



A. Start Sketch.

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**.

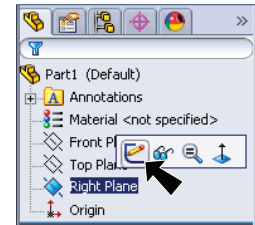


Fig. 1

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



Step 4. Starting at the Origin  draw a horizontal line across the drawing area, **Fig. 2**.



Fig. 2

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

Step 6. Set dimension to **2.5**, **Fig. 3**.

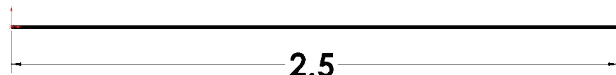


Fig. 3

Step 7. Click Zoom to Fit  (F) on the View toolbar.


B. Save as "WING".

Step 1. Click File Menu > Save As.

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

C. Spline for Air Foil.

Step 1. Click **Spline**  (S) on the Sketch toolbar.

Step 2. Start from the Origin  draw a 3 point spline. The third point, the end of the spine should be at end of the line. Press Escape to end the spline, **Fig. 4**.

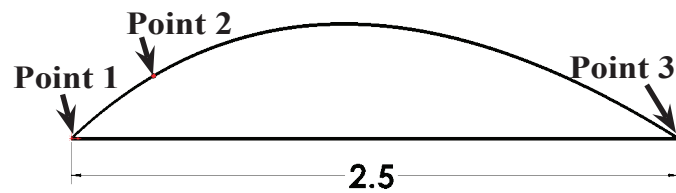


Fig. 4

Step 3. Click spline to display Spline Points and Control Polygon Handles, **Fig. 5**.

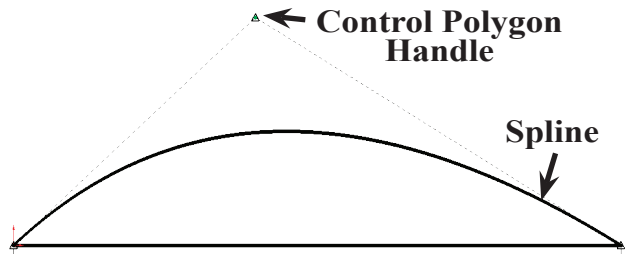


Fig. 5

Step 4. Click the **top Control Polygon Handle**, **Fig. 5**.

Step 5. In the Spline Polygon Property Manager set:

X  = 0

Y  = .5

Fig. 6 and Fig. 7

click OK .

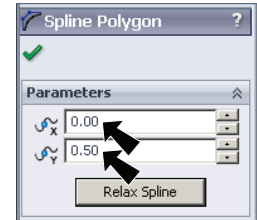


Fig. 6

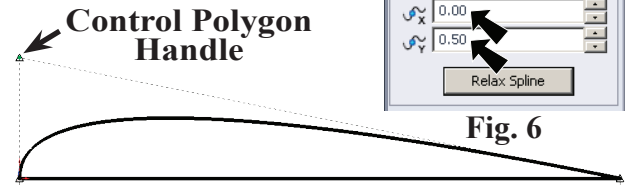


Fig. 7

D. Offset Entities.

Step 1. Click **Offset Entities**  on the Sketch toolbar.

Step 2. In the Offset Entities Property Manager set:

Distance to .1

uncheck **Select chain**, **Fig. 8**

uncheck **Bi-directional**.

If the spline is not selected, **click the spline.** **Yellow offset**

The yellow offset spline should be below initial green spline, **Fig. 9**. If it is not,

click Reverse. Click OK .

