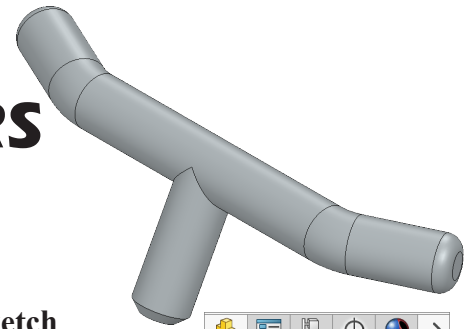




Bike and Trailer HANDLEBARS



A. Sweep1.

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

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

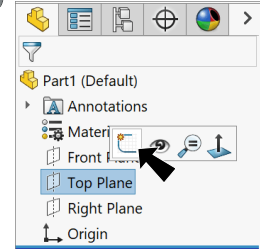


Fig. 1

Step 3. Click **Line**  (L) on the Sketch toolbar.

Step 4. Sketch two lines to left from **Origin** , **Fig. 2**.

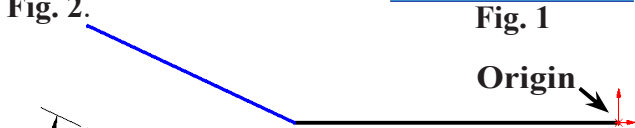


Fig. 2

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

Step 6. Add dimensions, **Fig. 3**.

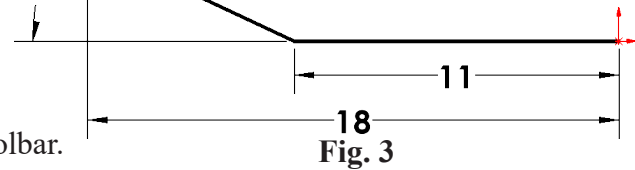


Fig. 3

Step 7. Click **Sketch Fillet**  on the Sketch toolbar.

Step 8. In the Sketch Fillet Property Manager set: under Fillet Parameters, **Fig. 4**

Radius  **5**
click **intersection**, **Fig. 5**

click **OK**  twice.

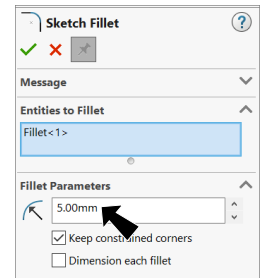



Fig. 4

Step 9. Click **Right Plane**  in the Feature Manager to select plane, **Fig. 6**.

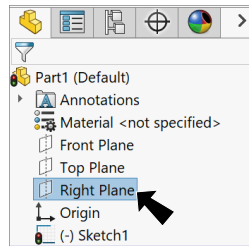


Fig. 6

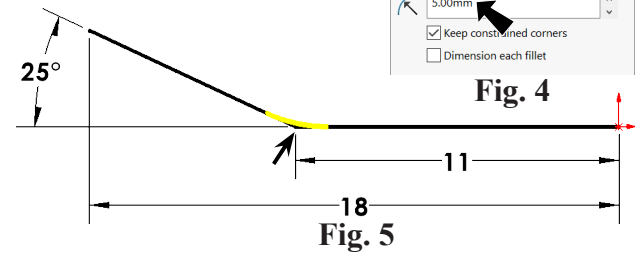


Fig. 5

Step 10. **Ctrl drag** a selection to select all geometry and plane, **Fig. 7**.

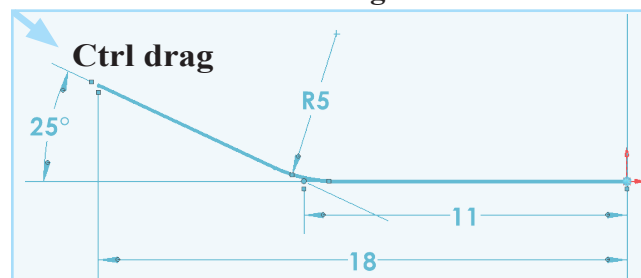


Fig. 7

Step 11. Click **Mirror Entities**  **Mirror Entities** on the Sketch toolbar, **Fig. 8**.

