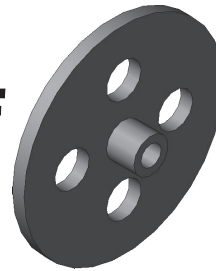




CO₂ Shell Car Wheel GT-F



A. Sketch.

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

Step 2. Click **Front** (plane) in the Feature Manager and click **Sketch**



from the Content toolbar, **Fig. 1**.

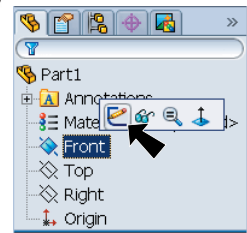


Fig. 1

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

Step 4. Draw lines starting at the Origin , **Fig. 2**. Keep the Origin at the center of the bottom line. Use the inferencing line, the dotted line that appears when you draw the lines.

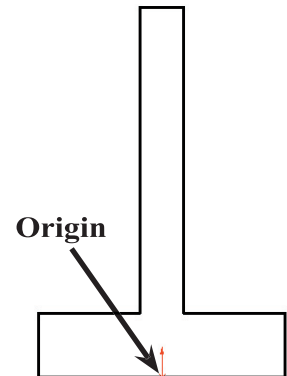


Fig. 2

Step 5. Click **Fully Defined Sketch**  (D) on the Sketch toolbar, in the Property Manager set:
under **Dimensions**,
Dimension Placement:
Above sketch
Left of sketch, **Fig. 3**
and click OK .

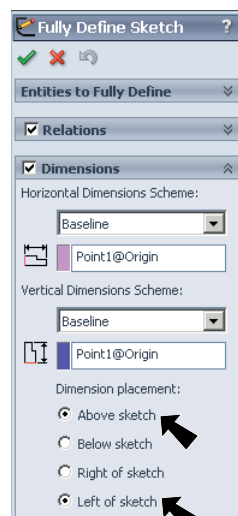


Fig. 3

Step 6. Dimension as shown in **Fig. 4**. Start dimensioning from the bottom corner dimension, the 3 and work around the sketch, that is, dimension the 3, then 17.35, 1 and 5.75 last.

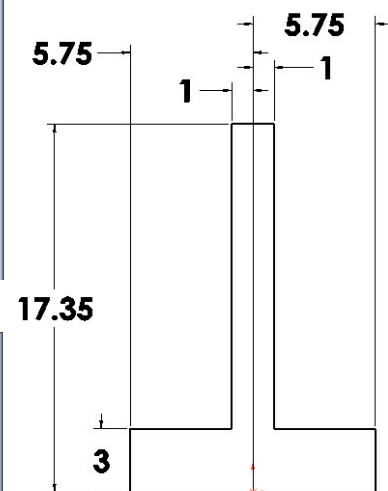


Fig. 4

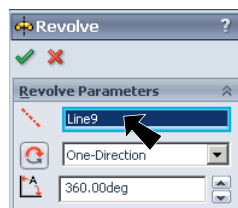
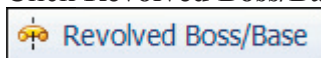


Fig. 5

Step 7. Click **Features**  on the Command Manager toolbar.

Step 8. Click **Revolved Boss/Base**



on the Features toolbar.

For the Axis , **Fig. 5**, click the **bottom line of the sketch**, **Fig. 6**. Click OK .

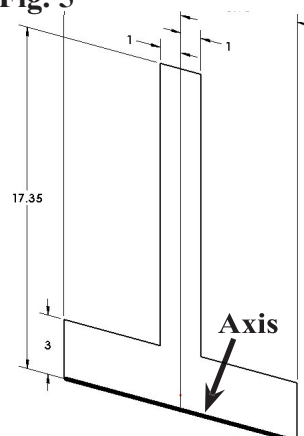


Fig. 6

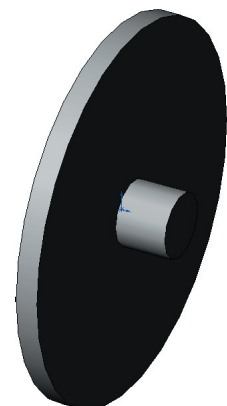


Fig. 7

Step 9. Click Zoom to Fit  (F) on the View toolbar.

B. Save as "WHEEL GT-F".

Step 1. Click File Menu > Save As.

Step 2. Key-in **WHEEL GT-F** for the filename and press ENTER.

C. Hole for Axle.

Step 1. Click the **side face of hub** and click **Sketch**  on the Content menu, **Fig. 8**.

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

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

Step 4. Draw a circle for the hole starting at the Origin , **Fig. 9**.

Step 5. Click **Fully Defined Sketch**  (**D**) on the Sketch toolbar and OK  in the Property Manager.

