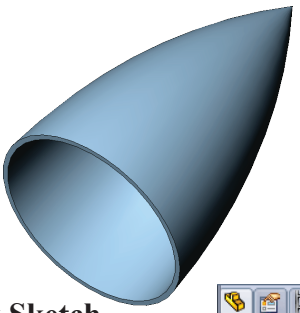
Chapter 3

Rocket 1
Nose Cone



A. Sketch.

Step 1. Click File Menu > New, click **Part** and OK.

Step 2. Click **Right Plane** in the Feature Manager and click **Sketch** from the Content toolbar, **Fig. 1**.

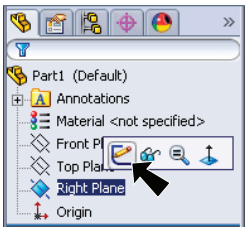


Fig. 1

Step 3. Click **Line** (**L**) on the Sketch toolbar.

Step 4. Draw a line starting directly above the Origin down to the Origin and a line from Origin out to the left as shown in **Fig. 2**. Use the inferencing line, the dotted line that appears when you draw the lines to **keep lines vertical and horizontal**. Do not add any extra lines.

Step 5. Click **Smart Dimension** (**S**) on the Sketch toolbar.

Step 6. Add dimensions as shown in **Fig. 3**.

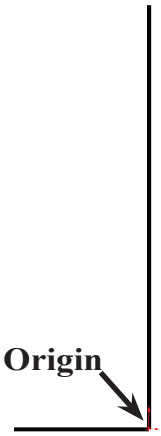


Fig. 2

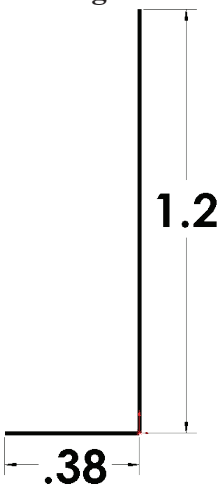


Fig. 3

Step 7. Click **Spline** (**S**) on the Sketch toolbar.

Step 8. Draw **spline between top end-point of horizontal line** and **left endpoint of vertical line, Fig. 4**. Press Escape to end spline.

Step 9. Click spline to select it, **Fig. 4**.

Step 10. Grab the circular spline handle (small gray dot) at top endpoint, **Fig. 4** and pull out to the left, to adjust spline and display the control polygon handles, **Fig. 5**.

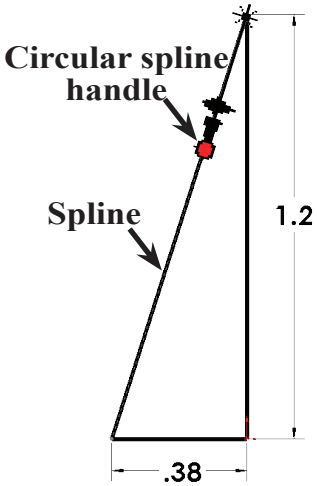


Fig. 4

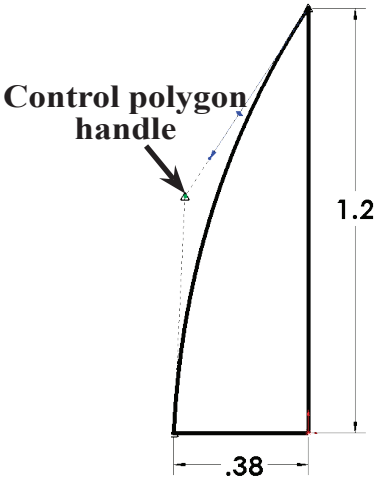
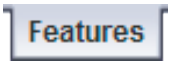


Fig. 5

Step 11. Click a gray Control Point to activate it and Control Point turns yellow. Move yellow Control Point to adjust spline, **Fig. 5**. **Important to keep spine inside left endpoint of horizontal line**, **Fig. 5**.

B. Revolve.

Step 1. Click **Features** 

on the Command Manager toolbar.

Step 2. Click **Revolved Boss/Base** 

on the Features toolbar.

Step 3. In the Revolve Property Manger for the Axis of Revolution  , click the **vertical line of sketch**, **Fig. 8**.
Click OK  .

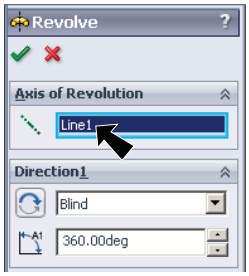


Fig. 7

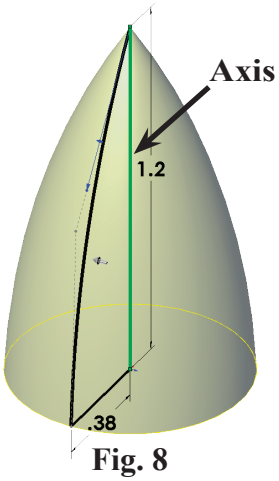


Fig. 8

C. Save as "NOSE CONE".

Step 1. Click File Menu > Save As.

