

CO2 Shell Car Assembly



A. Insert Wheels, Axles and Spacers.

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

Step 2. Select your **BODY** 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 Body origin at the assembly origin and fix the position so Body cannot move. This fixed component should have a **(f)** before its name in the Feature Manager  **(f) BODY<1>**.

Step 4. Rotate view to view **bottom of body**, hold down middle mouse button (wheel) and drag to rotate view, **Fig. 3**. Be careful **do not** click the graphics area.


Step 5. Click **Browse** in the Property Manager, **Fig. 1**.

Step 6. Select your **FRONT AXLE** file and click Open.

Step 7. Position the Front Axle near Front Axle hole, **Fig. 3**. When Axle snaps into place and cursor changes to indicate Concentric mate , click to release Axle.

Step 8. Click **Browse** in the Property Manager.

Step 9. Select your **FRONT SPACER** file and click Open.

Step 10. Position Front Spacer over Front Axle, **Fig. 4**. When Spacer snaps into place and cursor changes to indicate Concentric mate , click to release Spacer.

Step 11. Repeat, Browse and place **REAR AXLE** and **REAR SPACER** at Rear Axle hole, **Fig. 5**.

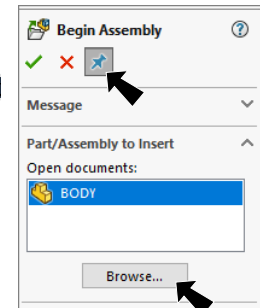
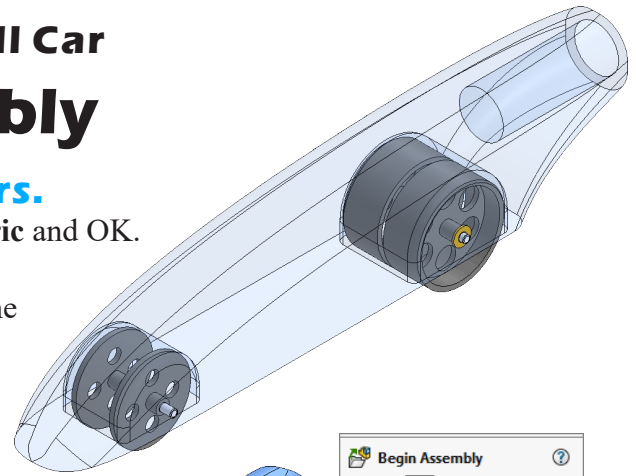


