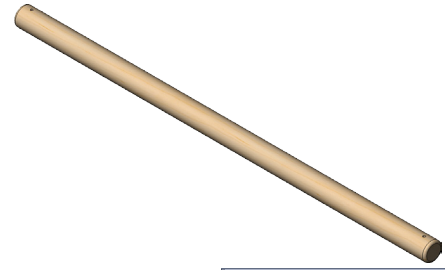




# Sumo Car Axle

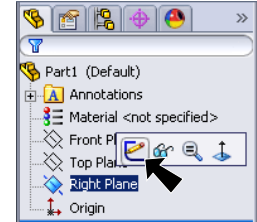


## A. Axle.

Step 1. Click File Menu > New.

Step 2. Click **Part** from the list and click OK.

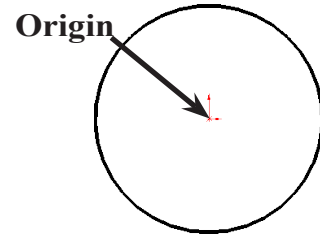
Step 3. Click **Right Plane**  in the Feature Manager and click **Sketch**  from the Content toolbar, **Fig. 1**.



**Fig. 1**

Step 4. Click **Circle**  (S) on the Sketch toolbar.

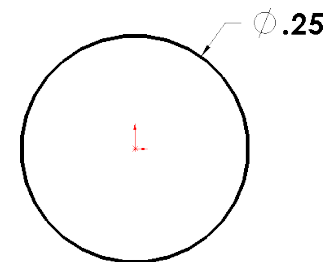
Step 5. Draw a circle starting at the Origin , **Fig. 2**.



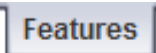
**Fig. 2**

Step 6. Click **Smart Dimension**  (S) on the Sketch toolbar.

Step 7. Dimension circle **diameter .25**, **Fig. 3**.



**Fig. 3**

Step 8. Click **Features**  on the Command Manager toolbar.

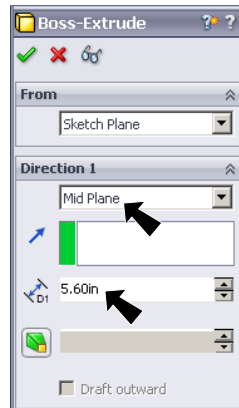
Step 9. Click **Extruded Boss/Base**  on the Features toolbar.

Step 10. In the Property Manager set:  
under Direction 1, **Fig. 4**

End Condition **Mid Plane**

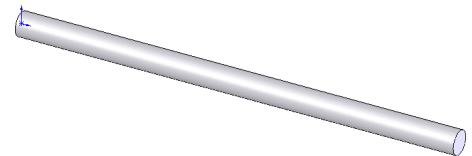
**Depth**  **5.6**

click OK , **Fig. 5**.



**Fig. 4**

Step 11. Click **Zoom to Fit**  (F) on the View toolbar.





**Fig. 5**

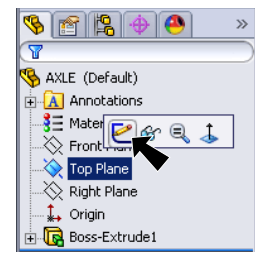
## B. Save as "AXLE".

Step 1. Click File Menu > Save As.

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

### C. Nail Holes.

Step 1. Click **Top Plane**  in the Feature Manager and click **Sketch**  from the Content toolbar, **Fig. 6**.

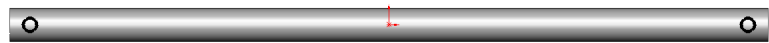


**Fig. 6**


Step 2. Click **Normal To**  on the View toolbar. (**Ctrl-8**)

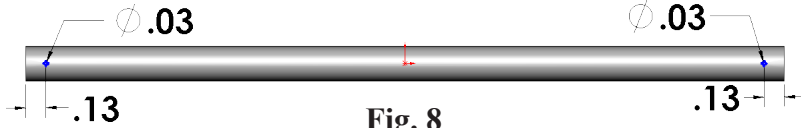
Step 3. Click **Circle**  (S) on the Sketch toolbar.

