



A. Axle.

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

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

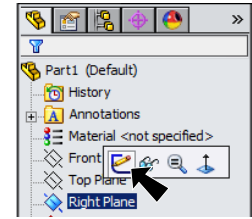


Fig. 1

Step 3. Click **Circle**  (S) on the Sketch toolbar.

Step 4. Draw a circle starting at the Origin , **Fig. 2**.

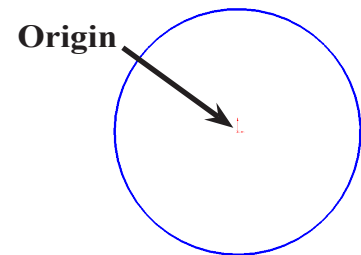
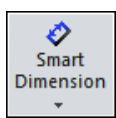


Fig. 2

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

Step 6. Dimension circle **diameter 3.18**, **Fig. 3**.

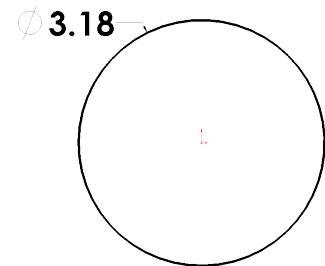
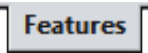
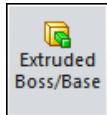




Fig. 3

Step 7. Click **Features**  on the Command Manager toolbar.

Step 8. Click **Extruded Boss/Base**  on the Features toolbar.

Step 9. In the Property Manager set:
 under Direction 1, **Fig. 4**
 End Condition **Mid Plane**
Depth  **57**
 click OK .

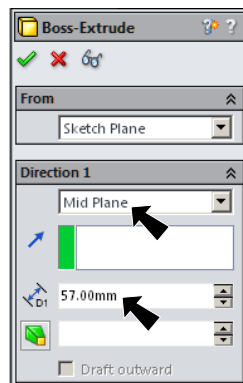



Fig. 4

Step 10. Click **Zoom to Fit**  (F) on the View toolbar.

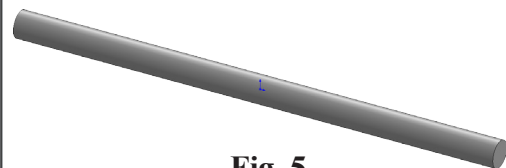


Fig. 5

B. Save as "AXLE".

Step 1. Click File Menu > Save As.

Step 2. Key-in **AXLE** for the filename and press ENTER.

C. Fillet Edges.

Step 1. Click **Fillet**  on the Features toolbar.

Step 2. In the Fillet Property Manager:
under Items To Fillet, **Fig. 6**

Radius  **.4**

select **Full preview**

click **cylindrical face**, **Fig. 7**

click OK .

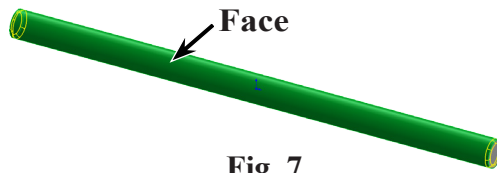


Fig. 7

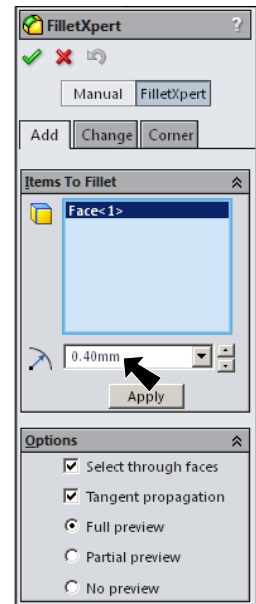


Fig. 6

Step 3. Save. Use **Ctrl-S**.

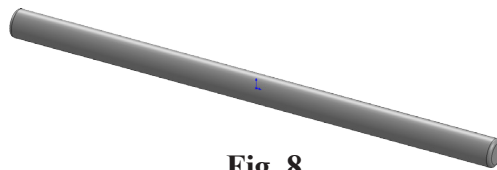


Fig. 8

D. Mate References.

Step 1. Click **Right Plane**  in the Feature Manager to select Plane, **Fig. 9**.

Step 2. Click **Reference Geometry**  on the Surfaces toolbar and **Plane** from the menu.

Step 3. In the Mate Reference Manager set:
under **Primary Reference Entity**, **Fig. 10**

Mate Reference Type  **Coincident**

under **Secondary Reference Entity**

click in Entity box 

click **cylindrical face**, **Fig. 11**

click OK .