Step 2. Key-in **NOSE CONE** for filename and press ENTER.

D. Shell.

Step 1. Rotate view to view **underside of Nose Cone** as shown in **Fig. 9**. To rotate view, hold down middle mouse button (wheel) and drag.

Step 2. Click **bottom face** of nose cone, **Fig. 9**.

Step 3. Click **Shell** 

on the Features toolbar.

Step 4. In the Shell Property Manager, under Parameters set:

Thickness  to **.02** **Fig. 10**
check **Show preview**

click OK  , **Fig. 11**.

Step 5. Save. Use **Ctrl-S**.

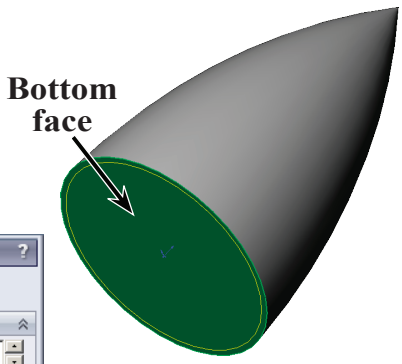


Fig. 9

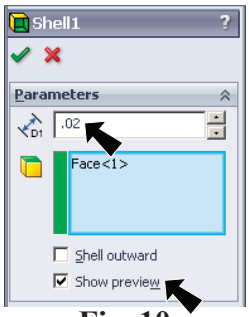


Fig. 10

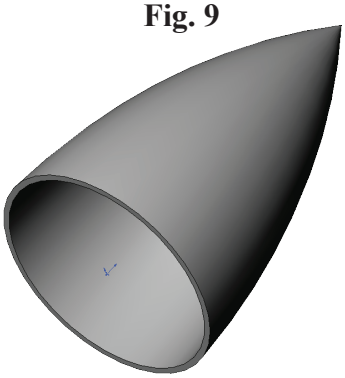


Fig. 11

E. Appearance.

Step 1. Click the Nose Cone, click **Appearance Callout**  on the Content toolbar and click **NOSE CONE**  , **Fig. 12**.

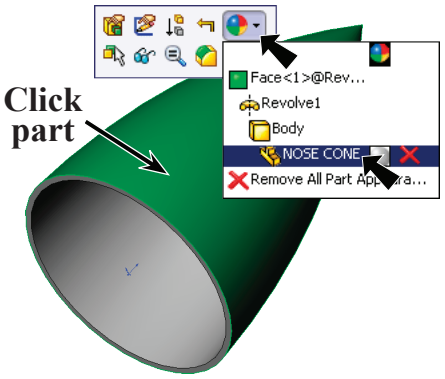


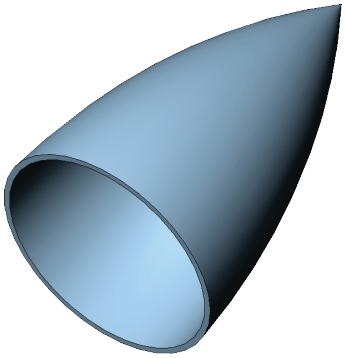
Fig. 12

Step 2. In the Appearances Task pane, expand **Metal**, click **Aluminum** and in the lower pane select **polished aluminum**, **Fig. 13**.

Step 3. Back over in the Appearances Property Manager,

under Color: **Fig. 14**
set **RGB values** to**:**
R 191
G 222
B 255
click OK  .

Step 4. Save. Use **Ctrl-S**.



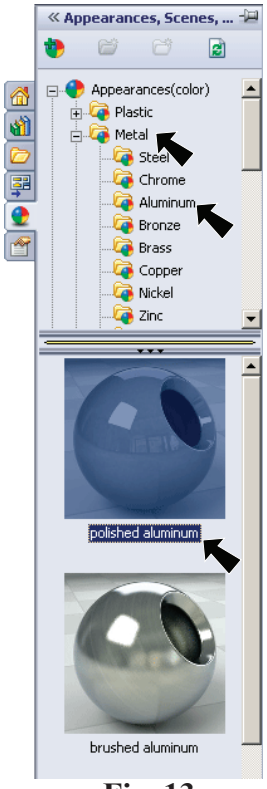


Fig. 13

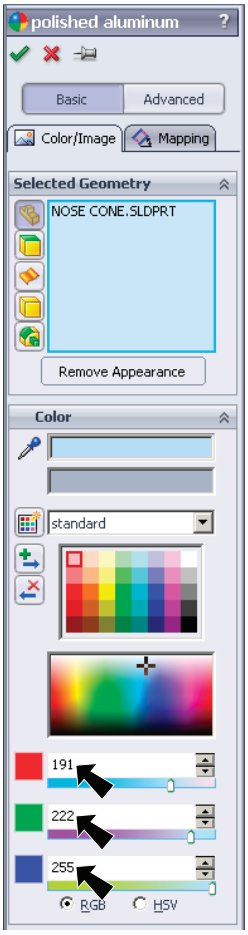


Fig. 14