STEP files can be opened in Notepad for viewing the 3-D model data in textual form. These files can also be opened in any 3-D modelling system supporting STEP AP-203 format   
to view the 3-D model (For example, Pro/E, UG, CATIA, Ideas, etc.). A partial list of a STEP file (ProE\_STEP\_File.stp), is given below for explanation purpose.   
  
#165=DIRECTION('',(-1.E0,0.E0,0.E0));  
#166=VECTOR('',#165,5.E1);  
#167=CARTESIAN\_POINT('',(-1.64E2,-3.E0,9.882E1));  
#168=LINE('',#167,#166);  
#361=CARTESIAN\_POINT('',(-7.8E1,-3.E0,8.082E1));  
#362=DIRECTION('',(0.E0,-1.E0,0.E0));  
#363=DIRECTION('',(1.E0,0.E0,1.421085471520E-14));  
#364=AXIS2\_PLACEMENT\_3D('',#361,#362,#363);  
#365=CIRCLE('',#364,1.8E1);  
#1176=CARTESIAN\_POINT('',(-1.64E2,-3.E0,9.882E1));  
#1178=VERTEX\_POINT('',#1176);  
#1209=CARTESIAN\_POINT('',(-2.14E2,-3.E0,9.882E1));  
#1211=VERTEX\_POINT('',#1209);  
#1291=CARTESIAN\_POINT('',(-7.8E1,-3.E0,9.882E1));  
#1293=VERTEX\_POINT('',#1291);  
#1297=CARTESIAN\_POINT('',(-6.E1,-3.E0,8.082E1));  
#1299=VERTEX\_POINT('',#1297);   
#1593=CARTESIAN\_POINT('',(-2.14E2,3.E0,6.282E1));  
#1594=DIRECTION('',(0.E0,1.E0,0.E0));  
#1595=DIRECTION('',(1.E0,0.E0,0.E0));  
#1596=AXIS2\_PLACEMENT\_3D('',#1593,#1594,#1595);  
#1597=TOROIDAL\_SURFACE('',#1596,3.6E1,3.E0);  
#1604=EDGE\_LOOP('',(#1599,#1601,#1602,#1603));  
#1605=FACE\_OUTER\_BOUND('',#1604,.F.);  
#1606=ADVANCED\_FACE('',(#1605),#1597,.F.);  
#1690=CARTESIAN\_POINT('',(-2.14E2,3.E0,9.882E1));  
#1691=DIRECTION('',(1.E0,0.E0,0.E0));  
#1692=DIRECTION('',(0.E0,0.E0,-1.E0));  
#1693=AXIS2\_PLACEMENT\_3D('',#1690,#1691,#1692);  
#1694=CYLINDRICAL\_SURFACE('',#1693,6.E0);  
#1699=EDGE\_CURVE('',#1178,#1211,#168,.T.);  
#1701=EDGE\_LOOP('',(#1696,#1697,#1698,#1700));  
#1702=FACE\_OUTER\_BOUND('',#1701,.F.);  
#1703=ADVANCED\_FACE('',(#1702),#1694,.T.);  
#1717=CARTESIAN\_POINT('',(0.E0,-3.E0,0.E0));  
#1718=DIRECTION('',(0.E0,1.E0,0.E0));  
#1719=DIRECTION('',(1.E0,0.E0,0.E0));  
#1720=AXIS2\_PLACEMENT\_3D('',#1717,#1718,#1719);  
#1721=PLANE('',#1720);  
#1722=ORIENTED\_EDGE('',\*,\*,#1699,.F.);  
#1727=EDGE\_CURVE('',#1299,#1293,#365,.T.);  
#1728=ORIENTED\_EDGE('',\*,\*,#1727,.F.);  
#1751=EDGE\_LOOP('',(#1722,#1724,#1726,#1728,#1730,#1732,#1734,#1736,#1738,#1740,#1742,#1744,#1746,#1748,#1749,#1750));  
#1752=FACE\_OUTER\_BOUND('',#1751,.F.);  
#1769=EDGE\_LOOP('',(#1754,#1756,#1758,#1760,#1762,#1764,#1766,#1768));  
#1770=FACE\_BOUND('',#1769,.F.);  
#1771=ADVANCED\_FACE('',(#1752,#1770),#1721,.F.);  
#3219=CLOSED\_SHELL('',(#1462,#1477,#1492,#1507,#1521,#1535,#1549,#1563,#1578,#1592,#1606,#1620,#1634,#1649,#1662,#1676,#1689,#1703,#1716,#1771,#1785,#1839,  
#1854,#1868,#1882,#1897,#1911,#1925,#1940,#1953,#1967,#1981,#1995,#2010,#2024,#2038,#2052,#2065,#2079,#2093,#2105,#2120,#2133,#2147,#2161,#2175,#2187,#2201,  
#2215,#2228,#2240,#2253,#2268,#2282,#2297,#2311,#2326,#2339,#2353,#2367,#2382,#2396,#2409,#2423,#2438,#2450,#2463,#2477,#2491,#2504,#2516,#2529,#2544,#2558,  
#2573,#2587,#2602,#2615,#2629,#2642,#2654,#2666,#2681,#2695,#2709,#2723,#2737,#2751,#2765,#2778,#2793,#2807,#2821,#2835,#2849,#2863,#2877,#2890,#2905,#2920,  
#2935,#2950,#2965,#2980,#2995,#3010,#3024,#3038,#3051,#3064,#3077,#3090,#3103,#3116,#3128,#3141,#3154,#3167,#3180,#3193,#3206,#3218));  
#3220=MANIFOLD\_SOLID\_BREP('',#3219);  
  