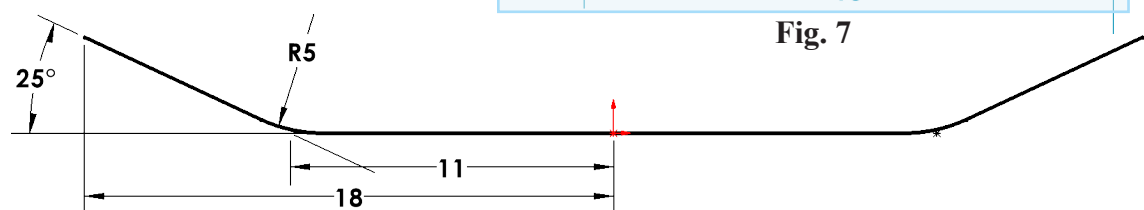
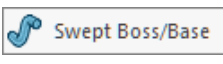


Fig. 8

Step 12. Click **Features**  on the Command Manager toolbar.

Step 13. Click **Swept Boss/Base**  on the Features toolbar.

Step 14. In the Swept Boss/Base Property Manager:
under Profile and Path, **Fig. 9**

select **Circular Profile**

Diameter  **3.8**

Path  click any geometry, **Fig. 10**

click OK  .

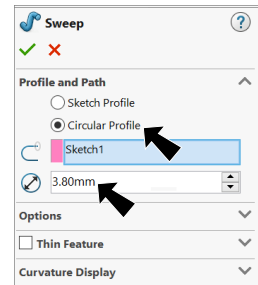


Fig. 9

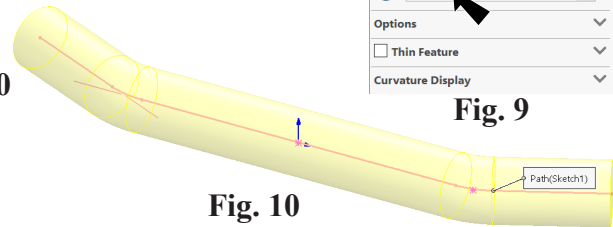


Fig. 10

B. Save as "HANDLEBARS".



Step 1. Click File Menu > Save As.


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

Tip: Create a **Bike and Trailer** folder in your My Document folder to save your Bike project files. At cudacounty we go a step further, and create a Tech Ed [school year] folder and in that folder we create the Bike folder.

Documents\Tech Ed 22-23\Bike and Trailer.

C. Sweep2.

Step 1. Click **Right Plane**  in the Feature Manager and click **Sketch**  on the context toolbar, **Fig. 11**.



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

Step 3. Click **Line**  (**L**) on the Sketch toolbar.

Step 4. Sketch **line to lower left from Origin**  , **Fig. 12**.

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

Step 6. Add dimensions, **Fig. 13**. To dimension angle to imaginary line, click line and Origin

 , then click the **right horizontal crosshair**  and place dimension.

