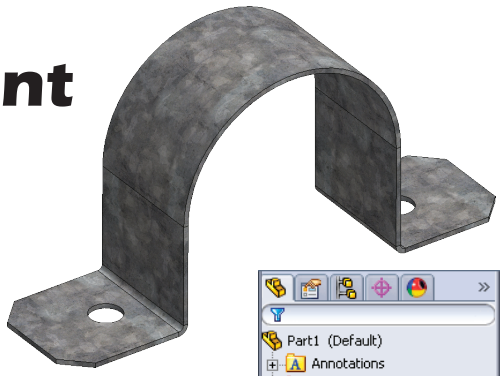
Chapter 5

Boat

Motor Mount



A. Sheet Metal.

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**.

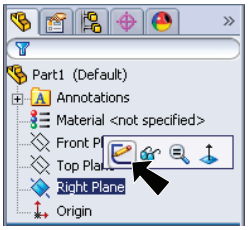


Fig. 1

Step 3. Click **Centerpoint Arc** in the **Arc flyout** on the Sketch toolbar.

Step 4. Click the Origin to start the arc and move the cursor to the right. Click to place the first end point, then move cursor counterclockwise 180 degrees. Click to place the second end point, **Fig. 2**.

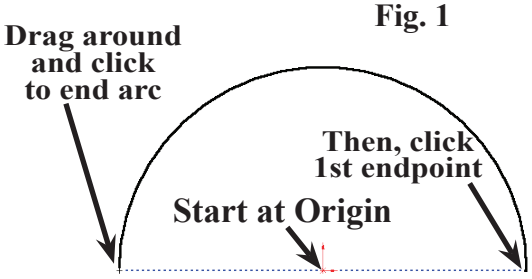


Fig. 2

Step 5. Click **Line** (**L**) on the Sketch toolbar.

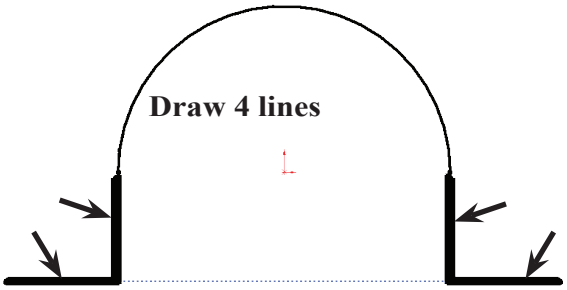


Fig. 3

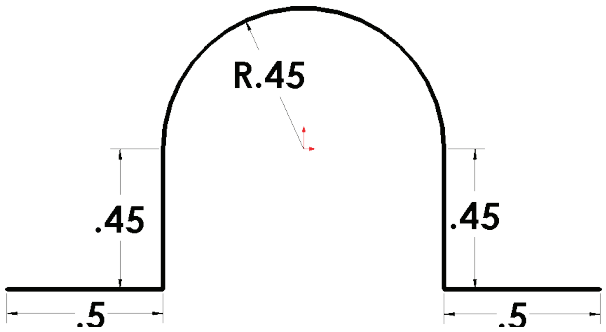


Fig. 4

Step 6. Draw the lines in **Fig. 3**. Start the lines tangent - at the ends of the arc.

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

Step 8. **Dimension the .45 radius first**, then the others dimensions as shown in **Fig. 4**.

Step 9. Click Insert Menu > Sheet Metal > Base Flange.

Step 10. Click **Right** on the View toolbar. (**Ctrl-4**)

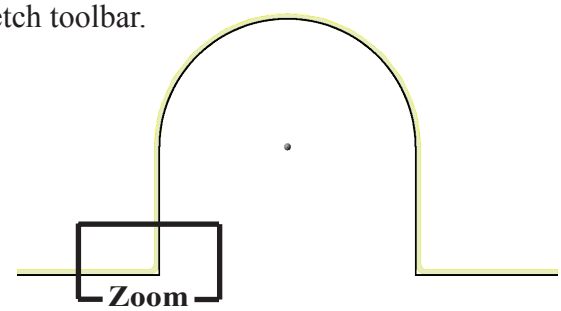


Fig. 5

Step 11. Zoom in around **corner**, **Fig. 5**. To **zoom**, hold down **Shift key** and drag with middle mouse button (wheel). To **pan**, hold down **Ctrl key** and drag with middle mouse button (wheel).

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Step 11. In the Property Manager set:
under **Direction 1**
Select **Mid Plane**, **Fig. 7**
Set **Depth** to **.5**
under **Sheet Metal Gauges**
Check **Use gauge table**
Select **Sample Table - Aluminum**
under **Sheet Metal Parameters**
Select **Gauge 26**

IF **sheet metal** in drawing, **Fig. 6** is on the **top of sketch** - click OK

IF **sheet metal is on bottom, Fig. 8, check Reverse direction** in the Property Manager, **Fig. 7**

Sketch (black line) has to be on top of sheet metal (green part)

click OK .

