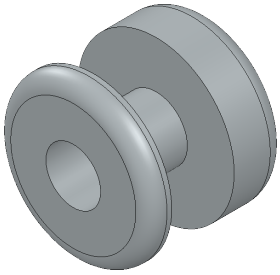
Chapter 22

Cluster Wheel Vehicle

Rivet for Battery Holder



A. Revolve.

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

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

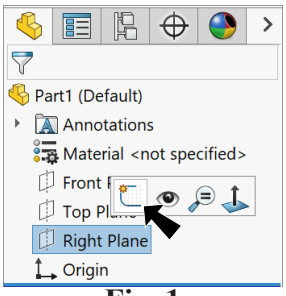


Fig. 1

Step 3. Click **Corner Rectangle** in the **Rectangle flyout** on the Sketch toolbar.

Step 4. Sketch rectangle **above** the Origin **Fig. 2**.

Step 5. **Unselect Rectangle tool**. To unselect, right click graphics area and click Select from menu.

Fig. 2

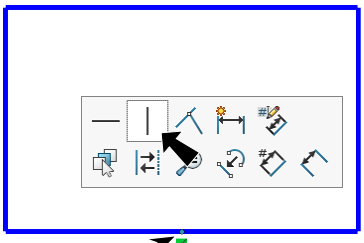


Fig. 3

Step 6. **Ctrl click Midpoint of bottom line and Origin** to select both. Release Ctrl key and click **Make Vertical** on the context toolbar, **Fig. 3**.

Tip: To highlight Midpoint, confirm **Dynamic highlight from graphics view** is checked in **Systems Options**. Use **Options** on the Standard toolbar. Under System Options, Display, check **Dynamic highlight from graphics view**.

Step 7. Click **Centerline** in the **Line flyout** on the Sketch toolbar.

Step 8. Sketch **horizontal centerline from the Origin**, **Fig. 4**.

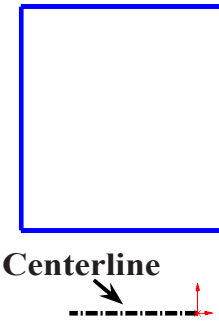


Fig. 4

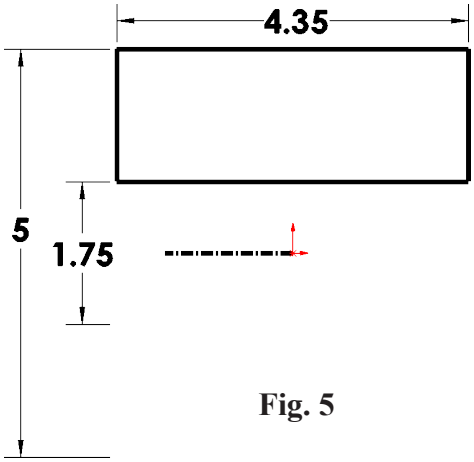


Fig. 5

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

Step 10. Add dimensions, **Fig. 5**.

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Step 11. Click **Line** **(L)** on the Sketch toolbar.

Step 12. Sketch the **3 lines, Fig. 6**.

Step 13. Click **Smart Dimension** **(S)** on the Sketch toolbar.

Step 14. Add dimensions, **Fig. 7**.

Step 15. Click **Features** on the Command Manager toolbar.

Step 16. Click **Revolved Boss/Base** on the Features toolbar.

Step 17. In the Revolve Property Manger set:

under Axis of Revolution
centerline will be selected, **Fig. 8**
uncheck **Thin Feature**
under Selected contours
select the **contour**, **Fig. 9**
click OK .

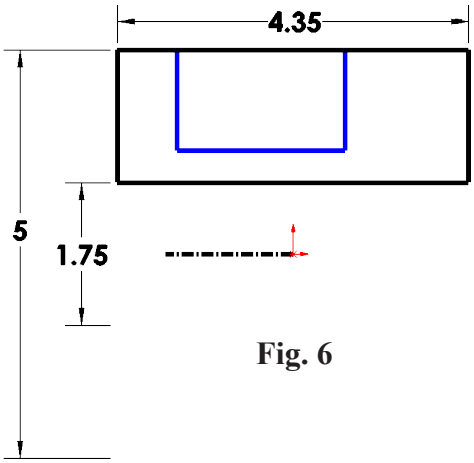

Fig. 6

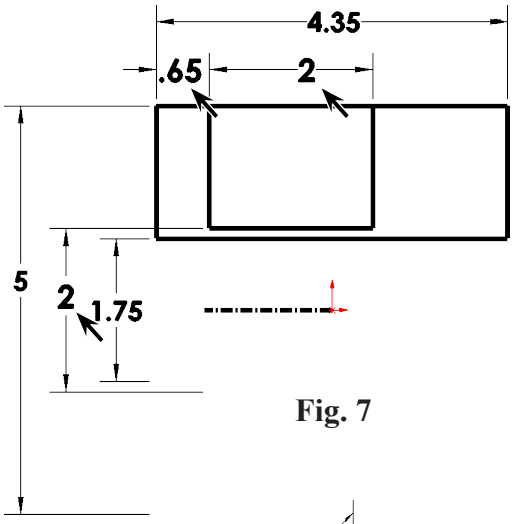

Fig. 7

B. Save as "RIVET".

Step 1. Click File Menu > Save As.

Step 2. Key-in **RIVET** for the file-name and press ENTER.