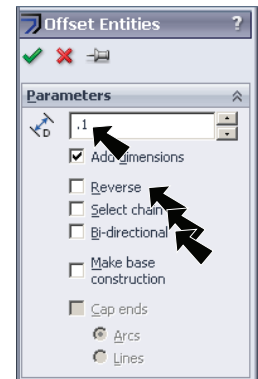


Fig. 8

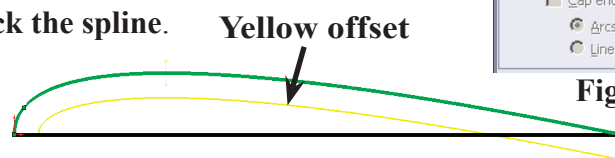


Fig. 9

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

E. Trim Line.

Step 1. Click **Trim Entities**  on the Sketch toolbar.

Step 2. In the Property Manger select **Power Trim** , **Fig. 10**.

Step 3. Drag the cursor across the **horizontal line between the offset (lower) spine** to trim the horizontal line, **Fig. 11**. Results shown in **Fig. 12**.

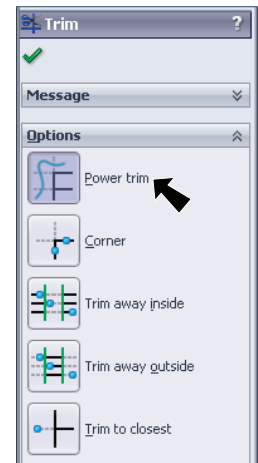
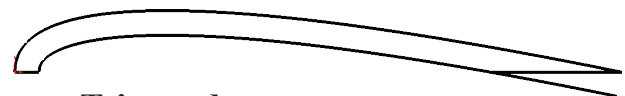


Fig. 8



Fig. 11



Trimmed Fig. 12

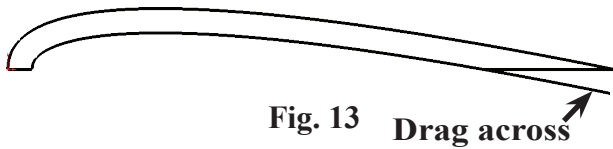


Fig. 13 Drag across

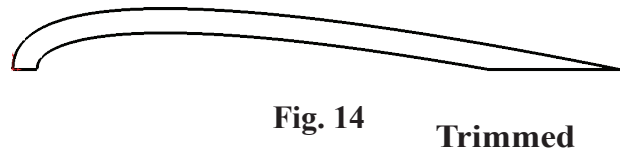




Fig. 14 Trimmed

Step 4. Drag the cursor across **end of the offset spline**, Fig. 13. Results shown in Fig. 14. Click OK  in the Property Manager.

F. Merge Line and Spline.

Step 1. The offset spine is not merged with the horizontal line. To fix, grab the endpoint of the horizontal line of the sketch, Fig. 15 and drag back away from offset spline.

Step 2. Bring the endpoint back to the offset spline and Concentric icon appears  indicating the points are merged, Fig. 16.

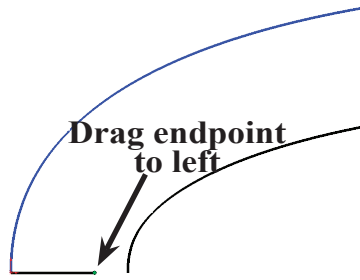


Fig. 15

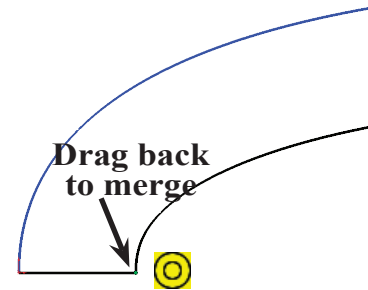




Fig. 16

G. Extrude.

Step 1. Click **Features**  on the Command Manager toolbar.

Step 2. Click **Extruded Boss/Base**  on the Features toolbar.

Step 3. In the Property Manager set: under **Direction 1**

End Condition to **Blind**
Depth  to 7
 click OK , Fig. 17 and Fig. 18.

