



Rocket 3D Print Fin

A. Sketch.

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

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

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

Step 4. Starting from the Origin  sketch lines, **Fig. 2**.

Step 5. **Right click graphics area and click Select** from menu to un-select Line tool.

Step 6. **Ctrl click the two vertical lines** to select both. Release Ctrl key and click **Make Collinear**  on the context toolbar, **Fig. 3**.

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

Step 8. Add dimensions, **Fig. 4**.

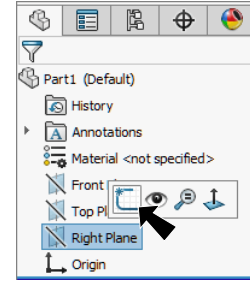


Fig. 1

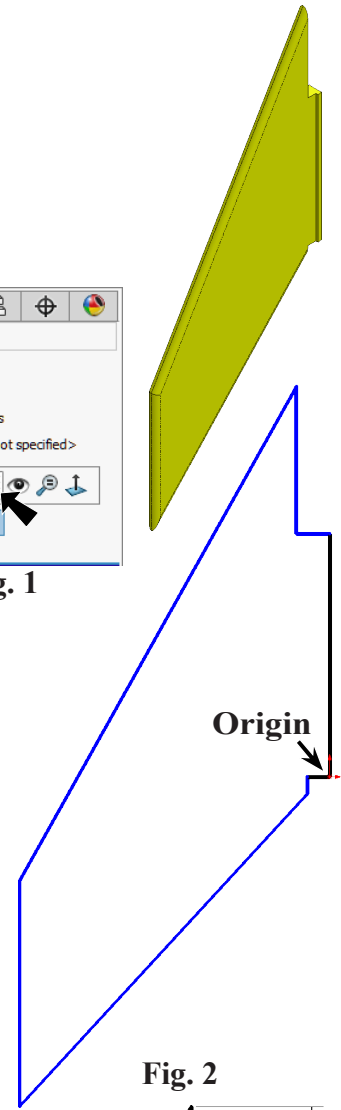


Fig. 2

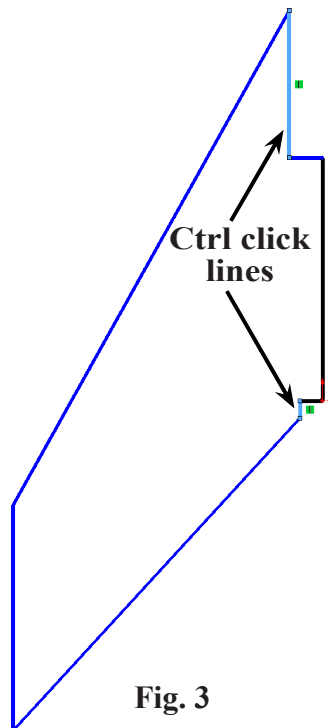


Fig. 3

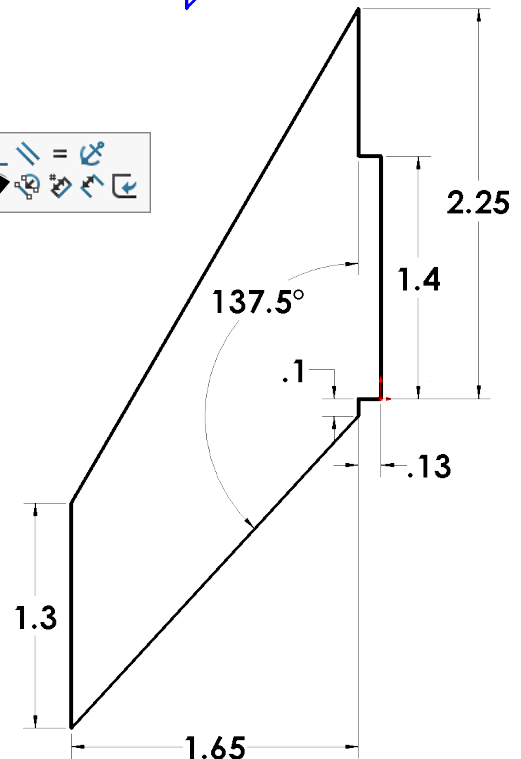




Fig. 4

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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**
End Condition **Mid Plane**
Depth  **.1**
click OK .

