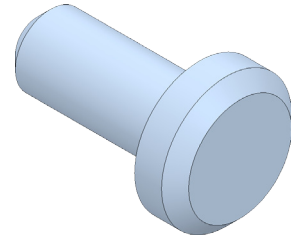




# Bike and Trailer Bike Axle



## A. Extrude1.

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**.

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



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

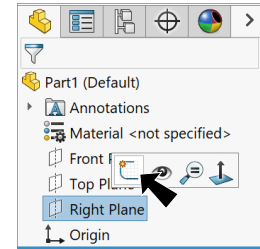
Step 5. Click **Smart Dimension**  (S) on the Sketch toolbar.

Step 6. Dimension **diameter 4.8**, **Fig. 2**.

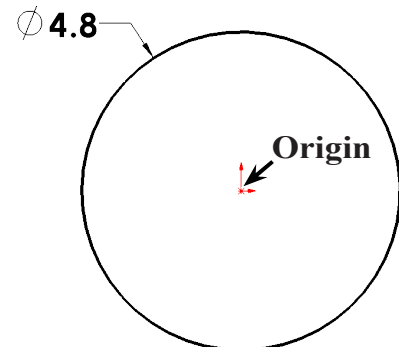
Step 7. Click **Features**  on the Command Manager toolbar.

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

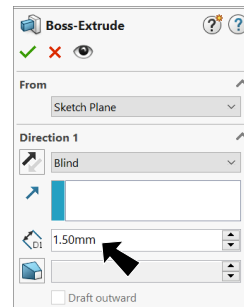
Step 9. In the Boss-Extrude Property Manager set:  
 under Direction 1, **Fig. 3**  
 End Condition **Blind**  
 Depth  **1.5**  
 click OK .



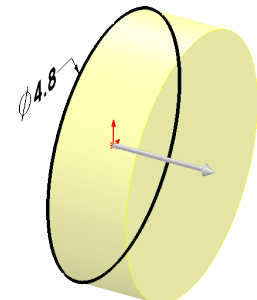
**Fig. 1**



**Fig. 2**



**Fig. 3**



**Fig. 4**

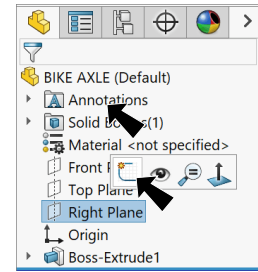
## B. Save as "BIKE AXLE".

Step 1. Click File Menu > Save As.


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

## C. Extrude2.

Step 1. Click **Right**  in the Feature Manager and click **Sketch**  on the context toolbar, **Fig. 5**.

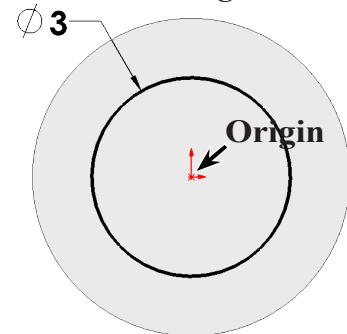


**Fig. 5**

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

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


Step 4. Sketch circle at Origin , **Fig. 6**.





**Fig. 6**

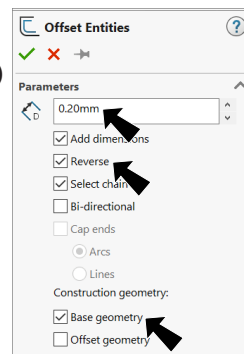
Step 5. Click **Smart Dimension**  (S) on the Sketch toolbar.

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

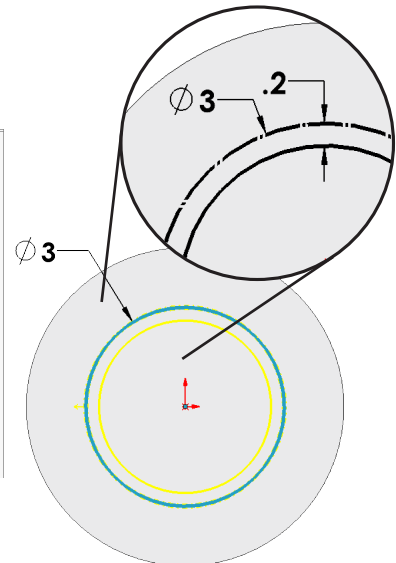
Step 7. Click **Offset Entities**  on the Sketch toolbar.

Step 8. In the Offset Entities Property Manager set:  
under Parameters, **Fig. 7**


**Distance**  **.2 (clearance of Axle)**  
check **Reverse**  
under Construction geometry  
check **Base geometry**  
click **circle**, **Fig. 8**  
**Yellow offset circle on inside -base  
geometry (construction) on outside**  
click **OK** .



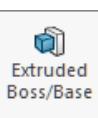
**Fig. 7**






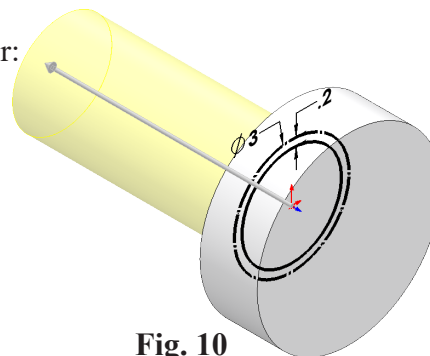
**Fig. 8**

Step 9. Click **Isometric**  on the Standard Views toolbar. (**Ctrl-7**)

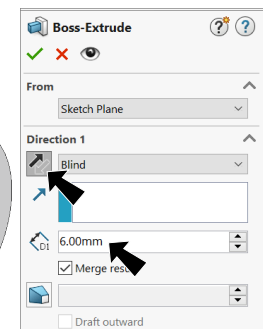
Step 10. Click **Features**  on the Command Manager toolbar.

