

Table A5 List of the file, **change.new** .

This file is generated automatically by GENOPT.

The GENOPT processor, CHANGE, permits the "end" user

to change the values of parameters and decision variables.

Also, SUBROUTINE CHANGE is called by the processor, AUTOCHANGE,

by means of which the values of decision variables

are changed randomly but consistently with lower and upper

bounds and any equality or inequality constraints established

by the "end" user in DECIDE. The processor, AUTOCHANGE,

is called repeatedly during each execution of SUPEROPT.

In the report it is recommended that the user execute CHANGE

in order to save previously obtained optimum designs so that

these optimum designs can easily be restored.

=====

```
C=DECK      CHANGE
```

```
C
```

```
C  PURPOSE IS TO PERMIT USER TO ASSIGN NEW VALUES FOR THOSE PARAMETERS
```

```
C  FROM WHICH DECISION VARIABLES CAN BE CHOSEN...
```

```
C
```

```
C ***** NOTE  NOTE  NOTE  NOTE  NOTE  NOTE *****
```

```
C
```

```
C  The CHANGE.NEW source library is completely provided by GENOPT. You
```

```
C  do not have to modify CHANGE.NEW at all.
```

```
C
```

```
C ***** END NOTE *****
```

```
C
```

```
    PROGRAM CHANGE
```

```
C
```

```
    COMMON/PRMFIL/IFILE,IFILE2,IOUT,IPRM(5)
```

```
    COMMON/PRMOUT/IFILE3,IFILE4,IFILE8,IFILE9,IFIL11
```

```
    COMMON/INDAT/INFILE
```

```
    COMMON/LWRUPR/VARLOW(50),VARHI(50),CLINK(50,5),VLINK(50),VBV(99)
```

```
    COMMON/BNDLCX/VLBX(50),VUBX(50),RATXX(50)
```

```
    DIMENSION X(50)
```

```
    COMMON/NUMPAR/NPAR,NVAR,NALLOW,ICONST,NDEC,NLINK,NESCAP,ITYPE
```

```
    COMMON/PARAMS/PAR(99),VAR(50),ALLOW(99),CONST(99),DEC(50),ESC(50)
```

```
    COMMON/WORDS1/WORDP(99),WORDV(50),WORDA(99),WORDCC(99),WORDD(50)
```

```
    COMMON/WORDS2/WORDL(50),WORDE(50),WORDIQ(20)
```

```
    COMMON/OPTVAR/IDEC(50),ILV(50),IDLINK(50,5),ISCAPE(50),JTERMS(20)
```

```
    COMMON/NUMPR2/NLAR,NCAR,NOAR,NFLAT,NCASES,NPRINT
```

```
    COMMON/PARAM2/FLAR(50),CAR(99),OAR(50),FSAFE(99),CPWR(50,5)
```

```
    COMMON/PARAM3/CINEQ(15,20),DPWREQ(15,20)
```

```
    COMMON/PARAM4/IDINEQ(15,20),NINEQ,JINEQ(20),IEQTYP(20)
```

```
    COMMON/WORDS3/WORDF(50),WORDB(99),WORDOB(50),WORDS(99)
```

```
    COMMON/WORDS4/WORDM(99)
```

```
    COMMON/PWORD/PHRASE
```

```
    COMMON/PWORD2/IBLANK
```

```
    CHARACTER*80 PHRASE
```

```

        CHARACTER*80 WORDP,WORDV,WORDA,WORDD,WORDL,WORDE
C      character*80 WORDC
        CHARACTER*80 WORDF,WORDB,WORDOB,WORDS,WORDM,WORDCC,WORDIQ
C      CHARACTER*12 CASE
C      CHARACTER*16 CASE2,CASE3
        CHARACTER*28 CASE
        CHARACTER*32 CASE2,CASE3
        CHARACTER*4 ANSOUT,CHARAC,QUAL
C      character*4 ANSWER
        LOGICAL ANSL1
C
        DIMENSION ISUB(100)
#if cnvx
        external signal_handler
        integer dummying, signal
        dummyint = signal(2, signal_handler, -1)
#endif
#if sgi
        integer signal_handler
        external signal_handler
        integer dummyint, signal
        dummyint = signal(2, signal_handler, -1)
#endif
#if star
        integer signal_handler
        external signal_handler
        call signal(2, signal_handler)
#endif
C
C  ESTABLISH NAME FOR THE CASE...
C
        CALL CASSPC(5,CASE)
        I=INDEX(CASE,' ')
        IF(I.NE.0) THEN
            CASE2=CASE(:I-1)//'.OPC'
            CASE3=CASE(:I-1)//'.CBL'
        ELSE
            CASE2=CASE//'.OPC'
            CASE3=CASE//'.CBL'
        ENDIF
        NLET = I - 1
        IF (I.EQ.0) NLET = 28
C
        IFILE = 2
        IFILE7= 7
        IFILE8 = 8
        IOUTFL = 3
C  BEG VMS

