Chapter 8

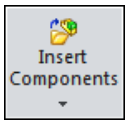
Landing Gear Sub-Assembly

A. Make Assembly.

Step 1. If necessary, **Open your WHEEL WIRE** file.

Step 2. Click File Menu > **Make Assembly from Part**.

Step 3. Click **Assembly** in the New SOLIDWORKS Documents dialog box and OK.

Step 4. If necessary, click **Insert Components** 

on the Assembly toolbar.

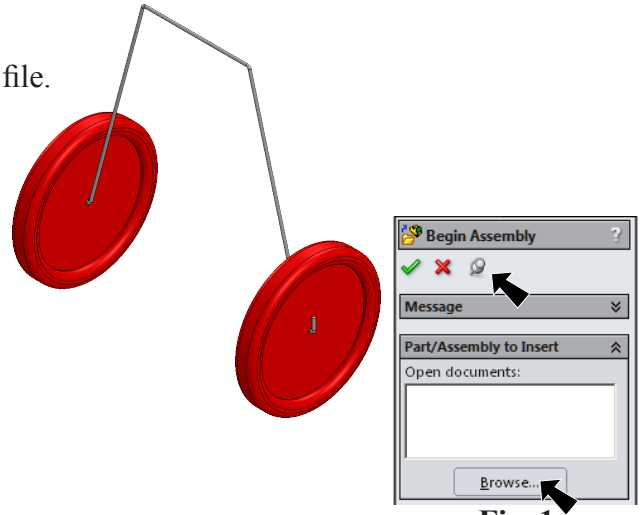


Fig. 1

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

Step 6. Click OK in the Property Manager. This will place the Wheel Wire origin at the assembly origin and fix the position of Wheel Wire so that it cannot move. This fixed component should have a **(f)** before its name in the Feature Manager (f) WHEEL WIRE<1>.

Step 7. Click **Browse** in the Property Manager, **Fig. 1**.

Step 8. Select your **WHEEL** file and click Open.

Step 9. Click approximately where Wheels are positioned in **Fig. 2**. Click OK in the Property Manager when done.

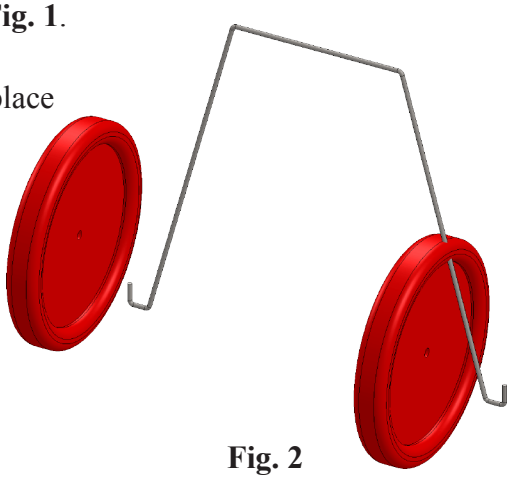


Fig. 2

B. Save as "LANDING GEAR ASSEMBLY".

Step 1. Click File Menu > Save As.

Step 2. Key-in **LANDING GEAR ASSEMBLY** for the filename and press ENTER.

C. Mate: Wheel.

Step 1. Zoom in around **wheel hole and end of wire**, **Fig. 3**. To zoom, place the cursor over the hole/end of wire and spin the wheel on mouse back. While spinning the wheel keep cursor on the area.

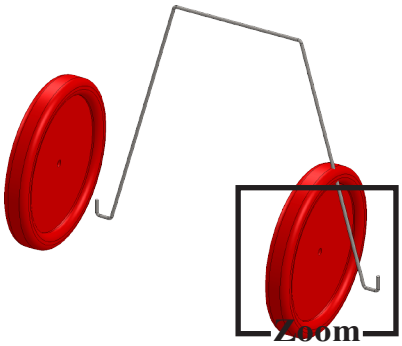


Fig. 3

Step 2. Click **Mate** 

on the Assembly toolbar.

Step 3. Click **cylindrical face of wheel hole** and **cylindrical face of horizontal section of wire**, **Fig. 4**.

Fig. 5

Step 4. Click Add/Finish Mate  in Mate pop-up toolbar to add a **Concentric** mate, **Fig. 5**.

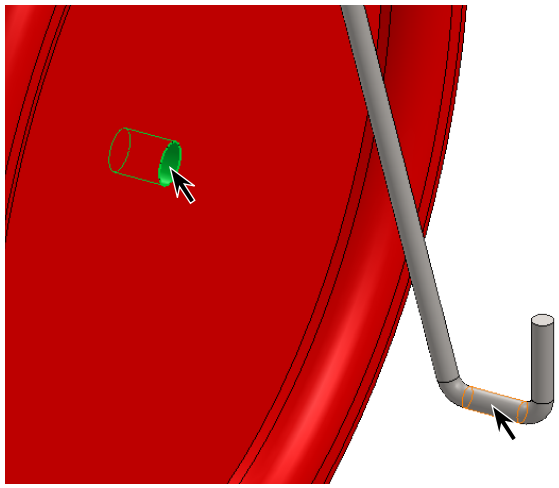


Fig. 4

Step 5. Click **side face of wheel** and **edge of horizontal section of wire**, **Fig. 6**.