Fig. 1

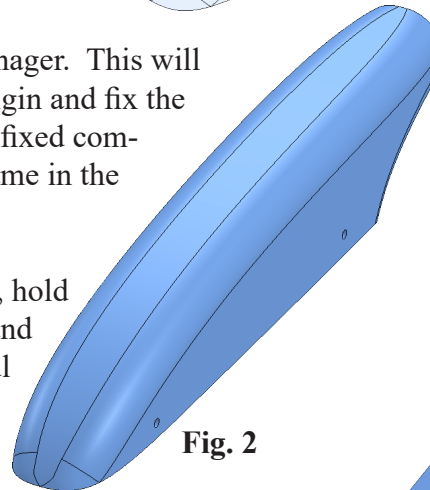


Fig. 2

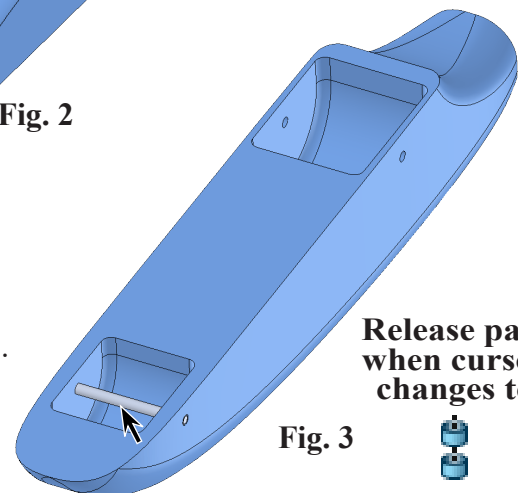


Fig. 3

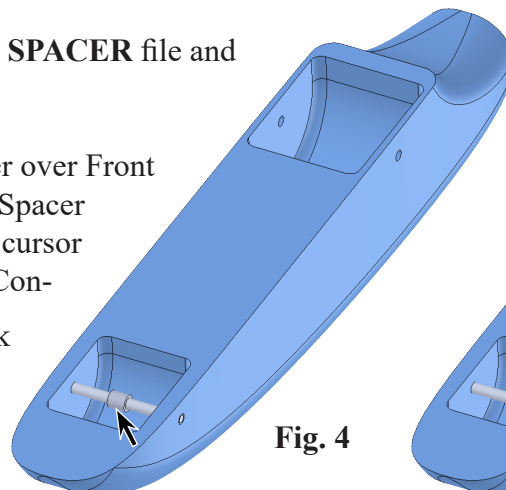


Fig. 4

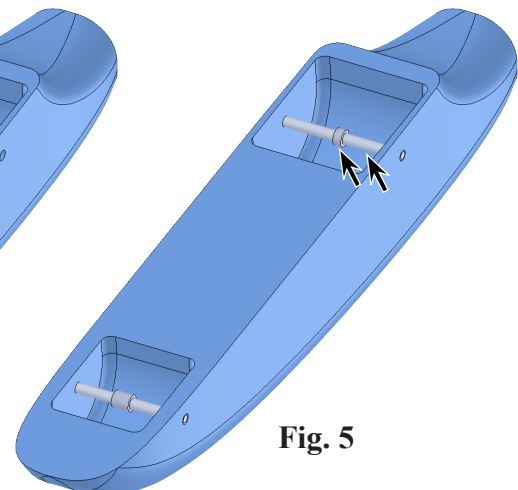



Fig. 5

Step 12. Click **Browse** in the Property Manager.

Step 13. Select your **WHEEL GT-F** file and click Open.

Step 14. Position Front Wheel over Front Axle, **Fig. 6**. When Wheel snaps into place and cursor changes to indicate the Concentric mate , release Wheel.

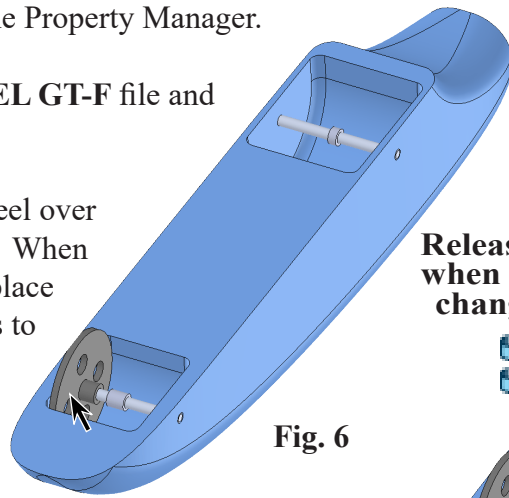


Fig. 6



Fig. 7

Release part when cursor changes to

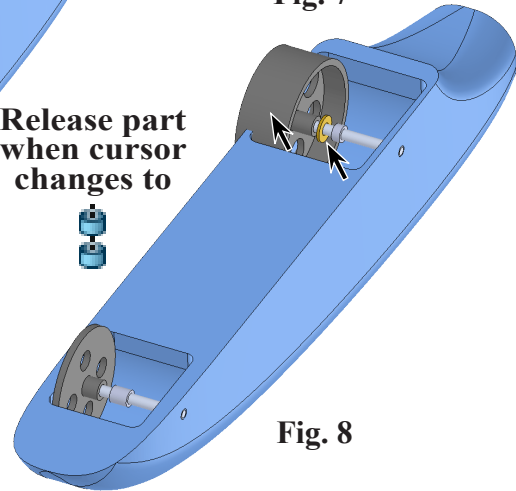


Fig. 8

Step 15. Click Add/Finish Mate  in Mate pop-up toolbar to add a **Concentric** mate, **Fig. 7**.

Step 16. Repeat, Browse and place **WHEEL GT-R** and **WASHER** at Rear Axle, **Fig. 8**.

B. Save as "SHELL CAR ASSEMBLY".

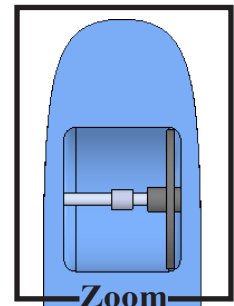
Step 1. Click File Menu > Save As.

Step 2. Key-in **SHELL CAR ASSEMBLY** for the filename and press ENTER.



C. Mate: Wheel GT-F.

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

Step 2. Zoom in around **front shell**, **Fig. 9**. To zoom, place the cursor over the front shell and spin the wheel on mouse back. While spinning the wheel keep cursor on front shell.



Zoom

Step 3. Click **Right Plane**  in the Feature Manager and click **Mate**  on the context toolbar, **Fig. 10**.

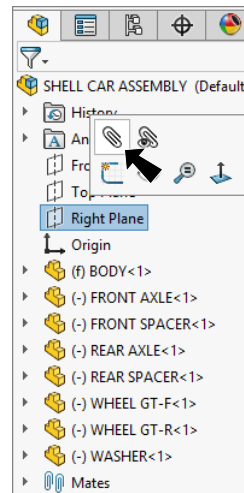


Fig. 10

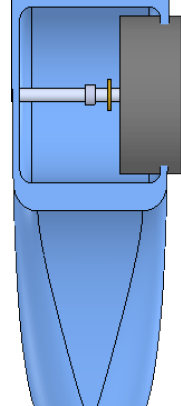




Fig. 9

Step 4. Expand the flyout Feature Manager design tree (click ) in the top left corner of the graphics area, expand **Front Wheel GT-F** and click **Right Plane** , **Fig. 11**.

