
C                                                                       PACK  18
40    ENTRY UNPACK                                                      PACK  19
C     EXTRACT NBITS BITS OF VARIABLE PW STARTING AT BIT NUMBER B AND STOPACK  20
C     THEM INTO V, RIGHT ADJUSTED                                       PACK  21
C                                                                       PACK  22
51    MASK=-MXIFT(777000000000000000B,NBITS-51)                         PACK  23
56    NSHIFT=B+NBITS-36                                                 PACK  24
62    MV=MXIFT(PW,NSHIFT)                                               PACK  25
65    V=IABS(MASK.AND.MV)                                               PACK  26
```

```
72          RETURN
73          END
```

PACK 27
PACK 28

```
                                    IDENT   MXIFT   RUN COMPATABLE                  PACK  29
                                    ENTRY   MXIFT                                  PACK  30
0  1530110624000000002              VFD     42/5LMXIFT,18/2                        PACK  31
1                          MXIFT    BSSZ    1                                      PACK  32
2  56220                           SA2     B2                                     PACK  33
       56310                       SA3     B1                                     PACK  34
            63320                  SB3     X2                                     PACK  35
                 22633             LX6     X3,B3                                  PACK  36
3  0400000001                      EQ      B0,B0,MXIFT                            PACK  37
4                             END                                                  PACK  38

                21200 LCM STORAGE USED          10 STATEMENTS        1 SYMBOLS
                 7600 ASSEMBLY           0.021 SECONDS              3 REFERENCES
```


(3)

```
      SUBROUTINE INPRO                                                  INPRO  2
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/ KEL                                                  LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUC,LIML1                                              WED230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), ID9(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),ID8(1))                         LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
C                                                                       LABEL134
      INTEGER NAME(2),CASUC(2)                                          INPRO  4
      EQUIVALENCE (CARD(1),NAME(1)), (CARD(3),CASUC(1))                 INPRO  5
C                                                                       INPRO  6
      DATA INIT/0/                                                      INPRO  7
      IF (INIT.NE.0) PRINT 60, CARD                                     INPRO  8
10    IF (INIT.NE.0) GO TO 20                                           INPRO  9
```

```
11   10     CALL READER                                         INPRO 10
12   20     INIT=1                                              INPRO 11
13          IF (NAME(1).NE.6HTABLE ) GO TO 30                   INPRO 12
15          IF (CASUC(1).EQ.6HCONTAI) CALL RDCONT               INPRO 13
20          IF (CASUC(1).EQ.6HLEG   ) CALL RDLEG                INPRO 14
23          IF (CASUC(1).EQ.6HSPREAD) CALL RDSPD                INPRO 15
26          IF (CASUC(1).EQ.6HVEHICL) CALL RDVEH                INPRO 16
31          IF (CASUC(1).EQ.6HFACILI) CALL RDFAC                INPRO 17
34          IF (CASUC(1).EQ.6HCOST  ) GO TO 10                  INPRO 18
36          IF (CASUC(1).EQ.6HCARGO ) CALL RDCRG                INPRO 19
41   30     IF (NAME(1).NE.6HPROGRA) GO TO 50                   INPRO 20
43   40     CALL RDMISS                                         INPRO 21
44          IF (NAFAC.EQ.1) CALL RDFAC                          INPRO 22
47          IF (NAFAC.EQ.2) CALL RDCRG                          INPRO 23
52          IF (NAFAC.EQ.1.OR.NAFAC.EQ.2) GO TO 40              INPRO 24
62          IF (NAME(1).NE.6HREPORT) GO TO 50                   INPRO 25
64          CALL RDRPT                                          INPRO 26
65          RETURN                                              INPRO 27
     C                                                          INPRO 28
66   50     STOP 2                                              INPRO 29
     C                                                          INPRO 30
     C                                                          INPRO 31
     C                                                          INPRO 32
     60     FORMAT (1H ,8(A6,A4))                               INPRO 33
70          END                                                 INPRO 34
```

```
      SUBROUTINE SWITCH (N)                                                 SWITCH 2
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                               LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                         LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                                   LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                            LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                                  LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                      LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                                LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                     LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                              LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                        LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                       LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                       LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                        LABEL115
      COMMON /KEL/ KEL                                                      LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                     LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUC,LIML1                                                  WED230 1
C                                                                           LABEL123
      INTEGER FYEAR                                                         LABEL124
C                                                                           LABEL125
      COMMON DDB(1)                                                         LABEL126
C                                                                           LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                      LABEL128
C                                                                           LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                             LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                      LABEL132
C                                                                           LABEL133
C                                                                           LABEL134
      IF (N.E.LCE) GO TO 50                                                 SWITCH 4
 4    K=NBCE+(N-1)*NWCE-1                                                   SWITCH 5
10    J=NBCE+LCE*NWCE-1                                                     SWITCH 6
13    CALL UNPACK (ICAT,12,DDB(K+6),24)                                     SWITCH 7
17    DO 10 I=1,NWCE                                                        SWITCH 8
30    LINE(I)=IDB(J+I)                                                      SWITCH 9
```

```
      IDB(J+I)=IDB(K+I)                                                    SWITCH10
      IDB(K+I)=LINE(I)                                                     SWITCH11
10    CONTINUE                                                             SWITCH12
      LCE=LCE+1                                                            SWITCH13
      IF (ICAT.NE.3) GO TO 50                                              SWITCH14
      M=NBFAC-1                                                            SWITCH15
      DO 20 IFAC=1,NFAC                                                    SWITCH16
      IF ((IDB(J+1).EQ.IDB(M+1)).AND.(IDB(J+2).EQ.IDB(M+2))) GO TO 30      SWITCH17
20    M=M+NWFAC                                                            SWITCH18
      STOP 7                                                               SWITCH19
30    CONTINUE                                                             SWITCH20
      L=NBFAC+LFAC*NWFAC-1                                                 SWITCH21
      DO 40 I=1,NWFAC                                                      SWITCH22
      LINE(I)=IDB(L+I)                                                     SWITCH23
      IDB(L+I)=IDB(M+I)                                                    SWITCH24
      IDB(M+I)=LINE(I)                                                     SWITCH25
40    CONTINUE                                                             SWITCH26
      LFAC=LFAC+1                                                          SWITCH27
      CALL PACK (LFAC,12,IDB(J+6),0)                                       SWITCH28
50    RETURN                                                               SWITCH29
      END                                                                  SWITCH30
```

```
      SUBROUTINE READER                                                 READER 2
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,PNAME(3,63),NMISS                 LABEL10
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL11
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL12
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL13
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL14
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL15
      COMMON /KEL/KEL,NSW,G                                             FRI011 1
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL17
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL18
      COMMON /MISC/ IFLAG(20),LCWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL19
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL20
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL21
     3PR,L1WOT,L1BUC,LIML1                                              WEC230 1
C                                                                       LABEL23
      INTEGER FYEAR                                                     LABEL24
C                                                                       LABEL25
      COMMON DDB(1)                                                     LABEL26
C                                                                       LABEL27
      DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL28
C                                                                       LABEL29
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL30
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINCEP,KOPT(3)), (CLABEL31
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL32
C                                                                       LABEL33
C                                                                       LABEL34
      INTEGER CHAR(80),CARD,BLANK,TBVEH,OPTN(10),OPTV(3,10)             READER 4
C                                                                       READER 5
      DATA BLANK,IRPT,ICOM /1H ,0,0/                                    WEC130 1
      DATA OPTN/6HPROPEL,4HBASE,6HDEPLCY,6HCALVEH,6HCONTAI,6HCARGO ,4*9/READER 7
      DATA OPTV/6HFULL T,6HOFF-LO,9,6HSPACE ,6HGROUND,9,6HMULTIP,6HSINGLREADER 8
     1E,9,6HMANUAL,6HAUTOMA,5HPRINT,6HRETURN,6HEXPENC,9,6HASSIGN,6HCAPTUREADER 9
```

```
      2R,9,12*9/                                                                    READER10
     C                                                                              READER11
           IPREF=0                                                                  READER12
    2  10   CONTINUE                                                               READER13
    2       READ 240, CARD                                                         READER14
   10       IF(ICOM.EQ.1)GO TO 140                                                 WEC130 2
   12  20   CONTINUE                                                               READER15
   12       IF (CARD(1).NE.6HCOMMEN) GO TO 25                                      WEC130 3
   14       IF (CARD(2).EQ.4HT1  ) PRINT 280                                       WEC130 4
   22       ICOM=1                                                                 WEC130 5
   23       GO TO 10                                                               WEC130 6
   24  25   CONTINUE                                                               WEC130 7
   24       IF ((CARD(1).EQ.6HPREFER).AND.(CARD(2).EQ.4HENCE)) GO TO 180           READER18
   34       ENCODE(80,240,LINE)CARD                                                FRI011 4
   43       DECODE(80,250,LINE) CHAR                                               FRI011 5
   53       DO 30 J=1,16                                                           READER21
   61       CARD(J)=BLANK                                                          READER22
   61  30   CONTINUE                                                               READER23
   62       I=1                                                                    READER24
   63  40   CONTINUE                                                               READER25
   63       IF (CHAR(I).NE.1H=) GO TO 70                                           READER26
   66       JJ=10*((I+9)/10)                                                       READER27
   73       L=JJ-I                                                                 READER28
   74       NEXT=JJ+1                                                              READER29
   76       DO 50 J=NEXT,80                                                        READER30
  106       J1=80-J+NEXT                                                           READER31
  107       J2=J1-L                                                                READER32
  111       CHAR(J1)=CHAR(J2)                                                      READER33
  111  50   CONTINUE                                                               READER34
  115  60   CONTINUE                                                               READER35
  115       CHAR(I)=BLANK                                                          READER36
  117       I=I+1                                                                  READER37
  120       IF (I.EQ.NEXT) GO TO 40                                                READER38
  122       GO TO 60                                                               READER39
  122  70   CONTINUE                                                               READER40
  122       IF (I.GE.80) GO TO 80                                                  READER41
  125       I=I+1                                                                  READER42
  126       GO TO 40                                                               READER43
  126  80   CONTINUE                                                               READER44
  126       ENCODE(80,250,LINE) CHAR                                               FRI011 6
```

```
136         DECODE(80,240,LINE) CARD                                          FRI011 7
146         IF (CARD(1).NE.5HPRINT) ICOM=0                                    WEC130 8
151         IF (CARD(1).NE.5HPRINT) GO TO 100                                 READER47
152         PRINT 260, CARD                                                   WEC130 9
160         IF (CARD(3).EQ.2HON) GO TO 90                                     READER48
162         NSW=0                                                             READER49
163         GO TO 10                                                          READER50
163   90    CONTINUE                                                          READER51
163         NSW=1                                                             READER52
164         GO TO 10                                                          READER53
165   100   IF (CARD(1).EQ.6HOPTION) GO TO 150                                READER54
167         IF (NSW.NE.1) GO TO 120                                           READER55
171         IF (CARD(1).EQ.6HTABLE ) PRINT 280                                READER56
176         IF (CARD(1).EQ.6HPROGRA) PRINT 280                                READER57
204         IF (CARD(1).EQ.6HELEMEN) PRINT 290                                READER58
212         IF (CARD(1).EQ.6HFACILI) PRINT 290                                READER59
220         IF (CARD(1).EQ.6HSCHEDU) PRINT 290                                READER60
226         IF (CARD(1).EQ.6HSATELL) PRINT 290                                READER61
234         IF (CARD(1).EQ.6HCOUPLE) PRINT 290                                READER62
242         IF (CARD(1).NE.6HREPORT) GO TO 110                                READER63
244         IRPT=IRPT+1                                                       READER64
246         IF (IRPT.EQ.1) PRINT 280                                          READER65
252   110   PRINT 260, CARD                                                   READER66
260   120   IF (IPREF.EQ.1) GO TO 200                                         READER67
262         RETURN                                                            READER68
263   140   CONTINUE                                                          READER70
263         DECODE (1,270,CARD(1) )ITEST                                      READER73
273         IF (ITEST.NE.BLANK) GO TO 20                                      READER74
275         IF (NSW.EQ.1) PRINT 260, CARD                                     READER75
305         GO TO 10                                                          WEC13010
      C                                                                       READER77
      C OPTION CARD                                                           READER78
      C                                                                       READER79
306   150   IF (NSW.EQ.1) PRINT 260, CARD                                     READER80
316         IF(CARD(3).EQ.6HENGLIS)G=32.174                                   FRI011 8
322         IF(CARD(3).EQ.6HMETRIC)G=9.8066                                   FRI011 9
325         IF((CARD(3).EQ.6HMETRIC) .OR.(CARD(3).EQ.6HENGLIS))GO TO 10       FRI01110
333         DO 170 I=1,10                                                     READER81
334         IF (CARD(3).NE.OPTN(I)) GO TO 170                                 READER82
336         DO 160 J=1,3                                                      READER83
```

```
340         IF (CARD(5).NE.OPTV(J,I)) GO TO 160                                READER84
343         KOPT(I)=J-1                                                        READER85
345         GO TO 10                                                           READER86
345   160   CONTINUE                                                           READER87
347         JERR=JERR+1                                                        READER88
351         IF (NSW.EQ.0) PRINT 260, CARD                                      READER89
357         PRINT 340                                                          READER90
363         GO TO 10                                                           READER91
364   170   CONTINUE                                                           READER92
366         IF (NSW.EQ.0) PRINT 260, CARD                                      READER93
375         JERR=JERR+1                                                        READER94
377         PRINT 330                                                          READER95
402         GO TO 10                                                           READER96
      C                                                                        READER97
      C LIST OF PREFERENCE VEHICLES                                            READER98
      C                                                                        READER99
403   180   CONTINUE                                                           READE100
403         IF (NSW.EQ.1) PRINT 290, CARD                                      READE101
413   190   READ 240, CARD                                                     READE102
421         IPREF=0                                                            READE103
422         IF (CARD(1).EQ.6H      ) IPREF=1                                   READE104
425         GO TO 20                                                           READE105
426   200   CONTINUE                                                           READE106
426         DO 210 I=1,NVEH                                                    READE107
440         IP=I                                                               READE108
441         IF ((CARD(3).EQ.TBVEH(1,I)).AND.(CARD(4).EQ.TBVEH(2,I))) GO TO 220READE109
447   210   CONTINUE                                                           READE110
452         JERR=JERR+1                                                        READE111
453         IF (NSW.EQ.0) PRINT 260, CARD                                      READE112
462         PRINT 320                                                          READE113
466         GO TO 190                                                          READE114
467   220   IF (NPREF.LT.20) GO TO 230                                         READE115
472         JERR=JERR+1                                                        READE116
473         PRINT 300                                                          READE117
477         GO TO 190                                                          READE118
500   230   NPREF=NPREF+1                                                      READE119
502         VPREF(NPREF)=0                                                     READE120
503         CALL PACK (IP,18,VPREF(NPREF),0)                                   READE121
506         YEAR=RLDATE                                                        READE122
510         CALL VALUE (CARD(5),YEAR,IERR)                                     READE123
```

```
512         IY=YEAR-RLDATE                                                  READE124
514         IF ((IY.LT.0).OR.(IY.GT.500)) IERR=11                           READE125
526         IY=MAX0(0,IY)                                                   READE126
531         IY=MIN0(500,IY)                                                 READE127
534         CALL PACK (IY,9,VPREF(NPREF),18)                                READE128
537         YEAR=RLDATE+499.                                                READE129
541         CALL VALUE (CARD(7),YEAR,KERR)                                  READE130
544         JY=YEAR-RLDATE                                                  READE131
546         IF ((JY.LT.IY).OR.(JY.GT.500)) KERR=11                          READE132
561         JY=MAX0(IY,JY)                                                  READE133
564         JY=MIN0(500,JY)                                                 READE134
567         CALL PACK (JY,9,VPREF(NPREF),27)                                READE135
572         IF ((IERR.LE.0).AND.(KERR.LE.0)) GO TO 190                      READE136
602         JERR=JERR+1                                                     READE137
603         IF (NSW.EQ.0) PRINT 260, CARD                                   READE138
612         PRINT 310                                                       READE139
616         GO TO 190                                                       READE140
        C                                                                   READE141
        C                                                                   READE142
        C                                                                   READE143
        240   FORMAT (8(A6,A4))                                             READE144
        250   FORMAT (80A1)                                                 FRI01111
        260   FORMAT (1X,8(A6,A4))                                          READE146
        270   FORMAT (A1,5X)                                                READE147
        280   FORMAT (1H1)                                                  READE148
        290   FORMAT (1H0,8(A6,A4))                                         READE149
        300   FORMAT (44H0TOO MANY ENTRIES IN VEHICLE PREFERENCE LIST)      READE150
        310   FORMAT (6X,78HPRECEDING ENTRY IN VEHICLE PREFERENCE LIST CONTAINS READE151
             1ERROR IN ONE OR BOTH DATES)                                   READE152
        320   FORMAT (6X,73HPRECEDING ENTRY IN VEHICLE PREFERENCE LIST CONTAINS READE153
             1ERROR IN VEHICLE NAME)                                        READE154
        330   FORMAT (6X,38HPRECEDING OPTION CARD HAS ILLEGAL NAME)         READE155
        340   FORMAT (6X,39HPRECEDING OPTION CARD HAS ILLEGAL VALUE)        READE156
617         END                                                             READE157
```

```
      SUBROUTINE VALUE (A,V,IERR)                                        VALUE  2
C     CONVERTS NUMERIC DATA FROM CODED TO FLOATING POINT FORMAT.         VALUE  3
C     UPON ENTRY, A IS A 2-CELL ARRAY CONTAINING CODED VALUE IN (A6,A4) VALUE  4
C         FORMAT, 1-10 DIGITS LOCATED ANYWHERE IN 10-CHARACTER FIELD.    VALUE  5
C         DECIMAL POINT OPTIONAL. NO EXPONENTS OR + OR - SIGNS. NO       VALUE  6
C         BLANKS EMBEDDED BETWEEN DIGITS.                                VALUE  7
C     UPON EXIT, V CONTAINS CONVERTED VALUE IN FLOATING POINT. IERR IS AVALUE  8
C         ERROR FLAG--                                                   VALUE  9
C         IERR =  0 FOR NO ERROR.                                        VALUE 10
C         IERR = -1 FOR COMPLETELY BLANK FIELD                           VALUE 11
C         IERR =  1,2,...,10 INDICATES POSITION OF ILLEGAL CHARACTER,    VALUE 12
C                 MULTIPLE DECIMAL POINTS, OR EMBEDDED BLANKS.           VALUE 13
C                                                                        VALUE 14
      INTEGER A(1),C(19),CL(10),P(2)                                     VALUE 15
      DATA C/19*1H /                                                     VALUE 16
      DATA CL/1H0,1H1,1H2,1H3,1H4,1H5,1H6,1H7,1H8,1H9/                   VALUE 17
C                                                                        VALUE 18
C     STORE CHARACTERS INDIVIDUALLY IN C(10)-C(19)                       VALUE 19
C                                                                        VALUE 20
CVAC  DECODE(A(1),70)(C(I),I=10,15)                                      VALUE 21
      DECODE (6,70,A(1) )(C(I),I=10,15)                                  VALUE 22
CVAC  DECODE(A(2),70)(C(I),I=16,19)                                      VALUE 23
20    DECODE (4,70,A(2) )(C(I),I=16,19)                                  VALUE 24
C                                                                        VALUE 25
C     FIND POSITION OF FIRST AND LAST NON-BLANK CHARACTERS               VALUE 26
C                                                                        VALUE 27
36    NF=100                                                             VALUE 28
37    NL=0                                                               VALUE 29
40    DO 10 I=10,19                                                      VALUE 30
50    IF (C(I).EQ.1H ) GO TO 10                                          VALUE 31
52    NF=MIN0(I,NF)                                                      VALUE 32
55    NL=I                                                               VALUE 33
55 10 CONTINUE                                                           VALUE 34
56    IF (NL.GT.0) GO TO 20                                              VALUE 35
63    IERR=-1                                                            VALUE 36
63    GO TO 60                                                           VALUE 37
C                                                                        VALUE 38
C     CHECK FOR ILLEGAL CHARACTERS, INCLUDING EMBEDDED BLANKS OR MULTIPLVALUE 39
C     DECIMAL POINTS                                                     VALUE 40
C                                                                        VALUE 41
```

```
 64   20     NDP=0                                                          VALUE 42
 65          DO 50 I=NF,NL                                                  VALUE 43
 67          DO 30 J=1,10                                                   VALUE 44
 75          IF (C(I).EQ.CL(J)) GO TO 50                                    VALUE 45
 76   30     CONTINUE                                                       VALUE 46
100          IF (C(I).NE.1H.) GO TO 40                                      VALUE 47
103          NDP=NDP+1                                                      VALUE 48
104          IF (NDP.EQ.1) GO TO 50                                         VALUE 49
105   40     IERR=I-9                                                       VALUE 50
107          GO TO 60                                                       VALUE 51
107   50     CONTINUE                                                       VALUE 52
       C                                                                   VALUE 53
       C     REPACK CHARACTERS RIGHT-ADJUSTED IN FIELD OF 10 CHARACTERS.    VALUE 54
       C                                                                   VALUE 55
112          N1=NL-9                                                        VALUE 56
       CVAC  ENCODE(P,70)(C(I),I=N1,NL)                                    VALUE 57
113          ENCODE (10,70,P) (C(I),I=N1,NL)                                VALUE 58
       CVAC  DECODE(P,80)V                                                 VALUE 59
125          DECODE (10,80,P) V                                             VALUE 60
140          IERR=0                                                         VALUE 61
143   60     CONTINUE                                                       VALUE 62
143          RETURN                                                         VALUE 63
       C                                                                   VALUE 64
       C                                                                   VALUE 65
       C                                                                   VALUE 66
       70     FORMAT (10A1)                                                VALUE 67
       80     FORMAT (F10.0)                                               VALUE 68
144          END                                                            VALUE 69
```

```
      SUBROUTINE FINDSP (NAME,IPT)                                      FINDSP 2
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPOS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/ KEL                                                  LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUC,LIML1                                              WED230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
C                                                                       LABEL134
      DIMENSION NAME(2)                                                 FINDSP 4
      INTEGER TBSPD                                                     FINDSP 5
      INTEGER ONE                                                       FINDSP 6
      DATA ONE/1./                                                      FINDSP 7
      IPT=ONE                                                           FINDSP 8
5     IF (NAME(1).EQ.1H0) RETURN                                        FINDSP 9
```

```
 7          IF (NAME(1).EQ.6H      ) RETURN                                    FINDSP10
11          DO 10 I=1,NSPD                                                     FINDSP11
13          IF (NAME(1).NE.TBSPD(1,I)) GO TO 10                                FINDSP12
16          IF (NAME(2).NE.TBSPD(2,I)) GO TO 10                                FINDSP13
20          IPT=TBSPD(3,I)                                                     FINDSP14
21          RETURN                                                             FINDSP15
22    10    CONTINUE                                                           FINDSP16
25          IPT=ONE                                                            FINDSP17
26          JERR=JERR+1                                                        FINDSP18
27          PRINT 20, (NAME(I),I=1,2)                                          FINDSP19
36          RETURN                                                             FINDSP20
      C                                                                        FINDSP21
      C                                                                        FINDSP22
      C                                                                        FINDSP23
      20    FORMAT (2X,33H**NO SUCH SPREAD TABLE AVAILABLE ,A6,A4,2H**)        FINDSP24
37          END                                                                FINDSP25
```

```
      SUBROUTINE RDCONT                                                 RDCONT 2
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/ KEL                                                  LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUC,LIML1                                              WED230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
C                                                                       LABEL134
      INTEGER ONE,TWO,FOUR,B,TBCONT,PROPUP,NAME(2),CAPAC(2),PENAL(2),CLARDCONT 4
     1SS(2),VOLUME(2)                                                   RDCONT 5
      EQUIVALENCE (CARD(1),NAME(1)), (CARD(3),CAPAC(1)), (CARD(5),PENAL(RDCONT 6
     11)), (CARD(7),CLASS(1)), (CARD(9),VOLUME(1)), (NCRD,NCONT)        RDCONT 7
C                                                                       RDCONT 8
      EQUIVALENCE (IV,V)                                                RDCONT 9
```

```
                DATA ONE,TWO,FOUR,B/1.,2.,4.,1H /                                  RDCONT10
                NCONT=0                                                            RDCONT11
     2          DO 10 I=1,8                                                        RDCONT12
     4          DO 10 J=1,NCTMAX                                                   RDCONT13
    12    10    TBCONT(I,J)=0                                                      RDCONT14
    16    20    CALL READER                                                        RDCONT15
    17          IF (NAME(1).EQ.5HTABLE) GO TO 140                                  RDCONT16
    21          IF (NAME(1).EQ.6HPROGRA) GO TO 140                                 RDCONT17
    23          NCRD=NCRD+1                                                        RDCONT18
    24          IF (NCRD.EQ.1) GO TO 50                                            RDCONT19
    25          IF (NCRD.LE.20) GO TO 30                                           RDCONT20
    27          JERR=JERR+1                                                        RDCONT21
    30          PRINT 190                                                          RDCONT22
    34          NCRD=NCRD-1                                                        RDCONT23
    36    30    CONTINUE                                                           RDCONT24
    36          I2=NCRD-1                                                          RDCONT25
    40          DO 40 I=1,I2                                                       RDCONT26
    42          IF (NAME(1).NE.TBCONT(1,I)) GO TO 40                               RDCONT27
    45          IF (NAME(2).NE.TBCONT(2,I)) GO TO 40                               RDCONT28
    47          PRINT 160, NCRD,NAME                                               RDCONT29
    56          JERR=JERR+1                                                        RDCONT30
    60    40    CONTINUE                                                           RDCONT31
    63    50    CONTINUE                                                           RDCONT32
    67          TBCONT(1,NCRD)=NAME(1)                                             RDCONT33
    70          TBCONT(2,NCRD)=NAME(2)                                             RDCONT34
    71          CALL VALUE (CAPAC,TBCONT(3,NCRD),IERR)                             RDCONT35
    74          IF ((TBCONT(3,NCRD).GT.0).AND.(IERR.EQ.0)) GO TO 60                RDCONT36
   105          JERR=JERR+1                                                        RDCONT37
   106          PRINT 180, NCRD,CAPAC                                              RDCONT38
   116    60    CONTINUE                                                           RDCONT39
   116          CALL VALUE (PENAL,TBCONT(4,NCRD),IERR)                             RDCONT40
   122          IF (IERR.EQ.0) GO TO 70                                            RDCONT41
   123          JERR=JERR+1                                                        RDCONT42
   125          PRINT 200, NCRD,PENAL                                              RDCONT43
   134    70    CONTINUE                                                           RDCONT44
   134          IF (CLASS(1).EQ.6HCREW  ) GO TO 80                                 RDCONT45
   136          IF (CLASS(1).EQ.6HBULK  ) GO TO 90                                 RDCONT46
   140          IF ((CLASS(1).EQ.6HPROPEL).AND.(CLASS(2).EQ.4HLANT)) GO TO 100     RDCONT47
   147          JERR=JERR+1                                                        RDCONT48
   150          PRINT 170, NCRD,CLASS                                              RDCONT49
```

```
160          GO TO 110                                                      RDCONT50
161    80    TBCONT(5,NCRD)=ONE                                             RDCONT51
164          GO TO 110                                                      RDCONT52
165    90    TBCONT(5,NCRD)=TWO                                             RDCONT53
170          GO TO 110                                                      RDCONT54
175    100   TBCONT(5,NCRD)=FOUR                                            RDCONT55
176          PROPUP=TBCONT(3,NCRD)                                          RDCONT56
176          JPROP=NCRD                                                     RDCONT57
200    110   CONTINUE                                                       RDCONT58
       C     VOLUME FACTOR                                                  RDCONT59
200          V=1.                                                           RDCONT60
202          IF ((VOLUME(1).EQ.B).AND.(VOLUME(2).EQ.B)) GO TO 130           RDCONT61
211          CALL VALUE (VOLUME,V,IERR)                                     RDCONT62
213          IF (IERR.NE.0) GO TO 120                                       RDCONT63
214          IF (V) 120,130,130                                             RDCONT64
216    120   JERR=JERR+1                                                    RDCONT65
220          PRINT 150, NCRD,VOLUME                                         RDCONT66
227    130   TBCONT(6,NCRD)=IV                                              RDCONT67
232          IF (NAME(11).EQ.6HEXPEND) TBCONT(8,NCRD)=ONE                   RDCONT68
236          GO TO 20                                                       RDCONT69
237    140   CONTINUE                                                       RDCONT70
237          IF (JPROP.GT.0) RETURN                                         RDCONT71
241          JERR=JERR+1                                                    RDCONT72
243          PRINT 210                                                      RDCONT73
246          RETURN                                                         RDCONT74
       C                                                                   RDCONT77
       C                                                                   RDCONT78
       150   FORMAT (7X,30HIN THE CONTAINER TABLE ON CARD,I5,20H THE VOLUME FACRDCONT79
            1TOR (,A6,A4,23H) IS NOT A VALID ENTRY.)                       RDCONT80
       160   FORMAT (6X,31H IN THE CONTAINER TABLE ON CARD,I5,24H,  THIS CONTAIRDCONT81
            1NER NAME, ,A6,A4,24H, HAS ALREADY BEEN USED.)                 RDCONT82
       170   FORMAT (6X,31H IN THE CONTAINER TABLE ON CARD,I5,62H,  ONLY THE OPRDCONT83
            1TIONS BULK, CREW OR PROPELLANT CAN BE USED, NOT ,A6,A4,1H.)    RDCONT84
       180   FORMAT (6X,31H IN THE CONTAINER TABLE ON CARD,I5,52H,  THERE IS ANRDCONT85
            1 ERROR IN THE (WEIGHT) CAPACITY VALUE,,3X,A6,A4,1H.)          RDCONT86
       190   FORMAT (6X,42H THE CONTAINER TABLE CAPACITY IS EXCEEDED.)      RDCONT87
       200   FORMAT (6X,31H IN THE CONTAINER TABLE ON CARD,I5,52H,  THERE IS ANRDCONT88
            1 ERROR IN THE PENALITY (WEIGHT) VALUE,,3X,A6,A4,1H.)          RDCONT89
       210   FORMAT (38H0NO PROPELLANT TANK IN CONTAINER TABLE)             RDCONT90
247          END                                                            RDCONT91
```

```
      SUBROUTINE RDLEG                                                  RDLEG  2
C                                                                       RDLEG  3
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,PNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/KEL,NSW,G                                             FRI011 1
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROFUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L19UC,LIML1                                              WEC230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), ICB(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINCEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
C                                                                       LABEL134
      INTEGER ZERO,ONE,TBLEG,NAME(2),SUCESS(2),LONGSH(2),VEHICL(2)      RDLEG  5
      INTEGER DELTAV(2),ALTVEH(2)                                       ZERODI 1
      EQUIVALENCE (CARD(1),NAME(1)), (CARD(3),SUCESS(1)), (CARD(5),LONGSRDLEG  7
     1H(1)), (CARD(7),VEHICL(1)), (NLEG,NCRD), (CARD(9),DELTAV(1)), (CARRDLEG  8
     2D(11),ALTVEH(1))                                                  RDLEG  9
```

```
                DATA ZERO,ONE,MILLE/0.0,1.0,1000.0/                      RDLEG 10
      C                                                                  RDLEG 11
                NLEG=0                                                   RDLEG 12
       2        DO 10 I=1,12                                             RDLEG 13
       4        DO 10 J=1,NLGMAX                                         RDLEG 14
      13   10   TBLEG(I,J)=0                                             RDLEG 15
      17   20   CALL READER                                              RDLEG 16
      20        IF (NAME(1).EQ.5HTABLE) GO TO 130                        RDLEG 17
      22        IF (NAME(1).EQ.6HPROGRA) GO TO 130                       RDLEG 18
      24        NCRD=NCRD+1                                              RDLEG 19
      25        IF (NCRD.EQ.1) GO TO 50                                  RDLEG 20
      26        IF (NCRD.LE.NLGMAX) GO TO 30                             RDLEG 21
      30        JERR=JERR+1                                              RDLEG 22
      31        PRINT 220                                                RDLEG 23
      35        NCRD=NCRD-1                                              RDLEG 24
      37   30   CONTINUE                                                 RDLEG 25
      37        I2=NCRD-1                                                RDLEG 26
      41        DO 40 I=1,I2                                             RDLEG 27
      43        IF (NAME(1).NE.TBLEG(1,I)) GO TO 40                      RDLEG 28
      47        IF (NAME(2).NE.TBLEG(2,I)) GO TO 40                      RDLEG 29
      51        PRINT 190, NCRD,NAME                                     RDLEG 30
      60        JERR=JERR+1                                              RDLEG 31
      62   40   CONTINUE                                                 RDLEG 32
      65   50   CONTINUE                                                 RDLEG 33
      71        TBLEG(1,NCRD)=NAME(1)                                    RDLEG 34
      71        TBLEG(2,NCRD)=NAME(2)                                    RDLEG 35
      73        DO 60 I=1,NCRD                                           RDLEG 36
      74        IF (SUCESS(1).NE.TBLEG(1,I)) GO TO 60                    RDLEG 37
     100        IF (SUCESS(2).NE.TBLEG(2,I)) GO TO 60                    RDLEG 38
     102        PRINT 210, NCRD                                          RDLEG 39
     107        JERR=JERR+1                                              RDLEG 40
     111        GO TO 70                                                 RDLEG 41
     111   60   CONTINUE                                                 RDLEG 42
     117        TBLEG(3,NCRD)=SUCESS(1)                                  RDLEG 43
     120        TBLEG(4,NCRD)=SUCESS(2)                                  RDLEG 44
     121   70   CONTINUE                                                 RDLEG 45
      C                                                                  RDLEG 46
      C OCCUPANCY LIMIT AND LONGSHORING OPTION                           RDLEG 47
      C                                                                  RDLEG 48
     125        TBLEG(5,NLEG)=ONE                                        RDLEG 49
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```
125         TBLEG(10,NLEG)=ZERO                                          RDLEG 50
127         IF (CARD(5).EQ.6HSINGLE) GO TO 80                            RDLEG 51
131         TBLEG(5,NLEG)=MILLE                                          RDLEG 52
134         IF (CARD(5).EQ.6HMULTIP) GO TO 80                            RDLEG 53
      C                                                                  RDLEG 54
136         IF (CARD(5).EQ.6H      ) GO TO 80                            RDLEG 55
140         IF (CARD(5).EQ.6HYES   ) GO TO 90                            RDLEG 56
142         IF (CARD(5).EQ.6HNO    ) GO TO 100                           RDLEG 57
144         CALL VALUE (CARD(5),TBLEG(5,NLEG),IERR)                      RDLEG 58
147         IF (IERR.LE.0) GO TO 80                                      RDLEG 59
151         JERR=JERR+1                                                  RDLEG 60
152         PRINT 200, NCRD,CARD(5),CARD(6)                              RDLEG 61
166   80    IF (CARD(13).EQ.1H ) GO TO 90                                RDLEG 62
170         IF (CARD(13).EQ.3HNO ) GO TO 100                             RDLEG 63
172         IF (CARD(13).EQ.3HYES) GO TO 90                              RDLEG 64
174         PRINT 230, NCRD,CARD(13),CARD(14)                            RDLEG 65
207         JERR=JERR+1                                                  RDLEG 66
211   90    TBLEG(10,NLEG)=ONE                                           RDLEG 67
      C                                                                  RDLEG 68
      C ALTERNATE VEHICLE                                                RDLEG 69
      C                                                                  RDLEG 70
215   100   CONTINUE                                                     RDLEG 71
222         TBLEG(6,NCRD)=VEHICL(1)                                      RDLEG 72
223         TBLEG(7,NCRD)=VEHICL(2)                                      RDLEG 73
224         TBLEG(9,NCRD)=0                                              RDLEG 74
225         IF (DELTAV(1).EQ.1H ) GO TO 120                              RDLEG 75
227         CALL VALUE (DELTAV(1),DELTAV(1),IERR)                        RDLEG 76
231         IF (IERR.LE.0) GO TO 110                                     RDLEG 77
233         JERR=JERR+1                                                  RDLEG 78
234         PRINT 180, NCRD,CARD(9),CARD(10)                             RDLEG 79
250   110   CONTINUE                                                     RDLEG 80
253         CARD(9)=CARD(9)*1.02                                         RDLEG 81
254         TBLEG(9,NLEG)=DELTAV(1)                                      RDLEG 82
255   120   CONTINUE                                                     RDLEG 83
261         TBLEG(11,NLEG)=ALTVEH(1)                                     RDLEG 84
261         TBLEG(12,NLEG)=ALTVEH(2)                                     RDLEG 85
263         GO TO 20                                                     RDLEG 86
263   130   CONTINUE                                                     RDLEG 87
263         DO 160 L=1,2                                                 RDLEG 88
265         DO 150 I=1,NLEG                                              RDLEG 89
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```
266          TBLEG(8,I)=LASTLG                                                  RDLEG 90
271          IF (TBLEG(3,I).EQ.6HNONE  ) GO TO 150                              RDLEG 91
273          DO 140 J=I,NLEG                                                    RDLEG 92
275          IF (TBLEG(3,I).NE.TBLEG(1,J)) GO TO 140                            RDLEG 93
303          IF (TBLEG(4,I).NE.TBLEG(2,J)) GO TO 140                            RDLEG 94
310          TBLEG(8,I)=J                                                       RDLEG 95
312          GO TO 150                                                          RDLEG 96
313   140    CONTINUE                                                           RDLEG 97
316          JERR=JERR+1                                                        RDLEG 98
317          PRINT 170, (TBLEG(K,I),K=1,4)                                      RDLEG 99
327   150    CONTINUE                                                           RDLEG100
332          CALL SORT (TBLEG(1,1),12,NLEG,8)                                   RDLEG101
335   160    CONTINUE                                                           RDLEG102
337          RETURN                                                             RDLEG103
         C                                                                      RDLEG104
         C                                                                      RDLEG105
         C                                                                      RDLEG106
         170  FORMAT (18H NO FOLLOWING LEG ,2(A6,A4,2X))                        RDLEG107
         180  FORMAT (6X,25HIN THE LEG TABLE ON CARD ,I3,12H THE FIELD -,A6,A4,2RDLEG108
             15H- CONTAINS A NON-NUMERIC.)                                      RDLEG109
         190  FORMAT (6X,25H IN THE LEG TABLE ON CARD,I5,15H, THE LEG NAME,,A6,ARDLEG110
             14,24H, HAS ALREADY BEEN USED.)                                    RDLEG111
         200  FORMAT (6X,4HCARDI5,54H OF LEG TABLE CONTAINS ILLEGAL OCCUPANCY LIRDLEG112
             1MIT ENTRY (A6,A4,1H))                                             RDLEG113
         210  FORMAT (6X,25H IN THE LEG TABLE ON CARD,I5,43H, THE LEG NAME PRECERDLEG114
             1DES THE SUCCESSOR NAME.)                                          RDLEG115
         220  FORMAT (6X,43H THE CAPACITY OF THE LEG TABLE IS EXCEEDED.)         RDLEG116
         230  FORMAT (6X,4HCARDI5,50H OF LEG TABLE CONTAINS ILLEGAL LONSHORING ORDLEG117
             1PTION (A6,A4,1H))                                                 RDLEG118
340          END                                                                RDLEG119
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```
      SUBROUTINE RDSPD                                                  RDSPD  2
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/ KEL                                                  LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L13UC,LIML1                                              WED230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
C                                                                       LABEL134
      INTEGER TBSPD,NAME(2),BLANK(2),NYR(2),FACTOR(14),IOC(2),FACT(10)  RDSPD  4
      EQUIVALENCE (CARD(1),NAME(1),BLANK(1)), (CARD(3),NYR(1),FACTOR(1))RDSPD  5
     1, (CARD(5),IOC(1)), (CARD(7),FACT(1)), (IX,XX)                    RDSPD  6
C                                                                       RDSPD  7
      NSPD=0                                                            RDSPD  8
2     NCRD=0                                                            RDSPD  9
```