The solid model is represented as B-rep as given in line number #3220.  
  
#3220=MANIFOLD\_SOLID\_BREP('',#3219);  
  
The solid is formed as a closed shell (#3219) by a set of faces.  
  
#3219=CLOSED\_SHELL('',(#1462,#1477,#1492,#1507,#1521,#1535,#1549,#1563,#1578,#1592,#1606,#1620,#1634,#1649,#1662,#1676,#1689,#1703,#1716,#1771,#1785,#1839,  
#1854,#1868,#1882,#1897,#1911,#1925,#1940,#1953,#1967,#1981,#1995,#2010,#2024,#2038,#2052,#2065,#2079,#2093,#2105,#2120,#2133,#2147,#2161,#2175,#2187,#2201,  
#2215,#2228,#2240,#2253,#2268,#2282,#2297,#2311,#2326,#2339,#2353,#2367,#2382,#2396,#2409,#2423,#2438,#2450,#2463,#2477,#2491,#2504,#2516,#2529,#2544,#2558,  
#2573,#2587,#2602,#2615,#2629,#2642,#2654,#2666,#2681,#2695,#2709,#2723,#2737,#2751,#2765,#2778,#2793,#2807,#2821,#2835,#2849,#2863,#2877,#2890,#2905,#2920,  
#2935,#2950,#2965,#2980,#2995,#3010,#3024,#3038,#3051,#3064,#3077,#3090,#3103,#3116,#3128,#3141,#3154,#3167,#3180,#3193,#3206,#3218));  
  
Three faces represented as advanced face #1606, #1703 and #1771 (toroidal, cylindrical and planar faces respectively) are taken for explanation.   
  
#1606=ADVANCED\_FACE('',(#1605),#1597,.F.);  
#1703=ADVANCED\_FACE('',(#1702),#1694,.T.);  
#1771=ADVANCED\_FACE('',(#1752,#1770),#1721,.F.);  
  
Advanced face objects comprise three entries, which denote face outer bound, face bound and face type.   
Face outer bound represent outer boundary of a face and face bound represent boundary of holes in the face. Advanced face #1771 has all three entries #1752, #1770 and #1721.  
  
#1752=FACE\_OUTER\_BOUND('',#1751,.F.);  
#1770=FACE\_BOUND('',#1769,.F.);  
#1721=PLANE('',#1720);  
  
Both advanced faces #1606 and #1703 have only face outer bounds #1605 and #1702 respectively.   
The corresponding face types are given in #1597 and # #1694, which are toroidal and cylindrical faces respectively.  
  
#1605=FACE\_OUTER\_BOUND('',#1604,.F.);  
#1702=FACE\_OUTER\_BOUND('',#1701,.F.);  
#1597=TOROIDAL\_SURFACE('',#1596,3.6E1,3.E0);  
#1694=CYLINDRICAL\_SURFACE('',#1693,6.E0);  
  
Face outer bound (say #1752) and face bound (say #1770) have one entry each, which denote edge loop (#1751 and #1769 respectively).  
  
