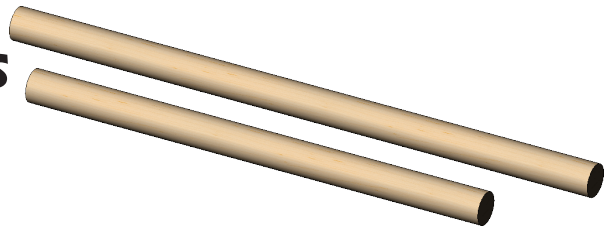




# E-Car Axles



## A. Axle.

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**.

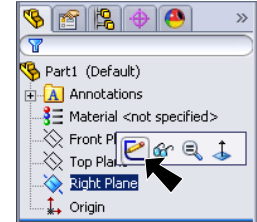



Fig. 1

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

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

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

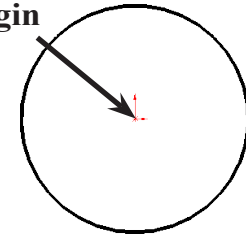


Fig. 2

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

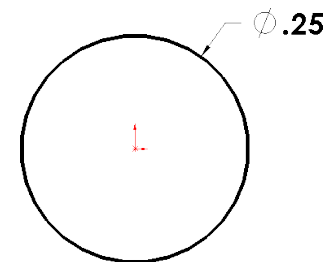
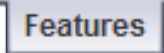
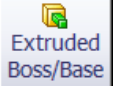


Fig. 3

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

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

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

**Depth**  **3.6**

click OK , **Fig. 5**.

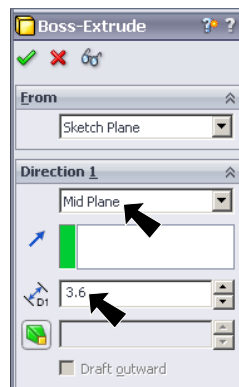


Fig. 4

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

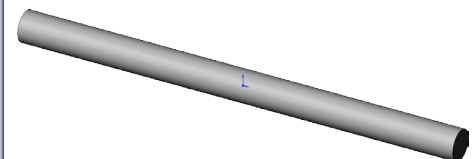



Fig. 5

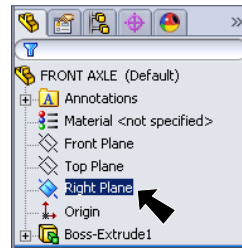
## B. Save as "FRONT AXLE".

Step 1. Click File Menu > Save As.

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

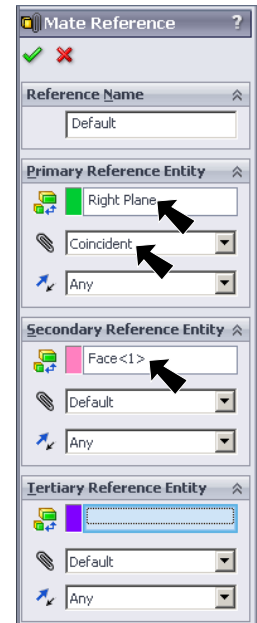
### C. Mate References.

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**

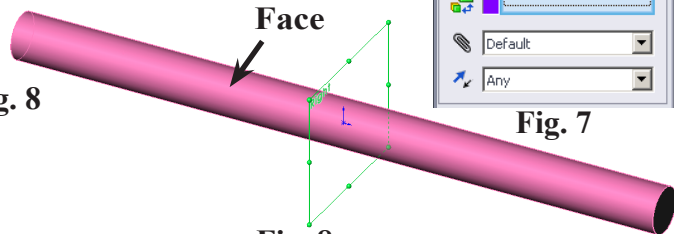
Step 3. In the Mate Reference Manager:  
under **Primary Reference Entity**, **Fig. 7**

set **Mate Reference Type**  **Coincident**

under **Secondary Reference Entity**



click in Entity box  and  
click **cylindrical face of axle**, **Fig. 8**

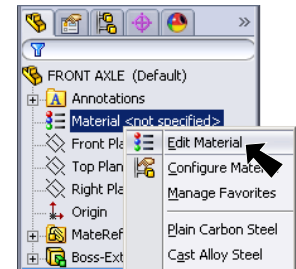
click OK .



