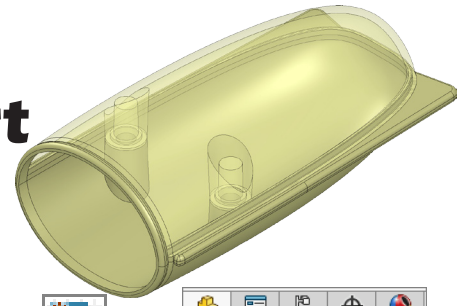
Chapter 1

Bike Horn
Multibody Part



A. Sketch1 Top Left of Boundary Surface.

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**.

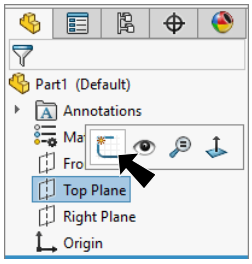


Fig. 1

Step 3. Click **Centerline** in the **Line flyout** on the Sketch toolbar.

Step 4. Sketch **vertical centerline up from** Origin and **horizontal centerline out to right** from Origin , **Fig. 2**. Double click to terminate the chain of lines.

Step 5. Click **Style Spline** in the **Spline flyout** on the Sketch toolbar.

Step 6. Sketch a **5 control vertex point Spline between top endpoint of vertical centerline and right endpoint of horizontal centerline**, **Fig. 3**. Press Escape to end spline.

Step 7. Click **top control polygon segment** and click **Make Horizontal** on the context toolbar, **Fig. 4.**

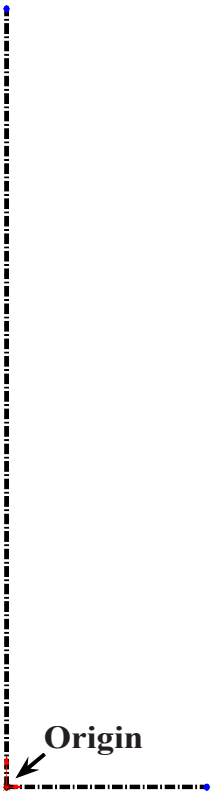


Fig. 2

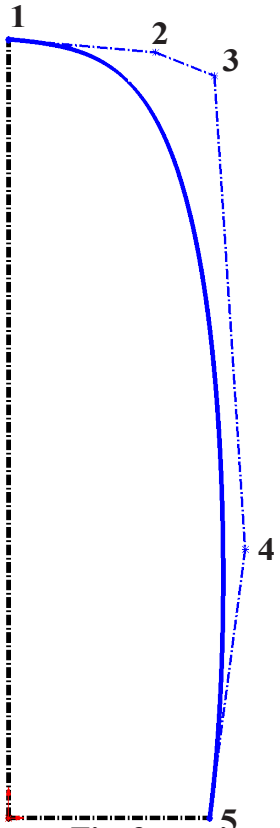


Fig. 3

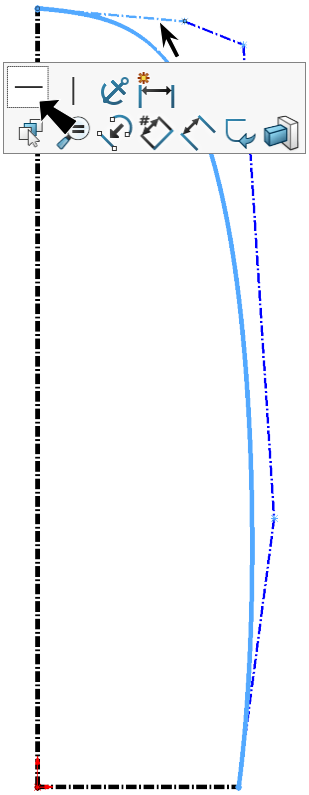


Fig. 4

Step 8. Click **bottom control polygon segment** and click **Make Vertical** on the context toolbar, **Fig. 5.**

Step 9. Click **Smart Dimension** (**S**) on the Sketch toolbar.

Step 10. Add dimensions, **Fig. 6**. Dimension **double distance 54**. To double distance dimension, click vertical centerline and then bottom right endpoint of spline, move the cursor below sketch and slightly left of Origin and click. Key-in 54 in the Modify box and press ENTER.

