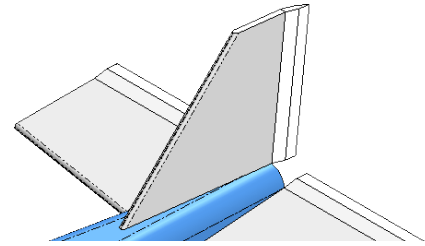


# Airplane Rudder



## A. Sketch.

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

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

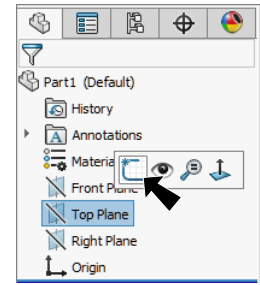


Fig. 1

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

Step 4. Sketch lines starting at Origin, **Fig. 2**.

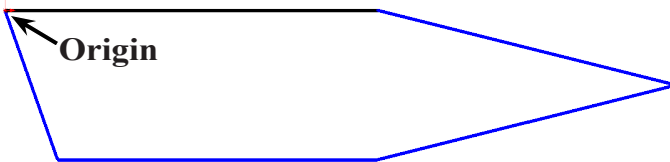


Fig. 2

Step 5. Click **Centerline** in the **Line flyout** on the Sketch toolbar.



Step 6. Sketch vertical centerline down from Origin, **Fig. 3**.

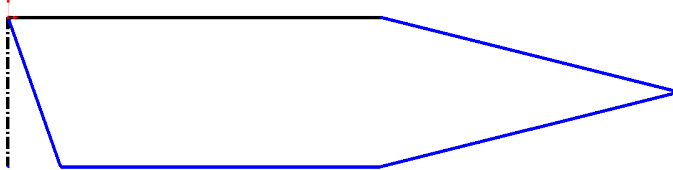


Fig. 3

Step 7. Click **Smart Dimension** (S) on the Sketch toolbar.



Step 8. Add dimensions, **Fig. 4**. Angle dimension is angle of Rudder to V Stab.

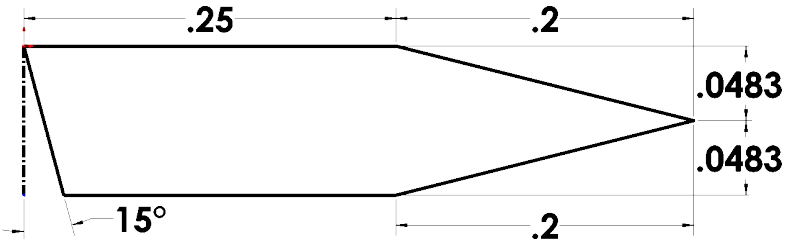
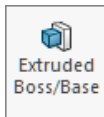


Fig. 4

Step 9. Click **Features** on the Command Manager toolbar.



Step 10. Click **Extruded Boss/Base** on the Features toolbar.



Step 11. In the Boss-Extrude Property Manager set: under Direction 1, **Fig. 5**

Depth 2.5  
click OK

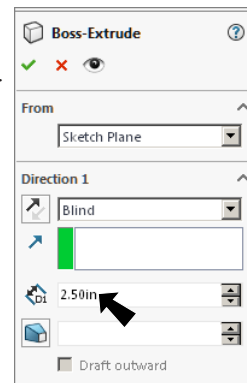


Fig. 5

Step 12. Click Zoom to Fit on the View toolbar.

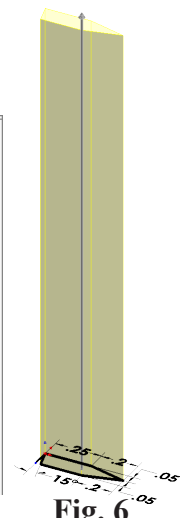


Fig. 6

### C. Material PS HI (Polystyrene).

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

Step 2. Expand **Plastics** in the material tree and select **PS HI**. Click **Apply** and **Close**.



Fig. 6

### B. Save as "RUDDER".

Step 1. Click File Menu > Save As.

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

### D. Insert Rudder into Assembly.

Step 1. Open your ASSEMBLY file.

Step 2. Click **Insert Components**  on the Assembly toolbar.

Step 3. Browse and place **RUDDER**, Fig. 8.

