



Chapter 8 CO2 Shell Car Assembly

A. Insert Axles and Wheels.

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

Step 2. Click **Keep Visible**  in the Property Manager, **Fig. 1**.

Step 3. Click **Browse** in the Property Manager, **Fig. 1**.

Step 4. Select your **BODY** file and click Open.

Step 5. Click OK  in the Property Manager. This will place the body origin at the assembly origin and fix the position of the body so that it cannot move. This fixed component should have a **(f)** before its name in the Feature Manager  **(f) BODY<1>**.

Step 6. Click **Browse** in the Property Manager, **Fig. 1**.

Step 7. Select your **AXLE** file and click Open.

Step 8. Click approximately where the axles are positioned in **Fig. 2**.

Step 9. Repeat and place two **GT-F front wheels** in the front of the body and **GT-R rear wheels** in the rear. Click OK  when done, **Fig. 2**.

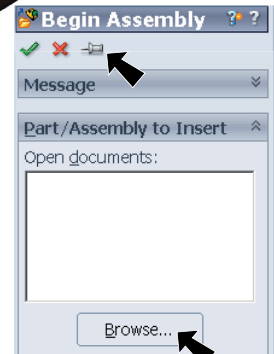


Fig. 1

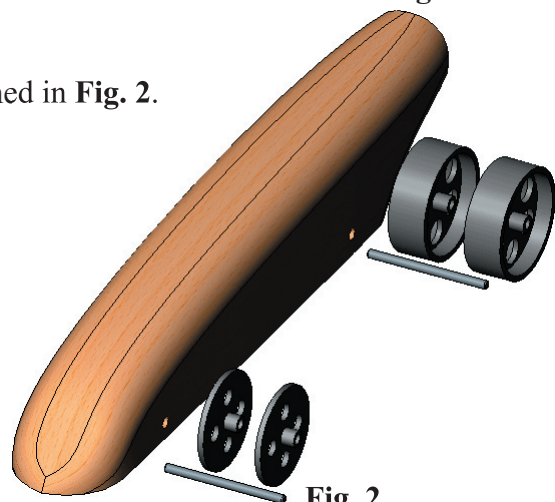


Fig. 2

B. Save as "CO2 CAR ASSEMBLY".

Step 1. Click File Menu > Save As.

Step 2. Key-in **CO2 CAR ASSEMBLY** for the file-name and press ENTER.

C. Mate: Front Wheels and Axle.

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

Step 2. Use the **Zoom to Area**  in the View toolbar to drag a zoom window around the **front axle hole and wheels**, **Fig. 3**.

Step 3. Click **Filter Faces**  (X) on the **Selection Filter** toolbar at the bottom of the display, **Fig. 4**. If necessary use **F5** key to display the toolbar.

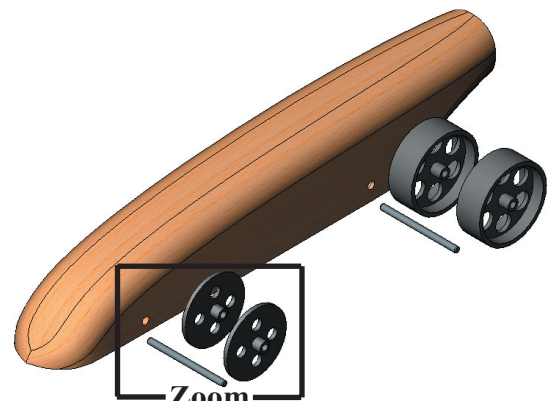


Fig. 3



Fig. 4

Step 4. Click **Mate**  on the Assemblies toolbar.

Step 5. Click **cylindrical face of axle** and **cylindrical inside face of the hole in a wheel**, **Fig. 4**.

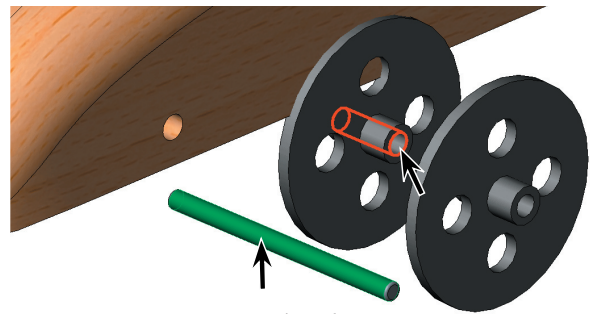


Fig. 4

Step 6. If you select the wrong face, **right click** the Mate Selection in the Mate Property Manager and click Delete, **Fig. 5**.

