

Sheet Metal Toolbox Hinge Assembly

A. Insert Hinge A and B.



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

Step 2. Select your **HINGE A** file and click Open.

Step 3. In the Begin Assembly Property Manager set:

click **Keep Visible** , Fig. 1

check **Show Rotate context toolbar**

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

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

Step 5. Select your **Hinge B** and click Open.

Step 6. Set **rotate 180° Y**  in rotate context toolbar, Fig. 2.

Step 7. Position as shown, Fig. 3.

Step 8. Click OK  in the Property Manager.

Step 9. Zoom in around **right end of the parts**, Fig. 3. To zoom, place the cursor over the right end of the parts and spin the wheel on mouse back. While spinning the wheel keep cursor on the area.

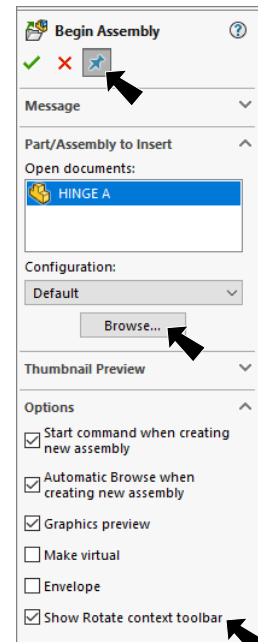


Fig. 1

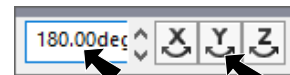


Fig. 2

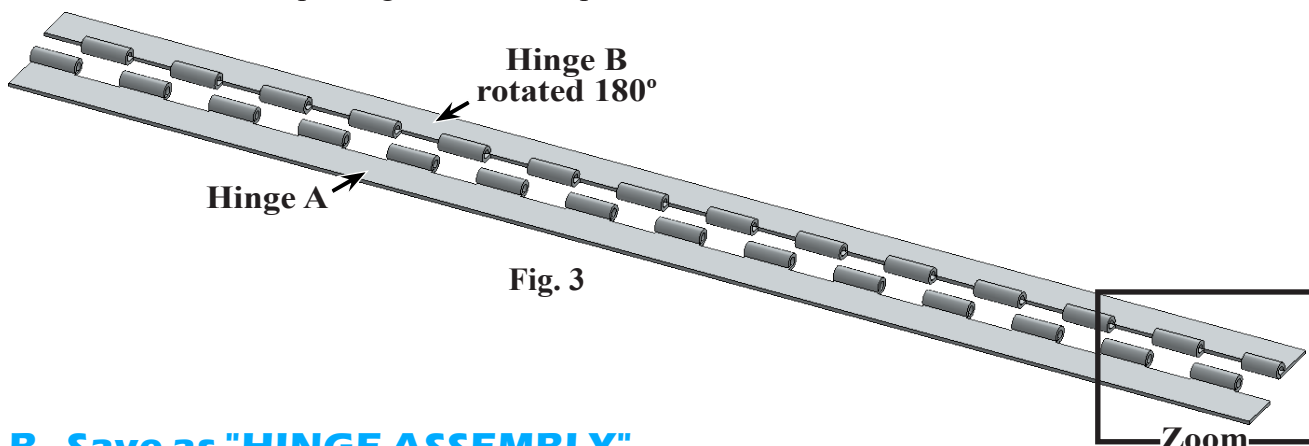


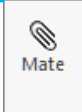
Fig. 3

B. Save as "HINGE ASSEMBLY".

Step 1. Click File Menu > Save As.

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

C. Mate: Hinge Mate.

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

Step 2. In the Mate Property Manager set:
expand Mechanical Mates, **Fig. 4**

select **Hinge** 

under Mates Selections

Concentric Selections:

click **cylindrical face of Hinge A hem**, **Fig. 5**

click **cylindrical face of Hinge B hem**

Coincident Selections:

click **end face of Hinge B hem**, **Fig. 5**

click **end face of Hinge A hem**

check **Specify angle limits**

Angle Selections:

click **top face of Hinge B**, **Fig. 6**

click **top face of Hinge A**

Maximum Value  **90°**

Minimum Value  **-51.843°**

click OK .