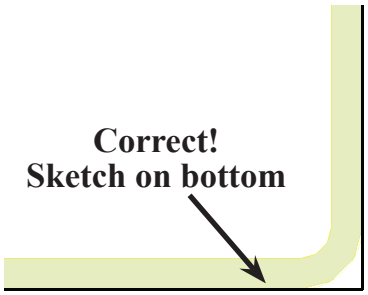


Fig. 6

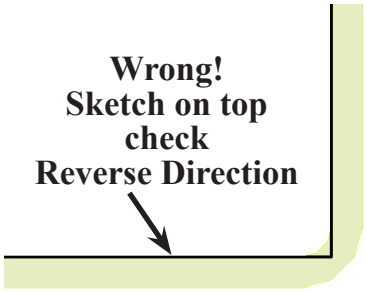


Fig. 8

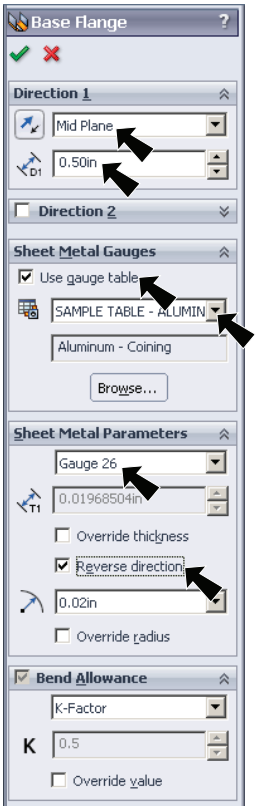


Fig. 7

Step 12. Click **Isometric** on the View toolbar. (**Ctrl-7**)

B. Save as "MOTOR MOUNT".

Step 1. Click File Menu > Save As.

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

C. Holes.

Step 1. Click the **top face** and click **Sketch** on the Content menu, **Fig. 9**.

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

Step 3. Click **Circle** on the Sketch toolbar.

Step 4. Draw **two circles** for the holes, **Fig. 10**.

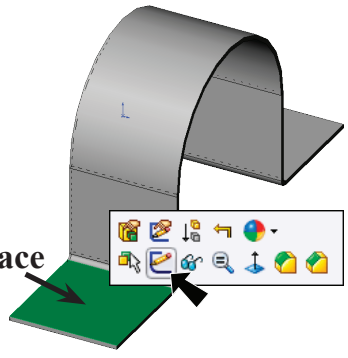


Fig. 9

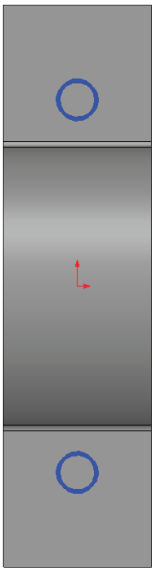
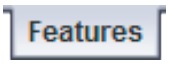


Fig. 10

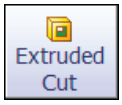
Step 5. Click **Smart Dimension**

on the Sketch toolbar.

Step 6. Add dimensions as shown in **Fig. 11**. To Smart dimension circle distance from Origin, click circle and click Origin, then move cursor out away and click to place dimension. Key-in the dimension and press ENTER. Arrange the dimensions as shown in **Fig. 11**.

Step 7. Click **Features** 

on the Command Manager toolbar.

Step 8. Click **Extruded Cut** 

on the Features toolbar.

Step 9. Click **Isometric** on the View toolbar. (**Ctrl-7**)

Step 10. In the Property Manager set:
under **Direction 1**
End Condition to **Through All** click OK , **Fig. 12** and **Fig. 13**.

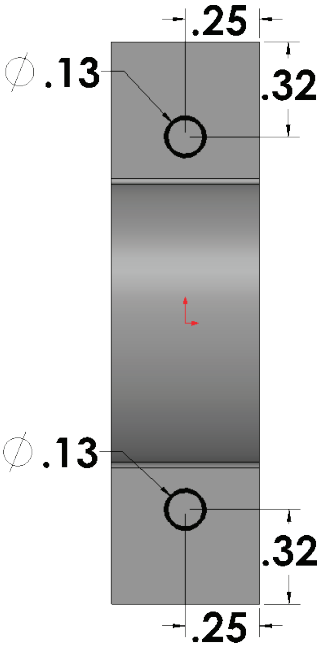


Fig. 11

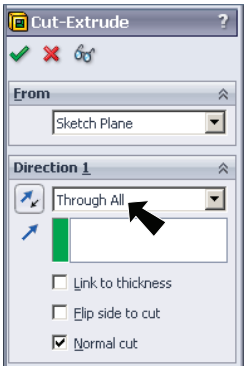


Fig. 12

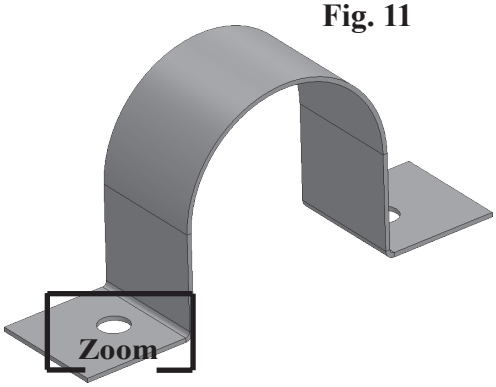


Fig. 13

D. Chamfers.

Step 1. Click **Chamfer** in the **Fillet flyout** on the Features toolbar.