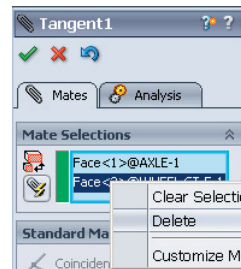


Fig. 5

Step 7. Click Add/Finish Mate  in Mate pop-up toolbar to add a **Concentric** mate, **Fig. 6**.



Fig. 6

Step 8. Click **cylindrical face of axle** and **cylindrical inside face of the hole in other wheel**, **Fig. 7**.

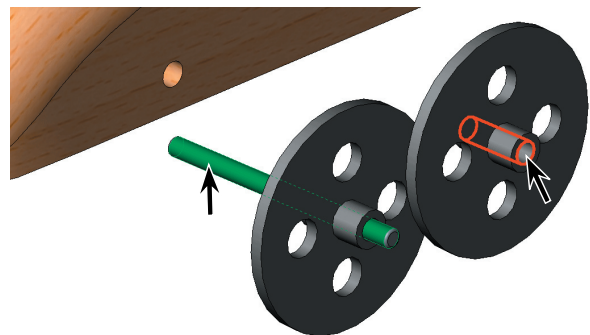


Fig. 7

Step 9. Click Add/Finish Mate  in Mate pop-up toolbar to add a **Concentric** mate.

Step 10. Click **cylindrical face of axle** and **cylindrical inside face of axle hole in body**, **Fig. 8**.

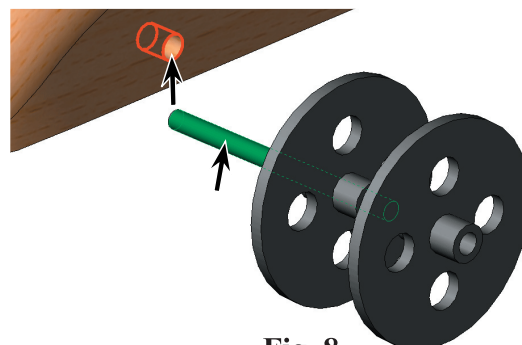


Fig. 8

Step 11. Click Add/Finish Mate  in Mate pop-up toolbar to add a **Concentric** mate.

Step 12. Click OK  in the Property Manager when done.

Step 13. Save. Use **Ctrl-S**.

D. Mate: Rear Wheels and Axle.

Step 1. Click Zoom to Fit  (F) on the View toolbar.

Step 2. Use the **Zoom to Area**  in the View toolbar to drag a zoom window around the **rear axle hole and wheels**, **Fig. 9**.

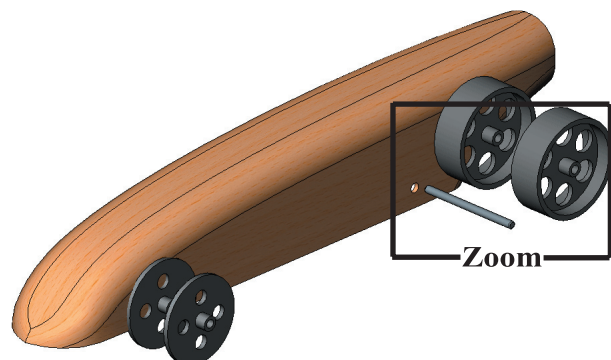


Fig. 9

Step 3. Click **Mate**  on the Assembly toolbar.

Step 4. Click **cylindrical face of axle** and **cylindrical inside face of the hole in a wheel**, **Fig. 10**.

Step 5. Click Add/Finish Mate  in Mate pop-up toolbar to add a **Concentric** mate.

Step 6. Click **cylindrical face of axle** and **cylindrical inside face of the hole in other wheel**, **Fig. 11**.

Step 7. Click Add/Finish Mate  in Mate pop-up toolbar to add a **Concentric** mate.

Step 8. Click **cylindrical face of axle** and **cylindrical inside face of axle hole in body**, **Fig. 12**.

Step 9. Click Add/Finish Mate  in Mate pop-up toolbar to add a **Concentric** mate.

Step 10. Click OK  in the Property Manager when done.

Step 11. Save. Use **Ctrl-S**.

E. Position in Bottom View.

Step 1. Click **Bottom**  on the Standard Views toolbar. (**Ctrl-6**)

Step 2. Move the parts as shown in **Fig. 13**. Center the axles in the body and position the wheels on the axles.

Step 3. Click **Isometric**  on the Standard Views toolbar. (**Ctrl-7**)

Step 4. Save. Use **Ctrl-S**.

