

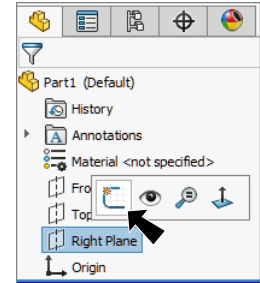


**A. Axle.**

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

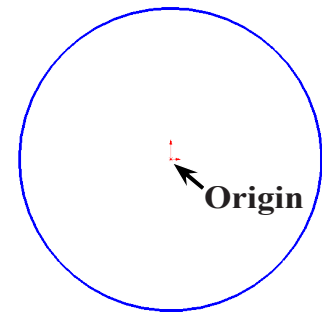
Step 2. Click **Right Plane**  in the Feature Manager and click **Sketch**  on the context toolbar, **Fig. 1**.



**Fig. 1**

Step 3. Click **Circle**  on the Sketch toolbar.

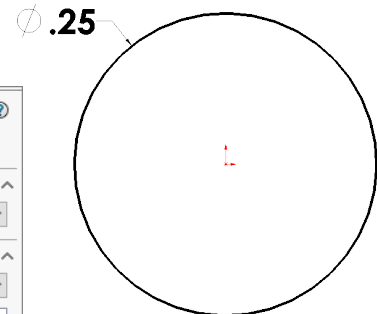
Step 4. Sketch a circle starting at the Origin , **Fig. 2**.




**Fig. 2**

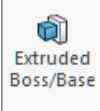
Step 5. Click **Smart Dimension**  (S) on the Sketch toolbar.



Step 6. Dimension circle **diameter .25**, **Fig. 3**.

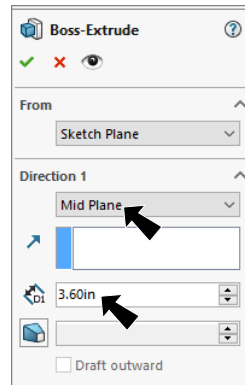


**Fig. 3**

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

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

Step 9. In the Boss-Extrude Property Manager set:  
 under Direction 1, **Fig. 4**  
 End Condition **Mid Plane**  
**Depth**  **3.6**  
 click OK .



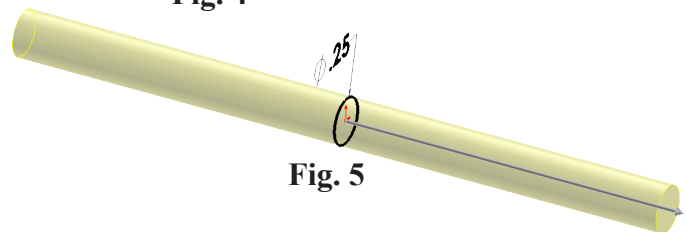
**Fig. 4**

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

**B. Save as "FRONT AXLE".**


Step 1. Click File Menu > Save As.

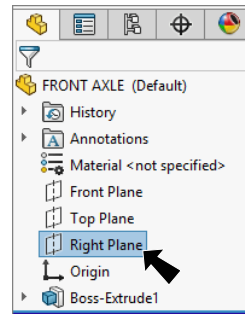
Step 2. Key-in **FRONT AXLE** for the file-name and press ENTER.



**Fig. 5**

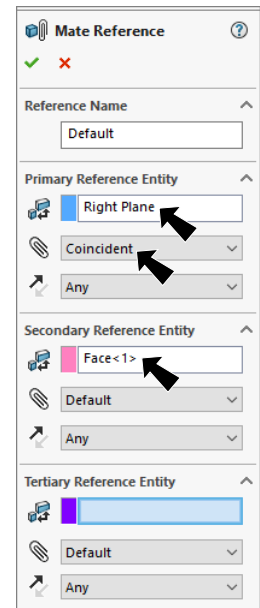
### C. Mate References.

Step 1. Click **Right Plane**  in the Feature Manager to select Plane, **Fig. 6**.