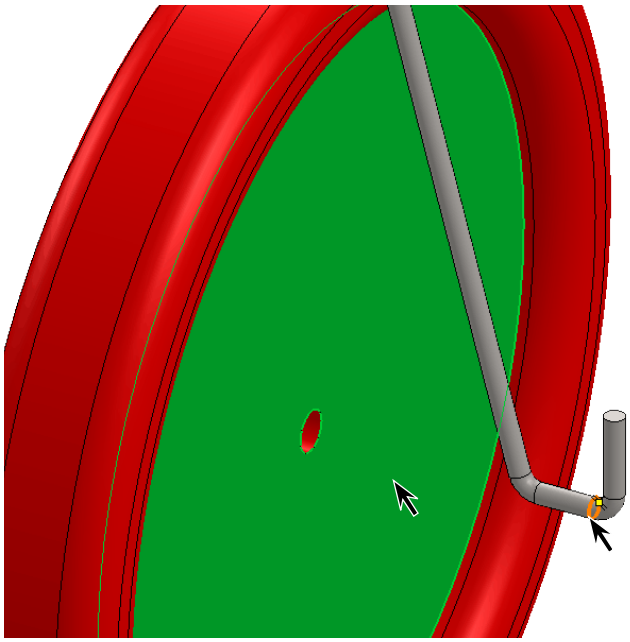


Fig. 6

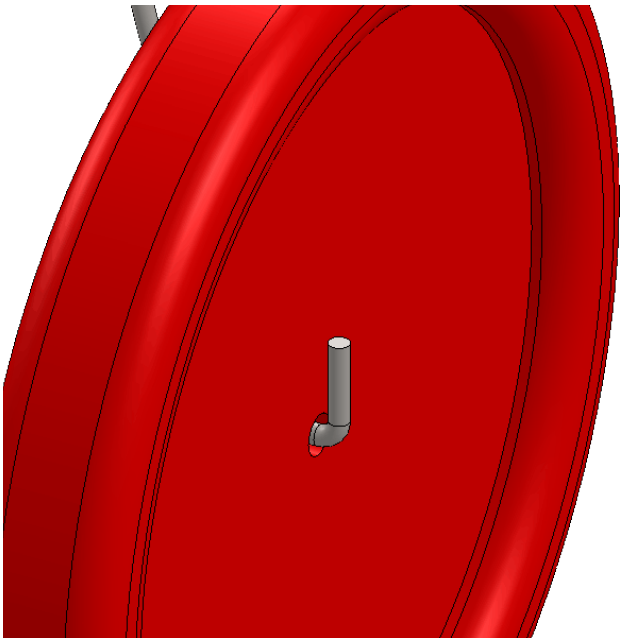


Fig. 7

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

D. Mate: Left Wheel.

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

Step 2. Zoom in around **left wheel hole and end of wire**, **Fig. 8**.

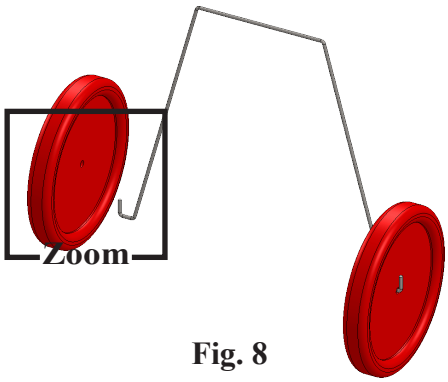


Fig. 8

To zoom, place the cursor over the hole/end of wire and spin the wheel on mouse back. While spinning the wheel keep cursor on the area.

Step 3. Repeat mates on left wheel. To repeat mates, click **cylindrical inside face of wheel hole** and **cylindrical face of horizontal section of wire**, **Fig. 9**.

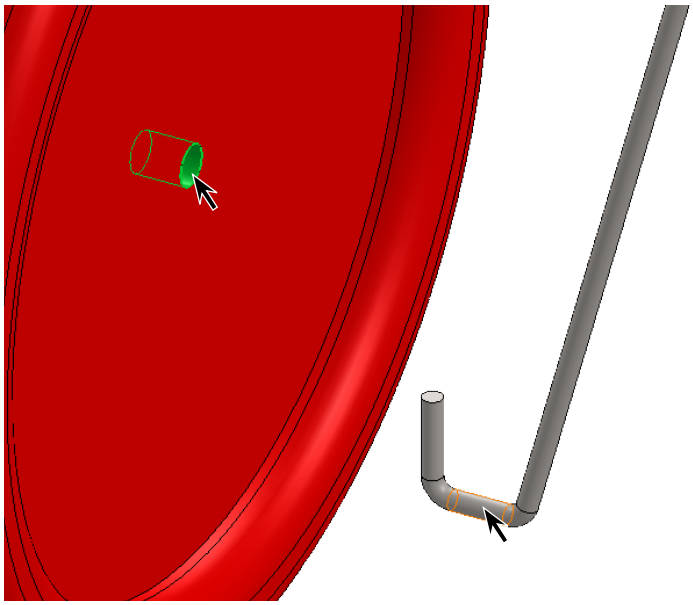


Fig. 9

Step 4. Click Add/Finish Mate  in Mate pop-up toolbar to add a **Concentric** mate.