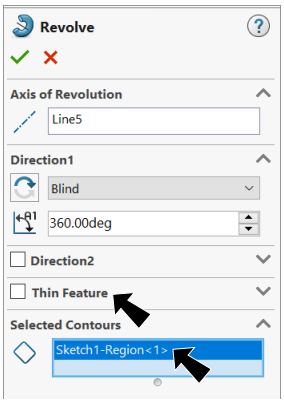

Fig. 8

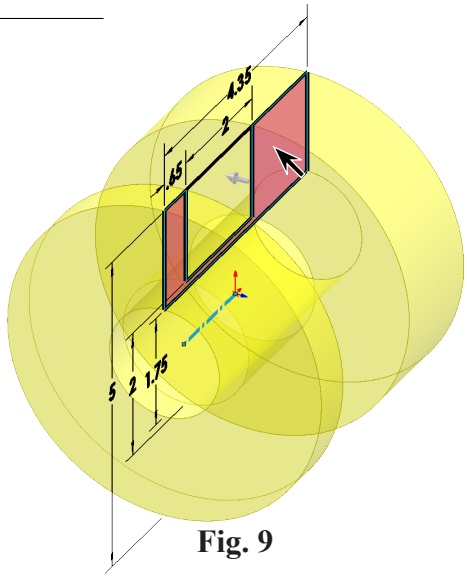

Fig. 9

C. Fillet Edges.

Step 1. Click **Fillet**

on the Features toolbar.

Step 2. In the Fillet Property Manager set:
select **FilletXpert**, **Fig. 10**
Radius .5
click the **both outside circular edges**, **Fig. 11**
click **Apply**
click OK .

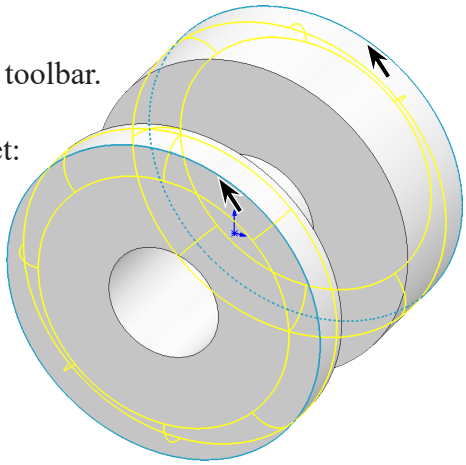

Fig. 11

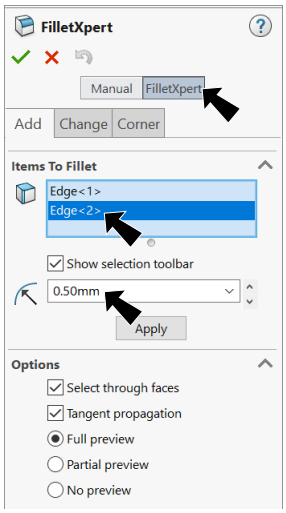

Fig. 10

D. Appearance: Chrome.

Step 1. Click part to select, click **Appearance Callout** on the Context toolbar and click **RIVET** , **Fig. 12**.

Step 2. In the Appearances Task pane, expand **Metal**, click **Chrome** and in the lower pane select **chromium plate**, **Fig. 13**.

Step 3. Click OK in the Property Manager.

Step 4. Save (**Ctrl-S**).

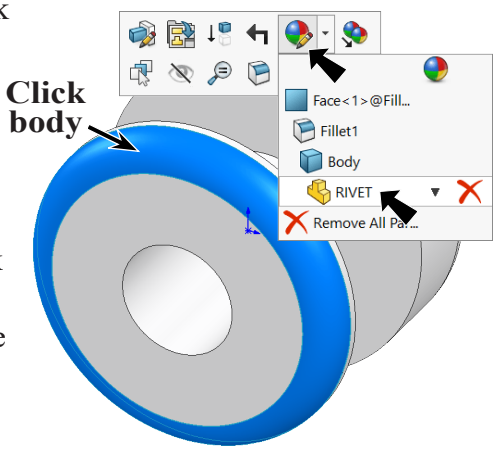

Fig. 12

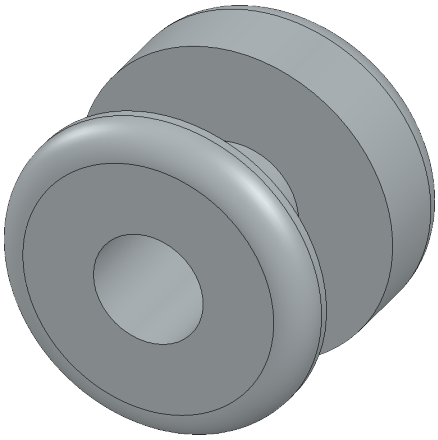

Fig. 14

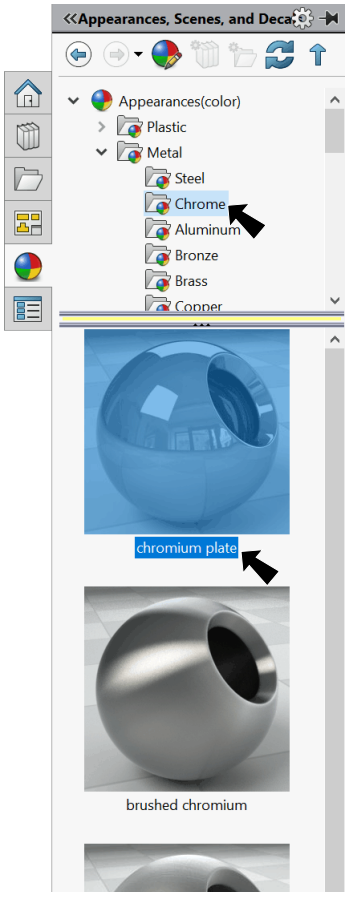

Fig. 13