Table 20 Portion of the **equivellipse.CON** file generated automatically by "GENTEXT" that corresponds to the GENOPT user's input listed in Table 15. This list forms part of the complete equivellipse.CON file that appears in Table a12 of the appendix. The complete equivellipse.CON file exists when the GENOPT user has completed the interactive "GENTEXT" session. This FORTRAN fragment forms part the FORTRAN library, struct.new, which contains the GENOPT-created **skeletal** version of SUBROUTINE STRUCT. The complete **skeletal** version of SUBROUTINE STRUCT is included in Table a14 of the appendix. See Section 3.7 for more on subroutines BEHXi, construction of design constraints, typical forms which the design margins have, and the meanings of array subscripts.

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==================================================================
C
C  Behavior and constraints generated next for STFBK1:
C  STFBK1 = buckling load factor, isogrid member, mode 1
C
      IF (JSKNBK1.EQ.0) GO TO 176
      IF (NPRINX.GT.0) THEN
         IF (JSKNBK1.GT.1) THEN
            WRITE(IFILE8,'(1X,A)')'  '
            WRITE(IFILE8,'(1X,A,$)')' BEHAVIOR OVER J = '
            WRITE(IFILE8,'(1X,A)')
     1      'number of regions for computing behavior'
         ENDIF
      ENDIF
      DO 175  J=1,JSKNBK1
      CALL CONVR2(J,CJX)
      PHRASE =
     1 'buckling load factor, isogrid member, mode 1'
      CALL BLANKX(PHRASE,IENDP4)
      IF (IBEHV(4  ).EQ.0) CALL BEHX4
     1 (IFILE8,NPRINX,IMODX,IFAST,ILOADX,J,
     1 'buckling load factor, isogrid member, mode 1')
      IF (STFBK1(ILOADX,J).EQ.0.)  STFBK1(ILOADX,J) = 1.E+10
      IF (STFBK1A(ILOADX,J).EQ.0.)  STFBK1A(ILOADX,J) = 1.0
      IF (STFBK1F(ILOADX,J).EQ.0.)  STFBK1F(ILOADX,J) = 1.0
      KCONX = KCONX + 1
      CARX(KCONX) =STFBK1(ILOADX,J)
      WORDCX= '(STFBK1('//CIX//','//CJX//')/STFBK1A('//CIX//','//CJX//
     1  ')) / STFBK1F('//CIX//','//CJX//')'
      CALL CONX(STFBK1(ILOADX,J),STFBK1A(ILOADX,J),STFBK1F(ILOADX,J)
     1,'buckling load factor, isogrid member, mode 1',
     1 'allowable for isogrid stiffener buckling (Use 1.)',
     1 'factor of safety for isogrid stiffener buckling',
     1 2,INUMTT,IMODX,CONMAX,ICONSX,IPOINC,CONSTX,WORDCX,
```

```
     1 WORDMX,PCWORD,CPLOTX,ICARX)
      IF (IMODX.EQ.0) THEN
         CODPHR =
     1 '  buckling load factor, isogrid member, mode 1: '
         IENDP4 =48
         CODNAM ='STFBK1('//CIX//','//CJX//')'
         MLET4 =6 + 7
         WORDBX(KCONX)= CODPHR(1:IENDP4)//CODNAM(1:MLET4)
         IF (NPRINX.GT.0) WRITE(IFILE8,'(I5,6X,G14.7,A,A)')
     1    KCONX,CARX(KCONX),CODPHR(1:IENDP4),CODNAM(1:MLET4)
      ENDIF
  175 CONTINUE
  176 CONTINUE
C
C  Behavior and constraints generated next for SKNST1:
C  SKNST1 = maximum stress in the shell skin, mode 1
C
      IF (JSKNBK1.EQ.0) GO TO 191
      IF (NPRINX.GT.0) THEN
         IF (JSKNBK1.GT.1) THEN
            WRITE(IFILE8,'(1X,A)')'  '
            WRITE(IFILE8,'(1X,A,$)')' BEHAVIOR OVER J = '
            WRITE(IFILE8,'(1X,A)')
     1      'number of regions for computing behavior'
         ENDIF
      ENDIF
      DO 190  J=1,JSKNBK1
      CALL CONVR2(J,CJX)
      PHRASE =
     1 'maximum stress in the shell skin, mode 1'
      CALL BLANKX(PHRASE,IENDP4)
      IF (IBEHV(5  ).EQ.0) CALL BEHX5
     1 (IFILE8,NPRINX,IMODX,IFAST,ILOADX,J,
     1 'maximum stress in the shell skin, mode 1')
      IF (SKNST1(ILOADX,J).EQ.0.)  SKNST1(ILOADX,J) = 1.E-10
      IF (SKNST1A(ILOADX,J).EQ.0.)  SKNST1A(ILOADX,J) = 1.0
      IF (SKNST1F(ILOADX,J).EQ.0.)  SKNST1F(ILOADX,J) = 1.0
      KCONX = KCONX + 1
      CARX(KCONX) =SKNST1(ILOADX,J)
      WORDCX= '(SKNST1A('//CIX//','//CJX//')/SKNST1('//CIX//','//CJX//
     1  ')) / SKNST1F('//CIX//','//CJX//')'
      CALL CONX(SKNST1(ILOADX,J),SKNST1A(ILOADX,J),SKNST1F(ILOADX,J)
     1,'maximum stress in the shell skin, mode 1',
     1 'allowable stress for the shell skin',
     1 'factor of safety for skin stress',
     1 3,INUMTT,IMODX,CONMAX,ICONSX,IPOINC,CONSTX,WORDCX,
     1 WORDMX,PCWORD,CPLOTX,ICARX)
      IF (IMODX.EQ.0) THEN
```

```
         CODPHR =
     1 '  maximum stress in the shell skin, mode 1: '
         IENDP4 =44
         CODNAM ='SKNST1('//CIX//','//CJX//')'
         MLET4 =6 + 7
         WORDBX(KCONX)= CODPHR(1:IENDP4)//CODNAM(1:MLET4)
         IF (NPRINX.GT.0) WRITE(IFILE8,'(I5,6X,G14.7,A,A)')
     1    KCONX,CARX(KCONX),CODPHR(1:IENDP4),CODNAM(1:MLET4)
       ENDIF
  190 CONTINUE
  191 CONTINUE
=====================================================================
```