```

```

C      OPEN(UNIT=2,FILE='GENOPT:URPROMPT.DAT',STATUS='OLD',READONLY)
C END VMS
C BEG UNIX
      OPEN(UNIT=2,FILE='GENOPT/URPROMPT.DAT',STATUS='OLD')
C END UNIX
      OPEN(UNIT=3,FILE=CASE,STATUS='UNKNOWN')
      OPEN(UNIT=7,FILE=CASE3,STATUS='UNKNOWN',FORM='UNFORMATTED')
      OPEN(UNIT=8,FILE=CASE2,STATUS='UNKNOWN')

C
      WRITE(6,5)
      WRITE(IFILE8,'(A,A,A)')
1' ***** THIS IS THE ',CASE(1:NLET),
1' .OPC FILE *****'
      WRITE(IFILE8,5)
5 FORMAT(//' ***** CHANGE *****'//
1' You use CHANGE to change parameters without having to go back'/
1' to BEGIN. The parameters you can change are segregated into'/
1' five groups:'//
1' 1. parameters eligible to be decision variables'/
1' 2. parameters not eligible to be decision variables'/
1' 3. parameters that characterize the environment (loads)'/
1' 4. allowables (for example, max. strain)'/
1' 5. factors of safety.'//
1' Your interactive input is saved on a file called NAME.CHG, in'/
1' which NAME is the same name you used for BEGIN, DECIDE, etc.'//
1' A summary of the output from CHANGE is stored in NAME.OPC.'//
1' *****'/)

C
      QUAL = '.CHG'
      CALL NFILE(IFILE,INFILE,IOUT,QUAL,IPROMP,IFILE8,CASE,IOUTFL)

C
      CALL GETCOM(IFILE7)
      CALL MOVERX(0,0,ISUB,1,100)

C
      CALL DATUM(IFILE,750,0,0,INT,REALL,CHARAC,IOUT,0,0,0,IPROMP)
      CALL DATUM(IFILE,760,1,2,INT,REALL,ANSOUT,IOUT,0,0,0,IPROMP)
      IF (ANSL1('N',ANSOUT,INFILE)) GO TO 100

C
10 CONTINUE

C
      CALL OUTVAR(NVAR,VAR,WORDV,IADDV,'PARAMETERS WHICH CAN BE CHANGED.
1  CHOOSE ONE OF THE FOLLOWING ',6,62,1,ISUB,1)

C
      IF (IPROMP.GT.1) THEN
      CALL OUTVAR(NVAR,VAR,WORDV,IADDV,'PARAMETERS WHICH CAN BE CHANGED.
1  CHOOSE ONE OF THE FOLLOWING ',IPROMP,80,1,ISUB,1)

C
      ENDIF

