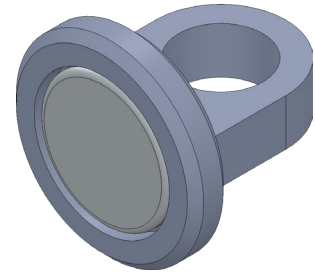




Solar Train Coupler Assembly



A. Insert Lug and Socket.

Step 1. Click **New**  on the Standard toolbar, click **Assembly Metric**  and OK.

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

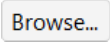
Step 3. In the Begin Assembly Property Manager set:

click **Keep Visible** , Fig. 1

under Options

Only fix first component

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

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

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

Step 6. Back in the Begin Assembly Property Manager:
under Part/Assembly in Insert, Fig. 3
select **SOCKET** to highlight it.

Step 6. Place **Socket**, Fig. 4.

Step 7. Click OK  in the Property Manager.

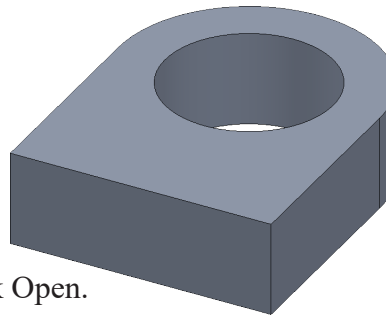


Fig. 2

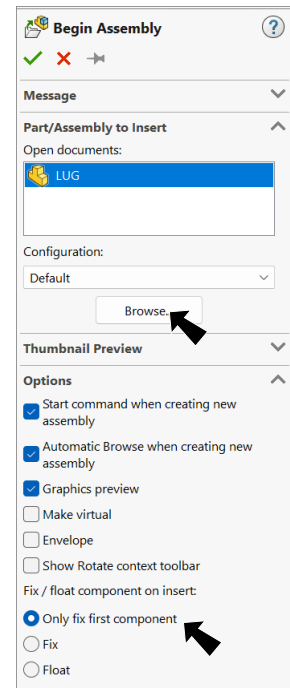


Fig. 1

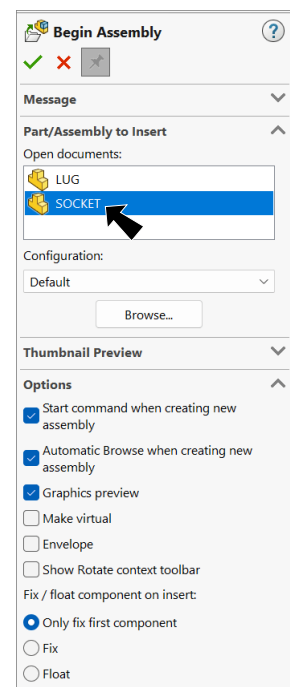


Fig. 3

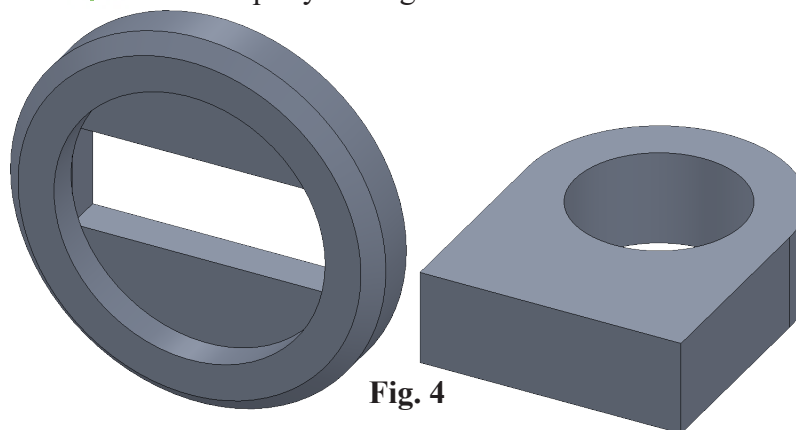


Fig. 4

B. Save as "COUPLER ASSEMBLY".

Step 1. Click File Menu > Save As.

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

C. Mate: Socket.

Step 1. Click **Right Plane**  in the Feature Manager and **Mate**  on the context toolbar, **Fig. 5**.

Step 2. Expand the flyout Feature Manager design tree, expand **Socket** and click **Right Plane** , **Fig. 6**.