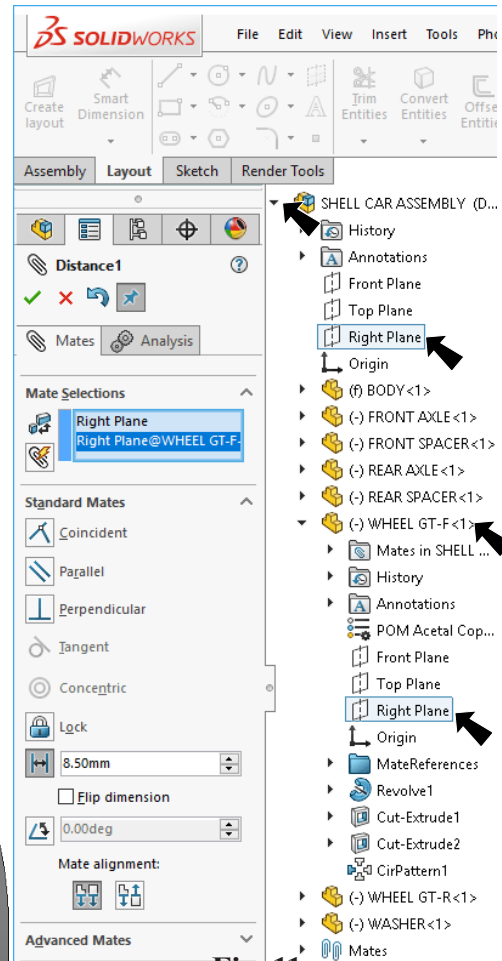





Fig. 11

Step 5. Click **Distance**  in Mate pop-up, **Fig. 12**. Set **distance 8.5** and press **ENTER**. The Wheel should on right side of shell, **Fig. 13**. If positioned in opposite direction, click **Flip Dimension**  in the Mate pop-up, **Fig. 12**. Click **Add/Finish Mate**  to add Distance mate.

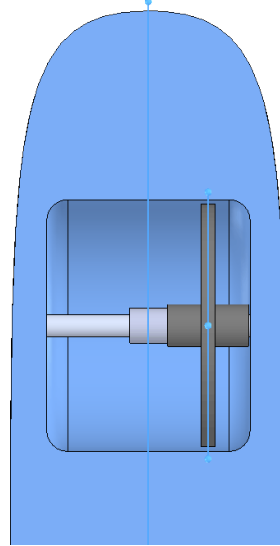


Fig. 13

D. Mate: Washer.

Step 1. Scroll down to rear shell. To scroll hold down **Ctrl** and **press up arrow key** on keyboard, **Fig. 14**.

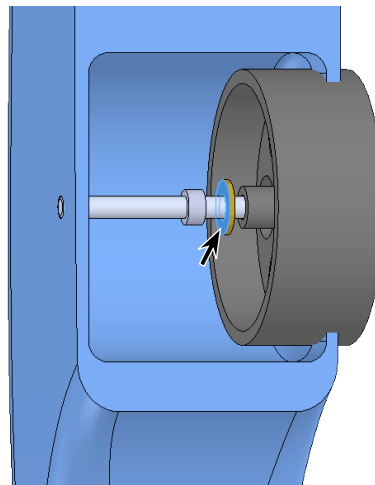


Fig. 14

Step 2. Use **Right arrow key** on keyboard one time to rotate assembly to view side face of Washer, **Fig. 14**.



Fig. 12

Step 3. Click **side face of Washer**, **Fig. 14**.

Step 4. Use **Left arrow key** to rotate assembly to view side face of Wheel GT-R hub, **Fig. 15**.

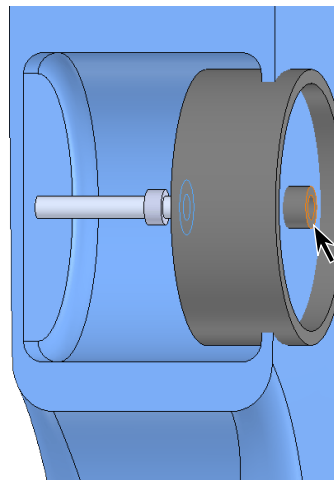


Fig. 15

Step 5. Click **side face of Wheel GT-R hub**, **Fig. 15**.