```

```

REWIND IFILE
CALL DATUM(IFILE,770,1,2,IVAR,REALL,CHARAC,IOUT,0,0,0,IPROMP)
IF (IVAR.GT.NVAR.OR.IVAR.LT.1) THEN
    WRITE(6,*)' BAD CHOICE FOR PARAMETER, TRY AGAIN.'
    BACKSPACE(IOUT)
    GO TO 10
ENDIF
C
CALL DATUM(IFILE,780,1,2,INT,VAR(IVAR),CHARAC,IOUT,0,0,0,IPROMP)
C
CALL DATUM(IFILE,790,1,1,INT,REALL,ANSOUT,IOUT,0,0,0,IPROMP)
IF (ANSL1('Y',ANSOUT,INFILE)) GO TO 10
C
100 CONTINUE
C
CALL DATUM(IFILE,800,1,2,INT,REALL,ANSOUT,IOUT,0,0,0,IPROMP)
IF (ANSL1('N',ANSOUT,INFILE)) GO TO 200
C
110 CONTINUE
CALL OUTVAR(NPAR,PAR,WORDP,IADDP,'PARAMETERS WHICH CAN BE CHANGED.
1  CHOOSE ONE OF THE FOLLOWING    ',6,62,1,ISUB,1)
C
IF (IPROMP.GT.1) THEN
CALL OUTVAR(NPAR,PAR,WORDP,IADDP,'PARAMETERS WHICH CAN BE CHANGED.
1  CHOOSE ONE OF THE FOLLOWING    ',IPROMP,80,1,ISUB,1)
ENDIF
REWIND IFILE
CALL DATUM(IFILE,770,1,2,IVAR,REALL,CHARAC,IOUT,0,0,0,IPROMP)
IF (IVAR.GT.NPAR.OR.IVAR.LT.1) THEN
    WRITE(6,*)' BAD CHOICE FOR PARAMETER, TRY AGAIN.'
    BACKSPACE(IOUT)
    GO TO 110
ENDIF
C
CALL DATUM(IFILE,780,1,2,INT,PAR(IVAR),CHARAC,IOUT,0,0,0,IPROMP)
C
CALL DATUM(IFILE,790,1,1,INT,REALL,ANSOUT,IOUT,0,0,0,IPROMP)
IF (ANSL1('Y',ANSOUT,INFILE)) GO TO 110
C
200 CONTINUE
CALL DATUM(IFILE,810,1,2,INT,REALL,ANSOUT,IOUT,0,0,0,IPROMP)
IF (ANSL1('N',ANSOUT,INFILE)) GO TO 210
C
205 CONTINUE
C
CALL OUTVAR(  NLAR, FLAR,WORDF,IADDA,'PARAMETERS WHICH ARE ENVIRON
1MENTAL FACTORS (e.g. loads, temps.)    ',6,62,1,ISUB,1)
C

```

```

IF (IPROMP.GT.1) THEN
CALL OUTVAR( NLAR, FLAR,WORDF,IADDA,'PARAMETERS WHICH ARE ENVIRON
1MENTAL FACTORS (e.g. loads, temps.) ',IPROMP,80,1,ISUB,1)
ENDIF
REWIND IFILE
CALL DATUM(IFILE,770,1,2,IVAR,REALL,CHARAC,IOUT,0,0,0,IPROMP)
IF (IVAR.GT.NLAR.OR.IVAR.LT.1) THEN
WRITE(6,*)' BAD CHOICE FOR PARAMETER, TRY AGAIN.'
BACKSPACE(IOUT)
GO TO 205
ENDIF

```

C

```
CALL DATUM(IFILE,780,1,2,INT,FLAR(IVAR),CHARAC,IOUT,0,0,0,IPROMP)
```

C

```
CALL DATUM(IFILE,790,1,1,INT,REALL,ANSOUT,IOUT,0,0,0,IPROMP)
IF (ANSL1('Y',ANSOUT,INFILE)) GO TO 205
```

C

C

210 CONTINUE

C

```
CALL DATUM(IFILE,820,1,2,INT,REALL,ANSOUT,IOUT,0,0,0,IPROMP)
IF (ANSL1('N',ANSOUT,INFILE)) GO TO 310
```

C

220 CONTINUE

```
CALL OUTVAR(NALLOW,ALLOW,WORDA,IADDA,'ALLOWABLES WHICH CAN BE CHAN
1GED. CHOOSE ONE OF THE FOLLOWING ',6,62,1,ISUB,1)