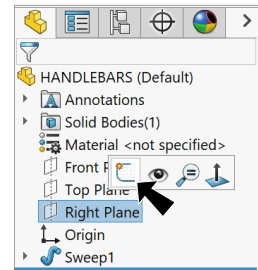


Fig. 11

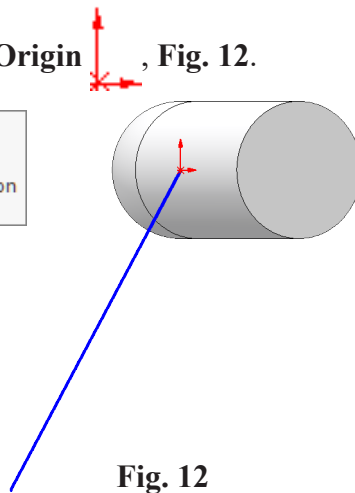


Fig. 12

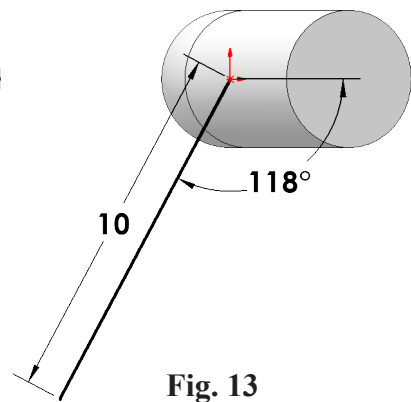






Fig. 13

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

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

Step 9. In the Swept Boss/Base Property Manager:
under Profile and Path, **Fig. 14**
select **Circular Profile**
Diameter  **3.8**
click OK .

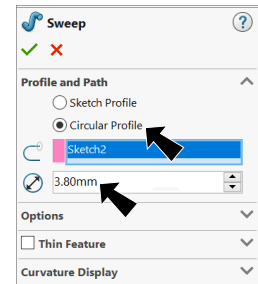
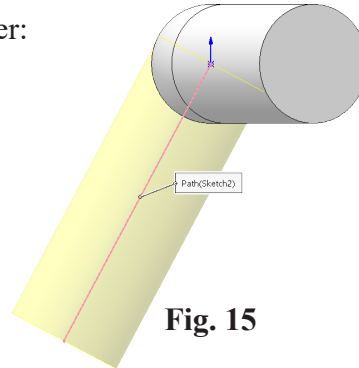




Fig. 14




Step 10. Save  (Ctrl-S).

D. Chamfer.

Step 1. Click **Isometric**  on the Standard Views toolbar. (Ctrl-7)

Step 2. Click **Chamfer**  in the **Fillet flyout**  on the Features toolbar.

Step 3. In the Chamfer Property Manager set:
under Chamfer Type, **Fig. 16**
select **Angle Distance** 
under Chamfer Parameters

Distance  **.7**
Angle  **45°**
click **circular edge of Sweep2**, **Fig. 17**
click OK .

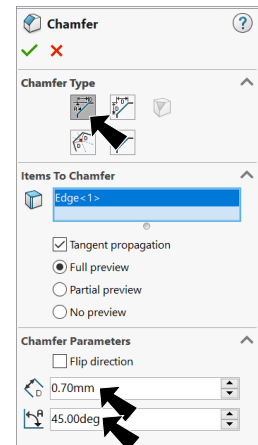
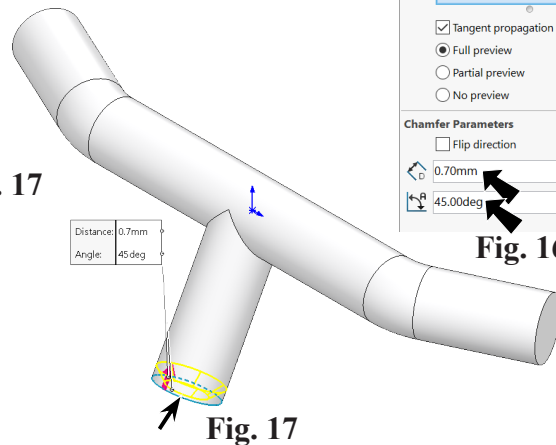


Fig. 16

Step 4. Save  (Ctrl-S).

E. Fillet Edges.

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

Step 2. In the Fillet Property Manager set:
select **FilletXpert**, **Fig. 18**

Radius  **1**

click **circular edges of Sweep1**, **Fig. 19**

click **OK** .