```
  2          ICPODB=1                                          RDSPD 10
  3          DDB(1)=0.                                         RDSPD 11
  5          NBSPD=ICPODB+1                                    RDSPD 12
  7          CALL READER                                       RDSPD 13
 10    10    IF (NAME(1).EQ.6HTABLE ) GO TO 150                RDSPD 14
 12          IF (NAME(1).EQ.6HPROGRA) GO TO 150                RDSPD 15
 14          NXTWRD=0                                          RDSPD 16
 14          SPD=0.0                                           RDSPD 17
 15          NSPD=NSPD+1                                       RDSPD 18
 17          NCRD=NCRD+1                                       RDSPD 19
 20          IF (NSPD.EQ.1) GO TO 30                           RDSPD 20
 21          I2=NSPD-1                                         RDSPD 21
 22          DO 20 I=1,I2                                      RDSPD 22
 24          IF (NAME(1).NE.TBSPD(1,I)) GO TO 20               RDSPD 23
 27          IF (NAME(2).NE.TBSPD(2,I)) GO TO 20               RDSPD 24
 31          PRINT 170, NCRD,NAME(1),NAME(2)                   RDSPD 25
 44          JERR=JERR+1                                       RDSPD 26
 46    20    CONTINUE                                          RDSPD 27
 51          IF (NSPD.LE.20) GO TO 30                          RDSPD 28
 53          PRINT 160                                         RDSPD 29
 57          JERR=JERR+1                                       RDSPD 30
 61          NSPD=NSPD-1                                       RDSPD 31
 67    30    TBSPD(1,NSPD)=NAME(1)                             RDSPD 32
 70          TBSPD(2,NSPD)=NAME(2)                             RDSPD 33
 71          XX=ICPDDB+1                                       RDSPD 34
 73          TBSPD(3,NSPD)=IX                                  RDSPD 35
 74          NXTWRD=NXTWRD+1                                   RDSPD 36
 75          CALL VALUE (NYR,DDB(ICPDDB+NXTWRD),IERR)          RDSPD 37
101          IF (IERR.LE.0) GO TO 40                           RDSPD 38
103          PRINT 180, NCRD,NYR                               RDSPD 39
112          JERR=JERR+1                                       RDSPD 40
114    40    NXTWRD=NXTWRD+1                                   RDSPD 41
116          CALL VALUE (IOC,DDB(ICPDDB+NXTWRD),IERR)          RDSPD 42
121          IF (IERR.LE.0) GO TO 50                           RDSPD 43
123          PRINT 180, NCRD,IOC(1),IOC(2)                     RDSPD 44
136          JERR=JERR+1                                       RDSPD 45
140    50    DO 80 I=1,10,2                                    RDSPD 46
142          CALL VALUE (FACT(I),DDB(ICPDDB+NXTWRD+1),IERR)    RDSPD 47
146          IF (IERR) 90,70,60                                RDSPD 48
150    60    PRINT 180, NCRD,FACT(I),FACT(I+1)                 RDSPD 49
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164         JERR=JERR+1                                                    RDSPD 50
166         GO TO 80                                                       RDSPD 51
166   70    NXTWRD=NXTWRD+1                                                RDSPD 52
170         DDB(ICPDDB+NXTWRD)=DDB(ICPDDB+NXTWRD)/100.                     RDSPD 53
173         SPD=SPD+DDB(ICPDDB+NXTWRD)                                     RDSPD 54
175   80    CONTINUE                                                       RDSPD 55
177   90    CALL READER                                                    RDSPD 56
200         IF (BLANK(1).NE.6H      ) GO TO 130                            RDSPD 57
202         DO 120 I=1,14,2                                                RDSPD 58
204         CALL VALUE (FACTOR(I),DDB(ICPDDB+NXTWRD+1),IERR)               RDSPD 59
210         IF (IERR) 90,110,100                                           RDSPD 60
212   100   PRINT 180, NCRD,FACTOR(I),FACTOR(I+1)                          RDSPD 61
226         JERR=JERR+1                                                    RDSPD 62
230         GO TO 120                                                      RDSPD 63
230   110   NXTWRD=NXTWRD+1                                                RDSPD 64
232         DDB(ICPDDB+NXTWRD)=DDB(ICPDDB+NXTWRD)/100.                     RDSPD 65
235         SPD=SPD+DDB(ICPDDB+NXTWRD)                                     RDSPD 66
237   120   CONTINUE                                                       RDSPD 67
241         GO TO 90                                                       RDSPD 68
242   130   IF ((SPD.GE.0.99).AND.(SPD.LE.1.01)) GO TO 140                 RDSPD 69
254         PRINT 190, TBSPD(1,NSPD),TBSPD(2,NSPD)                         RDSPD 70
267         JERR=JERR+1                                                    RDSPD 71
271   140   ICPDDB=ICPDDB+NXTWRD                                           RDSPD 72
273         GO TO 10                                                       RDSPD 73
273   150   NLSPD=ICPDDB                                                   RDSPD 74
275         RETURN                                                         RDSPD 75
      C                                                                    RDSPD 76
      C                                                                    RDSPD 77
      C                                                                    RDSPD 78
      160   FORMAT (2X,28H** TOO MANY SPREAD TABLES **)                    RDSPD 79
      170   FORMAT (6X,28HIN THE SPREAD TABLE ON CARD ,I3,12H THE NAME - ,A6,ARDSPD 80
           14,25H - HAS ALREADY BEEN USED.)                                RDSPD 81
      180   FORMAT (6X,28HIN THE SPREAD TABLE ON CARD ,I3,12H THE FIELD -,A6,ARDSPD 82
           14,17H- IS NON-NUMERIC.)                                        RDSPD 83
      190   FORMAT (6X,23HUNDER THE SPREAD NAME, A6,A4,46H, THE SPREAD FACTORSRDSPD 84
           1 DO NOT TOTAL 100 PERCENT.)                                    RDSPD 85
275         END                                                            RDSPD 86
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      SUBROUTINE RDVEH                                                  RDVEH  2
C                                                                       RDVEH  3
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MODE,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/KEL,NSW,G                                             FRI011 1
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCON,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUC,LIML1                                              WED230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINCEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
C                                                                       LABEL134
      DIMENSION NAME(2), PROPEL(2), MAXPYR(2), LIFFLT(2), LIFYRS(2), MINRDVEH  5
     1LD(2), NRDEV(2), SPREAD(2), RPROD(2), RFLT(2), REFLRB(2), LEGNM(2)RDVEH  6
     2, UPWT(2), DOWNWT(2), EXPWT(2), BLANK(2), SPPROD(2)               RDVEH  7
      EQUIVALENCE (CARD(1),NAME(1),BLANK(1)), (CARD(3),PROPEL(1),NRDEV(1RDVEH  8
     1),LEGNM(1)), (CARD(5),MAXPYR(1),SPREAD(1),UPWT(1)), (CARD(7),LIFFLRDVEH  9
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     2T(1),RPROD(1),RFLT(1)), (CARD(9),LIFYRS(1),DOWNWT(1),SPPROD(1)), (RDVEH 10
     3CARD(11),MINLD(1),EXPWT(1),REFURB(1))                              RDVEH 11
C                                                                        RDVEH 12
      INTEGER TBCONT,TBLEG,TBVEH,DDB,CARD,BLANK,BLANC                    RDVEH 13
C                                                                        RDVEH 14
      DATA BLANC/1H /                                                    RDVEH 15
      DATA IFOUR/4.0/                                                    RDVEH 16
      DATA ISP/3HISP/                                                    RDVEH 17
C                                                                        RDVEH 18
      ICPDDB=NLSPD                                                       RDVEH 19
    2 NBVEH=ICPDDB+1                                                     RDVEH 20
    4 NVEH=0                                                             RDVEH 21
    4 NCRD=0                                                             RDVEH 22
    6 DO 10 I=1,4                                                        RDVEH 23
    7 DO 10 J=1,NVHMAX                                                   RDVEH 24
   15 10  TBVEH(I,J)=0                                                   RDVEH 25
C                                                                        RDVEH 26
   21 CALL READER                                                        RDVEH 27
   22 NCRD=NCRD+1                                                        RDVEH 28
   24 20  IF (NAME(1).EQ.6HTABLE ) GO TO 350                            RDVEH 29
   26 IF (NAME(1).EQ.6HPROGRA) GO TO 350                                 RDVEH 30
   30 NVEH=NVEH+1                                                        RDVEH 31
   31 IF (NVEH.EQ.1) GO TO 50                                            RDVEH 32
   32 IF (NVEH.LE.NVHMAX) GO TO 30                                       RDVEH 33
   34 JERR=JERR+1                                                        RDVEH 34
   35 PRINT 520                                                          RDVEH 35
   41 NVEH=NVEH-1                                                        RDVEH 36
   43 30  I2=NVEH-1                                                     RDVEH 37
   45 DO 40 I=1,I2                                                       RDVEH 38
   47 IF (NAME(1).NE.TBVEH(1,I)) GO TO 40                                RDVEH 39
   52 IF (NAME(2).NE.TBVEH(2,I)) GO TO 40                                RDVEH 40
   54 PRINT 530, NCRD,NAME(1),NAME(2)                                    RDVEH 41
   70 JERR=JERR+1                                                        RDVEH 42
   72 40  CONTINUE                                                      RDVEH 43
  100 50  TBVEH(1,NVEH)=NAME(1)                                         RDVEH 44
  101 TBVEH(2,NVEH)=NAME(2)                                              RDVEH 45
  102 CALL PACK (ICPDDB+1,18,TBVEH(3,NVEH),18)                           RDVEH 46
  110 DO 60 I=1,NWVEH                                                    RDVEH 47
  116 60  DDB(ICPDDB+I)=0.0                                             RDVEH 48
  121 DDB(ICPDDB+1)=NAME(1)                                              RDVEH 49
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122         DDB(ICPDDB+2)=NAME(2)                                          RDVEH 50
124         NXTWRD=3                                                       RDVEH 51
125         DO 70 I=3,11,2                                                 RDVEH 52
126         CALL VALUE (NAME(I),DDB(ICPDDB+NXTWRD),IERR)                   RDVEH 53
132         IF (IERR.LE.0) GO TO 70                                        RDVEH 54
134         PRINT 540, NCRD,NAME(I),NAME(I+1)                              RDVEH 55
147         JERR=JERR+1                                                    RDVEH 56
151   70    NXTWRD=NXTWRD+1                                                RDVEH 57
      C     MAXIMUM VOLUME CAPACITY                                        RDVEH 58
155         DB(ICPDDB+16)=1000.                                            RDVEH 59
157         CALL VALUE (CARD(13),DB(ICPDDB+16),IERR)                       RDVEH 60
161         IF (IERR.LE.0) GO TO 80                                        RDVEH 61
163         JERR=JERR+1                                                    RDVEH 62
164         PRINT 540, NCRD,CARD(13),CARD(14)                              RDVEH 63
200   80    CONTINUE                                                       RDVEH 64
      C MAXIMUM OCCUPANCY (NUMBER OF ITEMS)                                RDVEH 65
200         DB(ICPDDB+13)=1.0                                              RDVEH 66
202         IF (CARD(15).EQ.6HSINGLE) GO TO 90                             RDVEH 67
204         DB(ICPDDB+13)=1000.                                            RDVEH 68
206         IF (CARD(15).EQ.6HMULTIP) GO TO 90                             RDVEH 69
      C                                                                    RDVEH 70
210         CALL VALUE (CARD(15),DB(ICPDDB+13),IERR)                       RDVEH 71
212         IF (IERR.LE.0) GO TO 90                                        RDVEH 72
214         JERR=JERR+1                                                    RDVEH 73
215         PRINT 620, NCRD,CARD(15),CARD(16)                              RDVEH 74
231   90    CONTINUE                                                       RDVEH 75
      C                                                                    RDVEH 76
      C     READ SECOND DATA CARD FOR THIS VEHICLE.                        RDVEH 77
      C                                                                    RDVEH 78
231         CALL READER                                                    RDVEH 79
232         NCRD=NCRD+1                                                    RDVEH 80
234         IF (BLANK(1).NE.BLANC) GO TO 330                               RDVEH 81
236         DO 110 I=3,13,2                                                RDVEH 82
237         IF ((I.NE.5).AND.(I.NE.9)) GO TO 100                           RDVEH 83
246         CALL FINDSP (NAME(I),DDB(ICPDDB+NXTWRD))                       RDVEH 84
251         NXTWRD=NXTWRD+1                                                RDVEH 85
253         GO TO 110                                                      RDVEH 86
253   100   CONTINUE                                                       RDVEH 87
253         CALL VALUE (NAME(I),DDB(ICPDDB+NXTWRD),IERR)                   RDVEH 88
260         IF (IERR.LE.0) GO TO 110                                       RDVEH 89
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262           JERR=JERR+1                                                    RDVEH 90
263           PRINT 540, NCRD,NAME(I),NAME(I+1)                              RDVEH 91
277     110   NXTWRD=NXTWRD+1                                                RDVEH 92
303           NXTWRD=NXTWRD+1                                                RDVEH 93
      C                                                                      RDVEH 94
      C GET POINTER TO PROPELLANT TANK IN CONTAINER TABLE                    RDVEH 95
      C                                                                      RDVEH 96
304           DB(ICPDDB+10)=JPROP                                            RDVEH 97
307           IF (CARD(15).EQ.BLANC) GO TO 140                               RDVEH 98
311           DO 120 I=1,NCONT                                               RDVEH 99
312           IF ((CARD(15).NE.TBCONT(1,I)).OR.(CARD(16).NE.TBCONT(2,I))) GO TO RDVEH100
             1120                                                            RDVEH101
324           DB(ICPDDB+10)=I                                                RDVEH102
326           IF (TBCONT(5,I)-IFOUR) 130,140,130                             RDVEH103
331     120   CONTINJE                                                       RDVEH104
334     130   JERR=JERR+1                                                    RDVEH105
336           PRINT 610, DDB(ICPDDB+1),DDB(ICPDDB+2),CARD(15),CARD(16)       RDVEH106
355     140   CONTINJE                                                       RDVEH107
      C                                                                      RDVEH108
      C     READ THIRD DATA CARD FOR THIS VEHICLE...IF ANY.                  RDVEH109
      C                                                                      RDVEH110
360           JX=0                                                           RDVEH111
360           TBVEH(4,NVEH)=0                                                RDVEH112
361           TBVEH(5,NVEH)=0                                                RDVEH113
362     150   CALL READER                                                    RDVEH114
363           NCRD=NCRD+1                                                    RDVEH115
365           IF (NAME(2).EQ.ISP) GO TO 220                                  RDVEH116
367           IF (CARD(3).NE.6HSTAGES) GO TO 240                             RDVEH117
371           NFLAG=4                                                        RDVEH118
371           IF (CARD(2).EQ.3HWET) NFLAG=5                                  RDVEH119
375           DO 210 I=5,15,2                                                RDVEH120
377           J=3*(I-5)                                                      RDVEH121
401           IF (CARD(I).EQ.BLANC) GO TO 150                                RDVEH122
403           DO 160 K=1,NVEH                                                RDVEH123
415           IF ((CARD(I).EQ.TBVEH(1,K)).AND.(CARD(I+1).EQ.TBVEH(2,K))) GO TO 1RDVEH124
             170                                                             RDVEH125
424     160   CONTINJE                                                       RDVEH126
427           JERR=JERR+1                                                    RDVEH127
430           PRINT 480, CARD(I),CARD(I+1)                                   RDVEH128
442           GO TO 210                                                      RDVEH129
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443  170    IF (NFLAG.EQ.5) GO TO 180                                          RDVEH130
445         CALL PACK (K,6,TBVEH(4,NVEH),J)                                    RDVEH131
452         GO TO 210                                                          RDVEH132
453  180    CALL UNPACK (NBVEH,18,TBVEH(3,K),18)                               RDVEH133
460         IF (DDB(NBVEH+NWVEH).NE.ISP) GO TO 200                             RDVEH134
464  190    CALL PACK (K,6,TBVEH(5,NVEH),J)                                    RDVEH135
471         GO TO 210                                                          RDVEH136
472  200    PRINT 630, CARD(I),CARD(I+1),K                                     RDVEH137
506         JERR=JERR+1                                                        RDVEH138
510         GO TO 190                                                          RDVEH139
510  210    CONTINUE                                                           RDVEH140
512         GO TO 150                                                          RDVEH141
       C                                                                       RDVEH142
       C     READ ISP DATA CARD AND STORE IN DDB ARRAY                         RDVEH143
       C                                                                       RDVEH144
513  220    DDB(ICPDDB+NXTWRD)=ISP                                             RDVEH145
516         NXTWRD=NXTWRD+1                                                    RDVEH146
517         DO 230 L=3,15,2                                                    RDVEH147
521         DDB(ICPDDB+NXTWRD)=0.0                                             RDVEH148
523         CALL VALUE (CARD(L),DDB(ICPDDB+NXTWRD),IERR)                       RDVEH149
527         IF (L.EQ.7) NXTWRD=NXTWRD+1                                        RDVEH150
533         IF (IERR.LE.0) GO TO 230                                           RDVEH151
535         JERR=JERR+1                                                        RDVEH152
536         PRINT 550, NCRD,NAME(L),NAME(L+1)                                  RDVEH153
552  230    NXTWRD=NXTWRD+1                                                    RDVEH154
556         NXTWRD=NXTWRD+1                                                    RDVEH155
557         DDB(ICPDDB+NXTWRD-6)=DDB(ICPDDB+3)                                 RDVEH156
562         DDB(ICPDDB+NXTWRD-1)=DDB(ICPDDB+NXTWRD-9)                          RDVEH157
565         GO TO 150                                                          RDVEH158
565  240    CONTINUE                                                           RDVEH159
565         IF (TBVEH(5,NVEH).EQ.0) TBVEH(5,NVEH)=TBVEH(4,NVEH)                RDVEH160
573         GO TO 260                                                          RDVEH161
       C                                                                       RDVEH162
       C     READ LEG DATA CARDS FOR THIS VEHICLE.                             RDVEH163
       C                                                                       RDVEH164
574  250    CALL READER                                                        RDVEH165
575         NCRD=NCRD+1                                                        RDVEH166
577  260    IF (BLANK(1).NE.BLANC) GO TO 320                                   RDVEH167
601         JX=1                                                               RDVEH168
602         IF (LEGNM(1).EQ.6HNONE  ) GO TO 280                                RDVEH169
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 604          DO 270 I=1,NLEG                                                  RDVEH170
 616          IF ((TBLEG(1,I).EQ.LEGNM(1)).AND.(TBLEG(2,I).EG.LEGNM(2))) GO TO 2RDVEH171
             180                                                              RDVEH172
 625  270     CONTINUE                                                         RDVEH173
 627          PRINT 560, LEGNM(1),LEGNM(2),TBVEH(1,NVEH),TBVEH(2,NVEH)         RDVEH174
 651          JERR=JERR+1                                                      RDVEH175
 653  280     CONTINUE                                                         RDVEH176
 653          IDV=TBLEG(9,I)                                                   RDVEH177
 657          DO 290 I=1,4                                                     RDVEH178
 665  290     DB(ICPDDB+NXTWRD+I)=0.01                                         RDVEH179
 667          DDB(ICPDDB+NXTWRD)=LEGNM(1)                                      RDVEH180
 672          DDB(ICPDDB+NXTWRD+1)=LEGNM(2)                                    RDVEH181
 675          NXTWRD=NXTWRD+2                                                  RDVEH182
 676          DO 300 I=5,9,2                                                   RDVEH183
 677          CALL VALUE (NAME(I),DDB(ICPDDB+NXTWRD),IERR)                     RDVEH184
 703          IF (IERR.LE.0) GO TO 300                                         RDVEH185
 705          PRINT 540, NCRD,NAME(I),NAME(I+1)                                RDVEH186
 720          JERR=JERR+1                                                      RDVEH187
 722  300     NXTWRD=NXTWRD+1                                                  RDVEH188
 726          IF (LEGNM(1).EQ.4HNONE) GC TO 250                                RDVEH189
 730          IF (CARD(5).NE.1H .ANC.CARD(7).NE.1H ) GC TO 310                 RDVEH190
 736          M=3                                                              RDVEH191
 737          CALL PERLNK (M,WPLUP,WPLDN,IDV,WPEXP,1.0)                        RDVEH192
 743          IF (WPLUP.LE.0.0) WPLUP=0.1                                      RDVEH193
 746          IF (WPLDN.LE.0.0) WPLDN=0.1                                      RDVEH194
 753          DB(ICPDDB+NXTWRD-3)=WPLUP                                        RDVEH195
 755          DB(ICPDDB+NXTWRD-2)=WPLDN                                        RDVEH196
 756          IF(NSW.EQ.1)PRINT 490,WPLUP,WPLDN                                FRI01112
 767  310     IF (CARD(9).NE.1H ) GC TC 250                                    RDVEH198
 771          M=2                                                              RDVEH199
 772          CALL PERLNK (M,WPLUP,WPLDN,IDV,WPEXP,1.0)                        RDVEH200
 776          IF (WPEXP.LE.0.0) WPEXP=0.0                                      RDVEH201
1001          DB(ICPDDB+NXTWRD-1)=WPEXP                                        RDVEH202
1004          IF(NSW.EQ.1)PRINT 500,WPEXP                                      FRI01113
1013          GO TO 250                                                        RDVEH204
1014  320     IF (JX.NE.0) GO TO 340                                           RDVEH205
1015  330     PRINT 570, TBVEH(1,NVEH),TBVEH(2,NVEH)                           RDVEH206
1031  340     CALL PACK (NXTWRD-1,18,TBVEH(3,NVEH),0)                          RDVEH207
1040          ICPDDB=ICPDDB+NXTWRD-1                                           RDVEH208
1043          GO TC 20                                                         RDVEH209
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1037  350   CONTINUE                                                          RDVEH210
1037        DO 390 I=1,NLEG                                                   RDVEH211
1041        DO 370 J=1,NVEH                                                   RDVEH212
1042        IF (TBLEG(6,I).NE.TBVEH(1,J)) GO TO 370                           RDVEH213
1047        IF (TBLEG(7,I).NE.TBVEH(2,J)) GO TO 370                           RDVEH214
1054        CALL UNPACK (IP0,18,TBVEH(3,J),18)                                RDVEH215
1057        CALL UNPACK (IPN,18,TBVEH(3,J),0)                                 RDVEH216
1064        IPN=IPN+IP0-1                                                     RDVEH217
1066        IP0=IP0+NWVEH                                                     RDVEH218
1070        DO 360 L=IP0,IPN,5                                                RDVEH219
1104        IF ((TBLEG(1,I).EQ.DDB(L)).AND.(TBLEG(2,I).EQ.DDB(L+1))) GO TO 380RDVEH220
1112  360   CONTINUE                                                          RDVEH221
1114        PRINT 580, TBVEH(1,J),TBVEH(2,J),TBLEG(1,I),TBLEG(2,I)            RDVEH222
1141        GO TO 380                                                         RDVEH223
1142  370   CONTINUE                                                          RDVEH224
1145        PRINT 590, TBLEG(6,I),TBLEG(7,I)                                  RDVEH225
1162        JERR=JERR+1                                                       RDVEH226
1164        J=0                                                               RDVEH227
1165  380   TBLEG(6,I)=I77                                                    RDVEH228
1171  390   CALL PACK (J,6,TBLEG(6,I),12)                                     RDVEH229
      C                                                                       RDVEH230
      C     PROCESS VEHICLES TO HAUL PROPELLANT.                              RDVEH231
      C                                                                       RDVEH232
1177        DO 430 I=1,NLEG                                                   RDVEH233
1200        J=0                                                               RDVEH234
1200        IF (TBLEG(11,I).EQ.6H      ) GO TO 420                            RDVEH235
1205        IF (TBLEG(11,I).EQ.6HNONE  ) GO TO 410                            RDVEH236
1207        DO 400 J=1,NVEH                                                   RDVEH237
1210        IF (TBLEG(11,I).NE.TBVEH(1,J)) GO TO 400                          RDVEH238
1215        IF (TBLEG(12,I).NE.TBVEH(2,J)) GO TO 400                          RDVEH239
1222        GO TO 420                                                         RDVEH240
1222  400   CONTINUE                                                          RDVEH241
1225        PRINT 510, TBLEG(11,I),TBLEG(12,I)                                RDVEH242
1242        JERR=JERR+1                                                       RDVEH243
1244  410   J=I77                                                             RDVEH244
1246  420   TBLEG(11,I)=TBLEG(6,I)                                            RDVEH245
1252        IF (J.NE.0) CALL PACK (J,6,TBLEG(11,I),12)                        RDVEH246
1257  430   CONTINUE                                                          RDVEH247
      C                                                                       RDVEH248
      C     CREAT THE VEHICLE CHAINS FOR CARGO  AND PROPELLANT.               RDVEH249
```

```
      C                                                                       RDVEH250
 1262          J=NLEG                                                        RDVEH251
 1263          DO 470 I=1,NLEG                                               RDVEH252
 1264          IF (TBLEG(3,J).NE.6HNONE  ) GO TO 440                         RDVEH253
 1270          TBLEG(7,J)=LASTLG                                             RDVEH254
 1272          GO TO 470                                                     RDVEH255
 1272   440    L=NLEG                                                        RDVEH256
 1274          DO 450 K=1,I                                                  RDVEH257
 1306          IF ((TBLEG(1,L).EQ.TBLEG(3,J)).AND.(TBLEG(2,L).EQ.TBLEG(4,J))) GO RDVEH258
              1TO 460                                                        RDVEH259
 1320   450    L=L-1                                                         RDVEH260
 1322          PRINT 500, (TBLEG(M,J),M=1,4)                                 RDVEH261
 1331          TBLEG(7,J)=0                                                  RDVEH262
 1334          GO TO 470                                                     RDVEH263
 1335   460    CALL UNPACK (TEMP,18,TBLEG(6,L),12)                           RDVEH264
 1342          CALL PACK (TEMP,18,TBLEG(6,J),18)                             RDVEH265
 1347          CALL UNPACK (TEMP,18,TBLEG(11,L),12)                          RDVEH266
 1354          CALL PACK (TEMP,18,TBLEG(11,J),18)                            RDVEH267
 1361          TBLEG(7,J)=L                                                  RDVEH268
 1365   470    J=J-1                                                         RDVEH269
 1371          NLVEH=ICPDDB                                                  RDVEH270
      C                                                                       RDVEH271
      C                                                                       RDVEH272
 1373          RETURN                                                        RDVEH273
      C                                                                       RDVEH274
      C                                                                       RDVEH275
      C                                                                       RDVEH276
      480    FORMAT (6X,10HTHE STAGE ,A6,A4,42H HAS NOT BEEN ENTERED IN THE VEHRDVEH277
             1ICLE TABLE)                                                    RDVEH278
      490    FORMAT (1H+,20X,2F10.1)                                         RDVEH279
      500    FORMAT (1H+,40X,F10.1)                                          RDVEH280
      510    FORMAT (6X,23H THE ALTERNATE VEHICLE ,A6,A4,25H IS NOT IN VEHICLE RDVEH281
             1TABLE.)                                                        RDVEH282
      520    FORMAT (6X,32HVEHICLE TABLE CAPACITY EXCEEDED.)                 RDVEH283
      530    FORMAT (6X,29HIN THE VEHICLE TABLE ON CARD ,I3,12H THE NAME - ,A6,RDVEH284
             1A4,25H - HAS ALREADY BEEN USED.)                               RDVEH285
      540    FORMAT (6X,29HIN THE VEHICLE TABLE ON CARD ,I3,12H THE FIELD -,A6,RDVEH286
             1A4,25H- CONTAINS A NON-NUMERIC.)                               RDVEH287
      550    FORMAT (6X,31HIN THE VEHICLE TABLE, ISP CARD ,I3,12H THE FIELD -,ARDVEH288
             16,A4,25H- CONTAINS A NON-NUMERIC.)                             RDVEH289
```

```
  560   FORMAT (1H0,6X,8HTHE LEG ,A6,A4,13H FOR VEHICLE ,A6,A4,25H IS NOT RDVEH290
       1IN THE LEG TABLE.)                                                RDVEH291
  570   FORMAT (6X,30HIN THE VEHICLE TABLE, VEHICLE ,A6,A4,42H DOES NOT HARDVEH292
       1VE THE MINIMUM AMOUNT OF DATA.)                                   RDVEH293
  580   FORMAT (41H0 UP/DOWN CAPABILITY FOR DEFAULT VEHICLE ,A6,A4,8H ON LRDVEH294
       1EG ,A6,A4,16H DOES NOT EXIST.)                                    RDVEH295
  590   FORMAT (1HJ,6X,20HTHE DEFAULT VEHICLE ,A6,A4,29H IS NOT IN THE VEHRDVEH296
       1ICLE TABLE.)                                                      RDVEH297
  600   FORMAT (18H NO FOLLOWING LEG ,2(A6,A4,2X))                         RDVEH298
  610   FORMAT (9H0VEHICLE A6,A4,20H HAS ILLEGAL ENTRY (A6,A4,22H) FOR PRORDVEH299
       1PELLANT TANK.)                                                    RDVEH300
  620   FORMAT (6X,4HCARDI5,52H OF VEHICLE TABLE CONTAINS ILLEGAL OCCUPANCRDVEH301
       1Y LIMIT (A6,A4,1H))                                               RDVEH302
  630   FORMAT (6X,35HNO ISP VALUES IN THE DDB ARRAY FOR ,A6,A4/6X,35HWHICRDVEH303
       1H APPEARS IN THE WET STAGE CARD/6X,19HFOR VEHICLE NUMBER ,I2)     RDVEH304
1373        END                                                           RDVEH305
```

```
      SUBROUTINE PERLNK (M,WPLUF,WPLDN,VIN,WPEXP,FDV)                    PERLNK 2
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                            LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                      LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                                LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                         LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                               LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                   LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                             LABEL1 9
      COMMON /PRCG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                  LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                           LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                     LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                    LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                    LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                     LABEL115
      COMMON /KEL/KEL,NSW,G                                              FRI011 1
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                  LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LCWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L13UC,LIML1                                               WEC230 1
C                                                                        LABEL123
      INTEGER FYEAR                                                      LABEL124
C                                                                        LABEL125
      COMMON DDB(1)                                                      LABEL126
C                                                                        LABEL127
      DIMENSION DB(1), IDDB(1), ICB(1)                                   LABEL128
C                                                                        LABEL129
      EQUIVALENCE (DDB(1),DB(1),ICDB(1),IDB(1))                          LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINCEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                   LABEL132
C                                                                        LABEL133
C                                                                        LABEL134
      REAL ISPS                                                          PERLNK 4
C                                                                        PERLNK 5
      COMMON /ASDAT/ ARRAY(8,6)                                          PERLNK 6
C                                                                        PERLNK 7
      DO 10 I=1,8                                                        PERLNK 8
      DO 10 J=1,6                                                        PERLNK 9
```

```
 17   10     ARRAY(I,J)=0.0                                                    PERLNK10
      C                                                                        PERLNK11
 26          NTOT=0                                                           PERLNK12
 27          W0=0.0                                                           PERLNK13
 27          ISPS=0.0                                                         PERLNK14
 30          WPMAX=0.0                                                        PERLNK15
 30          KALL=0                                                           PERLNK16
 31          DO 30 I=6,36,6                                                   PERLNK17
 33          I1=I-6                                                           PERLNK18
 34          CALL UNPACK (NV,6,TBVEH(5,NVEH),I1)                              PERLNK19
 43          IF (NV.EQ.0) GO TO 40                                            PERLNK20
 50          NTOT=NTOT+1                                                      PERLNK21
 51          CALL UNPACK (NBVEH,18,TBVEH(3,NV),18)                            PERLNK22
 57          J1=NBVEH+NWVEH                                                   PERLNK23
 61          IF (IDB(J1).NE.3HISP) GO TO 240                                  PERLNK24
 70          DO 20 J=1,8                                                      PERLNK25
 77   20     ARRAY(J,NTOT)=DDB(J1+J+1)                                        PERLNK26
105   30     CONTINUE                                                         PERLNK27
107   40     CONTINUE                                                         PERLNK28
107          DO 50 I=1,NTOT                                                   PERLNK29
121          WPMAX=WPMAX+ARRAY(3,I)                                           PERLNK30
122   50     ISPS=ISPS+ARRAY(8,I)                                             PERLNK31
125          R=EXP(FLOAT(NTOT)*VIN/(G*ISPS))                                  FRI01114
147          WBO=ARRAY(1,NTOT)+ARRAY(2,NTOT)                                  PERLNK33
150          WPLUP=(WPMAX-WBO*(R*R-1.0))/(R-1.0)                              PERLNK34
156          IF (WPLUP.LE.0.) WPLUP=100.                                      PERLNK35
160          WPLDN=0.0                                                        PERLNK36
161   60     PLL=0.0                                                          PERLNK37
162          WPREQL=0.0                                                       PERLNK38
162          PLN=0.0                                                          PERLNK39
163   70     CONTINUE                                                         PERLNK40
163          IF (WPLUP.LT.0.0) WPLUP=0.1                                      PERLNK41
166          IF (WPLDN.LT.0.0) WPLDN=.1                                       PERLNK42
171          CALL PROPCL (NTOT,WPLUP,WPLDN,VIN,FOV,ARRAY,WPREC,NREC,M)        PERLNK43
205          KALL=KALL+1                                                      PERLNK44
206          PL=WPLUP                                                         PERLNK45
207          IF (WPLUP) 90,80,90                                              PERLNK46
210   80     PL=WPLDN                                                         PERLNK47
211   90     CONTINUE                                                         PERLNK48
211          IF (WPREQ) 100,160,160                                           PERLNK49
```

```
213   100   IF (PL.GT.100.0) GO TO 110                                  PERLNK50
217         PRINT 260, NREQ                                             PERLNK51
224         RETURN                                                      PERLNK52
225   110   PL=0.5*PL                                                   PERLNK53
227   120   IF (WPLUP) 130,140,130                                      PERLNK54
230   130   CONTINUE                                                    PERLNK55
230         WPLUP=PL                                                    PERLNK56
231         GO TO 150                                                   PERLNK57
232   140   WPLDN=PL                                                    PERLNK58
233   150   WPREQL=WPREQ                                                PERLNK59
234         PLL=PLN                                                     PERLNK60
236         PLN=PL                                                      PERLNK61
237         GO TO 70                                                    PERLNK62
240   160   X=WPREQ-WPREQL                                              PERLNK63
242         IF (X) 180,170,180                                          PERLNK64
243   170   X=0.03                                                      PERLNK65
245   180   IF (PL-0.1) 190,200,190                                     PERLNK66
247   190   CONTINUE                                                    PERLNK67
247         IF (ABS(X).LT.0.03) X=SIGN(0.03,X)                          PERLNK68
255         PL=PL+(WPMAX-WPREQ)*(PL-PLL)/X                              PERLNK69
262         IF (ABS(WPREQ-WPMAX).GT.1.0) GO TO 120                      PERLNK70
267   200   CONTINUE                                                    PERLNK71
267         IF (M.EQ.3) GO TO 210                                       PERLNK72
271         WPLUP=PL                                                    PERLNK73
272         WPEXP=PL                                                    PERLNK74
      C     PRINT 200,KALL                                              PERLNK75
272         RETURN                                                      PERLNK76
273   210   IF (WPLUP) 220,230,220                                      PERLNK77
274   220   CONTINUE                                                    PERLNK78
274         PLMX=PL                                                     PERLNK79
275         WPLDN=(WPMAX-WDO*(R-1.0))/(R*R-R)                           PERLNK80
303         WPLUP=0.0                                                   PERLNK81
304         GO TO 60                                                    PERLNK82
304   230   WPLUP=PLMX                                                  PERLNK83
305         WPLDN=PL                                                    PERLNK84
      C     PRINT 200,KALL                                              PERLNK85
306         GO TO 250                                                   PERLNK86
307   240   PRINT 270, NV                                               PERLNK87
315         JERR=JERR+1                                                 PERLNK88
322   250   CONTINUE                                                    PERLNK89
```

```
322         RETURN                                                                PERLNK90
      C                                                                           PERLNK91
      C                                                                           PERLNK92
      260   FORMAT (50H0    DESIGN ERROR. PROPELLANT INSUFFICIENT IN STAGE,I2)    PERLNK93
      270   FORMAT (27H0    ISP VALUES FOR VEHICLE ,I3,12H NOT ENTERED)           PERLNK94
323         END                                                                   PERLNK95
```

```
      SUBROUTINE RDFAC                                                  RDFAC  2
C     READ DATA CARDS FOR FACILITY TABLE                                RDFAC  3
C                                                                       RDFAC  4
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,N3MISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/ KEL                                                  LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUC,LIML1                                              WED230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRL,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
C                                                                       LABEL134
      INTEGER BLANK,TBSPD,CARD,DDB,YRS,DEVEL,RPROD                      RDFAC  6
C                                                                       RDFAC  7
      EQUIVALENCE (NCARD,NCRD), (I,NLFAC)                               RDFAC  8
C                                                                       RDFAC  9
```

```
                DATA MONE/0.0/                                          RDFAC 10
      C                                                                 RDFAC 11
                IF (NAFAC.EQ.1) GO TO 20                                RDFAC 12
        3       NFAC=0                                                  RDFAC 13
        3       NCARD=0                                                 RDFAC 14
        4       BLANK=1H                                                RDFAC 15
      C                                                                 RDFAC 16
        5       I=NLVEH                                                 RDFAC 17
        7       NBFAC=I+1                                               RDFAC 18
      C                                                                 RDFAC 19
       11   10  CONTINUE                                                RDFAC 20
       11       IF (NAFAC.EQ.1) RETURN                                  RDFAC 21
       14       CALL READER                                             RDFAC 22
       15   20  CONTINUE                                                RDFAC 23
       15       JL=JERR                                                 RDFAC 24
       16       IF (CARD(1).EQ.6HTABLE ) GO TO 100                      RDFAC 25
       21       IF (CARD(1).EQ.6HPROGRA) GO TO 100                      RDFAC 26
       23       NCARD=NCARD+1                                           RDFAC 27
      C     CHECK YEARS OF LIFE                                         RDFAC 28
       24       YRS=MONE                                                RDFAC 29
       26       CALL VALUE (CARD(3),YRS,IERR)                           RDFAC 30
       30       IF (IERR.EQ.0) GO TO 30                                 RDFAC 31
       31       JERR=JERR+1                                             RDFAC 32
       33       PRINT 110, NCRD,CARD(3),CARD(4)                         RDFAC 33
      C     CHECK DEVELOPMENT COST                                      RDFAC 34
       46   30  DEVEL=MONE                                              RDFAC 35
       50       CALL VALUE (CARD(5),DEVEL,IERR)                         RDFAC 36
       52       IF (IERR.EQ.0) GO TO 40                                 RDFAC 37
       53       JERR=JERR+1                                             RDFAC 38
       55       PRINT 110, NCRD,CARD(5),CARD(6)                         RDFAC 39
      C     CHECK SPREADING FUNCTION                                    RDFAC 40
      C                                                                 RDFAC 41
       70   40  CALL FINDSP (CARD(7),JSPD)                              RDFAC 42
      C                                                                 RDFAC 43
      C     CHECK RECURRING PRODUCTION COST                             RDFAC 44
       72       RPROD=MONE                                              RDFAC 45
       74       CALL VALUE (CARD(9),RPROD,IERR)                         RDFAC 46
       76       IF (IERR.EQ.0) GO TO 50                                 RDFAC 47
       77       JERR=JERR+1                                             RDFAC 48
      101       PRINT 110, NCRD,CARD(9),CARD(10)                        RDFAC 49
```

```
      C     CHECK SPREADING FUNCTION FOR RECURRING PRODUCTION COSTS          RDFAC 50
      C                                                                     RDFAC 51
  114 50    CALL FINDSP (CARD(11),KSPD)                                     RDFAC 52
      C                                                                     RDFAC 53
      C     CHECK FOR DUPLICATE OR BLANK FACILITY NAMES                     RDFAC 54
  116       IF (NFAC.EQ.0) GO TO 70                                         RDFAC 55
  117       K=NBFAC                                                         RDFAC 56
  121       DO 60 J=1,NFAC                                                  RDFAC 57
  122       IF ((CARD(1).NE.DDB(K)).OR.(CARD(2).NE.DDB(K+1))) GO TO 60      RDFAC 58
  132       JERR=JERR+1                                                     RDFAC 59
  133       PRINT 120                                                       RDFAC 60
  137       GO TO 90                                                        RDFAC 61
  140 60    K=K+NWFAC                                                       RDFAC 62
  144 70    IF ((CARD(1).NE.BLANK).OR.(CARD(2).NE.BLANK)) GO TO 80          RDFAC 63
  154       JERR=JERR+1                                                     RDFAC 64
  155       PRINT 130                                                       RDFAC 65
  161       GO TO 90                                                        RDFAC 66
      C                                                                     RDFAC 67
      C     STORE FACILITY DATA                                             RDFAC 68
      C                                                                     RDFAC 69
  162 80    NFAC=NFAC+1                                                     RDFAC 70
  164       DDB(I+1)=CARD(1)                                                RDFAC 71
  166       DDB(I+2)=CARD(2)                                                RDFAC 72
  170       DDB(I+3)=YRS                                                    RDFAC 73
  172       DDB(I+4)=DEVEL                                                  RDFAC 74
  174       DDB(I+5)=JSPD                                                   RDFAC 75
  176       DDB(I+6)=0.                                                     RDFAC 76
  177       DDB(I+7)=RPROD                                                  RDFAC 77
  201       DDB(I+8)=KSPD                                                   RDFAC 78
  203       I=I+NWFAC                                                       RDFAC 79
      C     PRINT CARD IMAGE IF AN INPUT ERROR WAS FOUND                    RDFAC 80
  205 90    IF (JERR.EQ.JL) GO TO 10                                        RDFAC 81
  207       PRINT 140, NCARD,CARD                                           RDFAC 82
  217       JL=JERR                                                         RDFAC 83
  221       GO TO 10                                                        RDFAC 84
      C                                                                     RDFAC 85
  221 100   CONTINUE                                                        RDFAC 86
  221       RETURN                                                          RDFAC 87
      C                                                                     RDFAC 88
      C                                                                     RDFAC 89
```

```
      C                                                                      RDFAC 90
      110   FORMAT (6X,30HIN THE FACILITY TABLE ON CARD ,I3,12H THE FIELD -,A6RDFAC 91
           1,A4,25H- CONTAINS A NON-NUMERIC.)                                RDFAC 92
      120   FORMAT (46H FACILITY NAME DUPLICATES ONE PREVIOUSLY INPUT)        RDFAC 93
      130   FORMAT (20H BLANK FACILITY NAME)                                  RDFAC 94
      140   FORMAT (23H ERROR OCCURRED ON CARD,I5,21H OF FACILITY TABLE.../10XRDFAC 95
           1,1H*,8(A6,A4),1H*)                                               RDFAC 96
  222       END                                                              RDFAC 97
```

```
      SUBROUTINE RDCRG                                                  RDCRG  2
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/ KEL                                                  LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUC,LIML1                                              WED230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
C                                                                       LABEL134
      INTEGER NAME(2),DESCRP(3),CONTN(2),CATEG(2),UPWT(2),DWNWT(2),EXPNDRDCRG  4
     1(2),TBCONT,B,PNTER,CLASS,CAT,TBVEH,DDB,PKWRD,VOLUME               RDCRG  5
      REAL TBCNT(8,1),TEMP(3)                                           RDCRG  6
      EQUIVALENCE (NCE,NCRD), (TBCNT(1,1),TBCONT(1,1))                  RDCRG  7
      EQUIVALENCE (CARD(1),NAME(1)), (CARD(3),DESCRP(1)), (CARD(7),CONTNRDCRG  8
     1(1)), (CARD(9),CATEG(1)), (CARD(11),UPWT(1)), (CARD(13),DWNWT(1)),RDCRG  9
```

```
      2 (CARD(15),EXPND(1))                                                    RDCRG 10
C                                                                              RDCRG 11
      EQUIVALENCE (ICPDDB,NLCE)                                                RDCRG 12
C                                                                              RDCRG 13
      DATA 3/1H /                                                              RDCRG 14
C                                                                              RDCRG 15
      IF (NAFAC.EQ.2) GO TO 20                                                 RDCRG 16
    3 LCE=0                                                                    RDCRG 17
    3 LFAC=0                                                                   RDCRG 18
    4 NCE=0                                                                    RDCRG 19
    5 PKWRD=0                                                                  RDCRG 20
    5 ICPDDB=NLFAC+NOSF                                                        RDCRG 21
   10 NBCE=ICPDDB+1                                                            RDCRG 22
C                                                                              RDCRG 23
C     READ CARGO NAME, DESCRIPTOR, CONTAINER, CATEGORY, UP WEIGHT, DOWN        RDCRG 24
C     WEIGHT, AND EXPENDABLE.                                                  RDCRG 25
C                                                                              RDCRG 26
   11 10  CONTINUE                                                             RDCRG 27
   11     IF (NAFAC.EQ.2) RETURN                                               RDCRG 28
   14     CALL READER                                                          RDCRG 29
   15 20  CONTINUE                                                             RDCRG 30
   15     IF (NAME(1).EQ.6HTABLE ) GO TO 230                                   RDCRG 31
   17     IF (NAME(1).EQ.6HPROGRA) GO TO 230                                   RDCRG 32
  CVAC    ENCODE(DESCRP,360)(NAME(I),I=3,6)                                    RDCRG 33
   21     ENCODE (18,360,TEMP) (NAME(I),I=3,6)                                 RDCRG 34
  CVAC    CONTINUE                                                             RDCRG 35
   30     DECODE (18,370,TEMP) (DESCRP(I),I=1,3)                               RDCRG 36
   40     NCE=NCE+1                                                            RDCRG 37
   42     IF (NAME(1).NE.6H      ) GO TO 30                                    RDCRG 38
   44     JERR=JERR+1                                                          RDCRG 39
   45     PRINT 340, NCRD                                                      RDCRG 40
   52     NCE=NCE-1                                                            RDCRG 41
   54     GO TO 10                                                             RDCRG 42
   54 30  IF (NCE.EQ.1) GO TO 50                                               RDCRG 43
C                                                                              RDCRG 44
C     CHECK DUPLICATE CARGO NAME.                                              RDCRG 45
C                                                                              RDCRG 46
   56     I2=NCE-1                                                             RDCRG 47
   57     DO 40 I=1,I2                                                         RDCRG 48
   61     LX=NBCE+NWCE*(I-1)                                                   RDCRG 49
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```
 64          IF ((NAME(1).NE.DDB(LX)).OR.(NAME(2).NE.DDB(LX+1))) GO TO 40      RDCRG 50
 75          PRINT 320, NCRD,NAME(1),NAME(2)                                   RDCRG 51
110          JERR=JERR+1                                                       RDCRG 52
112   40     CONTINUE                                                          RDCRG 53
            C                                                                 RDCRG 54
            C     STORE CARGO NAME INTO DYNAMIC DATA BLOCK.                   RDCRG 55
            C                                                                 RDCRG 56
115   50     DO 60 I=1,2                                                       RDCRG 57
123          DDB(ICPDDB+I)=NAME(I)                                             RDCRG 58
124   60     CONTINUE                                                          RDCRG 59
            C                                                                 RDCRG 60
            C     CHECK MISSING DESCRIPTOR.                                   RDCRG 61
            C                                                                 RDCRG 62
125          IF (DESCRP(1).NE.6H      ) GO TO 70                               RDCRG 63
127          IF (DESCRP(2).NE.6H      ) GO TO 70                               RDCRG 64
131          IF (DESCRP(3).NE.6H      ) GO TO 70                               RDCRG 65
132          PRINT 330, NCRD                                                   RDCRG 66
140          JERR=JERR+1                                                       RDCRG 67
            C                                                                 RDCRG 68
            C     STORE DESCRIPTOR INTO DYNAMIC DATA BLOCK.                   RDCRG 69
            C                                                                 RDCRG 70
143   70     DDB(ICPDDB+3)=DESCRP(1)                                           RDCRG 71
145          DDB(ICPDDB+4)=DESCRP(2)                                           RDCRG 72
146          DDB(ICPDDB+5)=DESCRP(3)                                           RDCRG 73
150          NXTWRD=6                                                          RDCRG 74
            C                                                                 RDCRG 75
            C     CHECK FOR CLASS AND POINTER                                 RDCRG 76
            C                                                                 RDCRG 77
150          PNTER=0                                                           RDCRG 78
151          CLASS=0                                                           RDCRG 79
152          CAT=0                                                             RDCRG 80
153          DO 80 I=1,NCONT                                                   RDCRG 81
164          IF (CONTN(1).NE.TBCONT(1,I)) GO TO 80                             RDCRG 82
166          IF (CONTN(2).EQ.TBCONT(2,I)) GO TO 90                             RDCRG 83
167   80     CONTINUE                                                          RDCRG 84
171          IF ((CONTN(1).EQ.6HDISCRE).AND.(CONTN(2).EQ.4HTE  )) GO TO 100    RDCRG 85
201          PRINT 280, NCRD,CONTN(1),CONTN(2)                                 RDCRG 86
214          JERR=JERR+1                                                       RDCRG 87
216          GO TO 110                                                         RDCRG 88
220   90     PNTER=I                                                           RDCRG 89
```

```
220         CLASS=TBCNT(5,I)                                                    RDCRG 90
222         GO TO 110                                                           RDCRG 91
223   100   CLASS=3                                                             RDCRG 92
      C                                                                       RDCRG 93
      C     CHECK FOR CATEGORY AND POINTER                                    RDCRG 94
      C                                                                       RDCRG 95
224   110   IF ((CATEG(1).EQ.6HMATERI).AND.(CATEG(2).EQ.4HAL  )) CAT=1        RDCRG 96
235         IF ((CATEG(1).EQ.6HPERSON).AND.(CATEG(2).EQ.4HNEL )) CAT=2        RDCRG 97
246         IF ((CATEG(1).EQ.6HFACILI).AND.(CATEG(2).EQ.4HTIES)) CAT=3        RDCRG 98
256         IF ((CATEG(1).EQ.6HFACILI).AND.(CATEG(2).EQ.4HTY  )) CAT=3        RDCRG 99
266         IF (CATEG(1).EQ.6HSATELL) CAT=3                                   RDCRG100
271         IF (CATEG(1).EQ.6HSATELI) CAT=3                                   RDCRG101
274         IF (CATEG(1).EQ.6HSATTEL) CAT=3                                   RDCRG102
277         IF ((CATEG(1).EQ.6HVEHICL).AND.(CATEG(2).EQ.4HE   )) CAT=4        RDCRG103
310         IF (PNTER.NE.0) GO TO 180                                         RDCRG104
311         DO 120 I=1,NVEH                                                   RDCRG105
322         IF ((NAME(1).EQ.TBVEH(1,I)).AND.(NAME(2).EQ.TBVEH(2,I))) GO TO 160RDCRG106
331   120   CONTINUE                                                          RDCRG107
333         IF (NFAC.EQ.0) GO TO 140                                          RDCRG108
334         J=NBFAC                                                           RDCRG109
336         DO 130 I=1,NFAC                                                   RDCRG110
342         IF ((NAME(1).EQ.DDB(J)).AND.(NAME(2).EQ.DDB(J+1))) GO TO 150      RDCRG111
352   130   J=J+NWFAC                                                         RDCRG112
354   140   PRINT 350, NAME(1),NAME(2)                                        RDCRG113
366         GO TO 180                                                         RDCRG114
367   150   CAT=3                                                             RDCRG115
370         GO TO 170                                                         RDCRG116
371   160   CAT=4                                                             RDCRG117
372   170   PNTER=I                                                           RDCRG118
374   180   IF (CAT.NE.0) GO TO 190                                           RDCRG119
375         PRINT 290, NCRD,CATEG(1),CATEG(2)                                 RDCRG120
411         JERR=JERR+1                                                       RDCRG121
413   190   CALL PACK (PNTER,12,PKWRD,0)                                      RDCRG122
416         CALL PACK (CLASS,12,PKWRD,12)                                     RDCRG123
421         CALL PACK (CAT,12,PKWRD,24)                                       RDCRG124
424         DDB(ICPDDB+NXTWRD)=PKWRD                                          RDCRG125
      C                                                                       RDCRG126
      C     CHECK JP WEIGHT AND DOWN WEIGHT FOR NUMERIC VALUE AND STORE INTO  RDCRG127
      C     DYNAMIC DATA BLOCK.                                               RDCRG128
      C                                                                       RDCRG129
```