```

C

```

IF (IPROMP.GT.1) THEN
CALL OUTVAR(NALLOW,ALLOW,WORDA,IADDA,'ALLOWABLES WHICH CAN BE CHAN
1GED. CHOOSE ONE OF THE FOLLOWING ',IPROMP,80,1,ISUB,1)
ENDIF
REWIND IFILE
CALL DATUM(IFILE,770,1,2,IVAR,REALL,CHARAC,IOUT,0,0,0,IPROMP)
IF (IVAR.GT.NALLOW.OR.IVAR.LT.1) THEN
WRITE(6,*)' BAD CHOICE FOR PARAMETER, TRY AGAIN.'
BACKSPACE(IOUT)
GO TO 220
ENDIF

```

C

```
CALL DATUM(IFILE,780,1,2,INT,ALLOW(IVAR),CHARAC,IOUT,0,0,0,IPROMP)
```

C

```
CALL DATUM(IFILE,790,1,1,INT,REALL,ANSOUT,IOUT,0,0,0,IPROMP)
IF (ANSL1('Y',ANSOUT,INFILE)) GO TO 220
```

C

310 CONTINUE

C

```
CALL DATUM(IFILE,830,1,2,INT,REALL,ANSOUT,IOUT,0,0,0,IPROMP)
IF (ANSL1('N',ANSOUT,INFILE)) GO TO 410
```

```

C
320 CONTINUE
C
    CALL OUTVAR( NFLAT,FSAFE,WORDS,IADDA,'PARAMETERS WHICH ARE FACTORS
1 OF SAFETY                                ',6,62,1,ISUB,1)
    IF (IPROMP.GT.1) THEN
    CALL OUTVAR( NFLAT,FSAFE,WORDS,IADDA,'PARAMETERS WHICH ARE FACTORS
1 OF SAFETY                                ',IPROMP,80,1,ISUB,1)
    ENDIF
    REWIND IFILE
    CALL DATUM(IFILE,770,1,2,IVAR,REALL,CHARAC,IOUT,0,0,0,IPROMP)
    IF (IVAR.GT.NFLAT.OR.IVAR.LT.1) THEN
        WRITE(6,*)' BAD CHOICE FOR PARAMETER, TRY AGAIN.'
        BACKSPACE(IOUT)
        GO TO 320
    ENDIF
C
    CALL DATUM(IFILE,780,1,2,INT,FSAFE(IVAR),CHARAC,IOUT,0,0,0,IPROMP)
C
    CALL DATUM(IFILE,790,1,1,INT,REALL,ANSOUT,IOUT,0,0,0,IPROMP)
    IF (ANSL1('Y',ANSOUT,INFILE)) GO TO 320
C
410 CONTINUE
C
    CALL OUTOPT(IFILE8,NVAR,IDV,IEV,ILV,CLINK,IDLINK,VLB,VUB,VAR,WORDV
1,'          SUMMARY OF INFORMATION FOR OPTIMIZATION ANALYSIS
1 ',57)
C
    CALL OUTVAR(NPAR,PAR,WORDP,IADDP,'PARAMETERS WHICH ARE ALWAYS FIXE
1D. NONE CAN BE DECISION VARIAB. ',IFILE8,80,1,ISUB,1)
C
    CALL OUTVAR( NLAR, FLAR,WORDF,IADDA,'PARAMETERS WHICH ARE ENVIRON
1MENTAL FACTORS (e.g. loads, temps.) ',IFILE8,80,1,ISUB,1)
C
    CALL OUTVAR(NALLOW,ALLOW,WORDA,IADDA,'          ALLOWABLES
1                                ',IFILE8,80,1,ISUB,1)
C
    CALL OUTVAR( NFLAT,FSAFE,WORDS,IADDA,'PARAMETERS WHICH ARE FACTORS
1 OF SAFETY                                ',IFILE8,80,1,ISUB,1)
C
C NEXT, FILL THE COMMON BLOCKS WITH THE APPROPRIATE DATA
C
    CALL NEWPAR(NVAR,VAR,NPAR,PAR,NLAR,FLAR,NCAR,CAR,NALLOW,ALLOW,
1          NFLAT,FSAFE,NOAR,OAR,NCASES)
C
    CALL SETUPX(NVAR,IDEC,VAR,VARLOW,VARHI,X,VLBX,VUBX,KOUNT,WORDV)
    CALL MOVERX(1.1,0,RATXX,1,NVAR)
C