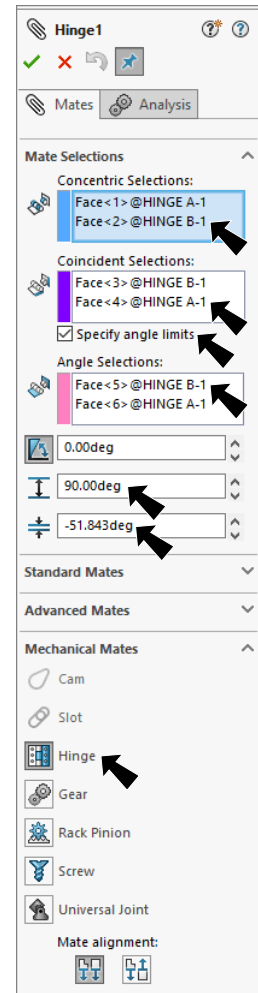


Fig. 4

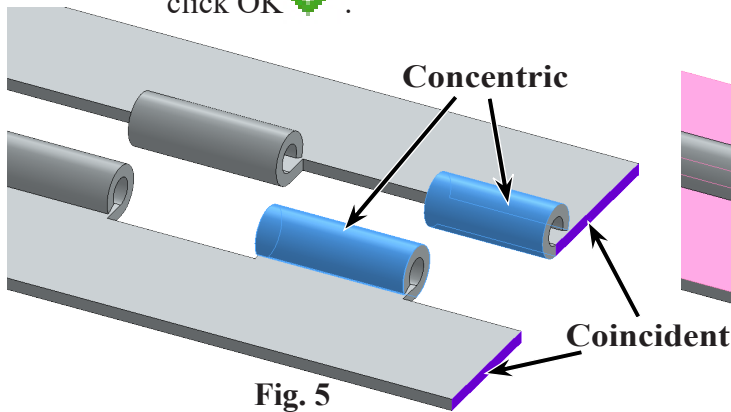


Fig. 5

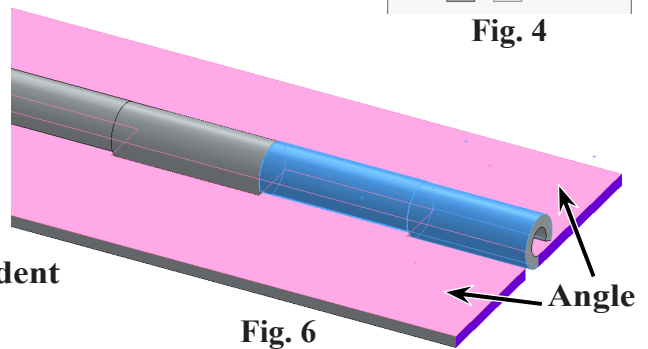


Fig. 6

Step 3. Click OK  in the Property Manager.

D. Confirm Hinge Mate Angle Limits.

Step 1. Click **Right**  on the Standard Views toolbar. (Ctrl-4)

Step 2. Confirm the angle limit by grabbing the Hinge B and rotating thru limits, **Fig. 7**.

E. Insert Hinge Pin.

Step 1. Click **Trimetric**  on the Standard Views toolbar.

Step 2. Click **Insert Components**  on the Assembly toolbar.

Step 3. Select **Hinge Pin** file and click Open.

Step 4. Place Hinge Pin as positioned in **Fig. 8**.