```
427         DO 200 I=11,13,2                                                RDCRG130
431         NXTWRD=NXTWRD+1                                                 RDCRG131
432         DB(ICPDDB+NXTWRD)=0.0                                           RDCRG132
434         CALL VALUE (NAME(I),DDB(ICPDDB+NXTWRD),IERR)                    RDCRG133
440         IF (IERR.LE.0) GO TO 200                                        RDCRG134
442         PRINT 300, NCRD,NAME(I),NAME(I+1)                               RDCRG135
455         JERR=JERR+1                                                     RDCRG136
457   200   CONTINUE                                                        RDCRG137
461         IF (DDB(ICPDDB+NXTWRD-1).NE.0) GO TO 210                        RDCRG138
464         IF (DDB(ICPDDB+NXTWRD).NE.0) GO TO 210                          RDCRG139
466         PRINT 310, NCRD                                                 RDCRG140
473         JERR=JERR+1                                                     RDCRG141
475   210   NXTWRD=NXTWRD+1                                                 RDCRG142
      C                                                                     RDCRG143
      C     CHECK AND STORE VOLUME FACTOR FOR DISCRETE ITEMS ONLY           RDCRG144
      C                                                                     RDCRG145
477         VOLUME=0                                                        RDCRG146
477         IF (CLASS.NE.3) GO TO 220                                       RDCRG147
502         IF ((EXPND(1).EQ.3).AND.(EXPND(2).EQ.8)) GO TO 220              RDCRG148
511         CALL VALUE (EXPND,VOLUME,IERR)                                  RDCRG149
513         IF (IERR.EQ.0) GO TO 220                                        RDCRG150
514         JERR=JERR+1                                                     RDCRG151
516         PRINT 300, NCRD,EXPND(1),EXPND(2)                               RDCRG152
531   220   DDB(ICPDDB+NXTWRD)=VOLUME                                       RDCRG153
534         ICPDDB=ICPDDB+NXTWRD                                            RDCRG154
535         IF (CAT.NE.3) CALL SWITCH (NCE)                                 RDCRG155
541         GO TO 10                                                        RDCRG156
      C                                                                     RDCRG157
      C     STORE ALL THE CONTAINERS FROM THE CONTAINER TABLE INTO THE      RDCRG158
      C     DYNAMIC DATA BLOCK.                                             RDCRG159
      C                                                                     RDCRG160
542   230   CLASS=3                                                         RDCRG161
543         CALL PACK (CLASS,12,PKWRD,12)                                   RDCRG162
546         ITBCNT=LCE                                                      RDCRG163
547         IPROP=JPROP+ITBCNT                                              RDCRG164
551         DO 270 I=1,NCONT                                                RDCRG165
      C                                                                     RDCRG166
553         PNTER=0                                                         RDCRG167
553         CAT=1                                                           RDCRG168
554         IF (NFAC.EQ.0) GO TO 260                                        RDCRG169
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556           J=NBFAC                                                          RDCRG170
557           DO 240 K=1,NFAC                                                  RDCRG171
570           IF ((TBCONT(1,I).EQ.DDB(J)).AND.(TBCONT(2,I).EQ.DDB(J+1))) GO TO 2RDCRG172
             150                                                               RDCRG173
602    240    J=J+NWFAC                                                        RDCRG174
604           GO TO 260                                                        RDCRG175
605    250    CAT=3                                                            RDCRG176
606           PNTER=K                                                          RDCRG177
610    260    CALL PACK (PNTER,12,PKWRD,0)                                     RDCRG178
613           CALL PACK (CAT,12,PKWRD,24)                                      RDCRG179
       C                                                                       RDCRG180
626           DDB(ICPDDB+1)=TBCONT(1,I)                                        RDCRG181
627           DDB(ICPDDB+3)=TBCONT(1,I)                                        RDCRG182
631           DDB(ICPDDB+2)=TBCONT(2,I)                                        RDCRG183
632           DDB(ICPDDB+4)=TBCONT(2,I)                                        RDCRG184
634           DDB(ICPDDB+6)=PKWRD                                              RDCRG185
635           DDB(ICPDDB+7)=TBCONT(4,I)                                        RDCRG186
637           DDB(ICPDDB+8)=TBCONT(4,I)                                        RDCRG187
640           DDB(ICPDDB+9)=TBCONT(6,I)                                        RDCRG188
641           NCE=NCE+1                                                        RDCRG189
643           LX=ICPDDB+7                                                      RDCRG190
644           IF(TBCNT(5,I)-4.)268,266,268                                     ZERODI 2
650    266    DB(LX)=DB(LX)+TBCNT(3,I)                                         ZERODI 3
654    268    CONTINUE                                                         ZERODI 4
654           ICPDDB=ICPDDB+NWCE                                               RDCRG192
656           CALL SWITCH (NCE)                                                RDCRG193
657    270    CONTINUE                                                         RDCRG194
       C                                                                       RDCRG195
662           RETURN                                                           RDCRG196
       C                                                                       RDCRG197
       C                                                                       RDCRG198
       C                                                                       RDCRG199
       280    FORMAT (6X,35HIN THE CARGO ELEMENT TABLE ON CARD ,I3,16H THE CONTARDCRG200
             1INER, ,A6,A4,52H, IS NOT DEFINED, OR THE WORD -DISCRETE- IS MISSINRDCRG201
             2G.)                                                              RDCRG202
       290    FORMAT (6X,35HIN THE CARGO ELEMENT TABLE ON CARD ,I3,15H THE CATEGRDCRG203
             1ORY, ,A6,A4,22H, IS NOT RECOGNIZABLE.)                           RDCRG204
       300    FORMAT (6X,35HIN THE CARGO ELEMENT TABLE ON CARD ,I3,12H THE FIELDRDCRG205
             1 -,A6,A4,25H- CONTAINS A NON-NUMERIC.)                           RDCRG206
       310    FORMAT (6X,35HIN THE CARGO ELEMENT TABLE ON CARD ,I3,39H THE UP ANRDCRG207
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     1D DOWN WEIGHTS ARE BOTH ZERC.)                                          RDCRG208
 320  FORMAT (6X,35HIN THE CARGO ELEMENT TABLE CN CARD ,I3,11H THE NAME       RDCRG209
     1-,A6,A4,24H- HAS ALREADY BEEN USED.)                                    RDCRG210
 330  FORMAT (6X,35HIN THE CARGO ELEMENT TABLE CN CARD ,I3,27H THE DESCRRDCRG211
     1IPTOR IS MISSING.)                                                      RDCRG212
 340  FORMAT (6X,35HIN THE CARGO ELEMENT TABLE CN CARD ,I3,18H THE NAME       RDCRG213
     1IS BLANK)                                                               RDCRG214
 350  FORMAT (24H *** THE CARGC ELEMENT- ,A6,A4,64H -DCES NCT POINT TOWARDCRG215
     1RD A CONTAINER,VEHICLE OR FACILITY TABLE***)                            RDCRG216
 360  FORMAT (A6,A4,A6,A2)                                                     RDCRG217
 370  FORMAT (3A6)                                                             RDCRG218
662       END                                                                 RDCRG219
```

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C                                                                       RDMISS 2
C                                                                       RDMISS 3
      SUBROUTINE RDMISS                                                 RDMISS 4
C     MAKE ENTRIES TO CARGO TABLE                                       RDMISS 5
C                                                                       RDMISS 6
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/ KEL                                                  LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUG,LIML1                                              WED230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
C                                                                       LABEL134
      INTEGER NAME(10),ICARGO(3),PNAME,TBLEG,TBVEH,DDB,TEMP(3),PN,LIOC(2RDMISS 8
     10),LSCHD(20),LNAME(2),PNMN(300),CE(300),WLF(300),JCARGO(3)        RDMISS 9
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      C                                                                       RDMISS10
            REAL WTLF(1)                                                      RDMISS11
      C                                                                       RDMISS12
            COMMON /ASDAT/ LIOC,LSCHD,PNMN,CE,WLF,ILEG,IVEH,IPHASE,IDC,IDP,DATRDMISS13
           1ESP,DATEST,ICARGO,JCARGO,JWORD,ICEO,ICEN,MUST,LNAME,MAX,PHASE,NSCDRDMISS14
           2,NSCHD,NSHP,TEMP,L3                                               RDMISS15
      C                                                                       RDMISS16
      C                                                                       RDMISS17
            EQUIVALENCE (CARD(1),NAME(1)), (DATEPI,IDP), (DATECI,IDC), (ICPDDBRDMISS18
           1,NLMISS), (WTLF(1),WLF(1))                                        RDMISS19
      C                                                                       RDMISS20
      C                                                                       RDMISS21
            IF (NAFAC.NE.0) GO TO 50                                          RDMISS22
          2 REWIND L1WOT                                                      WED23024
          4 ICNT=0                                                            WED23025
          5 LIML1=510/NWMISS                                                  WED23026
         10 LNGTH=0                                                           WED23027
         11 MAX=63                                                            RDMISS23
         12 NIVA=0                                                            RDMISS24
         13 NIFA=0                                                            RDMISS25
         14 NWORD=0                                                           RDMISS26
         14 IWORD=0                                                           RDMISS27
         15 MAXCGN=0                                                          RDMISS28
         15 PHASE=0.0                                                         RDMISS29
         16 ICEO=0                                                            RDMISS30
         16 ICEN=0                                                            RDMISS31
         17 L3=0                                                              RDMISS32
         17 NSCD=0                                                            RDMISS33
         20 JWORD=100000                                                      RDMISS34
         22 CALL PACK (1,1,JWORD,0)                                           RDMISS35
         25 DO 10 I=1,MIVA                                                    RDMISS36
         32 10 IVA(I)=0                                                       RDMISS37
         34 DO 20 I=1,MIFA                                                    RDMISS38
         40 20 IFA(I)=0                                                       RDMISS39
         42 MUST=1                                                            RDMISS40
         42 NPROG=1                                                           RDMISS41
         43 NMISS=3                                                           RDMISS42
         45 DO 30 I=4,189                                                     RDMISS43
         51 30 PNAME(I,1)=0                                                   RDMISS44
         53 DO 40 I=10,189                                                    RDMISS45
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 57   40    MNAME(I,1)=0                                                    RDMISS46
 61         ICPDDB=NLCE+NOSC                                                RDMISS47
 63         NBMISS=ICPDDB+1                                                 RDMISS48
 64         IF (NAME(3).EQ.6H      ) CALL READER                            RDMISS49
 67         GO TO 60                                                        RDMISS50
 70   50    CALL READER                                                     RDMISS51
 71         IF (NAME(1).EQ.6HFACILI) GO TO 140                              RDMISS52
 73         IF (NAME(1).EQ.6HELEMEN) GO TO 150                              RDMISS53
 75         IF (NAME(1).EQ.6HSCHEDU) GO TO 160                              RDMISS54
 77         IF (NAME(1).EQ.6H      .AND.NSCHD.EQ.6HSCHEDU) GO TO 160        RDMISS55
105         IF (NAME(1).EQ.6H      .AND.NSCHD.EQ.6HSHIPMT) GO TO 110        RDMISS56
113         IF (NAME(1).EQ.6HSATELL) GO TO 560                              RDMISS57
115   60    IF=3                                                            RDMISS58
116         IL=6                                                            RDMISS59
117         ICF=0                                                           RDMISS60
120         IF (NAME(1).EQ.6HREPORT) GO TO 1010                             RDMISS61
122         IF (NAME(1).EQ.6HPROGRA) GO TO 90                               RDMISS62
124         IF (NAME(1).EQ.6HMISSIO) GO TO 230                              RDMISS63
126         IF (MUST.NE.1) GO TO 70                                         RDMISS64
130         PRINT 1050, (PNAME(I,NPROG),I=1,3)                              RDMISS65
137         JERR=JERR+1                                                     RDMISS66
141   70    IF (NAME(1).EQ.6HPHASE ) GO TO 270                              RDMISS67
143         IF (NAME(1).EQ.6HIOC   ) GO TO 340                              RDMISS68
145         IF (NAME(1).EQ.6HLEG   ) GO TO 390                              RDMISS69
147         IF (NAME(1).EQ.6HVEHICL) GO TO 410                              RDMISS70
151         IF (NAME(1).EQ.6HSTART ) GO TO 480                              RDMISS71
153         IF (NAME(1).EQ.6HSTOP  ) GO TO 520                              RDMISS72
155         IF (NAME(1).EQ.6HCARGO ) GO TO 620                              RDMISS73
157         IF (NAME(1).EQ.6HCOUPLE) GO TO 840                              RDMISS74
161         IF (NAFAC.EQ.3) GO TO 110                                       RDMISS75
163         IF (NAFAC.EQ.4) GO TO 420                                       RDMISS76
164         IF (NAFAC.EQ.0) GO TO 80                                        RDMISS77
165         CALL DDBSFT                                                     RDMISS78
166         RETURN                                                          RDMISS79
167   80    CONTINUE                                                        RDMISS80
167         PRINT 1060, (PNAME(I,NPROG),I=1,3),(MNAME(I,NMISS),I=1,3),(NAME(I)RDMISS81
           1,I=1,10)                                                        RDMISS82
205         JERR=JERR+1                                                     RDMISS83
207         GO TO 50                                                        RDMISS84
207   90    NPROG=NPROG+1                                                   RDMISS85
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211         IF (NPROG.GT.MAX) GO TO 220                                    RDMISS86
    CVAC    ENCODE(PNAME(1,NPROG),1020)(NAME(I),I=3,6)                      RDMISS87
214         ENCODE (18,1220,TEMP) (NAME(I),I=3,6)                          RDMISS88
    CVAC    CONTINUE                                                       RDMISS89
223         DECODE (18,1230,TEMP) (PNAME(I,NPROG),I=1,3)                   RDMISS90
235         I2=NPROG-1                                                     RDMISS91
237         DO 100 I=1,I2                                                  RDMISS92
241         IF (PNAME(1,NPROG).NE.PNAME(1,I)) GO TO 100                    RDMISS93
245         IF (PNAME(2,NPROG).NE.PNAME(2,I)) GO TO 100                    RDMISS94
251         IF (PNAME(3,NPROG).NE.PNAME(3,I)) GO TO 100                    RDMISS95
254         NPROG=NPROG-1                                                  RDMISS96
255         IF (ICF.EQ.1) GO TO 910                                        RDMISS97
257         PRINT 1070, (PNAME(L,NPROG),L=1,3)                             RDMISS98
266         JERR=JERR+1                                                    RDMISS99
270         GO TO 210                                                      RDMIS100
270  100    CONTINUE                                                       RDMIS101
273         GO TO 200                                                      RDMIS102
273  110    IF (NAME(1).EQ.6H      ) GO TO 120                             RDMIS103
275         NSCHD=6HSHIPMT                                                 RDMIS104
276         NSHP=0                                                         RDMIS105
277         L3=0                                                           RDMIS106
277         LNAME(1)=NAME(1)                                               RDMIS107
300         LNAME(2)=NAME(2)                                               RDMIS108
302  120    DO 130 N=3,16,2                                                RDMIS109
311         NSHP=NSHP+1                                                    RDMIS110
312         LSCHD(NSHP)=NAME(N)                                            RDMIS111
312  130    CONTINUE                                                       RDMIS112
315         IF (NSHP.GE.NSCD) GO TO 610                                    RDMIS113
317         GO TO 50                                                       RDMIS114
317  140    NAFAC=1                                                        RDMIS115
320         GO TO 50                                                       RDMIS116
321  150    NAFAC=2                                                        RDMIS117
322         GO TO 50                                                       RDMIS118
323  160    IF (NAME(1).EQ.6H      ) GO TO 170                             RDMIS119
325         NSCHD=NAME(1)                                                  RDMIS120
326         NSCD=0                                                         RDMIS121
326         NAFAC=3                                                        RDMIS122
330  170    DO 180 N=3,16,2                                                RDMIS123
332         IF (NAME(N).EQ.6H      ) GO TO 190                             RDMIS124
334         NSCD=NSCD+1                                                    RDMIS125
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```
336           CALL VALUE (NAME(N),NIOC,IERR)                                RDMIS126
340           LIOC(NSGO)=NIOC                                               RDMIS127
342    180    CONTINUE                                                      RDMIS128
344    190    GO TO 50                                                      RDMIS129
345    200    CONTINUE                                                      RDMIS130
345           I=NPROG                                                       RDMIS131
346           IF (ICF.EQ.1) GO TO 910                                       RDMIS132
351    210    DATEPI=0.0                                                    RDMIS133
352           ICARGO(1)=0                                                   RDMIS134
352           MUST=1                                                        RDMIS135
354           CALL PACK (I,6,ICARGO(1),24)                                  RDMIS136
357           GO TO 260                                                     RDMIS137
360    220    PRINT 1080, NMISS,NPROG                                       RDMIS138
370           JERR=JERR+1                                                   RDMIS139
372           GO TO 50                                                      RDMIS140
372    230    NMISS=NMISS+1                                                 RDMIS141
374           IF (NMISS.GT.MAX) GO TO 220                                   RDMIS142
      CVAC    ENCODE(MNAME(1,NMISS),1020)(NAME(I),I=IF,IL)                  RDMIS143
377           ENCODE (18,1220,TEMP) (NAME(I),I=IF,IL)                       RDMIS144
      CVAC    CONTINUE                                                      RDMIS145
410           DECODE (18,1230,TEMP) (MNAME(I,NMISS),I=1,3)                  RDMIS146
422           IF (ICF.EQ.0) CALL PACK (0,24,ICARGO(1),0)                    RDMIS147
426           I2=NMISS-1                                                    RDMIS148
430           DO 240 I=1,I2                                                 RDMIS149
432           IF (MNAME(1,NMISS).NE.MNAME(1,I)) GO TO 240                   RDMIS150
436           IF (MNAME(2,NMISS).NE.MNAME(2,I)) GO TO 240                   RDMIS151
442           IF (MNAME(3,NMISS).NE.MNAME(3,I)) GO TO 240                   RDMIS152
445           NMISS=NMISS-1                                                 RDMIS153
446           GO TO 250                                                     RDMIS154
447    240    CONTINUE                                                      RDMIS155
452           I=NMISS                                                       RDMIS156
453    250    CONTINUE                                                      RDMIS157
453           IF (ICF.EQ.1) GO TO 920                                       RDMIS158
455           CALL PACK (I,6,ICARGO(1),30)                                  RDMIS159
460           MUST=0                                                        RDMIS160
461    260    ICARGO(2)=0                                                   RDMIS161
462           ILEG=0                                                        RDMIS162
462           IVEH=0                                                        RDMIS163
463           DATECI=0.0                                                    RDMIS164
464           DATEST=0.0                                                    RDMIS165
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464           DATESP=0.0                                                        RDMIS166
465           GO TO 320                                                         RDMIS167
465   270     CALL VALUE (NAME(3),PHASE,IERR)                                   RDMIS168
470           IF (IERR.EQ.0) GO TO 310                                          RDMIS169
471           IF (NAME(3).EQ.6HINITIA) GO TO 280                                RDMIS170
473           IF (NAME(3).EQ.6HSUSTAI) GO TO 290                                RDMIS171
475           IF (NAME(3).EQ.6HTERMIN) GO TO 300                                RDMIS172
477           PRINT 1090, (PNAME(I,NPROG),I=1,3),(MNAME(I,NMISS),I=1,3),(NAME(I)RDMIS173
             1,I=1,10)                                                          RDMIS174
514           JERR=JERR+1                                                       RDMIS175
516           GO TO 50                                                          RDMIS176
516   280     PHASE=1.                                                          RDMIS177
520           GO TO 320                                                         RDMIS178
520   290     PHASE=2.                                                          RDMIS179
522           GO TO 320                                                         RDMIS180
522   300     PHASE=3.                                                          RDMIS181
524           GO TO 320                                                         RDMIS182
524   310     IF (PHASE.LT.1.) GO TO 330                                        RDMIS183
527           IF (PHASE.GT.3.) GO TO 330                                        RDMIS184
532   320     IPHASE=PHASE                                                      RDMIS185
534           CALL PACK (IPHASE,2,ICARGO(2),4)                                  RDMIS186
537           GO TO 50                                                          RDMIS187
540   330     PRINT 1090, (PNAME(I,NPROG),I=1,3),(MNAME(I,NMISS),I=1,3),(NAME(I)RDMIS188
             1,I=1,10)                                                          RDMIS189
556           JERR=JERR+1                                                       RDMIS190
560           GO TO 50                                                          RDMIS191
560   340     CALL VALUE (NAME(3),DATE,IERR)                                    RDMIS192
563           IF (IERR.EQ.0) GO TO 350                                          RDMIS193
564           PRINT 1100, (PNAME(I,NPROG),I=1,3),(MNAME(I,NMISS),I=1,3),(NAME(I)RDMIS194
             1,I=1,10)                                                          RDMIS195
602           JERR=JERR+1                                                       RDMIS196
604           GO TO 50                                                          RDMIS197
604   350     IF (DATE.GT.50.) GO TO 370                                        RDMIS198
610           IF (IDP.EQ.0) GO TO 380                                           RDMIS199
611           DATECI=DATE+DATEPI                                                RDMIS200
612   360     DATEST=DATECI                                                     RDMIS201
613           DATESP=DATECI                                                     RDMIS202
614           IF (NAME(1).EQ.3HIOC) NAFAC=0                                     RDMIS203
620           IF (NAFAC.EQ.4) GO TO 590                                         RDMIS204
622           GO TO 50                                                          RDMIS205
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623   370   CONTINUE                                                          RDMIS206
623         DATEPI=DATE                                                       RDMIS207
625         DATECI=DATE                                                       RDMIS208
626         GO TO 360                                                         RDMIS209
626   380   PRINT 1110, (PNAME(I,NPROG),I=1,3),(MNAME(I,NMISS),I=1,3),(NAME(I)RDMIS210
           1,I=1,10)                                                         RDMIS211
644         JERR=JERR+1                                                       RDMIS212
646         GO TO 50                                                          RDMIS213
646   390   DO 400 I=1,NLEG                                                   RDMIS214
650         IF (TBLEG(1,I).NE.NAME(3)) GO TO 400                              RDMIS215
654         IF (TBLEG(2,I).NE.NAME(4)) GO TO 400                              RDMIS216
656         ILEG=I                                                            RDMIS217
657         CALL PACK (ILEG,6,ICARGO,0)                                       RDMIS218
662         GO TO 50                                                          RDMIS219
663   400   CONTINUE                                                          RDMIS220
666         PRINT 1120, (PNAME(I,NPROG),I=1,3),(MNAME(I,NMISS),I=1,3),(NAME(I)RDMIS221
           1,I=1,10)                                                         RDMIS222
703         JERR=JERR+1                                                       RDMIS223
705         GO TO 50                                                          RDMIS224
705   410   IF (ILEG.NE.0) GO TO 420                                          RDMIS225
706         PRINT 1130, (PNAME(I,NPROG),I=1,3),(MNAME(I,NMISS),I=1,3),NAME    RDMIS226
724         JERR=JERR+1                                                       RDMIS227
726         GO TO 50                                                          RDMIS228
726   420   CALL PACK (TBLEG(6,ILEG),18,ICARGO(2),6)                          RDMIS229
733         CALL UNPACK (N,6,TBLEG(6,ILEG),12)                                RDMIS230
740         CALL PACK (N,6,ICARGO(1),12)                                      RDMIS231
743         N=1                                                               RDMIS232
744         IVEH=1                                                            RDMIS233
745         DO 470 I=1,4                                                      RDMIS234
746         J=2*I+1                                                           RDMIS235
747         IF (NAFAC.EQ.4) J=7                                               RDMIS236
753         IF ((ICAP.EQ.1).AND.(NAME(J).EQ.6H      )) N=0                    RDMIS237
764         IF ((NAME(J).EQ.6H      ).AND.(NAME(J+1).EQ.4H    )) GO TO 440    RDMIS238
773         N=I77                                                             RDMIS239
774         IF (NAME(J).EQ.4HNONE) GO TO 450                                  RDMIS240
777         N=0                                                               RDMIS241
777         IF (NAME(J).EQ.4HANY ) GO TO 450                                  RDMIS242
1002        DO 430 N=1,NVEH                                                   RDMIS243
1013        IF ((NAME(J).EQ.TBVEH(1,N)).AND.(NAME(J+1).EQ.TBVEH(2,N))) GO TO 4RDMIS244
           150                                                               RDMIS245
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1022  430   CONTINUE                                                          RDMIS246
1025        PRINT 1140, NAME(J),NAME(J+1),(PNAME(L,NPROG),L=1,3),(MNAME(L,NMISRDMIS247
           1S),L=1,3),NAME                                                   RDMIS248
1050        JERR=JERR+1                                                       RDMIS249
1052        GO TO 460                                                         RDMIS250
1052  440   IF ((N.NE.0).AND.(N.NE.177)) GO TO 460                            RDMIS251
1061  450   IF (I.EQ.1) CALL PACK (N,6,ICARGO(1),12)                          RDMIS252
1066        IF (I.NE.1) CALL PACK (N,6,ICARGO(2),6*I-6)                       RDMIS253
1076        IF (N.EQ.0) IVEH=2                                                RDMIS254
1100  460   CONTINUE                                                          RDMIS255
1100        IF (NAFAC.EQ.4) GO TO 580                                         RDMIS256
1102  470   CONTINUE                                                          RDMIS257
1104        GO TO 50                                                          RDMIS258
1105  480   CALL VALUE (NAME(3),DATE,IERR)                                    RDMIS259
1110        IF (IERR.EQ.0) GO TO 490                                          RDMIS260
1111        PRINT 1150, (PNAME(I,NPROG),I=1,3),(MNAME(I,NMISS),I=1,3),(NAME(I)RDMIS261
           1,I=1,10)                                                         RDMIS262
1127        JERR=JERR+1                                                       RDMIS263
1131        GO TO 50                                                          RDMIS264
1131  490   IF (DATE.GT.50.) GO TO 500                                        RDMIS265
1135        IF (IDC.EQ.0) GO TO 510                                           RDMIS266
1136        DATEST=DATE+DATECI                                                RDMIS267
1137        GO TO 50                                                          RDMIS268
1140  500   DATEST=DATE                                                       RDMIS269
1142        GO TO 50                                                          RDMIS270
1142  510   PRINT 1160, (PNAME(I,NPROG),I=1,3),(MNAME(I,NMISS),I=1,3),(NAME(I)RDMIS271
           1,I=1,10)                                                         RDMIS272
1160        JERR=JERR+1                                                       RDMIS273
1162        GO TO 50                                                          RDMIS274
1162  520   CALL VALUE (NAME(3),DATE,IERR)                                    RDMIS275
1165        IF (IERR.EQ.0) GO TO 530                                          RDMIS276
1166        PRINT 1170, (PNAME(I,NPROG),I=1,3),(MNAME(I,NMISS),I=1,3),(NAME(I)RDMIS277
           1,I=1,10)                                                         RDMIS278
1204        JERR=JERR+1                                                       RDMIS279
1206        GO TO 50                                                          RDMIS280
1206  530   IF (DATE.GT.50.) GO TO 540                                        RDMIS281
1212        IF (IDC.EQ.0) GO TO 550                                           RDMIS282
1213        DATESP=DATE+DATECI                                                RDMIS283
1214        GO TO 50                                                          RDMIS284
1215  540   DATESP=DATE                                                       RDMIS285
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1217          GO TO 50                                                          RDMIS286
1217    550   PRINT 1180, (PNAME(I,NPROG),I=1,3),(MNAME(I,NMISS),I=1,3),(NAME(I)RDMIS287
             1,I=1,10)                                                         RDMIS288
1235          JERR=JERR+1                                                       RDMIS289
1237          GO TO 50                                                          RDMIS290
1237    560   IF (ILEG.EQ.0) GO TO 570                                          RDMIS291
1240          LNAME(1)=NAME(3)                                                  RDMIS292
1241          LNAME(2)=NAME(4)                                                  RDMIS293
1243          NAFAC=4                                                           RDMIS294
1244          GO TO 50                                                          RDMIS295
1245    570   PRINT 1240, (PNAME(I,NPROG),I=1,3),(MNAME(I,NMISS),I=1,3)         RDMIS296
1261          JERR=JERR+1                                                       RDMIS297
1263          GO TO 50                                                          RDMIS298
1263    580   CONTINUE                                                          RDMIS299
1263          IF (N.EQ.0) ICARGO(2)=0                                           RDMIS300
1265          LSCHD(1)=NAME(3)                                                  RDMIS301
1266          LSCHD(2)=NAME(5)                                                  RDMIS302
1270          LSCHD(3)=NAME(6)                                                  RDMIS303
1272          NAME(3)=NAME(1)                                                   RDMIS304
1273          NAME(4)=NAME(2)                                                   RDMIS305
1274          GO TO 340                                                         RDMIS306
1275    590   CONTINUE                                                          RDMIS307
1275          NAME(3)=LNAME(1)                                                  RDMIS308
1277          NAME(4)=LNAME(2)                                                  RDMIS309
1300          NAME(5)=LSCHD(1)                                                  RDMIS310
1302          NAME(6)=1H                                                        RDMIS311
1303          NAME(7)=LSCHD(2)                                                  RDMIS312
1305          NAME(8)=LSCHD(3)                                                  RDMIS313
1306          GO TO 620                                                         RDMIS314
1307    600   PRINT 1190, (PNAME(I,NPROG),I=1,3),(MNAME(I,NMISS),I=1,3)         RDMIS315
1323          JERR=JERR+1                                                       RDMIS316
1325          GO TO 50                                                          RDMIS317
1325    610   L3=L3+1                                                           RDMIS318
1327          IF (L3.GT.NSCD) GO TO 50                                          RDMIS319
1332          IF (LSCHD(L3).EQ.6H      ) GO TO 610                              RDMIS320
1334          IF (LSCHD(L3).EQ.6H0     ) GO TO 610                              RDMIS321
1337          NAME(3)=LNAME(1)                                                  RDMIS322
1340          NAME(4)=LNAME(2)                                                  RDMIS323
1342          IDC=LIOC(L3)                                                      RDMIS324
1343          NAME(5)=LSCHD(L3)                                                 RDMIS325
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1345  620   IF (ILEG.EQ.0) GO TO 600                                                    RDMIS326
1346        IF ((ICAP.EQ.1).AND.(IVEH.EQ.0)) IVEH=2                                   RDMIS327
1356        IF (IVEH.EQ.0) GO TO 600                                                  RDMIS328
1357        IF (IPHASE.EQ.0) GO TO 600                                                RDMIS329
1360        IF (IDC.EQ.0) GO TO 600                                                   RDMIS330
1361        IF (NAME(1).EQ.6HCARGO ) NAFAC=0                                          RDMIS331
1364        ICARGO(3)=0                                                               RDMIS332
1365        DO 630 N=1,NCE                                                            RDMIS333
1373        NBASE=(N-1)*NWCE+NBCE                                                     RDMIS334
1376        IF ((DDB(NBASE).EQ.NAME(3)).AND.(DDB(NBASE+1).EQ.NAME(4))) GO TO 6RDMIS335
           140                                                                        RDMIS336
1406  630   CONTINUE                                                                  RDMIS337
1407        PRINT 1200, (PNAME(I,NPROG),I=1,3),(MNAME(I,NMISS),I=1,3),(NAME(I)RDMIS338
           1,I=1,10)                                                                  RDMIS339
1425        JERR=JERR+1                                                               RDMIS340
1427        GO TO 50                                                                  RDMIS341
1427  640   CONTINUE                                                                  RDMIS342
1427        CALL SWITCH (N)                                                           RDMIS343
1431        IF (N.GT.LCE) N=LCE                                                       RDMIS344
1434        NBASE=(N-1)*NWCE+NBCE                                                     RDMIS345
1440        CALL PACK (N,12,ICARGO(2),24)                                             RDMIS346
1443        CALL UNPACK (ITEMP,12,DDB(NBASE+5),12)                                    RDMIS347
1447        CALL PACK (0,4,ICARGO(2),0)                                               RDMIS348
1452        IF (ITEMP.EQ.3) CALL PACK (1,1,ICARGO(2),3)                               RDMIS349
1457        IF (ITEMP.NE.5) GO TO 650                                                 RDMIS350
1462        M1=DDB(NBASE+3)                                                           RDMIS351
1463        M2=DDB(NBASE+4)                                                           RDMIS352
1465        CALL PACK (1,1,ICARGO(2),3)                                               RDMIS353
1470        MAXCGN=MAXCGN+1                                                           RDMIS354
1472        CALL PACK (MAXCGN,12,JWORD,2)                                             RDMIS355
1475        ICARGO(3)=JWORD                                                           RDMIS356
1477  650   CONTINUE                                                                  RDMIS357
1500        WTUP=DB(NBASE+6)                                                          RDMIS358
1501        WTDN=DB(NBASE+7)                                                          RDMIS359
1503        JVEH=IVEH                                                                 RDMIS360
1504        IF (ITEMP.EQ.1) JVEH=1                                                    RDMIS361
1510        IF (WTUP*WTDN) 670,660,670                                                RDMIS362
1512  660   JVEH=1                                                                    RDMIS363
1513  670   IF (WTDN) 680,700,680                                                     RDMIS364
1514  680   CALL PACK (1,1,ICARGO(2),2)                                               RDMIS365
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1517          IF (WTUP) 690,700,690                                                  RDMIS366
1520    690   CONTINUE                                                               RDMIS367
1520          IF (JVEH.EQ.1) CALL PACK (1,1,ICARGO(2),1)                             RDMIS368
1525          IF (ITEMP.EQ.1) CALL PACK (1,1,ICARGO(2),0)                            RDMIS369
1532    700   IRTDN=-1                                                               RDMIS370
1533          IF (NAME(7).EQ.6HDEPLOY) IRTDN=0                                       RDMIS371
1536          IF (NAME(9).EQ.6HDEPLOY) IRTDN=0                                       RDMIS372
1541          IF (NAME(7).EQ.6HRETRIE) IRTDN=1                                       RDMIS373
1544          IF (NAME(9).EQ.6HRETRIE) IRTDN=1                                       RDMIS374
1546          IF (NAME(7).EQ.6HSERVIC) IRTDN=6                                       RDMIS375
1551          IF (NAME(9).EQ.6HSERVIC) IRTDN=6                                       RDMIS376
1553          IF (IRTDN.NE.-1) CALL PACK (IRTDN,3,ICARGO(2),0)                       RDMIS377
1560          IF (IRTDN.NE.-1) JVEH=1                                                RDMIS378
1563          CNUMB=1.0                                                              RDMIS379
1565          CALL VALUE (NAME(5),CNUMB,IERR)                                        RDMIS380
1567          IF (IERR.LE.0) GO TO 710                                               RDMIS381
1571          PRINT 1210, (PNAME(I,NPROG),I=1,3),(MNAME(I,NMISS),I=1,3),(NAME(I)RDMIS382
             1,I=1,10)                                                             RDMIS383
1606          GO TO 50                                                               RDMIS384
1607    710   NUMBER=CNUMB                                                           RDMIS385
1610          IF (NUMBER.EQ.0) GO TO 830                                             RDMIS386
1612          IWORD=0                                                                RDMIS387
1612          NWORD=0                                                                RDMIS388
1613          CALL PACK (NUMBER,12,NWORD,24)                                         RDMIS389
1616          CALL PACK (NUMBER,6,IWORD,30)                                          RDMIS390
1621          CALL PACK (ILEG,6,NWORD,0)                                             RDMIS391
1624          CALL UNPACK (M,12,DDB(NBASE+5),24)                                     RDMIS392
1630          IF (M.NE.4) GO TO 720                                                  RDMIS393
1632          CALL UNPACK (N,12,DDB(NBASE+5),0)                                      RDMIS394
1636          CALL PACK (N,6,NWORD,6)                                                RDMIS395
1641    720   IF (M.NE.3) GO TO 730                                                  RDMIS396
1643          CALL UNPACK (TEMP,12,ICARGO(1),24)                                     RDMIS397
1646          CALL PACK (TEMP,12,IWORD,0)                                            RDMIS398
1651          CALL PACK (N,12,IWORD,12)                                              RDMIS399
1654    730   I1=1                                                                   RDMIS400
1655          I2=1                                                                   RDMIS401
1656          IDATE=DATECI-RLDATE                                                    RDMIS402
1661          CALL PACK (SINDEP,1,ICARGO(3),14)                                      RDMIS403
1664          IF (NAME(7).EQ.6HSINGLE) CALL PACK (1,1,ICARGO(3),14)                  RDMIS404
1671          IF (NAME(9).EQ.6HSINGLE) CALL PACK (1,1,ICARGO(3),14)                  RDMIS405
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1676          IF (IPHASE.NE.2) GO TO 740                                    RDMIS406
1700          IF (NAFAC.NE.0) GO TO 740                                     RDMIS407
1701          I2=DATESP-DATEST+1.                                           RDMIS408
1704          IDATE=DATEST-RLDATE                                           RDMIS409
1707    740   DO 820 I=I1,I2                                                RDMIS410
1711          CALL PACK (IDATE,6,ICARGO(1),6)                               RDMIS411
1714          DO 800 L=1,JVEH                                               RDMIS412
1716          DO 790 J=1,NUMBER                                             RDMIS413
1717          DO 750 K=1,NWMISS                                             RDMIS414
1725          ICPDDB=ICPDDB+1                                               WED23028
1726          DDB(ICPDDB)=ICARGO(K)                                         WED23029
1726    750   CONTINUE                                                      WED23030
1730          LNGTH=LNGTH+1                                                 WED23031
1732          ICNT=ICNT+1                                                   WED23032
1733          IF(ICNT.LT.LIML1)GO TO 755                                    WED23033
1735          ICNT=0                                                        WED23034
1735          WRITE(L1WOT)(DDB(K),K=NBMISS,ICPDDB)                          WED23035
1747          ICPDDB=NBMISS-1                                               WED23036
1751    755   CONTINUE                                                      WED23037
1751          IF (ITEMP.NE.5) GO TO 790                                     RDMIS418
1753          JCARGO(1)=ICARGO(1)                                           RDMIS419
1755          CALL PACK (I77,24,JCARGO(1),12)                               RDMIS420
1760          JCARGO(2)=I77                                                 RDMIS421
1761          JCARGO(3)=ICARGO(3)                                           RDMIS422
1763          CALL PACK (1,1,JCARGO(3),1)                                   RDMIS423
1766          DO 780 K=M1,M2                                                RDMIS424
1770          CALL PACK (PNMN(K),12,JCARGO(1),24)                           RDMIS425
1773          CALL PACK (CE(K),12,JCARGO(2),24)                             RDMIS426
1777          CALL PACK (WLF(K),18,JCARGO(3),18)                            RDMIS427
2003          DO 760 NN=1,NWMISS                                            RDMIS428
2012          ICPDDB=ICPDDB+1                                               RDMIS429
2013          DDB(ICPDDB)=JCARGO(NN)                                        RDMIS430
2013    760   CONTINUE                                                      RDMIS431
2015          LNGTH=LNGTH+1                                                 WED23038
2017          ICNT=ICNT+1                                                   WED23039
2020          IF(ICNT.LT.LIML1)GO TO 765                                    WED23040
2022          ICNT=0                                                        WED23041
2022          WRITE(L1WOT)(DDB(NN),NN=NBMISS,ICPDDB)                        WED23042
2034          ICPDDB=NBMISS-1                                               WED23043
2036    765   CONTINUE                                                      WED23044
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2036          IF (J.NE.1) GO TO 780                                    RDMIS432
2040          IF (L.NE.1) GO TO 780                                    RDMIS433
2042          NBASE=(CE(K)-1)*NWCE+NBCE                                RDMIS434
2046          CALL UNPACK (MM,12,DDB(NBASE+5),24)                      RDMIS435
2051          IF (MM.NE.4) GO TO 770                                   RDMIS436
2053          CALL PACK (IDATE,12,NWORD,12)                            RDMIS437
2056          CALL UNPACK (NN,12,DDB(NBASE+5),0)                       RDMIS438
2062          CALL PACK (NN,6,NWORD,6)                                 RDMIS439
2065          NIVA=NIVA+1                                              RDMIS440
2067          IF (NIVA.GT.MIVA) GO TO 770                              RDMIS441
2072          IVA(NIVA)=NWORD                                          RDMIS442
2073  770     IF (MM.NE.3) GO TO 780                                   RDMIS443
2075          CALL PACK (IDATE,6,IWORD,24)                             RDMIS444
2100          CALL PACK (PNMN(K),12,IWORD,0)                           RDMIS445
2104          CALL PACK (CE(K),12,IWORD,12)                            RDMIS446
2110          NIFA=NIFA+1                                              RDMIS447
2112          IF (NIFA.GT.MIFA) GO TO 780                              RDMIS448
2115          IFA(NIFA)=IWORD                                          RDMIS449
2116  780     CONTINUE                                                 RDMIS450
2121          MAXCGN=MAXCGN+1                                          RDMIS451
2122          CALL PACK (MAXCGN,12,ICARGO(3),2)                        RDMIS452
2125  790     CONTINUE                                                 RDMIS453
2130          IF (JVEH.EQ.2) CALL PACK (0,1,ICARGO(2),2)               RDMIS454
2135  800     CONTINUE                                                 RDMIS455
2140          IF (JVEH.EQ.2) CALL PACK (1,1,ICARGO(2),2)               RDMIS456
2144          IF (M.NE.4) GO TO 810                                    RDMIS457
2146          CALL PACK (IDATE,12,NWORD,12)                            RDMIS458
2151          NIVA=NIVA+1                                              RDMIS459
2153          IF (NIVA.GT.MIVA) GO TO 810                              RDMIS460
2156          IVA(NIVA)=NWORD                                          RDMIS461
2157  810     IF (M.NE.3) GO TO 820                                    RDMIS462
2161          CALL PACK (IDATE,6,IWORD,24)                             RDMIS463
2164          NIFA=NIFA+1                                              RDMIS464
2166          IF (NIFA.GT.MIFA) GO TO 820                              RDMIS465
2171          IFA(NIFA)=IWORD                                          RDMIS466
2172  820     IDATE=IDATE+1                                            RDMIS467
2176  830     CONTINUE                                                 RDMIS468
2176          IF (NSCD.GT.L3) GO TO 610                                RDMIS469
2202          GO TO 50                                                 RDMIS470
2202  840     IF=7                                                     RDMIS471
```

```
2203          IL=10                                                          RDMIS472
2204          ICF=1                                                          RDMIS473
2205          A=0.                                                           RDMIS474
2206          B=0.                                                           RDMIS475
2206          C=0.                                                           RDMIS476
2207          ICE=0                                                          RDMIS477
2210          CALL DDBSFT                                                    RDMIS478
2212          DDB(NLCE+1)=NAME(3)                                            RDMIS479
2214          DDB(NLCE+2)=NAME(4)                                            RDMIS480
2215    850   CALL READER                                                    RDMIS481
2216          IF (NAME(1).EQ.6HEND    ) GO TO 950                            RDMIS482
2220          ICE=ICE+1                                                      RDMIS483
2222          DO 860 N=1,NCE                                                 RDMIS484
2227          NBASE=(N-1)*NWCE+NBCE                                          RDMIS485
2232          IF ((DDB(NBASE).EQ.NAME(1)).AND.(DDB(NBASE+1).EQ.NAME(2))) GO TO 8RDMIS486
             170                                                             RDMIS487
2242    860   CONTINUE                                                       RDMIS488
2243          PRINT 1200, (PNAME(I,NPROG),I=1,3),(MNAME(I,NMISS),I=1,3),(NAME(I)RDMIS489
             1,I=1,10)                                                       RDMIS490
2261          JERR=JERR+1                                                    RDMIS491
2263          GO TO 50                                                       RDMIS492
      C                                                                      RDMIS493
2263    870   CONTINUE                                                       RDMIS494
2263          CALL SWITCH (N)                                                RDMIS495
2265          IF (N.GT.LCE) N=LCE                                            RDMIS496
2270          NBASE=(N-1)*NWCE+NBCE                                          RDMIS497
2274          ICEN=ICEN+1                                                    RDMIS498
2275          CE(ICEN)=N                                                     RDMIS499
      C                                                                      RDMIS500
2277          A=A+DB(NBASE+6)                                                RDMIS501
2301          B=B+DB(NBASE+7)                                                RDMIS502
2303          C=C+DB(NBASE+8)                                                RDMIS503
      C                                                                      RDMIS504
2305          IF (B) 880,890,880                                             RDMIS505
2307    880   WTLF(ICEN)=DB(NBASE+7)                                         RDMIS506
2312    890   IF (A) 900,90,900                                              RDMIS507
2313    900   WTLF(ICEN)=DB(NBASE+6)                                         RDMIS508
      C                                                                      RDMIS509
2316          GO TO 90                                                       RDMIS510
2316    910   PN=I                                                           RDMIS511
```

```
2320          GO TO 230                                                        RDMIS512
2320    920   MN=I                                                             RDMIS513
      C                                                                        RDMIS514
2321          PNMN(ICEN)=64*PN+MN                                              RDMIS515
      C                                                                        RDMIS516
2326          IF (A-B) 930,850,930                                             RDMIS517
2330    930   IF (A*B) 940,850,940                                             RDMIS518
2332    940   CONTINUE                                                         RDMIS519
      C                                                                        RDMIS520
2332          PRINT 1250, (PNAME(I,PN),I=1,3),(MNAME(I,MN),I=1,3),NAME         RDMIS521
2350          JERR=JERR+1                                                      RDMIS522
2352          GO TO 850                                                        RDMIS523
      C                                                                        RDMIS524
2352    950   CONTINUE                                                         RDMIS525
      C                                                                        RDMIS526
2352          DO 1000 J=1,ICE                                                  RDMIS527
2354          K=J+ICEO                                                         RDMIS528
2355          IF (A) 960,970,960                                               RDMIS529
2356    960   WLF(K)=100000.*WTLF(K)/A                                         RDMIS530
2362    970   IF (A*B) 1000,980,1000                                           RDMIS531
2364    980   IF (B) 990,1000,990                                              RDMIS532
2365    990   WLF(K)=100000.*WTLF(K)/B                                         RDMIS533
2371    1000  CONTINUE                                                         RDMIS534
      C                                                                        RDMIS535
2375          DDB(NLCE+3)=6HCOUPLE                                             RDMIS536
2376          DDB(NLCE+4)=ICEO+1                                               RDMIS537
2400          DDB(NLCE+5)=ICEN                                                 RDMIS538
2402          DDB(NLCE+6)=20481                                                RDMIS539
2403          DB(NLCE+7)=A                                                     RDMIS540
2404          DB(NLCE+8)=B                                                     RDMIS541
2406          DB(NLCE+9)=C                                                     RDMIS542
      C                                                                        RDMIS543
2407          ICEO=ICEN                                                        RDMIS544
2407          NCE=NCE+1                                                        RDMIS545
2411          CALL SWITCH (NCE)                                                RDMIS546
2412          NLCE=NLCE+NWCE                                                   RDMIS547
      C                                                                        RDMIS548
2414          GO TO 50                                                         RDMIS549
2414    1010  CONTINUE                                                         RDMIS550
2414          NFAC=LFAC                                                        RDMIS551
```

```
2415          NLFAC=NBFAC+NFAC*NWFAC-1                                          RDMIS552
2421          NCE=LCE                                                           RDMIS553
2422          MOVE=NCE*NWCE                                                     RDMIS554
2424          J=NBCE-1                                                          RDMIS555
2426          DO 1020 I=1,MOVE                                                  RDMIS556
2435    1020  IDB(NLFAC+I+1)=IDB(J+I)                                           RDMIS557
2437          NBCE=NLFAC+2                                                      RDMIS558
2441          NLCE=NBCE+MOVE-1                                                  RDMIS559
2443          IF(ICNT.NE.0)WRITE(L1WOT)(IDB(I),I=NBMISS,ICPDDB)                 WED23045
2456          REWIND L1WOT                                                      WED23046
2460          NBMISS=NLCE+1                                                     WED23047
2462          DO 1030 I=NBMISS,LOWCOR                                           WED23048
2466          IDB(I)=0                                                          WED23049
2467    1030  CONTINUE                                                          WED23050
2470          NLMISS=NBMISS+LNGTH*NWMISS-1                                      WED23051
2474          IF(NLMISS.GT.LOWCOR) GO TO 1040                                   WED23052
2477          II=510                                                            WED23053
2500          DO 1035 I=NBMISS,NLMISS,II                                        WED23054
2501          J=I-1                                                             WED23055
2502          JJ=NLMISS-J                                                       WED23056
2504          KK=MIN0(II,JJ)                                                    WED23057
2507          READ(L1WOT)(IDB(J+K),K=1,KK)                                      WED23058
2523    1035  CONTINUE                                                          WED23059
2526          REWIND L1WOT                                                      WED23060
2530          RETURN                                                            WED23061
              C                                                                 WED23062
2531    1040  PRINT 1045,NLMISS,LOWCOR                                          WED23063
2541          STOP 7                                                            WED23064
              C                                                                 WED23065
              1045  FORMAT (32H0***LEVEL I OVERFLOW*** NLMISS =,I6,9H LOWCOR =,I6)  WED23066
              C                                                                 RDMIS573
              1050  FORMAT (6X,43HMISSION ENTRY DOES NOT IMMEDIATLY FOLLOW A ,30HPROGRRDMIS574
                   1AM ENTRY IN MISSION DATA./6X,19HLAST PROGRAM ENTRY ,4HWAS ,3A6)  RDMIS575
              1060  FORMAT (6X,36HUNINDENTIFIED ENTRY IN MISSION DATA./6X,23HLAST PROGRDMIS576
                   1RAM ENTRY WAS ,3A6/6X,19HLAST MISSION ENTRY ,4HWAS ,3A6/6X,23HCARDRDMIS577
                   2 IMAGE IN ERROR IS ,5(A6,A4))                               RDMIS578
              1070  FORMAT (6X,40HDUPLICATE PROGRAM ENTRY IN MISSION DATA./6X,23HLAST RDMIS579
                   1PROGRAM ENTRY WAS ,3A6)                                     RDMIS580
              1080  FORMAT (6X,42HMISSION OR PROGRAM TABLE OVERFLOW. NMISS =,I3,8H NPRRDMIS581
                   1OG =,I3/)                                                   RDMIS582
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1090  FORMAT (6X,41HUNIDENTIFIED PHASE ENTRY IN MISSION DATA./6X,23HLASTRDMIS583
     1 PROGRAM ENTRY WAS ,3A6/6X,23HLAST MISSION ENTRY WAS ,3A6/6X,23HCARDMIS584
     2RD IMAGE IN ERROR IS ,5(A6,A4))                                   RDMIS585
1100  FORMAT (6X,41HIOC ENTRY IN MISSION DATA IS NOT NUMERIC./6X,23HLASTRDMIS586
     1 PROGRAM ENTRY WAS ,3A6/6X,23HLAST MISSION ENTRY WAS ,3A6/6X,23HCARDMIS587
     2RD IMAGE IN ERROR IS ,5(A6,A4))                                   RDMIS588
1110  FORMAT (6X,45HFIRST IOC ENTRY AFTER A MISSION ENTRY IS NOT ,12HA YRDMIS589
     1EAR DATE./6X,23HLAST PROGRAM ENTRY WAS ,3A6/6X,23HLAST MISSION ENTRDMIS590
     2RY WAS ,3A6/6X,23HCARD IMAGE IN ERROR IS ,5(A6,A4))               RDMIS591
1120  FORMAT (6X,46HLEG ENTRY IN MISSION DATA IS NOT IN LEG TABLE./6X,23RDMIS592
     1HLAST PROGRAM ENTRY WAS ,3A6/6X,19HLAST MISSION ENTRY ,4HWAS ,3A6/RDMIS593
     26X,23HCARD IMAGE IN ERROR IS ,5(A6,A4))                           RDMIS594
1130  FORMAT (42H0 VEHICLE CARD APPEARED BEFORE A LEG CARD /12H  PROGRAMRDMIS595
     1 = ,3A6,12H  MISSION = ,3A6/25H  CARD IMAGE IN ERROR IS ,5(A6,A4))RDMIS596
1140  FORMAT (15H0 VEHICLE NAME ,A6,A4,26H IS NOT IN VEHICLE  TABLE./12HRDMIS597
     1  PROGRAM = ,3A6,12H  MISSION = ,3A6/25H  CARD IMAGE IN ERROR IS ,RDMIS598
     25(A6,A4)/)                                                        RDMIS599
1150  FORMAT (6X,43HSTART ENTRY IN MISSION DATA IS NOT NUMERIC./6X,23HLARDMIS600
     1ST PROGRAM ENTRY WAS ,3A6/6X,19HLAST MISSION ENTRY ,4HWAS ,3A6/6X,RDMIS601
     223HCARD IMAGE IN ERROR IS ,5(A6,A4))                              RDMIS602
1160  FORMAT (6X,47HSTART ENTRY IN MISSION DATA CANNOT BE ACCEPTED ,33HFRDMIS603
     1OR LACK OF A PREVIOUS IOC DATE. /6X,13HLAST PROGRAM ,10HENTRY WAS RDMIS604
     2,3A6/6X,23HLAST MISSION ENTRY WAS ,3A6/6X,27HUNACCEPTABLE CARD IMARDMIS605
     3GE IS ,5(A6,A4))                                                  RDMIS606
1170  FORMAT (6X,42HSTOP ENTRY IN MISSION DATA IS NOT NUMERIC./6X,23HLASRDMIS607
     1T PROGRAM ENTRY WAS ,3A6/6X,23HLAST MISSION ENTRY WAS ,3A6/6X,23HCRDMIS608
     2ARD IMAGE IN ERROR IS ,5(A6,A4))                                  RDMIS609
1180  FORMAT (6X,46HSTOP ENTRY IN MISSION DATA CANNOT BE ACCEPTED ,32HFORDMIS610
     1R LACK OF A PREVIOUS IOC DATE./6X,19HLAST PROGRAM ENTRY ,4HWAS ,3ARDMIS611
     26/6X,23HLAST MISSION ENTRY WAS ,3A6/6X,13HUNACCEPTABLE ,14HCARD IMRDMIS612
     3AGE IS ,5(A6,A4))                                                 RDMIS613
1190  FORMAT (41H0 LEG,VEHICLE,PHASE OR IOC DATE UNDEFINED/12H  PROGRAM RDMIS614
     1= ,3A6,12H  MISSION = ,3A6)                                       RDMIS615
1200  FORMAT (6X,47HCARGO NAME ENTRY IN MISSION DATA IS NOT IN THE ,20HCRDMIS616
     1ARGO ELEMENT TABLE./6X,23HLAST PROGRAM ENTRY WAS ,3A6/6X,23HLAST MRDMIS617
     2ISSION ENTRY WAS ,3A6/6X,23HCARD IMAGE IN ERROR IS ,5(A6,A4))     RDMIS618
1210  FORMAT (6X,50HCARGO NUMBER ENTRY IN MISSION DATA IS NOT NUMERIC./6RDMIS619
     1X,23HLAST PROGRAM ENTRY WAS ,3A6/6X,23HLAST MISSION ENTRY WAS ,3A6RDMIS620
     2/6X,23HCARD IMAGE IN ERROR IS ,5(A6,A4))                          RDMIS621
1220  FORMAT (A6,A4,A6,A2)                                              RDMIS622
```

```
 1230  FORMAT (3A6)                                                          RDMIS623
 1240  FORMAT (36HD LEG UNDEFINED FOR SCHEDULING CARD/12H  PROGRAM = ,3A6RDMIS624
     1,12H  MISSION = ,3A6)                                                 RDMIS625
 1250  FORMAT (6X,55H AT LEAST ONE OF THE WEIGHTS IS WRONG IN COUPLED GRORDMIS626
     1UP./6X,23HLAST PROGRAM ENTRY WAS ,3A6/6X,23HLAST MISSION ENTRY WASRDMIS627
     2 ,3A6/6X,23HCARD IMAGE IN ERROR IS ,5(A6,A4))                         RDMIS628
2543  END                                                                   RDMIS629
```

```
C                                                                       RDRPT  2
C                                                                       RDRPT  3
      SUBROUTINE RDRPT                                                  RDRPT  4
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/ KEL                                                  LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUG,LIML1                                              WED230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
C                                                                       LABEL134
C                                                                       RDRPT  6
      INTEGER CARD                                                      RDRPT  7
C                                                                       RDRPT  8
      DO 10 I=1,20                                                      RDRPT  9
```

```
    6  10   IFLAG(I)=0
       C
   10  20   IF (CARD(3).EQ.6HSPRINT) IFLAG(1)=1
   13       IF (CARD(3).EQ.6HCONTAI) IFLAG(2)=1
   16       IF (CARD(3).EQ.6HFACILI) IFLAG(3)=1
   21       IF (CARD(3).EQ.6HTRAFFI) IFLAG(4)=1
   24       IF (CARD(3).EQ.6HVEHICL) IFLAG(5)=1
   27       IF (CARD(3).EQ.6HCOST80) IFLAG(11)=1
   32       IF (CARD(3).EQ.6HCOST80) CARD(3)=6HCOST
   34       IF (CARD(3).EQ.6HCOST  ) IFLAG(6)=1
   37       IF (CARD(3).EQ.6HTABLES) IFLAG(7)=1
   42       IF (CARD(3).EQ.6HDEBUG ) IFLAG(8)=1
   45       IF (CARD(3).EQ.6HCALVEH) IFLAG(9)=1
   50       IF (CARD(3).EQ.6HPRTCAL) IFLAG(10)=1
   53       IF (CARD(3).EQ.6HPLOTS ) IFLAG(12)=1
       C
   56       IF ((CARD(3).EQ.6HSPRINT).AND.(CARD(5).EQ.6HSHORT )) IFLAG(1)=2
   67       IF ((CARD(3).EQ.6HVEHICL).AND.(CARD(5).EQ.6HSHORT )) IFLAG(5)=2
   77       IF ((CARD(3).EQ.6HCOST  ).AND.(CARD(5).EQ.6HSHORT )) IFLAG(6)=2
       C
  107       CALL READER
  110       IF (CARD(1).EQ.6HREPORT) GO TO 20
  112       IF (KOPT(4).EQ.2) IFLAG(10)=1
  115       IF (KOPT(4).GT.0) IFLAG(9)=1
  120       RETURN
       C
       C
  121       END
```

```
      SUBROUTINE LEGPRO                                                 LEGPRO 2
C                                                                       LEGPRO 3
      COMMON /ARGS/ ICF,ICL,IF,IL                                       LEGPRO 4
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/ KEL                                                  LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUC,LIML1                                              WED230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
C                                                                       LABEL134
      COMMON /ASDAT/ MODE,TYPE,DIRECT,VCAP,CCAP,FACTOR(2),INDEX,MCT,EXP,ASDAT  2
     1NEXP,ITEMS,NASS,NPRI,ICT,MANNED,NEV,NFLT,NCR,VOLMAX,RVOL(2),NCALL,ASDAT  3
     2MCBULK,JDONE,VDONE,NMODE(3),CD2(2,20),UPON(2),CUTOFF,LIMOCC(2),NOCASDAT  4
     3C(2),KVEH,MCHG,TRIFLE,V1,V2,XL1,XL2,SINGLE,CD(2,20),WLEFT(3,3,2),FASDAT  5
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     4LTA(2,400),CR(100),TW(2,200),VOL(400),MAXFLT(30),TPROPW(30)          ASDAT  6
      REAL WS(2,1),FVOL(2,1)                                               ASDAT  7
      EQUIVALENCE (FVOL(1,1),TW(1,100))                                    ASDAT  8
      INTEGER TYPE,DIRECT,SINGLE                                           ASDAT  9
      EQUIVALENCE (FLTA(1,1),WS(1,1))                                      ASDAT 10
C                                                                          ASDAT 11
C                                                                          LEGPRO 7
C                                                                          LEGPRO 8
      INTEGER V1,V2,V3,V4,YEAR,VEHNDX,FLTNO,VEHNO,RELOT,TIME,TBLEG         LEGPRO 9
      INTEGER JCGN(2),JCI(2),TBVEH                                         LEGPRO10
C                                                                          LEGPRO11
      REAL GBVOL(2),GBWT(2),WTMAX(2),GBWTV(2),LOADFC,DISCRP(7)             LEGPRO12
C                                                                          LEGPRO13
      DATA DISCRP/6HGROUND,5H BASE,5HCARGO,5HG. B.,6HNO LON,6HGSHORI,2HNLEGPRO14
     1G/                                                                   LEGPRO15
      DATA BOX,BOX2/6HGB BOX,6HNL BOX/                                     LEGPRO16
C                                                                          LEGPRO17
      CALL UNPACK (IBOX,12,6HAAAAAA,0)                                     LEGPRO18
    4 KBOX=-12                                                             LEGPRO19
    5 JBOX=0                                                               LEGPRO20
    6 ICNT=0                                                               LEGPRO21
    6 LASTCE=NCE                                                           LEGPRO22
   10 IROUND=100                                                           LEGPRO23
   11 WORD1=0                                                              LEGPRO24
   12 WORD2=0                                                              LEGPRO25
   12 WORD3=0                                                              LEGPRO26
   13 LIML2=510/NWDSB                                                      LEGPRO27
   17 REWIND L2WOT                                                         LEGPRO28
   21 NTBL=0                                                               LEGPRO29
   22 NTBL1=1                                                              LEGPRO30
   23 ISAVE=IFLAG(4)                                                       LEGPRO31
   24 IFLAG(4)=IFLAG(10)                                                   LEGPRO32
   26 X=KOPT(5)                                                            LEGPRO33
   27 DO 10 I=1,NCTMAX                                                     LEGPRO34
   37 10 TBCONT(8,I)=TBCONT(8,I)+X                                         LEGPRO35
   41 CONT=0.0                                                             LEGPRO36
   42 CONT2=0.0                                                            LEGPRO37
   42 VEH1=0.0                                                             LEGPRO38
   43 VEH2=0.0                                                             LEGPRO39
   44 DO 20 I=1,NCTMAX                                                     LEGPRO40
```

```
 52  20     TBCONT(7,I)=0.0                                          LEGPR041
 54         DO 30 I=1,NVHMAX                                         LEGPR042
 60  30     VEH(I)=0.0                                               LEGPR043
 62         NDDB=0                                                   LEGPR044
 62         NDEX4=0                                                  LEGPR045
 63         NLDDB=LOWCOR-NWDDB                                       LEGPR046
 65         NBDDB=NLDDB+1                                            LEGPR047
      C                                                             LEGPR048
 67         CALL PACK (66,12,CONT2,0)                                LEGPR049
 72         CALL PACK (67,12,VEH1,24)                                LEGPR050
      C                                                             LEGPR051
 75         LNGTH=(NLMISS-NBMISS+1)/NWMISS                           LEGPR052
      C                                                             LEGPR053
      C                                                             LEGPR054
      C  MAKE ROOM FOR GROUND BASE CARGO ITEMS                      LEGPR055
      C                                                             LEGPR056
102         NOSC=100*NWCE                                           LEGPR057
104         IF(KOPT(1)*KOPT(2).NE.0)NOSC=NOSC+NOSC                  WED23067
110         NLCE=NLCE+NOSC-1                                        WED23068
113         CALL DDBSFT                                             WED23069
114         NLCE=NLCE-NOSC+1                                        WED23070
116         NOSC=NOSC/4                                             WED23071
      C                                                             LEGPR062
117         L=NBMISS                                                LEGPR063
      C                                                             LEGPR064
      C     INITIAL SORT OF PHASE I CARGO TABLE.                    LEGPR065
      C                                                             LEGPR066
121         CALL SORT (DDB(NBMISS),NWMISS,LNGTH,1)                  LEGPR067
      C                                                             LEGPR068
124         CALL UNPACK (NXTLEG,6,DDB(L),0)                         LEGPR069
      C                                                             LEGPR070
      C     START OF ALL NEW LEGS.                                  LEGPR071
      C                                                             LEGPR072
133  40     TIME=0                                                  LEGPR073
133         IF=L                                                    LEGPR074
135         IC3=IF                                                  LEGPR075
135         NEWLEG=TBLEG(7,NXTLEG)                                  LEGPR076
      C                                                             LEGPR077
      C     CALCULATE AN INDEX..NDEX.                               LEGPR078
      C                                                             LEGPR079
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137  50     CALL UNPACK (LEGNO,6,DDB(L),0)                                  LEGPR080
143         CALL UNPACK (RELDT,6,DDB(L),6)                                  LEGPR081
147         CALL UNPACK (VEHNO,6,DDB(L),12)                                 LEGPR082
153         NDEX5=10000*LEGNO+100*RELDT                                     LEGPR083
160         NDEX2=NDEX5+VEHNO                                               LEGPR084
161         IF (TIME.EQ.0) GO TO 70                                         LEGPR085
163         IF (NDEX2.NE.NDEX1) GO TO 90                                    LEGPR086
165  60     L=L+NWMISS                                                      LEGPR087
167         GO TO 50                                                        LEGPR088
         C                                                                  LEGPR089
         C     SET COUNTERS FOR NEW VEHICLE,NEW LEG  AND NEW DATE.          LEGPR090
         C                                                                  LEGPR091
175  70     NDEX1=NDEX2                                                     LEGPR092
176         NDEX3=NDEX4                                                     LEGPR093
177         NDEX4=NDEX5                                                     LEGPR094
201         LEG1=LEGNO                                                      LEGPR095
202         VEHNDX=VEHNO                                                    LEGPR096
202         YEAR=RELDT                                                      LEGPR097
204         IYEAR=YEAR+IRELDT                                               LEGPR098
205         NPRI=0                                                          LEGPR099
206         L3=TBLEG(3,LEG1)                                                LEGPR100
211         L4=TBLEG(4,LEG1)                                                LEGPR101
214         LS=TBLEG(5,LEG1)                                                LEGPR102
217         IDV=TBLEG(9,LEG1)                                               LEGPR103
223         IF (KOPT(2).EQ.0) GO TO 80                                      LEGPR104
224         CALL UNPACK (LVEH,6,TBLEG(6,LEG1),18)                           LEGPR105
231         CALL UNPACK (JX,18,TBVEH(3,LVEH),18)                            LEGPR106
236         VOL2=DDB(JX+15)                                                 LEGPR107
240         IF (VEHNDX.EQ.0) GO TO 80                                       LEGPR108
241         IF (LVEH.EQ.J77) GO TO 80                                       LEGPR109
243         CALL UNPACK (J1,18,TBVEH(3,VEHNDX),18)                          LEGPR110
247         VOL1=DDB(J1+15)                                                 LEGPR111
251         IF (VOL2.LT.VOL1) DDB(J1+15)=VOL2                               LEGPR112
255  80     CONTINUE                                                        LEGPR113
255         TIME=1                                                          LEGPR114
256         NFLT=0                                                          LEGPR115
257         NPF=0                                                           LEGPR116
257         IF ((NDEX3.NE.NDEX4).AND.(VEHNDX.NE.0)) ICB=0                   LEGPR117
270         GO TO 60                                                        LEGPR118
271  90     CONTINUE                                                        LEGPR119
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271         IL=L-NWMISS                                                    LEGPR120
273         ILL=IL                                                         LEGPR121
273         IF (IC2.GT.IL) GO TO 120                                       LEGPR122
277         IC2=IL                                                         LEGPR123
277         CALL UNPACK (LGYR1,12,DDB(IL),0)                               LEGPR124
302         DO 100 I=IL,NLMISS,NWMISS                                      LEGPR125
304         CALL UNPACK (LGYR,12,DDB(I),0)                                 LEGPR126
307         IF (LGYR.NE.LGYR1) GO TO 110                                   LEGPR127
311         CALL UNPACK (IVH,6,DDB(I),12)                                  LEGPR128
315         IF (IVH.NE.J77) IC2=I+NWMISS                                   LEGPR129
321   100   CONTINUE                                                       LEGPR130
324   110   IC3=I-NWMISS                                                   LEGPR131
326   120   CONTINUE                                                       LEGPR132
      C                                                                    LEGPR133
326         IF (VEHNOY.NE.3) GO TO 340                                     LEGPR134
327         ICF=IF                                                         LEGPR135
330         ICL=IL                                                         LEGPR136
332         ICR=1                                                          LEGPR137
333         DO 130 I=1,NVHMAX                                              LEGPR138
340         MAXFLT(I)=0                                                    LEGPR139
341   130   CONTINUE                                                       LEGPR140
342         IF ((NDEX4.EQ.NDEX5).AND.(VEHNO.NE.J77)) GO TO 950             LEGPR141
      C                                                                    LEGPR142
      C     NO SCHEDULED VEHICLES...ONLY A CAPTURE BIN.                    LEGPR143
      C                                                                    LEGPR144
351         ITEMS=MAXI+1                                                   LEGPR145
352         VOLMAX=1.0                                                     WED13019
354         DO 150 I=ICF,ICL,NWMISS                                        LEGPR146
356         CALL UNPACK (ICE,12,DDB(I+1),24)                               LEGPR147
361         K=(ICE-1)*NWDE+NDDE+6                                          LEGPR148
366         CALL UNPACK (IFLG,3,DDB(I+1),0)                                LEGPR149
372         CALL UNPACK(IPNMN,12,DDB(I   ),24)                             TUE120  1
377         DW=1000.0*IFLG+ICE+IPNMN                                       TUE120  2
403         DW=(DW+100000.*DDB(K+2)/VOLMAX)/100000.                        TUE120  3
410         DO 140 J=1,2                                                   LEGPR152
420         ITEMS=ITEMS-1                                                  LEGPR153
421         WS(2,ITEMS)=DDB(K)+DW                                          LEGPR154
424         K=K+1                                                          LEGPR155
424   140   CONTINUE                                                       LEGPR156
427   150   CONTINUE                                                       LEGPR157
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      C                                                                 LEGPR158
      C     AREA OF VEHICLE PREFERENCE                                  LEGPR159
      C                                                                 LEGPR160
  431 150   CONTINUE                                                    LEGPR161
  431       IF (ITEMS.GT.MAXI) GO TO 950                                LEGPR162
  435       DO 280 IVEH=ITEMS,MAXI                                      LEGPR163
      C                                                                 LEGPR164
      C     FIND HEAVIEST ITEM                                          LEGPR165
      C                                                                 LEGPR166
  436       WT=0.0                                                      LEGPR167
  437       DO 170 I=ITEMS,MAXI                                         LEGPR168
  447       IF (WS(2,I).LT.WT) GO TO 170                                LEGPR169
  451       WT=WS(2,I)                                                  LEGPR170
  452       II=I                                                        LEGPR171
  453 170   CONTINUE                                                    LEGPR172
  454       IF (WT) 180,280,180                                         LEGPR173
  455 180   CONTINUE                                                    LEGPR174
  455       WS(2,II)=0.0                                                LEGPR175
  457       DO 200 IM=ICE,ICL,NWMISS                                    LEGPR176
  461       IMAX=IM                                                     LEGPR177
  462       CALL UNPACK (ICE,12,DDB(IMAX+1),24)                         LEGPR178
  465       K=(ICE-1)*NWCE+NBCE+5                                       LEGPR179
  472       CALL UNPACK (IFLG,3,DDB(IMAX+1),0)                          LEGPR180
  476       CALL UNPACK(IPNMN,12,DDB(IMAX),24)                          TUE120  4
  504       DW=100000*IFLG+ICE+IPNMN                                    TUE120  5
  510       DW=(DW+100000.*DDB(K+3)/VOLMAX)/100000.                     TUE120  6
  513       WTUP=DDB(K+1)+DW                                            LEGPR183
  515       WTDN=DDB(K+2)+DW                                            LEGPR184
  517       CALL UNPACK (IRTDN,2,DDB(IMAX+1),1)                         LEGPR185
  523       IF (IRTDN.EQ.0) WTDN=0.0                                    LEGPR186
  525       IF (IRTDN.EQ.1) WTUP=0.0                                    LEGPR187
  530       IF (WTUP-WT) 190,210,190                                    LEGPR188
  532 190   IF (WTDN-WT) 200,210,200                                    LEGPR189
  534 200   CONTINUE                                                    LEGPR190
  537       GO TO 280                                                   LEGPR191
  537 210   CONTINUE                                                    LEGPR192
  537       CALL UNPACK (ICAT,12,DDB(K),24)                             LEGPR193
  543       IF (ICAT.NE.1) GO TO 220                                    LEGPR194
  545       CALL UNPACK (ICLS,12,DDB(K),12)                             LEGPR195
  551       IF ((ICLS.EQ.2).OR.(ICLS.EQ.4)) GO TO 280                   LEGPR196
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  561  220    VOLUME=DDB(K+3)                                                  LEGPR197
  563         CALL UNPACK (IFLG,3,DDB(IMAX+1),0)                               LEGPR198
  567         JVEH=0                                                           LEGPR199
  570         DO 270 IPREF=1,NPREF                                             LEGPR200
  572         CALL UNPACK (IFY,9,VPREF(IPREF),18)                              LEGPR201
  575         IF (YEAR.LT.IFY) GO TO 270                                       LEGPR202
  600         CALL UNPACK (ILY,9,VPREF(IPREF),27)                              LEGPR203
  603         IF (YEAR.GT.ILY) GO TO 270                                       LEGPR204
  607         CALL UNPACK (KVEH,18,VPREF(IPREF),0)                             LEGPR205
  612         IF (KVEH.LE.0) GO TO 270                                         LEGPR206
  614         CALL UNPACK (J1,18,TBVEH(3,KVEH),18)                             LEGPR207
  620         CALL UNPACK (JN,18,TBVEH(3,KVEH),0)                              LEGPR208
  625         VOLMAX=DDB(J1+15)                                                LEGPR209
  627         IF (VOLMAX.LT.0.1) GO TO 270                                     LEGPR210
  630         IF (VOLUME.GT.VOLMAX) GO TO 270                                  LEGPR211
  636         JL=J1+JN-1                                                       LEGPR212
  640         J1=J1+UNVEH                                                      LEGPR213
  641         L1=TBLEG(1,LEG1)                                                 LEGPR214
  642         L2=TBLEG(2,LEG1)                                                 LEGPR215
  643         DO 230 J=J1,JL,5                                                 LEGPR216
  645         IF ((L1.NE.IDDB(J)).OR.(L2.NE.IDDB(J+1))) GO TO 230              LEGPR217
  656         UPMAX=DDB(J+2)                                                   LEGPR218
  657         DNMAX=DDB(J+3)                                                   LEGPR219
  660         EXPMAX=DDB(J+4)                                                  LEGPR220
  662         IF (JVEH.NE.0) GO TO 240                                         LEGPR221
  663         IF (WTUP.LE.EXPMAX) JVEH=KVEH                                    LEGPR222
  667         GO TO 240                                                        LEGPR223
  670  230    CONTINUE                                                         LEGPR224
  673         GO TO 270                                                        LEGPR225
  673  240    CONTINUE                                                         LEGPR226
  673         IF (IFLG.GE.4) GO TO 260                                         LEGPR227
  676         IF (IFLG.EQ.1) GO TO 250                                         LEGPR228
  677         IF (WTUP.GT.UPMAX) GO TO 270                                     LEGPR229
  703         IF (IFLG.EQ.3) GO TO 300                                         LEGPR230
  703  250    IF (WTDN.GT.DNMAX) GO TO 270                                     LEGPR231
  707         GO TO 300                                                        LEGPR232
  707  260    IF ((WTUP+WTDN*UPMAX/DNMAX).LE.UPMAX) GO TO 300                  LEGPR233
  714  270    CONTINUE                                                         LEGPR234
              C                                                                LEGPR235
              C     THIS PASSPORT DID NOT QUALIFY FOR A REGULAR FLIGHT         LEGPR236
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      C                                                                  LEGPR237
  717         KVEH=JVEH                                                  LEGPR238
  720         IF (KVEH.GT.0) GO TO 290                                   LEGPR239
      C                                                                  LEGPR240
      C     THIS DISCRETE DID NOT QUALIFY FOR A EXPENDED FLIGHT EITHER   LEGPR241
      C                                                                  LEGPR242
  722 280     CONTINUE                                                   LEGPR243
      C                                                                  LEGPR244
      C     ONLY BULK LEFT OR DISCRETES TOO BIG FOR EXP.VEH. OR SOMETHING LEGPR245
      C         WRONG....ASSIGN ALL CARGO TO DEFAULT VEH.                LEGPR246
  725         CALL UNPACK (VEHNOX,6,TBLEG(6,LEG1),12)                    LEGPR247
  732         JERR=JERR+1                                                LEGPR248
  734         KVEH=VEHNOX                                                LEGPR249
  735         PRINT 1070, DDB(K-5),DDB(K-4),TBLEG(1,LEG1),TBLEG(2,LEG1),IYEAR LEGPR250
      C       NPRI=1                                                     LEGPR251
      C                                                                  LEGPR252
      C  A CAPABLE VEHICLE HAS BEEN FOUND.                               LEGPR253
      C                                                                  LEGPR254
  763 290     CONTINUE                                                   LEGPR255
  763 300     VEHNOX=KVEH                                                LEGPR256
  765         CALL PACK (VEHNOX,6,DDB(IMAX),12)                          LEGPR257
  770         IF (KOPT(2).EQ.0) GO TO 710                                LEGPR258
  771         CALL UNPACK (J1,18,TBVEH(3,VEHNOX),18)                     LEGPR259
  776         VOL1=DDB(J1+15)                                            LEGPR260
 1000         IF (VOL2.LT.VOL1) DDB(J1+15)=VOL2                          LEGPR261
 1004 310    CONTINUE                                                   LEGPR262
      C                                                                  LEGPR263
      C     MOVE CHOSEN ITEM TO BOTTOM OF CAPTURE BIN.                   LEGPR264
      C                                                                  LEGPR265
 1004         IF=ICL                                                     LEGPR266
 1005         IL=ICL                                                     LEGPR267
 1006         IF (IMAX.EQ.ICL) GO TO 330                                 LEGPR268
 1010         J=0                                                        LEGPR269
 1011         DO 320 I=1,NWMISS                                          LEGPR270
 1021         I1=ICL+J                                                   LEGPR271
 1022         I2=IMAX+J                                                  LEGPR272
 1023         TEMP=DDB(I1)                                               LEGPR273
 1024         DDB(I1)=DDB(I2)                                            LEGPR274
 1025         DDB(I2)=TEMP                                               LEGPR275
 1026 320    J=J+1                                                      LEGPR276
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1032   330    CONTINUE                                                        LEGPR277
1032          IF (ICF.NE.ICL) ICL=ICL-NWMISS                                  LEGPR278
1035   340    CONTINUE                                                        LEGPR279
1035          IF (ICB.EQ.1) GO TO 360                                         LEGPR280
1037          ICF=IF                                                          LEGPR281
1040          ICL=IF                                                          LEGPR282
1042          DO 350 I=1,NVHMAX                                               LEGPR283
1047          MAXFLT(I)=0                                                     LEGPR284
1050          TRPCPW(I)=0.0                                                   LEGPR285
1050   350    CONTINUE                                                        LEGPR286
1051   360    CONTINUE                                                        LEGPR287
1051          IF (ICF.EQ.IF) ICB=0                                            LEGPR288
1054          IF (VEHNDX.EQ.J77) GO TO 880                                    LEGPR289
       C                                                                      LEGPR290
1056          CALL ASINER                                                     LEGPR291
       C                                                                      LEGPR292
1057          V1=J77                                                          LEGPR293
1060          V2=J77                                                          LEGPR294
       C                                                                      LEGPR295
1061          IF (NASS.EQ.0) GO TO 940                                        LEGPR296
       C                                                                      LEGPR297
       C      CALCULATE AND STORE PHASE II CARGO TAPLE.                       LEGPR298
       C                                                                      LEGPR299
1064          VEH(VEHNDX)=1.0                                                 LEGPR300
1065          NOFLT=MAXFLT(VEHNDX)                                            LEGPR301
1066          IFLT=0                                                          LEGPR302
1067          LFLT=0                                                          LEGPR303
1070          DO 780 M=1,NASS                                                 LEGPR304
1072          CALL UNPACK (IS,16,FLTA(1,M),0)                                 LEGPR305
1076          CALL UNPACK (FLTNO,9,FLTA(1,M),16)                              LEGPR306
1102          CALL UNPACK (VV,12,DDB(IS+1),12)                                LEGPR307
1106          CALL UNPACK (V1,6,DDB(IS+1),6)                                  LEGPR308
1112          JFLT=FLTNO+NOFLT                                                LEGPR309
1114          IF (JFLT.GT.MAXFLT(VEHNDX)) MAXFLT(VEHNDX)=JFLT                 LEGPR310
1120          CALL UNPACK (DIRECT,1,FLTA(1,M),25)                             LEGPR311
1124          CALL UNPACK (FLAGS,6,DDB(IS+1),0)                               LEGPR312
1130          CALL PACK (DIRECT,1,FLAGS,32)                                   LEGPR313
1133          CALL UNPACK (PNMN,12,DDB(IS),24)                                LEGPR314
1137          DIRECT=DIRECT+1                                                 LEGPR315
1141          A=1.0                                                           LEGPR316
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      C     FIND AND COMPARE COMPOSITE GROUP NUMBERS FOR COUPLE CONT AND ITEMSLEGPR317
      C                                                                     LEGPR318
 1142       CALL UNPACK (ICC,2,DDB(IS+2),0)                               LEGPR319
 1146       IF (ICC.NE.2) GO TO 390                                       LEGPR320
 1150       CALL UNPACK (ICGN,12,DDB(IS+2),2)                             LEGPR321
 1154       ICI=IC2-NWMISS                                                LEGPR322
 1156       ICPL=0                                                        LEGPR323
 1157  370  ICI=ICI+NWMISS                                                LEGPR324
 1161       IF (ICI.LE.IC3) GO TO 380                                     LEGPR325
 1163       IF (ICPL.EQ.1) GO TO 780                                      LEGPR326
 1165       JERR=JERR+1                                                   LEGPR327
 1166       PRINT 1080, DDB(IS),DDB(IS+1),DDB(IS+2)                       LEGPR328
 1202       GO TO 780                                                     LEGPR329
 1203  380  CONTINUE                                                      LEGPR330
 1203       CALL UNPACK (NOGN,12,DDB(ICI+2),2)                            LEGPR331
 1207       IF (ICGN.NE.NOGN) GO TO 370                                   LEGPR332
 1211       ICPL=1                                                        LEGPR333
 1212       CALL UNPACK (PNMN,12,DDB(ICI),24)                             LEGPR334
 1216       CALL UNPACK (K,18,DDB(ICI+2),18)                              LEGPR335
 1223       A=K                                                           LEGPR336
 1224       A=A/100000.                                                   LEGPR337
 1225  390  CONTINUE                                                      LEGPR338
 1225       NEXP=0                                                        LEGPR339
 1226       IF(TW(2,ELTNO)+1.0)398,396,398                                ZERODI 5
 1233  396  NEXP=1                                                        ZERODI 6
 1233       TW(2,ELTNO)=0.0                                               ZERODI 7
 1234  398  CONTINUE                                                      ZERODI 8
 1234       TOTWT=TW(1,ELTNO)*FACTOR(1)+TW(2,ELTNO)*FACTOR(2)             LEGPR342
 1242       IF (TOTWT.LE.0.0) GO TO 780                                   LEGPR343
 1243       WTOOK=ELTA(2,M)*FACTOR(DIRECT)                                LEGPR344
 1247       CALL UNPACK (NDXCE,12,DDB(IS+1),24)                           LEGPR345
 1252       LX=NBCE+NWCE*NDXCE-4+DIRECT                                   LEGPR346
 1257       WTASK=DDB(LX)*FACTOR(DIRECT)                                  LEGPR347
 1262       RCELF=WTOOK/WTASK                                             LEGPR348
 1264       LOADEC=WTOOK/TOTWT*A                                          LEGPR349
 1266       IF (ICNT.GE.LIML2) CALL L2WO                                  LEGPR350
 1272       NBDDB=NBDDB-NWDDB                                             LEGPR351
 1274       NDDB=NDDB+1                                                   LEGPR352
 1275       ICNT=ICNT+1                                                   LEGPR353
 1276       IF (ICC.EQ.2) CALL UNPACK (NDXCE,12,DDB(ICI+1),24)            LEGPR354
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1304          IF (L3.EQ.4HNONE) GO TO 670                                    LEGPR355
1306          IF (IFLT.EQ.0) GO TO 400                                       LEGPR356
1307          IF (IFLT.EQ.JFLT) GO TO 620                                    LEGPR357
1311    400   CONTINUE                                                       LEGPR358
1311          IFLT=JFLT                                                      LEGPR359
      C                                                                      LEGPR360
1313          CALL PROLNK (VEHNDX,NEXP,TW(1,FLTNO),TW(2,FLTNO),IDV,1.0,PROPWT,PRLEGPR361
             1OPOL)                                                          LEGPR362
1325          T=PROPOL                                                       LEGPR363
1326          IF (KOPT(1).EQ.1) PROPOL=(I/IROUND)*IROUND+IROUND              LEGPR364
1336          TPROPW(VEHNDX)=TPROPW(VEHNDX)+PROPWT                           LEGPR365
      C                                                                      LEGPR366
      C  GROUND BASE AREA                                                    LEGPR367
      C                                                                      LEGPR368
1341          IF (KOPT(2).EQ.0) GO TO 670                                    LEGPR369
1342          MAXCGN=MAXCGN+2                                                LEGPR370
1343          IVEH=0                                                         LEGPR371
      C                                                                      LEGPR372
      C                                                                      LEGPR373
1344          ISKIP=0                                                        LEGPR374
1345          DO 610 I1=6,36,6                                               LEGPR375
1346          I2=36-I1                                                       LEGPR376
1347          CALL UNPACK (IVEH,6,TBVEH(5,VEHNDX),I2)                        LEGPR377
1354          IF (IVEH.EQ.0) GO TO 610                                       LEGPR378
1355          DO 410 N=1,NCE                                                 LEGPR379
1370          NBASE=(N-1)*NWCE+NBCE                                          LEGPR380
1373          IF (IDB(NBASE).NE.TBVEH(1,IVEH)) GO TO 410                     LEGPR381
1376          IF (IDB(NBASE+1).EQ.TBVEH(2,IVEH)) GO TO 420                   LEGPR382
1400    410   CONTINUE                                                       LEGPR383
1402          PRINT 1090, TBVEH(1,IVEH),TBVEH(2,IVEH)                        LEGPR384
1416          IVEH=0                                                         LEGPR385
1417          JERR=JERR+1                                                    LEGPR386
1421          GO TO 670                                                      LEGPR387
1421    420   CONTINUE                                                       LEGPR388
1422          GRWTV(1)=DDB(NBASE+6)                                          LEGPR389
1423          GRWTV(2)=DDB(NBASE+7)                                          LEGPR390
1425          VOLV=DDB(NBASE+8)                                              LEGPR391
1426          WORD2=0                                                        LEGPR392
1427          IF (GRWTV(2).GT.0.0) CALL PACK (1,1,WORD2,1)                   LEGPR393
1434          IF (ISKIP.GT.0) GO TO 460                                      LEGPR394
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      CALL UNPACK (JN,18,TBVEH(3,LVEH),0)                                LEGPR395
      JL=JX+JN-1                                                         LEGPR396
      J1=JX+NWVEH                                                        LEGPR397
      DO 430 J=J1,JL,5                                                   LEGPR398
      IF (L3.NE.IDB(J)) GO TO 430                                        LEGPR399
      IF (L4.EQ.IDB(J+1)) GO TO 440                                      LEGPR400
  430 CONTINUE                                                           LEGPR401
      PRINT 1100, L3,L4,TBVEH(1,LVEH),TBVEH(2,LVEH)                      LEGPR402
      IVEH=0                                                             LEGPR403
      JERR=JERR+1                                                        LEGPR404
      GO TO 610                                                          LEGPR405
  440 CONTINUE                                                           LEGPR406
      JCGN(1)=MAXCGN                                                     LEGPR407
      JCGN(2)=MAXCGN+1                                                   LEGPR408
      WTMAX(1)=DDP(J+2)                                                  LEGPR409
      WTMAX(2)=DDP(J+3)                                                  LEGPR410
      IF ((KOPT(1).EQ.1).AND.(I2.EQ.0)) GBWTV(1)=GBWTV(2)+PROPOL         LEGPR411
      DO 450 I=1,2                                                       LEGPR412
      JCI(I)=0                                                           LEGPR413
      GBVOL(I)=FVOL(I,FLTNO)                                             LEGPR414
      GBWT(I)=TW(I,FLTNO)                                                LEGPR415
      IF (GBWT(I).LE.0.0) GO TO 450                                      LEGPR416
      IF ((GBVOL(I)+VOLV).GT.VOL2) GO TO 450                             LEGPR417
      IF ((GBWT(I)+GBWTV(I)).GT.WTMAX(I)) GO TO 450                      LEGPR418
      GBVOL(I)=GBVOL(I)+VOLV                                             LEGPR419
      GBWT(I)=GBWT(I)+GBWTV(I)                                           LEGPR420
      JCI(I)=3                                                           LEGPR421
  450 CONTINUE                                                           LEGPR422
      IDIR=0                                                             LEGPR423
      CALL PACK (TBLEG(7,LEG1),6,WORD1,0)                                LEGPR424
      CALL PACK (YEAR,6,WORD1,6)                                         LEGPR425
      CALL PACK (LVEH,6,WORD1,12)                                        LEGPR426
      CALL PACK (KT,18,WORD1,18)                                         LEGPR427
      CALL PACK (1,4,WORD2,0)                                            LEGPR428
      CALL PACK (VV,12,WORD2,6)                                          LEGPR429
  460 CONTINUE                                                           LEGPR430
      IF ((I2.NE.0).OR.(KOPT(1).EQ.0)) GO TO 470                         LEGPR431
      IOE=NOE*NWOE+NBOE                                                  LEGPR432
      IDB(IOE)=TBVEH(1,IVEH)                                             LEGPR433
      DDP(IOE+2)=DTSORP(4)                                               LEGPR434
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1616          IDB(ICE+3)=TRVEH(1,VEHNDX)                                LEGPR435
1620          IDB(ICE+4)=TRVEH(2,VEHNDX)                                LEGPR436
1621          CALL PACK (3,12,DDB(ICE+5),12)                            LEGPR437
1624          CALL PACK (4,12,DDB(ICE+5),24)                            LEGPR438
1631          I6=GRWTV(2)+PRODL                                         ZERODI 9
1633          I7=GRWTV(2)                                               ZERODI10
1635          DDB(ICE+6)=I6                                             ZERODI11
1637          DDB(ICE+7)=I7                                             ZERODI12
1640          DDB(ICE+8)=VOLV                                           LEGPR441
1642          GO TO 530                                                 LEGPR442
1642    470   CONTINUE                                                  LEGPR443
1642          IF(ISKIP.EQ.0)GO TO 480                                   WED23072
1643    471   IF(ICC.NE.0)GO TO 490                                     WED23073
1644          IF(TW(1,FLTNO))490,490,472                                WED23074
1647    472   MM=M                                                      WED23075
1650          JDIR=DIRECT-1                                             WED23076
1653    473   IF(JDIR.EQ.0)GO TO 474                                    WED23077
1654          MM=MM+1                                                   WED23078
1656          CALL UNPACK(JDIR,1,FLTA(1,MM),25)                         WED23079
1662          GO TO 473                                                 WED23080
1663    474   CALL UNPACK(IFLTNO,9,FLTA(1,MM),16)                       WED23081
1667          IF(IFLTNO.NE.FLTNO)GO TO 490                              WED23082
1671          IF(FLTA(2,MM) -  TW(1,FLTNO))490,475,490                  WED23083
1675    475   CALL UNPACK(MM,16,FLTA(1,MM),0)                           WED23084
1701          CALL PACK(DDB(MM),12,WORD1,24)                            WED23085
1705          GO TO 490                                                 WED23086
1706    480   IDIR=IDIR+1                                               LEGPR445
1710          CALL PACK (JCI(IDIR),2,WORD3,0)                           LEGPR446
1713          CALL PACK (JCGN(IDIR),12,WORD3,2)                         LEGPR447
1717          IF (GBWT(IDIR).LT.GRWTV(IDIR)) GO TO 490                  LEGPR448
1722          IF (GBWT(IDIR).LE.0.0) GO TO 490                          LEGPR449
1724          IF (JCI(IDIR).EQ.3) GO TO 490                             LEGPR450
1726          IF(JCI(IDIR).EQ.0)GO TO 471                               WED23087
1727          NWT=100000.*GBWTV(IDIR)/GBWT(IDIR)                        LEGPR451
1732          CALL PACK (NWT,22,WORD3,14)                               LEGPR452
1735    490   CALL PACK (N,18,WORD2,18)                                 LEGPR453
1740    500   CONTINUE                                                  LEGPR454
1741          DDB(NLMISS+1)=WORD1                                       LEGPR455
1743          DDB(NLMISS+2)=WORD2                                       LEGPR456
1744          DDB(NLMISS+3)=WORD3                                       LEGPR457
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1746          IF (ISKIP.EQ.1) GO TO 510                                  LEGPR458
1750          IF (ISKIP.GE.3) GO TO 510                                  LEGPR459
1752          IF (JCI(IDIR).NE.3) GO TO 510                              LEGPR460
1754          CALL PACK (I77,12,DDB(NLMISS+1),12)                        LEGPR461
1757          CALL PACK (I77,18,DDB(NLMISS+2),6)                         LEGPR462
1763  510     CONTINUE                                                   LEGPR463
1763          LNGTH=LNGTH+1                                              LEGPR464
1765          NLMISS=NLMISS+NWMISS                                       LEGPR465
1766          IF ((NBDDB-NWDDB).LE.NLMISS) GO TO 1000                    LEGPR466
1771  520     ISKIP=ISKIP+1                                              LEGPR467
1773          IF (ISKIP.GT.3) GO TO 610                                  LEGPR468
1776          IF ((ISKIP.GE.2).AND.(NEXP.EQ.1)) GO TO 520                LEGPR469
2004          IF (ISKIP.GE.2) CALL PACK (1,1,WORD2,2)                    LEGPR470
2010          IF(ISKIP.EQ.2)CALL PACK(67,12,WORD1,24)                    WED23088
2015          IF (ISKIP.EQ.2) GO TO 480                                  LEGPR471
2017          IF (TW(IDIR,FLTNO).LE.0.0) GO TO 520                       LEGPR472
2022          ICE=NCE*NWCE+NBCE                                          LEGPR473
2025          DDB(ICE)=BOX                                               LEGPR474
2030          DDB(ICE+2)=DISCRP(1)                                       LEGPR475
2031          DDB(ICE+3)=DISCRP(2)                                       LEGPR476
2033          DDB(ICE+4)=DISCRP(3)                                       LEGPR477
2034          CALL PACK (5,12,DDB(ICE+5),12)                             LEGPR478
2037          CALL PACK (1,12,DDB(ICE+5),24)                             LEGPR479
2046          I6=GRWT(IDIR)                                              ZERODI13
2047          DDB(ICE+6)=I6                                              ZERODI14
2050          DDB(ICE+7)=I6                                              ZERODI15
2051          DDB(ICE+8)=GBVOL(IDIR)                                     LEGPR482
2053  530     CONTINUE                                                   LEGPR483
2053          IF(JBOX.LT.28)GO TO 540                                    ZERODI16
2056          JBOX=0                                                     LEGPR485
2056          IBOX=IBOX+64                                               LEGPR486
2060  540     NOBOX=IBOX+JBOX                                            LEGPR487
2062          DDB(ICE+1)=6H                                              LEGPR488
2064          JBOX=JBOX+1                                                LEGPR489