```

```

CALL STORCM(IFILE7)

C
WRITE(6,500) CASE(1:NLET),CASE(1:NLET),CASE(1:NLET),
1 CASE(1:NLET),CASE(1:NLET)
WRITE(IFILE8,500) CASE(1:NLET),CASE(1:NLET),CASE(1:NLET),
1 CASE(1:NLET),CASE(1:NLET)
500 FORMAT(//' DESCRIPTION OF FILES GENERATED BY THIS CASE:'//
1 1X,A,'.CHG = Summary of interactive session you have just'/
1' completed. This file can be edited and used for'/
1' future runs of CHANGE.'//
1 1X,A,'.CBL = Contains part of ',A,' data base.'//
1 1X,A,'.OPC = Output from CHANGE. Please list this file and'/
1' inspect it and the ',A,'.CHG file carefully before'/
1' proceeding.'//
1' For further information about files generated during operation'/
1' of GENOPT give the command HELPG FILES.'//
1' Next, give the command OPTIMIZE (or perhaps DECIDE).')

C
WRITE(IFILE8,'(A,A,A)')
1' ***** END OF THE ',CASE(1:NLET),
1'.OPC FILE *****'
CLOSE(UNIT=IOUT)
CLOSE(UNIT=7)
CLOSE(UNIT=8)

C
END

C
C
C
C
C=DECK NEWPAR
SUBROUTINE NEWPAR(NVAR,VAR,NPAR,PAR,NLAR,FLAR,NCAR,CAR,
1 NALLOW,ALLOW,NFLAT,FSAFE,NOAR,OAR,NCASES)

C
C PURPOSE IS TO FILL THE LABELLED COMMON BLOCKS WITH THE UPDATED
C SETS OF PARAMETERS.
C
C DIMENSION VAR(*),PAR(*),FLAR(*),ALLOW(*),FSAFE(*),CAR(*),OAR(*)

C
C INSERT ADDITIONAL COMMON BLOCKS HERE:
COMMON/FV01/xinput(21),Ixinput
REAL xinput
COMMON/FV02/ainput,binput,xlimit,SPACNG,THSTIF,THKCYL,RADCYL
REAL ainput,binput,xlimit,SPACNG,THSTIF,THKCYL,RADCYL
COMMON/FV05/THKSKN(21),HIGHST(21)
REAL THKSKN,HIGHST
COMMON/FV16/PRESS(20)
REAL PRESS
COMMON/FV19/CLAPS1(20),CLAPS1A(20),CLAPS1F(20)

