

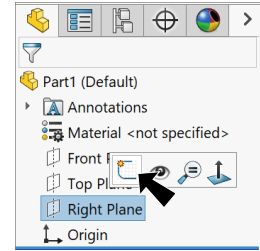


**A. Revolve.**


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

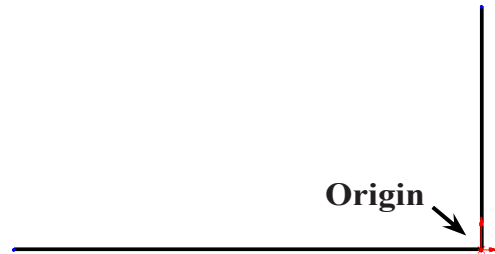
Step 2. Click **Right Plane**  in the Feature Manager and click **Sketch**  on the context toolbar, **Fig. 1**.



**Fig. 1**

Step 3. Click **Line**  (L) on the Sketch toolbar.

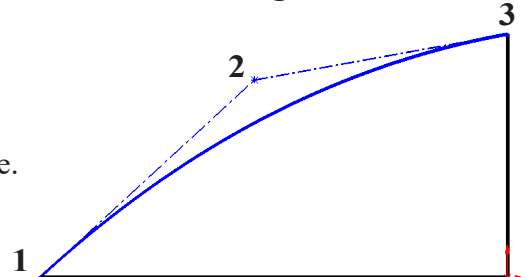
Step 4. Sketch a line starting directly above the Origin  down to the Origin and a line from Origin out to the left, **Fig. 2**. Use the inferencing line, the dotted line that appears when you sketch the lines to **keep lines vertical and horizontal**.




**Fig. 2**



Step 5. Click **Style Spline**  in the **Spline flyout**  on the Sketch toolbar.

Step 6. Sketch a **3 control vertex point Spline at end-points of lines**, **Fig. 3**. Press Escape to end spline.




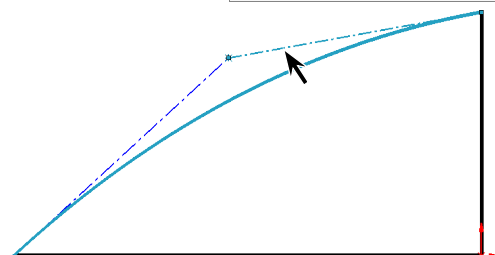
**Fig. 3**

Step 7. Click **top control polygon segment** and click **Make Horizontal**  on the context toolbar, **Fig. 4**.

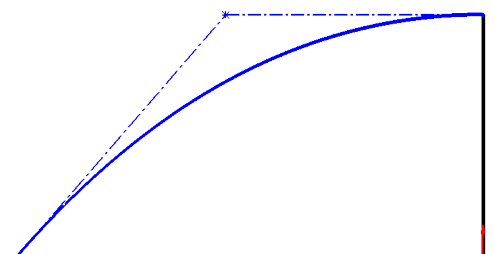
Step 8. Click **Centerline**  in the **Line flyout**  on the Sketch toolbar.



Step 9. Sketch a **short horizontal centerline out from Origin** , **Fig. 5**.



**Fig. 4**



**Fig. 5**

Step 10. Click **Smart Dimension** (S) on the Sketch toolbar.



Step 11. Add dimensions, **Fig. 6**. **Double distance the diameter.** To double distance dimension, click centerline and then top horizontal line, move the cursor below centerline and click. Key-in the diameter in the Modify box and press ENTER.

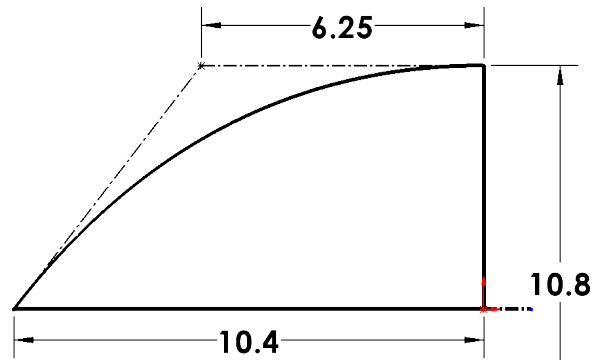


Fig. 6

Step 12. Click **Features** **Features** on the Command Manager toolbar.

Step 13. Click **Revolved Boss/Base** **Revolved Boss/Base** on the Features toolbar.



Step 14. In the Revolve Property Manger set:

under Axis of Revolution  
click centerline will be auto-selected, **Fig. 7**  
click OK ✓.