2065          CALL PACK (NOBOX,12,DDB(ICE+1),KBOX)                       LEGPR490
2070          DO 570 J=LASTCE,NCE                                        LEGPR491
2072          I=(J-1)*NWCE+NBCE                                          LEGPR492
2075          IF (DDB(I+6)-DDB(ICE+6)) 570,550,570                       LEGPR493
2101  550     IF (DDB(I+7)-DDB(ICE+7)) 570,560,570                       LEGPR494
2104  560     IF (DDB(I+8)-DDB(ICE+8)) 570,590,570                       LEGPR495
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2107  570    CONTINUE                                                    LEGPR496
2112         NCE=NCE+1                                                   LEGPR497
2113         NLCE=NLCE+NWCE                                              LEGPR498
2115         IF (NLCE.LT.NRMISS) GO TO 580                               LEGPR499
2117         PRINT 1110                                                  LEGPR500
2122         JERR=JERR+1                                                 LEGPR501
2124         GO TO 970                                                   LEGPR502
2124  580    CONTINUE                                                    LEGPR503
2124         J=NCE                                                       LEGPR504
2126  590    CONTINUE                                                    LEGPR505
2126         IF ((ISKIP.EQ.1).OR.(ISKIP.EQ.3)) GO TO 600                 LEGPR506
2136         N=J                                                         LEGPR507
2137         GO TO 470                                                   LEGPR508
2140  600    CONTINUE                                                    LEGPR509
2140         CALL PACK (J,18,WORD2,18)                                   LEGPR510
2143         CALL PACK (2,2,WORD3,0)                                     LEGPR511
2145         GO TO 500                                                   LEGPR512
2147  610    CONTINUE                                                    LEGPR513
2151  620    CONTINUE                                                    LEGPR514
2151         IF (KOPT(2).EQ.0) GO TO 670                                 LEGPR515
2152         IF (IVEH.NE.0) GO TO 640                                    LEGPR516
2153         IF (PROPWT) 630,670,630                                     LEGPR517
2154  630    CONTINUE                                                    LEGPR518
2154         PRINT 1120, TBVEH(1,VEHNDX),TBVEH(2,VEHNDX)                 LEGPR519
2170         GO TO 670                                                   LEGPR520
2171  640    CONTINUE                                                    LEGPR521
2171         IF (GRWT(DIRECT).LE.0.0) GO TO 670                          LEGPR522
2173         LEGB=0                                                      LEGPR523
2174         IF (DIRECT.EQ.2) GO TO 660                                  LEGPR524
2176         IF (TW(1,FLTNO)) 660,660,650                                LEGPR525
2200  650    LEGB=100000.*A*FLTA(2,M)/TW(1,FLTNO)                        LEGPR526
2206  660    CONTINUE                                                    LEGPR527
2206         IF (ICC.NE.2) ICI=IS                                        LEGPR528
2212         CALL PACK (I77,18,DDB(IS+1),6)                              LEGPR529
2216         CALL PACK (I77,18,DDB(ICI+1),6)                             LEGPR530
2222         CALL PACK (LEGB,18,DDB(ICI+2),18)                           LEGPR531
2226         CALL PACK (3,2,DDB(ICI+2),0)                                LEGPR532
2232         CALL PACK (JOGN(JIRECT),12,DDB(ICI+2),2)                    LEGPR533
2235  670    CONTINUE                                                    LEGPR534
2236         CALL PACK (LEG1,6,DDB(NBDD2),0)                             LEGPR535
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2242          CALL PACK (VEHNOY,6,DDB(NBDDB),6)                          LEGPR536
2246          CALL PACK (YEAR,6,DDB(NBDDB),12)                           LEGPR537
2252          CALL PACK (JFLT,12,DDB(NBDDB),18)                          LEGPR538
2256          IF (L3.EQ.4HNONE) GO TO 770                                LEGPR539
2260          IF ((KOPT(2).EQ.1).OR.(LS.EQ.1)) GO TO 770                 LEGPR540
      C       NON LONGSHORING SECTION                                    LEGPR541
2270          IF (LFLT.EQ.0) GO TO 680                                   LEGPR542
2271          IF (LFLT.EQ.JFLT) GO TO 760                                LEGPR543
2272    680   LFLT=JFLT                                                  LEGPR544
2273          MAXCGN=MAXCGN+2                                            LEGPR545
2275          IDIR=0                                                     LEGPR546
2276          WORD2=0                                                    LEGPR547
2276          JCGN(1)=MAXCGN                                             LEGPR548
2277          JCGN(2)=MAXCGN+1                                           LEGPR549
      C                                                                  LEGPR550
      C                                                                  LEGPR551
      C                                                                  LEGPR552
      C       CREATING LEVEL 1 - WORDS 1 AND 2                           LEGPR553
      C                                                                  LEGPR554
2301          CALL PACK (TBLEG(7,LEG1),6,WORD1,0)                        LEGPR555
2306          CALL PACK (YEAR,6,WORD1,6)                                 LEGPR556
2311          CALL PACK (V1,6,WORD1,12)                                  LEGPR557
2314          CALL PACK (66,18,WORD1,18)                                 LEGPR558
2317          CALL PACK (1,4,WORD2,0)                                    LEGPR559
2322          CALL PACK (VV,12,WORD2,6)                                  LEGPR560
      C                                                                  LEGPR561
2325    690   IDIR=IDIR+1                                                LEGPR562
2327          IF (IDIR.GE.3) GO TO 760                                   LEGPR563
2331          IF ((IDIR.EQ.2).AND.(NEXP.EQ.1)) GO TO 760                 LEGPR564
2340          IF (IDIR.EQ.2) CALL PACK (1,1,WORD2,2)                     LEGPR565
2344          IF (TW(IDIR,FLTNO).LE.0.0) GO TO 690                       LEGPR566
2347          ICE=NCE*NWCE+NBCE                                          LEGPR567
2352          DDB(ICE)=BOX2                                              LEGPR568
2355          IF(JBOX.LT.26)GO TO 700                                    ZERODT17
2357          JBOX=0                                                     LEGPR570
2357          IBOX=IBOX+64                                               LEGPR571
2361    700   NOBOX=IBOX+JBOX                                            LEGPR572
2363          DDB(ICE+1)=6H                                              LEGPR573
2365          JBOX=JBOX+1                                                LEGPR574
2366          CALL PACK (NOBOX,12,DDB(ICE+1),KBOX)                       LEGPR575
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2372          DDB(ICE+2)=DISCRP(5)                                    LEGPR576
2374          DDB(ICE+3)=DISCRP(6)                                    LEGPR577
2375          DDB(ICE+4)=DISCRP(7)                                    LEGPR578
2377          CALL PACK (5,12,DDB(ICE+5),12)                          LEGPR579
2402          CALL PACK (1,12,DDB(ICE+5),24)                          LEGPR580
2411          DDB(ICE+6)=TW(IDIR,FLTNO)                               LEGPR581
2413          DDB(ICE+7)=TW(IDIR,FLTNO)                               LEGPR582
2414          DDB(ICE+8)=FVOL(IDIR,FLTNO)                             LEGPR583
2416          DO 730 J=LASTCE,NCE                                     LEGPR584
2420          I=(J-1)*NWCE+NBCE                                       LEGPR585
2423          IF (DDB(I+6)-DDB(ICE+6)) 730,710,730                    LEGPR586
2427    710   IF (DDB(I+7)-DDB(ICE+7)) 730,720,730                    LEGPR587
2432    720   IF (DDB(I+8)-DDB(ICE+8)) 730,750,730                    LEGPR588
2435    730   CONTINUE                                                LEGPR589
2440          NCE=NCE+1                                               LEGPR590
2441          NLCE=NLCE+NWCE                                          LEGPR591
2443          IF (NLCE.LT.NBMISS) GO TO 740                           LEGPR592
2445          PRINT 1110                                              LEGPR593
2450          JERR=JERR+1                                             LEGPR594
2452          GO TO 970                                               LEGPR595
2452    740   CONTINUE                                                LEGPR596
2452          J=NCE                                                   LEGPR597
2454    750   CONTINUE                                                LEGPR598
2454          CALL PACK (J,18,WORD2,18)                               LEGPR599
2457          CALL PACK (2,2,WORD3,0)                                 LEGPR600
2462          CALL PACK (JCGN(IDIR),12,WORD3,2)                       LEGPR601
              C     COUPLE CONTAINER ON NEXT LEG                      LEGPR602
              C                                                       LEGPR603
2466          DDB(NLMISS+1)=WORD1                                     LEGPR604
2471          DDB(NLMISS+2)=WORD2                                     LEGPR605
2473          DDB(NLMISS+3)=WORD3                                     LEGPR606
2476          LNGTH=LNGTH+1                                           LEGPR607
2477          NLMISS=NLMISS+NWMISS                                    LEGPR608
2501          IF ((NBDDR-NWMISS).LE.NLMISS) GO TO 1000                LEGPR609
2503          GO TO 690                                               LEGPR610
2504    760   CONTINUE                                                LEGPR611
2504          IF (TW(DIRECT,FLTNO).LE.0.0) GO TO 770                  LEGPR612
2507          LEGB=100000.*A*FLTA(2,M)/TW(DIRECT,FLTNO)               LEGPR613
2514          IF (ICC.NE.2) ICI=IS                                    LEGPR614
2520          CALL PACK (177,18,DDB(IS+1),6)                          LEGPR615
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2524          CALL PACK (T77,18,DDB(ICI+1),6)                                  LESPR615
2530          CALL PACK (LEGB,18,DDB(ICI+2),18)                                LESPR617
2534          CALL PACK (3,2,DDB(ICI+2),0)                                     LESPR618
2540          CALL PACK (JOGN(DIRECT),12,DDB(ICI+2),2)                         LESPR619
2544    770   CONTINUE                                                         LESPR620
2544          CALL PACK (FLAGS,6,DDB(NBDDB),30)                                LESPR621
2550          CALL PACK (FNMN,12,DDB(NBDDB+1),0)                               LESPR622
2554          CALL PACK (VEHNDX,6,DDB(NBDDB+1),12)                             LESPR623
2560          CALL PACK (NDXCE,18,DDB(NBDDB+1),18)                             LESPR624
2564          LE=100000.*LOADEC                                                LESPR625
2566          LEB=100000.*BCELE                                                LESPR626
2571          CALL PACK (LE,18,DDB(NBDDB+2),0)                                 LESPR627
2574          CALL PACK (LEB,18,DDB(NBDDB+2),18)                               LESPR628
2600    775   CALL PACK(NDXCE,3,DDB(NBDDB),33)                                 THJ140 3
2604          IF (ICC.EQ.2) GO TO 370                                          LESPR629
2606    780   CONTINUE                                                         LESPR630
2611          IF (NCR.EQ.0) GO TO 820                                          LESPR631
2612          DO 810 I=1,NCR                                                   LESPR632
2613          CALL UNPACK (NDEX,18,CR(I),0)                                    LESPR633
2616          CALL UNPACK (IFU,9,CP(I),18)                                     LESPR634
2622          CALL UNPACK (IFD,9,CR(I),27)                                     LESPR635
2630          TBCONT(7,NDEX)=1.0                                               LESPR636
2631          IFLT=IFU                                                         LESPR637
2632          IFLG=4                                                           LESPR638
2633          LEB=100000.                                                      LESPR639
2635          CALL PACK (ITBCNT+NDEX,18,CONT2,18)                              LESPR640
2642          CALL PACK (VEHNDX,6,CONT2,12)                                    LESPR641
2645          CALL PACK (LEG1,6,CONT,0)                                        LESPR642
2650          CALL PACK (VEHNDX,6,CONT,6)                                      LESPR643
2653          CALL PACK (YEAR,6,CONT,12)                                       LESPR644
2656          DO 800 J=1,2                                                     LESPR645
2660          IF (IFLT.LE.0) GO TO 790                                         LESPR646
2666          TOTWT=TW(1,IFLT)*FACTOR(1)+TW(2,IFLT)*FACTOR(2)                  LESPR647
2672          LE=100000.*FACTOR(J)*TBCONT(4,NDEX)/TOTWT                        LESPR648
2676          IFLT=IFLT+NOFLT                                                  LESPR649
2701          CALL PACK (IFLT,12,CONT,18)                                      LESPR650
2704          CALL PACK (IFLG,6,CONT,30)                                       LESPR651
2707          IF (ICNT.GE.LIML2) CALL L2WO                                     LESPR652
2713          NBDDB=NBDDB-NWDDB                                                LESPR653
2715          NDDB=NDDB+1                                                      LESPR654
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2716          ICNT=ICNT+1                                                    LEGPR655
2717          DDB(NBDDB)=CONT                                                LEGPR656
2722          DDB(NBDDB+1)=CONT2                                             LEGPR657
2724          DDB(NBDDB+2)= 0.1                                              WE123089
2726          CALL PACK (LE,18,DDB(NBDDB+2),0)                               LEGPR658
2731          CALL PACK (LEB,18,DDB(NBDDB+2),18)                             LEGPR659
2735   790    IFLT=IFD                                                       LEGPR660
2736          IFLG=12                                                        LEGPR661
2740   800    CONTINUE                                                       LEGPR662
              C                                                             LEGPR663
              C                                                             LEGPR664
2742   810    CONTINUE                                                       LEGPR665
2744   820    CONTINUE                                                       LEGPR666
              C                                                             LEGPR667
              C     SET UP NETBL ARRAY FOR TRAFIC                           LEGPR668
              C                                                             LEGPR669
2744          IF (YEAR.LT.FYEAR) FYEAR=YEAR                                  LEGPR670
2747          IF (YEAR.GT.LYEAR) LYEAR=YEAR                                  LEGPR671
2752          IF (NTBL.LT.MTBL) GO TO 840                                    LEGPR672
2755          IF (NEWLEG.EQ.LASTLG) GO TO 830                                LEGPR673
2757          IF (IFLAG(9).EQ.0) GO TO 830                                   LEGPR674
2760          PRINT 1060, TBLEG(1,LEG1),TBLEG(2,LEG1),IYEAR                  LEGPR675
2777          JERR=JERR+1                                                    LEGPR676
3001          GO TO 840                                                      LEGPR677
3001   830    CALL COLECT                                                    LEGPR678
3002   840    NTBL=NTBL+1                                                    LEGPR679
3004          IF (NTBL.GT.MTBL) GO TO 850                                    LEGPR680
3007          NETBL(NTBL)=0                                                  LEGPR681
              C                                                             LEGPR682
3010          CALL PACK (NEV,6,NETBL(NTBL),0)                                LEGPR683
3013          CALL PACK (VEHNOX,6,NETBL(NTBL),6)                             LEGPR684
3017          CALL PACK (YEAR,12,NETBL(NTBL),12)                             LEGPR685
3023          CALL PACK (NFLT,12,NETBL(NTBL),24)                             LEGPR686
              C                                                             LEGPR687
              C     MOVE CARGO TO ITS NEXT LEG BY CHANGING THE LEG INDEX.   LEGPR688
              C                                                             LEGPR689
3027   850    CONTINUE                                                       LEGPR690
3027          NXTLEG=TBLEG(7,LEG1)                                           LEGPR691
3032          IF (NXTLEG.EQ.0) GO TO 990                                     LEGPR692
              C                                                             LEGPR693
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      C                                                                 LEGPR694
3034          IF (ICR.EQ.0) GO TO 880                                   LEGPR695
      C                                                                 LEGPR696
3035          IGAP=(IL-ICF+NWMISS)/NWMISS                               LEGPR697
3041          CALL SORT (DDB(ICF),NWMISS,IGAP,1)                        LEGPR698
3044          ICLL=ICF-NWMISS                                           LEGPR699
3046          DO 860 I=ICF,IL,NWMISS                                    LEGPR700
3047          CALL UNPACK (JVEH,6,DDB(I),12)                            LEGPR701
3052          IF (JVEH.NE.0) GO TO 870                                  LEGPR702
3053          ICLL=I                                                    LEGPR703
3055    860   CONTINUE                                                  LEGPR704
3060    870   IGAP=ICL-ICLL                                             LEGPR705
3061          ICL=ICL-IGAP                                              LEGPR706
3062          IF=IF-IGAP                                                LEGPR707
3063          IF (ICL.LT.ICF) ICR=0                                     LEGPR708
3067    880   CONTINUE                                                  LEGPR709
      C                                                                 LEGPR710
3067          IF (NXTLEG.EQ.LASTLG) GO TO 940                           LEGPR711
      C                                                                 LEGPR712
3071          DO 890 J=IF,IL,NWMISS                                     LEGPR713
      C                                                                 LEGPR714
3073          CALL PACK (NXTLEG,6,DDB(J),0)                             LEGPR715
      C                                                                 LEGPR716
      C     MOVE VEHICLE INDICES FROM LOWER LEGS UP ONE.                LEGPR717
      C                                                                 LEGPR718
3076          CALL UNPACK (V1,6,DDB(J+1),6)                             LEGPR719
3102          CALL UNPACK (V2,6,DDB(J+1),12)                            LEGPR720
3106          CALL UNPACK (V3,6,DDB(J+1),18)                            LEGPR721
3112          V4=J77                                                    LEGPR722
3113          IF ((KOPT(2).EQ.1).AND.(V1.EQ.0)) V1=LVEH                 LEGPR723
3124          CALL PACK (V1,6,DDB(J),12)                                LEGPR724
3130          CALL PACK (V2,6,DDB(J+1),6)                               LEGPR725
3134          CALL PACK (V3,6,DDB(J+1),12)                              LEGPR726
3140          CALL PACK (V4,6,DDB(J+1),18)                              LEGPR727
3144    890   CONTINUE                                                  LEGPR728
      C                                                                 LEGPR729
      C     SET UP PROPELLANTS TWO WORDS FOR CARGO TABLE.               LEGPR730
      C                                                                 LEGPR731
3147          IF (VEHNOX.EQ.J77) GO TO 940                              LEGPR732
3151          IF (KOPT(2).EQ.1) GO TO 940                               LEGPR733
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3153          IF (ICB.EQ.1) GO TO 940                                          LEGPR734
3154          PROP=DDB(IP)                                                     LEGPR735
3156          PROP2=0                                                          LEGPR736
3157          CALL PACK (65,12,PROP,24)                                        LEGPR737
3162          CALL PACK (TBLEG(11,NXTLEG),18,PROP2,6)                          LEGPR738
3167          CALL UNPACK (N,6,TBLEG(11,NXTLEG),12)                            LEGPR739
3174          CALL PACK (N,6,PROP,12)                                          LEGPR740
3177          DO 930 JVEH=1,NVHMAX                                             LEGPR741
3201          IF (TBPOP+(JVEH).LE.1.0) GO TO 930                               LEGPR742
3204          CALL UNPACK (TBVEH,18,TBVEH(3,JVEH),18)                          LEGPR743
3212          KPROP=DDB(IBVEH+3)                                               LEGPR744
3215          PROPUP=TBCONT(3,KPROP)                                           LEGPR745
3217          LPROP=KPROP+ITBCNT                                               LEGPR746
3222          CALL PACK (LPROP,12,PROP2,24)                                    LEGPR747
3225          NPF=(TBPOPW(JVEH)+PROPUP-1.0)/PROPUP                             LEGPR748
3232          CALL PACK (20,6,PROP2,0)                                         LEGPR749
3235          TBCONT(7,KPROP)=1.0                                              LEGPR750
3240          IF (TBCONT(8,KPROP)) 900,910,900                                 LEGPR751
3242  900     CALL PACK (4,6,PROP2,0)                                          LEGPR752
3245  910     CONTINUE                                                         LEGPR753
3245          DO 920 I=1,NPF                                                   LEGPR754
3256          DDB(NLMISS+1)=PROP                                               LEGPR755
3260          DDB(NLMISS+2)=PROP2                                              LEGPR756
3262          DDB(NLMISS+3)=0.0                                                WEI23090
3264          NLMISS=NLMISS+NWMISS                                             LEGPR757
3264          LNGTH=LNGTH+1                                                    LEGPR758
3265          IF ((NBDDB-NWDDB).LE.NLMISS) GO TO 1600                          LEGPR759
3267  920     CONTINUE                                                         LEGPR760
3272  930     CONTINUE                                                         LEGPR761
              C                                                                LEGPR762
3275  940     CONTINUE                                                         LEGPR763
3275          IF (ICB.EQ.0) GO TO 950                                          LEGPR764
3276          IF (NDEX4.NE.NDEX5) GO TO 160                                    LEGPR765
3300          IF (VEHNO.EQ.J77) GO TO 160                                      LEGPR766
3302  950     CONTINUE                                                         LEGPR767
3302          NXTLEG=0                                                         LEGPR768
3303          IF ((LEGNO.GT.0).AND.(LEGNO.LE.NLGMAX)) NXTLEG=TBLEG(7,LEGNO)    LEGPR769
3317          IF (IFLAG(8).EQ.0) GO TO 960                                     LEGPR770
              C                                                                LEGPR771
3320          PRINT 1130                                                       LEGPR772
```

```
3324          PRINT 1140, LEG1,NEWLEG,LEGNO,NXTLEG                    LEGPR773
3340          PRINT 1140, VEHNOX,VEHNO,V1,V2                          LEGPR774
3354          PRINT 1140, YEAR,RELDT,NFLT,NPF                         LEGPR775
3370          PRINT 1140, TOF,TOL,IF,IL                               LEGPR776
3404          PRINT 1130                                              LEGPR777
C                                                                     LEGPR778
3410  960     CONTINUE                                                LEGPR779
C                                                                     LEGPR780
3410          IF=ILL+NWMISS                                           LEGPR781
C                                                                     LEGPR782
3412          IF (NEWLEG.EQ.NXTLEG) GO TO 70                          LEGPR783
3414          IF (NEWLEG.EQ.LASTLG) GO TO 1020                        LEGPR784
C                                                                     LEGPR785
3416          IF (IFLAG(9).EQ.0) GO TO 970                            LEGPR786
C                                                                     LEGPR787
3417          NTBL2=NTBL                                              LEGPR788
3420          IF (NTBL2.GT.MTBL) NTBL2=MTBL                           LEGPR789
3423          CALL UNPACK (V1,6,TBLEG(6,NEWLEG),12)                   LEGPR790
3430          CALL UNPACK (V2,6,TBLEG(6,NEWLEG),18)                   LEGPR791
3435          CALL UNPACK (V3,6,TBLEG(6,NEWLEG),24)                   LEGPR792
3442          CALL UNPACK (V4,6,TBLEG(6,NEWLEG),30)                   LEGPR793
3447          CALL PACK (NEWLEG,6,VEH1,0)                             LEGPR794
3452          CALL PACK (V1,6,VEH1,12)                                LEGPR795
3455          CALL PACK (V2,6,VEH2,6)                                 LEGPR796
3460          CALL PACK (V3,6,VEH2,12)                                LEGPR797
3463          CALL PACK (V4,6,VEH2,18)                                LEGPR798
C                                                                     LEGPR799
3466          CALL YEARS                                              LEGPR800
C                                                                     LEGPR801
3471          MAXVEH=(LOWCOR-510-NLMISS)/(72+10*NWMISS)               WED23091
3476          L1BUC=10*NWMISS*MAXVEH                                  WED23092
3500          IF (MAXVEH.GT.100) MAXVEH=100                           LEGPR803
3504          CALL SEG22                                              LEGPR804
C                                                                     LEGPR805
3505  970     CONTINUE                                                LEGPR806
C                                                                     LEGPR807
3505          CALL COLECT                                             LEGPR808
C                                                                     LEGPR809
C     SORT IF LEG NUMBER CHANGES.                                     LEGPR810
C                                                                     LEGPR811
```

```
3506          NLCE=NLCE+NOSC-1                                          WED23093
3511          CALL DDBSET                                               WED23094
3512          NLCE=NLCE-NOSC+1                                          WED23095
3515          CALL SORT (DDB(NBMISS),NWMISS,LNGTH,1)                    LEGPR815
      C                                                                 LEGPR816
3520          DO 980 K=NBMISS,NLMISS,NWMISS                             LEGPR817
3522          CALL UNPACK (NXTLEG,6,DDB(K),0)                           LEGPR818
3525          L=K                                                       LEGPR819
3526          IF (NXTLEG.GT.LEG1) GO TO 40                              LEGPR820
3532  980     CONTINUE                                                  LEGPR821
3534          GO TO 1020                                                LEGPR822
      C                                                                 LEGPR823
      C                                                                 LEGPR824
3534  990     PRINT 1150, (TBLEG(I,LEG1),I=1,4)                         LEGPR825
3544          GO TO 1010                                                LEGPR826
3545  1000    PRINT 1160                                                LEGPR827
3551  1010    IFLAG(8)=1                                                LEGPR829
3552          JERR=JERR+1                                               LEGPR829
3554  1020    CONTINUE                                                  LEGPR830
3554          CALL COLECT                                               LEGPR831
3555          NTBL1=1                                                   LEGPR832
3556          NTBL2=NTBL                                                LEGPR833
3557          IFLAG(4)=ISAVE                                            LEGPR834
      C                                                                 LEGPR835
3561          CALL YEARS                                                LEGPR836
3562          CALL L2WO                                                 LEGPR837
3563          END FILE L2WOT                                            LEGPR838
3565          REWIND L2WOT                                              LEGPR839
3570          NBDDB=NLCE+1                                              LEGPR840
3571          NLDDB=NBDDB+NDDB*NWDDB-1                                  LEGPR841
3574          NBLK=(LOWCOR-NBDDB+1-NWDDB)/510                           LEGPR842
      C                                                                 LEGPR843
3601          DO 1030 I=1,NCTMAX                                        LEGPR844
3611  1030    TBCONT(8,I)=TBCONT(8,I)-X                                 LEGPR845
      C                                                                 LEGPR846
3613          NOVEH=0                                                   LEGPR847
3614          DO 1050 I=1,NVHMAX                                        LEGPR848
3622          IF (VEH(I)) 1040,1050,1040                                LEGPR849
3623  1040    NOVEH=NOVEH+1                                             LEGPR850
3624  1050    CONTINUE                                                  LEGPR851
```

```
3625          NF=MIN0(NIFA,MIFA)                                                LEGPR852
3631          NV=MIN0(NIVA,MIVA)                                                LEGPR853
3635          CALL SORT (IVA,1,NV,1)                                            LEGPR854
3640          CALL SORT (IFA,1,NF,1)                                            LEGPR855
      C                                                                         LEGPR856
3643          RETURN                                                            LEGPR857
      C                                                                         LEGPR858
      C                                                                         LEGPR859
      C                                                                         LEGPR860
      C                                                                         LEGPR861
      C                                                                         LEGPR862
      C                                                                         LEGPR863
      1060  FORMAT (59H0*** FTBL TABLE OVERFLOW WHILE CALCULATING VEHICLES ON   LEGPR864
     1LEG ,A6,A4,6H YEAR ,I4)                                                   LEGPR865
      1070  FORMAT (1H0,29H 340 CAPTURE - CARGO ELEMENT ,A6,A4,8H ON LEG ,A6,A LEGPR866
     14,8H IN YEAR,I5,31H FORCED TO USE DEFAULT VEHICLE.)                       LEGPR867
      1080  FORMAT (39H *ERROR IN LEGPRO*  COUPLE HAS NO ITEMS,3(8X,G12))      LEGPR868
      1090  FORMAT (19H0THE UPPER STAGE - ,A6,A4,52H - FOR GROUND BASE IS NOT   LEGPR869
     1IN THE CARGO ELEMENT TABLE)                                               LEGPR870
      1100  FORMAT (7HOLEG - ,A6,A4,32H - DOES NOT EXIST FOR VEHICLE - ,A6,A4)LEGPR871
      1110  FORMAT (17H1 NLOE GT NOMISS )                                       LEGPR872
      1120  FORMAT (53H0 ***GROUND BASE MODE**** NO UPPER STAGE FOR VEHICLE ,A LEGPR873
     16,A4)                                                                     LEGPR874
      1130  FORMAT (1H )                                                        LEGPR875
      1140  FORMAT (1H ,4I10)                                                   LEGPR876
      1150  FORMAT (18H1 NO FOLLOW ON LEG,2(4X,A6,A4))                          LEGPR877
      1160  FORMAT (34H1 *** DDP ARRAY HAS OVERFLOWED ***)                      LEGPR878
3644          END                                                               LEGPR879
```

```
      SUBROUTINE COLECT                                                 COLECT 2
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(2),NOVEH,VEH(30)                                                LABEL1 5
      COMMON /SPOS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/ KEL                                                  LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUC,LIML1                                              WED230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
C                                                                       LABEL134
C                                                                       ASDAT1 2
      COMMON /ASDAT/ FLTAC(30,31),TOTFLT(30),MTT(30,31),NFR(100)        ASDAT1 3
C                                                                       ASDAT1 4
      INTEGER FLTAC,TOTFLT                                              ASDAT1 5
C                                                                       ASDAT1 6
      DO 10 I=1,NVHMAX                                                  COLECT 5
```

```
                DO 10 J=1,31                                              COLECT 6
   11           MTT(I,J)=0                                                COLECT 7
   12   10      CONTINUE                                                  COLECT 8
        C                                                                 COLECT 9
   15           DO 20 I=1,NTBL                                            COLECT10
   16           CALL UNPACK (NE1,6,NFTBL(I),0)                            COLECT11
   21           CALL UNPACK (NV1,6,NFTBL(I),6)                            COLECT12
   25           CALL UNPACK (NY1,12,NFTBL(I),12)                          COLECT13
   31           CALL UNPACK (NF1,12,NFTBL(I),24)                          COLECT14
   35           IX=0                                                      COLECT15
   36           CALL PACK (NE1,18,IX,0)                                   COLECT16
   41           L=NY1-FYEAR+2                                             COLECT17
   43   20      MTT(NV1,L)=MTT(NV1,L)+NF1+IX                              COLECT18
   53           DO 30 I=1,MTBL                                            COLECT19
   60   30      NFTBL(I)=0                                                COLECT20
   62           NTBL=0                                                    COLECT21
   63           DO 40 L=2,31                                              COLECT22
   64           NY1=L-2+FYEAR                                             COLECT23
   66           DO 40 NV1=1,NVHMAX                                        COLECT24
   70           IF (MTT(NV1,L).EQ.0) GO TO 40                             COLECT25
   73           NTBL=NTBL+1                                               COLECT26
   75           CALL UNPACK (NE1,18,MTT(NV1,L),0)                         COLECT27
  100           CALL UNPACK (NF1,18,MTT(NV1,L),18)                        COLECT28
  106           CALL PACK (NE1,6,NFTBL(NTBL),0)                           COLECT29
  112           CALL PACK (NV1,6,NFTBL(NTBL),6)                           COLECT30
  116           CALL PACK (NY1,12,NFTBL(NTBL),12)                         COLECT31
  122           CALL PACK (NF1,12,NFTBL(NTBL),24)                         COLECT32
  126   40      CONTINUE                                                  COLECT33
  133           NTBL1=NTBL+1                                              COLECT34
  135           RETURN                                                    COLECT35
  135           END                                                       COLECT36
```

```
      SUBROUTINE L2WO                                                    L2WO   2
C                                                                        L2WO   3
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                            LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                      LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                                LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                         LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                               LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                   LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                             LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                  LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                           LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                     LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                    LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                    LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                     LABEL115
      COMMON /KEL/ KEL                                                   LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                  LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUG,LIML1                                               WED230 1
C                                                                        LABEL123
      INTEGER FYEAR                                                      LABEL124
C                                                                        LABEL125
      COMMON DDB(1)                                                      LABEL126
C                                                                        LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                   LABEL128
C                                                                        LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                          LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                   LABEL132
C                                                                        LABEL133
C                                                                        LABEL134
C                                                                        L2WO   5
C                                                                        L2WO   6
      IF (ICNT.LE.0) RETURN                                              L2WO   7
    4 WRITE (L2WOT) (DDB(I),I=NBDDB,NLDDB)                               L2WO   8
   16 NBDDB=NLDDB+1                                                      L2WO   9
```

```
20          ICNT=0                                          L2WO   10
21          RETURN                                          L2WO   11
21          END                                             L2WO   12
```

```
      SUBROUTINE YEARS                                                  YEARS  2
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPOS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/ KEL                                                  LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUC,LIML1                                              WED230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
C                                                                       LABEL134
C                                                                       YEARS  4
      NYRS=LYEAR-FYEAR+1                                                YEARS  5
      NYRS1=NYRS+1                                                      YEARS  6
      NYRS3=NYRS+3                                                      YEARS  7
      IF (NYRS.LE.30) GO TO 10                                          YEARS  8
C                                                                       YEARS  9
```

```
11          PRINT 30, NYRS                                          YEARS 10
16          STOP 1234                                               YEARS 11
      C                                                             YEARS 12
20    10    NFYR=MOD(FYEAR+IRELDT,100)-1                            YEARS 13
26          DO 20 I=1,30                                            YEARS 14
32    20    NTYRS(I)=NFYR+I                                         YEARS 15
      C                                                             YEARS 16
      C                                                             YEARS 17
34          RETURN                                                  YEARS 18
      C                                                             YEARS 19
      C                                                             YEARS 20
      C                                                             YEARS 21
      30    FORMAT (28H1 TOO MANY YEARS.....NYRS = ,I4)             YEARS 22
34          END                                                     YEARS 23
```

```
      SUBROUTINE DDBSFT                                                 DDBSFT 2
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/ KEL                                                  LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUG,LIML1                                              WED230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
C                                                                       LABEL134
   10 MOSF=NBCE-NLFAC-1                                                 DDBSFT 4
    3 MOSC=NBMISS-NLCE-1                                                DDBSFT 5
    5 IF (MOSF.GT.0) GO TO 20                                           DDBSFT 6
   10 NSFT=NOSF                                                         DDBSFT 7
   11 J=NLMISS-NBCE+1                                                   DDBSFT 8
   13 NBCE=NBCE+NSFT                                                    DDBSFT 9
```

```
14          NLCE=NLCE+NSFT                                          DDBSFT10
15          GO TO 30                                                DDBSFT11
16    20    CONTINUE                                                DDBSFT12
16          IF (NOSC.GT.0) GO TO 60                                 DDBSFT13
21          NSFT=NOSC                                               DDBSFT14
21          J=NLMISS-NBMISS+1                                       DDBSFT15
24    30    CONTINUE                                                DDBSFT16
24          L=NLMISS                                                DDBSFT17
26          DO 40 I=1,J                                             DDBSFT18
33          DDB(L+NSFT)=DDB(L)                                      DDBSFT19
36          L=L-1                                                   DDBSFT20
36    40    CONTINUE                                                DDBSFT21
40          DO 50 I=1,NSFT                                          DDBSFT22
43          DDB(L+NSFT)=0                                           DDBSFT23
46    50    L=L-1                                                   DDBSFT24
47          NBMISS=NBMISS+NSFT                                      DDBSFT25
50          NLMISS=NLMISS+NSFT                                      DDBSFT26
52          GO TO 10                                                DDBSFT27
52    60    CONTINUE                                                DDBSFT28
52          RETURN                                                  DDBSFT29
53          END                                                     DDBSFT30
```

```
      SUBROUTINE PROLNK (IVEH,NEXP,TWUP,TWDN,DV,FDV,PROPWT,PROPOL)       PROLNK 2
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/ KEL                                                  LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUC,LIML1                                              WED230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
C                                                                       LABEL134
      REAL ARRAY(8,6)                                                   PROLNK 4
      DO 10 I=1,8                                                       PROLNK 5
      DO 10 J=1,6                                                       PROLNK 6
21 10 ARRAY(I,J)=0.0                                                    PROLNK 7
30    NPU=0                                                             PROLNK 8
31    PROP=0.0                                                          PROLNK 9
```

```
      (
   32         CALL UNPACK (JY,18,TBVEH(3,IVEH),18)                          PROLNK10
   40         IF (KOPT(1).EQ.0) GO TO 50                                    PROLNK11
   45         DO 30 I1=6,36,6                                               PROLNK12
   46         I2=I1-6                                                       PROLNK13
   47         CALL UNPACK (JVEH,6,TBVEH(5,IVEH),I2)                         PROLNK14
   55         IF (JVEH.EQ.0) GO TO 40                                       PROLNK15
   62         CALL UNPACK (JX,18,TBVEH(3,JVEH),18)                          PROLNK16
   70         PROP=PROP+DDB(JX+2)                                           PROLNK17
   73         IF (I2.EQ.0) JY=JX                                            PROLNK18
  101         J1=JX+NWVEH                                                   PROLNK19
  103         IF (IDB(J1).NE.3HISP) GO TO 40                                PROLNK20
  106         NPJ=NPU+1                                                     PROLNK21
  107         DO 20 I=1,8                                                   PROLNK22
  117         ARRAY(I,NPU)=DDB(J1+1+I)                                      PROLNK23
  120   20    CONTINUE                                                      PROLNK24
  125   30    CONTINUE                                                      PROLNK25
  127   40    CONTINUE                                                      PROLNK26
  127         IF (NPJ.EQ.0) GO TO 50                                        PROLNK27
  130         M=3                                                           PROLNK28
  131         IF (NEXP.EQ.1) M=2                                            PROLNK29
        C                                                                   PROLNK30
  134         CALL PROPCL (NPU,TWUP,TWDN,DV,FDV,ARRAY,PROPWT,NREQ,M)        PROLNK31
  144         IF (NREQ.NE.NPU) GO TO 60                                     PROLNK32
  152         GO TO 70                                                      PROLNK33
  152   50    CONTINUE                                                      PROLNK34
  155         PROPWT=DDB(JY+2)                                              PROLNK35
  156         PROPOL=DDB(JY+2)                                              PROLNK36
  160         RETURN                                                        PROLNK37
  160   60    PRINT 80, TBVEH(1,IVEH),TBVEH(2,IVEH)                         PROLNK38
  202         JERR=JERR+1                                                   PROLNK39
  207   70    CONTINUE                                                      PROLNK40
  207         PROPOL=DDB(JY+2)+PROPWT-PROP                                  PROLNK41
  214         RETURN                                                        PROLNK42
        C                                                                   PROLNK43
        C                                                                   PROLNK44
        80    FORMAT (34H0***ERROR IN PROLINK*** VEHICLE = ,A6,A4)          PROLNK45
  214         END                                                           PROLNK46
```

```
                SUBROUTINE PROPOL (NTOT,WPLUP,WPLDN,VIN,S,ARRAY,WPREQ,NREQ,M)      PROPOL  2
                COMMON /KEL/ KEL,NSW,G                                            WED13020
                DIMENSION ARRAY(8,1), WB(10), WPMX(10), ISP(10), ISPEF(10)        PROPOL  3
                REAL ISP,ISPEF                                                    PROPOL  4
     15         ARRAY(4,NTOT)=0.                                                  PROPOL  6
     15         WP=0.                                                             PROPOL  7
     17         DO 10 I=1,NTOT                                                    PROPOL  8
     40         WB(I)=ARRAY(1,I)+ARRAY(2,I)+ARRAY(4,I)                            PROPOL  9
     44         WPMX(I)=ARRAY(3,I)-ARRAY(2,I)                                     PROPOL10
     46         ISP(I)=ARRAY(8,I)                                                 PROPOL11
     50   10    ISPEF(I)=ISP(I)*(WPMX(I)-ARRAY(5,I)-ARRAY(6,I)-ARRAY(7,I))/WPMX(I)PROPOL12
     72         JV=1                                                              PROPOL13
     73         VRQ=VIN                                                           PROPOL14
     74         N=NTOT                                                            PROPOL15
     75         WE=WB(NTOT)+WPLDN                                                 PROPOL16
     77         IF (M.EQ.2) GO TO 20                                              PROPOL17
    101         WE=WB(N)+WPLUP                                                    PROPOL18
    104         GO TO 20                                                          PROPOL19
    105   20    V=G*ISPEF(N)*(ALOG(1.0+WPMX(N)/WE))/S                             PROPOL20
    122         IF (V.GE.VRQ) GO TO 50                                            PROPOL21
    125         VRQ=VRQ-V                                                         PROPOL22
    126         WOP=WE+WPMX(N)                                                    PROPOL23
    131         N=N-1                                                             PROPOL24
    133         V=VIN-VRQ                                                         PROPOL25
    135         WP=WB(N)*(EXP(S*V/(G*ISPEF(N)))-1.0)                              PROPOL26
    146         IF (WP.LE.WPMX(N)) GO TO 40                                       PROPOL27
    155   30    WPREQ=-7.0                                                        PROPOL28
    156         NREQ=N                                                            PROPOL29
    161         RETURN                                                            PROPOL30
    161   40    WO=WB(N)+WP                                                       PROPOL31
    164         WE=WO+WOP                                                         PROPOL32
    165         WPMX(N)=WPMX(N)-WP                                                PROPOL33
    170         GO TO 20                                                          PROPOL34
    171   50    WB(N)=WE                                                          PROPOL35
    172         WOL=WPLUP-WPLDN                                                   PROPOL36
    175   60    WP=WB(N)*(EXP(S*VRQ/(G*ISPEF(N)))-1.0)                            PROPOL37
    207         IF (WP.GE.WPMX(N)) GO TO 30                                       PROPOL38
    216         WPMX(N)=WPMX(N)-WP                                                PROPOL39
    221         WO=WB(N)+WP                                                       PROPOL40
    223         WE=WOL+WO                                                         PROPOL41
```

```
      70    V=G*ISPEF(N)*(ALOG(1.0+WPMX(N)/WE))/S                          PROPCL42
            IF (JV.EQ.1) VRQ=VIN                                           PROPCL43
            JV=0                                                           PROPCL44
            IF (V.GE.VRQ.OR.N.EQ.1) GO TO 80                               PROPCL45
            WGL=WE+WPMX(N)                                                 PROPCL46
            VRQ=VRQ-V                                                      PROPCL47
            N=N-1                                                          PROPCL48
            IF (N.NE.1) GO TO 60                                           PROPCL49
            WE=WGL+WB(N)                                                   PROPCL50
            WP=0.0                                                         PROPCL51
            GO TO 70                                                       PROPCL52
      80    WPREQ=WP+ARRAY(2,N)+WE*(EXP(S*VRQ/(G*ISPEF(N)))-1.0)           PROPCL53
            IF (NTOT.EQ.1) GO TO 100                                       PROPCL54
            J=N+1                                                          PROPCL55
            IF (J.GT.NTOT) GO TO 100                                       PROPCL56
            DO 90 I=J,NTOT                                                 PROPCL57
      90    WPREQ=WPREQ+ARRAY(3,I)                                         PROPCL58
     100    NREQ=NTOT+1-N                                                  PROPCL59
            IF (V.LT.VRQ.AND.N.EQ.1) NREQ=NTOT+1                           PROPCL60
            RETURN                                                         PROPCL61
            END                                                            PROPCL62
```

```
      SUBROUTINE ASINER                                                 ASINER 2
C     ASSIGN TO FLIGHTS ALL CARGO IN A GIVEN YEAR ON A GIVEN LEG FOR A  ASINER 3
C     GIVEN VEHICLE                                                     ASINER 4
C                                                                       ASINER 5
      COMMON /ARGS/ ICF,ICL,IF,IL                                       ASINER 6
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/ KEL                                                  LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUC,LIML1                                              WED230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
C                                                                       LABEL134
      COMMON /ASDAT/ MODE,TYPE,DIRECT,VCAP,CCAP,FACTOR(2),INDEX,MCT,EXP,ASDAT  2
     1NEXP,ITEMS,NASS,NPRI,ICT,MANNED,NEV,NFLT,NCR,VOLMAX,RVOL(2),NCALL,ASDAT  3
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     2MCBULK,JDONE,VDONE,NMODE(3),CD2(2,20),UPDN(2),CUTOFF,LIMOCC(2),NOCASDAT  4
     3C(2),KVEH,MCHG,TRIFLE,V1,V2,XL1,XL2,SINGLE,CD(2,20),WLEFT(3,3,2),FASDAT  5
     4LTA(2,400),CR(100),TW(2,200),VOL(400),MAXFLT(30),TPROPW(30)        ASDAT  6
      REAL WS(2,1),FVOL(2,1)                                             ASDAT  7
      EQUIVALENCE (FVOL(1,1),TW(1,100))                                  ASDAT  8
      INTEGER TYPE,DIRECT,SINGLE                                         ASDAT  9
      EQUIVALENCE (FLTA(1,1),WS(1,1))                                    ASDAT 10
C                                                                        ASDAT 11
      EQUIVALENCE (L1,XL1), (L2,XL2)                                     ASINER 9
      INTEGER EXP,YES,NO,D,UP,DOWN                                       ASINER10
      DATA BLKLIM,YES,NO,UP,DOWN/0.2,3HYES,2HNO,2HUP,4HDOWN/             ASINER11
C                                                                        ASINER12
C     GET VEHICLE AND LEG DATA, INITIALIZE VARIABLES                     ASINER13
C                                                                        ASINER14
      TRIFLE=.999                                                        ASINER15
    2 CUTOFF=10.                                                         ASINER16
    4 NEV=0                                                              ASINER17
    4 NASS=0                                                             ASINER18
    6 DO 50 I1=IF,IL,NWDDB                                               ASINER19
   10 X=DDB(I1)                                                          ASINER20
   12 CALL UNPACK (LEG,6,X,0)                                            ASINER21
   15 CALL UNPACK (KVEH,6,X,12)                                          ASINER22
   20 IF (KVEH.GT.0) GO TO 10                                            ASINER23
   23 JERR=JERR+1                                                        ASINER24
   24 PRINT 700, ICF,ICL,IF,IL                                           ASINER25
   40 RETURN                                                             ASINER26
   41 10 CONTINUE                                                        ASINER27
   46 XL1=TBLEG(1,LEG)                                                   ASINER28
   47 XL2=TBLEG(2,LEG)                                                   ASINER29
   50 LIMLEG=TBLEG(5,LEG)                                                ASINER30
   51 IF (LIMLEG.LT.1) LIMLEG=5000                                       ASINER31
   62 V1=TBVEH(1,KVEH)                                                   ASINER32
   62 V2=TBVEH(2,KVEH)                                                   ASINER33
   63 X=TBVEH(3,KVEH)                                                    ASINER34
   65 CALL UNPACK (J1,18,X,18)                                           ASINER35
   70 CALL UNPACK (N,18,X,0)                                             ASINER36
   73 LIMVEH=DDB(J1+12)                                                  ASINER37
   75 IF (LIMVEH.LT.1) LIMVEH=5000                                       ASINER38
  101 VOLMAX=DDB(J1+15)                                                  ASINER39
  102 IF (VOLMAX) 20,30,30                                               ASINER40
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104  20     JERR=JERR+1                                                          ASINER41
106         PRINT 600, VOLMAX,V1,V2                                              ASINER42
117         RETURN                                                               ASINER43
120  30     CONTINUE                                                             ASINER44
120         JL=J1+N-1                                                            ASINER45
122         J1=J1+NWVEH                                                          ASINER46
124         DO 40 J=J1,JL,5                                                      ASINER47
125         IF ((L1.NE.IDB(J)).OR.(L2.NE.IDB(J+1))) GO TO 40                     ASINER48
136         UPMAX=DDB(J+2)                                                       ASINER49
137         DNMAX=DDB(J+3)                                                       ASINER50
140         EXPMAX=DDB(J+4)                                                      ASINER51
142         IF (NPRI.EQ.1) PRINT 540, XL1,XL2,V1,V2,UPMAX,DNMAX,EXPMAX,VOLMAX,ASINER52
           1LIMVEH,LIMLEG                                                        ASINER53
174         IF (NPRI.EQ.1) PRINT 550                                             ASINER54
202         GO TO 60                                                             ASINER55
203  40     CONTINUE                                                             ASINER56
206         CALL UNPACK (IYR,6,DDB(IF),6)                                        ASINER57
211         IYR=IYR+IRELDT                                                       ASINER58
213         PRINT 610, XL1,XL2,V1,V2,IYR                                         ASINER59
230         I=I1                                                                 ASINER60
232         CALL UNPACK (ICE,12,DDB(I+1),24)                                     ASINER61
235         JCE=(ICE-1)*NWCE+NBCE                                                ASINER62
242         PRINT 620, DDB(JCE),DDB(JCE+1)                                       ASINER63
253         JERR=JERR+1                                                          ASINER64
255  50     CONTINUE                                                             ASINER65
257         RETURN                                                               ASINER66
      C                                                                          ASINER67
260  60     NFLT=0                                                               ASINER68
261         NASS=0                                                               ASINER69
261         FACTOR(1)=1.                                                         ASINER70
263         FACTOR(2)=UPMAX/DNMAX                                                ASINER71
265         ITEMS=MAXI+1                                                         ASINER72
267         NCR=0                                                                ASINER73
267         JDONE=0                                                              ASINER74
270         X=AMIN1(UPMAX,DNMAX)                                                 ASINER75
273         DO 70 ICT=1,NCONT                                                    ASINER76
311         CD(1,ICT)=0.                                                         ASINER77
      C     SET FLAG IF CONTAINER IS TOO BIG OR HEAVY FOR THIS VEHICLE           ASINER78
312         IF (TBCONT(6,ICT).GT.VOLMAX) CD(1,ICT)=-1.                           ASINER79
316         W=TBCONT(4,ICT)                                                      ASINER80
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306         IF(TBCONT(5,ICT)-1.)66,68,66                                ZERODI18
311   66    W=W + BLKLIM * TBCONT(3,ICT)                                ZERODI19
315   68    CONTINUE                                                    ZERODI20
315         IF (W.GT.X) CD(1,ICT)=-1.                                   ASINER82
326         CD2(1,ICT)=0.                                               ASINER83
326         CD2(2,ICT)=0.                                               ASINER84
327   70    CD(2,ICT)=0.                                                ASINER85
332         DO 80 IM=1,3                                                ASINER86
334         NMODE(IM)=0                                                 ASINER87
335         DO 80 IT=1,3                                                ASINER88
337         DO 80 ID=1,2                                                ASINER89
347   80    WLEFT(IM,IT,ID)=0.                                          ASINER90
      C                                                                 ASINER91
      C CREATE WORKING STORAGE ARRAY (WS) OF UNASSIGNED CARGO ITEMS     ASINER92
      C                                                                 ASINER93
355         IS=ICF                                                      ASINER94
356   90    IF ((IS.GT.ICL).AND.(IS.LT.IF)) IS=IF                       ASINER95
366         MBASE=3                                                     ASINER96
367         IF (IS.LT.IF) MBASE=2                                       ASINER97
373         Y=DDB(IS+1)                                                 ASINER98
375         CALL UNPACK (JRT,1,X,0)                                     ASINER99
400         CALL UNPACK (N,12,X,24)                                     ASINE100
403         K=(N-1)*NWDF+NBDF+5                                         ASINE101
410         C1=DDB(K-5)                                                 ASINE102
412         C2=DDB(K-4)                                                 ASINE103
415         CALL UNPACK (TYPE,12,DDB(K),12)                             ASINE104
421         CALL UNPACK (J,1,X,3)                                       ASINE105
424         ICT=0                                                       ASINE106
425         IF (TYPE.EQ.4) TYPE=2                                       ASINE107
430         IF (TYPE.EQ.5) TYPE=3                                       ASINE108
433         IF (J.EQ.1) TYPE=3                                          ASINE109
436         IF (TYPE.EQ.3) GO TO 110                                    ASINE110
440         IF (TYPE.EQ.2) GO TO 100                                    ASINE111
441         IF (TYPE.EQ.1) GO TO 100                                    ASINE112
442         JERR=JERR+1                                                 ASINE113
443         PRINT 630, C1,C2,TYPE                                       ASINE114
454         GO TO 170                                                   ASINE115
455   100   CONTINUE                                                    ASINE116
455         CALL UNPACK (ICT,12,DDB(K),0)                               ASINE117
461         IF (CD(1,ICT).GE.0.) GO TO 110                              ASINE118
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464         PRINT 640, C1,C2,TECONT(1,ICT),TRCONT(2,ICT),V1,V2,XL1,XL2          ASINE119
513         JERR=JERR+1                                                         ASINE120
515         GO TO 170                                                           ASINE121
515  110    CONTINUE                                                            ASINE122
515         CALL UNPACK (ISD,1,DDB(IS+2),14)                                    ASINE123
521         CALL UNPACK (IRT,1,Y,1)                                             ASINE124
524         CALL UNPACK (ID,1,Y,2)                                              ASINE125
527         VOLUME=DDB(K+3)                                                     ASINE126
531         ID=ID+1                                                             ASINE127
533         Y=0.                                                                ASINE128
534         CALL PACK (ISD,1,Y,5)                                               ASINE129
537         CALL PACK (JRT,1,Y,6)                                               ASINE130
542         CALL PACK (0,1,Y,7)                                                 ASINE131
545         CALL PACK (ICT,4,Y,8)                                               ASINE132
550         CALL PACK (IS,18,Y,12)                                              ASINE133
553         CALL PACK (TYPE,2,Y,32)                                             ASINE134
      C                                                                         ASINE135
      C FOR EACH DIRECTION IN WHICH CARGO MUST TRAVEL, CHECK FOR EXCESSIVE      ASINE136
      C WEIGHT OR VOLUME. ADD ITEM TO LIST (WS) OF ACCEPTABLE CARGO             ASINE137
      C                                                                         ASINE138
556         DO 160 L=1,2                                                        ASINE139
560         IF ((ID.NE.L).AND.(IRT.EQ.0)) GO TO 160                             ASINE140
567         MODE=MBASE                                                          ASINE141
570         IP=K+L                                                              ASINE142
571         WT=DDB(IP)                                                          ASINE143
573         IF (WT.GT.TRIFLE) GO TO 120                                         ASINE144
577         D=UP                                                                ASINE145
577         IF (L.EQ.2) D=DOWN                                                  ASINE146
603         PRINT 650, C1,C2,D,WT,TRIFLE                                        ASINE147
621         PRINT 560, ID,IRT,JRT                                               ASINE148
633         JERR=JERR+1                                                         ASINE149
635         GO TO 160                                                           ASINE150
635  120    CONTINUE                                                            ASINE151
      C     IF TYPE = BULK, ADD WEIGHT TO TOTAL WT FOR THAT TYPE CONTAINER ANDASINE152
      C     DIRECTION. CHECK FOR ITEMS OF EXCESSIVE WEIGHT.                     ASINE153
635         IF (TYPE.EQ.2) GO TO 150                                            ASINE154
637         IF (VOLUME.GT.VOLMAX) GO TO 130                                     ASINE155
643         IF (MODE.EQ.2) GO TO 150                                            ASINE156
644         W=WT                                                                ASINE157
645         IF (TYPE.EQ.1) W=W+TRCONT(4,ICT)                                    ASINE158
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      IF (W*FACTOR(L).LE.UFMAX) GO TO 150                                ASINE159
      IF ((L.EQ.1).AND.(W.LE.EXPMAX)) GO TO 140                          ASINE160
130   JERR=JERR+1                                                        ASINE161
      PRINT 660, C1,C2,WT,VOLUME,V1,V2,XL1,XL2                           ASINE162
      IF ((JRT.EQ.1).AND.(L.EQ.2)) ITEMS=ITEMS+1                         ASINE163
      GO TO 170                                                          ASINE164
140   MODE=1                                                             ASINE165
      IF (JRT.EQ.0) GO TO 150                                            ASINE166
      PRINT 690, C1,C2,V1,V2,XL1,XL2                                     ASINE167
      GO TO 170                                                          ASINE168
C ITEM IS ACCEPTABLE.                                                    ASINE169
150   CONTINUE                                                           ASINE170
      IF ((JRT.EQ.1).AND.(L.EQ.2)) GO TO 170                             ASINE171
      ITEMS=ITEMS-1                                                      ASINE172
      IF (ITEMS.LE.NASS) GO TO 520                                       ASINE173
      CALL PACK (L,2,Y,30)                                               ASINE174
      CALL PACK (MODE,2,Y,34)                                            ASINE175
      WS(1,ITEMS)=Y                                                      ASINE176
      CALL UNPACK (IFLG,3,X,0)                                           ASINE177
      CALL UNPACK(IPNMN,12,DDB(IS  ),24)                                 TUE120  7
1003  DW=100000*IFLG+N +IPNMN                                            TUE120  8
1007  DW=(DW+100000.*DDB(K+3)/VOLMAX)/1000000.                           TUE120  9
1014  IF(WT.LT.CUTOFF)CUTOFF=WT                                          TUE12010
1026  WT = WT + DW                                                       FRI080  7
1027  WS(2,ITEMS)=WT                                                     ASINE180
1030  VOL(ITEMS)=VOLUME                                                  ASINE181
1032  NMODE(MODE)=NMODE(MODE)+1                                          ASINE182
1033  WLEFT(MODE,TYPE,L)=WLEFT(MODE,TYPE,L)+WT                           ASINE183
1036  IF (NPRT.EQ.1) PRINT 570, ITEMS,C1,C2,IS,MODE,TYPE,L,ICT,WT,VOLUMEASINE184
     1,JRT,ISD                                                           ASINE185
1072  IF (TYPE.NE.2) GO TO 160                                           ASINE186
1074  IF (MODE.EQ.2) CD2(L,ICT)=CD2(L,ICT)+WT                            ASINE187
1101  IF (MODE.NE.2) CD(L,ICT)=CD(L,ICT)+WT                              ASINE188
1106  160   CONTINUE                                                     ASINE189
1110  170   IS=IS+NWMISS                                                 ASINE190
1112        IF (IS.LE.IL) GO TO 90                                       ASINE191
1114        IF (NPRI.EQ.1) PRINT 580, NMODE,((CD(I,J),I=1,2),J=1,NCONT)  ASINE192
1133        IF (NPRI.EQ.1) PRINT 590, (((IM,IT,ID,WLEFT(IM,IT,ID),ID=1,2),IT=1ASINE193
     1,3),IM=1,3)                                                        ASINE194
C                                                                        ASINE195
```

```
      C ********************************************************************ASINE196
      C                                                                     TUE12011
 1167       UPMAX=UPMAX  +TRIFLE                                          TUE12012
 1171       DNMAX=DNMAX  +TRIFLE                                          TUE12013
 1172       EXPMAX=EXPMAX+TRIFLE                                          TUE12014
 1174       CUTOFF=.99*CUTOFF                                             TUE12015
      C                                                                   ASINE197
      C     START ASSIGNMENT PROCEDURE. INITIALIZE FLIGHT DATA.           ASINE198
      C                                                                   ASINE199
 1175  180  IF ((NMODE(1)+NMODE(2)).LE.0) GO TO 480                       ASINE200
 1200       IF (NFLT.LE.0) GO TO 190                                      ASINE201
 1204       RVOL(1,NFLT)=VOLMAX-RVOL(1)                                   ASINE202
 1206       RVOL(2,NFLT)=VOLMAX-RVOL(2)                                   ASINE203
 1210  190  CONTINUE                                                      ASINE204
 1210       NFLT=NFLT+1                                                   ASINE205
 1212       IF (NFLT.GT.MAXF) GO TO 530                                   ASINE206
 1220       TW(1,NFLT)=0.                                                 ASINE207
 1220       TW(2,NFLT)=0.                                                 ASINE208
 1221       VCAP=UPMAX                                                    ASINE209
 1221       CCAP=0.                                                       ASINE210
 1222       MANNED=0                                                      ASINE211
 1223       NOCC(1)=0                                                     ASINE212
 1224       NOCC(2)=0                                                     ASINE213
 1224       LIMOCC(1)=MINO(LIMLEG,LIMVEH)                                 ASINE214
 1230       LIMOCC(2)=LIMOCC(1)                                           ASINE215
 1230       VDONE=0.                                                      ASINE216
 1231       EXP=NO                                                        ASINE217
 1233       RVOL(1)=VOLMAX                                                ASINE218
 1234       RVOL(2)=VOLMAX                                                ASINE219
 1235       MCBULK=0                                                      ASINE220
 1236       NCALL=0                                                       ASINE221
 1236       MBASE=3                                                       ASINE222
      C                                                                   ASINE223
      C     IF ANY EXPENDED MODE CARGO REMAINS, ASSIGN THAT (MANNED OR DISCRETASINE224
      C                                                                   ASINE225
 1237       IF (NMODE(1).LE.0) GO TO 240                                  ASINE226
 1243       VCAP=EXPMAX                                                   ASINE227
 1243       TW(2,NFLT)=-1.                                                ASINE228
 1245       NEV=NEV+1                                                     ASINE229
 1246       EXP=YES                                                       ASINE230
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1247          LIMOCC(2)=0                                                    ASINE231
1250          MODE=1                                                         ASINE232
1251          DIRECT=1                                                       ASINE233
1252          TYPE=1                                                         ASINE234
1253          CALL FIND                                                      ASINE235
1254          IF (JDONE.EQ.1) GO TO 480                                      ASINE236
1256          IF (INDEX.EQ.0) GO TO 210                                      ASINE237
1257          IF (VDONE) 180,200,180                                         ASINE238
1260  200     CONTINUE                                                       ASINE239
1260          MCBULK=1                                                       ASINE240
1261  210     TYPE=3                                                         ASINE241
1262          IF ((NOCC(1).GE.LIMOCC(1)).AND.(MCBULK.EQ.0)) GO TO 180        ASINE242
1272          IF ((NOCC(1).GE.LIMOCC(1)).AND.(MCBULK.EQ.1)) GO TO 330        ASINE243
1301          IF (VCAP.LT.VPMAX) GO TO 230                                   ASINE244
1303          CALL FIND                                                      ASINE245
1304          IF (JDONE.EQ.1) GO TO 480                                      ASINE246
1305          IF (VDONE) 180,220,180                                         ASINE247
1307  220     CONTINUE                                                       ASINE248
1307          IF (INDEX.NE.0) GO TO 210                                      ASINE249
1310  230     IF (MANNED.EQ.1) GO TO 290                                     ASINE250
              C                                                              ASINE251
              C ASSIGN CREW WITH CAPSULE                                     ASINE252
              C                                                              ASINE253
1312  240     MODE=ERASE                                                     ASINE254
1313          TYPE=1                                                         ASINE255
1314          I=MANNED+1                                                     ASINE256
1317          GO TO (250,270,250,290), I                                     ASINE257
1326  250     CONTINUE                                                       ASINE258
1326          IF (NOCC(1).GE.LIMOCC(1)) GO TO 270                            ASINE259
1331          DIRECT=1                                                       ASINE260
1332          CALL FIND                                                      ASINE261
1333          IF (JDONE.EQ.1) GO TO 480                                      ASINE262
1335          IF (INDEX.EQ.0) GO TO 270                                      ASINE263
1336          MCBULK=1                                                       ASINE264
1337          TCAP=CCAP                                                      ASINE265
1340          IF (VDONE) 180,260,180                                         ASINE266
1342  260     CONTINUE                                                       ASINE267
1342          IF (MANNED.EQ.3) GO TO 290                                     ASINE268
1344  270     DIRECT=2                                                       ASINE269
1345          IF (NOCC(2).GE.LIMOCC(2)) GO TO 290                            ASINE270
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1350          CALL FIND                                                       ASINE271
1351          IF (JDONE.EQ.1) GO TO 480                                       ASINE272
1353          IF (INDEX.EQ.0) GO TO 290                                       ASINE273
1354          MCBULK=1                                                        ASINE274
1355          IF (MANNED.EQ.3) CCAP=TCAP                                      ASINE275
1361          IF (VDONE) 180,280,180                                          ASINE276
1362  280     CONTINUE                                                        ASINE277
              C                                                               ASINE278
              C     TRY TO FILL REST OF VEHICLE WITH DISCRETE CARGO UNTIL VCAP (REMAINASINE279
              C     VEHICLE CAPACITY) FALLS BELOW CCAP (REMAINING CAPSULE CAPACITY).  ASINE280
              C     CCAP MAY BE ZERO, SUCH AS WHEN NO CAPSULE IS ASSIGNED     ASINE281
              C                                                               ASINE282
1362  290     TYPE=3                                                          ASINE283
1363          MODE=MBASE                                                      ASINE284
1365          DO 320 DIRECT=1,2                                               ASINE285
1366  300     IF (NOCC(DIRECT).GE.LIMOCC(DIRECT)) GO TO 320                   ASINE286
1371          CALL FIND                                                       ASINE287
1372          IF (JDONE.EQ.1) GO TO 480                                       ASINE288
1374          IF (INDEX.EQ.0) GO TO 320                                       ASINE289
1375          IF (VDONE) 180,310,180                                          ASINE290
1376  310     CONTINUE                                                        ASINE291
1376          IF (VCAP-CCAP) 320,320,300                                      ASINE292
1401  320     CONTINUE                                                        ASINE293
              C                                                               ASINE294
              C MANNED CAPSULE WAS ASSIGNED. TRY TO FILL IT WITH BULK CARGO.  ASINE295
              C IF MORE THAN ONE KIND OF BULK CARGO REMAINS, LOAD FIRST THAT KIND ASINE296
              C REMAINING IN SMALLEST QUANTITY                                ASINE297
              C                                                               ASINE298
1403  330     IF ((MCBULK.EQ.0).OR.(CCAP.LT.CUTOFF)) GO TO 410                ASINE299
1412          MCT=0                                                           ASINE300
1412          DIRECT=MANNED                                                   ASINE301
1414          IF (MANNED.EQ.3) DIRECT=1                                       ASINE302
1416          TYPE=2                                                          ASINE303
1417          MODE=MBASE                                                      ASINE304
1421  340     TOTAL=1.E20                                                     ASINE305
1422          MCT=0                                                           ASINE306
1423          DO 360 J=1,NCONT                                                ASINE307
1440          IF (TBCONT(5,J)-2.) 360,350,360                                 ASINE308
1442  350     X=CC(DIRECT,J)                                                  ASINE309
1443          IF (MODE.EQ.2) X=CC2(DIRECT,J)                                  ASINE310
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1452          IF ((X.LT.TRIFLE).OR.(X.GE.TOTAL)) GO TO 360                    ASINE311
1463          TOTAL=X                                                         ASINE312
1463          MCT=J                                                           ASINE313
1464    360   CONTINUE                                                        ASINE314
              C                                                               ASINE315
              C     IF MCT = 0, NO MORE BULK REMAINS UNASSIGNED IN THIS DIRECTION. GO ASINE316
              C     BACK TO ASSIGNING DISCRETE CARGO                          ASINE317
              C                                                               ASINE318
1466          IF (MCT.GT.0) GO TO 380                                         ASINE319
1470          IF (MODE.EQ.2) GO TO 370                                        ASINE320
1472          MODE=2                                                          ASINE321
1473          GO TO 340                                                       ASINE322
1473    370   MCBULK=0                                                        ASINE323
1474          GO TO 290                                                       ASINE324
1475    380   CALL FIND                                                       ASINE325
1476          IF (JDONE.EQ.1) GO TO 480                                       ASINE326
1500          IF (INDEX.EQ.0) GO TO 340                                       ASINE327
1501          IF (VDONE) 180,390,180                                          ASINE328
1502    390   CONTINUE                                                        ASINE329
1502          IF (MCHG.EQ.0) GO TO 400                                        ASINE330
1503          MBASE=3                                                         ASINE331
1504          GO TO 330                                                       ASINE332
1505    400   IF (CCAP-CUTOFF) 410,410,380                                    ASINE333
              C     LOAD CONTAINERED BULK. ASSIGN NEW CONTAINER WHEN PREVIOUS ONE IS FASINE335
              C     AND CREATE AN ENTRY IN THE WS MATRIX FOR A TRIP FOR THE EMPTY IN TASINE336
              C     OPPOSITE DIRECTION. IF MORE THAN ONE KIND OF BULK REMAINS, LOAD FIASINE337
              C     THAT KIND WHICH CAN BE ASSIGNED IN GREATEST QUANTITY.     ASINE338
1510    410   TYPE=2                                                          ASINE340
1511          MCBULK=0                                                        ASINE341
1512          CCAP=0.                                                         ASINE342
1512          MODE=MBASE                                                      ASINE343
1514          MCT=0                                                           ASINE344
1514          WMAX=TRIFLE                                                     ASINE345
1516          DO 430 I=1,2                                                    ASINE346
1520          IF (NOCC(I).GE.LIMOCC(I)) GO TO 430                             ASINE347
1523          TVCAP=VCAP/FACTOR(I)                                            ASINE348
1525          DO 420 J=1,NCONT                                                ASINE349
1546          X=TBCONT(5,J)                                                   ASINE350
1547          IX=X                                                            ASINE351
1551          IF ((IX.NE.2).AND.(IX.NE.4)) GO TO 420                          ASINE352
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1560            X=CD(I,J)                                                       ASINE353
1561            IF (MODE.EQ.2) X=CD2(I,J)                                       ASINE354
1564            W=AMIN1(TVCAP-TBCONT(4,J),TBCONT(3,J),X)                        ASINE355
1573            IF (W.LE.WMAX) GO TO 420                                        ASINE356
1575            IF ((W.LT.BLKLIM*TBCONT(3,J)).AND.(X.GT.W)) GO TO 420           ASINE357
1606            IF (TBCONT(6,J).GT.RVOL(I)) GO TO 420                           ASINE358
1611            MCT=J                                                           ASINE359
1611            DIRECT=I                                                        ASINE360
1613            WMAX=W                                                          ASINE361
1615  420       CONTINUE                                                        ASINE362
1621  430       CONTINUE                                                        ASINE363
      C         IF MCT = 0, NO BULK CARGO CAN BE ASSIGNED WITH A CONTAINER      ASINE364
1623            IF (MCT.EQ.0) GO TO 490                                         ASINE365
1624  440       CALL FIND                                                       ASINE366
1625            IF (JDONE.EQ.1) GO TO 480                                       ASINE367
1627            IF (INDEX.EQ.0) GO TO 470                                       ASINE368
1630            IF (VDONE) 180,450,180                                          ASINE369
1631  450       CONTINUE                                                        ASINE370
1631            IF (MCHG.EQ.0) GO TO 460                                        ASINE371
1632            MBASE=3                                                         ASINE372
1633            MODE=3                                                          ASINE373
1634  460       IF (CCAP-CUTOFF) 410,410,440                                    ASINE374
1637  470       CONTINUE                                                        ASINE375
1637            IF (MODE.EQ.2) GO TO 410                                        ASINE376
1641            MODE=2                                                          ASINE377
1642            GO TO 440                                                       ASINE378
      C         ALL DONE.                                                       ASINE380
1643  480       CONTINUE                                                        ASINE382
1647            FVOL(1,NFLT)=VOLMAX-PVOL(1)                                     ASINE383
1651            FVOL(2,NFLT)=VOLMAX-PVOL(2)                                     ASINE384
1652            RETURN                                                          ASINE385
      C TRY     TO ASSIGN CARGO FROM THE CAPTURE BIN                            ASINE387
1654  490       IF (NMODE(2).LE.0) GO TO 510                                    ASINE389
1656            IF (VDONE) 510,500,510                                          ASINE390
1657  500       CONTINUE                                                        ASINE391
1657            IF (MBASE.EQ.2) GO TO 510                                       ASINE392
1661            MBASE=2                                                         ASINE393
1662            GO TO 240                                                       ASINE394
1663  510       CONTINUE                                                        ASINE395
1663            IF (JDONE.NE.1) GO TO 180                                       ASINE396
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1665          RETURN                                                          ASINE397
      C       ERROR STOP                                                      ASINE399
1667  520     PRINT 670, V1,V2,XL1,XL2,MAXI                                   ASINE401
1705          RETURN                                                          ASINE402
1707  530     PRINT 680, V1,V2,XL1,XL2,MAXF                                   ASINE403
1725          RETURN                                                          ASINE404
      C                                                                       ASINE406
      540     FORMAT (13H1ASINER. LEG 2A6,5X,9HVEHICLE 2A6/6H UPMAXF10.1,5X,5HDNASINE408
             1MAXF10.1,5X,6HEXPMAXF10.1,5X,6HVOLMAXF10.1,5X,6HLIMVEHI5,5X,6HLIMLASINE409
             2EGI5)                                                           ASINE410
      550     FORMAT (89H0ITEMS   CARGO NAME     IS  MODE TYPE DIRECT ICT   WEIGASINE411
             1HT    VOLUME   ROUNDTRIP   SINGLE /)                          ASINE412
      560     FORMAT (1H ,3I12)                                               ASINE413
      570     FORMAT (I6,3X,2A6,4I5,I6,2F10.1,I8,I11)                         ASINE414
      580     FORMAT (17H0TOTALS. NMODE = ,3I5/10H0CD MATRIX,2F12.1/(10X,2F12.1)ASINE415
             1)                                                               ASINE416
      590     FORMAT (35H0MODE  TYPE  DIRECT   WLEFT(M,T,D) ,/(I4,I6,I7,F15.1)) ASINE417
      600     FORMAT (23H0INVALID VOLUME LIMIT (,E16.8,14H) FOR VEHICLE ,A6,A4) ASINE418
      610     FORMAT (33H0ASINER CANNOT FIND DATA FOR LEG ,A6,A4,12H ON VEHICLE ASINE419
             1,A6,A4,13H IN THE YEAR ,I4)                                     ASINE420
      620     FORMAT (16H *REJECT* CARGO ,A6,A4)                              ASINE421
      630     FORMAT (21H0CARGO ELEMENT NAMED ,2A6,39HHAS ILLEGAL VALVE FOR CONTASINE422
             1AINER CLASS (,I5,22H) IN SUBROUTINE ASINER)                     ASINE423
      640     FORMAT (16H *REJECT* CARGO ,A6,A4,7H CONT. ,A6,A4,6H VEH. ,A6,A4,5ASINE424
             1H LEG ,A6,A4)                                                   ASINE425
      650     FORMAT (21H0CARGO ELEMENT NAMED ,2A6,5H HAS ,A4,9HWEIGHT OF,F10.1/ASINE426
             129H WEIGHT MUST EXCEED THE VALUEF10.3,23H FOR PROPER PROCESSING.) ASINE427
      660     FORMAT (16H *REJECT* CARGO ,A6,A4,4H WT.,F7.0,5H VOL.F7.2,6H VEH. ASINE428
             1,A6,A4,5H LEG ,A6,A4)                                           ASINE429
      670     FORMAT (43H0TOO MANY CARGO ITEMS IN ASINER ON VEHICLE ,2A6,6H, LEGASINE430
             1 ,2A6,10H. LIMIT IS,I5)                                         ASINE431
      680     FORMAT (29H0TOO MANY FLIGHTS OF VEHICLE ,2A6,8H ON LEG ,2A6,22H INASINE432
             1 ASINER.   LIMIT IS,I5,20H. OUTGREW TW MATRIX.)                 ASINE433
      690     FORMAT (22H0REJECT CARGO ELEMENT A6,A4,13H FOR VEHICLE A6,A5,7HON ASINE434
             1LEG A6,A4/5X,79HNEEDS EXPENDED VEHICLE BUT IS ALSO REQUIRED TO MAKASINE435
             2E ROUND TRIP ON SAME VEHICLE.)                                  ASINE436
      700     FORMAT (39H0VEHICLE NUMBER = 0 FOR CARGO WITH ICF=I6,6H, ICL=I6,5HASINE437
             1, IF=I6,5H, IL=I6)                                              ASINE438
1727          END                                                             ASINE439
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      SUBROUTINE FIND                                                    FIND   2
C     FIND AND ASSIGN TO CURRENT FLIGHT A CARGO ITEM OF SPECIFIED MODE,  FIND   3
C     TYPE AND DIRECTION, USING A SPECIFIED TYPE OF BULK CONTAINER (IF   FIND   4
C     APPLICABLE), AND NOT EXCEEDING SPECIFIED WEIGHT.                   FIND   5
C                                                                        FIND   6
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                            LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                      LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                         LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                               LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                   LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                             LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                  LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                           LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                     LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                    LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                    LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                     LABEL115
      COMMON /KEL/ KEL                                                   LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                  LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUC,LIML1                                              WED230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
C                                                                       LABEL134
      COMMON /ASDAT/ MODE,TYPE,DIRECT,VCAP,GCAP,FACTOR(2),INDEX,MCT,EXP,ASDAT  2
     1NEXP,ITEMS,NASS,NPRI,ICT,MANNED,NEV,NFLT,NCR,VOLMAX,RVOL(2),NCALL,ASDAT  3
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     2MCBULK,JDONE,VDONE,NMODE(3),CD2(2,20),UPDN(2),CUTOFF,LIMOCC(2),NOCASDAT  4
     3C(2),KVEH,MCHG,TRIFLE,V1,V2,XL1,XL2,SINGLE,CD(2,20),WLEFT(3,3,2),FASDAT  5
     4LTA(2,400),CR(100),TW(2,200),VOL(400),MAXFLT(30),TPROPW(30)        ASDAT  6
      REAL WS(2,1),FVOL(2,1)                                             ASDAT  7
      EQUIVALENCE (FVOL(1,1),TW(1,100))                                  ASDAT  8
      INTEGER TYPE,DIRECT,SINGLE                                         ASDAT  9
      EQUIVALENCE (FLTA(1,1),WS(1,1))                                    ASDAT 10
C                                                                        ASDAT 11
      DATA LIMCAL/100/                                                   FIND   9
C                                                                        FIND  10
C     DETERMINE WEIGHT LIMIT (WTLIM) AND WHETHER A CONTAINER IS ALSO TO  FIND  11
C     ASSIGNED.                                                          FIND  12
C                                                                        FIND  13
      INDEX=0                                                            FIND  14
    2 MCHG=0                                                             FIND  15
    2 IF (WLEFT(MODE,TYPE,DIRECT).LE.TRIFLE) GO TO 240                   FIND  16
   11 CW=0.                                                              FIND  17
   11 WTMAX=-10.                                                         FIND  18
   13 WTLIM=VCAP/FACTOR(DIRECT)                                          FIND  19
   15 ICT=0                                                              FIND  20
   15 FLAG=0.                                                            FIND  21
   16 IF (TYPE.NE.2) GO TO 30                                            FIND  22
   20 IF (MCT.LE.0) GO TO 10                                             FIND  23
   22 X=CD(DIRECT,MCT)                                                   FIND  24
   24 IF (MODE.EQ.2) X=CD2(DIRECT,MCT)                                   FIND  25
   30 IF (X.LT.TRIFLE) GO TO 240                                         FIND  26
   33 10 CONTINUE                                                        FIND  27
   33 TCAP=CCAP                                                          FIND  28
   34 IF (CCAP.GT.0.) GO TO 20                                           FIND  29
   37 IF (MCT.LE.0) STOP 54321                                           FIND  30
   42 CW=TBCONT(4,MCT)                                                   FIND  31
   44 IF (WTLIM.LE.CW) GO TO 240                                         FIND  32
   47 IF (TBCONT(6,MCT).GT.RVOL(DIRECT)) GO TO 240                       FIND  33
   54 FLAG=1.                                                            FIND  34
   55 WTLIM=WTLIM-CW                                                     FIND  35
   57 TCAP=TBCONT(3,MCT)                                                 FIND  36
   60 IF (TCAP.GT.0.) GO TO 20                                           FIND  37
   63 PRINT 300, (TBCONT(I,MCT),I=1,3),V1,V2,XL1,XL2                     FIND  38
  102 STOP                                                               FIND  39
  104 20 WTLIM=AMIN1(WTLIM,TCAP)                                         FIND  40
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      C                                                                      FIND  41
      C                                                                      FIND  42
      C     START SEARCH FOR CARGO ITEM SATISFYING SPECIFICATIONS            FIND  43
      C                                                                      FIND  44
110   30    CONTINUE                                                         FIND  45
110         MTD=MODE                                                         FIND  46
112         CALL PACK (DIRECT,2,MTD,30)                                      FIND  47
115         CALL PACK (TYPE,2,MTD,32)                                        FIND  48
120         DO 90 I=ITEMS,MAXA                                               FIND  49
122         X=WS(1,I)                                                        FIND  50
124         CALL UNPACK (IX,6,X,30)                                          FIND  51
127         IF (IX.NE.MTD) GO TO 90                                          FIND  52
131         W=WS(2,I)                                                        FIND  53
133         IF (W.LE.WTMAX) GO TO 90                                         FIND  54
136         GO TO (40,50,60), TYPE                                           FIND  55
      C     CARGO ITEM IS CREW                                               FIND  56
145   40    CALL UNPACK (ICT,4,X,3)                                          FIND  57
150         IF ((W+TBCONT(4,ICT)).GT.WTLIM) GO TO 90                         FIND  58
156         IF (TBCONT(6,ICT).GT.RVOL(DIRECT)) GO TO 90                      FIND  59
165         CW=TBCONT(4,ICT)                                                 FIND  60
165         TCAP=TBCONT(3,ICT)                                               FIND  61
166         FLAG=1.                                                          FIND  62
170         VOLUME=TBCONT(6,ICT)                                             FIND  63
171         GO TO 70                                                         FIND  64
      C     BULK CARGO                                                       FIND  65
172   50    CALL UNPACK (ICT,4,X,8)                                          FIND  66
175         IX=TBCONT(5,ICT)                                                 FIND  67
200         IF ((MCBULK.GT.0).AND.(IX.EQ.4)) GO TO 90                        FIND  68
207         IF ((MCT.GT.0).AND.(ICT.NE.MCT)) GO TO 90                        FIND  69
216         IF (W.LE.WTLIM) GO TO 80                                         FIND  70
220         IF (INDEX.EQ.0) INDEX=-I                                         FIND  71
222         GO TO 90                                                         FIND  72
      C     DISCRETE CARGO                                                   FIND  73
223   60    IF (W.GT.WTLIM) GO TO 90                                         FIND  74
227         IF (VOL(I).GT.RVOL(DIRECT)) GO TO 90                             FIND  75
233         VOLUME=VOL(I)                                                    FIND  76
      C CHECK FOR MANDATORY ROUND TRIP ON THIS VEHICLE                       FIND  77
      C AND FOR SINGLE-DEPLOYMENT REQUIREMENT                                FIND  78
234   70    CALL UNPACK (ISD,1,X,5)                                          FIND  79
237         IF ((ISD.EQ.1).AND.(NOCC(DIRECT).GT.0)) GO TO 90                 FIND  80
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      CALL UNPACK (JRT,1,X,6)                                                FIND  81
      IF (JRT.EQ.0) GO TO 80                                                 FIND  82
      IF (NOCC(2).GE.LIMOCC(2)) GO TO 90                                     FIND  83
      IF (VOLUME.GT.RVOL(2)) GO TO 90                                        FIND  84
      WEIGHT=(W+CW)*(1.+FACTOR(2))                                           FIND  85
      IF (WEIGHT.GT.VCAP) GO TO 90                                           FIND  86
      IF ((ISD.EQ.1).AND.(NOCC(2).GT.0)) GO TO 90                            FIND  87
80    INDEX=I                                                                FIND  88
      WTMAX=W                                                                FIND  89
90    CONTINUE                                                               FIND  90
C                                                                            FIND  91
C     ***************************************************************************FIND  92
C                                                                            FIND  93
C     DESIRED ITEM HAS BEEN FOUND IF INDEX IS NONZERO. ASSIGN ITEM TO        FIND  94
C     CURRENT FLIGHT AND ADJUST ALL OTHER RUNNING TOTALS.                    FIND  95
C                                                                            FIND  96
      IF (INDEX.EQ.0) GO TO 240                                              FIND  97
      NCALL=0                                                                FIND  98
      I=IABS(INDEX)                                                          FIND  99
      X=WS(1,I)                                                              FIND 100
      VOLUME=VOL(I)                                                          FIND 101
      IF (TYPE.NE.3) CALL UNPACK (ICT,4,X,8)                                 FIND 102
      CALL UNPACK (JRT,1,X,6)                                                FIND 103
      CALL UNPACK (ISD,1,X,5)                                                FIND 104
      IF (ISD.EQ.1) LIMOCC(DIRECT)=1                                         FIND 105
C                                                                            FIND 106
C     IF CONTAINER WAS REQUISITIONED, ADD IT TO CR LIST AND ALSO TO LISTFIND 107
C     OF UNASSIGNED CARGO IN OPPOSITE DIRECTION.                             FIND 108
C                                                                            FIND 109
      IF (FLAG) 100,110,100                                                  FIND 110
100   VOLUME=TBCONT(6,ICT)                                                   FIND 111
      CCAP=TCAP                                                              FIND 112
      Y=0.                                                                   FIND 113
      NB=18                                                                  FIND 114
      IF (DIRECT.EQ.2) NB=27                                                 FIND 115
      CALL PACK (ICT,18,Y,0)                                                 FIND 116
      CALL PACK (NFLT,9,Y,NB)                                                FIND 117
      IF (JRT.EQ.1) CALL PACK (NFLT,9,Y,27)                                  FIND 118
      NCR=NCR+1                                                              FIND 119
      IF (NCR.GT.MAXC) GO TO 260                                             FIND 120
```

```
374         CR(NCR)=Y                                                       FIND 121
376         VCAP=VCAP-CW*FACTOR(DIRECT)                                     FIND 122
400         TW(DIRECT,NFLT)=TW(DIRECT,NFLT)+CW                              FIND 123
      C                                                                     FIND 124
402   110   W=WS(2,I)                                                       FIND 125
405         CALL UNPACK (IS,18,X,12)                                        FIND 126
410         IF (INDEX.GT.0) GO TO 120                                       FIND 127
413         IF ((W-WTLIM).GT.TRIFLE) GO TO 120                              FIND 128
417         INDEX=I                                                         FIND 129
417         WTLIM=W                                                         FIND 130
421   120   WT=AMIN1(W,WTLIM)                                               FIND 131
425         IF (TYPE.EQ.1) CCAP=CCAP-WT                                     FIND 132
      C                                                                     FIND 133
      C     IF THIS ITEM WAS AN ADDED CONTAINER, ASSIGN IT IN THE CR LIST INSTFIND 134
      C     OF THE FLTA MATRIX.                                             FIND 135
      C                                                                     FIND 136
431         CALL UNPACK (IF,1,X,7)                                          FIND 137
434         IF (IF.EQ.0) GO TO 130                                          FIND 138
435         NB=18                                                           FIND 139
436         IF (DIRECT.EQ.2) NB=27                                          FIND 140
441         CALL PACK (NFLT,9,CR(IS),NB)                                    FIND 141
445         GO TO 140                                                       FIND 142
      C                                                                     FIND 143
      C     ITEM NOT  ADDED CONTAINER. ADD IT TO THE FLTA MATRIX.           FIND 144
      C                                                                     FIND 145
446   130   X=0.                                                            FIND 146
447         CALL PACK (IS,16,X,0)                                           FIND 147
452         CALL PACK (NFLT,9,X,16)                                         FIND 148
455         ID=DIRECT-1                                                     FIND 149
457         CALL PACK (ID,1,X,25)                                           FIND 150
462         IF (TYPE.NE.3) CALL PACK (NCR,7,X,26)                           FIND 151
467         NASS=NASS+1                                                     FIND 152
471         IF (NASS.GE.ITEMS) GO TO 270                                    FIND 153
476         FLTA(1,NASS)=X                                                  FIND 154
477         FLTA(2,NASS)=WT                                                 FIND 155
      C                                                                     FIND 156
      C     DELETE ITEM FROM WORKING STORAGE AND ADJUST OTHER SUMS AND VARIABLFIND 157
      C                                                                     FIND 158
500   140   IF (INDEX.GT.0) GO TO 150                                       FIND 159
503         WS(2,I)=W-WTLIM                                                 FIND 160
```

```
506           GO TO 160                                                        FIND 161
520   150     WS(1,INDEX)=WS(1,ITEMS)                                          FIND 162
522           WS(2,INDEX)=WS(2,ITEMS)                                          FIND 163
524           VOL(INDEX)=VOL(ITEMS)                                            FIND 164
525           ITEMS=ITEMS+1                                                    FIND 165
527           NMODE(MODE)=NMODE(MODE)-1                                        FIND 166
532   160     VCAP=VCAP-WT*FACTOR(DIRECT)                                      FIND 167
535           IF (TYPE.EQ.3) GO TO 170                                         FIND 168
537           IF (FLAG-1.) 180,170,180                                         FIND 169
541   170     NOCC(DIRECT)=NOCC(DIRECT)+1                                      FIND 170
544   180     CONTINUE                                                         FIND 171
544           IF (MODE.EQ.2) CALL PACK (KVEH,6,DDB(IS),12)                     FIND 172
552           TW(DIRECT,NFLT)=TW(DIRECT,NFLT)+WT                               FIND 173
556           IF (TYPE.EQ.1) MANNED=MANNED+DIRECT                              FIND 174
561           WLEFT(MODE,TYPE,DIRECT)=WLEFT(MODE,TYPE,DIRECT)-WT               FIND 175
565           IF (WLEFT(MODE,TYPE,DIRECT).LT.TRIFLE) WLEFT(MODE,TYPE,DIRECT)=0. FIND 176
576           RVOL(DIRECT)=RVOL(DIRECT)-VOLUME                                 FIND 177
      C                                                                        FIND 178
      C ADJUSTMENTS FOR ITEMS MAKING MANDATORY ROUND TRIP ON THIS VEHICLE      FIND 179
      C                                                                        FIND 180
600           IF (JRT.EQ.0) GO TO 190                                          FIND 181
604           VCAP=VCAP-(WT+CW)*FACTOR(2)                                      FIND 182
607           TW(2,NFLT)=TW(2,NFLT)+CW+WT                                      FIND 183
611           RVOL(2)=RVOL(2)-VOLUME                                           FIND 184
613           IF (ISD.EQ.1) LIMOCC(2)=1                                        FIND 185
616           NOCC(2)=NOCC(2)+1                                                FIND 186
617           IF (TYPE.EQ.1) MANNED=3                                          FIND 187
622           CALL PACK (1,1,X,25)                                             FIND 188
630           NASS=NASS+1                                                      FIND 189
631           FLTA(1,NASS)=X                                                   FIND 190
633           FLTA(2,NASS)=WT                                                  FIND 191
636           IF (TYPE.EQ.1) CALL PACK (NFLT,9,CR(NCR),27)                     FIND 192
643   190     CONTINUE                                                         FIND 193
      C                                                                        FIND 194
643           IF (TYPE.NE.2) GO TO 240                                         FIND 195
645           CCAP=CCAP-WT                                                     FIND 196
647           IF (MODE.NE.2) CD(DIRECT,ICT)=CD(DIRECT,ICT)-WT                  FIND 197
654           IF (MODE.EQ.2) CD2(DIRECT,ICT)=CD2(DIRECT,ICT)-WT                FIND 198
661           IF (CD(DIRECT,ICT).LT.TRIFLE) CD(DIRECT,ICT)=0.                  FIND 199
      C IF PART OF A BULK ITEM HAS BEEN SELECTED FROM THE CAPTURE BIN,         FIND 200
```