```

```

REAL CLAPS1,CLAPS1A,CLAPS1F
COMMON/FV22/GENBK1(20),GENBK1A(20),GENBK1F(20)
REAL GENBK1,GENBK1A,GENBK1F
COMMON/FV25/SKNBK1(20,10),JSKNBK1,SKNBK1A(20,10),SKNBK1F(20,10)
REAL SKNBK1,SKNBK1A,SKNBK1F
COMMON/FV28/STFBK1(20,10),STFBK1A(20,10),STFBK1F(20,10)
REAL STFBK1,STFBK1A,STFBK1F
COMMON/FV31/SKNST1(20,10),SKNST1A(20,10),SKNST1F(20,10)
REAL SKNST1,SKNST1A,SKNST1F
COMMON/FV34/STFST1(20,10),STFST1A(20,10),STFST1F(20,10)
REAL STFST1,STFST1A,STFST1F
COMMON/FV37/WAPEX1(20),WAPEX1A(20),WAPEX1F(20)
REAL WAPEX1,WAPEX1A,WAPEX1F
COMMON/FV40/CLAPS2(20),CLAPS2A(20),CLAPS2F(20)
REAL CLAPS2,CLAPS2A,CLAPS2F
COMMON/FV43/GENBK2(20),GENBK2A(20),GENBK2F(20)
REAL GENBK2,GENBK2A,GENBK2F
COMMON/FV46/SKNBK2(20,10),JSKNBK2,SKNBK2A(20,10),SKNBK2F(20,10)
REAL SKNBK2,SKNBK2A,SKNBK2F
COMMON/FV49/STFBK2(20,10),STFBK2A(20,10),STFBK2F(20,10)
REAL STFBK2,STFBK2A,STFBK2F
COMMON/FV52/SKNST2(20,10),SKNST2A(20,10),SKNST2F(20,10)
REAL SKNST2,SKNST2A,SKNST2F
COMMON/FV55/STFST2(20,10),STFST2A(20,10),STFST2F(20,10)
REAL STFST2,STFST2A,STFST2F
COMMON/FV58/WAPEX2(20),WAPEX2A(20),WAPEX2F(20)
REAL WAPEX2,WAPEX2A,WAPEX2F
COMMON/IV01/npoint,nodes,IMODE
INTEGER npoint,nodes,IMODE
COMMON/FV11/LENCYL,WIMP,EMATL,NUMATL,DNMATL,WEIGHT
REAL LENCYL,WIMP,EMATL,NUMATL,DNMATL,WEIGHT

```

C
C
C

INITIALIZE COUNTERS

```

IVAR = 1
IPAR = 1
IALLOW =1
ILAR = 1
ICAR = 1
IFACT= 1
IOAR = 1

```

C
C

INSERT PROGRAM FILE

```

IF (Ixinput.EQ.0) GO TO 21
DO 20 I=1,Ixinput
xinput(I) = PAR ( IPAR )
IPAR = IPAR + 1

