Table 2 **A complete glossary of variables established and defined by the GENOPT user during the GENTEXT interactive session.** This list is included as part of the equivellipse.DEF file after the GENOPT user's completion of the GENTEXT interactive session. The complete equivellipse.DEF file is listed in Table a2 of the appendix. ("**equivellipse**" is the GENOPT user's generic **name** for the class of objects to be optimized in this case). An example of part of the GENTEXT interactive session that automatically generates the first part of this list is given in the next table. See Table 1 for definitions of Roles 1 – 7. See Table 6 for more on PROMPT NUMBER.

TABLE 2 GLOSSARY OF VARIABLES USED IN "equivellipse"

| ARRAY ? | NUMBER OF (ROWS, COLS) | ROLE | PROMPT NUMBER (equivellipse.PRO) | NAME | DEFINITION OF VARIABLE |
|---|---|---|---|---|---|
| n | ( 0, 0) | 2 | 10 | npoint | = number of x-coordinates |
| n | ( 0, 0) | 2 | 15 | Ixinpu | = vector element number for xinput in xinput(Ixinpu) |
| y | ( 21, 0) | 2 | 20 | xinput | = x-coordinates for ends of segments |
| n | ( 0, 0) | 2 | 25 | ainput | = length of semi-major axis |
| n | ( 0, 0) | 2 | 30 | binput | = length of semi-minor axis of ellipse |
| n | ( 0, 0) | 2 | 35 | nodes | = number of nodal points per segment |
| n | ( 0, 0) | 2 | 40 | xlimit | = max. x-coordinate for x-coordinate callouts |
| y | ( 21, 0) | 1 | 45 | THKSKN | = skin thickness at xinput |
| y | ( 21, 0) | 1 | 50 | HIGHST | = height of isogrid members at xinput |
| n | ( 0, 0) | 1 | 55 | SPACNG | = spacing of the isogrid members |
| n | ( 0, 0) | 1 | 60 | THSTIF | = thickness of an isogrid stiffening member |
| n | ( 0, 0) | 2 | 65 | THKCYL | = thickness of the cylindrical shell |
| n | ( 0, 0) | 2 | 70 | RADCYL | = radius of the cylindrical shell |
| n | ( 0, 0) | 2 | 75 | LENCYL | = length of the cylindrical segment |
| n | ( 0, 0) | 2 | 80 | WIMP | = amplitude of the axisymmetric imperfection |
| n | ( 0, 0) | 2 | 85 | EMATL | = elastic modulus |
| n | ( 0, 0) | 2 | 90 | NUMATL | = Poisson ratio of material |
| n | ( 0, 0) | 2 | 95 | DNMATL | = mass density of material |
| n | ( 0, 0) | 2 | 100 | IMODE | = strategy control for imperfection shapes |
| n | ( 0, 0) | 2 | 105 | NCASES | = Number of load cases (number of environments) |
| y | ( 20, 0) | 3 | 110 | PRESS | = uniform external pressure |
| y | ( 20, 0) | 4 | 115 | CLAPS1 | = collapse pressure with imperfection mode 1 |
| y | ( 20, 0) | 5 | 120 | CLAPS1A | = allowable pressure for axisymmetric collapse |
| y | ( 20, 0) | 6 | 125 | CLAPS1F | = factor of safety for axisymmetric collapse |
| y | ( 20, 0) | 4 | 130 | GENBK1 | = general buckling load factor, mode 1 |
| y | ( 20, 0) | 5 | 135 | GENBK1A | = allowable general buckling load factor (use 1.0) |
| y | ( 20, 0) | 6 | 140 | GENBK1F | = factor of safety for general buckling |
| n | ( 0, 0) | 2 | 145 | JSKNBK1 | = number of regions for computing behavior |
| y | ( 20, 10) | 4 | 150 | SKNBK1 | = local skin buckling load factor, mode 1 |
| y | ( 20, 10) | 5 | 155 | SKNBK1A | = allowable buckling load factor |
| y | ( 20, 10) | 6 | 160 | SKNBK1F | = factor of safety for skin buckling |
| y | ( 20, 10) | 4 | 165 | STFBK1 | = buckling load factor, isogrid member, mode 1 |
| y | ( 20, 10) | 5 | 170 | STFBK1A | = allowable for isogrid stiffener buckling (Use 1.) |
| y | ( 20, 10) | 6 | 175 | STFBK1F | = factor of safety for isogrid stiffener buckling |
| y | ( 20, 10) | 4 | 180 | SKNST1 | = maximum stress in the shell skin, mode 1 |
| y | ( 20, 10) | 5 | 185 | SKNST1A | = allowable stress for the shell skin |
| y | ( 20, 10) | 6 | 190 | SKNST1F | = factor of safety for skin stress |
| y | ( 20, 10) | 4 | 195 | STFST1 | = maximum stress in isogrid stiffener, mode 1 |
| y | ( 20, 10) | 5 | 200 | STFST1A | = allowable stress in isogrid stiffeners |
| y | ( 20, 10) | 6 | 205 | STFST1F | = factor of safety for stress in isogrid member |

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y   (  20,   0)    4     210   WAPEX1   = normal (axial) displacement at apex, mode 1
y   (  20,   0)    5     215   WAPEX1A  = allowable normal (axial) displacement at apex
y   (  20,   0)    6     220   WAPEX1F  = factor of safety for WAPEX
y   (  20,   0)    4     225   CLAPS2   = collapse pressure with imperfection mode 2
y   (  20,   0)    5     230   CLAPS2A  = allowable pressure for axisymmetric collapse
y   (  20,   0)    6     235   CLAPS2F  = factor of safety for axisymmetric collapse
y   (  20,   0)    4     240   GENBK2   = general buckling load factor, mode 2
y   (  20,   0)    5     245   GENBK2A  = allowable general buckling load factor (use 1.0)
y   (  20,   0)    6     250   GENBK2F  = factor of safety for general buckling
n   (   0,   0)    2     255   JSKNBK2  = number of regions for computing behavior
y   (  20,  10)    4     260   SKNBK2   = local skin buckling load factor, mode 2
y   (  20,  10)    5     265   SKNBK2A  = allowable skin buckling load factor (use 1.0)
y   (  20,  10)    6     270   SKNBK2F  = factor of safety for local skin buckling
y   (  20,  10)    4     275   STFBK2   = buckling load factor for isogrid member, mode 2
y   (  20,  10)    5     280   STFBK2A  = allowable for isogrid stiffener buckling (Use 1.)
y   (  20,  10)    6     285   STFBK2F  = factor of safety for isogrid stiffener buckling
y   (  20,  10)    4     290   SKNST2   = maximum stress in the shell skin, mode 2
y   (  20,  10)    5     295   SKNST2A  = allowable stress for the shell skin
y   (  20,  10)    6     300   SKNST2F  = factor of safety for skin stress
y   (  20,  10)    4     305   STFST2   = maximum stress in isogrid stiffener, mode 2
y   (  20,  10)    5     310   STFST2A  = allowable stress in isogrid stiffeners
y   (  20,  10)    6     315   STFST2F  = factor of safety for stress in isogrid member
y   (  20,   0)    4     320   WAPEX2   = normal (axial) displacement at apex, mode 2
y   (  20,   0)    5     325   WAPEX2A  = allowable normal (axial) displacement at apex
y   (  20,   0)    6     330   WAPEX2F  = factor of safety for WAPEX
n   (   0,   0)    7     335   WEIGHT   = weight of the equivalent ellipsoidal head
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