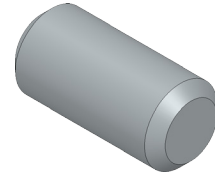





Petal Connector Rod



A. Extrude.

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

Step 2. Click **Right Plane**  in the Feature Manager and click **Sketch** on the context toolbar, **Fig. 1**.

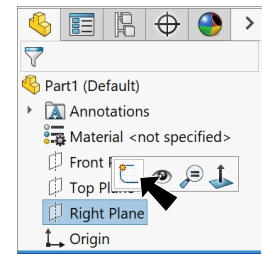


Fig. 1

Step 3. Click **Circle**  (S) on the Sketch toolbar.

Step 4. Sketch **circle at Origin** , **Fig. 2**.

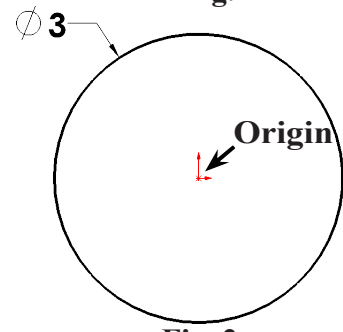
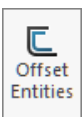



Fig. 2

Step 5. Click **Smart Dimension**  (S) on the Sketch toolbar.

Step 6. Dimension **diameter 3**, **Fig. 2**.

Step 7. Click **Offset Entities**  on the Sketch toolbar.

Step 8. In the Offset Entities Property Manager set:
under Parameters, **Fig. 3**

Distance  **.1** (clearance of connecting rod hole on Petal)
check **Reverse**

under Construction geometry
check **Base geometry**
click **circle**, **Fig. 4**

Yellow offset circle on inside - base geometry (construction) on outside

click OK .

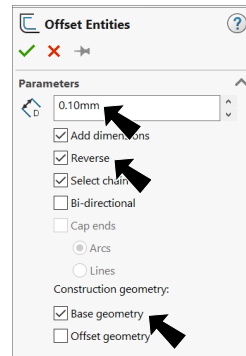


Fig. 3

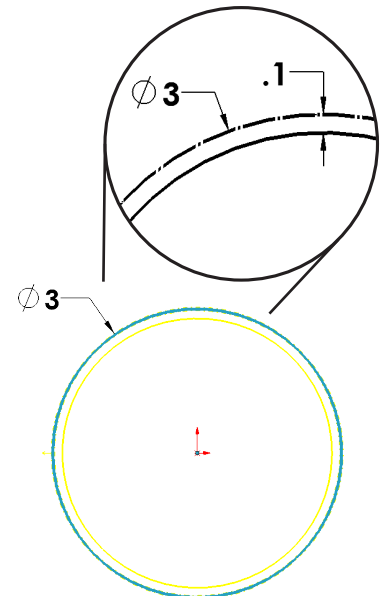


Fig. 4

Step 9. Click **Features**  on the Command Manager toolbar.

Step 10. Click **Extruded Boss/Base**  on the Features toolbar.

Step 11. In the Boss-Extrude Property Manager set:
under Direction 1, **Fig. 5**

End Condition **Mid Plane**

Depth  **5.8**

click OK .

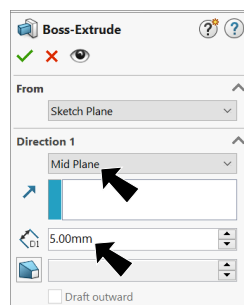


Fig. 5

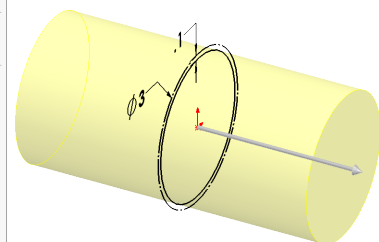


Fig. 6

B. Save as "PETAL CONNECTOR ROD".


Step 1. Click File Menu > Save As.

Step 2. Key-in **PETAL CONNECTOR ROD** for the filename and press ENTER.

C. Chamfers.

Step 1. Click **Chamfer**  in the **Fillet flyout**  on the Features toolbar.

Step 2. In the Chamfer Property Manager set:
under Chamfer Type, **Fig. 7**

select **Angle Distance** 
under Chamfer Parameters

Distance  .4

Angle  45°

click **both circular edges**, **Fig. 8**

click OK .