**Fig. 6**

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



**Fig. 7**

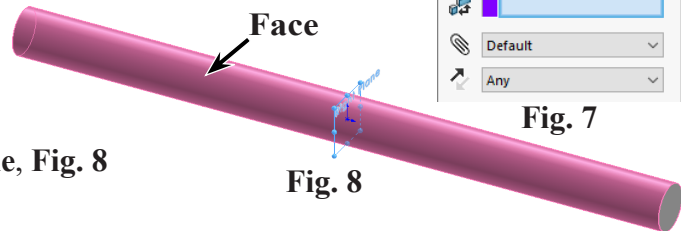
Step 3. In the Mate Reference Manager:  
 under Primary Reference Entity, **Fig. 7**  
 set **Mate Reference Type**  **Coincident**

under Secondary Reference Entity

click in Entity box 

and click **cylindrical face of Axle**, **Fig. 8**

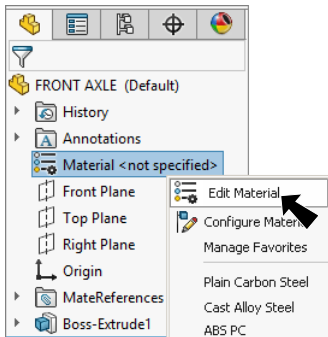
click OK .




**Fig. 8**

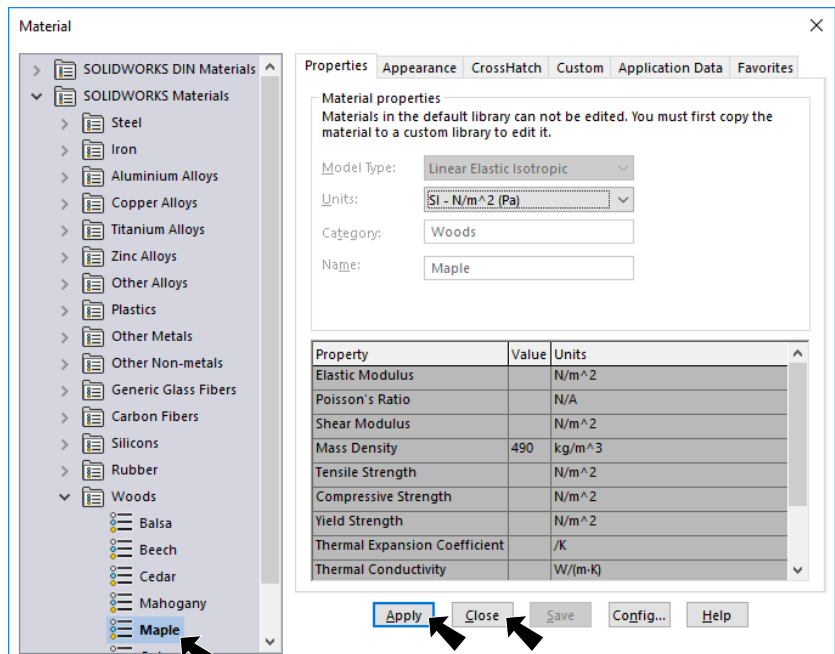
### D. Material Maple.

Step 1. **Right click Material**  in the Feature Manager and click **Edit Material**, **Fig. 9**.

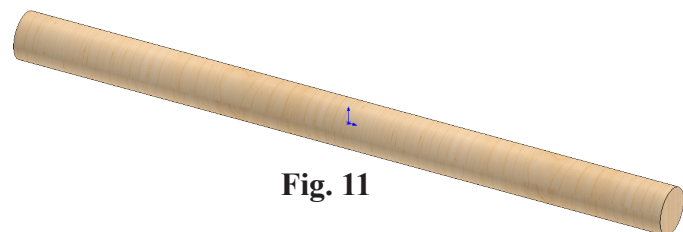


**Fig. 9**

Step 2. Expand **Woods** (click ) in the material tree and click **Maple**, **Fig. 10**. Click **Apply** and **Close**.