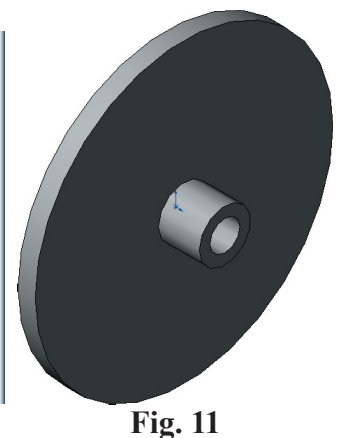
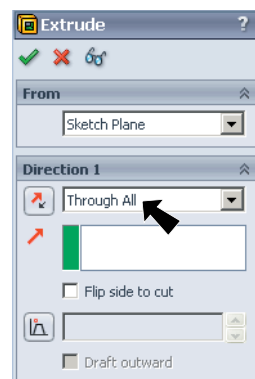
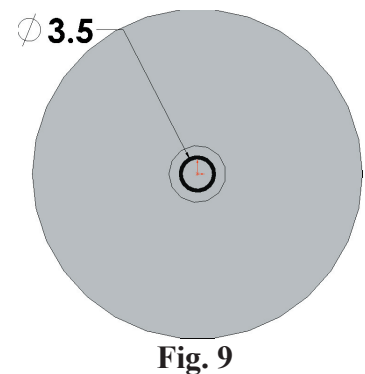
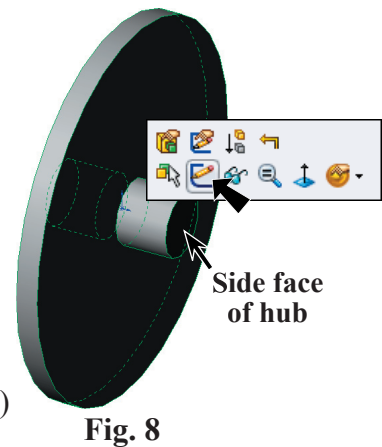
Step 6. Dimension the axle hole **3.5** as shown in **Fig. 9**.

Step 7. Click **Features** **Features** on the Command Manager toolbar.

Step 8. Click **Extruded Cut**  on the Features toolbar.

Step 9. Click **Isometric**  on the Standard Views toolbar.

Step 10. Set **End Condition** to **Through All** in the Property Manager and click OK , **Fig. 10** and **Fig. 11**.



D. Hole in Rim.

Step 1. Click the **side face of wheel** and click **Sketch**  on the Content menu, **Fig. 12**.

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

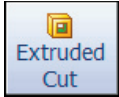
Step 3. Click **Circle**  on the Sketch toolbar.

Step 4. Draw a circle for the hole directly **above** the Origin  , **Fig. 13**. Use the inferencing line, the dotted line that appears when you draw the circle.

Step 5. Click **Fully Defined Sketch**  (**D**) on the Sketch toolbar and OK  in the Property Manager.

Step 6. Dimension as shown in **Fig. 13**.

Step 7. Click **Features**  on the Command Manager toolbar.

Step 8. Click **Extruded Cut**  on the Features toolbar.

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

Step 10. Set **End Condition** to **Through All** in the Property Manager and click OK  , **Fig. 14** and **Fig. 15**.

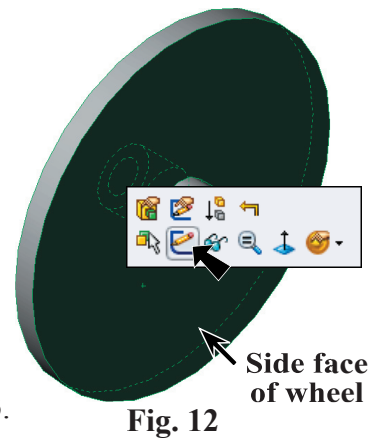


Fig. 12

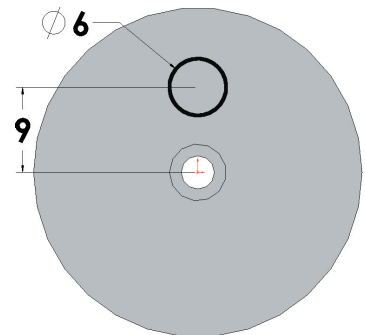


Fig. 13

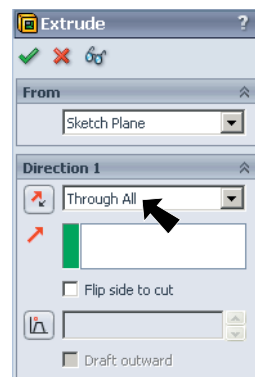


Fig. 14

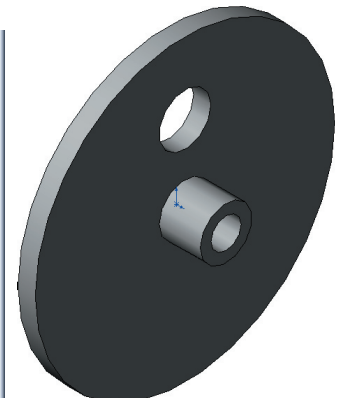


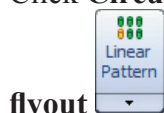
Fig. 15

E. Circular Pattern for Hole.

Step 1. Click View Menu > Temporary Axes.