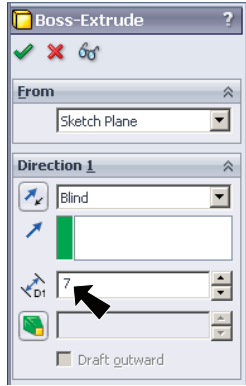


Fig. 17

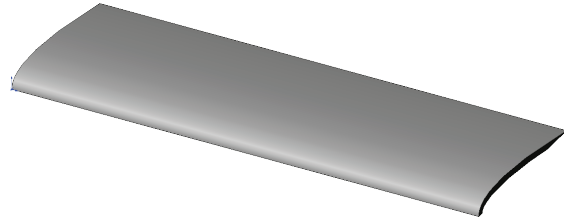




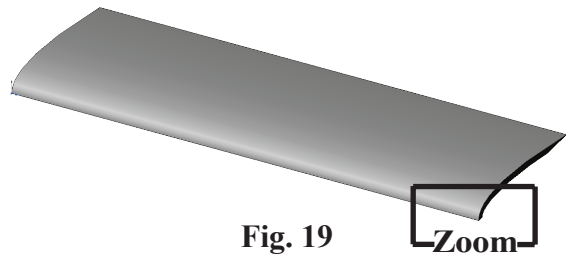
Fig. 18

Step 4. Click **Zoom to Fit**  (F) on the View toolbar.

Step 5. Save. Use **Ctrl-S**.

H. Fillet Leading Edges.

Step 1. Use the **Zoom to Area View**  in the View toolbar to drag a zoom window around the end of the leading edge, **Fig. 19**.




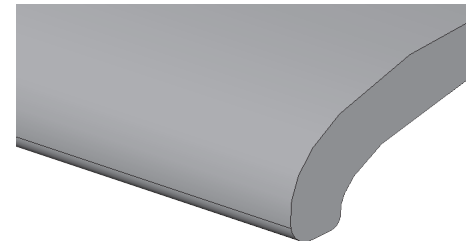
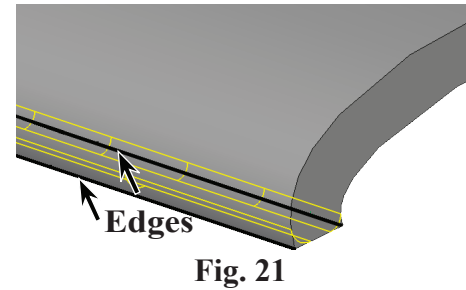
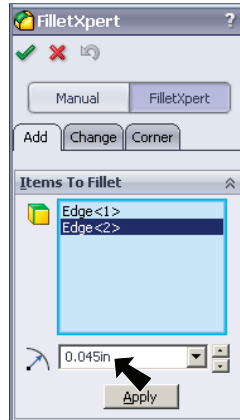
Step 2. Click **Fillet**  on the Features toolbar.

Step 3. In the Fillet Property Manager:

set **Radius**  to **.045**, **Fig. 20**

click the **two edges** of the bottom of the leading edge as shown in **Fig. 21**

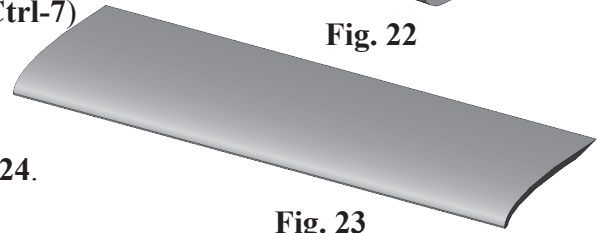
click **OK** , **Fig. 22**.



I. Material PS HI (Polystyrene).

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

Step 2. **Right click** **Material**  in the Feature Manager and click **Edit Material** , **Fig. 24**.



Step 3. **Expand Plastics** in the material tree and select **PS HI**, **Fig. 25**.

Step 4. Click **Apply** and **Close**, **Fig. 25**.

Step 5. Save.
Use **Ctrl-S**.