Step 4. Draw two circles for the nail holes, **Fig. 7**. Use the inferencing line, the dotted line that appears when you draw the second circle to keep the circles aligned.



**Fig. 7**

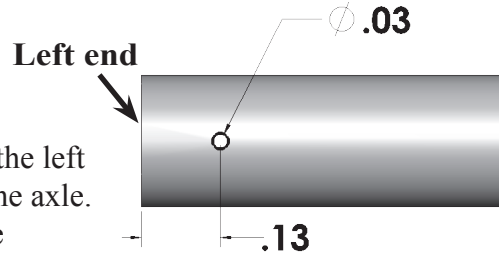
Step 5. Click **Smart Dimension**  (S) on the Sketch toolbar.



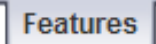
**Fig. 8**

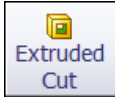
Step 6. Add the dimensions as shown in **Fig. 8** and **Fig. 9**. To Smart dimension:

- 1st dimension**, click the left side of the axle and the left circle, **Fig. 9**. Place the dimension the above the axle.
- 2nd dimension**, click the circle, **Fig. 9**. Place the dimension above of the axle.
- Repeat** for other circle.



**Fig. 9**

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

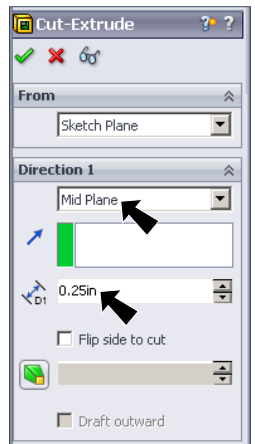
Step 8. Click **Extruded Cut**  on the Features toolbar.

Step 9. In the Property Manager set: under **Direction 1**, **Fig. 10**

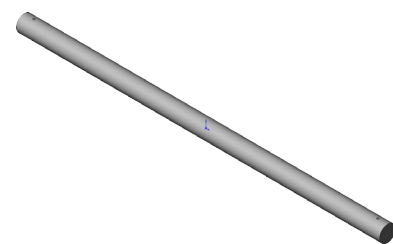
End Condition **Mid Plane**

Depth  **D1** **.25**

click OK , **Fig. 11**.



**Fig. 10**



**Fig. 11**

## D. Fillet Edges.

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

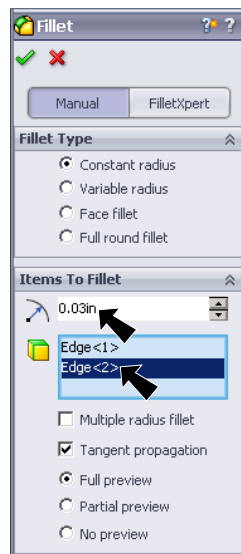
Step 2. In the Fillet Property Manager set:

**Radius**  **.03**  
select **Full preview**

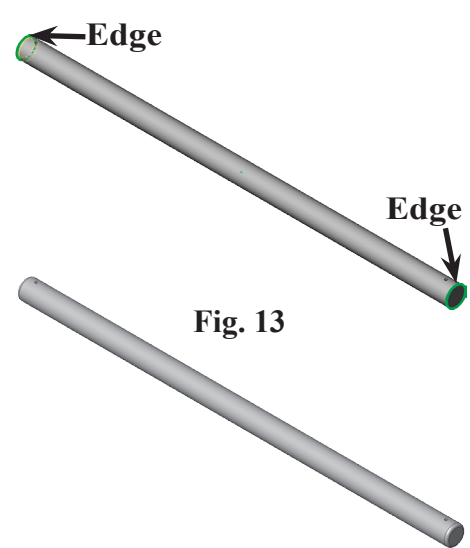
click edges at both ends, **Fig. 13**

click **OK** , **Fig. 14**.