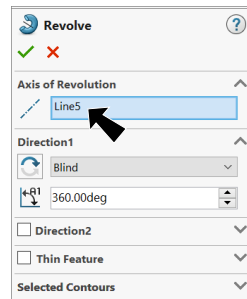


Fig. 7

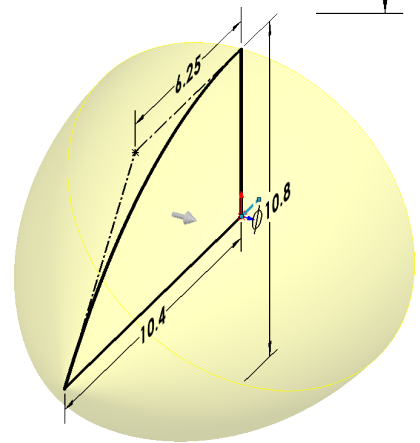


Fig. 8

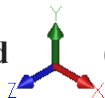
## B. Save as "HUB".

Step 1. Click File Menu > Save As.

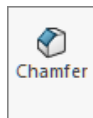
Step 2. Key-in **HUB** for filename and press ENTER.

## C. Chamfer.

Step 1. Rotate view to rear of Hub, **Fig. 10**. To rotate view, **Shift click the Y axis of the Reference Triad** (bottom left corner of graphics area).



Step 2. Click **Chamfer** **Chamfer** on the Features toolbar.



Step 3. In the Chamfer Property Manager set:  
under Chamfer Type, **Fig. 9**

select **Angle Distance**  
click **circular edge**, **Fig. 10**  
under Chamfer Parameters

**Distance**  $\frac{D}{2}$  .25

**Angle**  $\frac{R}{A}$  45°

click OK ✓.

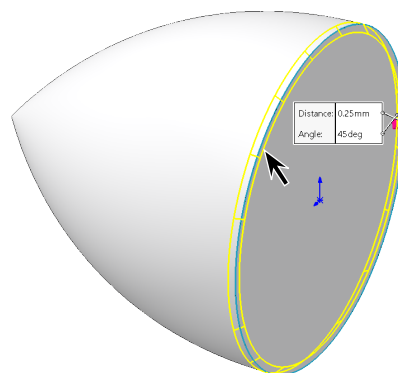


Fig. 10

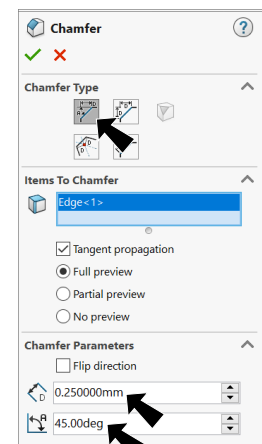





Fig. 9

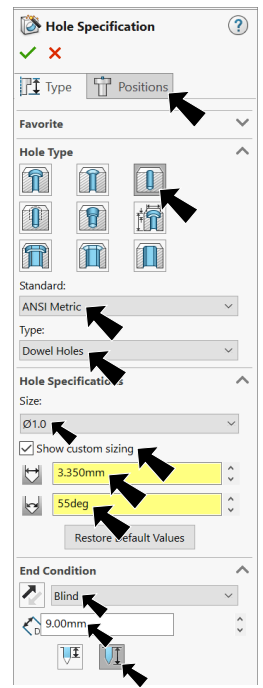
## D. Hole Wizard.

Step 1. Click **Hole Wizard**  on the Features toolbar.

Step 2. In the Property Manager on the Type tab set:  
under Hole Type, **Fig. 11**


select **Hole**   
under Standard:  
select **ANSI Metric**  
under Type:  
**Dowel Holes**  
under Size:  
select **1**  
under End Condition  
**Blind**  
**Blind Hole Depth**  **9**  
select **Depth up to Tip** 

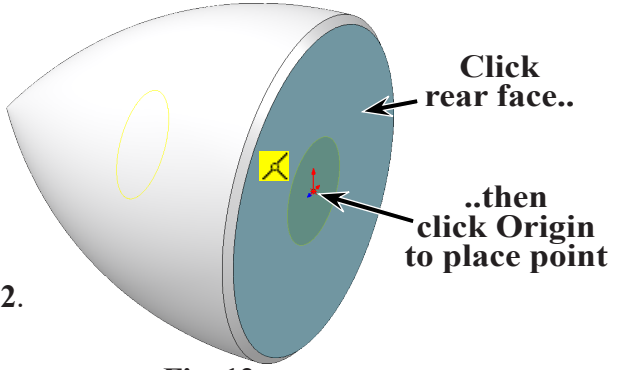
check **Show custom sizing**  
**Through Hole Diameter**  **3.35**  
**Angle at Bottom**  **55°**



**Fig. 11**

Step 3. Click **Positions tab**  at top of Property Manager.

