



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**.

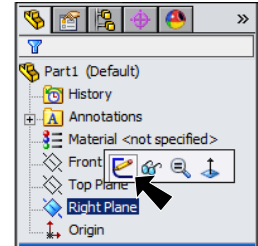


Fig. 1

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

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

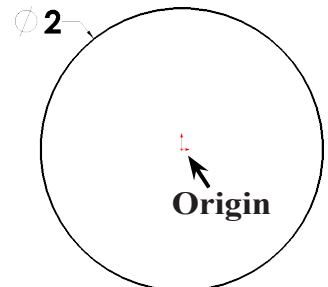
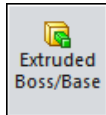


Fig. 2

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

Step 6. Dimension circle **diameter 2**, **Fig. 2**.

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. 3**

End Condition **Mid Plane**

Depth  D1 **85**

click OK 

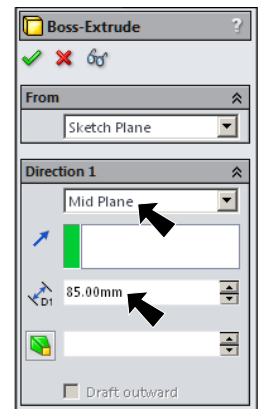



Fig. 3

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

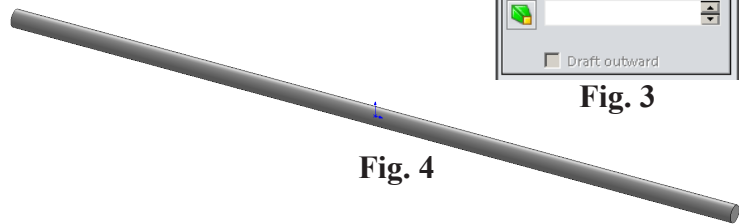


Fig. 4

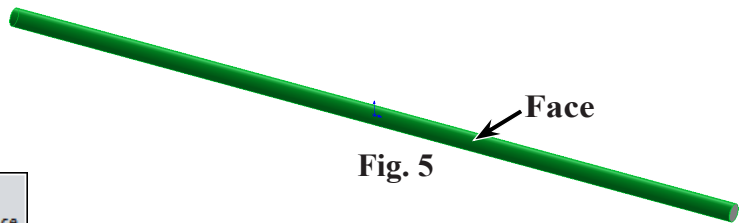
B. Save as "FRONT AXLE".

Step 1. Click File Menu > Save As.

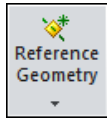
Step 2. Key-in **FRONT AXLE** for the filename and press ENTER.

C. Mate Reference.

Step 1. Click the **cylindrical face of Axle** to select it, **Fig. 5**.



Step 2. Click **Reference Geometry** on the Features toolbar and **Mate Reference** from the menu.



Step 3. In the Mate Reference Manager:
under **Primary Reference Entity**, **Fig. 6**

Mate Reference Type  **Concentric**
click OK .

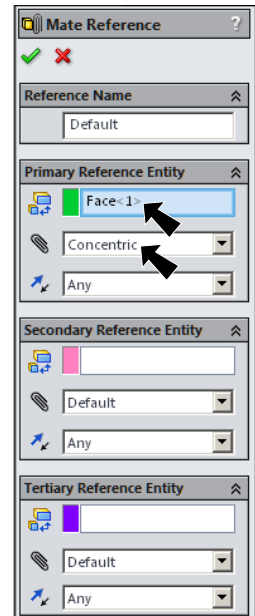


Fig. 6

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

D. Material Aluminum.

Step 1. **Right click Material**  in the Feature Manager and click **Edit Material**, **Fig. 7**.

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

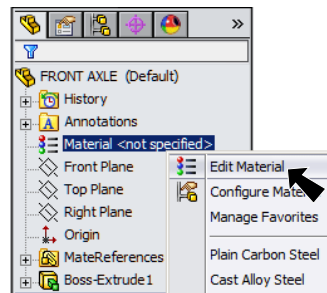


Fig. 7


E. Save as "REAR AXLE".

Step 1. Save.
Use **Ctrl-S** to save FRONT AXLE.

Step 2. Click File Menu > Save As.

Step 3. Key-in **REAR AXLE** for the filename.
You now have two Axle files, FRONT and REAR. Next, we change length of REAR Axle.

F. Change Extrude Distance.

Step 1. Click **Boss-Extrude1** in the Feature Manager and click **Edit Feature**  in the Context toolbar, **Fig. 8**.

Step 2. In Boss-Extrude1 Property Manager,

change **Depth**  to **92**

click **OK** , **Fig. 9** and **Fig. 10**.

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

You should have 2 Axles:

FRONT 85

REAR 92

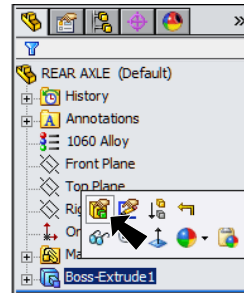


Fig. 8

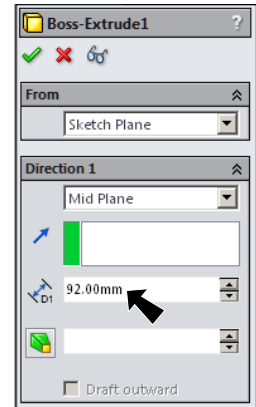


Fig. 9

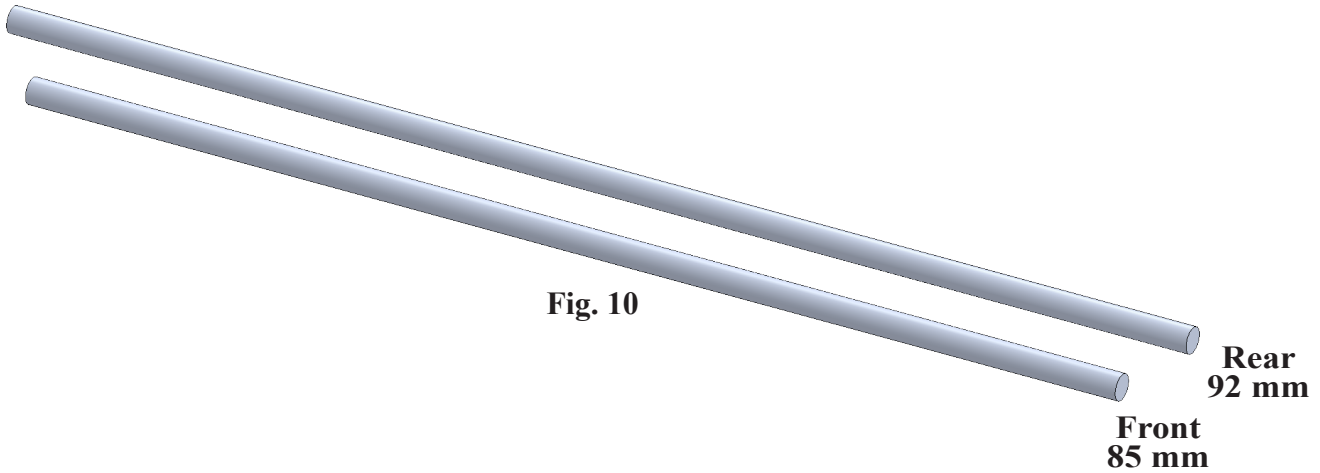


Fig. 10