Step 5. Click **side face of wheel** and **edge of horizontal section of wire**, **Fig. 10**.

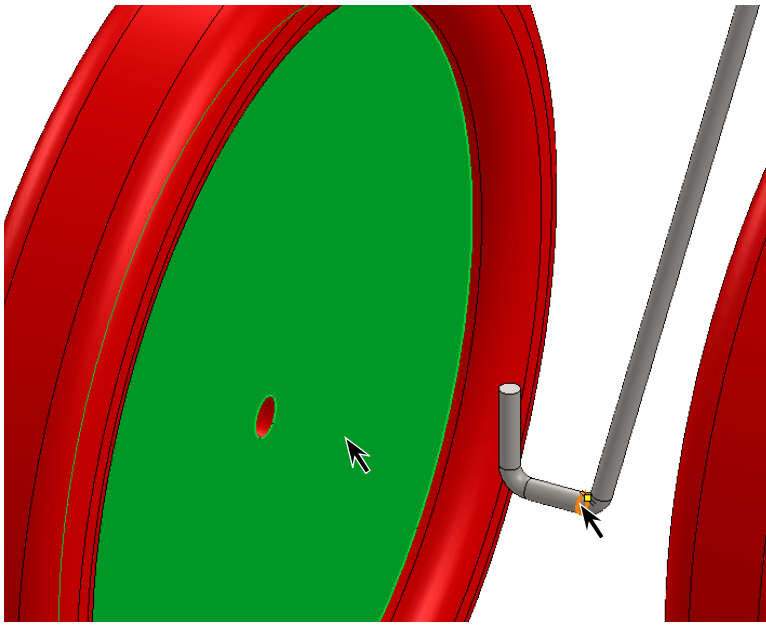


Fig. 10

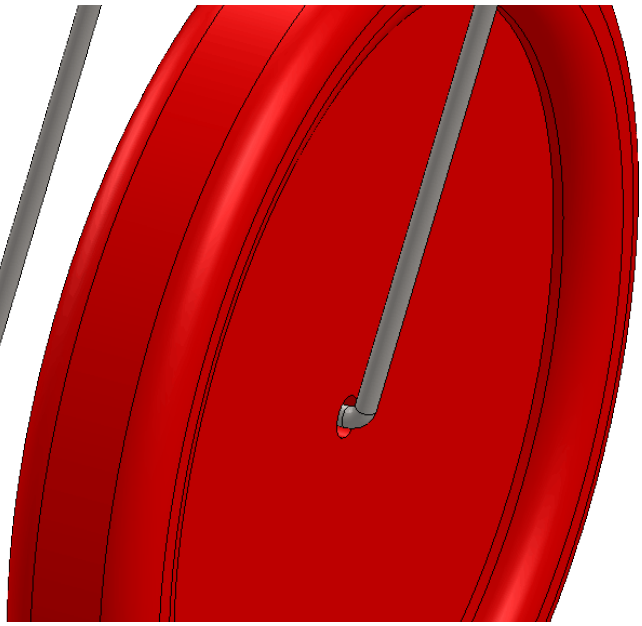


Fig. 11

Step 6. Click Add/Finish Mate  in Mate pop-up toolbar to add a **Coincident** mate, **Fig. 11**.

Step 7. Click OK  in the Property Manager when done.

Step 8. Click Zoom to Fit  (**F**) on the View toolbar.

Step 9. Save. Use **Ctrl-S**.

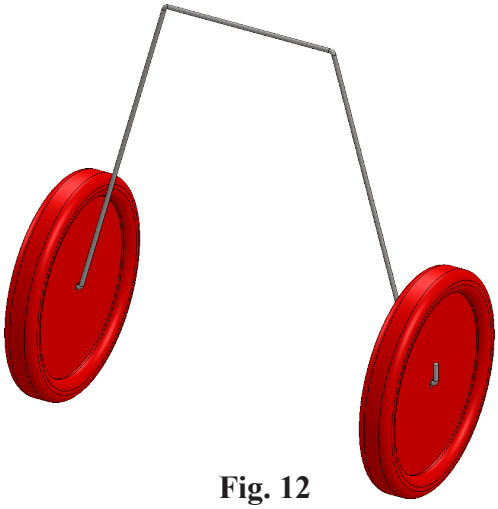


Fig. 12