SOLID MODELING TOOLS

Review of Solid Modeling Tools

Many of the tools you need to work in 3D are accessible from the first three ribbon tabs in the 3D Modeling workspace—Home, Visualize, View, and Output (see Figures 1 – 4 below).

Many of AutoCAD's 3D modeling tools are also accessible from the toolbars shown in Figure 5 below. You may want to display these toolbars while you are working in 3D. To display a toolbar, right-click on any button in any toolbar and select the toolbar name from the shortcut menu. To see the name of a toolbar in R2009, rest your pointer over the gray bar at the top or left end of the toolbar.
To create 3D solid objects, you can build shapes from the solid primitives, or you can extrude shapes from 2D objects.

- To build solids from the solid primitives, select shapes from the 3D Modeling ribbon panel on the Home tab, or from the Modeling toolbar. Invoke the 3DMove and 3D Rotate commands to orient the pieces.
- To extrude solids from 2D objects, first make sure the shape is either a closed polyline or a region, and then invoke the Extrude command in the 3D Modeling ribbon panel. To close a shape, you can:
  - Invoke the PEdit command (Modify → Object → Polyline) to create a closed polyline from line segments; or
  - Invoke the Region command ( in the Draw ribbon panel) to create a region from one or more objects that form a closed shape.
- Create complex shapes from multiple simpler shapes with tools from the Solid Editing ribbon panel.
  - Invoke the Union command to join pieces together.
  - Invoke the Subtract command to remove pieces from the part.
  - Invoke the Intersection command to retain shapes where parts overlap.