Table 62 Input file, ***.BEG**, for the "**BEGIN**" processor for an
equivalent **imperfect unstiffened** ellipsoidal shell in which there are
four load sets:
Load set 1=+mode 1 and +mode 2 axisymmetric imperfections, one at a time
Load set 2=-mode 1 and -mode 2 axisymmetric imperfections, one at a time
Load set 3=+mode 3 and +mode 4 axisymmetric imperfections, one at a time
Load set 4=-mode 3 and -mode 4 axisymmetric imperfections, one at a time.
The buckling modal imperfection amplitude, Wimp = (+ or -) 0.2 inch.
Compare with Table 35, for which there are two load sets, 1 and 2.
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      n          $ Do you want a tutorial session and tutorial output?
        13       $ number of x-coordinates: npoint
        13       $ Number Ixinpu  of rows in the array  xinput: Ixinpu
  0.000000       $ x-coordinates for ends of segments: xinput( 1)
  2.554500       $ x-coordinates for ends of segments: xinput( 2)
  5.666450       $ x-coordinates for ends of segments: xinput( 3)
  8.753630       $ x-coordinates for ends of segments: xinput( 4)
  11.79770       $ x-coordinates for ends of segments: xinput( 5)
  14.77232       $ x-coordinates for ends of segments: xinput( 6)
  17.63477       $ x-coordinates for ends of segments: xinput( 7)
  19.63631       $ x-coordinates for ends of segments: xinput( 8)
  21.26065       $ x-coordinates for ends of segments: xinput( 9)
  22.70426       $ x-coordinates for ends of segments: xinput(10)
  23.86535       $ x-coordinates for ends of segments: xinput(11)
  24.54286       $ x-coordinates for ends of segments: xinput(12)
  24.75000       $ x-coordinates for ends of segments: xinput(13)
  24.75000       $ length of semi-major axis: ainput
  12.37500       $ length of semi-minor axis of ellipse: binput
        11       $ number of nodal points per segment: nodes
  17.63477       $ max. x-coordinate for x-coordinate callouts: xlimit
 0.4000000       $ skin thickness at xinput: THKSKN( 1)
 0.4000000       $ skin thickness at xinput: THKSKN( 2)
 0.4000000       $ skin thickness at xinput: THKSKN( 3)
 0.4000000       $ skin thickness at xinput: THKSKN( 4)
 0.4000000       $ skin thickness at xinput: THKSKN( 5)
 0.4000000       $ skin thickness at xinput: THKSKN( 6)
 0.4000000       $ skin thickness at xinput: THKSKN( 7)
 0.4000000       $ skin thickness at xinput: THKSKN( 8)
 0.4000000       $ skin thickness at xinput: THKSKN( 9)
 0.4000000       $ skin thickness at xinput: THKSKN(10)
 0.4000000       $ skin thickness at xinput: THKSKN(11)
 0.4000000       $ skin thickness at xinput: THKSKN(12)
 0.4000000       $ skin thickness at xinput: THKSKN(13)
  0.000001       $ height of an isogrid stiffening member: HIGH1( 1)
  0.000001       $ height of an isogrid stiffening member: HIGH1( 2)
  0.000001       $ height of an isogrid stiffening member: HIGH1( 3)
  0.000001       $ height of an isogrid stiffening member: HIGH1( 4)
  0.000001       $ height of an isogrid stiffening member: HIGH1( 5)
  0.000001       $ height of an isogrid stiffening member: HIGH1( 6)
  0.000001       $ height of an isogrid stiffening member: HIGH1( 7)
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 0.000001       $ height of an isogrid stiffening member: HIGH1( 8)
 0.000001       $ height of an isogrid stiffening member: HIGH1( 1)
 0.000001       $ height of an isogrid stiffening member: HIGH1( 2)