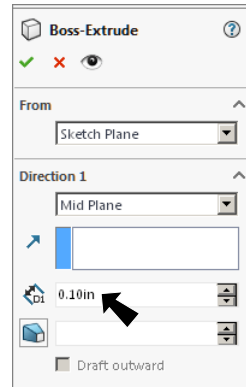


Fig. 5

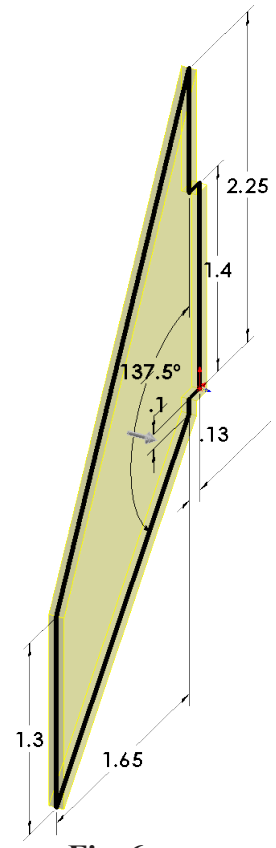


Fig. 6

Step 12. Click Zoom to Fit  (F) on the View toolbar.

B. Save as "FIN".

Step 1. Click File Menu > Save As.

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

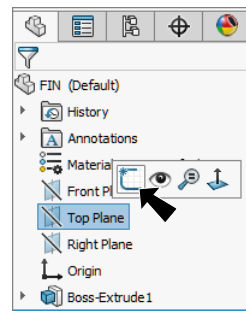






Fig. 7

C. "T".

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

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

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

Step 4. Sketch a **vertical centerline** up from the **Origin**  , **Fig. 8**.

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

Step 6. Sketch **two circles** starting at top end-point of centerline, **Fig. 9**.

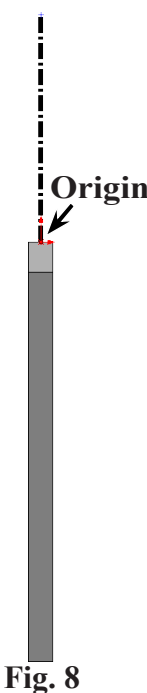


Fig. 8

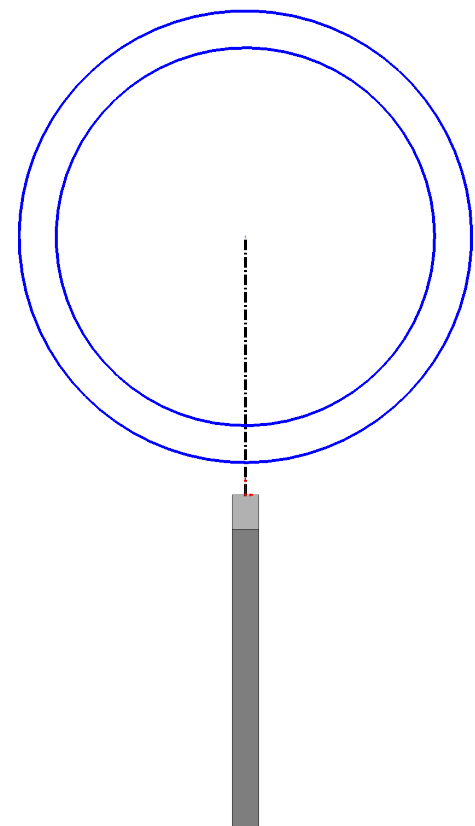



Fig. 9

Step 7. Click **Line**  (L) on the Sketch toolbar.

Step 8. Sketch two radii from centerpoint of circle to large circle, one on each side of the centerline, **Fig. 10**. To terminate chain, double click back on the line you have just sketched.

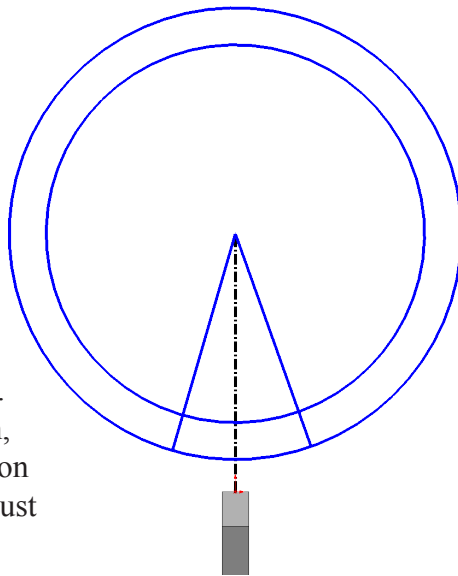



Fig. 10

Step 9. **Right click graphics area and click Select** from menu to unselect Line tool.