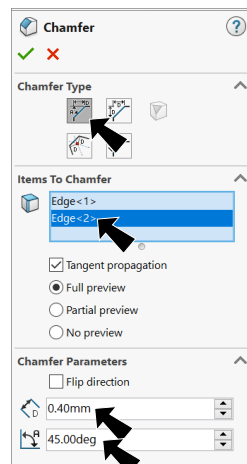


Fig. 7

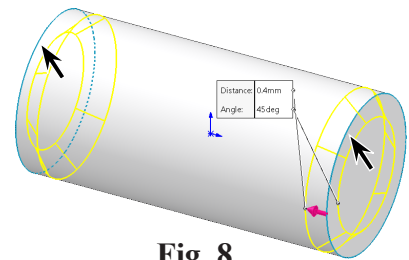




Fig. 8

Step 3. Save  (Ctrl-S).

D. Appearance: Chrome.

Step 1. Click the part to select part, click **Appearances**
Callout  on the context toolbar and click
PETAL CONNECTOR ROD , **Fig. 9**.

Step 2. In the Appearances Task pane, expand **Metal**
and click **Chrome** and in the lower pane
select **chromium plate**, **Fig. 10**.

Step 3. In the Appearances Property Manager click
OK .

Step 4. Save  (Ctrl-S).

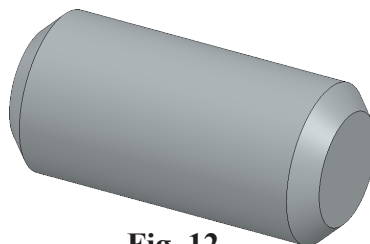


Fig. 12

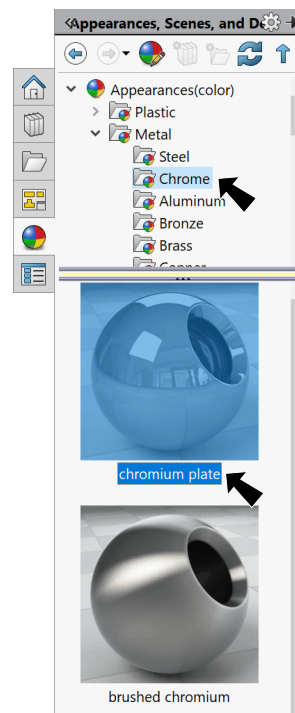


Fig. 10

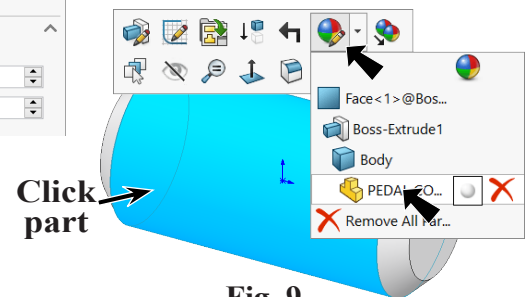


Fig. 9

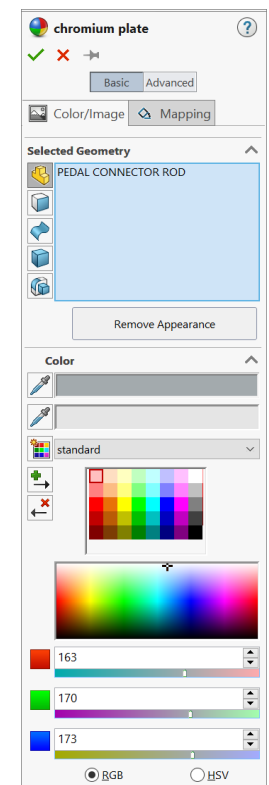


Fig. 11

E. Open Bike Assembly File and Insert Petal Connector Rod.

Step 1. Open your **BIKE ASSEMBLY** file.

Step 2. Click **Isometric**  on the Standard Views toolbar. (Ctrl-7)

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

Step 4. Click **PETAL CONNECTOR ROD** file and click Open from the Open dialog box.

Step 5. Click to place Petal Connector Rod as positioned in **Fig. 13**.