**Fig. 8**

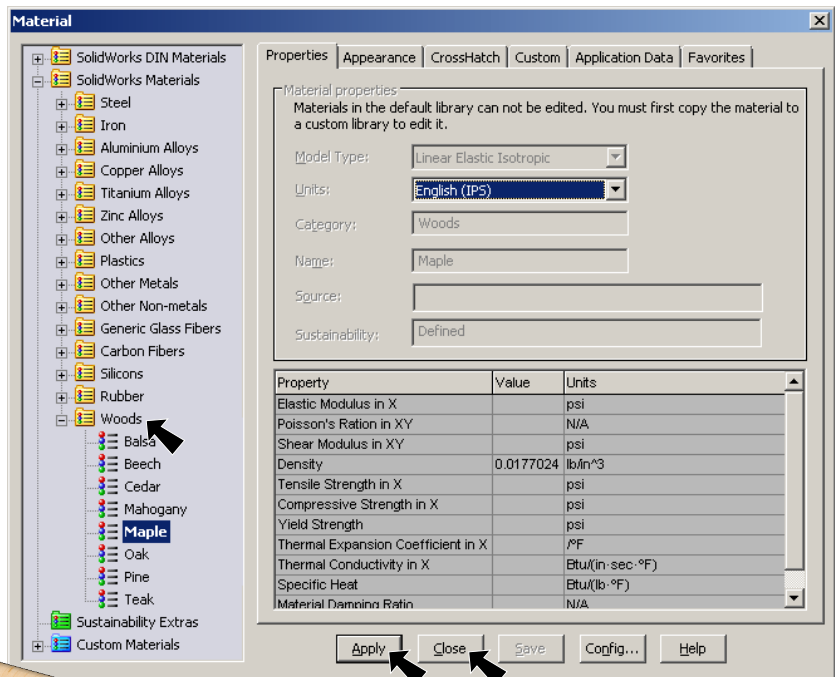
### D. Material Maple.

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

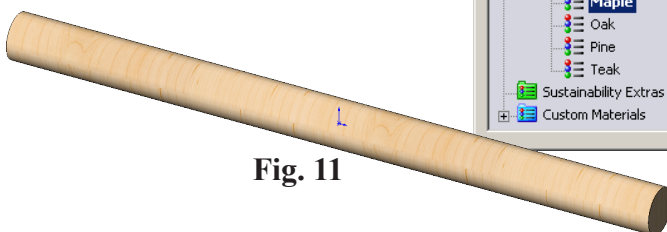


**Fig. 9**

Step 2. **Expand Woods** (click the +) 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 Appearances set:

click **Mapping tab** , Fig. 12

**Rotation 90**

click OK ,

Fig. 13.

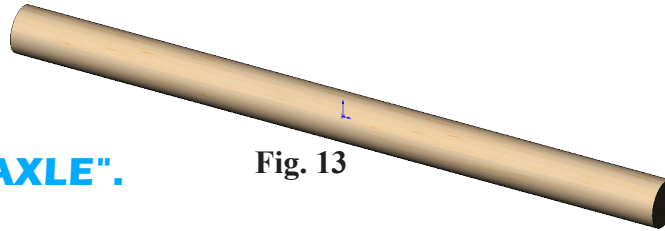


Fig. 13

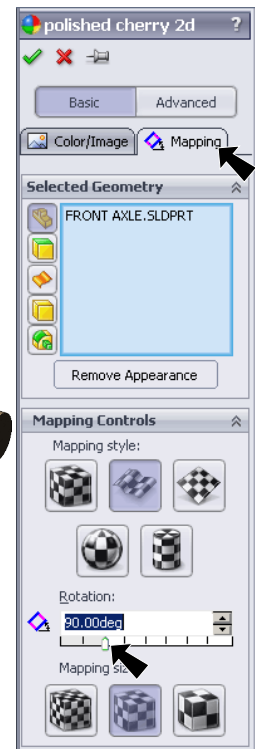


Fig. 12

## 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**  in the Content toolbar, Fig. 14.

Step 2. Change **Depth**  to 4.6

click OK , Fig. 15 and Fig. 16.

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

You should have 2 axles:

**FRONT 3.6**

**REAR 4.6**

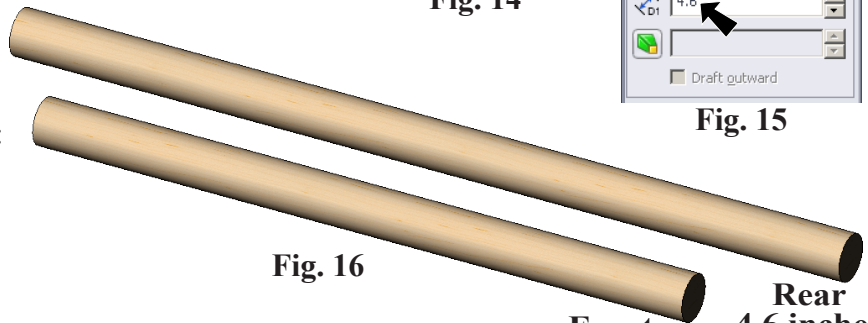


Fig. 16



Fig. 14

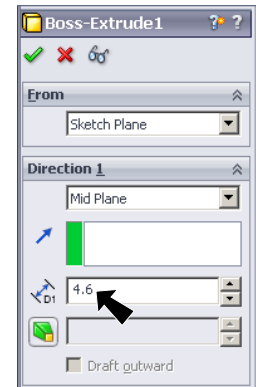


Fig. 15