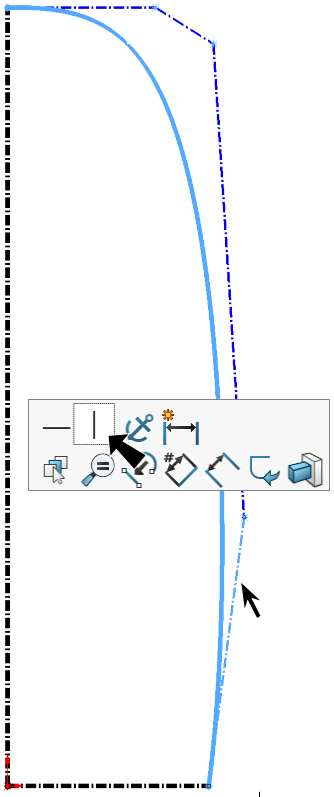


Fig. 5

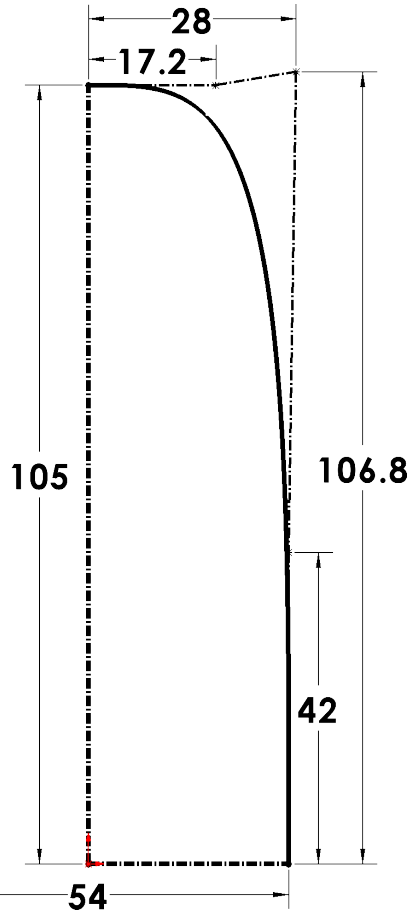


Fig. 6

Step 11. Click **Exit Sketch** on the Sketch toolbar.

B. Save as "MULTIBODY".

Step 1. Click File Menu > Save As.

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

C. Sketch2 Top Right (Mirror).

Step 1. Click **Top Plane** in the Feature Manager and click **Sketch** on the context toolbar, **Fig. 7**.

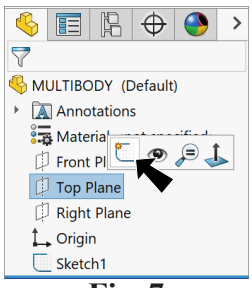


Fig. 7

Step 2. Click **Convert Entities** on the Sketch toolbar.

Step 3. In the Convert Entities Property Manager set:
under Entities to Convert, **Fig. 8**
click **vertical centerline and spline in Sketch1**, **Fig. 9**
click OK .

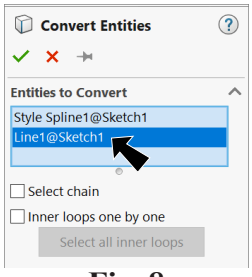


Fig. 8

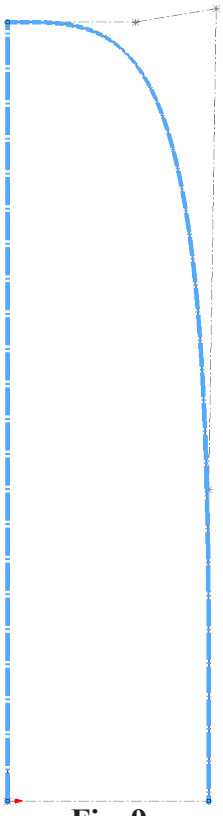


Fig. 9

Step 4. Click **Mirror Entities** 

on the Sketch toolbar.

Step 5. In the Mirror Property Manager set:
under Options, **Fig. 10**
Entities to mirror
click **spline**, **Fig. 11**
right click to move selection to Mirror about:
click **centerline**
click OK ✔ .