```

20 CONTINUE


```

21 CONTINUE
  ainput  =  PAR ( IPAR )
  IPAR = IPAR + 1
  binput  =  PAR ( IPAR )
  IPAR = IPAR + 1
  xlimit  =  PAR ( IPAR )
  IPAR = IPAR + 1
  IF (Ixinput .EQ.0) GO TO 46
  DO 45 I=1,Ixinput
    THKSKN(I) =  VAR ( IVAR )
    IVAR = IVAR + 1
45 CONTINUE
46 CONTINUE
  IF (Ixinput .EQ.0) GO TO 51
  DO 50 I=1,Ixinput
    HIGHST(I) =  VAR ( IVAR )
    IVAR = IVAR + 1
50 CONTINUE
51 CONTINUE
  SPACNG  =  VAR ( IVAR )
  IVAR = IVAR + 1
  THSTIF  =  VAR ( IVAR )
  IVAR = IVAR + 1
  THKCYL  =  PAR ( IPAR )
  IPAR = IPAR + 1
  RADCYL  =  PAR ( IPAR )
  IPAR = IPAR + 1
  LENCYL  =  PAR ( IPAR )
  IPAR = IPAR + 1
  WIMP    =  PAR ( IPAR )
  IPAR = IPAR + 1
  EMATL   =  PAR ( IPAR )
  IPAR = IPAR + 1
  NUMATL  =  PAR ( IPAR )
  IPAR = IPAR + 1
  DNMATL  =  PAR ( IPAR )
  IPAR = IPAR + 1
  IF (NCASES .EQ.0) GO TO 111
  DO 110 I=1,NCASES
    PRESS(I) =  FLAR ( ILAR )
    ILAR = ILAR + 1
110 CONTINUE
111 CONTINUE
  IF (NCASES .EQ.0) GO TO 121
  DO 120 I=1,NCASES
    CLAPS1A(I) =  ALLOW(IALLOW)
    IALLOW = IALLOW + 1
120 CONTINUE

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```

121 CONTINUE
    IF (NCASES .EQ.0) GO TO 126
    DO 125 I=1,NCASES
        CLAPS1F(I) = FSAFE (IFACT )
        IFACT = IFACT + 1
125 CONTINUE
126 CONTINUE
    IF (NCASES .EQ.0) GO TO 136
    DO 135 I=1,NCASES
        GENBK1A(I) = ALLOW(IALLOW)
        IALLOW = IALLOW + 1
135 CONTINUE
136 CONTINUE
    IF (NCASES .EQ.0) GO TO 141
    DO 140 I=1,NCASES
        GENBK1F(I) = FSAFE (IFACT )
        IFACT = IFACT + 1
140 CONTINUE
141 CONTINUE
    IF (JSKNBK1.EQ.0) GO TO 156
    IF (NCASES .EQ.0) GO TO 156
    DO 155 J=1,JSKNBK1
    DO 155 I=1,NCASES
        SKNBK1A(I,J) = ALLOW(IALLOW)
        IALLOW = IALLOW + 1
155 CONTINUE
156 CONTINUE
    IF (JSKNBK1.EQ.0) GO TO 161
    IF (NCASES .EQ.0) GO TO 161
    DO 160 J=1,JSKNBK1
    DO 160 I=1,NCASES
        SKNBK1F(I,J) = FSAFE (IFACT )
        IFACT = IFACT + 1
160 CONTINUE
161 CONTINUE
    IF (JSKNBK1.EQ.0) GO TO 171
    IF (NCASES .EQ.0) GO TO 171
    DO 170 J=1,JSKNBK1
    DO 170 I=1,NCASES
        STFBK1A(I,J) = ALLOW(IALLOW)
        IALLOW = IALLOW + 1
170 CONTINUE
171 CONTINUE
    IF (JSKNBK1.EQ.0) GO TO 176
    IF (NCASES .EQ.0) GO TO 176
    DO 175 J=1,JSKNBK1
    DO 175 I=1,NCASES
        STFBK1F(I,J) = FSAFE (IFACT )

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        IFACT = IFACT + 1
175 CONTINUE
176 CONTINUE
        IF (JSKNBK1.EQ.0) GO TO 186
        IF (NCASES .EQ.0) GO TO 186
        DO 185 J=1,JSKNBK1
        DO 185 I=1,NCASES
        SKNST1A(I,J) = ALLOW(IALLOW)
        IALLOW = IALLOW + 1
185 CONTINUE
186 CONTINUE
        IF (JSKNBK1.EQ.0) GO TO 191
        IF (NCASES .EQ.0) GO TO 191
        DO 190 J=1,JSKNBK1
        DO 190 I=1,NCASES
        SKNST1F(I,J) = FSAFE (IFACT )
        IFACT = IFACT + 1
190 CONTINUE
191 CONTINUE
        IF (JSKNBK1.EQ.0) GO TO 201
        IF (NCASES .EQ.0) GO TO 201
        DO 200 J=1,JSKNBK1
        DO 200 I=1,NCASES
        STFST1A(I,J) = ALLOW(IALLOW)
        IALLOW = IALLOW + 1
200 CONTINUE
201 CONTINUE
        IF (JSKNBK1.EQ.0) GO TO 206
        IF (NCASES .EQ.0) GO TO 206
        DO 205 J=1,JSKNBK1
        DO 205 I=1,NCASES
        STFST1F(I,J) = FSAFE (IFACT )
        IFACT = IFACT + 1
205 CONTINUE
206 CONTINUE