**Fig. 10**



**Fig. 11**

## E. Rotate Mapping.

Step 1. Click PhotoView 360 Menu > Edit Appearance.

Step 2. In the Property Manager:

click **Mapping tab**  **Mapping**, Fig. 12

under Mapping controls

**Rotation 90**

click OK .

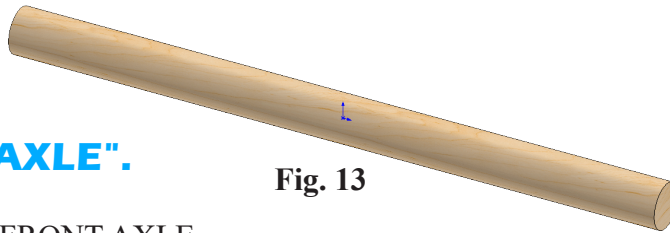


Fig. 13

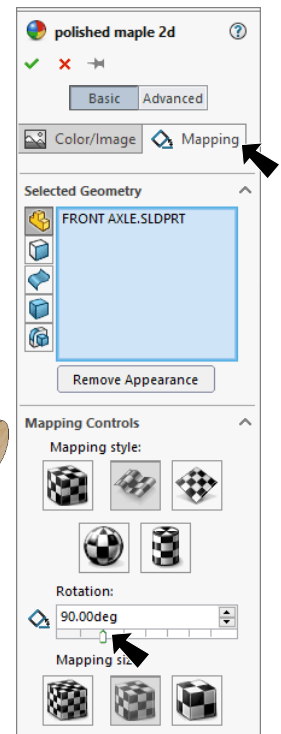


Fig. 12

## F. 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.

## G. Change Extrude Distance.

Step 1. Click **Boss-Extrude1** in the Feature Manager

and click **Edit Feature**  on the context toolbar, Fig. 14.

Step 2. In the Boss-Extrude Property Manager set:

under Direction 1, Fig. 15

**Depth**  **4.6**

click OK .

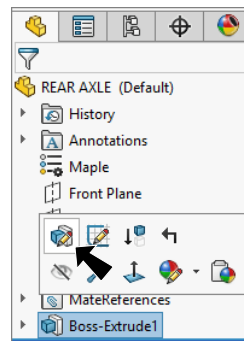


Fig. 14

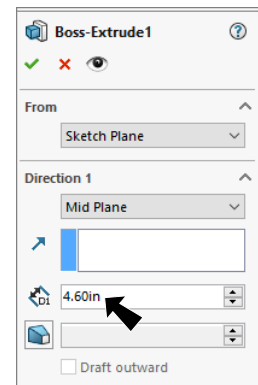


Fig. 15

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

You should have 2

Axles:

**FRONT 3.6**

**REAR 4.6**

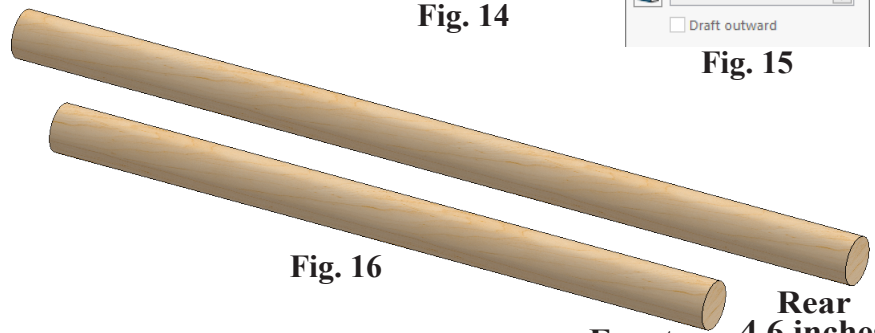


Fig. 16

Front  
3.6 inches

Rear  
4.6 inches