

# Bottle Rocket Assembly





## A. Insert Bottle.

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

Step 2. Click **Browse** in the Property Manager, **Fig. 1**.

Step 3. Select your **BOTTLE** file and click Open.

Step 4. Click OK  in the Property Manager. This will place the Bottle origin at the assembly origin and fix the position of the Bottle so that it cannot move. This fixed component should have a **(f)** before its name in the Feature Manager  **(f) BOTTLE<1>**.

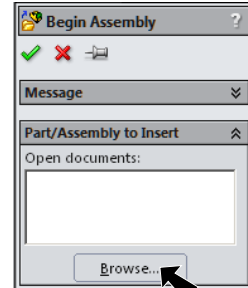
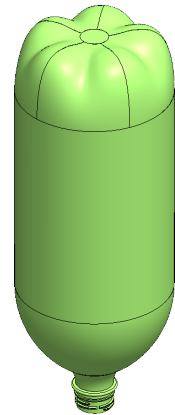


Fig. 1



## B. Save as "BOTTLE ROCKET ASSEMBLY".

Step 1. Click File Menu > Save As.

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

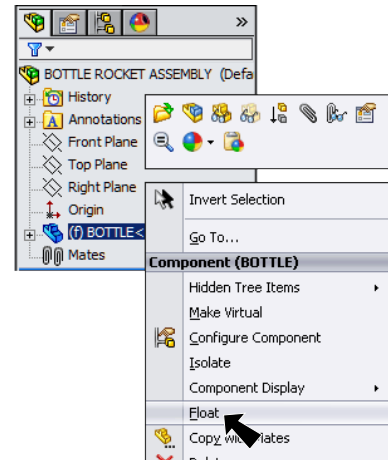


Fig. 2

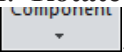
## C. Float Bottle.

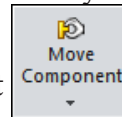
Step 1. **Right click Bottle** in the Feature Manager and click **Float** from menu, **Fig. 2**.

## D. Rotate Bottle.

Step 1. Click the **Bottle** in graphics area to select bottle, **Fig. 3**.

Step 2. Click **Rotate Component**  on the Assembly

toolbar. **Rotate Component** is in the **Move Component** flyout . Or Tools Menu > Component > Rotate.



Select bottle

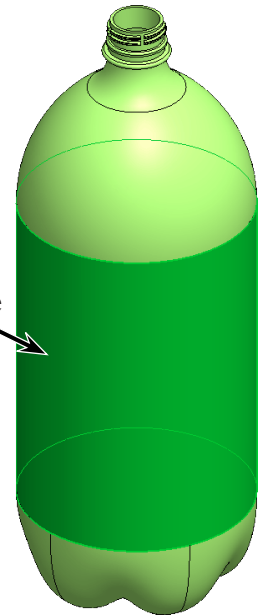


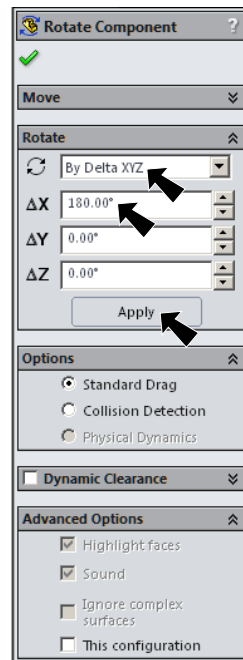
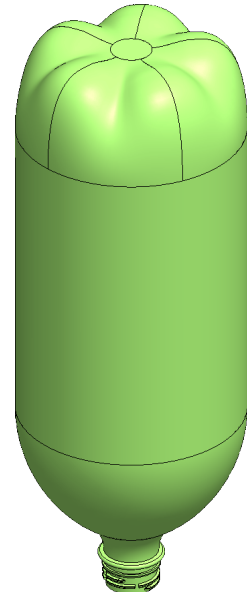


Fig. 3

- Step 3. In the Property Manager set:  
 under Rotate , **Fig. 4**  
 Rotate  **By Delta XYZ**  
**Delta X  $\Delta X$  180**  
 click **Apply** and OK .



**Fig. 4**



**Fig. 5**

- Step 4. Click **Zoom to Fit**  (F) on the View toolbar.

- Step 5. Click **Rebuild**  in the Standard toolbar.  
 (Ctrl-B)

- Step 6. Save. Use **Ctrl-S**.

### E. Fix Bottle.

- Step 1. **Right click** **Bottle** in the Feature Manager and click **Fit** from menu, **Fig. 6**.

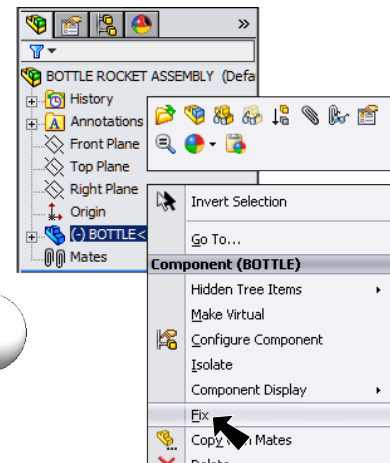
### F. Insert Ball.