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

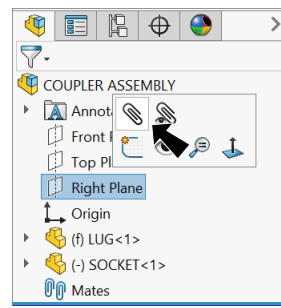


Fig. 5

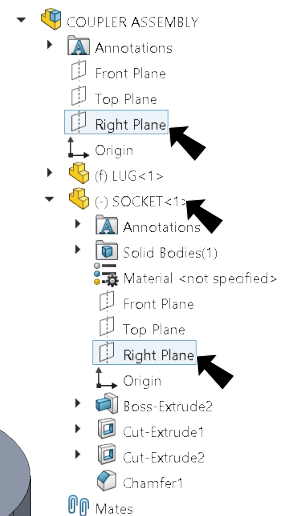


Fig. 6

**Right
to
Right**

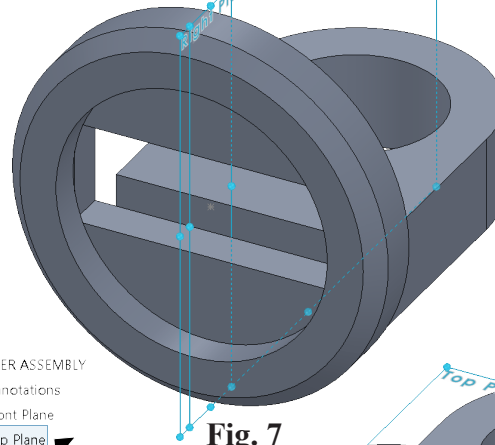


Fig. 7

Step 4. Expand the flyout Feature Manager design tree, click **Top Plane** , expand **Socket** and click **Top Plane** , **Fig. 8**.

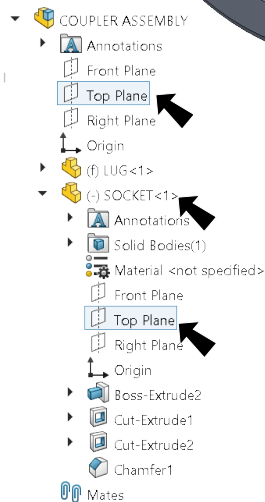


Fig. 8

Step 5. Click **front face of Lug** and **inside face of cut in Socket**, **Fig. 10**.

Step 6. Click Add/Finish Mate  to add **Coincident**  mate.

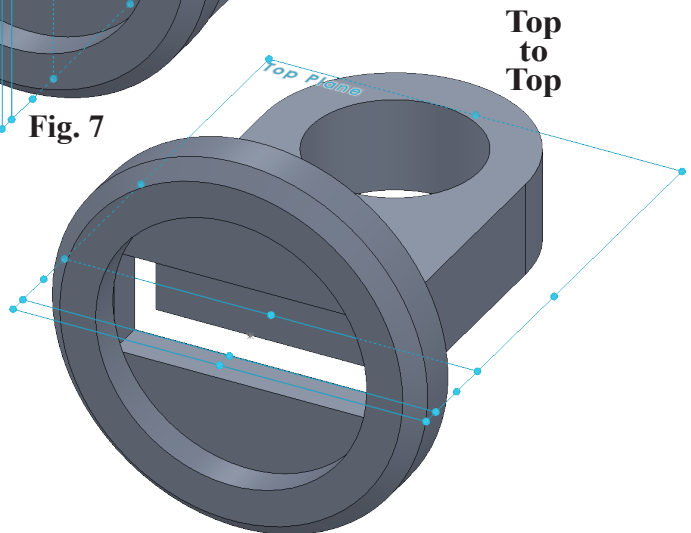


Fig. 9

Step 7. Click OK  in the Property Manager.

Step 8. Save  (**Ctrl-S**).