#1751=EDGE\_LOOP('',(#1722,#1724,#1726,#1728,#1730,#1732,#1734,#1736,#1738,#1740,#1742,#1744,#1746,#1748,#1749,#1750));  
#1769=EDGE\_LOOP('',(#1754,#1756,#1758,#1760,#1762,#1764,#1766,#1768));  
  
Edge loop objects comprise all the oriented edges which form the loop. For example, in edge loop #1751, two oriented edges (say #1722 and #1728) are considered.  
  
#1722=ORIENTED\_EDGE('',\*,\*,#1699,.F.);  
#1728=ORIENTED\_EDGE('',\*,\*,#1727,.F.);  
  
Each oriented edge has one entry each, which denotes the edge curve (#1699 and #1727 respectively).   
  
#1699=EDGE\_CURVE('',#1178,#1211,#168,.T.);  
#1727=EDGE\_CURVE('',#1299,#1293,#365,.T.);  
  
Edge curve (#1699) object consists three entries, which denote the start vertex (#1178), end vertex (#1211) and edge type (#168).   
Vertex point object (#1178) consists the cartesian point object which in turn consists the x, y and z coordinates.  
  
#1178=VERTEX\_POINT('',#1176);  
#1176=CARTESIAN\_POINT('',(-1.64E2,-3.E0,9.882E1));  
  
Edge type object (#168) for lines consists two objects indicating a locating point (#167) and the direction vector (#166) of the line.   
Vector object gives the unit vector and the length (5.E1) of the line.  
  
#168=LINE('',#167,#166);  
#167=CARTESIAN\_POINT('',(-1.64E2,-3.E0,9.882E1));  
#166=VECTOR('',#165,5.E1);  
#165=DIRECTION('',(-1.E0,0.E0,0.E0));  
  
Edge type object (#168) for arcs (represented as circle) consists two objects indicating the position (#364) and radius (1.8E1).   
Axis2 placement 3D (#364) indicates a locating point (#361), the direction vector (#362) and a reference vector (#363) of the arc axis.   
  
#365=CIRCLE('',#364,1.8E1);  
#364=AXIS2\_PLACEMENT\_3D('',#361,#362,#363);  
#361=CARTESIAN\_POINT('',(-7.8E1,-3.E0,8.082E1));  
#362=DIRECTION('',(0.E0,-1.E0,0.E0));  
#363=DIRECTION('',(1.E0,0.E0,1.421085471520E-14));  
  
Face type object for planes (#1721) consists the face normal data given by axis2 placement 3D (#1720).  
  
#1721=PLANE('',#1720);  
#1720=AXIS2\_PLACEMENT\_3D('',#1717,#1718,#1719);  
#1717=CARTESIAN\_POINT('',(0.E0,-3.E0,0.E0));  
#1718=DIRECTION('',(0.E0,1.E0,0.E0));  
#1719=DIRECTION('',(1.E0,0.E0,0.E0));  
  
Face type object for cylindrical surfaces (#1694) consist the face normal data given by axis2 placement 3D (#1693) and the cylinder radius (6.E0).  
  
#1694=CYLINDRICAL\_SURFACE('',#1693,6.E0);  
#1693=AXIS2\_PLACEMENT\_3D('',#1690,#1691,#1692);  
#1690=CARTESIAN\_POINT('',(-2.14E2,3.E0,9.882E1));  
#1691=DIRECTION('',(1.E0,0.E0,0.E0));  
#1692=DIRECTION('',(0.E0,0.E0,-1.E0));  
  
Face type object for toroidal surfaces (#1597) consist the face normal data given by axis2 placement 3D (#1596), the torus radius (3.6E1) and the wire radius (3.E0).  
  
#1597=TOROIDAL\_SURFACE('',#1596,3.6E1,3.E0);  
#1596=AXIS2\_PLACEMENT\_3D('',#1593,#1594,#1595);  
#1593=CARTESIAN\_POINT('',(-2.14E2,3.E0,6.282E1));  
#1594=DIRECTION('',(0.E0,1.E0,0.E0));  
#1595=DIRECTION('',(1.E0,0.E0,0.E0));