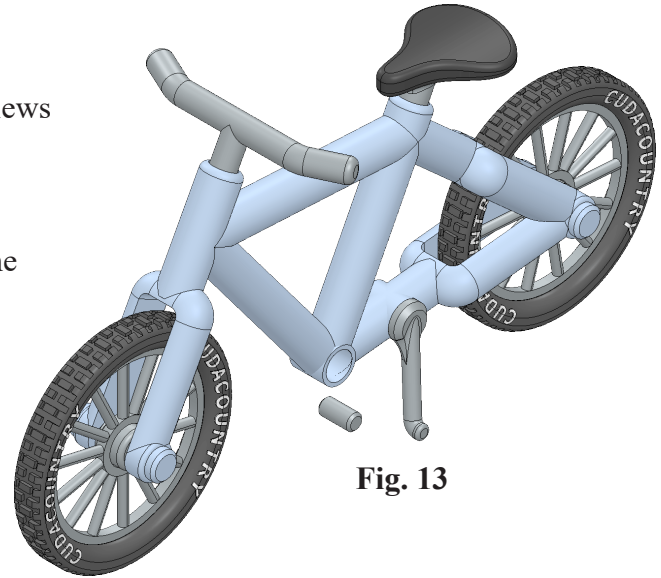



Fig. 13

F. Mate: Petal Connector Rod.

Step 1. Click **Right Plane**  in the Feature Manager and **Mate**  on the context toolbar, **Fig. 14**.

Step 2. Expand the flyout Feature Manager design tree, expand **CONNECTOR ROD** and click **Right Plane** , **Fig. 15**.

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

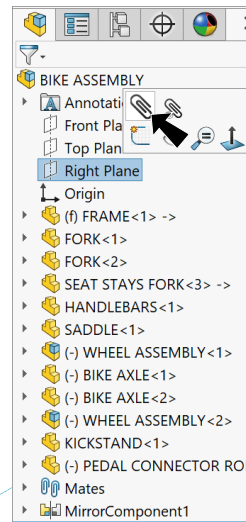


Fig. 14

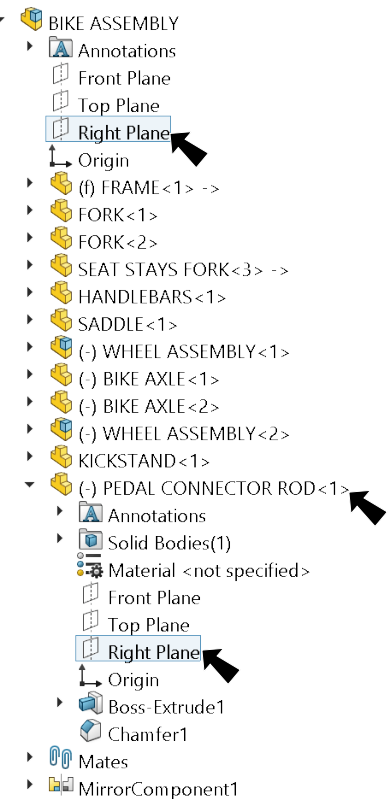


Fig. 15

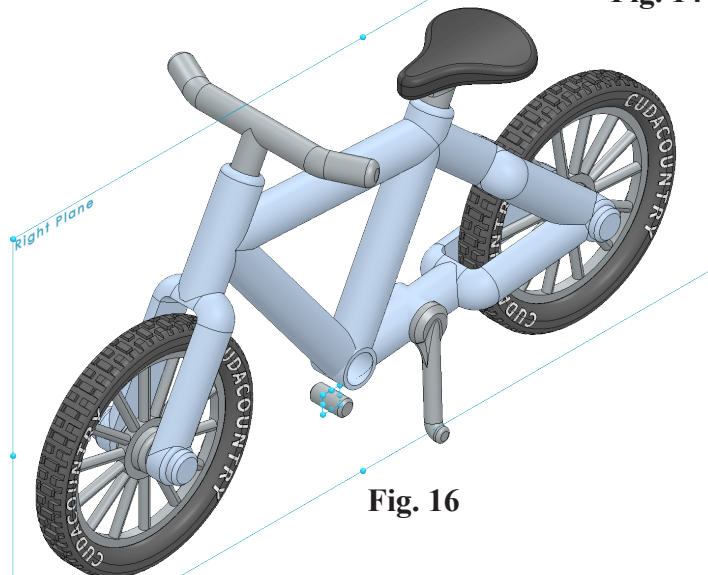


Fig. 16

Step 4. Click **cylindrical face Connector Rod** and a **cylindrical face of Pedal hole in Frame**, **Fig. 17**.