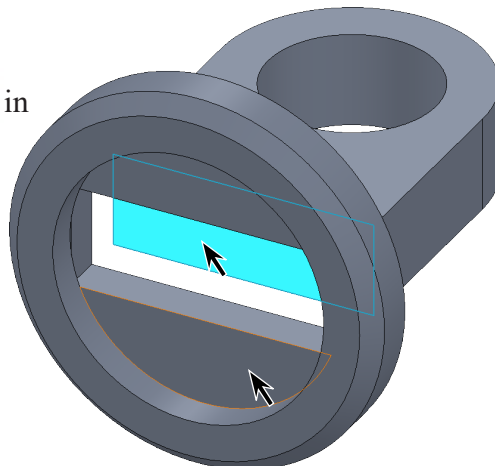


Fig. 10

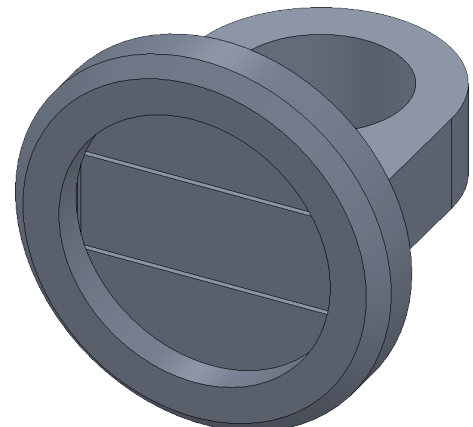
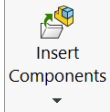


Fig. 11

D. Insert Magnet.

Step 1. Click **Insert Components**



on the Assembly toolbar.

Step 2. Open **Magnet** and place, **Fig. 12**.

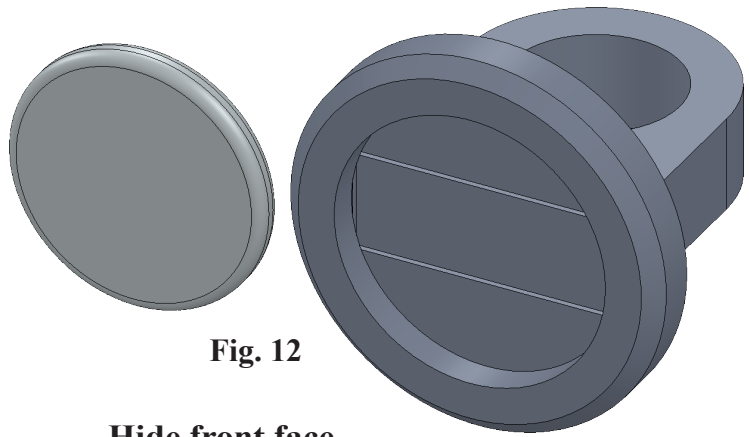


Fig. 12

E. Mate: Magnet.

Step 1. Click **Mate** on the Assembly toolbar.



Step 2. Click **inside face of Socket** and **hide front face of Magnet**, click **rear face of Magnet**, **Fig. 13**. To hide face, hover cursor over face and press **Alt** key.

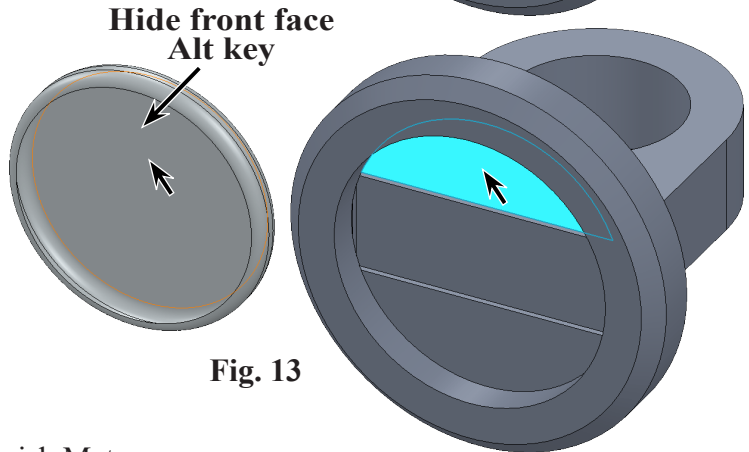


Fig. 13

Step 3. Click **cylindrical face of Socket** and **cylindrical face of Magnet**, **Fig. 14**.

Step 4. Check **Lock Rotation** and Add/Finish Mate



in Mate pop-up toolbar to add a **Concentric**



mate, **Fig. 15**.

Step 5. Click Add/Finish Mate  to add **Coincident** mate.



mate.

Step 6. Click OK  in the Property Manager.



Fig. 15

Step 7. Save  (**Ctrl-S**).