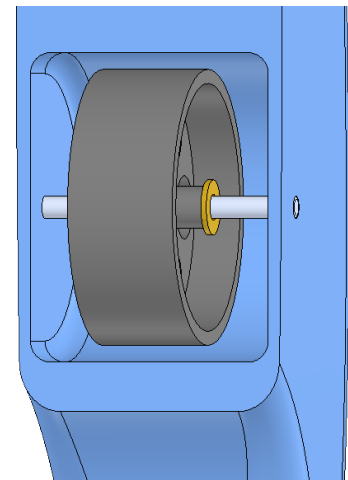




Fig. 16




Step 6. Click **Add/Finish Mate**  in Mate pop-up toolbar to add a **Coincident** mate.

E. Mate: Wheel GT-R.

Step 1. Rotate back to Bottom View, **Fig. 19**. Use **Right arrow** key or **Previous View**  on the Standard Views toolbar. (**Ctrl-Shift-Z**)

Step 2. Expand flyout Feature Manager design tree and click **Right Plane** , **Fig. 17**.

Step 3. Expand **Rear Wheel GT-R** and click **Right Plane** , **Fig. 17**.

Step 4. Click **Distance**  in Mate pop-up, **Fig. 18**. Set **distance 9** and press ENTER. The Wheel and Washer should be on right side of shell (same side as Front Wheel), **Fig. 19**. If positioned in opposite direction, click **Flip Dimension**  in the Mate pop-up, **Fig. 18**. Click **Add/Finish Mate**  to add Distance mate.

Step 5. Click **OK**  in the Property Manager.

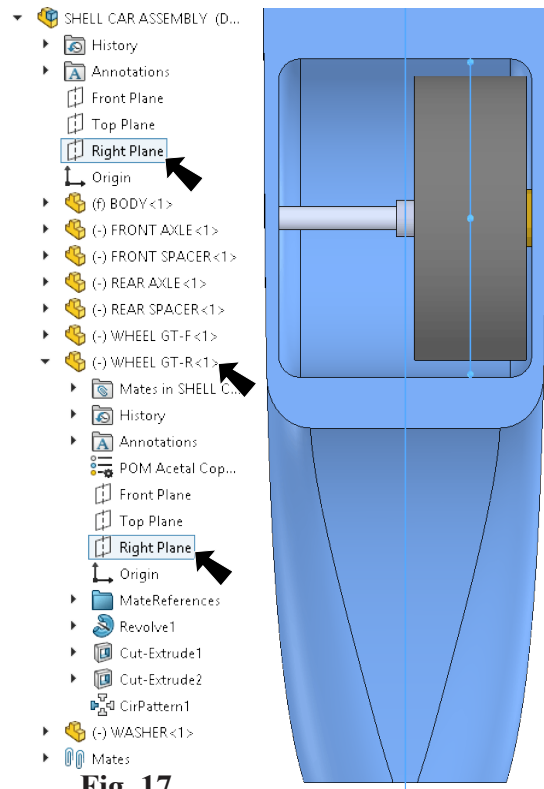


Fig. 17



Fig. 19




Fig. 18

F. Mirror.

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

Step 2. **Ctrl click Right Plane** , **both Wheels and Washer** in the Feature Manager, **Fig. 20**. To **Ctrl click**, hold down the **Ctrl** key and click **Right Plane** , **both Wheels and Washer**.

Step 3. Click **Insert Menu > Mirror Components**.

Step 4. In the Mirror Property Manager click **OK** , **Fig. 21**.

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

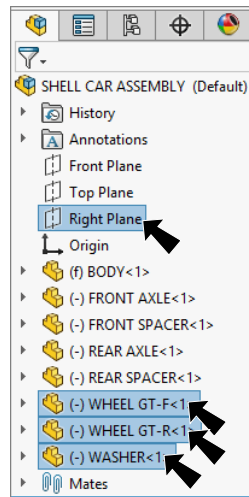


Fig. 20

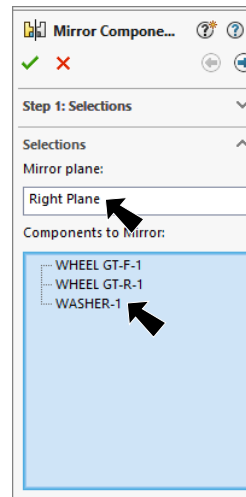


Fig. 21

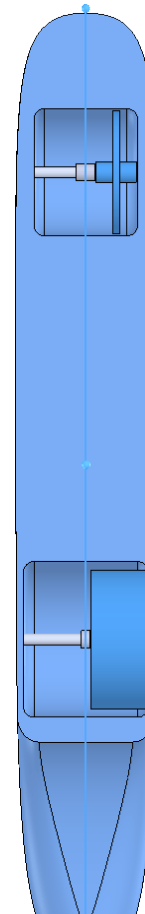


Fig. 22



Fig. 23