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

Step 6. Click OK  in the Property Manager.

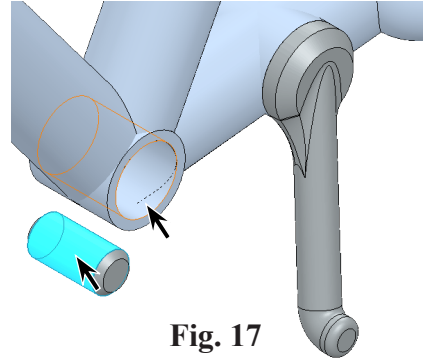


Fig. 17

G. Insert Petal.

Step 1. Click **Insert Components**  on the Assembly toolbar.

Step 2. Open **PETAL** file and place, **Fig. 18**.

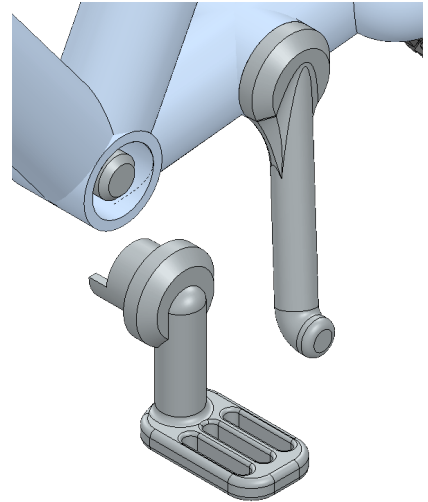



Fig. 18

H. Mate: Petal.

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

Step 2. Click a **cylindrical face Pedal Revolve** and a **cylindrical face of Petal hole in Frame**, **Fig. 19**.

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

Step 4. Click **side face of Extrude in Frame at Petal hole** and **hide outside cylindrical Revolve face of Petal**, click **inside face of Pedal**, **Fig. 20**. To hide face, hover cursor over face and press **Alt** key.

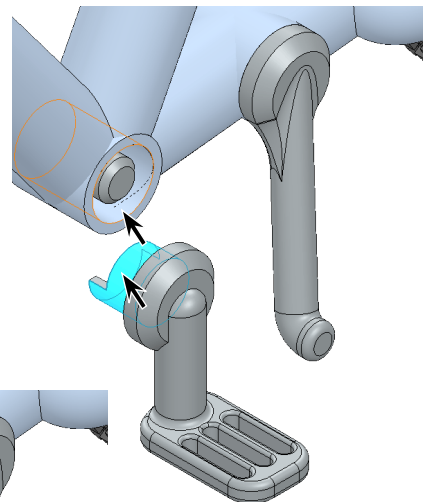


Fig. 19

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

Step 6. Click OK  in the Property Manager.

Step 7. Save  (Ctrl-S).

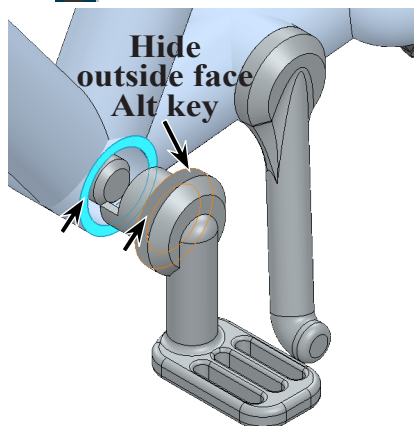


Fig. 20

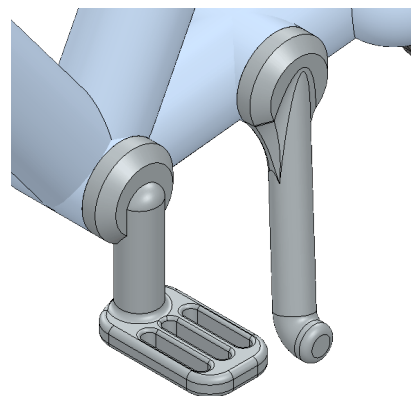


Fig. 21

I. Mirror Components.

Step 1. **Ctrl click Right Plane** and **Petal** in the Feature Manager to select, **Fig. 22**.