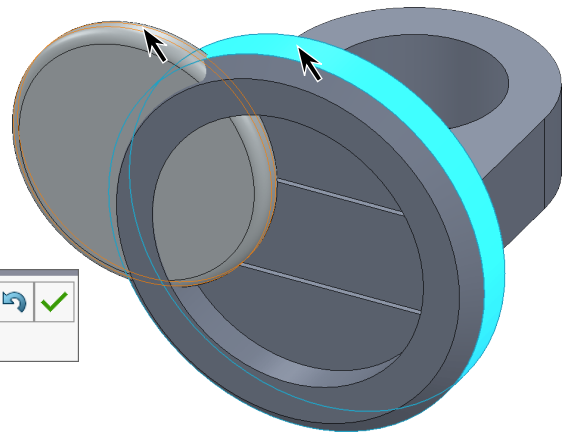


Fig. 14

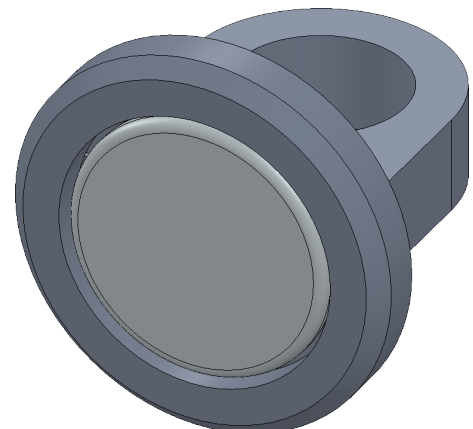
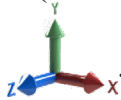
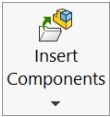


Fig. 16

F. Insert Coupler Into Locomotive Assembly.

Step 1. Open your **Locomotive Assembly** file.

Step 2. If necessary, rotate view to back side. Click **Isometric**  on the Standard Views toolbar (Ctrl-7), then **Shift** click the **Y**  axis of the Reference Triad .

Step 3. Click **Insert Components**  on the Assembly toolbar.

Step 4. Click **COUPLER ASSEMBLY** file and click Open.

Step 5. In the Begin Assembly Property Manager set:
under Options, **Fig. 17**
check **Show Rotate context toolbar**

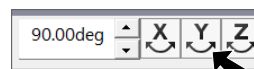


Fig. 18

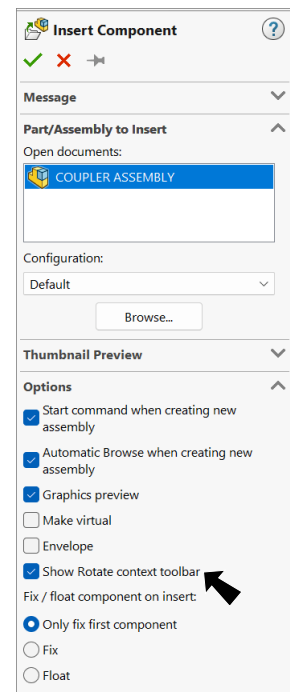


Fig. 17

Step 6. In the Rotate context toolbar click the **Y** axis **twice** to rotate 180°, **Fig. 18**.

Step 7. Click to place Plug as positioned in **Fig. 19**.

Step 9. Save  (Ctrl-S).

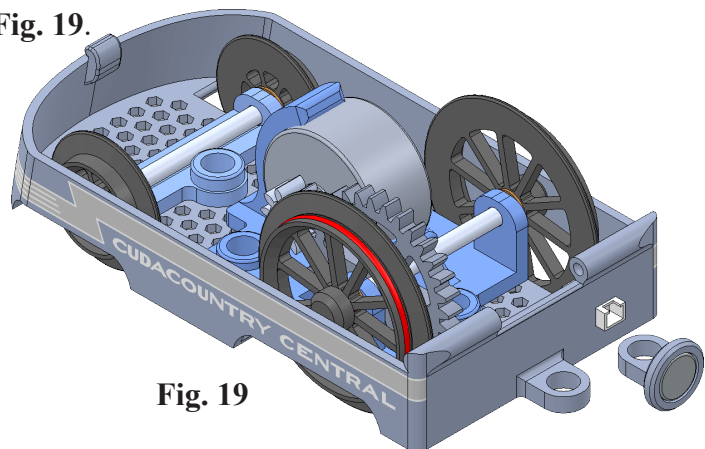


Fig. 19

G. Mate: Coupler Assembly.

Step 1. Click **Mate**  on the Assembly toolbar.