 0.000001       $ height of an isogrid stiffening member: HIGH1( 3)
 0.000001       $ height of an isogrid stiffening member: HIGH1( 4)
 0.000001       $ height of an isogrid stiffening member: HIGH1( 5)
 9.000000       $ spacing of the isogrid members: SPACNG
0.0000100       $ thickness of an isogrid stiffening member: THSTIF
0.2000000       $ thickness of the cylindrical shell: THKCYL
 24.75000       $ radius of the cylindrical shell: RADCYL
 0.000000       $ length of the cylindrical segment: LENCYL
0.2000000       $ amplitude of the axisymmetric imperfection: WIMP
0.1600000E+08 $ elastic modulus: EMATL
0.2500000       $ Poisson ratio of material: NUMATL
0.4155000E-03 $ mass density of material: DNMATL
        2       $ strategy control for imperfection shapes: IMODE
        4       $ Number NCASES  of load cases (environments): NCASES
 460.0000       $ uniform external pressure: PRESS( 1)
 460.0000       $ uniform external pressure: PRESS( 2)
 460.0000       $ uniform external pressure: PRESS( 3)
 460.0000       $ uniform external pressure: PRESS( 4)
 550.0000       $ allowable pressure for axisymmetric collapse:CLAPS1A(1)
 550.0000       $ allowable pressure for axisymmetric collapse:CLAPS1A(2)
 550.0000       $ allowable pressure for axisymmetric collapse:CLAPS1A(3)
 550.0000       $ allowable pressure for axisymmetric collapse:CLAPS1A(4)
 1.000000       $ factor of safety for axisymmetric collapse: CLAPS1F( 1)
 1.000000       $ factor of safety for axisymmetric collapse: CLAPS1F( 2)
 1.000000       $ factor of safety for axisymmetric collapse: CLAPS1F( 3)
 1.000000       $ factor of safety for axisymmetric collapse: CLAPS1F( 4)
 1.000000       $ allowable general buckling load factor: GENBK1A(1)
 1.000000       $ allowable general buckling load factor: GENBK1A(2)
 1.000000       $ allowable general buckling load factor: GENBK1A(3)
 1.000000       $ allowable general buckling load factor: GENBK1A(4)
 1.000000       $ factor of safety for general buckling: GENBK1F( 1)
 1.000000       $ factor of safety for general buckling: GENBK1F( 2)
 1.000000       $ factor of safety for general buckling: GENBK1F( 3)
 1.000000       $ factor of safety for general buckling: GENBK1F( 4)
        2       $ Number JSKNBK1 of columns in the array, SKNBK1: JSKNBK1
 1.000000       $ allowable buckling load factor: SKNBK1A( 1, 1)
 1.000000       $ allowable buckling load factor: SKNBK1A( 2, 1)
 1.000000       $ allowable buckling load factor: SKNBK1A( 3, 1)
 1.000000       $ allowable buckling load factor: SKNBK1A( 4, 1)
 1.000000       $ allowable buckling load factor: SKNBK1A( 1, 2)
 1.000000       $ allowable buckling load factor: SKNBK1A( 2, 2)
 1.000000       $ allowable buckling load factor: SKNBK1A( 3, 2)
 1.000000       $ allowable buckling load factor: SKNBK1A( 4, 2)
 1.000000       $ factor of safety for skin buckling: SKNBK1F( 1, 1)
 1.000000       $ factor of safety for skin buckling: SKNBK1F( 2, 1)
 1.000000       $ factor of safety for skin buckling: SKNBK1F( 3, 1)
 1.000000       $ factor of safety for skin buckling: SKNBK1F( 4, 1)
 1.000000       $ factor of safety for skin buckling: SKNBK1F( 1, 2)
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1.000000      $ factor of safety for skin buckling: SKNBK1F( 2, 2)
1.000000      $ factor of safety for skin buckling: SKNBK1F( 3, 2)
1.000000      $ factor of safety for skin buckling: SKNBK1F( 4, 2)
