Chapter 5

CO2 Rail Car
Wheel Assembly

A. Insert Rim and Tire.

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

Step 2. Select your **RIM** file and click Open from the Open dialog box.

Step 3. In the Begin Assembly Property Manager set:

click **Keep Visible** , **Fig. 1**

Click OK in the Property Manager. This will place Rim origin at the assembly origin and fix the position so Rim cannot move. This fixed component should have a **(f)** before its name in the Feature Manager (f) FRONT RIM LX<1> .

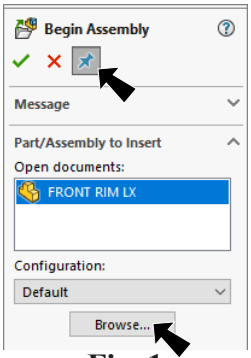


Fig. 1

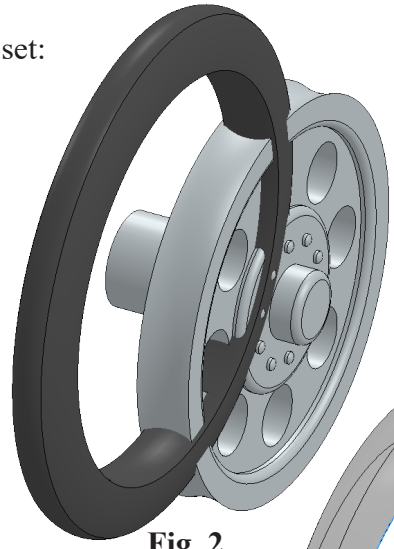


Fig. 2

Step 4. Click **Browse** in the Property Manager, **Fig. 1**.

Step 5. Select your **TIRE** file and click Open.

Step 6. Click approximately where Tire is positioned in **Fig. 2**.

Click OK in the Property Manager when done.

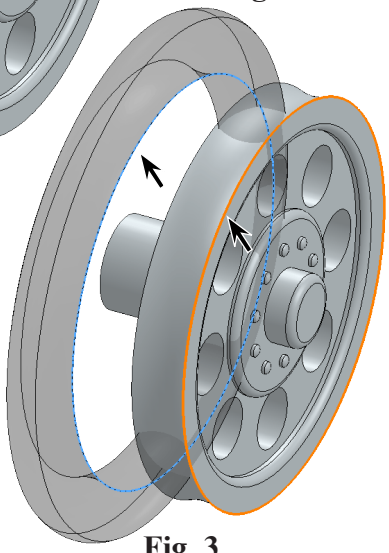


Fig. 3

B. Save as "FRONT WHEEL ASSEMBLY LX".

Step 1. Click File Menu > Save As.

Step 2. Key-in **FRONT WHEEL ASSEMBLY LX** for the filename and press ENTER.

C. Mate: Tire to Rim.

Step 1. Click **Mate** 

on the Assembly toolbar.

Step 2. Click **edge of Tire** and **edge of Rim**, **Fig. 3**.

Step 3. Click Add/Finish Mate  to add **Coincident** mate.

Step 4. Click OK in the Property Manager when done.

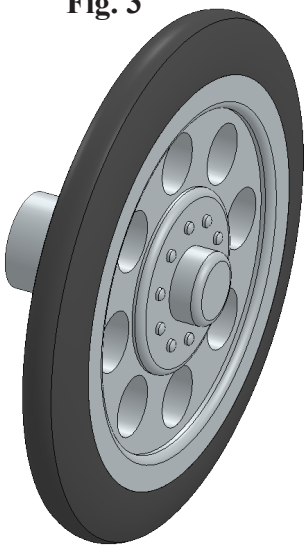
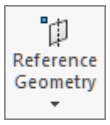


Fig. 4

D. Mate Reference.

Step 1. Rotate view slightly to view **inside of rim**, hold down middle mouse button (wheel) and drag to rotate view, **Fig. 5**.

Step 2. Click the **inside cylindrical face of axle hole** to select it, **Fig. 5**.

Step 3. Click **Reference Geometry** 

on the Assembly toolbar and **Mate Reference** from the menu.

Step 4. In the Mate Reference Property Manager click OK ✔, **Fig. 6**.

Step 5. Save. Use **Ctrl-S**.

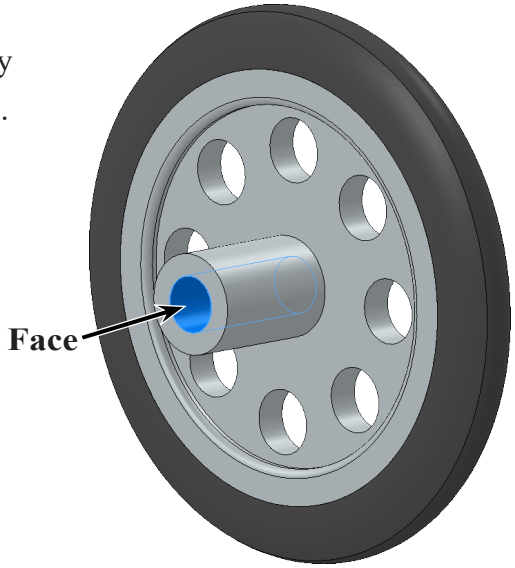


Fig. 5

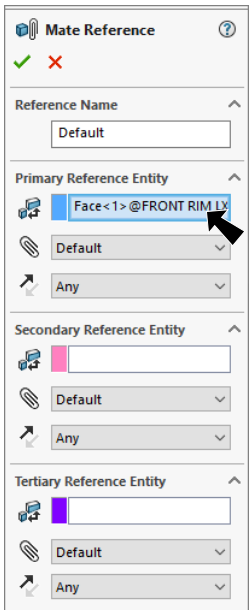


Fig. 6