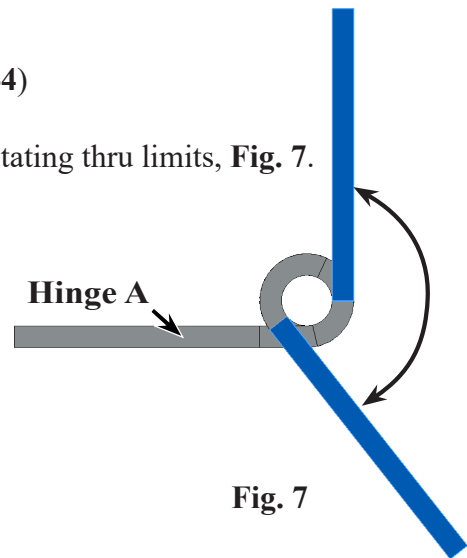


Fig. 7

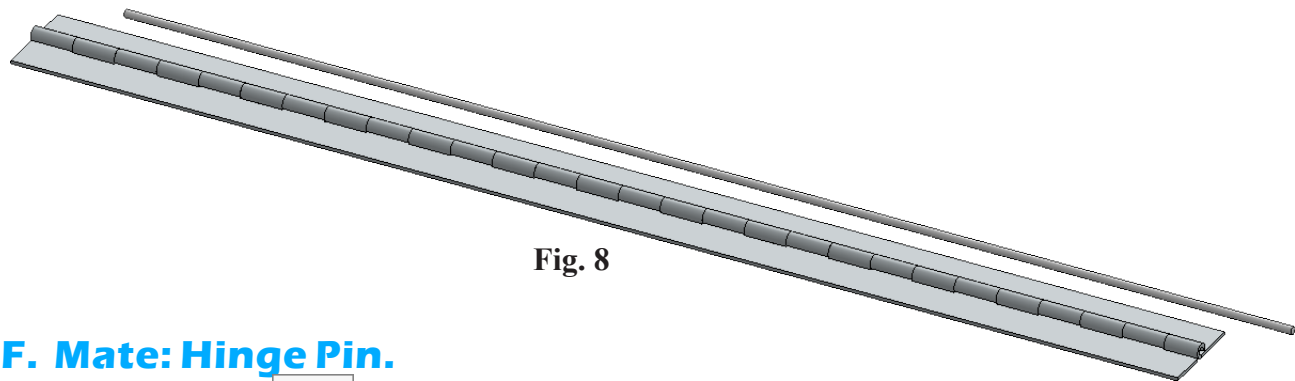



Fig. 8

F. Mate: Hinge Pin.

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

Step 2. Expand the flyout Feature Manager design tree (click ) in the top left corner of the graphics area and click **Right Plane** , **Fig. 9**.

Step 3. Expand **Hinge Pin** and click **Right Plane** , **Fig. 9**.

Step 4. Click Add/Finish Mate  to add **Coincident** mate.