Step 2. Click a **cylindrical face of pin hole in Chassis hitch** and **cylindrical face in hole in Coupler Lug**, **Fig. 20**.

Step 3. Check **Lock Rotation** and Add/Finish Mate



in Mate pop-up toolbar to add a **Con-**

centric 

mate, **Fig. 21**.



Fig. 21

Step 4. Click **top face of hitch in Chassis** and **hide side face of Coupler lug**, click **bottom face**, **Fig. 22**. To hide face, hover cursor over face and press **Alt** key.

Step 5. Click Add/Finish Mate  to add **Coinci-**

dent  mate.

Step 6. Click OK  in the Property Manager.

Step 7. Save  (**Ctrl-S**).

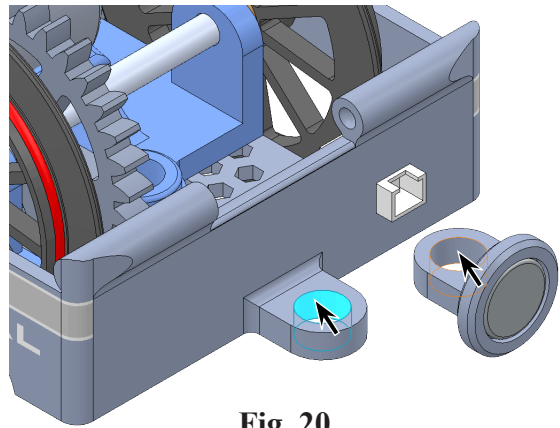


Fig. 20

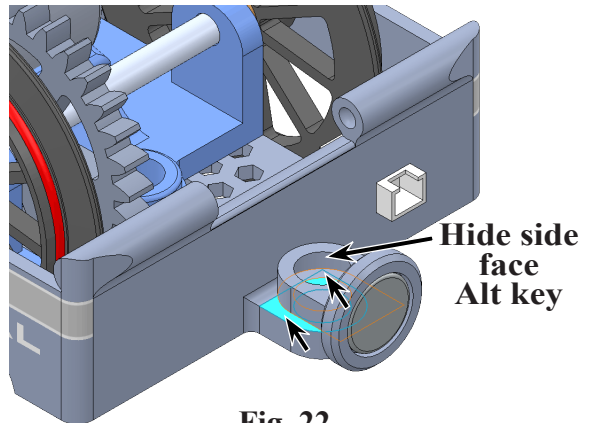


Fig. 22

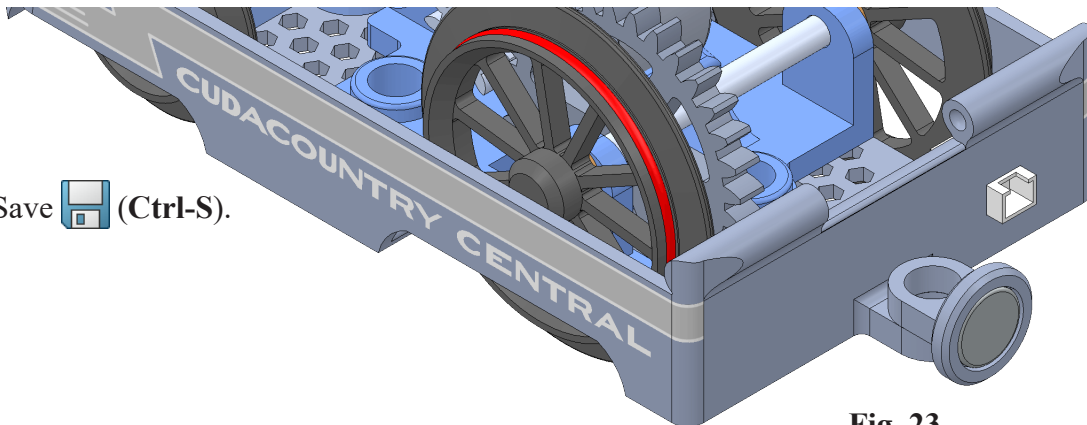


Fig. 23