Step 10. **Drag a “trend to left - more liberal” selection across all three radii** Release Ctrl key and click **Make Symmetric**  on the context toolbar, **Fig. 11**.

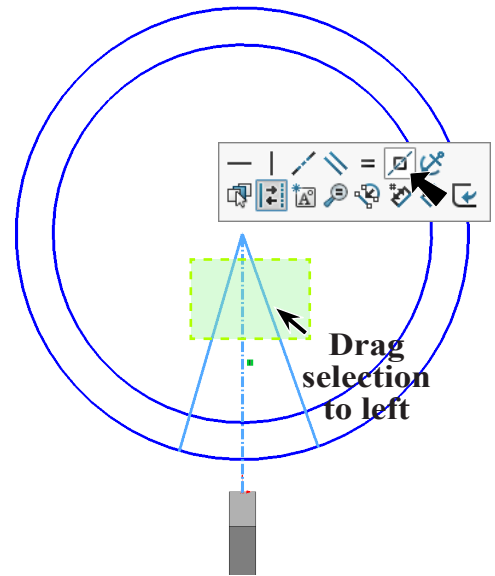



Fig. 11

Step 11. Click **Smart Dimension**  (S) on the Sketch toolbar.

Step 12. Dimension the length of centerline .414 and add the other dimensions, **Fig. 12**.

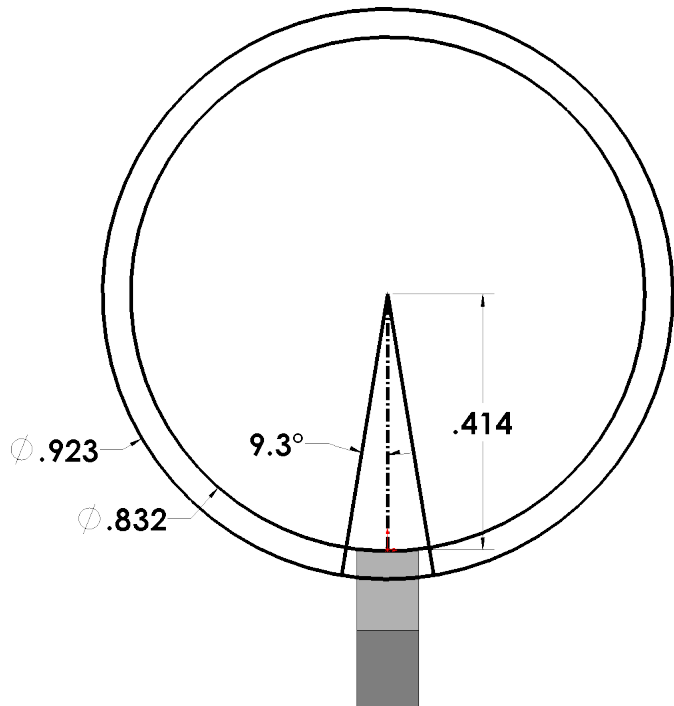




Fig. 12

Step 13. Click **Features**  on the Command Manager toolbar.

Step 14. Click **Extruded Boss/Base**  on the Features toolbar.

Step 15. In the Boss-Extrude Property Manager set:
under Direction 1, **Fig. 13**

Depth  **1.4**
under Selected Contours
click contour **between**
circles and radii,
Fig. 14
click OK .