        IF (NCASES .EQ.0) GO TO 216
        DO 215 I=1,NCASES
        WAPEX1A(I) = ALLOW(IALLOW)
        IALLOW = IALLOW + 1
215 CONTINUE
216 CONTINUE
        IF (NCASES .EQ.0) GO TO 221
        DO 220 I=1,NCASES
        WAPEX1F(I) = FSAFE (IFACT )
        IFACT = IFACT + 1
220 CONTINUE
221 CONTINUE
        IF (NCASES .EQ.0) GO TO 231

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        DO 230 I=1,NCASES
        CLAPS2A(I) = ALLOW(IALLOW)
        IALLOW = IALLOW + 1
230 CONTINUE
231 CONTINUE
        IF (NCASES .EQ.0) GO TO 236
        DO 235 I=1,NCASES
        CLAPS2F(I) = FSAFE (IFACT )
        IFACT = IFACT + 1
235 CONTINUE
236 CONTINUE
        IF (NCASES .EQ.0) GO TO 246
        DO 245 I=1,NCASES
        GENBK2A(I) = ALLOW(IALLOW)
        IALLOW = IALLOW + 1
245 CONTINUE
246 CONTINUE
        IF (NCASES .EQ.0) GO TO 251
        DO 250 I=1,NCASES
        GENBK2F(I) = FSAFE (IFACT )
        IFACT = IFACT + 1
250 CONTINUE
251 CONTINUE
        IF (JSKNBK2.EQ.0) GO TO 266
        IF (NCASES .EQ.0) GO TO 266
        DO 265 J=1,JSKNBK2
        DO 265 I=1,NCASES
        SKNBK2A(I,J) = ALLOW(IALLOW)
        IALLOW = IALLOW + 1
265 CONTINUE
266 CONTINUE
        IF (JSKNBK2.EQ.0) GO TO 271
        IF (NCASES .EQ.0) GO TO 271
        DO 270 J=1,JSKNBK2
        DO 270 I=1,NCASES
        SKNBK2F(I,J) = FSAFE (IFACT )
        IFACT = IFACT + 1
270 CONTINUE
271 CONTINUE
        IF (JSKNBK2.EQ.0) GO TO 281
        IF (NCASES .EQ.0) GO TO 281
        DO 280 J=1,JSKNBK2
        DO 280 I=1,NCASES
        STFBK2A(I,J) = ALLOW(IALLOW)
        IALLOW = IALLOW + 1
280 CONTINUE
281 CONTINUE
        IF (JSKNBK2.EQ.0) GO TO 286

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      IF (NCASES .EQ.0) GO TO 286
      DO 285 J=1,JSKNBK2
      DO 285 I=1,NCASES
      STFBK2F(I,J) = FSAFE (IFACT )
      IFACT = IFACT + 1
285  CONTINUE
286  CONTINUE
      IF (JSKNBK2.EQ.0) GO TO 296
      IF (NCASES .EQ.0) GO TO 296
      DO 295 J=1,JSKNBK2
      DO 295 I=1,NCASES
      SKNST2A(I,J) = ALLOW(IALLOW)
      IALLOW = IALLOW + 1
295  CONTINUE
296  CONTINUE
      IF (JSKNBK2.EQ.0) GO TO 301
      IF (NCASES .EQ.0) GO TO 301
      DO 300 J=1,JSKNBK2
      DO 300 I=1,NCASES
      SKNST2F(I,J) = FSAFE (IFACT )
      IFACT = IFACT + 1
300  CONTINUE
301  CONTINUE
      IF (JSKNBK2.EQ.0) GO TO 311
      IF (NCASES .EQ.0) GO TO 311
      DO 310 J=1,JSKNBK2
      DO 310 I=1,NCASES
      STFST2A(I,J) = ALLOW(IALLOW)
      IALLOW = IALLOW + 1
310  CONTINUE
311  CONTINUE
      IF (JSKNBK2.EQ.0) GO TO 316
      IF (NCASES .EQ.0) GO TO 316
      DO 315 J=1,JSKNBK2
      DO 315 I=1,NCASES
      STFST2F(I,J) = FSAFE (IFACT )
      IFACT = IFACT + 1
315  CONTINUE
316  CONTINUE
      IF (NCASES .EQ.0) GO TO 326
      DO 325 I=1,NCASES
      WAPEX2A(I) = ALLOW(IALLOW)
      IALLOW = IALLOW + 1
325  CONTINUE
326  CONTINUE
      IF (NCASES .EQ.0) GO TO 331
      DO 330 I=1,NCASES
      WAPEX2F(I) = FSAFE (IFACT )

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      IFACT  = IFACT  + 1
330 CONTINUE
331 CONTINUE
      WEIGHT  = OAR  ( IOAR )
      IOAR    = IOAR  + 1
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C
C

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      RETURN
      END
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