Step 2. Click **Extrude2** in the Feature Manager (left panel) to select the hole in the wheel, **Fig. 16**.

Step 3. Click **Circular Pattern**  in the **Linear Pattern**



flyout  on the Features toolbar. Be sure to click the flyout arrow  to select Circular Pattern.

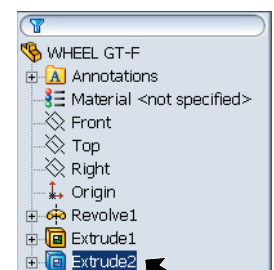


Fig. 16

Step 4. In the Circular Pattern Property Manager set:
under Parameters

click in the **Pattern Axes** , **Fig. 18** and click the **Temporary Axis** in the drawing, **Fig. 17**

Number of Instances  to 4, **Fig. 18**

Check Equal spacing
under **Options**
Check Geometry pattern, **Fig. 18**
and click OK  in the Property Manager

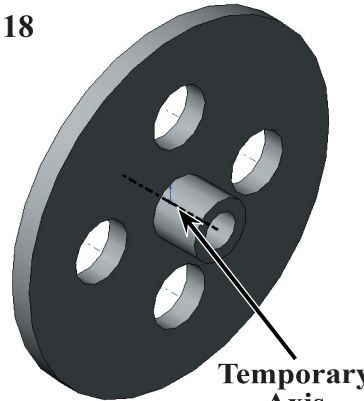


Fig. 17

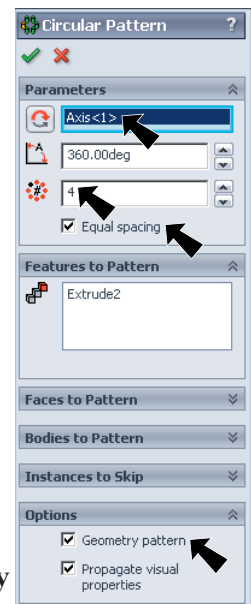


Fig. 18

F. Color.

Step 1. Click **Edit Color**  on the Standard toolbar.

Step 2. In the Color and Optics Property Manager,
under Selection:
click **Select Bodies**  and unselect others, **Fig. 19**

under Favorite:
click **Shiny**
click **Gray** swatch, second from bottom, **Fig. 19**
click the wheel and click OK  in the Property Manager.

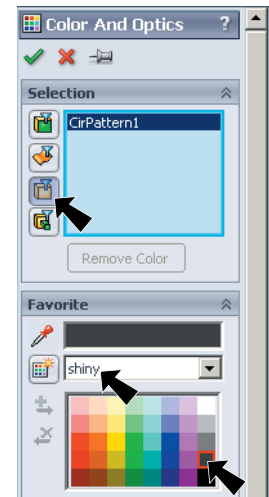


Fig. 19

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

G. Appearance.

Step 1. Click Edit Menu > Appearance > Material.

Step 2. Scroll down the Materials and **expand Plastic** (click the +), **Fig. 20**.
Select **POM Acetal Copolymer** and click OK .

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

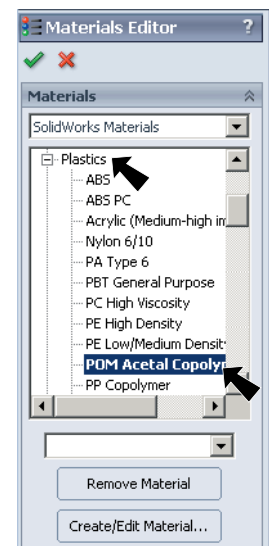
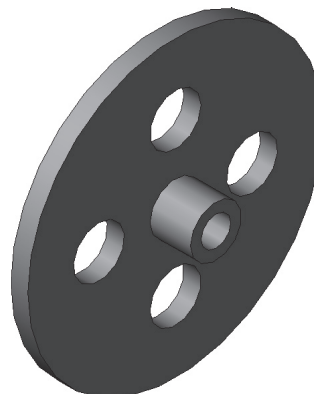


Fig. 20