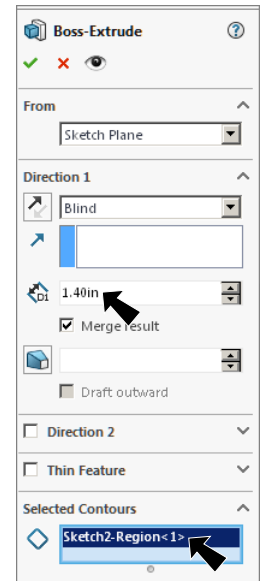
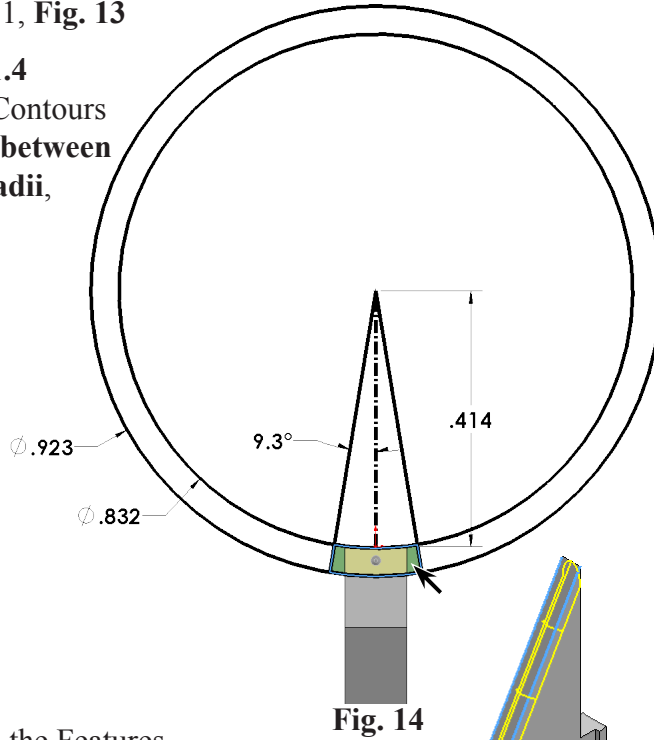


Fig. 13



Step 16. Save. Use **Ctrl-S**.

D. Fillet Edges.

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

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

Step 3. In the Fillet Property Manager set:
select **FilletXpert**, **Fig. 15**

Radius  **.05**
click the **6 edges**, **Fig. 16**
click OK .

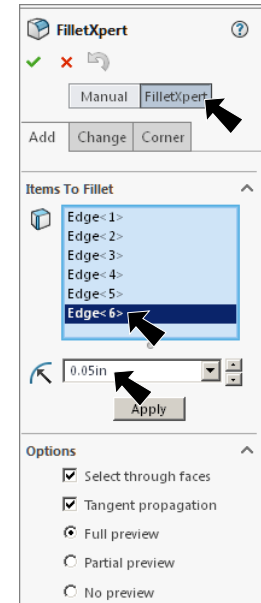


Fig. 15

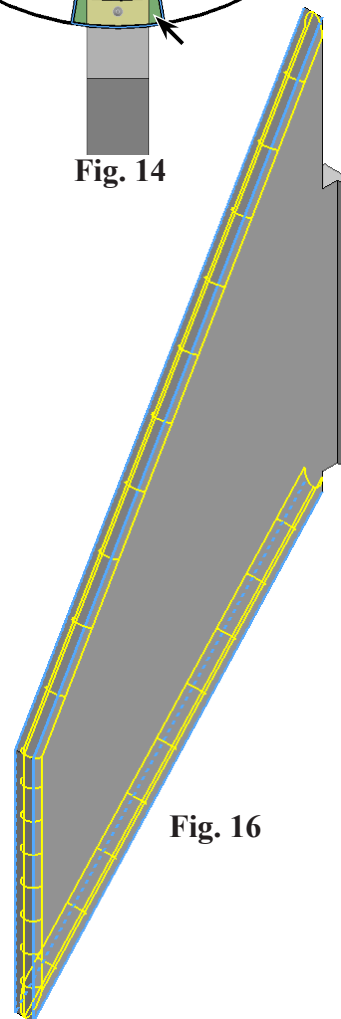



Fig. 16

E. Material ABS Plastic.

Step 1. Right click Material  in the Feature Manager and click Edit Material, Fig. 17.

Step 2. Expand Plastics in the material tree and select ABS, Fig. 18. Click Apply and Close.