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      C DEFINE THE REMAINDER AS REGULAR (MODE 3) CARGO.                          FIND 201
  667       IF ((INDEX.GT.0).OR.(MODE.EQ.3)) GO TO 200                           FIND 202
  677       MCHG=1                                                               FIND 203
  700       CALL PACK (3,2,WS(1,I),34)                                           FIND 204
  714       NMODE(2)=NMODE(2)-1                                                  FIND 205
  716       NMODE(3)=NMODE(3)+1                                                  FIND 206
  717       CD(DIRECT,ICT)=CD(DIRECT,ICT)+WS(2,I)                                FIND 207
  720       CD2(DIRECT,ICT)=CD2(DIRECT,ICT)-WS(2,I)                              FIND 208
  721       WLEFT(2,2,DIRECT)=WLEFT(2,2,DIRECT)-WS(2,I)                          FIND 209
  723       WLEFT(3,2,DIRECT)=WLEFT(3,2,DIRECT)+WS(2,I)                          FIND 210
  724  200  CONTINUE                                                            FIND 211
      C                                                                         FIND 212
      C     IF SPACE PERMITS, SCHEDULE RETURN OF EMPTY CONTAINER ON THIS FLIGHFIND 213
      C                                                                         FIND 214
  724       IF (FLAG) 210,240,210                                               FIND 215
  725  210  IF (TBCONT(8,ICT)) 240,220,240                                      FIND 216
  730  220  CONTINUE                                                           FIND 217
  730       K=1                                                                 FIND 218
  731       IF (DIRECT.EQ.1) K=2                                                FIND 219
  734       IF (NOCC(K).GE.LIMOCC(K)) GO TO 230                                 FIND 220
  737       IF ((CW*FACTOR(K)).GT.VCAP) GO TO 230                               FIND 221
  744       IF (VOLUME.GT.RVOL(K)) GO TO 230                                    FIND 222
      C     SCHEDULE CONTAINER ROUND TRIP ON THIS FLIGHT.                       FIND 223
  747       NB=18                                                               FIND 224
  747       IF (K.EQ.2) NB=27                                                   FIND 225
  752       CALL PACK (NFLT,9,CR(NCR),NB)                                       FIND 226
  761       VCAP=VCAP-CW*FACTOR(K)                                              FIND 227
  763       TW(K,NFLT)=TW(K,NFLT)+CW                                            FIND 228
  765       RVOL(K)=RVOL(K)-VOLUME                                              FIND 229
  766       NOCC(K)=NOCC(K)+1                                                   FIND 230
  770       GO TO 240                                                           FIND 231
      C     DEFER RETURN OF EMPTY CONTAINER TO ANOTHER FLIGHT. ADD IT           FIND 232
      C     TO WS MATRIX AS A DISCRETE CARGO ITEM.                              FIND 233
  771  230  X=0                                                                 FIND 234
  772       CALL PACK (1,1,X,7)                                                 FIND 235
  775       CALL PACK (ICT,4,X,8)                                               FIND 236
 1000       CALL PACK (NCR,18,X,12)                                             FIND 237
 1003       K=1                                                                 FIND 238
 1004       IF (DIRECT.EQ.1) K=2                                                FIND 239
 1007       CALL PACK (K,2,X,30)                                                FIND 240
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1012          CALL PACK (3,2,X,32)                                                    FIND 241
1015          CALL PACK (3,2,X,34)                                                    FIND 242
1020          ITEMS=ITEMS-1                                                           FIND 243
1022          IF (ITEMS.LE.NASS) GO TO 270                                            FIND 244
1033          WS(1,ITEMS)=X                                                           FIND 245
1034          WS(2,ITEMS)=CW                                                          FIND 246
1035          VOL(ITEMS)=TBCONT(6,ICT)                                                FIND 247
1037          WLEFT(3,3,K)=WLEFT(3,3,K)+CW                                            FIND 248
1040          NMODE(3)=NMODE(3)+1                                                     FIND 249
      C                                                                             FIND 250
1041  240     CONTINUE                                                                FIND 251
1041          LEFT=MAXI-ITEMS+1                                                       FIND 252
1043          IF ((VCAP.LT.CUTOFF).AND.(NCALL.GT.LEFT)) VDONE=1.                      FIND 253
1056          IF (LEFT.LE.0) JDONE=1                                                  FIND 254
1061          IF (INDEX.EQ.0) NCALL=NCALL+1                                           FIND 255
1064          IF (NCALL.GT.LIMCAL) GO TO 280                                          FIND 256
1070          IF ((INDEX.EQ.0).OR.(NPRI.NE.1)) GO TO 250                              FIND 257
1076          PRINT 290, MODE,TYPE,DIRECT,MCT,ICT,MCBULK,IS,INDEX,NFLT,ITEMS,NASFIND 258
             1S,FLAG,NMODE,WT,VOLUME,CW,RVOL,CCAP,VCAP,WTLIM,NCR,MANNED,NOCC,LIMFIND 259
             2OCC,VDONE,MCHG                                                        FIND 260
1165  250     CONTINUE                                                                FIND 261
1165          RETURN                                                                  FIND 262
      C                                                                             FIND 263
      C     ***************************************************************************FIND 264
      C                                                                             FIND 265
      C                                                                             FIND 266
      C     ERROR STOP                                                              FIND 267
      C                                                                             FIND 268
1166  260     PRINT 310, V1,V2,XL1,XL2,MAXC                                           FIND 269
1204          STOP                                                                    FIND 270
1206  270     PRINT 320, V1,V2,XL1,XL2,MAXA                                           FIND 271
1224          STOP                                                                    FIND 272
1226  280     PRINT 330, NCALL                                                        FIND 273
1234          PRINT 340, MODE,TYPE,DIRECT,MCT,MCBULK,NFLT,ITEMS,NASS,NMODE,RVOL,FIND 274
             1CCAP,VCAP,WTLIM,NCR,EXP,MANNED                                        FIND 275
1300          PRINT 350, (CD(1,J),CD(2,J),CD2(1,J),CD2(2,J),J=1,NCONT)                FIND 276
1326          PRINT 360, (((I,J,K,WLEFT(I,J,K),K=1,2),J=1,3),I=1,3)                   FIND 277
1360          STOP                                                                    FIND 278
      C                                                                             FIND 279
      C                                                                             FIND 280
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C                                                                       FIND 281
290    FORMAT (11H0FIND. MODEI2,5X,4HTYPEI2,5X,6HDIRECTI2,5X,3HMCTI2,5X,3FIND 282
     1HICTI2,5X,6HMCBULKI2,5X,2HISI5,5X,5HINDEXI5/7X,4HNFLTI3,5X,5HITEMSFIND 283
     2I5,5X,4HNASSI4,5X,4HFLAGF4.0,5X,5HNMODE3I5/7X,2HWTF9.1,4X,6HVOLUMEFIND 284
     3F5.1,4X,2HCWF8.1,4X,4HRVOL2F7.1,4X,4HCCAPF8.1,5X,4HVCAPF10.1/7X,5HFIND 285
     4WTLIMF10.1,5X,3HNCRI3,5X,6HMANNEDI2,5X,4HNOCC2I3,5X,6HLIMOCC2I5,5XFIND 286
     5,5HVDONEF3.0/7X,4HMCHGI2)                                         FIND 287
300    FORMAT (30H0ASINER FOUND CONTAINER NAMED ,2A6,25HHAS INADEQUATE CAFIND 288
     1PACITY (,F10.1,11H). VEHICLE ,2A6,6H, LEG ,2A6)                   FIND 289
310    FORMAT (57H0TOO MANY CONTAINERS REQUISITIONED BY ASINER FOR VEHICLFIND 290
     1E ,2A6,7HON LEG ,2A6,10H. LIMIT IS,I5/10X,15HOUTGREW CR LIST)     FIND 291
320    FORMAT (43H0TOO MANY CARGO ITEMS IN ASINER ON VEHICLE ,2A6,6H, LEGFIND 292
     1 ,2A6,10H. LIMIT IS,I5)                                           FIND 293
330    FORMAT (60H0CARGO ASINER IS APPARENTLY IN AN INFINITE LOOP, HAVINGFIND 294
     1 MADE,I4,34H CONSECUTIVE UNSUCCESSFUL CALLS TO/16H SUBROUTINE FINDFIND 295
     2)                                                                 FIND 296
340    FORMAT (5H0MODEI2,5X,4HTYPEI2,5X,6HDIRECTI2,5X,3HMCTI3,5X,6HMCBULKFIND 297
     1I2,5X,4HNFLTI3,5X,5HITEMSI5,5X,4HNASSI4/6H NMODE3I5,5X,4HRVOL2F8.2FIND 298
     2,5X,4HCCAPF10.1,5X,4HVCAPF10.1,5X,5HWTLIMF10.1/4H NCRI3,5X,4HEXP=AFIND 299
     33,5X,6HMANNEDI2)                                                  FIND 300
350    FORMAT (/5X,9HCD MATRIX,16X,10HCD2 MATRIX/(2F10.1,5X2F10.1))       FIND 301
360    FORMAT (34H0MODE  TYPE  DIRECT   WLEFT(M,T,D)/(I4,I6,I7,F15.1))   FIND 302
1362       END                                                          FIND 303
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      SUBROUTINE SEG22                                                  SEG22  2
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/ KEL                                                  LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUC,LIML1                                              WED230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
      EQJIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
C                                                                       LABEL134
      CALL TRAFIC(MAXVEH,DDB(NLMISS+L1BUC+1))                           WED23096
5     RETURN                                                            SEG22  5
6     END                                                               SEG22  6
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      SUBROUTINE REPORT                                                 REPORT 2
C                                                                       REPORT 3
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/ KEL                                                  LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUC,LIML1                                              WED230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
C                                                                       LABEL134
C                                                                       REPORT 5
C                                                                       REPORT 6
      CALL TABLES                                                       REPORT 7
C                                                                       REPORT 8
2     IF ((IFLAG(1)+IFLAG(2)).EQ.0) GO TO 20                            REPORT 9
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      KEL=1                                                          REPORT10
      CALL SEG32                                                     REPORT11
      IF (IFLAG(1).EQ.0) GO TO 10                                    REPORT12
      CALL SEG33                                                     REPORT13
10    CONTINUE                                                       REPORT14
      IF (IFLAG(2).EQ.1) CALL CNTRPT                                 REPORT15
20    CONTINUE                                                       REPORT16
      IF (IFLAG(3).EQ.1) CALL FACRPT                                 REPORT17
      JFLAG=IFLAG(5)+IFLAG(6)                                        REPORT18
C                                                                    REPORT19
      IF ((JFLAG+IFLAG(4)).EQ.0) GO TO 40                            REPORT20
      MAXVEH=(LOWCOR-NBUDB)/32                                       REPORT21
      IF (MAXVEH.GT.100) MAXVEH=100                                  REPORT22
      CALL SEG36                                                     REPORT23
      IF (JFLAG.EQ.0) GO TO 40                                       REPORT24
      KEL=2                                                          REPORT25
      CALL SEG32                                                     REPORT26
      IF (IFLAG(5).EQ.0) GO TO 30                                    REPORT27
      CALL VEHRPT                                                    REPORT28
30    IF (IFLAG(6).EQ.0) GO TO 40                                    REPORT29
      CALL CSTRPT                                                    REPORT30
40    RETURN                                                         REPORT31
      END                                                            REPORT32
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      SUBROUTINE MOREL2                                                 MOREL2 2
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/ KEL                                                  LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUC,LIML1                                              WED230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
C                                                                       LABEL134
      LDDB=NBLK*510/NWDDB                                               MOREL2 4
    5 IF (LDDB.GT.MDDB) LDDB=MDDB                                       MOREL2 5
   11 MDDB=MDDB-LDDB                                                    MOREL2 6
   12 NLDDB=NWDDB*LDDB+NBDDB-1                                          MOREL2 7
   16 DO 10 I=NBDDB,LOWCOR                                              MOREL2 8
   22 10 IDB(I)=0                                                       MOREL2 9
```