1.000000      $ allowable for isogrid stiffener buckling : STFBK1A(1,1)
1.000000      $ allowable for isogrid stiffener buckling): STFBK1A(2,1)
1.000000      $ allowable for isogrid stiffener buckling): STFBK1A(3,1)
1.000000      $ allowable for isogrid stiffener buckling): STFBK1A(4,1)
1.000000      $ allowable for isogrid stiffener buckling: STFBK1A(1,2)
1.000000      $ allowable for isogrid stiffener buckling: STFBK1A(2,2)
1.000000      $ allowable for isogrid stiffener buckling: STFBK1A(3,2)
1.000000      $ allowable for isogrid stiffener buckling: STFBK1A(4,2)
1.000000      $ factor of safety, isogrid stiffner bucklng:STFBK1F(1,1)
1.000000      $ factor of safety, isogrid stiffner bucklng:STFBK1F(2,1)
1.000000      $ factor of safety, isogrid stiffner bucklng:STFBK1F(3,1)
1.000000      $ factor of safety, isogrid stiffner bucklng:STFBK1F(4,1)
1.000000      $ factor of safety, isogrid stiffner bucklng:STFBK1F(1,2)
1.000000      $ factor of safety, isogrid stiffner bucklng:STFBK1F(2,2)
1.000000      $ factor of safety, isogrid stiffner bucklng:STFBK1F(3,2)
1.000000      $ factor of safety, isogrid stiffner bucklng:STFBK1F(4,2)
120000.0      $ allowable stress for the shell skin: SKNST1A( 1, 1)
120000.0      $ allowable stress for the shell skin: SKNST1A( 2, 1)
120000.0      $ allowable stress for the shell skin: SKNST1A( 3, 1)
120000.0      $ allowable stress for the shell skin: SKNST1A( 4, 1)
120000.0      $ allowable stress for the shell skin: SKNST1A( 1, 2)
120000.0      $ allowable stress for the shell skin: SKNST1A( 2, 2)
120000.0      $ allowable stress for the shell skin: SKNST1A( 3, 2)
120000.0      $ allowable stress for the shell skin: SKNST1A( 4, 2)
1.000000      $ factor of safety for skin stress: SKNST1F( 1, 1)
1.000000      $ factor of safety for skin stress: SKNST1F( 2, 1)
1.000000      $ factor of safety for skin stress: SKNST1F( 3, 1)
1.000000      $ factor of safety for skin stress: SKNST1F( 4, 1)
1.000000      $ factor of safety for skin stress: SKNST1F( 1, 2)
1.000000      $ factor of safety for skin stress: SKNST1F( 2, 2)
1.000000      $ factor of safety for skin stress: SKNST1F( 3, 2)
1.000000      $ factor of safety for skin stress: SKNST1F( 4, 2)
120000.0      $ allowable stress in isogrid stiffeners: STFST1A( 1, 1)
120000.0      $ allowable stress in isogrid stiffeners: STFST1A( 2, 1)
120000.0      $ allowable stress in isogrid stiffeners: STFST1A( 3, 1)
120000.0      $ allowable stress in isogrid stiffeners: STFST1A( 4, 1)
120000.0      $ allowable stress in isogrid stiffeners: STFST1A( 1, 2)
120000.0      $ allowable stress in isogrid stiffeners: STFST1A( 2, 2)
120000.0      $ allowable stress in isogrid stiffeners: STFST1A( 3, 2)
120000.0      $ allowable stress in isogrid stiffeners: STFST1A( 4, 2)
1.000000      $ factor of safety, stress in isogrid member:STFST1F(1,1)
1.000000      $ factor of safety, stress in isogrid member:STFST1F(2,1)
1.000000      $ factor of safety, stress in isogrid member:STFST1F(3,1)
1.000000      $ factor of safety, stress in isogrid member:STFST1F(4,1)
1.000000      $ factor of safety, stress in isogrid member:STFST1F(1,2)
1.000000      $ factor of safety, stress in isogrid member:STFST1F(2,2)
1.000000      $ factor of safety, stress in isogrid member:STFST1F(3,2)
1.000000      $ factor of safety, stress in isogrid member:STFST1F(4,2)
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0.7000000      $ allowable normal displacement at apex: WAPEX1A( 1)