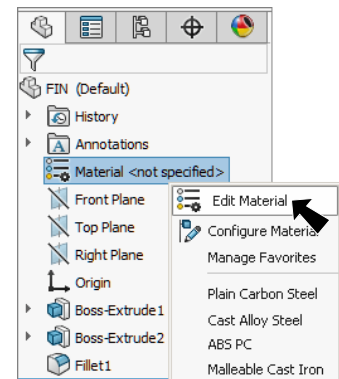


Fig. 17

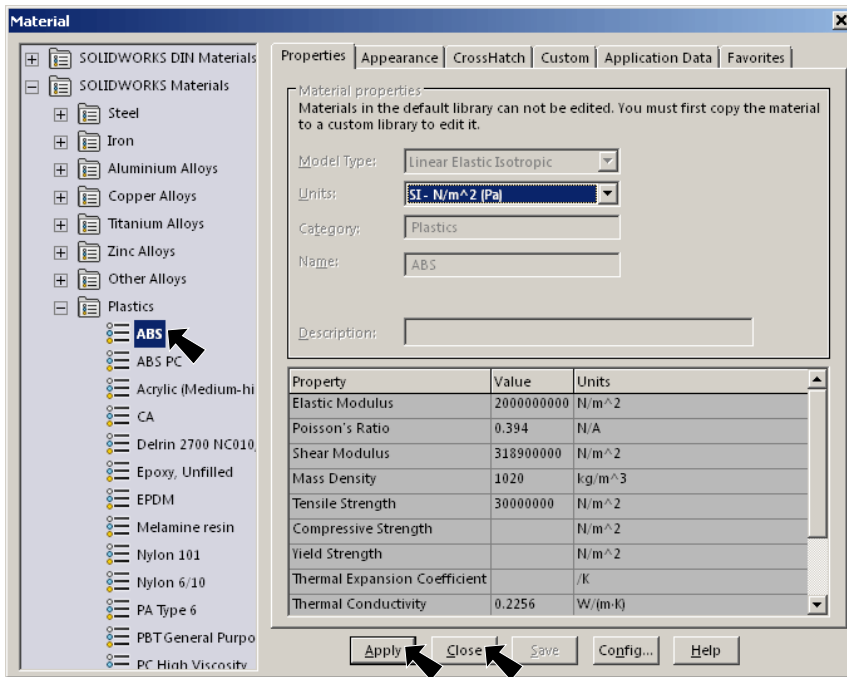





Fig. 18

F. Appearance Color.

Step 1. Click the part, click Appearance Callout  on the context toolbar and click FIN , Fig. 19.

Step 2. In the Appearances Property Manager, under Color, Fig. 20 set RGB values
R 243
G 255
B 0
 click OK .

Step 3. Save. Use Ctrl-S

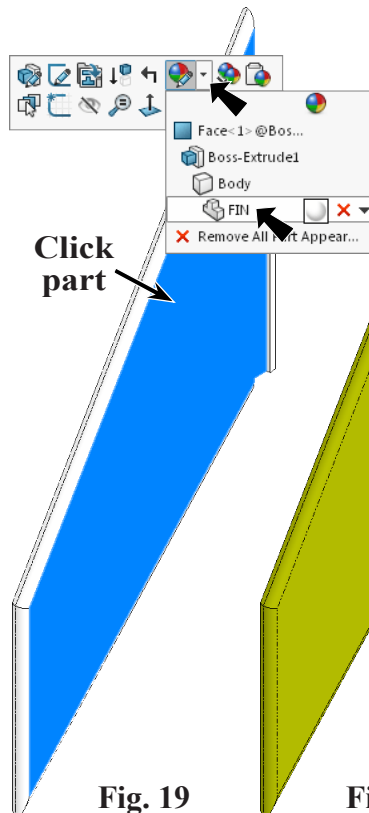


Fig. 19

Fig. 21

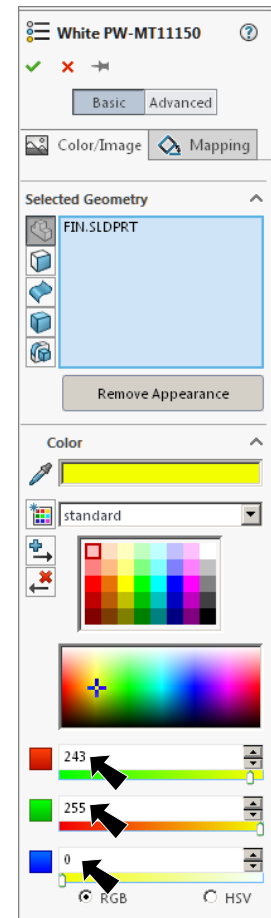


Fig. 20