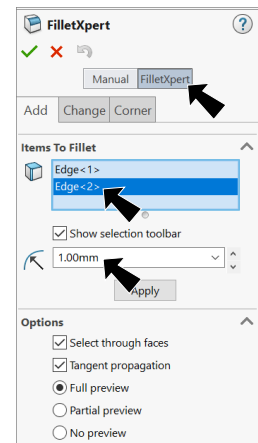


Fig. 18

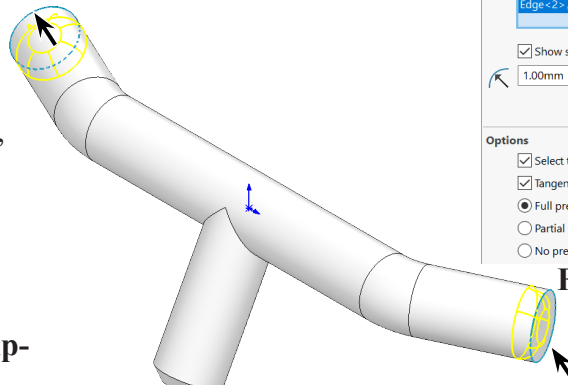




Fig. 19

F. Appearance: Chrome.

Step 1. Click the part to select part, click **Appearances Callout**  on the context toolbar and click **HANDLEBARS** , **Fig. 20**.

Step 2. In the Appearances Task pane, expand **Metal** and click **Chrome** and in the lower pane select **chromium plate**, **Fig. 21**.

Step 3. In the Appearances Property Manager click **OK** .

Step 4. Save  (**Ctrl-S**).

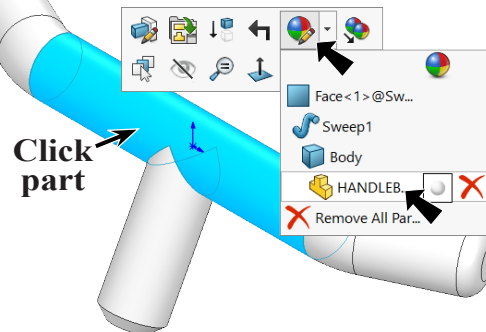


Fig. 20

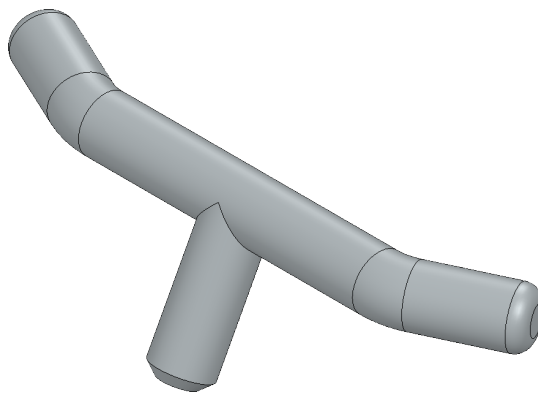


Fig. 23

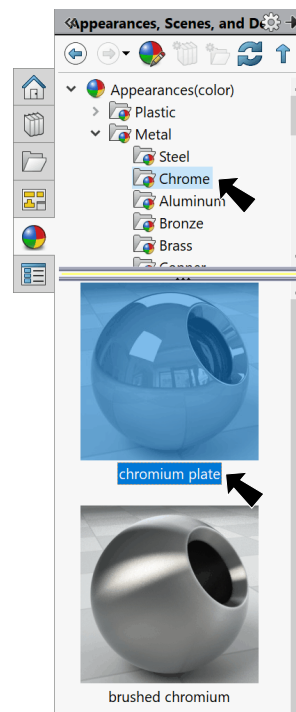


Fig. 21

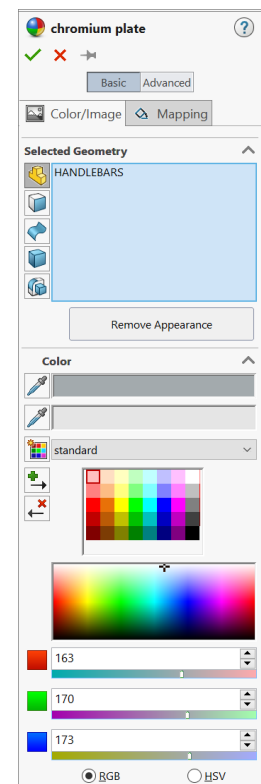


Fig. 22