Step 11. Click **Extruded Boss/Base**  on the Features toolbar.

Step 12. In the Boss-Extrude Property Manager:  
under Direction 1, **Fig. 9**  
End Condition **Blind**  
**Depth**  **6**  
**Reverse Direction**   
click **OK** .



**Fig. 10**



**Fig. 9**

Step 13. Save  (**Ctrl-S**).

## D. Chamfer.

Step 1. Click **Chamfer**  in the **Fillet flyout**  on the Features toolbar.

Step 2. In the Chamfer Property Manager set:  
under Chamfer Type, **Fig. 11**

select **Angle Distance**   
under Chamfer Parameters

Distance  .5

Angle  45°

click **both outside circular edges**, **Fig. 12**

click OK .

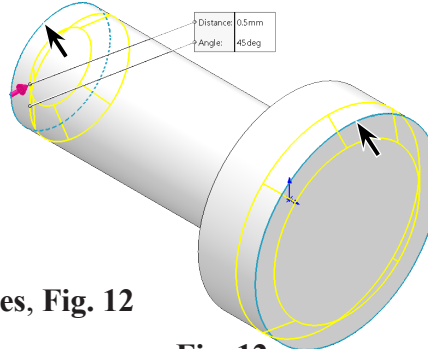


Fig. 12

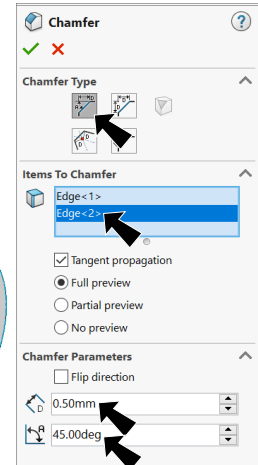




Fig. 11

## E. Appearance: Blue Paint.

Step 1. Click the part to select part, click **Appearances**

Callout  on the context toolbar and click **BIKE AXLE** , **Fig. 13**.

Step 2. In the Appearances Task pane, expand **Painted**,  
click **Car** and in the lower pane select **gloss blue**, **Fig. 14**.

Step 3. In the Appearances Property Manager set:  
under Color, **Fig. 15**

set **RGB values**

**R 207**

**G 229**

**B 255**

click OK .

Step 4. Save  (Ctrl-S).

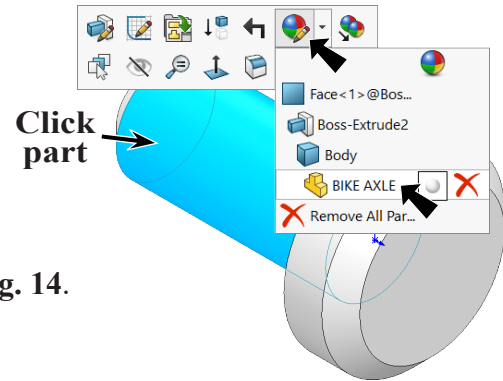


Fig. 13

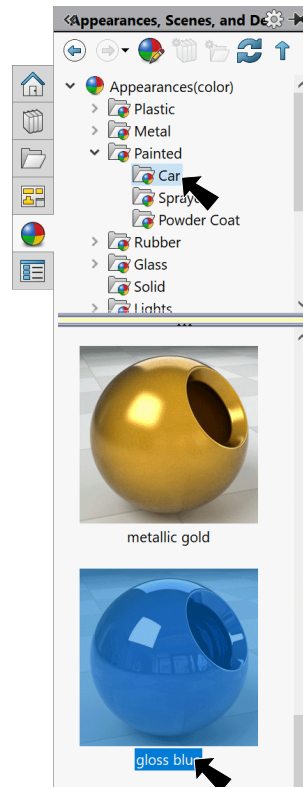


Fig. 14

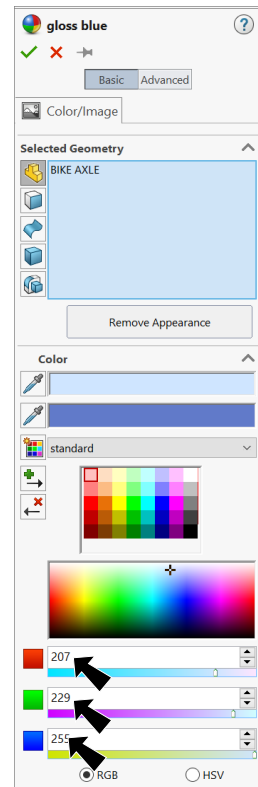


Fig. 15

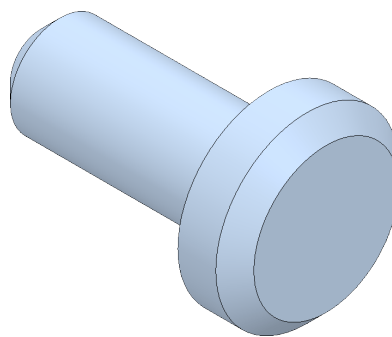


Fig. 16