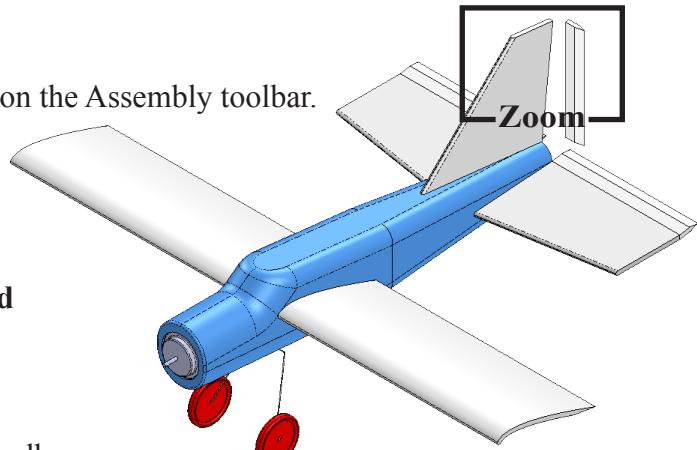
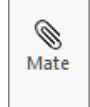



Fig. 8

### E. Mate: Rudder.

Step 1. Zoom in on the **top end of V stab** and **Rudder**, Fig. 8.

Step 2. Click **Mate**  on the Assembly toolbar.

Step 3. Click **edge of V Stab** and **edge of Rudder**, Fig. 9.

Step 4. Click **Add/Finish Mate**  in Mate pop-up toolbar to add a **Coincident** mate.

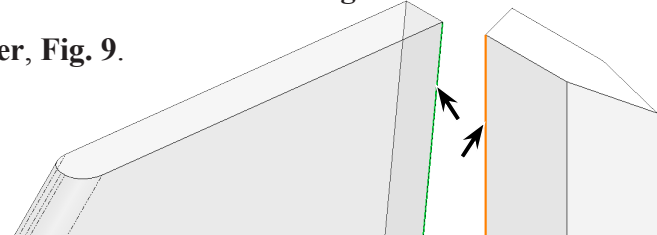




Fig. 9

Step 5. Click **top edge V Stab** and **top edge of Rudder**, Fig. 10.

Step 6. Click **Add/Finish Mate**  in Mate pop-up toolbar to add a **Coincident** mate, Fig. 11.  
Click **OK**  in the Property Manager.

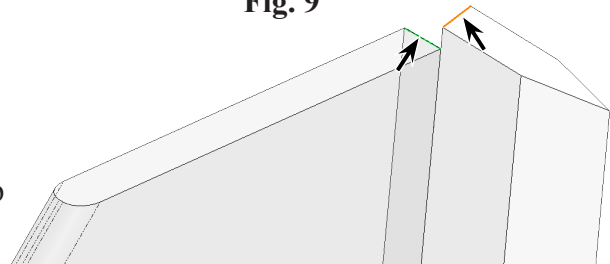


Fig. 10

Step 7. Save. Use **Ctrl-S**.

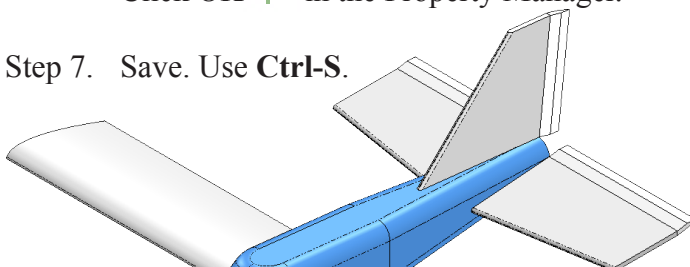


Fig. 12

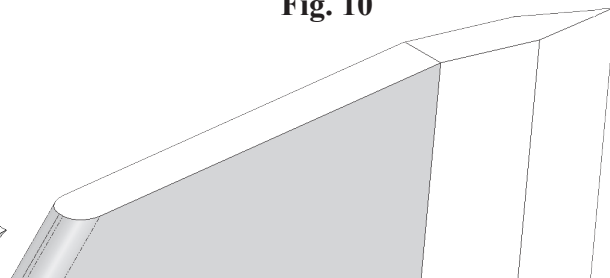


Fig. 11