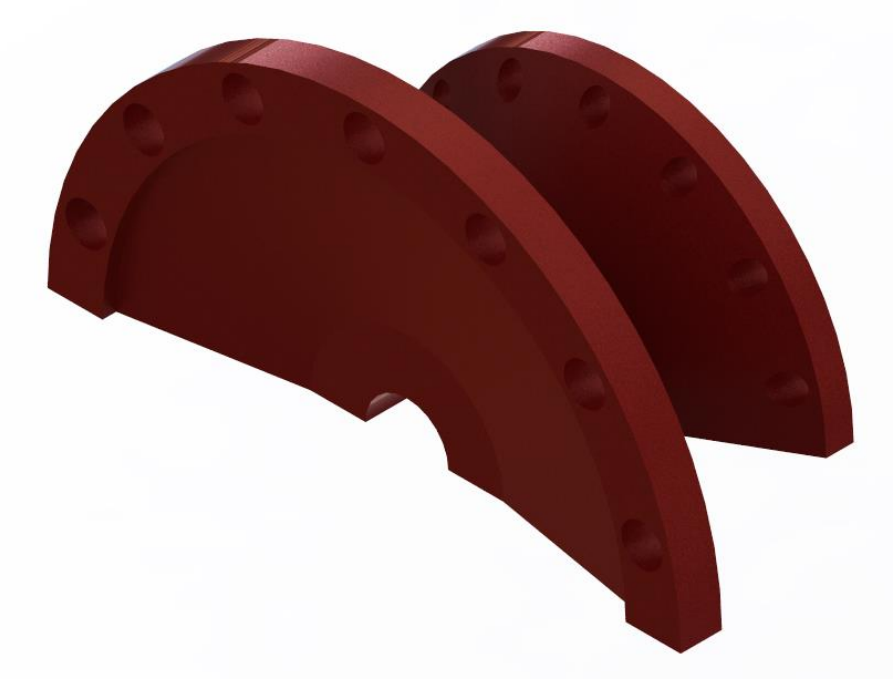
SOLIDWIZE

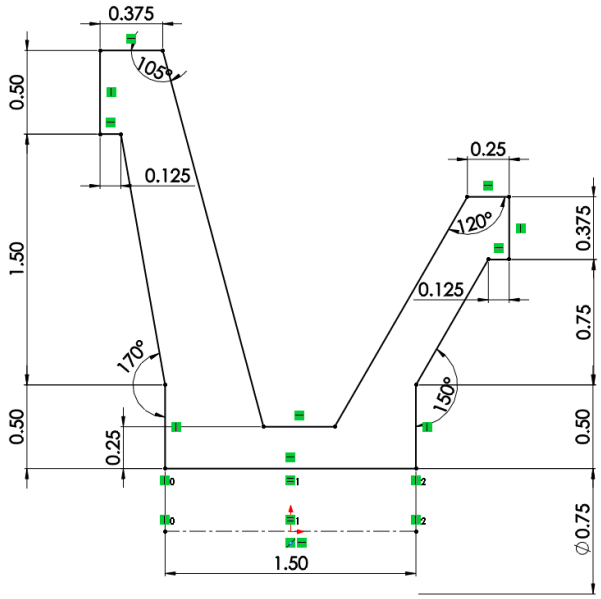
ONLINE SOLIDWORKS TRAINING

Revolve: Half Pulley

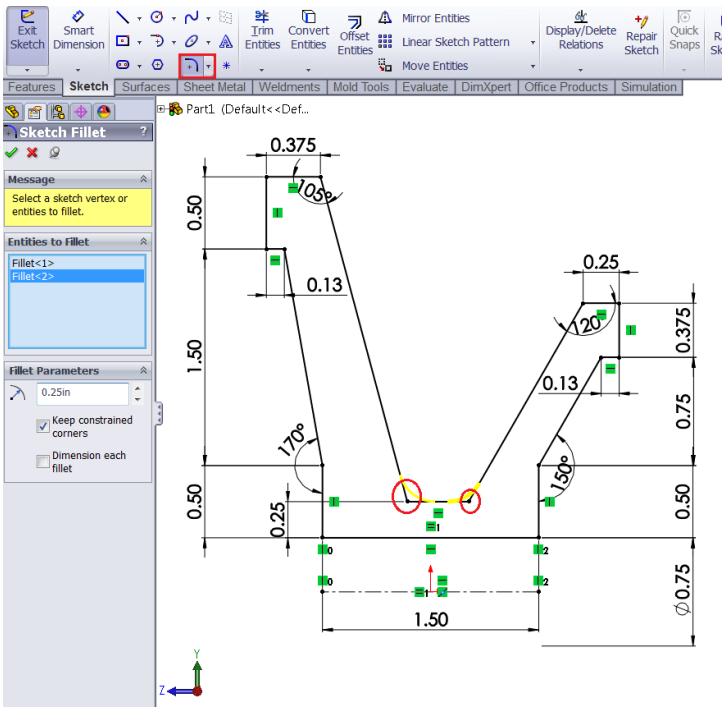


Step 1: Creating the Profile

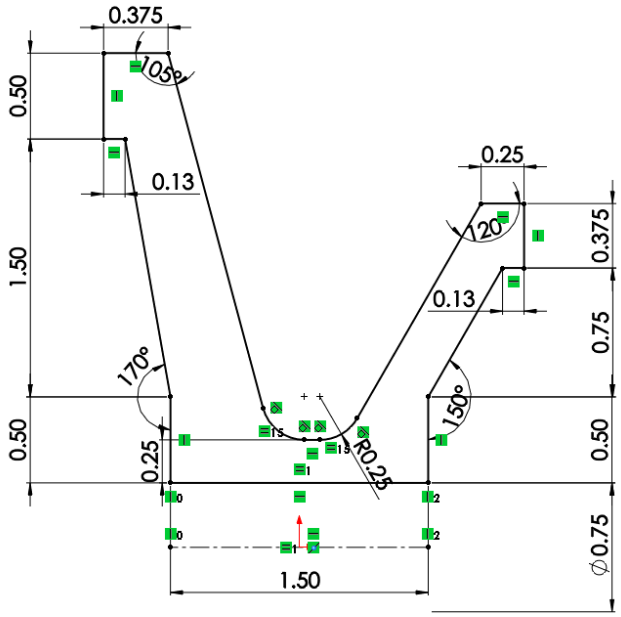
Using **Inch** as the unit, create the following sketch on the **Right Plane.