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

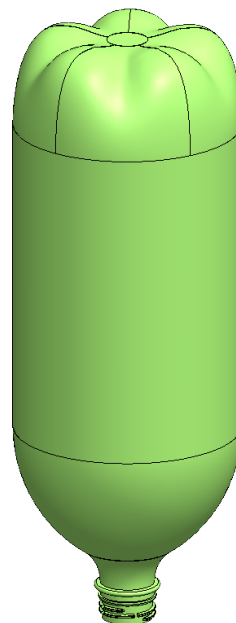
- Step 2. Click **Browse** in the Property Manager.

- Step 3. Select **Ball** file and click Open.

- Step 4. Place **Ball** above **Bottle** as positioned in **Fig. 7**. If necessary, use **Z** key on keyboard to zoom out.




**Fig. 6**




**Fig. 7**


## G. Mate: Ball.




Step 1. Expand **Bottle** in the Feature Manager. Click **Axis1** and **Mate**  on the Context toolbar, **Fig. 8**.

Step 2. Expand the flyout Feature Manager design tree (click +) in the top left corner of the graphics area, then expand **Ball** and click **Axis1**, **Fig. 9** and **Fig. 10**.

Step 3. Click Add/Finish Mate  in the Mate pop-up to add **Coincident** mate.

Step 4. Click **Origin** in the flyout Feature Manager design tree, **Fig. 11**.

Step 5. Expand **Ball** and click **Top Plane** , **Fig. 11**.

Step 6. Click **Distance**  in Mate pop-up, **Fig. 12**. Set **distance 460** and press ENTER. The Ball should be positioned above Bottle, **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.

Step 7. Click OK  in the Property Manager.

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

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

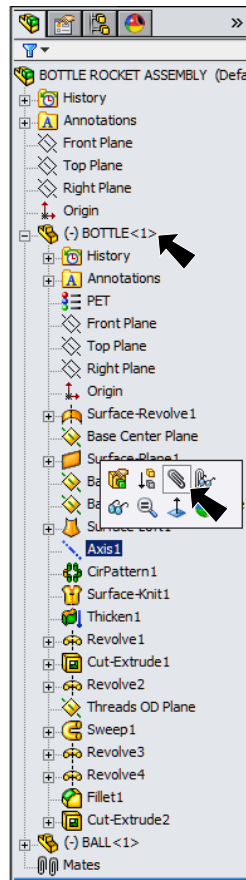


Fig. 8

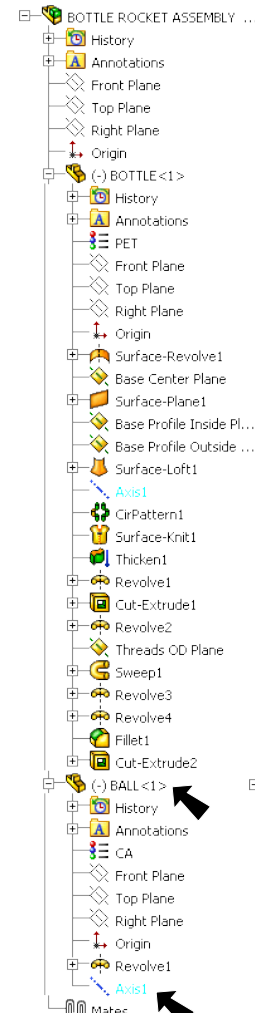


Fig. 9

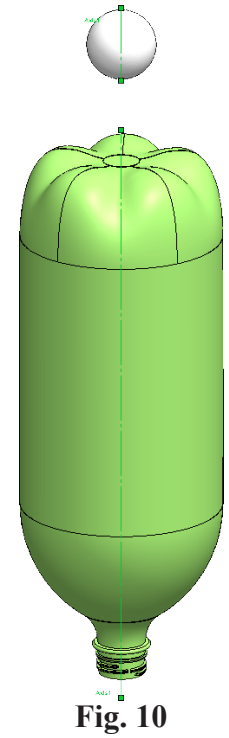


Fig. 10

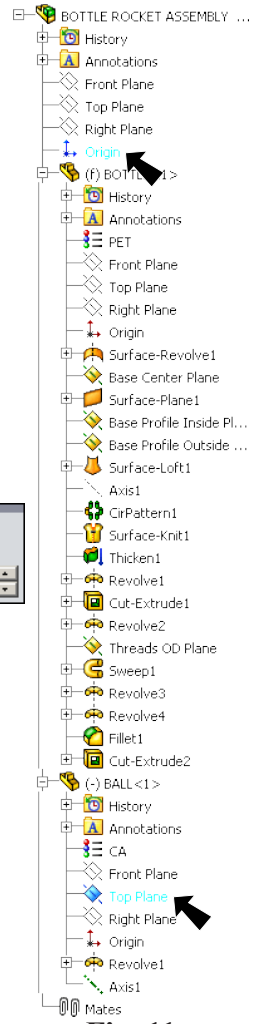
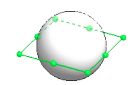


Fig. 11

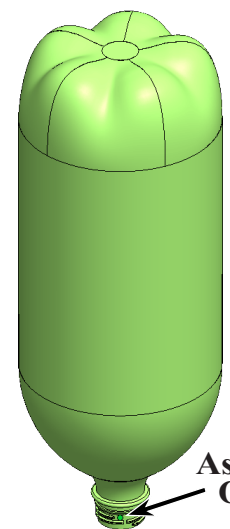


Fig. 13

Assembly Origin

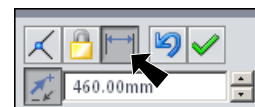


Fig. 12