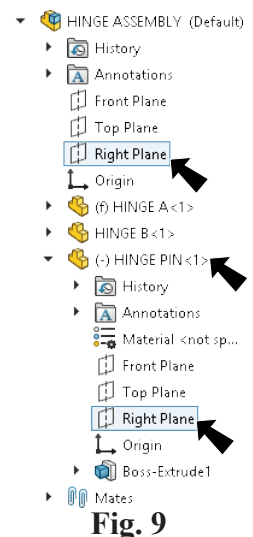


Fig. 9

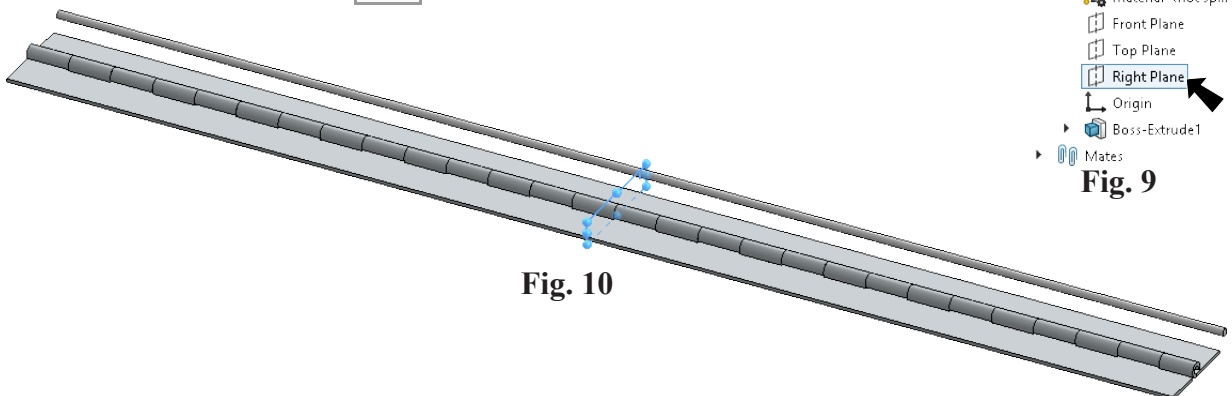


Fig. 10

Step 5. Click **cylindrical face of Hinge Pin** and **cylindrical face of hem on a Hinge**, Fig. 11.

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

Step 7. Click OK  in the Property Manager.

Step 8. Save. Use **Ctrl-S**.

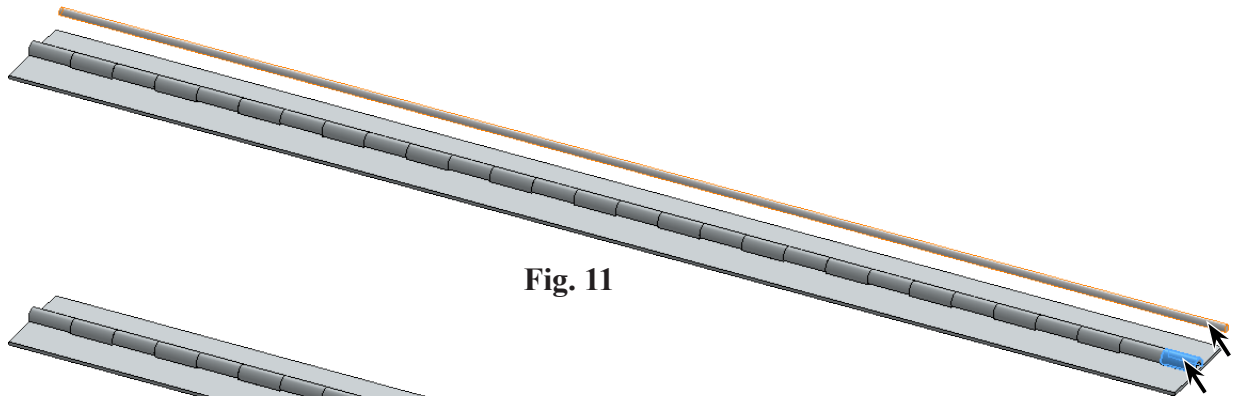


Fig. 11

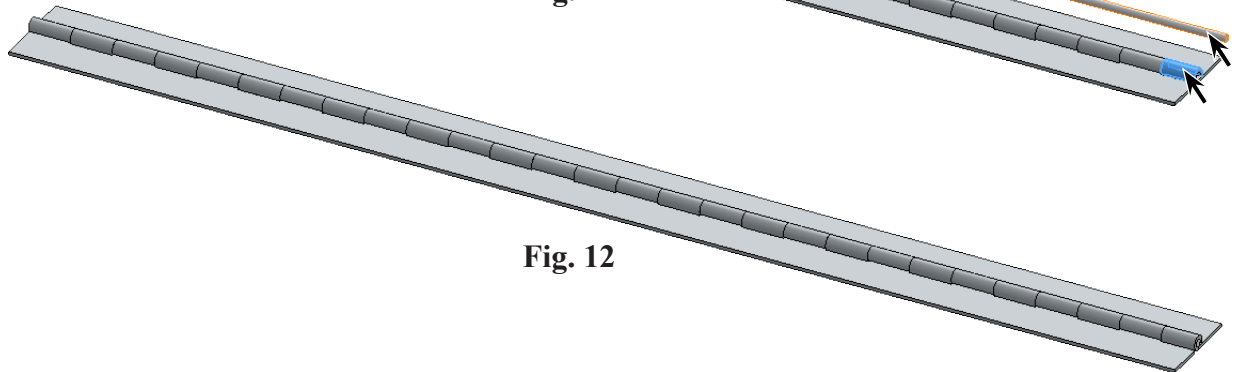


Fig. 12