```
24          II=510                                                    MOREL210
25          DO 20 I=NBDDB,NLDDB,II                                    MOREL211
27          J=I-1                                                     MOREL212
30          JJ=NLDDB-J                                                MOREL213
32          KK=MIND(II,JJ)                                            MOREL214
35          READ (L2WDT) (DDB(J+K),K=1,KK)                            MOREL215
51    20    CONTINJE                                                  MOREL216
54          RETURN                                                    MOREL217
54          END                                                       MOREL218
```

```
      SUBROUTINE CNTRPT                                                 CNTRPT 2
C                                                                       CNTRPT 3
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/ KEL                                                  LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUC,LIML1                                              WED230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
C                                                                       LABEL134
C                                                                       ASDAT2 2
      COMMON /ASDAT/ FLTAC(30,31),VTOT(30,33),TOT(33)                   ASDAT2 3
C                                                                       ASDAT2 4
      INTEGER FLTAC                                                     ASDAT2 5
C                                                                       ASDAT2 6
```

```
      C     FIND CARGO ELEMENT MATCHING FIRST CONTAINER                        CNTRPT 6
      C     FIND FIRST LEG WITH THAT CARGO ELEMENT AND ACCUMULATE BY YEAR      CNTRPT 7
      C          THE COUNT OF THE CARGO ELEMENT                                CNTRPT 8
      C     PRINT LINE                                                         CNTRPT 9
      C     IF THE SUCCESSOR LEG IS NONE, ACCUMULATE FOR TOTALS                CNTRPT10
      C     REPEAT FOR ALL LEGS                                                CNTRPT11
      C     PRINT TOTALS                                                       CNTRPT12
      C     REPEAT FOR ALL CONTAINERS                                          CNTRPT13
      C                                                                        CNTRPT14
            INTEGER TBLEG,TOT                                                  CNTRPT15
      C                                                                        CNTRPT16
            DO 10 I=1,NCTMAX                                                   CNTRPT17
   11       IF (TBCONT(7,I)) 20,10,20                                         CNTRPT18
   12   10  CONTINUE                                                          CNTRPT19
   14       RETURN                                                            CNTRPT20
   14   20  CONTINUE                                                          CNTRPT21
      C                                                                        CNTRPT22
   14       IFAWD=0                                                           CNTRPT23
   15       CALL PACK (66,12,IFAWD,0)                                         CNTRPT24
      C                                                                        CNTRPT25
   20       PRINT 200                                                         CNTRPT26
   24       PRINT 210, (NTYRS(I),I=1,NYRS)                                    CNTRPT27
      C                                                                        CNTRPT28
   33       DO 190 J=1,NCONT                                                  CNTRPT29
   35       IF (TBCONT(7,J)) 30,190,30                                        CNTRPT30
   37   30  CONTINUE                                                          CNTRPT31
   37       I=J+ITBCNT                                                        CNTRPT32
   41       CALL PACK (I,12,IFAWD,12)                                         CNTRPT33
   44       DO 40 N=1,NYRS3                                                   CNTRPT34
   51   40  TOT(N)=0                                                          CNTRPT35
   53       LL=(I-1)*NWCE+NBCE                                                CNTRPT36
   57       PRINT 220, DDB(LL),DDB(LL+1)                                      CNTRPT37
   70       IPASS=0                                                           CNTRPT38
   71       REWIND L2WOT                                                      CNTRPT39
   73       II=510                                                            CNTRPT40
   74       K1=NBDDB-1                                                        CNTRPT41
   76       IA=NBDDB                                                          CNTRPT42
   77   50  JJ=NLDDB-IA+1                                                     CNTRPT43
  101       KK=MIN0(II,JJ)                                                    CNTRPT44
  105       READ (L2WOT) (DDB(K1+K),K=1,KK)                                   CNTRPT45
```

```
121         L=NBDDB                                                          CNTRPT46
      C                                                                      CNTRPT47
      C     BEGINNING OF LOOP TO PROCESS ONE CONTAINER FOR ALL LEGS.         CNTRPT48
      C                                                                      CNTRPT49
123   60    CONTINUE                                                         CNTRPT50
123         CALL UNPACK (ILEG,6,DDB(L),0)                                    CNTRPT51
127         IF (IPASS.EQ.1) GO TO 140                                        CNTRPT52
130         IF (ILEG.EQ.JLEG) GO TO 160                                      CNTRPT53
132   70    IF (LINE(3).LE.0) GO TO 110                                      CNTRPT54
134         PRINT 240, (LINE(N),N=1,NYRS3)                                   CNTRPT55
142         CALL UNPACK (NDEX,12,DDB(LL+5),0)                                CNTRPT56
146         IF (NDEX.EQ.0) GO TO 110                                         CNTRPT57
147         DO 100 N=4,NYRS3                                                 CNTRPT58
151         IF (LINE(N).LE.0) GO TO 100                                      CNTRPT59
153         N1=FYEAR+N-4                                                     CNTRPT60
155         CALL PACK (N1,6,IFAWD,24)                                        CNTRPT61
160         N1=LINE(N)/63                                                    CNTRPT62
164         IF (N1.LE.0) GO TO 90                                            CNTRPT63
166         CALL PACK (63,6,IFAWD,30)                                        CNTRPT64
171         DO 80 NN=1,N1                                                    CNTRPT65
200         NIFA=NIFA+1                                                      CNTRPT66
201         IFA(NIFA)=IFAWD                                                  CNTRPT67
201   80    CONTINUE                                                         CNTRPT68
203   90    N1=LINE(N)-63*N1                                                 CNTRPT69
207         IF (N1.LE.0) GO TO 100                                           CNTRPT70
210         CALL PACK (N1,6,IFAWD,30)                                        CNTRPT71
213         NIFA=NIFA+1                                                      CNTRPT72
215         IFA(NIFA)=IFAWD                                                  CNTRPT73
217   100   CONTINUE                                                         CNTRPT74
222   110   CONTINUE                                                         CNTRPT75
222         IF (TBLEG(3,JLEG).NE.4HNONE) GO TO 130                           CNTRPT76
226         DO 120 N=3,NYRS3                                                 CNTRPT77
234   120   TOT(N)=TOT(N)+LINE(N)                                            CNTRPT78
236   130   IF (L.GT.(K1+KK)) GO TO 180                                      CNTRPT79
245   140   JLEG=ILEG                                                        CNTRPT80
246         IPASS=2                                                          CNTRPT81
247         LINE(1)=TBLEG(1,JLEG)                                            CNTRPT82
252         LINE(2)=TBLEG(2,JLEG)                                            CNTRPT83
257         DO 150 N=3,NYRS3                                                 CNTRPT84
263   150   LINE(N)=0                                                        CNTRPT85
```

```
265   160    CALL UNPACK (ICE,12,DDB(L+1),24)                                          CNTRPT86
271          ICNT=ICE-ITBCNT                                                           CNTRPT87
273          IF ((ICNT.GT.0).AND.(ICNT.LE.NCONT)) TBCONT(7,ICNT)=1.0                   CNTRPT88
305          IF (ICE.NE.I) GO TO 170                                                   CNTRPT89
307          CALL UNPACK (IDIR,1,DDB(L),32)                                            CNTRPT90
312          IF (IDIR.NE.0) GO TO 170                                                  CNTRPT91
313          CALL UNPACK (IYR,6,DDB(L),12)                                             CNTRPT92
317          M=IYR-FYEAR+4                                                             CNTRPT93
321          LINE(M)=LINE(M)+1                                                         CNTRPT94
324          LINE(3)=LINE(3)+1                                                         CNTRPT95
325   170    L=L+NWDDB                                                                 CNTRPT96
327          IF (L.LT.(K1+KK)) GO TO 60                                                CNTRPT97
332          IF (KK.EQ.JJ) GO TO 70                                                    CNTRPT98
333          IA=IA+II                                                                  CNTRPT99
335          IF (IA.LE.NLDDB) GO TO 50                                                 CNTRP100
337          STOP 6                                                                    CNTRP101
341   180    IF (TOT(3).GT.0) PRINT 230, (TOT(N),N=3,NYRS3)                            CNTRP102
351   190    CONTINUE                                                                  CNTRP103
       C                                                                              CNTRP104
354          RETURN                                                                    CNTRP105
       C                                                                              CNTRP106
       C                                                                              CNTRP107
       C                                                                              CNTRP108
       200    FORMAT (1H1,45X,18H CONTAINER SUMMARY)                                  CNTRP109
       210    FORMAT (1H ,//,19X,5HTOTAL,2X,20I4/26X,10I4)                            CNTRP110
       220    FORMAT (1H0,A6,A4)                                                      CNTRP111
       230    FORMAT (19H ONES LEAVING EARTH,I5,2X,20I4/26X,10I4)                     CNTRP112
       240    FORMAT (1H ,4X,A6,A4,4X,I5,2X,20I4/26X,10I4)                            CNTRP113
354          END                                                                       CNTRP114
```

```
      SUBROUTINE FACRPT                                                 FACRPT 2
C                                                                       FACRPT 3
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/ KEL                                                  LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUC,LIML1                                              WED230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
C                                                                       LABEL134
C                                                                       FACRPT 5
      REAL A(33)                                                        FACRPT 6
      REAL B(33)                                                        FACRPT 7
C                                                                       FACRPT 8
      EQUIVALENCE (A(1),LINE(1))                                        FACRPT 9
```

```
      C                                                                 FACRPT10
            IF (NIFA.EQ.0) RETURN                                       FACRPT11
      C                                                                 FACRPT12
    3       DO 10 I=3,33                                                FACRPT13
   10  10   B(I)=0                                                      FACRPT14
   12       PRINT 90, (NTYRS(I),I=1,NYRS)                              FACRPT15
   20       JF=1                                                       FACRPT16
   21       IF (JF.EQ.1) GO TO 60                                      FACRPT17
   23  20   PRINT 100, (PNAME(I,NP),I=1,3)                            FACRPT18
   33  30   PRINT 110, (MNAME(I,NM),I=1,3)                            FACRPT19
   43  40   NCEL=NCEP                                                  FACRPT20
   44       NML=NM                                                     FACRPT21
   46       NPL=NP                                                     FACRPT22
   50       CALL FACNUM (A,JF)                                         FACRPT23
   52       PRINT 120, (A(I),I=1,NYRS3)                                FACRPT24
   61       DO 50 I=3,33                                               FACRPT25
   66  50   B(I)=B(I)+A(I)                                             FACRPT26
   70       IF (JF.GT.NIFA) GO TO 70                                   FACRPT27
   74  60   CALL UNPACK (NP,6,IFA(JF),0)                               FACRPT28
  100       CALL UNPACK (NM,6,IFA(JF),6)                               FACRPT29
  104       CALL UNPACK (NCEP,12,IFA(JF),12)                           FACRPT30
  110       IF (JF.EQ.1) GO TO 20                                      FACRPT31
  112       IF (NP.NE.NPL) GO TO 20                                    FACRPT32
  114       IF (NM.NE.NML) GO TO 30                                    FACRPT33
  116       IF (NCEP.NE.NCEL) GO TO 40                                 FACRPT34
  120  70   CONTINUE                                                   FACRPT35
  120       PRINT 80, (B(I),I=3,NYRS3)                                 FACRPT36
  127       RETURN                                                     FACRPT37
      C                                                                 FACRPT38
      C                                                                 FACRPT39
      C                                                                 FACRPT40
      80   FORMAT (16HOTOTAL DISCRETES,F14.1,15F6.1/30X,15F6.1)         FACRPT41
      90   FORMAT (1H1,35X,33HDISCRETE PAYLOADS SCHEDULE REPORT//25X,5HTOTAL,FACRPT42
           115I6/30X,15I6)                                              FACRPT43
     100   FORMAT (1X,3A6)                                            FACRPT44
     110   FORMAT (5X,3A6)                                            FACRPT45
     120   FORMAT (9X,A6,A4,F11.1,15F6.1/30X,15F6.1)                  FACRPT46
  130       END                                                        FACRPT47
```

```
      SUBROUTINE FACNUM (A,JF)                                          FACNUM 2
C                                                                       FACNUM 3
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPOS/ NSPO,NBSPO,NLSPO,TBSPO(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/ KEL                                                  LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUC,LIML1                                              WED230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
      EQJIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
C                                                                       LABEL134
      DIMENSION A(33)                                                   FACNUM 5
      DO 10 I=1,33                                                      FACNUM 6
 7    A(I)=0                                                            FACNUM 7
10 10 CONTINUE                                                          FACNUM 8
11    IF (NIFA.EQ.0) RETURN                                             FACNUM 9
```

```
      12          CALL UNPACK (N,12,IFA(JF),12)                          FACNUM10
      16          ICE=NBCE+(N-1)*NWCE+5                                  FACNUM11
      23          CALL UNPACK (IFAC,12,DDB(ICE),0)                       FACNUM12
      31          M=NBFAC+(IFAC-1)*NWFAC                                 FACNUM13
      34          A(1)=DDB(M)                                            FACNUM14
      36          A(2)=DDB(M+1)                                          FACNUM15
      40   20     CALL UNPACK (NPMCE,24,IFA(JF),0)                       FACNUM16
      44          IF (JF.EQ.1) NPMCEL=NPMCE                              FACNUM17
      51          IF (NPMCE.NE.NPMCEL) GO TO 30                          FACNUM18
      53          CALL UNPACK (NYR,6,IFA(JF),24)                         FACNUM19
      61          CALL UNPACK (NCNT,6,IFA(JF),30)                        FACNUM20
      66          L=NYR-FYEAR+4                                          FACNUM21
      70          A(L)=A(L)+FLOAT(NCNT)                                  FACNUM22
      73          JF=JF+1                                                FACNUM23
      75          GO TO 20                                               FACNUM24
      75   30     DO 40 I=4,NYRS3                                        FACNUM25
     102          A(3)=A(3)+A(I)                                         FACNUM26
     103   40     CONTINUE                                               FACNUM27
     105          NPMCEL=NPMCE                                           FACNUM28
     106          RETURN                                                 FACNUM29
     107          END                                                    FACNUM30
```

```
      SUBROUTINE VEHRPT                                                 VEHRPT 2
C                                                                       VEHRPT 3
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/ KEL                                                  LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUG,LIML1                                              WED230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
C                                                                       LABEL134
C                                                                       ASDAT2 2
      COMMON /ASDAT/ FLTAC(30,31),VTOT(30,33),TOT(33)                   ASDAT2 3
C                                                                       ASDAT2 4
      INTEGER FLTAC                                                     ASDAT2 5
C                                                                       ASDAT2 6
```

```
      C                                                                 VEHRPT 6
            DIMENSION VDATA(33), IVTOT(30,33)                           VEHRPT 7
      C                                                                 VEHRPT 8
            EQUIVALENCE (VDATA(1),LINE(1)), (VTOT(1,1),IVTOT(1,1))      VEHRPT 9
      C                                                                 VEHRPT10
            IFLG=3                                                      VEHRPT11
        2   NV=0                                                        VEHRPT12
        3   REWIND L2WOT                                                VEHRPT13
        5   MDDB=NDDB                                                   VEHRPT14
        7   CALL MOREL2                                                 VEHRPT15
       10   NB=NBDDB+1                                                  VEHRPT16
       12   DO 10 I=1,NVHMAX                                            VEHRPT17
       14   DO 10 J=1,33                                                VEHRPT18
       22   VTOT(I,J)=0.0                                               VEHRPT19
       23 10CONTINUE                                                    VEHRPT20
       26   IF (IFLAG(5).NE.2) PRINT 180, (NTYRS(I),I=1,NYRS)           VEHRPT21
       37 20CALL UNPACK (IPRO,6,DDB(NB),0)                              VEHRPT22
       43 30CALL UNPACK (IMIS,6,DDB(NB),6)                              VEHRPT23
       47 40CALL UNPACK (IVEH,6,DDB(NB),12)                             VEHRPT24
       53   GO TO (70,60,50), IFLG                                      VEHRPT25
       62 50IF (IFLAG(5).NE.2) PRINT 190, (PNAME(J,IPRO),J=1,3)         VEHRPT26
       74 60IF (IFLAG(5).NE.2) PRINT 200, (MNAME(J,IMIS),J=1,3)         VEHRPT27
      106 70CALL VEHLDF (VDATA,NB,NL,IPRO,IMIS,IVEH,IFLG)               VEHRPT28
      115   IF (IFLAG(5).NE.2) PRINT 210, (VDATA(I),I=1,NYRS3)          VEHRPT29
      126   IF (NV.EQ.0) GO TO 90                                       VEHRPT30
      127   DO 80 I=1,NV                                                VEHRPT31
      136   IF (LINE(1).NE.IVTOT(I,1)) GO TO 80                         VEHRPT32
      140   IF (LINE(2).EQ.IVTOT(I,2)) GO TO 110                        VEHRPT33
      141 80CONTINUE                                                    VEHRPT34
      143 90NV=NV+1                                                     VEHRPT35
      145   VTOT(NV,1)=VDATA(1)                                         VEHRPT36
      147   VTOT(NV,2)=VDATA(2)                                         VEHRPT37
      150   DO 100 K=3,33                                               VEHRPT38
      160   VTOT(NV,K)=VTOT(NV,K)+VDATA(K)                              VEHRPT39
      162 100CONTINUE                                                   VEHRPT40
      163   GO TO 130                                                   VEHRPT41
      163 110DO 120 K=3,33                                              VEHRPT42
      173   VTOT(I,K)=VTOT(I,K)+VDATA(K)                                VEHRPT43
      175 120CONTINUE                                                   VEHRPT44
      176 130NB=NL+NWDDB                                                VEHRPT45
```

```
200         IF (NB.LT.NLDDB) GO TO 140                                      VEHRPT46
202         IF (MDDB.EQ.0) GO TO 150                                        VEHRPT47
203         CALL MOREL2                                                     VEHRPT48
204         NB=NBDDB+1                                                      VEHRPT49
206   140   CONTINUE                                                        VEHRPT50
206         GO TO (40,30,20), IFLG                                          VEHRPT51
215   150   PRINT 220, (NTYRS(I),I=1,NYRS)                                  VEHRPT52
224         DO 160 I=1,NV                                                   VEHRPT53
226         PRINT 210, (VTOT(I,J),J=1,NYRS3)                                VEHRPT54
242   160   CONTINUE                                                        VEHRPT55
      C                                                                     VEHRPT56
245         PRINT 230, (NTYRS(I),I=1,NYRS)                                  VEHRPT57
253         PRINT 240                                                       VEHRPT58
257         DO 170 I=1,NVMAX                                                VEHRPT59
261         IF (FLTAC(I,1).EQ.0) GO TO 170                                  VEHRPT60
262         PRINT 250, TBVEH(1,I),TBVEH(2,I),(FLTAC(I,J),J=1,NYRS1)         VEHRPT61
307   170   CONTINUE                                                        VEHRPT62
      C                                                                     VEHRPT63
312         RETURN                                                          VEHRPT64
      C                                                                     VEHRPT65
      C                                                                     VEHRPT66
      C                                                                     VEHRPT67
      180   FORMAT (1H1,42X,26HVEHICLE UTILIZATION REPORT//25X,5HTOTAL,15I6/30VEHRPT68
           1X,15I6)                                                         VEHRPT69
      190   FORMAT (1X,3A6)                                                 VEHRPT70
      200   FORMAT (5X,3A6)                                                 VEHRPT71
      210   FORMAT (9X,A6,A4,F11.1,15F6.1/30X,15F6.1)                       VEHRPT72
      220   FORMAT (1H1,40X,29HVEHICLE FLIGHT SUMMARY REPORT//25X,5HTOTAL,15I6VEHRPT73
           1/30X,15I6/)                                                     VEHRPT74
      230   FORMAT (1H1,30X,34HVEHICLE ACQUISITION SUMMARY REPORT,/14H0  YEAR VEHRPT75
           1 TOTAL,30I4)                                                    VEHRPT76
      240   FORMAT (9H  VEHICLE)                                            VEHRPT77
      250   FORMAT (1H ,A6,A4,I3,30I4)                                      VEHRPT78
312         END                                                             VEHRPT79
```

```
      SUBROUTINE VEHLDF (VDATA,NB,NL,IPRO,IMIS,IVEH,IFLG)                VEHLDF 2
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                            LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                      LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                                LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                         LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                               LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                   LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                             LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                  LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                           LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                     LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                    LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                    LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                     LABEL115
      COMMON /KEL/ KEL                                                   LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                  LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUC,LIML1                                               WED230 1
C                                                                        LABEL123
      INTEGER FYEAR                                                      LABEL124
C                                                                        LABEL125
      COMMON DDB(1)                                                      LABEL126
C                                                                        LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                   LABEL128
C                                                                        LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                          LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                   LABEL132
C                                                                        LABEL133
C                                                                        LABEL134
      DIMENSION VDATA(33)                                                VEHLDF 4
      DO 10 I=1,33                                                       VEHLDF 5
14    VDATA(I)=0.0                                                       VEHLDF 6
15 10 CONTINUE                                                           VEHLDF 7
21 20 CONTINUE                                                           VEHLDF 8
21    DO 30 I=NB,NLDDB,NWDDB                                             VEHLDF 9
```