Step 2. In the Chamfer Property Manager set:

Depth to **.1**

Angle **to 45 degrees**, **Fig. 14**

Drag a selection around each corner to select the corner vertical edge, **Fig. 15**. Click OK .

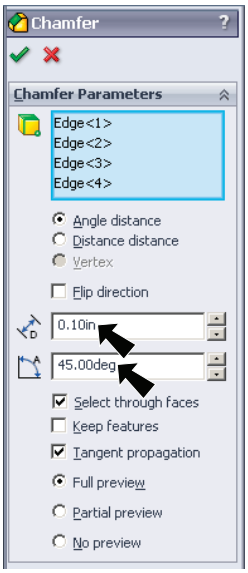


Fig. 14

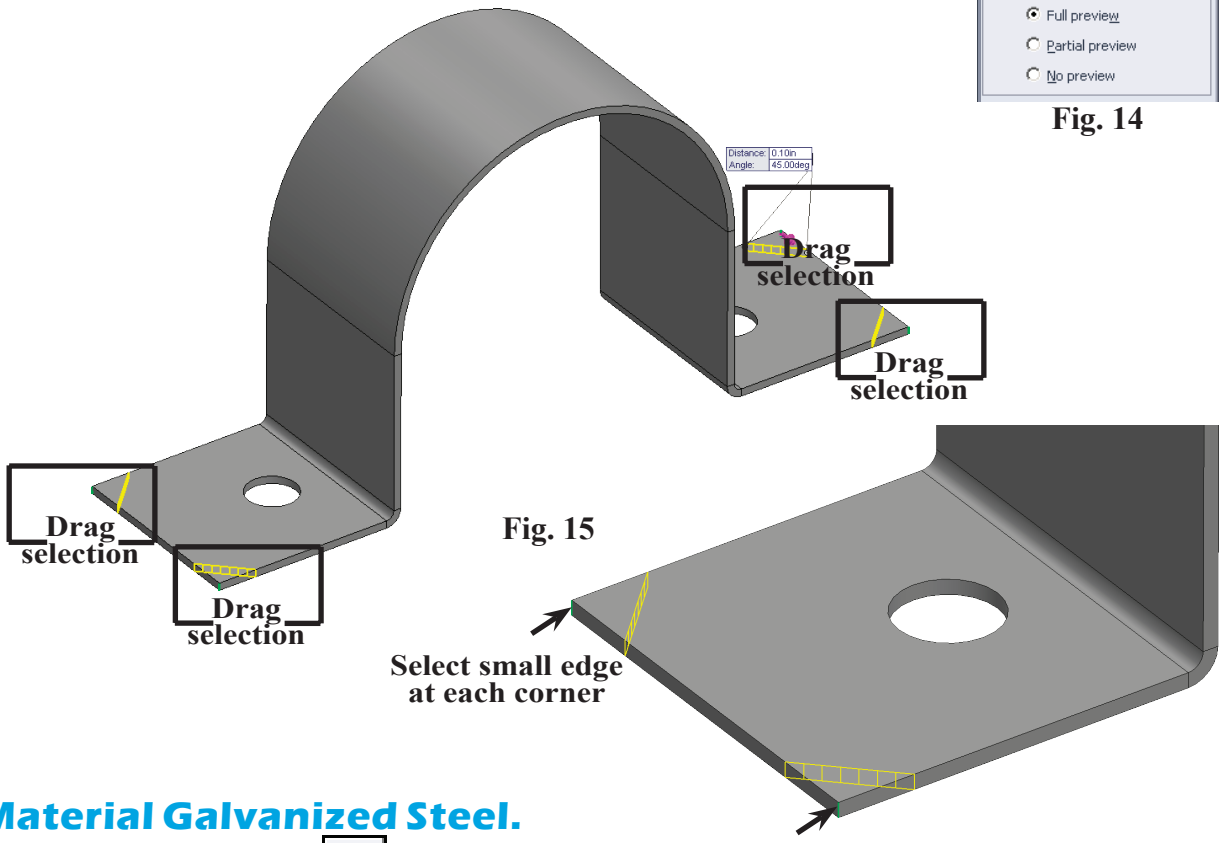


Fig. 15

E. Material Galvanized Steel.

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

Step 2. Expand **Steel** in the material tree and click **Galvanized Steel**. Click **Apply** and **Close**.

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