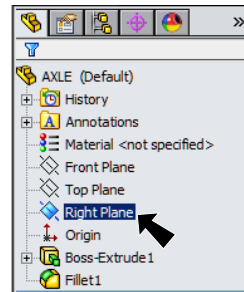


Fig. 9

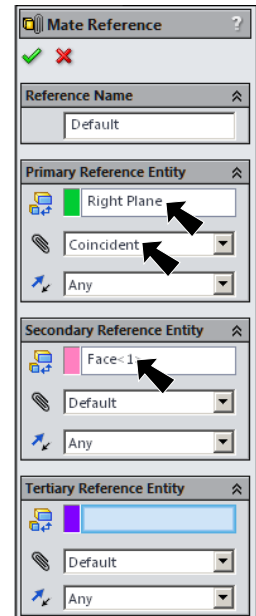


Fig. 10

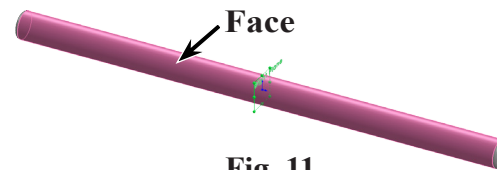



Fig. 11

E. Material Aluminum.

Step 1. Right click Material  in the Feature Manager and click **Edit Material**, Fig. 12.

Step 2. Expand **Aluminum Alloys** in the material tree and select **1060 Alloy**, Fig. 13. Click **Apply** and **Close**.

Step 3. Save. Use **Ctrl-S**.

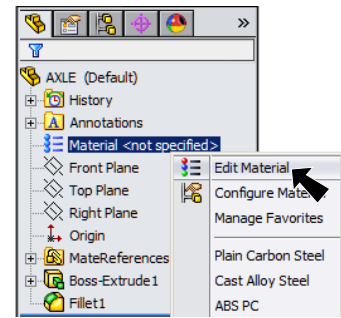


Fig. 12

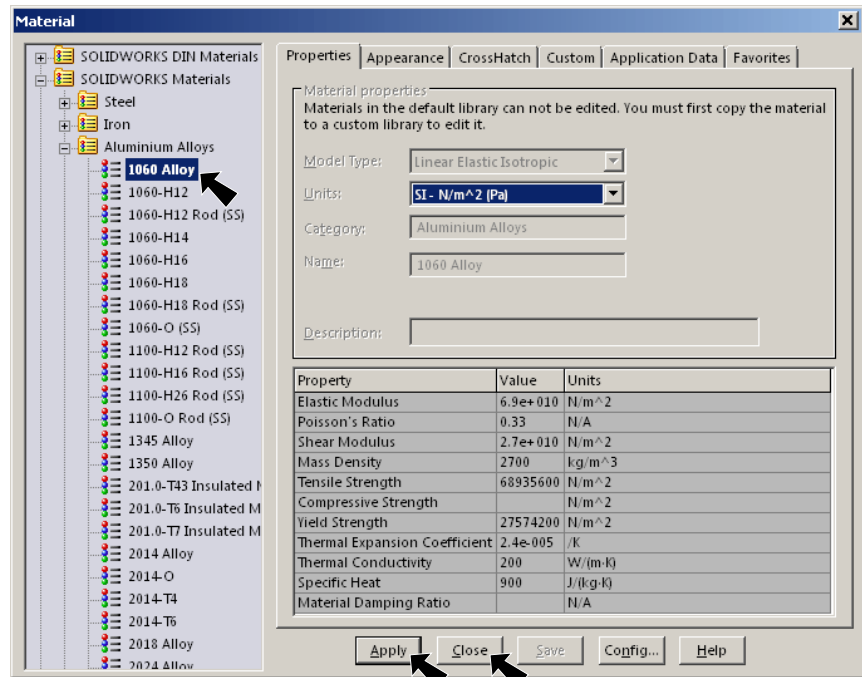


Fig. 13

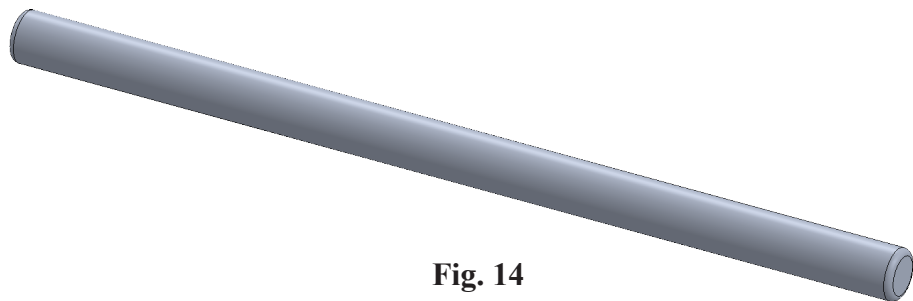


Fig. 14