```
      23          CALL UNPACK (IP,6,DDB(I),0)                          VEHLDF10
      30          CALL UNPACK (IM,6,DDB(I),6)                          VEHLDF11
      36          CALL UNPACK (IV,6,DDB(I),12)                         VEHLDF12
      44          IF (IP.NE.IPRO) GO TO 40                             VEHLDF13
      51          IF (IM.NE.IMIS) GO TO 50                             VEHLDF14
      53          IF (IV.NE.IVEH) GO TO 60                             VEHLDF15
      57          VDATA(1)=TBVEH(1,IVEH)                               VEHLDF16
      60          VDATA(2)=TBVEH(2,IVEH)                               VEHLDF17
      61          CALL UNPACK (LDF,18,DDB(I+1),0)                      VEHLDF18
      67          CALL UNPACK (IYR,6,DDB(I-1),12)                      VEHLDF19
     101          FACT=LDF                                             VEHLDF20
     102          FACT=FACT/100000.                                    VEHLDF21
     103          L=IYR-FYEAR+4                                        VEHLDF22
     106          VDATA(L)=VDATA(L)+FACT                               VEHLDF23
     110   30     CONTINUE                                             VEHLDF24
     113          I=NLDDB+2                                            VEHLDF25
     114          IF (MDDB.EQ.0) GO TO 60                              VEHLDF26
     115          CALL MOREL2                                          VEHLDF27
     116          NB=NBDDB+1                                           VEHLDF28
     123          GO TO 20                                             VEHLDF29
     124   40     IFLG=3                                               VEHLDF30
     126          GO TO 70                                             VEHLDF31
     126   50     IFLG=2                                               VEHLDF32
     130          GO TO 70                                             VEHLDF33
     130   60     IFLG=1                                               VEHLDF34
     132   70     NL=I-NWDDB                                           VEHLDF35
     134          DO 80 I=4,33                                         VEHLDF36
     140          VDATA(3)=VDATA(3)+VDATA(I)                           VEHLDF37
     141   80     CONTINUE                                             VEHLDF38
     143          RETURN                                               VEHLDF39
     143          END                                                  VEHLDF40
```

```
      SUBROUTINE TABLES                                                  TABLES 2
C                                                                        TABLES 3
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                            LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                      LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                                LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                         LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                               LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                   LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                             LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                  LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                           LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                     LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                    LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                    LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                     LABEL115
      COMMON /KEL/ KEL                                                   LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                  LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUC,LIML1                                               WED230 1
C                                                                        LABEL123
      INTEGER FYEAR                                                      LABEL124
C                                                                        LABEL125
      COMMON DDB(1)                                                      LABEL126
C                                                                        LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                   LABEL128
C                                                                        LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                          LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                   LABEL132
C                                                                        LABEL133
C                                                                        LABEL134
C                                                                        TABLES 5
      IF (NIVA.LE.MIVA) GO TO 10                                         TABLES 6
 4    JERR=JERR+1                                                        TABLES 7
 5    PRINT 340, NIVA,MIVA                                               TABLES 8
15    NIVA=MIVA                                                          TABLES 9
```

```
 17  10     IF (NIFA.LE.MIFA) GO TO 20                                      TABLES10
 22         JERR=JERR+1                                                     TABLES11
 23         PRINT 350, NIFA,MIFA                                            TABLES12
 33         NIFA=MIFA                                                       TABLES13
 35  20     IF (NTBL.LE.MTBL) GO TO 30                                      TABLES14
 40         JERR=JERR+1                                                     TABLES15
 41         PRINT 360, NTBL,MTBL                                            TABLES16
 51         NTBL=MTBL                                                       TABLES17
 52         NTBL2=NTBL                                                      TABLES18
 54  30     CONTINUE                                                        TABLES19
     C                                                                      TABLES20
 54         IF ((IFLAG(7).EQ.0).AND.(IFLAG(8).EQ.0)) GO TO 40               TABLES21
     C                                                                      TABLES22
 62         PRINT 140, NBSPD,NLSPD,NSPD,NBVEH,NLVEH,NVEH,NWVEH,NBFAC,NLFAC,NFATABLES23
           1C,NWFAC,NBCE,NLCE,NCE,NWCE,NBMISS,NLMISS,LNGTH,NWMISS,NBODB,NLODB,TABLES24
           2NODB,NWODB                                                      TABLES25
     C                                                                      TABLES26
143         LIM=MAX0(NIVA,NIFA,NTBL)                                        TABLES27
151         IF (LIM.EQ.0) GO TO 40                                          TABLES28
152         PRINT 250, (I,NFTBL(I),IFA(I),IVA(I),I=1,LIM)                   TABLES29
     C                                                                      TABLES30
175  40     IF (IFLAG(7).EQ.0) GO TO 130                                    TABLES31
     C                                                                      TABLES32
176         PRINT 260                                                       TABLES33
202         PRINT 290, (IFLAG(I),I=1,20)                                    TABLES34
210         PRINT 320, KOPT                                                 TABLES35
216         IF (NPREF.GT.0) PRINT 330, NPREF,(VPREF(I),I=1,NPREF)           TABLES36
     C                                                                      TABLES37
230         PRINT 180, (J,(TBCONT(I,J),I=1,8),J=1,NCONT)                    TABLES38
247         PRINT 190, (J,(TBLEG(I,J),I=1,11),J=1,NLEG)                     TABLES39
266         IF (NSPD.EQ.0) GO TO 60                                         TABLES40
     C                                                                      TABLES41
     C      PRINT SPREAD TABLE                                              TABLES42
     C                                                                      TABLES43
267         PRINT 150, (L,(TBSPD(K,L),K=1,3),L=1,NSPD)                      TABLES44
306         PRINT 160                                                       TABLES45
312         DO 50 L=1,NSPD                                                  TABLES46
316         NB=TBSPD(3,L)                                                   TABLES47
317         LEN=DOB(NB)+1.0                                                 TABLES48
322         NL=NB+LEN                                                       TABLES49
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```
323           PRINT 170, (ODB(K),K=NB,NL)                                    TABLES50
333    50     CONTINUE                                                       TABLES51
336    60     CONTINUE                                                       TABLES52
336           IF (NVEH.EQ.0) GO TO 80                                        TABLES53
337           PRINT 200, (J,(TBVEH(I,J),I=1,5),J=1,NVEH)                     TABLES54
356           PRINT 210                                                      TABLES55
362           DO 70 I=1,NVEH                                                 TABLES56
364           CALL UNPACK (IBVEH,18,TBVEH(3,I),18)                           TABLES57
370           CALL UNPACK (IWVEH,18,TBVEH(3,I),0)                            TABLES58
375           ILVEH=IBVEH+IWVEH-1                                            TABLES59
400           PRINT 220, I,(ODB(J),J=IBVEH,ILVEH)                            TABLES60
411    70     CONTINUE                                                       TABLES61
414    80     CONTINUE                                                       TABLES62
414           IF (NFAC.EQ.0) GO TO 100                                       TABLES63
415           PRINT 300                                                      TABLES64
421           J=NBFAC-1                                                      TABLES65
423           DO 90 I=1,NFAC                                                 TABLES66
425           PRINT 230, I,(ODB(J+K),K=1,NWFAC)                              TABLES67
443    90     J=J+NWFAC                                                      TABLES68
447    100    CONTINUE                                                       TABLES69
      C                                                                     TABLES70
      C      PRINT CARGO ELEMENT TABLE                                      TABLES71
      C                                                                     TABLES72
447           IF (NCE.EQ.0) GO TO 120                                        TABLES73
450           PRINT 310                                                      TABLES74
454           J=NBCE-1                                                       TABLES75
456           DO 110 I=1,NCE                                                 TABLES76
460           PRINT 240, I,(ODB(J+K),K=1,NWCE)                               TABLES77
476    110    J=J+NWCE                                                       TABLES78
502    120    CONTINUE                                                       TABLES79
502           PRINT 270, (I,(PNAME(J,I),J=1,3),I=1,NPROG)                    TABLES80
521           PRINT 280, (I,(MNAME(J,I),J=1,3),I=1,NMISS)                    TABLES81
      C                                                                     TABLES82
540    130    CONTINUE                                                       TABLES83
      C                                                                     TABLES84
540           IFLAG(9)=0                                                     TABLES85
541           IFLAG(10)=0                                                    TABLES86
      C                                                                     TABLES87
      C                                                                     TABLES88
      C                                                                     TABLES89
```

```
C                                                                       TABLES     90
C                                                                       TABLES     91
543         RETURN                                                      TABLES     92
C                                                                       TABLES     93
C                                                                       TABLES     94
140    FORMAT (14H1TABLES REPORT//7H NBSPD I6,5X,6HNLSPD I6,5X,5HNSPD I5/ TABLES     95
     17H NBVEH I6,5X,6HNLVEH I6,5X,5HNVEH I5,5X,6HNWVEH I3/7H NBFAC I6,5 TABLES     96
     2X,6HNLFAC I6,5X,5HNFAC I5,5X,6HNWFAC I3/7H NBCE  I6,5X,6HNLCE  I6, TABLES     97
     35X,5HNCE  I5,5X,6HNWCE  I3/7H NBMISSI6,5X,6HNLMISSI6,5X,5HLNGTHI5, TABLES     98
     45X,6HNWMISSI3/7H NBODB I6,5X,6HNLODB I6,5X,5HNODB I5,5X,6HNWODB I3 TABLES     99
     5)                                                                 TABLES    100
150    FORMAT (19HOSPREAD TABLE-TBSPD/(I6,2X,A6,A4,F12.0))              TABLES    101
160    FORMAT (12HOSPREAD DATA)                                         TABLES    102
170    FORMAT (1H ,2F4.0,12F8.4/(1H ,8X,12F8.4))                        TABLES    103
180    FORMAT (23HOCONTAINER TABLE-TBCONT/(I5,5X,A6,A4,10X,6F10.1))     TABLES    104
190    FORMAT (16HLEG TABLE-TBLEG/(I5,5X,A6,A4,10X,A6,A4,F10.1,3X,O12,2I TABLES    105
     15,F10.2,F5.1,3X,O12))                                             TABLES    106
200    FORMAT (20HOVEHICLE TABLE-TBVEH//(I5,5X,A6,A4,10X,O12,10X,O12,10X, TABLES    107
     1O12))                                                             TABLES    108
210    FORMAT (13HOVEHICLE DATA/)                                       TABLES    109
220    FORMAT (1H ,I4,5X,A6,A4,10X,7F10.1/1H ,29X,7F10.1/50(1H ,19X,A6,A4 TABLES    110
     1,3F10.1,/))                                                       TABLES    111
230    FORMAT (1H ,I4,5X,A6,A4,10X,6F10.1)                              TABLES    112
240    FORMAT (1H ,I4,5X,A6,A4,10X,3A6,4X,O12,2F10.1,F10.3)             TABLES    113
250    FORMAT (5HO   I,15X,8HNFTBL(I),13X,6HIFA(I),14X,6HIVA(I)//(I5,13X, TABLES    114
     1O12,8X,O12,8X,O12))                                               TABLES    115
260    FORMAT (1H1)                                                     TABLES    116
270    FORMAT (19HOPROGRAM NAME TABLE//(I5,5X,3A6))                     TABLES    117
280    FORMAT (19HOMISSION NAME TABLE//(I5,5X,3A6))                     TABLES    118
290    FORMAT (8H IFLAG =,10I6/8X,10I6)                                 TABLES    119
300    FORMAT (14HOFACILITY DATA/)                                      TABLES    120
310    FORMAT (20HOCARGO ELEMENT DATA /)                                TABLES    121
320    FORMAT (9HOOPTIONS ,20I5)                                        TABLES    122
330    FORMAT (1HO,I5,35H ENTRIES IN VEHICLE PREFERENCE LIST/(6(5X,O12))) TABLES    123
340    FORMAT (40HO*** IVA  TABLE HAS OVERFLOWED *** NIVA=I4,6H MIVA=I4) TABLES    124
350    FORMAT (40HO*** IFA  TABLE HAS OVERFLOWED *** NIFA=I4,6H MIFA=I4) TABLES    125
360    FORMAT (40HO*** FTBL TABLE HAS OVERFLOWED *** NTBL=I4,6H MTBL=I4) TABLES    126
545         END                                                         TABLES    127
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      SUBROUTINE SEG32                                                  SEG32  2
C                                                                       SEG32  3
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/ KEL                                                  LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WDT,L1BUC,LIML1                                              WED230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
C                                                                       LABEL134
      COMMON /ASDAT/ A(1530)                                            SEG32  5
C                                                                       SEG32  6
      REWIND L2WOT                                                      SEG32  7
    3 NFILE=(LOWCOR-NBDDB-509)/510                                      SEG32  8
   10 IF (NFILE.GE.3) CALL MERGE (L2WOT,NDDB,NWDDB,KEL,DDB(NBDDB),DDB(NBSEG32  9
```

```
     1DDB+510),NFILE)                                                                  SEG32 10
21    IF (NFILE.LT.3) CALL MERGE (L2WOT,NDDB,NWDDB,KEL,DDB(NBDDB),A,3)                 SEG32 11
33    REWIND L2WOT                                                                     SEG32 12
35    DO 10 I=NBDDB,LOWCOR                                                             SEG32 13
42 10 IDB(I)=0                                                                         SEG32 14
44    RETURN                                                                           SEG32 15
44    END                                                                              SEG32 16
```

```
      SUBROUTINE MERGE (NTAPE,NC,NR,KELT,MBUFF,FILE,NFILE)                    MERGE  2
C MERGE PRESORTED RECORDS.                                                    MERGE  3
C NTAPE = NUMBER OF TAPE ON WHICH DATA RESIDES.                               MERGE  4
C NC    = NUMBER OF COLUMNS                                                   MERGE  5
C NR    = NUMBER OF ROWS                                                      MERGE  6
C KELT  = NUMBER OF COLUMN ELEMENT ON WHICH SORT IS MADE.                     MERGE  7
C                                                                             MERGE  8
      COMMON /SRTMOD/ MODE                                                    MERGE  9
C                                                                             MERGE 10
      INTEGER MBUFF(1),FILE(510,1),P(4,10),TDAT(2,4),OUT,OUTAPE,COLS,FLOMERGE 11
     1W                                                                       MERGE 12
C                                                                             MERGE 13
C INITIALIZATION                                                              MERGE 14
C                                                                             MERGE 15
      NFILE1=NFILE-1                                                          MERGE 16
12    NFILE2=NFILE-2                                                          MERGE 17
14    LNTH=510                                                                MERGE 18
15    INTAPE=NTAPE                                                            MERGE 19
16    NCOLS=NC                                                                MERGE 20
17    NROWS=NR                                                                MERGE 21
20    KEL=KE_T                                                                MERGE 22
21    NCPR=LNTH/NROWS                                                         MERGE 23
24    NWPR=NCPR*NROWS                                                         MERGE 24
C                                                                             MERGE 25
26    TDAT(1,1)=1                                                             MERGE 26
27    TDAT(1,2)=2                                                             MERGE 27
30    TDAT(1,3)=3                                                             MERGE 28
31    TDAT(1,4)=INTAPE                                                        MERGE 29
32    TDAT(2,4)=NCOLS                                                         MERGE 30
34    REWIND INTAPE                                                           MERGE 31
C                                                                             MERGE 32
C START FLOW CONTROL. READ 10 RECORDS AND MERGE ONTO FIRST SCRATCH TAPE.      MERGE 33
C                                                                             MERGE 34
36    IN1=0                                                                   MERGE 35
37    IN2=0                                                                   MERGE 36
37    OUT=1                                                                   MERGE 37
40    NREAD=NFILE                                                             MERGE 38
42    FLOW=1                                                                  MERGE 39
43    GO TO 50                                                                MERGE 40
C                                                                             MERGE 41
```

```
      C NEXT ACTION DEPENDS ON HOW MANY RECORDS ARE LEFT ON INPUT TAPE.          MERGE 42
      C IF 9 OR FEWER, ONE MORE MERGE WILL FINISH JOB.                          MERGE 43
      C                                                                         MERGE 44
   44 10     IF (NCOLS.GT.(NFILE1*NCPR)) GO TO 20                               MERGE 45
   51        IN1=1                                                             MERGE 46
   51        IN2=0                                                             MERGE 47
   52        OUT=4                                                             MERGE 48
   53        NREAD=NFILE1                                                      MERGE 49
   54        GO TO 50                                                          MERGE 50
      C                                                                         MERGE 51
      C 10 OR MORE RECORDS LEFT. AT LEAST 2 MORE MERGES NEEDED.                 MERGE 52
      C MERGE 10 RECORDS ONTO SECOND SCRATCH TAPE                               MERGE 53
      C                                                                         MERGE 54
   55 20     IN1=0                                                             MERGE 55
   56        IN2=0                                                             MERGE 56
   56        OUT=2                                                             MERGE 57
   57        NREAD=NFILE                                                       MERGE 58
   61        IF (NCOLS.LE.(NFILE*NCPR)) NREAD=NFILE1                           MERGE 59
   67        FLOW=2                                                            MERGE 60
   70        GO TO 50                                                          MERGE 61
      C                                                                         MERGE 62
      C START ITERATIVE PROCEDURE. TWO SCRATCH TAPES ALREADY CONTAIN SOME DATA  MERGE 63
      C                                                                         MERGE 64
   71 30     IN1=3                                                             MERGE 65
   72        IN2=0                                                             MERGE 66
   73        OUT=2                                                             MERGE 67
      C                                                                         MERGE 68
      C IF 8 OR FEWER RECORDS REMAIN ON INPUT TAPE, JOB CAN BE COMPLETED IN     MERGE 69
      C ONE MORE MERGE.                                                         MERGE 70
      C                                                                         MERGE 71
   74 40     IF (NCOLS.GT.(NFILE2*NCPR)) GO TO 50                              MERGE 72
  101        IN1=IN1-1                                                         MERGE 73
  102        IF (IN1.LE.0) IN1=3                                               MERGE 74
  105        IN2=OUT-1                                                         MERGE 75
  106        IF (IN2.LE.0) IN2=3                                               MERGE 76
  111        OUT=4                                                             MERGE 77
  112        NREAD=NFILE2                                                      MERGE 78
  113        GO TO 50                                                          MERGE 79
      C                                                                         MERGE 80
      C JOB REQUIRES MORE THAN ONE ADDITIONAL MERGE.                            MERGE 81
```

```
      C                                                                  MERGE  82
  114 50    IN1=IN1+1                                                    MERGE  83
  116       IF (IN1.GT.3) IN1=1                                          MERGE  84
  121       OUT=OUT+1                                                    MERGE  85
  122       IF (OUT.GT.3) OUT=1                                          MERGE  86
  125       IN2=0                                                        MERGE  87
  126       NREAD=NFILE1                                                 MERGE  88
  127       IF (NCOLS.LE.(NFILE1*NCPR)) NREAD=NFILE2                     MERGE  89
  135       FLOW=3                                                       MERGE  90
  136       GO TO 50                                                     MERGE  91
      C                                                                  MERGE  92
      C ***************************************************************MERGE  93
      C                                                                  MERGE  94
      C PROCEDURE TO MERGE RECORDS FROM INPUT AND/OR SCRATCH TAPE.       MERGE  95
      C NREAD = MAXIMUM NUMBER OF RECORDS TO READ FROM INPUT TAPE.       MERGE  96
      C IN1, IN2 = INDICES OF INPUT SCRATCH TAPES, IF NONZERO.           MERGE  97
      C OUT = INDEX OF OUTPUT TAPE. TAKEN AS INPUT TAPE WHEN NCOLS = 0.  MERGE  98
      C                                                                  MERGE  99
  137 60    ICOL=0                                                       MERGE100
  140       DO 70 I=1,4                                                  MERGE101
  142       DO 70 J=1,10                                                 MERGE102
  150 70    P(I,J)=0                                                     MERGE103
      C                                                                  MERGE104
      C READ FROM SCRATCH TAPES                                          MERGE105
      C                                                                  MERGE106
  157       INDEX=IN1                                                    MERGE107
  161       DO 80 I=1,2                                                  MERGE108
  162       IF (INDEX.LE.0) GO TO 80                                     MERGE109
  167       ITAPE=TDAT(1,INDEX)                                          MERGE110
  170       N=TDAT(2,INDEX)                                              MERGE111
  171       IF (N.LE.0) GO TO 80                                         MERGE112
  173       REWIND ITAPE                                                 MERGE113
  200       ICOL=ICOL+1                                                  MERGE114
  201       P(1,ICOL)=ITAPE                                              MERGE115
  202       P(3,ICOL)=KEL                                                MERGE116
  206       M=MIN0(N,NCPR)                                               MERGE117
  215       NWORDS=M*NROWS                                               MERGE118
  217       READ (ITAPE) (FILE(J,ICOL),J=1,NWORDS)                       MERGE119
  237       P(2,ICOL)=NWORDS                                             MERGE120
  240       P(4,ICOL)=N-M                                                MERGE121
```

```
242         IF (P(4,ICOL).LE.0) P(1,ICOL)=0                                  MERGE122
253   80    INDEX=IN2                                                        MERGE123
257         IF ((NREAD.LE.0).OR.(NCOLS.LE.0)) GO TO 100                      MERGE124
      C                                                                      MERGE125
      C READ RECORDS FROM INPUT TAPE                                         MERGE126
      C                                                                      MERGE127
267         ICOL=ICOL+1                                                      MERGE128
270         NT=0                                                             MERGE129
271         J2=0                                                             MERGE130
272         DO 90 I=1,NREAD                                                  MERGE131
273         N=MIN0(NCPR,NCOLS)                                               MERGE132
276         NWORDS=N*NROWS                                                   MERGE133
300         J1=J2+1                                                          MERGE134
302         J2=J2+NWORDS                                                     MERGE135
303         NT=NT+N                                                          MERGE136
305         READ (INTAPE) (FILE(J,ICOL),J=J1,J2)                             MERGE137
326         P(2,ICOL)=NWORDS+P(2,ICOL)                                       MERGE138
330         P(3,ICOL)=KEL                                                    MERGE139
333         NCOLS=NCOLS-N                                                    MERGE140
335         IF (NCOLS.LE.0) GO TO 100                                        MERGE141
342   90    CONTINUE                                                         MERGE142
      C                                                                      MERGE143
      C MERGE DATA IN FILE BUFFERS PLUS ANY REMAINING ON INDICATED SCRATCH   MERGE144
      C TAPES.                                                               MERGE145
      C                                                                      MERGE146
344   100   COLS=ICOL                                                        MERGE147
345         IF (NREAD.GT.0) CALL SORT (FILE(1,ICOL),NROWS,NT,KEL)            MERGE148
361         IF (NCOLS.LE.0) OUT=4                                            MERGE149
367         OUTAPE=TOAT(1,OUT)                                               MERGE150
372         TOAT(2,OUT)=0                                                    MERGE151
375         REWIND OUTAPE                                                    MERGE152
377         MP=0                                                             MERGE153
400         IF (COLS.GT.1) GO TO 120                                         MERGE154
404         J2=0                                                             MERGE155
404   110   NWORDS=MIN0(NWPR,P(2,1))                                         MERGE156
410         J1=J2+1                                                          MERGE157
412         J2=J2+NWORDS                                                     MERGE158
413         WRITE (OUTAPE) (FILE(J,1),J=J1,J2)                               MERGE159
432         TOAT(2,OUT)=TOAT(2,OUT)+NWORDS/NROWS                             MERGE160
436         P(2,1)=P(2,1)-NWORDS                                             MERGE161
```

```
441         IF (P(2,1)) 200,200,110                                          MERGE162
      C                                                                      MERGE163
      C SEARCH FOR COLUMN IN WHICH ELEMENT INDICATED BY POINTER IS SMALLEST. MERGE164
      C                                                                      MERGE165
446   120   IMIN=0                                                           MERGE166
447         DO 140 ICOL=1,COLS                                               MERGE167
451         IP=P(3,ICOL)                                                     MERGE168
453         IF (P(2,ICOL).LE.0) GO TO 140                                    MERGE169
456         IF (IMIN.LE.0) GO TO 130                                         MERGE170
460         IW=FILE(IP,ICOL)                                                 MERGE171
463         IF ((IW.LT.0).AND.(MINWD.GE.0).AND.(MODE.EQ.0)) GO TO 130        MERGE172
475         IF (IW.GE.MINWD) GO TO 140                                       MERGE173
502   130   IMIN=ICOL                                                        MERGE174
503         MINWD=FILE(IP,ICOL)                                              MERGE175
505   140   CONTINUE                                                         MERGE176
510         IF (IMIN.LE.0) GO TO 190                                         MERGE177
      C                                                                      MERGE178
      C ADD DATA WITH SMALLEST ELEMENT INTO MERGE BUFFER.                    MERGE179
      C IF BUFFER IS FULL, WRITE CONTENTS TO OUTPUT TAPE.                    MERGE180
      C                                                                      MERGE181
511         J=P(3,IMIN)-KEL                                                  MERGE182
514         DO 150 I=1,NROWS                                                 MERGE183
524         MP=MP+1                                                          MERGE184
525         J=J+1                                                            MERGE185
525   150   MBUFF(MP)=FILE(J,IMIN)                                           MERGE186
533         IF (MP.LT.NWPR) GO TO 160                                        MERGE187
541         WRITE (OUTAPE) (MBUFF(J),J=1,MP)                                 MERGE188
557         TDAT(2,OUT)=TDAT(2,OUT)+NCPR                                     MERGE189
561         MP=0                                                             MERGE190
      C                                                                      MERGE191
      C CHECK IF FILE COLUMN WAS EXHAUSTED AND, IF SO, WHETHER IT CAN BE     MERGE192
      C REPLENISHED. CAN BE REPLENISHED IF SOURCE WAS A SCRATCH TAPE (NOT    MERGE193
      C THE INPUT TAPE) AND STILL HAS DATA LEFT ON IT.                       MERGE194
      C IF FILE COLUMN CANNOT BE REPLENISHED, CLOSE IT OUT.                  MERGE195
      C                                                                      MERGE196
567   160   P(3,IMIN)=P(3,IMIN)+NROWS                                        MERGE197
573         IF (P(3,IMIN).LE.P(2,IMIN)) GO TO 120                            MERGE198
600         IF (P(1,IMIN).LE.0) GO TO 170                                    MERGE199
603         N=MIND(P(4,IMIN),NCPR)                                           MERGE200
607         IF (N.LE.0) GO TO 170                                            MERGE201
```

```
612           ITAPE=P(1,IMIN)                                                  MERGE202
613           NWORDS=N*NROWS                                                   MERGE203
616           READ (ITAPE) (FILE(J,IMIN),J=1,NWORDS)                           MERGE204
640           P(2,IMIN)=NWORDS                                                 MERGE205
641           P(3,IMIN)=KEL                                                    MERGE206
643           P(4,IMIN)=P(4,IMIN)-N                                            MERGE207
645           GO TO 120                                                        MERGE208
651     170   DO 180 J=1,4                                                     MERGE209
657     180   P(J,IMIN)=0                                                      MERGE210
661           GO TO 120                                                        MERGE211
      C                                                                        MERGE212
      C MERGE PROCEDURE IS FINISHED. FLUSH MERGE BUFFER IF NECESSARY.          MERGE213
      C WHEN NCOLS HAS BEEN REDUCED TO ZERO, JOB IS DONE.                      MERGE214
      C                                                                        MERGE215
665     190   IF (MP.LE.0) GO TO 200                                           MERGE216
667           WRITE (OUTAPE) (MBUFF(J),J=1,MP)                                 MERGE217
702           TDAT(2,OUT)=TDAT(2,OUT)+MP/NROWS                                 MERGE218
714     200   CONTINUE                                                         MERGE219
714           IF (NCOLS.LE.0) RETURN                                           MERGE220
717           GO TO (10,30,40), FLOW                                           MERGE221
726           END                                                              MERGE222
```

```
      SUBROUTINE SEG33                                                  SEG33  2
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/ KEL                                                  LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUC,LIML1                                              WED230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
C                                                                       LABEL134
      L4=3*NYRS1+1                                                      SEG33  4
 4    CALL SPRINT (DDB(NBDDB+510),DDB(NBDDB+510),L4)                    SEG33  5
C                                                                       SEG33  6
10    RETURN                                                            SEG33  7
11    END                                                               SEG33  8
```

```
      SUBROUTINE SPRINT (XLF,LF,L4)                                      SPRINT 2
C                                                                        SPRINT 3
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                            LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                      LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                                LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                         LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                               LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                   LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                             LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                  LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                           LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                     LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                    LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                    LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                     LABEL115
      COMMON /KEL/ KEL                                                   LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                  LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUG,LIML1                                               WED230 1
C                                                                        LABEL123
      INTEGER FYEAR                                                      LABEL124
C                                                                        LABEL125
      COMMON DDB(1)                                                      LABEL126
C                                                                        LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                   LABEL128
C                                                                        LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                          LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                   LABEL132
C                                                                        LABEL133
C                                                                        LABEL134
      INTEGER TBLEG,TBL1,TBL2,BLANK,EXP,EXPND,TOTAL                      SPRINT 5
C                                                                        SPRINT 6
      DIMENSION XLF(L4,1), LF(L4,1)                                      SPRINT 7
      DATA BLANK,EXPND,TOTAL/1H ,3HEXP,5HTOTAL/                          SPRINT 8
C                                                                        SPRINT 9
```

```
                IFIRST=0                                                        SPRINT10
      5         JJ=(LOWCOR-NBDDB-509)/L4                                        SPRINT11
     12         JXMAX=JJ-1-NOVEH                                                SPRINT12
     14         L1=2                                                            SPRINT13
     15         L2=L1+NYRS1                                                     SPRINT14
     17         L3=L2+NYRS1                                                     SPRINT15
     20         DO 10 I=1,L4                                                    SPRINT16
     21         DO 10 J=1,JJ                                                    SPRINT17
     27   10    LF(I,J)=0                                                       SPRINT18
     35         LNDEX=0                                                         SPRINT19
     35         JX=0                                                            SPRINT20
     36         IRTN=0                                                          SPRINT21
     37         IF (IFLAG(1).EQ.2) GO TO 20                                     SPRINT22
     41         PRINT 340                                                       SPRINT23
     45         PRINT 350                                                       SPRINT24
     55   20    JFLT=0                                                          SPRINT25
     56         REWIND L2WOT                                                    SPRINT26
     60         II=510                                                          SPRINT27
     61         K1=NBDDB-1                                                      SPRINT28
     63         IA=NBDDB                                                        SPRINT29
     65   30    KK=NLDDB-IA+1                                                   SPRINT30
     67         KK=MING(II,KK)                                                  SPRINT31
     72         READ (L2WOT) (DDB(K1+K),K=1,KK)                                 SPRINT32
    110         J=NBDDB                                                         SPRINT33
    114   40    CONTINUE                                                        SPRINT34
    114         CALL UNPACK (IFLT,30,DDB(J),0)                                  SPRINT35
    120         IF (JFLT.EQ.0) GO TO 110                                        SPRINT36
    123         IF (IFLT.EQ.JFLT) GO TO 120                                     SPRINT37
    125   50    CONTINUE                                                        SPRINT38
    125         CALL UNPACK (J1,18,TBVEH(3,I4),18)                              SPRINT39
    132         VOLMAX=DDB(J1+15)                                               SPRINT40
    134         CALL UNPACK (N,18,TBVEH(3,I4),0)                                SPRINT41
    141         JL=J1+N-1                                                       SPRINT42
    143         J1=J1+NWVEH                                                     SPRINT43
    145         DO 60 K=J1,JL,5                                                 SPRINT44
    150         IF ((TBLEG(1,I3).NE.IDDB(K)).OR.(TBLEG(2,I3).NE.IDDB(K+1))) GO TO SPRINT45
                160                                                             SPRINT46
    165         UPMAX=DDB(K+2)                                                  SPRINT47
    166         DNMAX=DDB(K+3)                                                  SPRINT48
    167         EXPMAX=DDB(K+4)                                                 SPRINT49
```

```
171         EXP=BLANK                                                          SPRINT50
173         GO TO 70                                                           SPRINT51
173   60    CONTINUE                                                           SPRINT52
176         PRINT 280, TBLEG(1,I3),TBLEG(2,I3),TBVEH(1,I4),TBVEH(2,I4)        SPRINT53
223         JERR=JERR+1                                                        SPRINT54
227   70    TRLF=(TWTUP*DNMAX+TWTDW*UPMAX)/(DNMAX*UPMAX)                       SPRINT55
234         VOLF=VOLUME/VOLMAX                                                 SPRINT56
236         IF (TRLF.LE.1.0) GO TO 80                                          SPRINT57
241         TRLF=(TWTUP+TWTDW)/EXPMAX                                          SPRINT58
243         EXP=EXPND                                                          SPRINT59
245   80    CONTINUE                                                           SPRINT60
245         INDEX=100*I4+I3                                                    SPRINT61
250         IF (INDEX.NE.LNDEX) JX=JX+1                                        SPRINT62
254         IF (JX.LE.JXMAX) GO TO 90                                          SPRINT63
257         IF (IFIRST.EQ.1) GO TO 100                                         SPRINT64
261         PRINT 390, JJ                                                      SPRINT65
266         JERR=JERR+1                                                        SPRINT66
270         IFIRST=1                                                           SPRINT67
271         GO TO 100                                                          SPRINT68
273   90    CONTINUE                                                           SPRINT69
277         LF(1,JX)=INDEX                                                     SPRINT70
300         I5=I5+1-FYEAR                                                      SPRINT71
302         XLF(I5+L1,JX)=TRLF+XLF(I5+L1,JX)                                   SPRINT72
306         XLF(I5+L2,JX)=1.0+XLF(I5+L2,JX)                                    SPRINT73
312         XLF(I5+L3,JX)=VOLF+XLF(I5+L3,JX)                                   SPRINT74
315   100   LNDEX=INDEX                                                        SPRINT75
316         IF (IFLAG(1).EQ.2) GO TO 110                                       SPRINT76
321         PRINT 360, TWTUP,TWTDW,TLOAD,TRLF,EXP                              SPRINT77
336         PRINT 370, VOLUME                                                  SPRINT78
350   110   TWTUP=0.0                                                          SPRINT79
351         TWTDW=0.                                                           SPRINT80
351         TLOAD=0.                                                           SPRINT81
352         VOLUME=0.                                                          SPRINT82
352         IF (IRTN.EQ.30) GO TO 140                                          SPRINT83
355   120   CONTINUE                                                           SPRINT84
355         JFLT=IFLT                                                          SPRINT85
357         CALL UNPACK (I1,6,DDB(J+1),0)                                      SPRINT86
363         CALL UNPACK (I2,6,DDB(J+1),6)                                      SPRINT87
367         CALL UNPACK (I3,6,DDB(J),0)                                        SPRINT88
373         CALL UNPACK (I4,6,DDB(J),6)                                        SPRINT89
```

```
377          CALL UNPACK (I5,6,DDB(J),12)                                                    SPRINT90
403          CALL UNPACK (I6,12,DDB(J),18)                                                   SPRINT91
407          CALL UNPACK (I7,12,DDB(J+1),24)                                                 SPRINT92
413          CALL UNPACK (I8,1,DDB(J),32)                                                    SPRINT93
417          IYEAR=I5+IRELDT                                                                 SPRINT94
421          IJ=NBCE+NWCE*(I7-1)                                                             SPRINT95
425          IF (I8.EQ.0) VOLUME=VOLUME+DDB(IJ+8)                                            SPRINT96
433          UP=0.0                                                                          SPRINT97
434          DOWN=0.0                                                                        SPRINT98
434          IF (I8.EQ.0) UP=DDB(IJ+6)                                                       SPRINT99
440          IF (I8.EQ.1) DOWN=DDB(IJ+7)                                                     SPRIN100
444          CALL UNPACK (LFA,18,DDB(J+2),0)                                                 SPRIN101
450          CALL UNPACK (LFB,18,DDB(J+2),18)                                                SPRIN102
454          BLF=LFB                                                                         SPRIN103
455          BLF=BLF/100000.                                                                 SPRIN104
457          UP=UP*BLF                                                                       SPRIN105
460          DOWN=DOWN*BLF                                                                   SPRIN106
461          TLF=LFA                                                                         SPRIN107
463          TLF=TLF/100000.                                                                 SPRIN108
463          TLOAD=TLOAD+TLF                                                                 SPRIN109
465          TWTUP=TWTUP+UP                                                                  SPRIN110
467          TWTDW=TWTDW+DOWN                                                                SPRIN111
470          IFLT=I6                                                                         SPRIN112
471          IF (IFLAG(1).EQ.2) GO TO 130                                                    SPRIN113
476          PRINT 380, (PNAME(I,I1),I=1,3),(MNAME(I,I2),I=1,3),TBLEG(1,I3),TBLSPRIN114
            1EG(2,I3),TBVEH(1,I4),TBVEH(2,I4),IYEAR,IFLT,DDB(IJ),DDB(IJ+1),UP,DSPRIN115
            2OWN,TLF                                                                        SPRIN116
555  130     J=J+NWDDB                                                                      SPRIN117
557          IF (J.LT.(K1+KK)) GO TO 40                                                      SPRIN118
562          IA=IA+II                                                                        SPRIN119
563          IF (IA.LE.NLDDB) GO TO 30                                                       SPRIN120
565          REWIND L2WOT                                                                    SPRIN121
567          IRTN=30                                                                         SPRIN122
570          GO TO 50                                                                        SPRIN123
571  140     CONTINUE                                                                        SPRIN124
571          MAXSPR=L4*(JX+1+NOVEH)+509+NBDDB                                                SPRIN125
576          IF (JX.GT.JXMAX) JX=JXMAX                                                       SPRIN126
602          DO 150 I=1,JX                                                                   SPRIN127
604          DO 150 N=1,NYRS                                                                 SPRIN128
625          XLF(L1,I)=XLF(L1,I)+XLF(L1+N,I)                                                 SPRIN129
```

```
630           XLF(L2,I)=XLF(L2,I)+XLF(L2+N,I)                                SPRIN130
631           XLF(L3,I)=XLF(L3,I)+XLF(L3+N,I)                                SPRIN131
632     150   CONTINUE                                                       SPRIN132
643           DO 170 I=1,30                                                  SPRIN133
644           IF (VEH(I)) 160,170,160                                        SPRIN134
645     160   CONTINUE                                                       SPRIN135
645           JX=JX+1                                                        SPRIN136
647           INDEX=100*I+LASTLG                                             SPRIN137
652           LF(1,JX)=INDEX                                                 SPRIN138
655     170   CONTINUE                                                       SPRIN139
657           JX=JX+1                                                        SPRIN140
661           LF(1,JX)=3131                                                  SPRIN141
664           CALL SORT (XLF,L4,JX,1)                                        SPRIN142
666           ACP=0.                                                         SPRIN143
667           ACT=0.                                                         SPRIN144
670           DO 200 IB=L1,L4                                                SPRIN145
673           DO 190 J=1,JX                                                  SPRIN146
674           I=L4+L1-IB                                                     SPRIN147
676           ACP=ACP+XLF(I,J)                                               SPRIN148
702           IF (XLF(2,J)) 190,180,190                                      SPRIN149
705     180   CONTINUE                                                       SPRIN150
712           XLF(I,J)=ACP                                                   SPRIN151
712           ACT=ACT+ACP                                                    SPRIN152
714           ACP=0.                                                         SPRIN153
714     190   CONTINUE                                                       SPRIN154
722           XLF(I,JX)=ACT                                                  SPRIN155
723           ACT=0.                                                         SPRIN156
724     200   CONTINUE                                                       SPRIN157
726           DO 220 I=1,JX                                                  SPRIN158
727           N1=0                                                           SPRIN159
730           DO 220 N=N1,NYRS                                               SPRIN160
744           IF (XLF(N+L2,I)) 210,220,210                                   SPRIN161
745     210   XLF(N+L1,I)=XLF(N+L1,I)/XLF(N+L2,I)                            SPRIN162
746           XLF(N+L3,I)=XLF(N+L3,I)/XLF(N+L2,I)                            SPRIN163
747     220   CONTINUE                                                       SPRIN164
755           LTH=NYRS/2                                                     SPRIN165
756           IF (NYRS.LE.15) LTH=NYRS                                       SPRIN166
762           J1=1                                                           SPRIN167
763           DO 260 NC=1,2                                                  SPRIN168
765           JJ=L1                                                          SPRIN169
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```
 766          DO 250 IV=1,2                                                  SPRIN170
 770          IF (IV.EQ.1) PRINT 310                                         SPRIN171
 777          IF (IV.EQ.2) PRINT 320                                         SPRIN172
1007          PRINT 290, (NTYRS(J),J=J1,LTH)                                 SPRIN173
1017          PRINT 300                                                      SPRIN174
1025          DO 240 I=1,JX                                                  SPRIN175
1031          I4=LF(1,I)/100                                                 SPRIN176
1045          I3=LF(1,I)-100*I4                                              SPRIN177
1051          TBL1=TBLEG(1,I3)                                               SPRIN178
1053          TBL2=TBLEG(2,I3)                                               SPRIN179
1060          IF (LF(1,I).NE.3131) GO TO 230                                 SPRIN180
1064          TBL1=TOTAL                                                     SPRIN181
1065          TBL2=BLANK                                                     SPRIN182
1067   230    CONTINUE                                                       SPRIN183
1067          PRINT 330, TBVEH(1,I4),TBVEH(2,I4),TBL1,TBL2,XLF(JJ,I),(XLF(J+JJ,ISPRIN184
             1),J=J1,LTH)                                                    SPRIN185
1133          IF (I3.EQ.LASTLG) PRINT 300                                    SPRIN186
1144   240    CONTINUE                                                       SPRIN187
1147          JJ=L3                                                          SPRIN188
1150   250    CONTINUE                                                       SPRIN189
1152          IF (NYRS.LE.15) GO TO 270                                      SPRIN190
1155          J1=LTH+1                                                       SPRIN191
1156          LTH=NYRS                                                       SPRIN192
1160   260    CONTINUE                                                       SPRIN193
       C                                                                    SPRIN194
1162   270    CONTINUE                                                       SPRIN195
1162          RETURN                                                         SPRIN196
       C                                                                    SPRIN197
       C                                                                    SPRIN198
       C                                                                    SPRIN199
       C                                                                    SPRIN200
       280    FORMAT (33H0SPRINT CANNOT FIND DATA FOR LEG ,A6,A4,12H ON VEHICLE SPRIN201
             1,A6,A4)                                                       SPRIN202
       290    FORMAT (1X,7HVEHICLE7X,3HLEG10X,5HTOTAL3X15(I3,2X))           SPRIN203
       300    FORMAT (1H )                                                   SPRIN204
       310    FORMAT (1H143X,23HSUMMARY OF LOAD FACTORS//)                   SPRIN205
       320    FORMAT (1H141X,25HSUMMARY OF VOLUME FACTORS//)                 SPRIN206
       330    FORMAT (1X,A6,A4,4XA6,A4,2XF5.2,2X15F5.2)                      SPRIN207
       340    FORMAT (1H1,6X,14HCARGO MANIFEST/)                             SPRIN208
       350    FORMAT (8H PROGRAM,12X,7HMISSION,12X,3HLEG,8X,7HVEHICLE,4X,4HYEAR,SPRIN209
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     17X,6HFLIGHT,5X,5HCARGO,12X,5HWT UP,6X,7HWT DOWN,4X,3HELF,/)          SPRIN210
360   FORMAT (85X,8HTOTALS  ,2F11.0,F10.4,F6.4,A1,/)                      SPRIN211
370   FORMAT (1H+,F130.4,/)                                               SPRIN212
380   FORMAT (2(1X,3A6),2(1X,A6,A4),I5,I12,6X,A6,A4,2F11.0,F10.4)         SPRIN213
390   FORMAT (47H1 LEG/VEHICLE FLIGHT COMBINATIONS HAVE EXCEEDED,I3/48HOSPRIN214
     1 CALCULATION OF SUMMARY TABLES ARE DISCONTINUED/1H1)                SPRIN215
1163  END                                                                 SPRIN216
```