0.7000000      $ allowable normal displacement at apex: WAPEX1A( 2)
0.7000000      $ allowable normal displacement at apex: WAPEX1A( 3)
0.7000000      $ allowable normal displacement at apex: WAPEX1A( 4)
 1.000000      $ factor of safety for WAPEX: WAPEX1F( 1)
 1.000000      $ factor of safety for WAPEX: WAPEX1F( 2)
 1.000000      $ factor of safety for WAPEX: WAPEX1F( 3)
 1.000000      $ factor of safety for WAPEX: WAPEX1F( 4)
 550.0000      $ allowable pressure for axisymmetric collapse:CLAPS2A(1)
 550.0000      $ allowable pressure for axisymmetric collapse:CLAPS2A(2)
 550.0000      $ allowable pressure for axisymmetric collapse:CLAPS2A(3)
 550.0000      $ allowable pressure for axisymmetric collapse:CLAPS2A(4)
 1.000000      $ factor of safety for axisymmetric collapse: CLAPS2F( 1)
 1.000000      $ factor of safety for axisymmetric collapse: CLAPS2F( 2)
 1.000000      $ factor of safety for axisymmetric collapse: CLAPS2F( 3)
 1.000000      $ factor of safety for axisymmetric collapse: CLAPS2F( 4)
 1.000000      $ allowable general buckling load factor: GENBK2A( 1)
 1.000000      $ allowable general buckling load factor: GENBK2A( 2)
 1.000000      $ allowable general buckling load factor: GENBK2A( 3)
 1.000000      $ allowable general buckling load factor: GENBK2A( 4)
 1.000000      $ factor of safety for general buckling: GENBK2F( 1)
 1.000000      $ factor of safety for general buckling: GENBK2F( 2)
 1.000000      $ factor of safety for general buckling: GENBK2F( 3)
 1.000000      $ factor of safety for general buckling: GENBK2F( 4)
        2      $ Number JSKNBK2 of columns in the array, SKNBK2: JSKNBK2
 1.000000      $ allowable skin buckling load factor: SKNBK2A( 1, 1)
 1.000000      $ allowable skin buckling load factor: SKNBK2A( 2, 1)
 1.000000      $ allowable skin buckling load factor: SKNBK2A( 3, 1)
 1.000000      $ allowable skin buckling load factor: SKNBK2A( 4, 1)
 1.000000      $ allowable skin buckling load factor: SKNBK2A( 1, 2)
 1.000000      $ allowable skin buckling load factor: SKNBK2A( 2, 2)
 1.000000      $ allowable skin buckling load factor: SKNBK2A( 3, 2)
 1.000000      $ allowable skin buckling load factor: SKNBK2A( 4, 2)
 1.000000      $ factor of safety for local skin buckling: SKNBK2F(1,1)
 1.000000      $ factor of safety for local skin buckling: SKNBK2F(2,1)
 1.000000      $ factor of safety for local skin buckling: SKNBK2F(3,1)
 1.000000      $ factor of safety for local skin buckling: SKNBK2F(4,1)
 1.000000      $ factor of safety for local skin buckling: SKNBK2F(1,2)
 1.000000      $ factor of safety for local skin buckling: SKNBK2F(2,2)
 1.000000      $ factor of safety for local skin buckling: SKNBK2F(3,2)
 1.000000      $ factor of safety for local skin buckling: SKNBK2F(4,2)
 1.000000      $ allowable for isogrid stiffener buckling: STFBK2A(1,1)
 1.000000      $ allowable for isogrid stiffener buckling: STFBK2A(2,1)
 1.000000      $ allowable for isogrid stiffener buckling: STFBK2A(3,1)
 1.000000      $ allowable for isogrid stiffener buckling: STFBK2A(4,1)
 1.000000      $ allowable for isogrid stiffener buckling: STFBK2A(1,2)
 1.000000      $ allowable for isogrid stiffener buckling: STFBK2A(2,2)
 1.000000      $ allowable for isogrid stiffener buckling: STFBK2A(3,2)
 1.000000      $ allowable for isogrid stiffener buckling: STFBK2A(4,2)
 1.000000      $ factor of safety, isogrid stiffner bucklng:STFBK2F(1,1)