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




**Fig. 12**



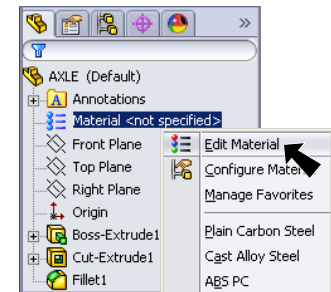
**Fig. 13**

**Fig. 14**

## E. Material Maple.

Step 1. **Right click** **Material**  in the Feature Manager and click **Edit Material**, **Fig. 15**.

Step 2. **Expand Woods** (click the +) in the material tree and click **Ma-ple**, **Fig. 16**. Click **Apply** and **Close**.




**Fig. 15**

## F. Rotate Mapping.

Step 1. Click **PhotoView 360** Menu > **Appearance**.

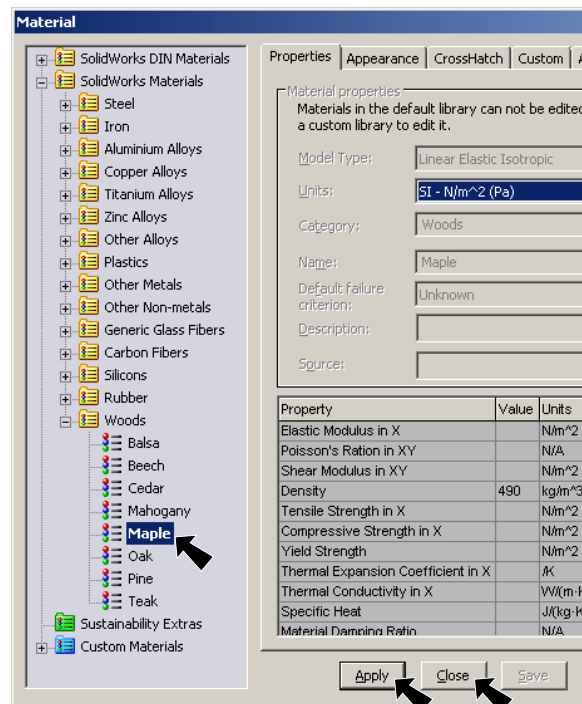
Step 2. In **Appearances**:  
click **Mapping** tab

 **Mapping**

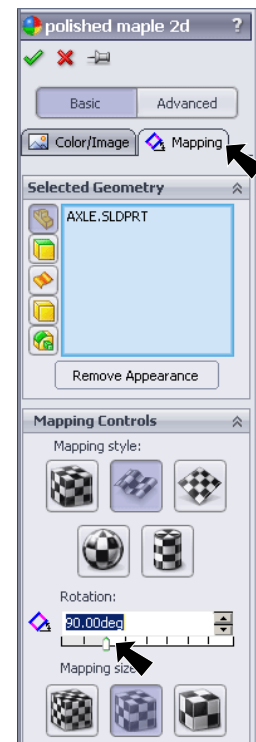
**Rotation 90**

click **OK** ,  
**Fig. 18**.

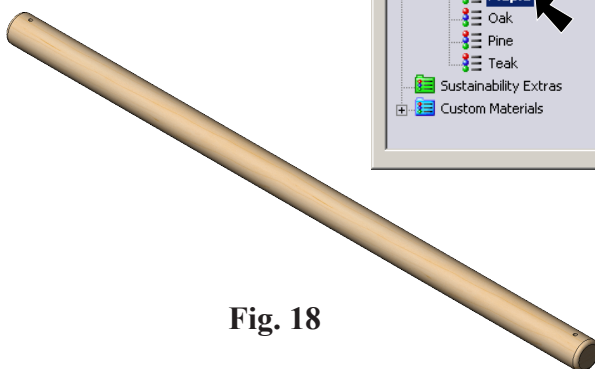
Step 3. Save. Use **Ctrl-S**.



**Fig. 16**



**Fig. 17**



**Fig. 18**