```
      SUBROUTINE SE336                                                  SE336  2
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/ KEL                                                  LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUC,LIML1                                              WED230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
C                                                                       LABEL134
      CALL TRAFIC (MAXVEH,DDB(NBDDB))                                   SEG36  4
4     RETURN                                                            SEG36  5
5     END                                                               SEG36  6
```

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      SUBROUTINE TRAFIC (MAX,DVTT)                                      TRAFIC 2
C                                                                       TRAFIC 3
      INTEGER DVTT(MAX,32)                                              TRAFIC 4
C                                                                       TRAFIC 5
C     MTT - MASTER TRAFFIC TABLE                                        TRAFIC 6
C     IVA - INITIAL VEHICLE AVAILABILITY TABLE                          TRAFIC 7
C                                                                       TRAFIC 8
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/ KEL                                                  LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L18UC,LIML1                                              WED230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
C                                                                       LABEL134
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      C                                                                  ASDAT1 2
            COMMON /ASDAT/ FLTAC(30,31),TOTFLT(30),MTT(30,31),NFR(100)   ASDAT1 3
      C                                                                  ASDAT1 4
            INTEGER FLTAC,TOTFLT                                         ASDAT1 5
      C                                                                  ASDAT1 6
            INTEGER TBVEH                                                TRAFIC11
      C                                                                  TRAFIC12
      C     GENERATE MASTER TRAFFIC TABLE,                               TRAFIC13
      C     DETAILED VEHICLE TRAFFIC AND ACQUISITION TABLES              TRAFIC14
      C                                                                  TRAFIC15
            DO 10 I=1,NVHMAX                                             TRAFIC16
            DO 10 J=1,31                                                 TRAFIC17
   14       FLTAC(I,J)=0                                                TRAFIC18
   15       MTT(I,J)=0                                                  TRAFIC19
   15   10  CONTINUE                                                     TRAFIC20
      C                                                                  TRAFIC21
   22       JCNT=0                                                      WED23097
   22       KCNT=L1BUC/NWMISS                                           WED23098
      C                                                                  TRAFIC22
      C     UNPACK FLIGHT REQUIREMENTS AND FORM                          TRAFIC23
      C     MASTER TRAFFIC TABLE (MTT).                                  TRAFIC24
      C                                                                  TRAFIC25
   26       DO 20 I=NTBL1,NTBL2                                         TRAFIC26
   30       CALL UNPACK (NE1,6,NFTBL(I),0)                              TRAFIC27
   34       CALL UNPACK (NV1,6,NFTBL(I),6)                              TRAFIC28
   40       CALL UNPACK (NY1,12,NFTBL(I),12)                            TRAFIC29
   44       CALL UNPACK (NF1,12,NFTBL(I),24)                            TRAFIC30
   50       L=NY1-FYEAR+2                                               TRAFIC31
   52       IX=0                                                        TRAFIC32
   54       CALL PACK (NE1,18,IX,0)                                     TRAFIC33
   64       MTT(NV1,L)=MTT(NV1,L)+NF1+IX                                TRAFIC34
   67       MTT(NV1,1)=MTT(NV1,1)+NF1                                   TRAFIC35
   71       IF (NV1.GT.NVMAX) NVMAX=NV1                                 TRAFIC36
   76   20  CONTINUE                                                     TRAFIC37
      C                                                                  TRAFIC38
      C     UNPACK INITIAL VEHICLE ACQUISITION TABLE(IVA) AND FORM FLTAC TABLTRAFIC39
      C                                                                  TRAFIC40
  101       IF (NIVA.EQ.0) GO TO 50                                     TRAFIC41
  102       DO 40 I=1,NIVA                                              TRAFIC42
  103       CALL UNPACK (NL1,6,IVA(I),0)                                TRAFIC43
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```
107           IF (IFLAG(9).EQ.0) GO TO 30                                  TRAFIC44
112           IF (NL1.NE.NEWLEG) GO TO 40                                  TRAFIC45
114     30    CALL UNPACK (NV1,6,IVA(I),6)                                 TRAFIC46
120           CALL UNPACK (NY1,12,IVA(I),12)                               TRAFIC47
124           CALL UNPACK (NF1,12,IVA(I),24)                               TRAFIC48
133           L=NY1-FYEAR+2                                                TRAFIC49
135           FLTAC(NV1,L)=FLTAC(NV1,L)+NF1                                TRAFIC50
142           FLTAC(NV1,1)=FLTAC(NV1,1)+NF1                                TRAFIC51
144           IF (NV1.GT.NVMAX) NVMAX=NV1                                  TRAFIC52
150     40    CONTINUE                                                     TRAFIC53
        C                                                                  TRAFIC54
        C                                                                  TRAFIC55
153     50    IV=0                                                         TRAFIC56
        C                                                                  TRAFIC57
        C     SET UP POINTERS FOR NEXT VEHICLE.                            TRAFIC58
        C                                                                  TRAFIC59
154     60    IV=IV+1                                                      TRAFIC60
156           IF (IV.GT.NVMAX) GO TO 480                                   TRAFIC61
161           IF ((MIT(IV,1)+FLTAC(IV,1)).EQ.0) GO TO 60                   TRAFIC62
163           KOUNT=0                                                      TRAFIC63
164           DO 70 I=1,30                                                 TRAFIC64
170     70    TOTFLT(I)=0                                                  TRAFIC65
172           DO 80 I=1,MAXVEH                                             TRAFIC66
173           NFR(I)=0                                                     TRAFIC67
174           DO 80 J=1,32                                                 TRAFIC68
203           DVTT(I,J)=0                                                  TRAFIC69
204     80    CONTINUE                                                     TRAFIC70
        C                                                                  TRAFIC71
        C     PRESET  TOTFLT TABLE AND IVAT                                TRAFIC72
        C                                                                  TRAFIC73
207           IVAT=FLTAC(IV,1)                                             TRAFIC74
211           TOTFLT(1)=FLTAC(IV,2)                                        TRAFIC75
213           DO 90 I=3,31                                                 TRAFIC76
223           J=I-2                                                        TRAFIC77
225           K=I-1                                                        TRAFIC78
225           TOTFLT(K)=TOTFLT(J)+FLTAC(IV,I)                              TRAFIC79
227     90    CONTINUE                                                     TRAFIC80
        C     LVT   - LOCATION OF VEHICLE TABLE.                           TRAFIC81
        C     LMTF  - LOCATION OF MAX. TOTAL FLIGHTS.                      TRAFIC82
        C     LMNY  - LOCATION OF MAX. NO. YEARS.                          TRAFIC83
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      C     LMFPY - LOCATION OF MAX. FLIGHTS PER YEAR.                    TRAFIC84
  233         CALL UNPACK (LVT,18,TBVEH(3,IV),18)                         TRAFIC85
  240         MAXPY=DDB(LVT+3)                                            TRAFIC86
  242         MTF=DDB(LVT+4)                                              TRAFIC87
  245         MNYRS=DDB(LVT+5)                                            TRAFIC88
  247         IYR=0                                                       TRAFIC89
      C                                                                   TRAFIC90
      C     PICK NEXT YEAR                                                TRAFIC91
      C                                                                   TRAFIC92
  252 100     CONTINUE                                                    TRAFIC93
  252         IYR=IYR+1                                                   TRAFIC94
  254         IF (IYR.GT.NYRS) GO TO 430                                  TRAFIC95
  257         CALL UNPACK (NE1,18,MTT(IV,IYR+1),0)                        TRAFIC96
  264         CALL UNPACK (NFLTS,18,MTT(IV,IYR+1),18)                     TRAFIC97
  276         MTT(IV,IYR+1)=NFLTS                                         TRAFIC98
  277         NVIF=TOTFLT(IYR)                                            TRAFIC99
  301         IVAQ=FLTAC(IV,IYR+1)                                        TRAFI100
  304         DO 110 I=1,MAXVEH                                           TRAFI101
  317         IF (IVAQ.EQ.0) GO TO 130                                    TRAFI102
  320         IF (DVTT(I,32).NE.0) GO TO 110                              TRAFI103
  321         IVAQ=IVAQ-1                                                 TRAFI104
  321         DVTT(I,32)=1                                                TRAFI105
  322         NFR(I)=MTF                                                  TRAFI106
  322 110     CONTINUE                                                    TRAFI107
  324         IVTL=IVAQ+MAXVEH                                            TRAFI108
  326 120     PRINT 520, IVTL,TBVEH(1,IV),TBVEH(2,IV)                     TRAFI109
  344         STOP 7                                                      TRAFI110
  347 130     NFEXP=1000                                                  TRAFI111
  350         IF (NE1.EQ.0) GO TO 160                                     TRAFI112
  351         NFEXP=(NFLTS+NE1-1)/NE1                                     TRAFI113
  355         IRTN=2                                                      TRAFI114
  356         IE1=0                                                       TRAFI115
  360 140     IE1=IE1+1                                                   TRAFI116
  362         IF (DVTT(IE1,32).EQ.0) GO TO 180                            TRAFI117
  366 150     IF (DVTT(IE1,32).EQ.0) NFR(IE1)=NFEXP                       TRAFI118
  374         DVTT(IE1,32)=3                                              TRAFI119
  401         IF (IE1.LT.NE1) GO TO 140                                   TRAFI120
      C                                                                   TRAFI121
  403 160     IVTL=0                                                      TRAFI122
      C                                                                   TRAFI123
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404         IF (NFLTS.EQ.0) GO TO 100                                          TRAFI124
      C                                                                        TRAFI125
      C     MAKE INITIAL GUESS FOR NO. OF REQUIRED VEHICLES....NRV             TRAFI126
      C                                                                        TRAFI127
406         NRV=(NFLTS+MAXPY-1)/MAXPY                                          TRAFI128
412         NRV=NRV+(NRV+9)/10                                                 TRAFI129
416         IF (NRV.LT.NVIF) NRV=NVIF                                          TRAFI130
421         IF (NRV.LT.NE1) NRV=NE1                                            TRAFI131
      C                                                                        TRAFI132
      C     ADVANCE VEHICLE POINTER TO NEXT AVAILABLE VEHICLE                  TRAFI133
      C                                                                        TRAFI134
424   170   IVTL=IVTL+1                                                        TRAFI135
426         NFTBA=1000                                                         TRAFI136
426         IF (IVTL.GT.MAXVEH) GO TO 120                                      TRAFI137
432         IF (DVTT(IVTL,32).EQ.1) GO TO 280                                  TRAFI138
435         IF (DVTT(IVTL,32).EQ.3) GO TO 340                                  TRAFI139
441         IRTN=1                                                             TRAFI140
442   180   II=LVT+1                                                           TRAFI141
444         JYR=IYR+FYEAR-1                                                    TRAFI142
446         JJ=JYR+IRELDT                                                      TRAFI143
447         IF (IFLAG(9).EQ.1) GO TO 190                                       TRAFI144
451         IF (IVAT.NE.0) PRINT 530, DDB(LVT),DDB(II),JJ                      TRAFI145
470         GO TO 260                                                          TRAFI146
471   190   CONTINUE                                                           TRAFI147
471         CALL PACK (JYR,6,VEH1,6)                                           TRAFI148
474         DO 250 I1=1,6                                                      TRAFI149
477         I2=6*(I1-1)                                                        TRAFI150
501         CALL UNPACK (IVEH,6,TBVEH(4,IV),I2)                                TRAFI151
506         IF (IVEH.EQ.0) GO TO 260                                           TRAFI152
511         DO 200 N=1,NCE                                                     TRAFI153
522         NBASE=(N-1)*NWCE+NBCE                                              TRAFI154
525         IF ((IDB(NBASE).EQ.TBVEH(1,IVEH)).AND.(IDB(NBASE+1).EQ.TBVEH(2,IVETRAFI155
           1H))) GO TO 220                                                     TRAFI156
537   200   CONTINUE                                                           TRAFI157
541         PRINT 540, TBVEH(1,IVEH),TBVEH(2,IVEH)                             TRAFI158
555         JERR=JERR+1                                                        WED23099
557         GO TO 250                                                          TRAFI159
561   210   PRINT 490                                                          TRAFI160
565         IFLAG(8)=1                                                         TRAFI161
566         JERR=JERR+1                                                        TRAFI162
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```
570         NLMISS=NLMISS-NWMISS                                          TRAFI163
571         GO TO 250                                                     TRAFI164
573   220   CALL PACK (N,12,VEH2,24)                                      TRAFI165
576         CALL UNPACK (ITEMP,12,DDB(NBASE+5),12)                        TRAFI166
602         CALL PACK (0,6,VEH2,0)                                        TRAFI167
605         IF (ITEMP.EQ.3) CALL PACK (1,1,VEH2,3)                        TRAFI168
614         ITEMP=DDB(NBASE+7)                                            TRAFI169
616         IF (ITEMP.EQ.0) GO TO 230                                     TRAFI170
621         CALL PACK (1,1,VEH2,2)                                        TRAFI171
624         ITEMP=DDB(NBASE+6)                                            TRAFI172
626         IF (ITEMP.NE.0) CALL PACK (1,1,VEH2,1)                        TRAFI173
636   230   CONTINUE                                                      TRAFI174
636         DDB(NLMISS+1)=VEH1                                            TRAFI175
640         DDB(NLMISS+2)=VEH2                                            TRAFI176
642         NLMISS=NLMISS+NWMISS                                          TRAFI177
643         DDB(NLMISS+3)=0.0                                             WED23100
644         JCNT=JCNT+1                                                   WED23101
646         IF(JCNT.GT.KCNT)GO TO 210                                     WED23102
651         LNGTH=LNGTH+1                                                 TRAFI179
652         CALL UNPACK (IP0,18,TBVEH(3,IVEH),18)                         TRAFI180
657         IP0=IP0+NWVEH                                                 TRAFI181
661         IF (IDB(IP0).EQ.6HNONE  ) GO TO 240                           TRAFI182
664         NIVA=NIVA+1                                                   TRAFI183
666         IF (NIVA.GT.MIVA) GO TO 240                                   TRAFI184
671         IVA(NIVA)=1                                                   TRAFI185
672         CALL PACK (NEWLEG,6,IVA(NIVA),0)                              TRAFI186
676         CALL PACK (IVEH,6,IVA(NIVA),6)                                TRAFI187
702         CALL PACK (JYR,12,IVA(NIVA),12)                               TRAFI188
710   240   CONTINUE                                                      TRAFI189
710         IF (IFLAG(8).EQ.0) GO TO 250                                  TRAFI190
711         PRINT 500, VEH1,VEH2,IVA(NIVA)                                TRAFI191
726   250   CONTINUE                                                      TRAFI192
730   260   CONTINUE                                                      TRAFI193
      C     ADD A VEHICLE                                                 TRAFI194
734         FLTAC(IV,IYR+1)=FLTAC(IV,IYR+1)+1                             TRAFI195
735         FLTAC(IV,1)=FLTAC(IV,1)+1                                     TRAFI196
736         DO 270 I=IYR,30                                               TRAFI197
743         TOTFLT(I)=TOTFLT(I)+1                                         TRAFI198
744   270   CONTINUE                                                      TRAFI199
745         NVIF=NVIF+1                                                   TRAFI200
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```
  746          IF (IRTN.EQ.2) GO TO 150                                                    TRAFI201
  750          DVTT(IVTL,32)=1                                                             TRAFI202
  755          NFR(IVTL)=MTF                                                               TRAFI203
  757   280    CONTINUE                                                                    TRAFI204
               C                                                                           TRAFI205
               C     TEST FOR END OF LIFETIME IN YEARS                                     TRAFI206
               C                                                                           TRAFI207
  757          DO 290 I=1,IYR                                                              TRAFI208
  770          IF (DVTT(IVTL,I+1).NE.0) GO TO 300                                          TRAFI209
  771   290    CONTINUE                                                                    TRAFI210
  773          I=IYR                                                                       TRAFI211
  774   300    CONTINUE                                                                    TRAFI212
  774          NYA=I                                                                       TRAFI213
  775          NYACT=IYR-NYA+1                                                             TRAFI214
  777          NYLEFT=MNYRS-NYACT                                                          TRAFI215
 1001          IF (NYLEFT) 310,320,330                                                     TRAFI216
 1002   310    NFTBA=0                                                                     TRAFI217
 1003          GO TO 340                                                                   TRAFI218
 1004   320    NFTBA=NFR(IVTL)                                                             TRAFI219
 1006          GO TO 340                                                                   TRAFI220
 1007   330    NFTBA=(NFLTS+NRV-1)/NRV                                                     TRAFI221
 1013          NEXTRA=NFR(IVTL)-NFTBA-MAXPY*NYLEFT                                         TRAFI222
 1020          IF (NEXTRA.GT.0) NFTBA=NFTBA+NEXTRA                                         TRAFI223
               C                                                                           TRAFI224
               C ASSIGN FLIGHTS, THEN PURGE  EXPIRED VEHICLES                              TRAFI225
               C                                                                           TRAFI226
 1033   340    NFTBA=MIN0(NFTBA,NFR(IVTL),MAXPY,NFLTS,NFEXP)                               TRAFI227
 1044          DVTT(IVTL,IYR+1)=NFTBA                                                      TRAFI228
 1045          DVTT(IVTL,1)=DVTT(IVTL,1)+NFTBA                                             TRAFI229
 1045          NFR(IVTL)=NFR(IVTL)-NFTBA                                                   TRAFI230
 1046          NFLTS=NFLTS-NFTBA                                                           TRAFI231
 1047          IF ((DVTT(IVTL,32).NE.3).AND.(NFR(IVTL).GT.0).AND.(NYLEFT.GT.0)) GTRAFI232
              1O TO 420                                                                    TRAFI233
 1067          NVIF=NVIF-1                                                                 TRAFI234
 1071          DO 350 I=IYR,30                                                             TRAFI235
 1076   350    TOTFLT(I)=TOTFLT(I)-1                                                       TRAFI236
 1100          IF (IFLAG(4).NE.1) GO TO 370                                                TRAFI237
 1102          IF (KOUNT.GT.0) GO TO 360                                                   TRAFI238
 1104          PRINT 550, DOB(LVT),DOB(LVT+1),(NTYRS(I),I=1,NYRS)                          TRAFI239
 1120          PRINT 560                                                                   TRAFI240
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1127  360   KOUNT=KOUNT+1                                                    TRAFI241
1131        PRINT 570, KOUNT,(DVTT(IVTL,J),J=1,NYRS1)                       TRAFI242
1151        IF (DVTT(IVTL,32).EQ.3) PRINT 510                               TRAFI243
1165  370   MXVH1=MAXVEH-1                                                  TRAFI244
1167        DO 390 I=IVTL,MXVH1                                             TRAFI245
1171        NFR(I)=NFR(I+1)                                                 TRAFI246
1173        DO 380 J=1,32                                                   TRAFI247
1205  380   DVTT(I,J)=DVTT(I+1,J)                                           TRAFI248
1207        IF (DVTT(I,32).EQ.0) GO TO 410                                  TRAFI249
1214  390   CONTINUE                                                        TRAFI250
1216        NFR(MAXVEH)=0                                                   TRAFI251
1217        DO 400 J=1,32                                                   TRAFI252
1226  400   DVTT(MAXVEH,J)=0                                                TRAFI253
1230  410   IVTL=IVTL-1                                                     TRAFI254
1232  420   CONTINUE                                                        TRAFI255
1232        IF (NF_TS.EQ.0) GO TO 100                                       TRAFI256
1233        NRV=NRV-1                                                       TRAFI257
1235        IF (NRV.LT.1) NRV=1                                             TRAFI258
1237        IF (((NFLTS-1+NRV)/NRV).GT.MAXPY) NRV=NRV+1                     TRAFI259
1246        GO TO 170                                                       TRAFI260
1247  430   CONTINUE                                                        TRAFI261
      C                                                                     TRAFI262
      C     PRINT TABLE FOR SPECIFIC VEHICLE                                TRAFI263
      C                                                                     TRAFI264
1247        IF ((IFLAG(4).NE.1).OR.(FLTAC(IV,1).EQ.0)) GO TO 60             TRAFI265
1257        IF (KOUNT.GT.0) GO TO 440                                       TRAFI266
1261        PRINT 550, DD3(LVT),DDB(LVT+1),(NTYRS(I),I=1,NYRS)              TRAFI267
1275        PRINT 560                                                       TRAFI268
1304  440   DO 450 I=1,MAXVEH                                               TRAFI269
1306        IF (DVTT(I,32).LE.0) GO TO 460                                  TRAFI270
1312        KOUNT=KOUNT+1                                                   TRAFI271
1314        PRINT 570, KOUNT,(DVTT(I,J),J=1,NYRS1)                          TRAFI272
1334        IF (DVTT(IVTL,32).EQ.3) PRINT 510                               TRAFI273
1350  450   CONTINUE                                                        TRAFI274
1353  460   PRINT 580, (MTT(IV,I),I=1,NYRS1)                                TRAFI275
1371        PRINT 590, (TOTFLT(I),I=1,NYRS)                                 TRAFI276
1401        PRINT 600, (FLTAC(IV,I),I=1,NYRS1)                              TRAFI277
1420        LINE(2)=FLTAC(IV,2)                                             TRAFI278
1422        DO 470 I=3,NYRS1                                                TRAFI279
1434  470   LINE(I)=LINE(I-1)+FLTAC(IV,I)                                   TRAFI280
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1436          PRINT 610, (LINE(I),I=2,NYRS1)                                    TRAFI281
1446          GO TO 60                                                          TRAFI282
1450    480   CONTINUE                                                          TRAFI283
1450          RETURN                                                            TRAFI284
        C                                                                       TRAFI285
        C                                                                       TRAFI286
        C                                                                       TRAFI287
        490   FORMAT (43H1*** DDB ARRAY HAS OVERFLOWED IN TRAFIC ***)           TRAFI288
        500   FORMAT (3(8X,O12))                                                TRAFI289
        510   FORMAT (2H+E)                                                     TRAFI290
        520   FORMAT (6X,34HABORT - EXCEEDED VEHICLE CAPACITY ,18HIN TRAFFIC PLATRAFI291
             1NNER,2H -I4,1H-A6,A4)                                             TRAFI292
        530   FORMAT (6X,34H****ADDITIONAL VEHICLE NEEDED.****,6X,A6,A4,2X,I4)  TRAFI293
        540   FORMAT (6X,46HSTAGED VEHICLE IS NOT IN CARGO ELEMENT TABLE -A6,A4,TRAFI294
             11H-)                                                              TRAFI295
        550   FORMAT (1H1,30X,18HTRAFFIC TABLE FOR ,A6,A4//3X,4HYEAR,2X,5HTOTAL,TRAFI296
             130I4)                                                             TRAFI297
        560   FORMAT (2X,7HVEHICLE)                                             TRAFI298
        570   FORMAT (4X,I3,I7,30I4)                                            TRAFI299
        580   FORMAT (1H0,1X,6HTOTALS,I6,30I4)                                  TRAFI300
        590   FORMAT (1H0,1X,8HNO. VEH.,/2X,9HAVAILABLE,3X,30I4)                TRAFI301
        600   FORMAT (1H0,1X,8HVEHICLES,/2X,8HACQUIRED,31I4)                    TRAFI302
        610   FORMAT (1H0,1X,8HVEHICLES,/2X,8HACQUIRED,/2X,7HTO DATE,5X,30I4)   TRAFI303
1451          END                                                               TRAFI304
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      SUBROUTINE CSTRPT                                                 CSTRPT 2
C                                                                       CSTRPT 3
C     COST REPORT SUBROUTINE                                            CSTRPT 4
C                                                                       CSTRPT 5
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/ KEL                                                  LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NUSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUC,LIML1                                              WED230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
C                                                                       LABEL127
      DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL128
C                                                                       LABEL129
      EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
      EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
     1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
C                                                                       LABEL133
C                                                                       LABEL134
C                                                                       ASDAT3 2
      COMMON /ASDAT/ FLTAC(30,31),COST1(33),COST2(33),COST3(33),COST4(33ASDAT3 3
     1),COST5(33),COST6(33),IFAC(870)                                   ASDAT3 4
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      C                                                                 ASDAT3 5
            INTEGER FLTAC                                               ASDAT3 6
      C                                                                 ASDAT3 7
            DIMENSION VDATA(33)                                         CSTRPT 8
      C                                                                 CSTRPT 9
            EQUIVALENCE (VDATA(1),LINE(1))                              CSTRPT10
      C                                                                 CSTRPT11
            DIMENSION IPNAME(3,63), IMNAME(3,63)                        CSTRPT12
            DIMENSION ITBVEH(5,30)                                      CSTRPT13
            DIMENSION ICOST1(33), ICOST2(33), ICOST3(33), ICOST4(33), ICOST5(3CSTRPT14
           13)                                                          CSTRPT15
            DIMENSION ICOST6(33)                                        CSTRPT16
            DIMENSION INDEX(3)                                          CSTRPT17
            EQUIVALENCE (IPNAME,PNAME), (IMNAME,MNAME), (ITBVEH,TBVEH)  CSTRPT18
            EQUIVALENCE (ICOST1,COST1), (ICOST2,COST2), (ICOST3,COST3)  CSTRPT19
            EQUIVALENCE (ICOST4,COST4), (ICOST5,COST5), (ICOST6,COST6)  CSTRPT20
            JFLAG=1                                                     CSTRPT21
    2       KFLAG=IFLAG(11)                                             CSTRPT22
    3       IPLOT=IFLAG(12)                                             CSTRPT23
    5  10   DO 20 I=1,198                                               CSTRPT24
   12       COST1(I)=0                                                  CSTRPT25
   13  20   CONTINUE                                                    CSTRPT26
   14       IBLNK=5H                                                    CSTRPT27
      C                                                                 CSTRPT28
      C COMPUTE VEHICLE PRODUCTION AND DEVELOPMENT COSTS.               CSTRPT29
      C                                                                 CSTRPT30
   15       II=RLDATE-1901.                                             CSTRPT31
   20       DO 30 I=1,30                                                CSTRPT32
   24  30   LINE(I+3)=II+I                                              CSTRPT33
   26       IF (JFLAG.EQ.1) GO TO 50                                    CSTRPT34
   30       M=NFW                                                       CSTRPT35
   32       DO 40 J=1,NR                                                CSTRPT36
   33       N=M+NWPL-1                                                  CSTRPT37
   35       IF (J.EQ.NR) N=NLW                                          CSTRPT38
   40       WRITE (J,740) (LINE(I),I=M,N)                               CSTRPT39
   50  40   M=N+1                                                       CSTRPT40
   55  50   DO 130 I=1,NVEH                                            CSTRPT41
   62       VDATA(1)=TBVEH(1,I)                                         CSTRPT42
   64       VDATA(2)=TBVEH(2,I)                                         CSTRPT43
   65       DO 60 L=1,31                                                CSTRPT44
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 75          VDATA(LL+2)=FLTAC(I,LL)                                          CSTRPT45
 76    60    CONTINUE                                                         CSTRPT46
 77          CALL UNPACK (IVEH,18,TBVEH(3,I),18)                              CSTRPT47
104          L1=DDB(IVEH+8)                                                   CSTRPT48
106          CALL SPOAP (LINE,DDB(IVEH+7),DDB(L1),COST1,1)                    CSTRPT49
112          L2=DDB(IVEH+11)                                                  CSTRPT50
114          CALL SPOAP (LINE,DDB(IVEH+10),DDB(L2),COST2,0)                   CSTRPT51
120          DO 70 J=3,33                                                     CSTRPT52
126    70    COST3(J)=COST1(J)+COST2(J)                                       CSTRPT53
130          IF (COST3(3)) 80,130,80                                          CSTRPT54
131    80    CONTINUE                                                         CSTRPT55
131          IF (JFLAG.EQ.1) GO TO 100                                        CSTRPT56
133          DO 90 J=1,NR                                                     CSTRPT57
135    90    WRITE (J,750) COST1(1),COST2(2)                                  CSTRPT58
151    100   CONTINUE                                                         CSTRPT59
151          COST1(1)=6H DEV.                                                 CSTRPT60
153          COST1(2)=6H                                                      CSTRPT61
154          COST2(1)=6H PROD.                                                CSTRPT62
156          COST2(2)=6H                                                      CSTRPT63
157          COST3(1)=6HTOTAL                                                 CSTRPT64
160          COST3(2)=1H                                                      CSTRPT65
161          IF (JFLAG.EQ.1) GO TO 110                                        CSTRPT66
163          IF(COST3(3))105,110,105                                          ZERODI21
164    105   CONTINUE                                                         ZERODI22
164          IF (IPLOT.EQ.0) GO TO 110                                        CSTRPT68
170          INDEX(1)=ITBVEH(1,I)+ITBVEH(2,I)+IBLNK                           CSTRPT69
172          COST3(1)=6HTOTAL                                                 CSTRPT70
174          COST3(2)=6HCOST                                                  CSTRPT71
175          INDEX(2)=ICOST1(1)+ICOST1(2)+IBLNK                               CSTRPT72
177          WRITE (10) INDEX(1),INDEX(2),(COST1(J),J=4,33)                   CSTRPT73
213          INDEX(2)=ICOST2(1)+ICOST2(2)+IBLNK                               CSTRPT74
216          WRITE (10) INDEX(1),INDEX(2),(COST2(J),J=4,33)                   CSTRPT75
231          INDEX(2)=ICOST3(1)+ICOST3(2)+IBLNK                               CSTRPT76
234          WRITE (10) INDEX(1),INDEX(2),(COST3(J),J=4,33)                   CSTRPT77
247    110   CONTINUE                                                         CSTRPT78
247          CALL DPAGER (COST1)                                              CSTRPT79
251          CALL DPAGER (COST2)                                              CSTRPT80
253          CALL DPAGER (COST3)                                              CSTRPT81
255          DO 120 J=3,33                                                    CSTRPT82
262    120   COST6(J)=COST6(J)+COST3(J)                                       CSTRPT83
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264   130   CONTINUE                                                          CSTRPT84
267         IF (JFLAG.EQ.1) GO TO 150                                         CSTRPT85
271         DO 140 I=1,NR                                                     CSTRPT86
272   140   WRITE (I,750)                                                     CSTRPT87
300   150   COST6(1)=6HTOTAL                                                  CSTRPT88
302         COST6(2)=6HVEH.                                                   CSTRPT89
303         CALL DPAGER (COST6)                                               CSTRPT90
      C                                                                       CSTRPT91
      C GENERATE IFAC ARRAY INDICATING FIRST USER (PRCGRAM/MISSION) AND       CSTRPT92
      C YEAR OF FIRST USE FOR EACH FACILITY.                                  CSTRPT93
      C                                                                       CSTRPT94
305         LINE(1)=4HCOPY                                                    CSTRPT95
307         LINE(3)=1                                                         CSTRPT96
310         CALL DPAGER (LINE)                                                CSTRPT97
311         NIF=0                                                             CSTRPT98
312         MIF=870                                                           CSTRPT99
313         LL=MIF                                                            CSTRP100
314         DO 160 I=1,LL                                                     CSTRP101
321   160   IFAC(I)=0                                                         CSTRP102
323         DO 190 I=1,NIFA                                                   CSTRP103
324         CALL UNPACK (NPM,12,IFA(I),0)                                     CSTRP104
327         CALL UNPACK (NCEP,12,IFA(I),12)                                   CSTRP105
333         CALL UNPACK (NYR,6,IFA(I),24)                                     CSTRP106
337         IF (NIF.EQ.0) GO TO 180                                           CSTRP107
340         IL=0                                                              CSTRP108
341         DO 170 J=1,NIF                                                    CSTRP109
351         L=3*J-2                                                           CSTRP110
353         IF (NCEP.NE.IFAC(L)) GO TO 170                                    CSTRP111
356         IL=1                                                              CSTRP112
356         IF (NYR.GE.IFAC(L+1)) GO TO 170                                   CSTRP113
361         IFAC(L+1)=NYR                                                     CSTRP114
362         IFAC(L+2)=NPM                                                     CSTRP115
363   170   CONTINUE                                                          CSTRP116
365         IF (IL.EQ.1) GO TO 190                                            CSTRP117
367   180   CONTINUE                                                          CSTRP118
370         NIF=NIF+1                                                         CSTRP119
371         NIF3=3*NIF                                                        CSTRP120
373         IF (NIF3.GT.MIF) GO TO 200                                        CSTRP121
376         L=NIF3-2                                                          CSTRP122
377         IFAC(L)=NCEP                                                      CSTRP123
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401           IFAC(L+1)=NYR                                                  CSTRP124
402           IFAC(L+2)=NPM                                                  CSTRP125
404   190     CONTINUE                                                       CSTRP126
407           GO TO 210                                                      CSTRP127
407   200     JERR=JERR+1                                                    CSTRP128
411           PRINT 720                                                      CSTRP129
414   210     CONTINUE                                                       CSTRP130
      C                                                                    CSTRP131
      C FACILITY ACQUISITION AND VEHICLE OPERATIONS COSTS.                 CSTRP132
      C LX = 1  TO COMPUTE FACILITY ACQUISITION COSTS.                     CSTRP133
      C LX = 2  TO COMPUTE VEHICLE OPERATIONS COSTS.                       CSTRP134
      C                                                                    CSTRP135
414           DO 640 LX=1,2                                                  CSTRP136
416           IF (LX.EQ.1) IBLNK=6HDSCRTE                                    CSTRP137
421           IF (LX.EQ.2) IBLNK=6HOPS                                       CSTRP138
424           IF ((LX.EQ.1).AND.(NIFA.EQ.0)) GO TO 640                       CSTRP139
432           DO 220 I=1,165                                                 CSTRP140
436   220     COST1(I)=0.0                                                   CSTRP141
440           DO 230 I=1,30                                                  CSTRP142
444   230     LINE(I+3)=II+I                                                 CSTRP143
446           IF (JFLAG.EQ.1) GO TO 250                                      CSTRP144
450           M=NFW                                                          CSTRP145
452           DO 240 J=1,NR                                                  CSTRP146
453           N=M+NWPL-1                                                     CSTRP147
455           IF (J.EQ.NR) N=NLW                                             CSTRP148
460           IF (LX.EQ.1) WRITE (J,760) (LINE(I),I=M,N)                     CSTRP149
471           IF (LX.EQ.2) WRITE (J,770) (LINE(I),I=M,N)                     CSTRP150
503   240     M=N+1                                                          CSTRP151
510   250     IFLG=3                                                         CSTRP152
511           NV=0                                                           CSTRP153
512           REWIND L2WOT                                                   CSTRP154
514           MDDB=NDDB                                                      CSTRP155
516           CALL MOREL2                                                    CSTRP156
517           NB=NBDDB+1                                                     CSTRP157
521   260     CALL UNPACK (IPRO,6,DDB(NB),0)                                 CSTRP158
525           COST3(1)=6HMISSIC                                              CSTRP159
527           COST3(2)=6HN                                                   CSTRP160
530           CALL DPAGER (COST3)                                            CSTRP161
532           IF (JFLAG.EQ.1) GO TO 270                                      CSTRP162
534           IF(COST3(3))265,270,265                                        ZERODI23
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535  265   CCNTINUE                                                    ZERODI24
535         IF (IPLOT.EQ.0) GO TO 270                                  CSTRP164
536         COST3(1)=6HTOTAL                                           CSTRP165
540         COST3(2)=6HCOST                                            CSTRP166
541         INDEX(3)=ICOST3(1)+ICCST3(2)+IBLNK                         CSTRP167
544         WRITE (10) INDEX(2),INDEX(3),(COST3(J),J=4,33)             CSTRP168
557  270    CONTINUE                                                   CSTRP169
557         DO 280 I=3,33                                              CSTRP170
564         COST4(I)=COST4(I)+COST3(I)                                 CSTRP171
566  280    COST3(I)=0.                                                CSTRP172
567         COST4(1)=6HPROGRA                                          CSTRP173
570         COST4(2)=6HM                                               CSTRP174
572         CALL DPAGER (COST4)                                        CSTRP175
573         IF (JFLAG.EQ.1) GO TO 290                                  CSTRP176
575         IF(CCST4(3))285,290,285                                    ZERODI25
576  285    CONTINUE                                                   ZERODI26
576         IF (IPLOT.EQ.0) GO TO 290                                  CSTRP178
577         COST4(1)=6HTOTAL                                           CSTRP179
601         COST4(2)=6HCOST                                            CSTRP180
602         INDEX(3)=ICOST4(1)+ICCST4(2)+IBLNK                         CSTRP181
605         WRITE (10) INDEX(1),INDEX(3),(COST4(J),J=4,33)             CSTRP182
620  290    CONTINUE                                                   CSTRP183
620         DO 300 I=3,33                                              CSTRP184
625         COST6(I)=COST6(I)+COST4(I)                                 CSTRP185
627  300    COST4(I)=0.                                                CSTRP186
630  310    CALL UNPACK (IMIS,6,DDB(NB),6)                             CSTRP187
634         IPM=64*IPRO+IMIS                                           CSTRP188
637         IF (IMIS.EQ.0) GC TO 580                                   CSTRP189
640         COST3(1)=6HMISSIO                                          CSTRP190
642         COST3(2)=6HN                                               CSTRP191
643         CALL DPAGER (COST3)                                        CSTRP192
645         IF (JFLAG.EQ.1) GO TO 320                                  CSTRP193
647         IF(CCST3(3))315,320,315                                    ZERODI27
650  315    CONTINUE                                                   ZERODI28
650         IF (IPLOT.EQ.0) GO TO 320                                  CSTRP195
651         COST3(1)=6HTOTAL                                           CSTRP196
653         COST3(2)=6HCOST                                            CSTRP197
654         INDEX(3)=ICOST4(1)+ICOST4(2)+IBLNK                         CSTRP198
657         WRITE (10) INDEX(2),INDEX(3),(COST3(J),J=4,33)             CSTRP199
672  320    CONTINUE                                                   CSTRP200
```

```
 672          DO 330 I=3,33                                                  CSTRP201
 677          COST4(I)=COST4(I)+CCST3(I)                                     CSTRP202
 701   330    COST3(I)=0.                                                    CSTRP203
 702   340    CALL UNPACK (IVEH,6,DDB(NB),12)                                CSTRP204
 706          IF (JFLAG.EQ.1) GO TO 400                                      CSTRP205
 710          GO TO (400,370,350), IFLG                                      CSTRP206
 717   350    DO 360 I=1,NR                                                  CSTRP207
 721   360    WRITE (I,780) (PNAME(J,IPRO),J=1,3)                            CSTRP208
 733   370    IF (IFLAG(6).EQ.2) GO TO 390                                   CSTRP209
 735          DO 380 I=1,NR                                                  CSTRP210
 737   380    WRITE (I,790) (MNAME(J,IMIS),J=1,3)                            CSTRP211
 751   390    CONTINUE                                                       CSTRP212
 751   400    CONTINUE                                                       CSTRP213
 762          INDEX(1)=IPNAME(1,IPRO)+IPNAME(2,IPRO)+IPNAME(3,IPRO)          CSTRP214
 763          INDEX(2)=IMNAME(1,IMIS)+IMNAME(2,IMIS)+IMNAME(3,IMIS)          CSTRP215
 766          CALL VEHLOF (VDATA,NB,NL,IPRO,IMIS,IVEH,IFLG)                  CSTRP216
 774          IF (LX.EQ.1) GO TO (420,440,440), IFLG                         CSTRP217
1005          IF (IVEH.EQ.0) GO TO 580                                       CSTRP218
1006          CALL UNPACK (NV,18,TBVEH(3,IVEH),18)                           CSTRP219
1012          CALL SPDAP (VDATA,DDB(NV+13),0,CCST1,0)                        CSTRP220
1016          CALL DPAGER (COST1)                                            CSTRP221
1020          DO 410 I=3,33                                                  CSTRP222
1025   410    COST3(I)=COST3(I)+COST1(I)                                     CSTRP223
1027   420    NB=NL+NWDDB                                                    CSTRP224
1031          IF (NB.LT.(NLDDB+NWDDB)) GO TO 430                             CSTRP225
1034          IF (MDDB.EQ.0) GO TO 580                                       CSTRP226
1035          CALL MOREL2                                                    CSTRP227
1036          NB=NBDDB+1                                                     CSTRP228
1040   430    CONTINUE                                                       CSTRP229
1040          GO TO (340,310,260), IFLG                                      CSTRP230
1047   440    JF=1                                                           CSTRP231
1050   450    IF (JF.GT.NIFA) GO TO 420                                      CSTRP232
1054          CALL FACNUM (LINE,JF)                                          CSTRP233
1056          JFM1=JF-1                                                      CSTRP234
1060          CALL UNPACK (NPM,12,IFA(JFM1),0)                               CSTRP235
1063          IF (NPM.NE.IPM.AND.JF.GT.NIFA) GO TO 420                       CSTRP236
1074          IF (NPM.NE.IPM) GO TO 450                                      CSTRP237
1075          CALL UNPACK (N,12,IFA(JFM1),12)                                CSTRP238
1100          ICE=NBCE+(N-1)*NWCE+5                                          CSTRP239
1105          CALL UNPACK (IFAT,12,DDB(ICE),0)                               CSTRP240
```

```
1111          IF (IFAT.GE.1) GO TO 460                                          CSTRP241
1114          IF (JFLAG.NE.1) GO TO 450                                         CSTRP242
1115          JERR=JERR+1                                                       CSTRP243
1116          PRINT 730, DDB(ICE-5),DDB(ICE-4)                                  CSTRP244
1130          GO TO 450                                                         CSTRP245
1131    460   CONTINUE                                                          CSTRP246
1131          M=NBFAC+(IFAT-1)*NWFAC                                            CSTRP247
1135          IPRNT=0                                                           CSTRP248
1136          DO 470 LL=1,NIF3,3                                                CSTRP249
1145          IF (N.EQ.IFAC(LL)) GO TO 480                                      CSTRP250
1146    470   CONTINUE                                                          CSTRP251
1150          GO TO 530                                                         CSTRP252
1150    480   CONTINUE                                                          CSTRP253
1150          IF (IFAC(LL+2).NE.NPM) GO TO 530                                  CSTRP254
1153          L1=DDB(M+4)                                                       CSTRP255
1154          IF (ABS(DDB(L1)).GT.20.) GO TO 450                                CSTRP256
1162          CALL SPDAP (LINE,DDB(M+3),DDB(L1),COST1,1)                        CSTRP257
1166          IF (COST1(3)) 490,530,490                                         CSTRP258
1167    490   CONTINUE                                                          CSTRP259
1167          IF ((IFLAG(6).EQ.2).OR.(JFLAG.EQ.1)) GO TO 510                    CSTRP260
1177          IPRNT=1                                                           CSTRP261
1200          DO 500 I=1,NR                                                     CSTRP262
1201          WRITE (I,750) LINE(1),LINE(2)                                     CSTRP263
1212    500   CONTINUE                                                          CSTRP264
1215    510   CONTINUE                                                          CSTRP265
1215          COST1(1)=6H DEV.                                                  CSTRP266
1217          COST1(2)=6H                                                       CSTRP267
1220          CALL DPAGER (COST1)                                               CSTRP268
1222          DO 520 I=3,33                                                     CSTRP269
1227    520   COST3(I)=COST3(I)+COST1(I)                                        CSTRP270
1231    530   CONTINUE                                                          CSTRP271
1231          L2=DDB(M+7)                                                       CSTRP272
1233          IF (ABS(DDB(L2)).GT.20.) GO TO 450                                CSTRP273
1240          CALL SPDAP (LINE,DDB(M+6),DDB(L2),COST2,0)                        CSTRP274
1244          IF (COST2(3)) 540,450,540                                         CSTRP275
1245    540   CONTINUE                                                          CSTRP276
1245          IF ((IFLAG(6).EQ.2).OR.(JFLAG.EQ.1).OR.(IPRNT.EQ.1)) GO TO 560    CSTRP277
1260          DO 550 I=1,NR                                                     CSTRP278
1262          WRITE (I,750) LINE(1),LINE(2)                                     CSTRP279
1273    550   CONTINUE                                                          CSTRP280
```

```
1276  560   CONTINUE                                                    CSTRP281
1276        COST2(1)=6H PROC.                                           CSTRP282
1300        COST2(2)=6H                                                 CSTRP283
1301        CALL DPAGER (COST2)                                         CSTRP284
1303        DO 570 I=3,33                                               CSTRP285
1310  570   COST3(I)=COST3(I)+COST2(I)                                  CSTRP286
1312        GO TO 450                                                   CSTRP287
1313  580   DO 590 I=3,33                                               CSTRP288
1321        COST4(I)=COST4(I)+COST3(I)                                  CSTRP289
1323  590   COST6(I)=COST6(I)+COST4(I)                                  CSTRP290
1325        CALL DPAGER (COST3)                                         CSTRP291
1326        CALL DPAGER (COST4)                                         CSTRP292
1330        IF (JFLAG.EQ.1) GO TO 600                                   CSTRP293
1332        IF(COST3(3))595,600,595                                     ZERODI29
1333  595   IF(COST4(3))596,600,596                                     ZERODI30
1334  596   CONTINUE                                                    ZERODI31
1334        IF (IPLOT.EQ.0) GO TO 600                                   CSTRP296
1335        COST3(1)=6HTOTAL                                            CSTRP297
1337        COST3(2)=6HCOST                                             CSTRP298
1340        INDEX(3)=ICOST3(1)+ICOST3(2)+IBLNK                          CSTRP299
1343        WRITE (10) INDEX(2),INDEX(3),(COST3(J),J=4,33)              CSTRP300
1356        COST4(1)=6HTOTAL                                            CSTRP301
1360        COST4(2)=6HCOST                                             CSTRP302
1361        INDEX(3)=ICOST4(1)+ICOST4(2)+IBLNK                          CSTRP303
1364        WRITE (10) INDEX(1),INDEX(3),(COST4(J),J=4,33)              CSTRP304
1377  600   CONTINUE                                                    CSTRP305
1377        DO 610 I=3,33                                               CSTRP306
1404        COST3(I)=0.0                                                CSTRP307
1405        COST4(I)=0.0                                                CSTRP308
1405  610   CONTINUE                                                    CSTRP309
1406        COST6(1)=6HGRAND                                            CSTRP310
1410        COST6(2)=6HTOT.                                             CSTRP311
1411        IF (JFLAG.EQ.1) GO TO 630                                   CSTRP312
1413        DO 620 I=1,NR                                               CSTRP313
1415  620   WRITE (I,750)                                               CSTRP314
1423  630   CALL DPAGER (COST6)                                         CSTRP315
1425        LINE(1)=4HCOPY                                              CSTRP316
1427        LINE(3)=1                                                   CSTRP317
1430        CALL DPAGER (LINE)                                          CSTRP318
1431  640   CONTINUE                                                    CSTRP319
```

```
1433          IF (JFLAG.EQ.0.AND.IPLOT.EQ.1) END FILE IPLTP                    CSTRP320
1444          IF (JFLAG.EQ.0) RETURN                                           CSTRP321
      C                                                                        CSTRP322
      C DETERMINE PAGE SIZE AND NUMBER OF PAGES NEEDED TO PRINT COSTS          CSTRP323
      C FOR ALL YEARS IN THAT SIZE.                                            CSTRP324
      C                                                                        CSTRP325
1446          NWPL=12                                                          CSTRP326
1447          NFW=0                                                            CSTRP327
1450          NLW=0                                                            CSTRP328
1451          DO 660 I=4,33                                                    CSTRP329
1452          IF (COST6(I)) 650,660,650                                        CSTRP330
1453    650   CONTINUE                                                         CSTRP331
1453          NFW=I                                                            CSTRP332
1455          GO TO 670                                                        CSTRP333
1455    660   CONTINUE                                                         CSTRP334
1457    670   N=33                                                             CSTRP335
1460          DO 690 I=1,30                                                    CSTRP336
1462          IF (COST6(N)) 680,690,680                                        CSTRP337
1463    680   CONTINUE                                                         CSTRP338
1463          NLW=N                                                            CSTRP339
1465          GO TO 700                                                        CSTRP340
1465    690   N=N-1                                                            CSTRP341
1471    700   NTW=NLW-NFW+1                                                    CSTRP342
1473          IF (KFLAG.EQ.1) NWPL=8                                           CSTRP343
1500          NR=(NTW+NWPL-1)/NWPL                                             CSTRP344
1503          NWPL=(NTW+NR-1)/NR                                               WEC23103
1506          MWPL=NTW-NWPL*(NR-1)                                             CSTRP345
1511          JFLAG=0                                                          CSTRP346
1512          DO 710 J=1,NR                                                    CSTRP347
1514          REWIND J                                                         CSTRP348
1516    710   CONTINUE                                                         CSTRP349
1521          GO TO 10                                                         CSTRP350
      C                                                                        CSTRP351
      C                                                                        CSTRP352
      C                                                                        CSTRP353
      720   FORMAT (46H1***ERROR IN CSTRPT*** IFAC TABLE IS TOO LARGE)         CSTRP354
      730   FORMAT (29H0******** THE CARGO ELEMENT- ,A6,A4,41H -IS NOT IN THE CSTRP355
           1FACILITY TABLE. *********)                                         CSTRP356
      740   FORMAT (1H1,30X,11HCOST REPORT/1H0,22HVEHICLE          TOTAL,15I7/CSTRP357
           1)                                                                  CSTRP358
```

```
      750   FORMAT (1H0,5X,A6,A4)                                                  CSTRP359
      760   FORMAT (1H1,30X,11HCOST REPORT/9H DISCRETE/23H  PAYLOADS          TOCSTRP360
           1TAL,15I7/)                                                           CSTRP361
      770   FORMAT (1H1,30X,11HCOST REPORT/23H0 OPERATIONS      TOTAL,15I7/)   CSTRP362
      780   FORMAT (1H0,3A6)                                                      CSTRP363
      790   FORMAT (4H0   ,3A6)                                                   CSTRP364
1521        END                                                                   CSTRP365
```

```
      SUBROUTINE SPDAP (IN,COST,SPREAD,OUT,IFLG)                        SPDAP  2
C                                                                       SPDAP  3
C     ARRAY IN CONTAINS  2 WORDS OF NAME                                SPDAP  4
C                        TOTAL COUNT OF ELEMENTS                        SPDAP  5
C                        LIST OF COUNT OF ELEMENTS BY YEAR              SPDAP  6
C                                                                       SPDAP  7
C     COST IS THE COST IN MILLIONS                                      SPDAP  8
C                                                                       SPDAP  9
C     SPREAD IS A TABLE  NO. OF YEARS TO SPREAD                         SPDAP 10
C                        NO. OF IOC YEAR                                SPDAP 11
C                        AND SPREAD FACTORS                             SPDAP 12
C                                                                       SPDAP 13
C     OUT ARRAY SAME AS IN ARRAY EXCEPT CONTAINS COSTS NOT COUNT        SPDAP 14
C     IFLG=1...DEVELOPMENT                                              SPDAP 15
C     IFLG=0...OPERATIONS                                               SPDAP 16
      COMMON /CONT/ NCONT,NCTMAX,TBCONT(8,20)                           LABEL1 2
      COMMON /LEGS/ NLEG,NLGMAX,TBLEG(12,63),LASTLG                     LABEL1 3
      COMMON /VEHS/ NVEH,NWVEH,NBVEH,NLVEH,NVHMAX,TBVEH(5,31),NPREF,VPRELABEL1 4
     1F(20),NOVEH,VEH(30)                                               LABEL1 5
      COMMON /SPDS/ NSPD,NBSPD,NLSPD,TBSPD(3,20)                        LABEL1 6
      COMMON /FACS/ NFAC,NWFAC,NBFAC,NLFAC                              LABEL1 7
      COMMON /CRGS/ NCE,NWCE,NBCE,NLCE                                  LABEL1 8
      COMMON /LCLF/ LCE,LFAC                                            LABEL1 9
      COMMON /PROG/ PNAME(3,63),NPROG,MNAME(3,63),NMISS                 LABEL110
      COMMON /MISS/ LNGTH,NWMISS,NBMISS,NLMISS                          LABEL111
      COMMON /DDBS/ NDDB,NWDDB,NBDDB,NLDDB,MDDB,NBLK                    LABEL112
      COMMON /IVA/ MIVA,NIVA,IVA(250)                                   LABEL113
      COMMON /IFA/ MIFA,NIFA,IFA(600)                                   LABEL114
      COMMON /FTBL/ MTBL,NTBL,NTBL1,NTBL2,NFTBL(200)                    LABEL115
      COMMON /KEL/ KEL                                                  LABEL116
      COMMON /MAXS/ MAXA,MAXC,MAXF,MAXI                                 LABEL117
      COMMON /YEAR/ FYEAR,LYEAR,NYRS,NYRS1,NYRS3,NTYRS(30),RLDATE,IRELDTLABEL118
      COMMON /MISC/ IFLAG(20),LOWCOR,JERR,CARD(16),LINE(33),IPROP,JPROP,LABEL119
     1ITBCNT,PROPUP,NVMAX,NEWLEG,VEH1,VEH2,MAXVEH,NR,NFW,NLW,NWPL,MWPL,JLABEL120
     2FLAG,NAFAC,NOSF,NOSC,ICNT,L2WOT,I77,J77,KOPT(10),MAXCGN,IPLTP,MAXSLABEL121
     3PR,L1WOT,L1BUG,LIML1                                              WED230 1
C                                                                       LABEL123
      INTEGER FYEAR                                                     LABEL124
C                                                                       LABEL125
      COMMON DDB(1)                                                     LABEL126
```

```
      C                                                                       LABEL127
            DIMENSION DB(1), IDDB(1), IDB(1)                                  LABEL128
      C                                                                       LABEL129
            EQUIVALENCE (DDB(1),DB(1),IDDB(1),IDB(1))                         LABEL130
            EQUIVALENCE (OFFLOD,KOPT(1)), (BASE,KOPT(2)), (SINDEP,KOPT(3)), (CLABEL131
           1ALVEH,KOPT(4)), (CONTRE,KOPT(5)), (ICAP,KOPT(6))                  LABEL132
      C                                                                       LABEL133
      C                                                                       LABEL134
            DIMENSION IN(3), SPREAD(3), OUT(33)                               SPDAP 18
            REAL IN                                                           SPDAP 19
            OUT(1)=IN(1)                                                      SPDAP 20
   10       OUT(2)=IN(2)                                                      SPDAP 21
   12       DO 10 I=3,33                                                      SPDAP 22
   15   10  OUT(I)=0.                                                        SPDAP 23
   17       IF (IN(3)) 20,130,20                                              SPDAP 24
   23   20  IF (SPREAD(1)) 30,140,30                                          SPDAP 25
   24   30  CONTINUE                                                          SPDAP 26
   24       IYRSP=SPREAD(1)                                                   SPDAP 27
   25       IYRIOC=SPREAD(2)                                                  SPDAP 28
   27       DO 40 I=4,33                                                      SPDAP 29
   36       L=FYEAR-4+I                                                       SPDAP 30
   37       IF (IN(I)) 50,40,50                                               SPDAP 31
   40   40  CONTINUE                                                          SPDAP 32
   42   50  IF (L.GE.IYRIOC) GO TO 60                                         SPDAP 33
   45       PRINT 160, IN(1),IN(2)                                            SPDAP 34
   63       RETURN                                                            SPDAP 35
   64   60  CONTINUE                                                          SPDAP 36
   64       DO 100 K=I,33                                                     SPDAP 37
   66       IF (IN(K)) 70,90,70                                               SPDAP 38
   67   70  CONTINUE                                                          SPDAP 39
   67       COUNT=IN(K)                                                       SPDAP 40
   71       IF (IFLG.EQ.1) COUNT=1.                                           SPDAP 41
   74       DO 80 J=1,IYRSP                                                   SPDAP 42
  105       M=FYEAR-IYRIOC+J+K                                                SPDAP 43
  107   80  OUT(M)=OUT(M)+COUNT*SPREAD(J+2)                                   SPDAP 44
  116   90  IF (IFLG.EQ.1) GO TO 110                                          SPDAP 45
  120  100  CONTINUE                                                          SPDAP 46
  122  110  DO 120 I=4,33                                                     SPDAP 47
  127       OUT(I)=OUT(I)*COST                                                WED13021
  130  120  OUT(3)=OUT(3)+OUT(I)                                              SPDAP 51
```

```
135   130    RETURN                                                          SPDAP 52
136   140    L=FYEAR                                                         SPDAP 53
140          DO 150 I=4,33                                                   SPDAP 54
145   150    OUT(L+I)=IN(I)                                                  SPDAP 55
147          GO TO 110                                                       SPDAP 56
       C                                                                    SPDAP 57
       C                                                                    SPDAP 58
       C                                                                    SPDAP 59
       160   FORMAT (1H0,35H**SPREADING ERROR IN DEV + PROD OF ,A6,A4,17H OCCURSPDAP 60
            1ETOO EARLY.)                                                   SPDAP 61
153          END                                                             SPDAP 62
```

```
      (
            SUBROUTINE DPAGER (LINE)                                        DPAGER 2
      C                                                                     DPAGER 3
            COMMON /MISC/ IFLAG(80),NR,NFW,NLW,NWPL,MWPL,JFLAG              DPAGER 4
      C                                                                     DPAGER 5
      C     WRITES 1/2 LINE ON TAPE6                                        DPAGER 6
      C            1/2 LINE ON TAPE1                                        DPAGER 7
      C                                                                     DPAGER 8
      C     IF LINE IS COPY TAPE1 IS COPIED TO TAPE6                        DPAGER 9
      C                                                                     DPAGER10
            DIMENSION LINE(33)                                              DPAGER11
      C                                                                     DPAGER12
            IF (JFLAG.EQ.1) RETURN                                          DPAGER13
    5       IF (LINE(3).EQ.0) RETURN                                        DPAGER14
      C                                                                     DPAGER15
    7       IF (LINE(1).EQ.6HCOPY  ) GO TO 30                               DPAGER16
      C                                                                     DPAGER17
   11       IF (IFLAG(6).NE.2) GO TO 10                                     DPAGER18
   13       IF (LINE(1).EQ.6HTOTAL ) GO TO 10                               DPAGER19
   14       IF (LINE(1).EQ.6HGRAND ) GO TO 10                               DPAGER20
   16       IF (LINE(1).EQ.6HPROGRA) GO TO 10                               DPAGER21
   17       RETURN                                                          DPAGER22
   20   10  CONTINUE                                                        DPAGER23
      C                                                                     DPAGER24
      C                                                                     DPAGER25
      C                                                                     DPAGER26
   20       M=NFW                                                           DPAGER27
   22       DO 20 J=1,NR                                                    DPAGER28
   23       N=M+NWPL-1                                                      DPAGER29
   25       IF (J.EQ.NR) N=NLW                                              DPAGER30
   30       WRITE (J,70) (LINE(I),I=1,3),(LINE(I),I=M,N)                    DPAGER31
   45   20  M=N+1                                                           DPAGER32
      C                                                                     DPAGER33
      C                                                                     DPAGER34
   52       RETURN                                                          DPAGER35
      C                                                                     DPAGER36
      C                                                                     DPAGER37
   52   30  CONTINUE                                                        DPAGER38
   52       MW=6+(7*MWPL+3)/4                                               DPAGER39
   56       NW=6+(7*NWPL+3)/4                                               DPAGER40
   61       DO 60 J=1,NR                                                    DPAGER41
```

```
 63          IF (J.EQ.NR) NW=MW                                          DPAGER42
 66          WRITE (J,80) (LINE(I),I=1,3)                                DPAGER43
 75          END FILE J                                                  DPAGER44
100          REWIND J                                                   DPAGER45
102          GO TO 50                                                   DPAGER46
103  40      PRINT 80, (LINE(I),I=1,NW)                                  DPAGER47
113  50      READ (J,80) (LINE(I),I=1,NW)                                DPAGER48
122          IF (LINE(1).NE.4HCOPY) GO TO 40                            DPAGER49
125  60      REWIND J                                                   DPAGER50
          C                                                             DPAGER51
          C                                                             DPAGER52
132          RETURN                                                     DPAGER53
          C                                                             DPAGER54
          C                                                             DPAGER55
          C                                                             DPAGER56
          70  FORMAT (6X,A6,A4,F8.1,15F7.1,3X)                         DPAGER57
          80  FORMAT (33A4)                                            DPAGER58
132          END                                                        DPAGER59
```

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ATR-73(7315)-1, Vol. III	72 AUG 31	Unclassified

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