Step 2. Click **Mirror Components** in the **Linear Component Pattern** flyout on the Features toolbar.

Step 3. In the Mirror Property Manager:
 Step 1: Selections
 all were preselected
 click **Next**, **Fig. 23**

Step 4. Still in Mirror Property Manager:
 Step 2: Set Orientation
 under Mirror Type, select **Component origin**
 under Orient Components
 Petal was preselected
 select **X-mirrored, Y-mirrored and flipped**
 click **OK**.

Step 5. Grab Petal and rotate.

Step 6. Save (Ctrl-S).

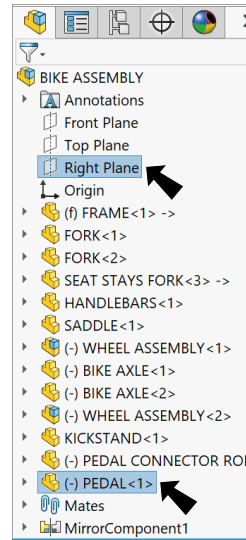


Fig. 22

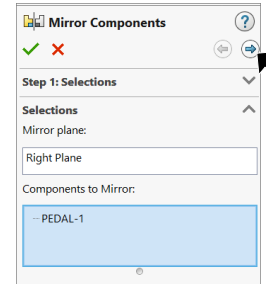


Fig. 23

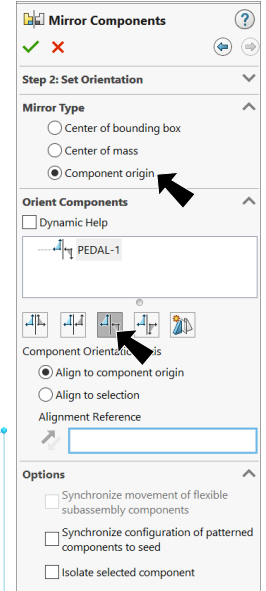


Fig. 24

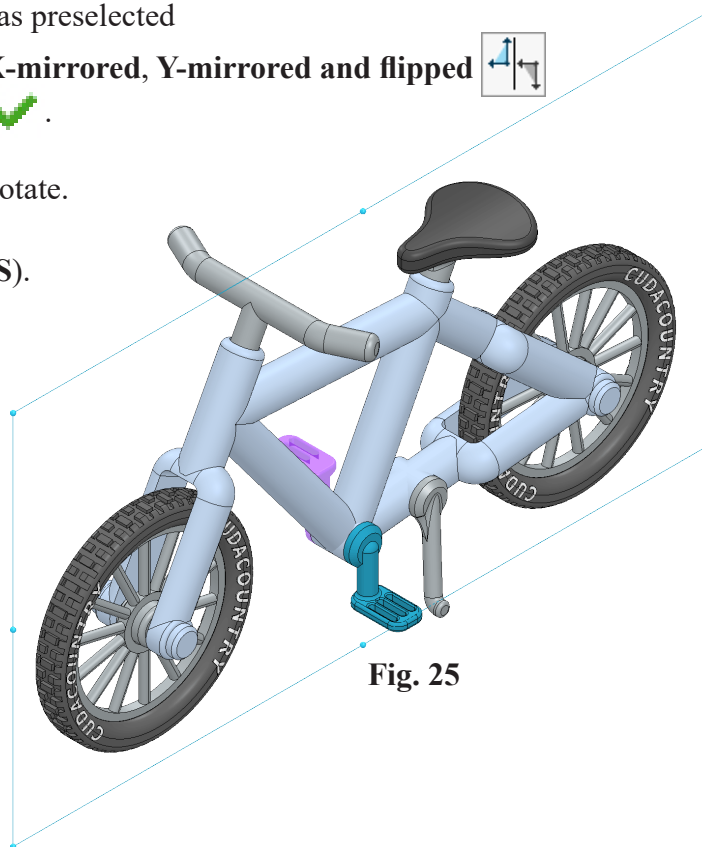


Fig. 25