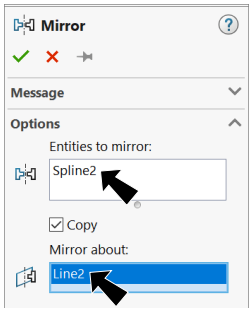


Fig. 10

Step 6. **Ctrl click vertical centerline and original (right) spline** and click **Construction Geometry**  on the context toolbar, **Fig. 12**.

Step 7. Click **Exit Sketch** 

on the Sketch toolbar.

Step 8. Save  **(Ctrl-S)**.

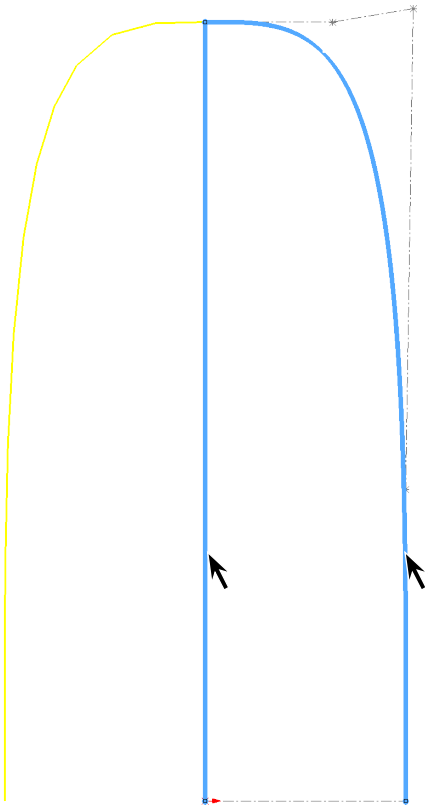


Fig. 11

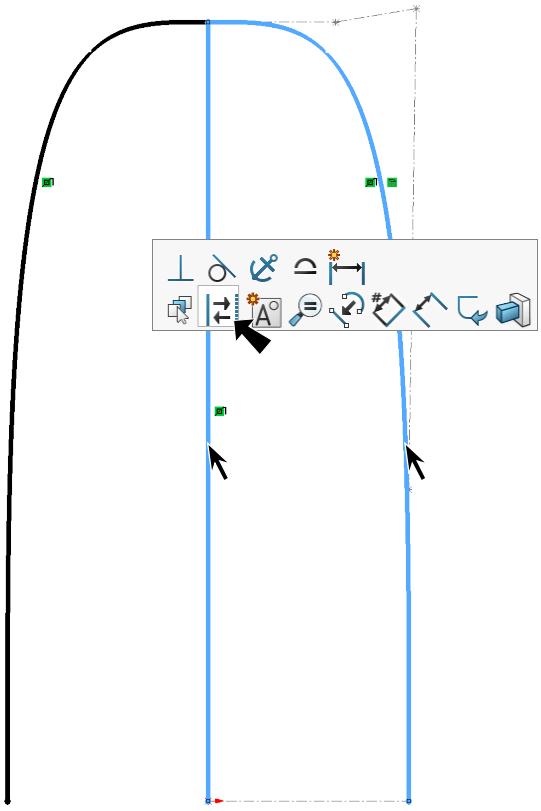


Fig. 12

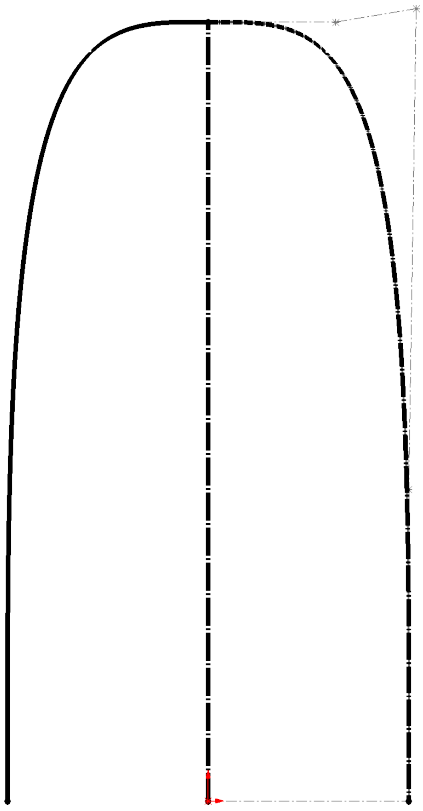


Fig. 13