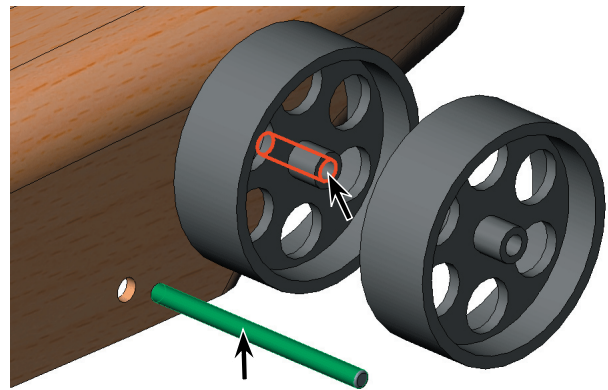


Fig. 10

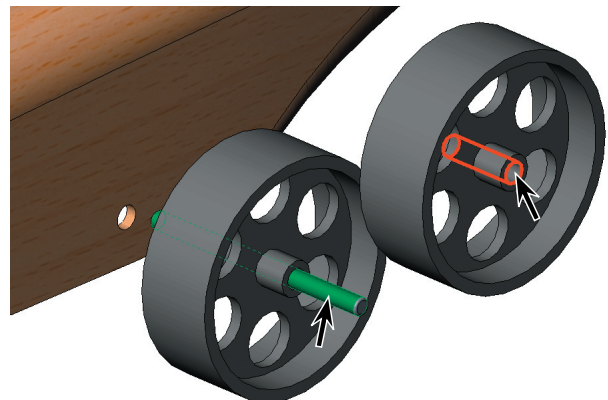


Fig. 11

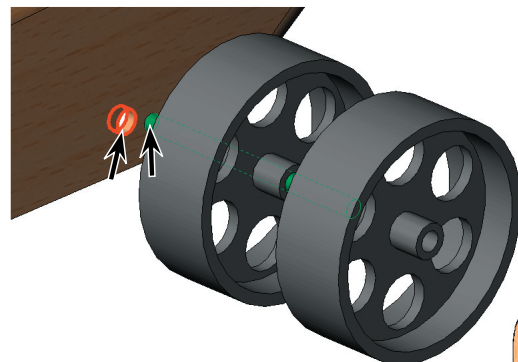


Fig. 12

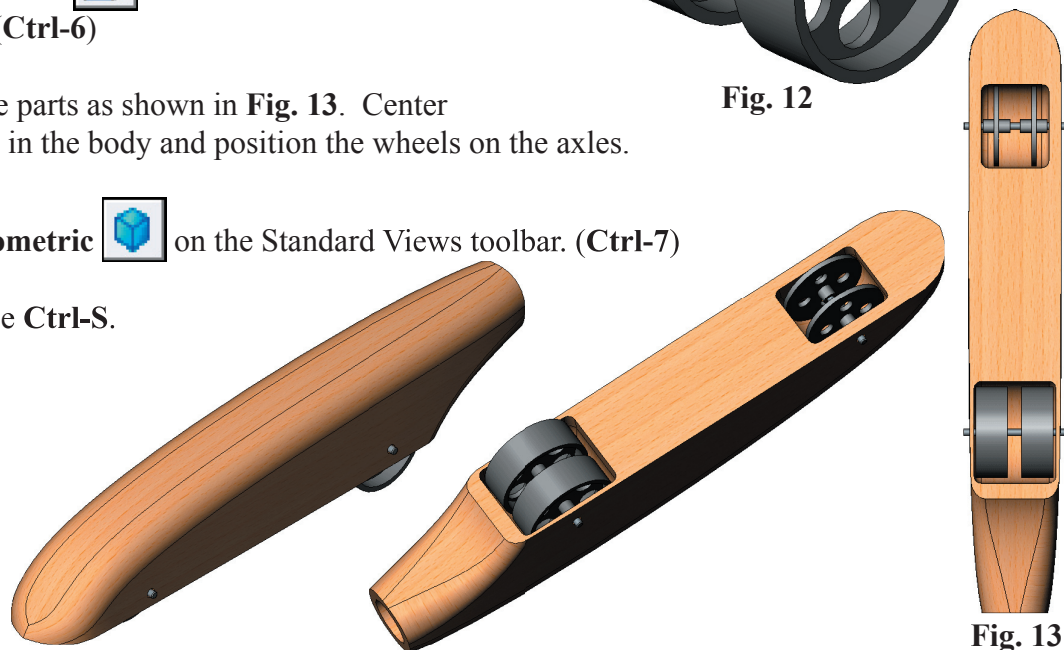


Fig. 13