 1.000000      $ factor of safety, isogrid stiffner bucklng:STFBK2F(2,1)
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  1.000000      $ factor of safety, isogrid stiffner bucklng:STFBK2F(3,1)
  1.000000      $ factor of safety, isogrid stiffner bucklng:STFBK2F(4,1)
  1.000000      $ factor of safety, isogrid stiffner bucklng:STFBK2F(1,2)
  1.000000      $ factor of safety, isogrid stiffner bucklng:STFBK2F(2,2)
  1.000000      $ factor of safety, isogrid stiffner bucklng:STFBK2F(3,2)
  1.000000      $ factor of safety, isogrid stiffner bucklng:STFBK2F(4,2)
 120000.0       $ allowable stress for the shell skin: SKNST2A( 1, 1)
 120000.0       $ allowable stress for the shell skin: SKNST2A( 2, 1)
 120000.0       $ allowable stress for the shell skin: SKNST2A( 3, 1)
 120000.0       $ allowable stress for the shell skin: SKNST2A( 4, 1)
 120000.0       $ allowable stress for the shell skin: SKNST2A( 1, 2)
 120000.0       $ allowable stress for the shell skin: SKNST2A( 2, 2)
 120000.0       $ allowable stress for the shell skin: SKNST2A( 3, 2)
 120000.0       $ allowable stress for the shell skin: SKNST2A( 4, 2)
  1.000000      $ factor of safety for skin stress: SKNST2F( 1, 1)
  1.000000      $ factor of safety for skin stress: SKNST2F( 2, 1)
  1.000000      $ factor of safety for skin stress: SKNST2F( 3, 1)
  1.000000      $ factor of safety for skin stress: SKNST2F( 4, 1)
  1.000000      $ factor of safety for skin stress: SKNST2F( 1, 2)
  1.000000      $ factor of safety for skin stress: SKNST2F( 2, 2)
  1.000000      $ factor of safety for skin stress: SKNST2F( 3, 2)
  1.000000      $ factor of safety for skin stress: SKNST2F( 4, 2)
 120000.0       $ allowable stress in isogrid stiffeners: STFST2A(1,1)
 120000.0       $ allowable stress in isogrid stiffeners: STFST2A(2,1)
 120000.0       $ allowable stress in isogrid stiffeners: STFST2A(3,1)
 120000.0       $ allowable stress in isogrid stiffeners: STFST2A(4,1)
 120000.0       $ allowable stress in isogrid stiffeners: STFST2A(1,2)
 120000.0       $ allowable stress in isogrid stiffeners: STFST2A(2,2)
 120000.0       $ allowable stress in isogrid stiffeners: STFST2A(3,2)
 120000.0       $ allowable stress in isogrid stiffeners: STFST2A(4,2)
  1.000000      $ factor of safety, stress in isogrid member:STFST2F(1,1)
  1.000000      $ factor of safety, stress in isogrid member:STFST2F(2,1)
  1.000000      $ factor of safety, stress in isogrid member:STFST2F(3,1)
  1.000000      $ factor of safety, stress in isogrid member:STFST2F(4,1)
  1.000000      $ factor of safety, stress in isogrid member:STFST2F(1,2)
  1.000000      $ factor of safety, stress in isogrid member:STFST2F(2,2)
  1.000000      $ factor of safety, stress in isogrid member:STFST2F(3,2)
  1.000000      $ factor of safety, stress in isogrid member:STFST2F(4,2)
 0.7000000      $ allowable normal displacement at apex: WAPEX2A(1)
 0.7000000      $ allowable normal displacement at apex: WAPEX2A(2)
 0.7000000      $ allowable normal displacement at apex: WAPEX2A(3)
 0.7000000      $ allowable normal displacement at apex: WAPEX2A(4)
  1.000000      $ factor of safety for WAPEX: WAPEX2F( 1)
  1.000000      $ factor of safety for WAPEX: WAPEX2F( 2)
  1.000000      $ factor of safety for WAPEX: WAPEX2F( 3)
  1.000000      $ factor of safety for WAPEX: WAPEX2F( 4)
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