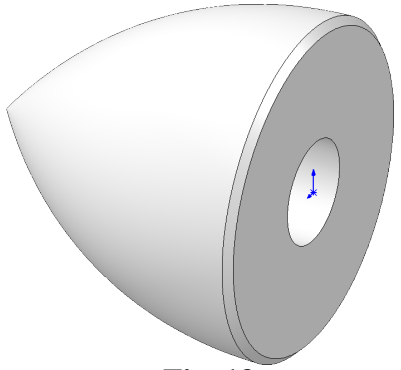
Step 4. Click **rear face** one time as face for hole and  
click the **Origin**  to place the point, **Fig. 12**.



**Fig. 12**

Step 5. Click OK  in Hole Property Manager.

Step 6. Save  (Ctrl-S).



**Fig. 13**

## E. Appearance: Light Green Satin Titanium.

Step 1. Click the part to select part, click **Appearances Callout**



on the context toolbar and click **HUB** , **Fig. 14**.

Step 2. In the Appearances Task pane, expand **Metal**, click **Titanium** and in the lower pane select **satin finish titanium**, **Fig. 15**.

Step 3. In the Appearances Property Manager set:  
under **Color**, **Fig. 16**

set **RGB values**

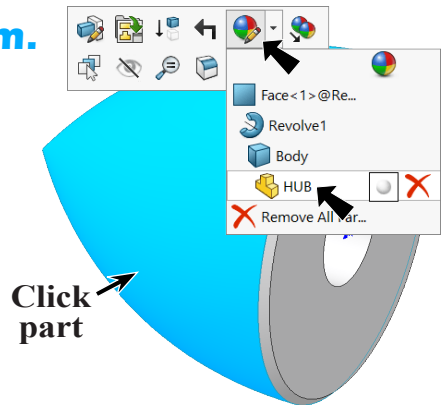
**R 185**

**G 198**

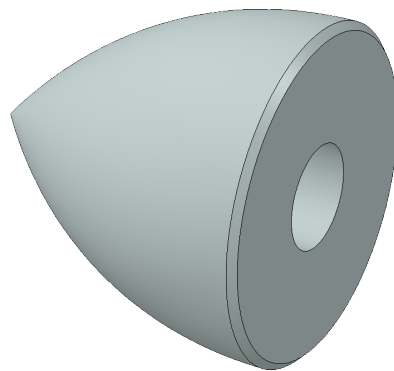
**B 189**

click **OK** .

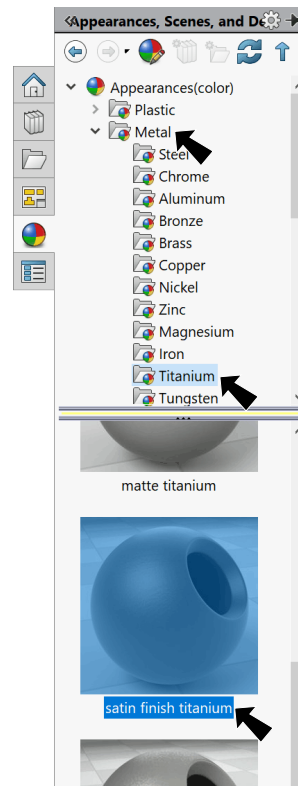
Step 4. Save  (**Ctrl-S**).



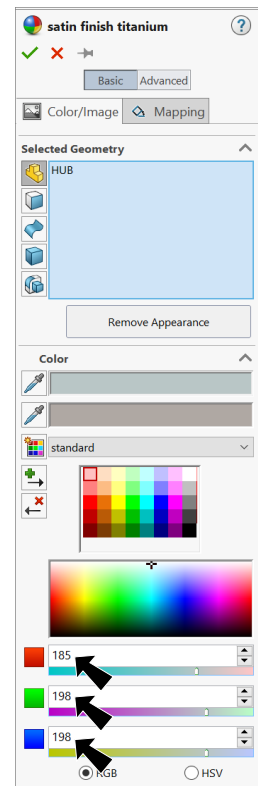
**Fig. 14**



**Fig. 17**



**Fig. 15**



**Fig. 16**