** Pay attention to the relations and dimensions shown, especially the mid-point relation of the construction line.



Using the sketch fillet tool highlighted below, create two fillets at the indicated vertices. Use a fillet radius of **0.25in.**

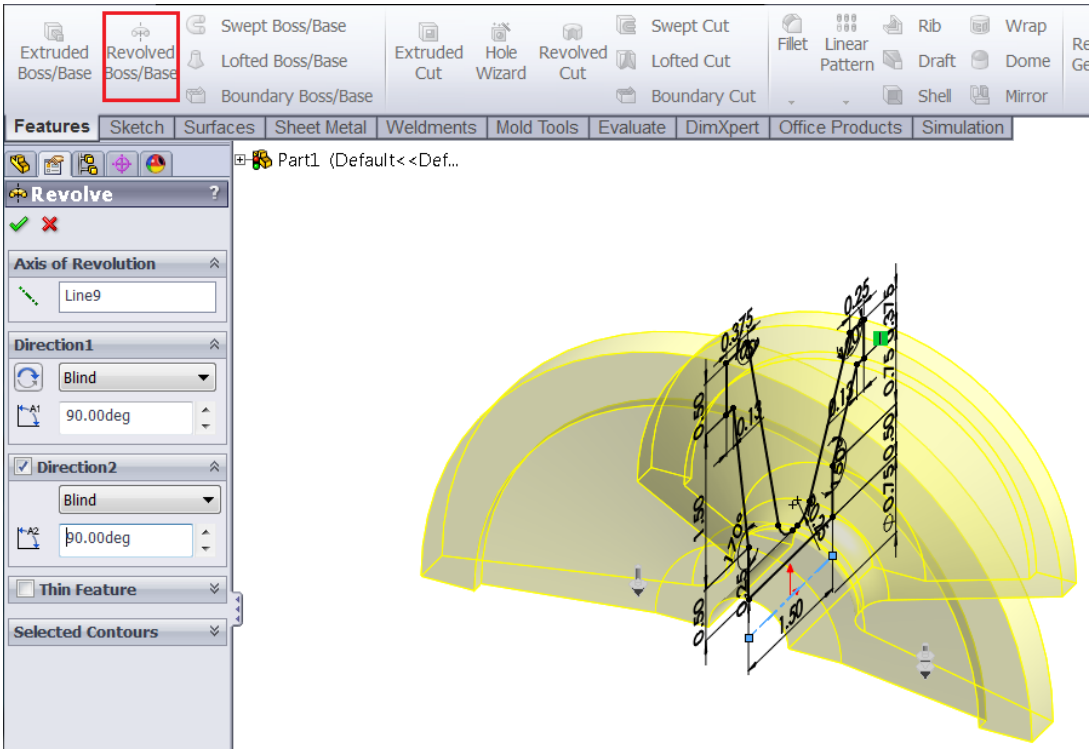


The resulting sketch should look like the following:

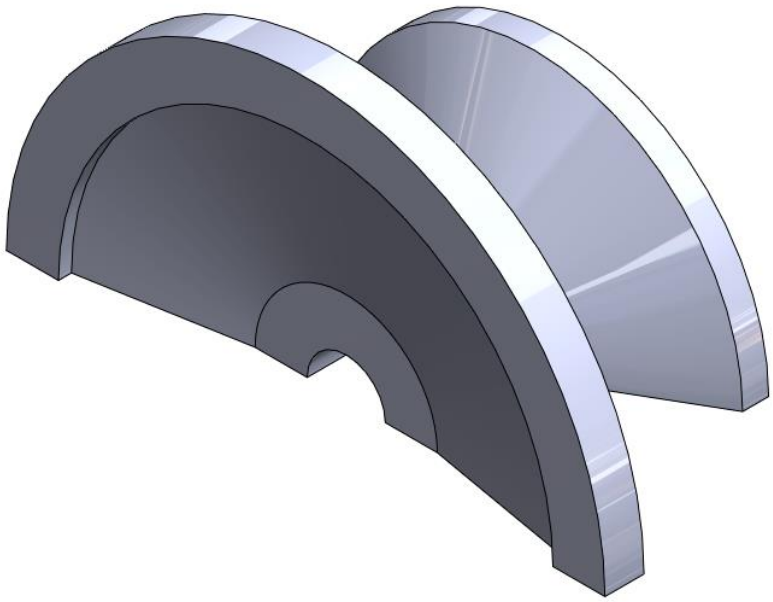


Step 2: Revolving the Pulley

Using the **Revolved Boss/Bass** tool, revolve the sketch around the construction line. For **Direction 1**, use a Blind-type revolve and angle of **90.00 degrees.** Select the box next to **Direction 2** and use the same revolve type and angle as that of **Direction 1**.

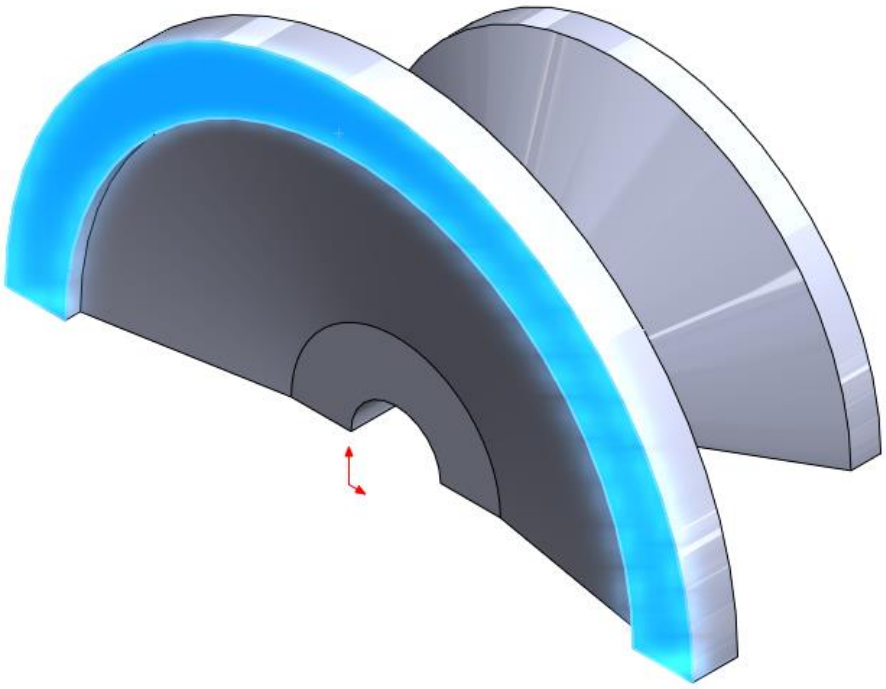


The resulting revolved part should look like the following:

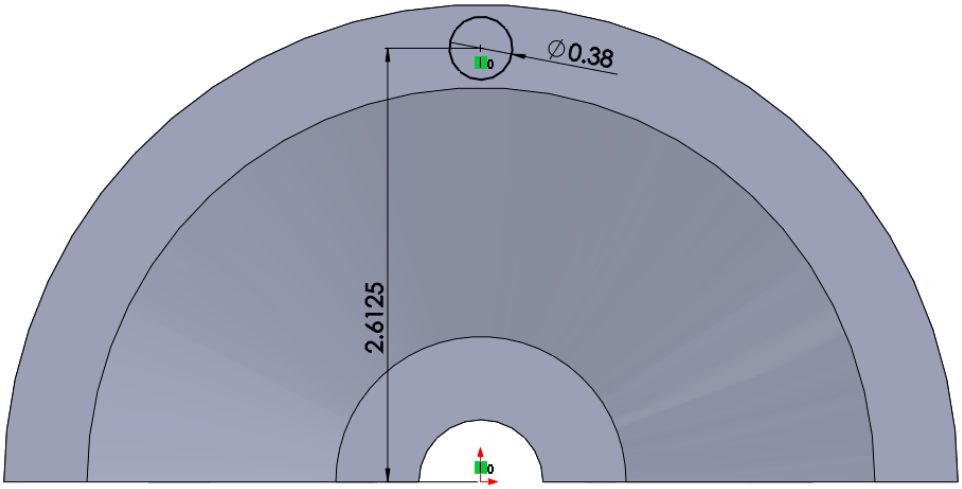


Step 3: Sketching the Lightening Holes

Create a sketch on the face highlighted below:

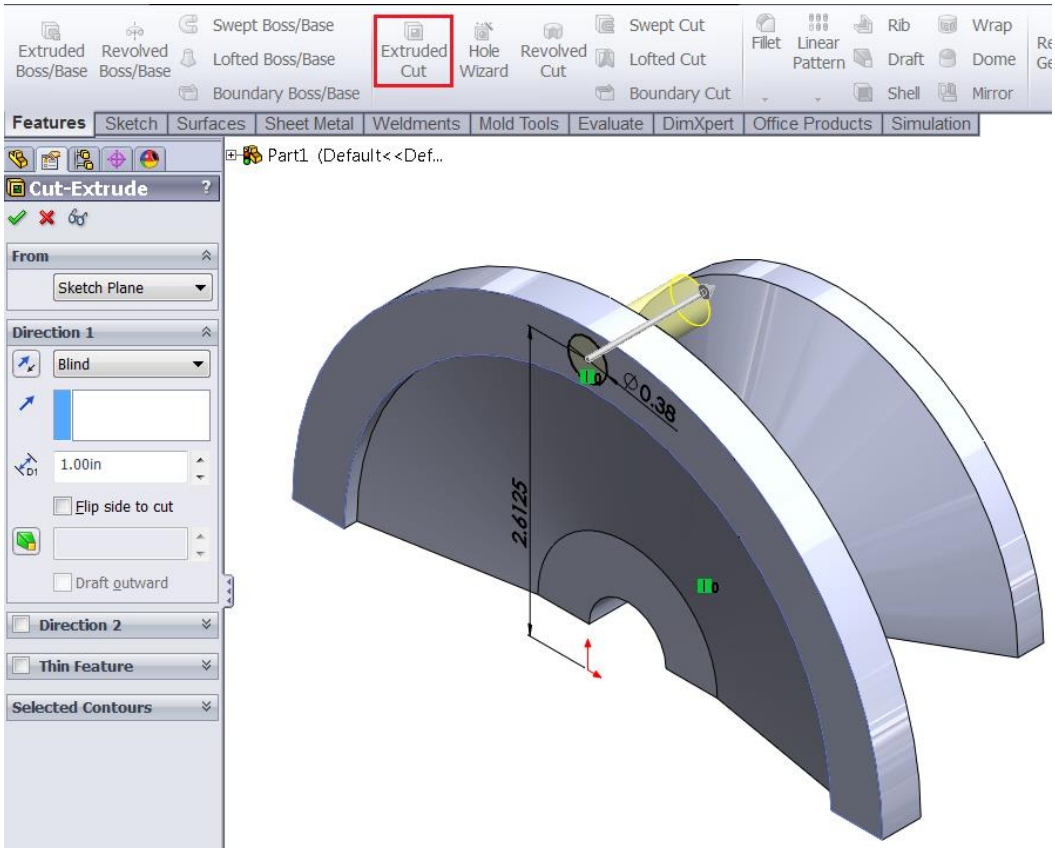


Create the following sketch. Notice the vertical relation between the center of the circle and the origin.

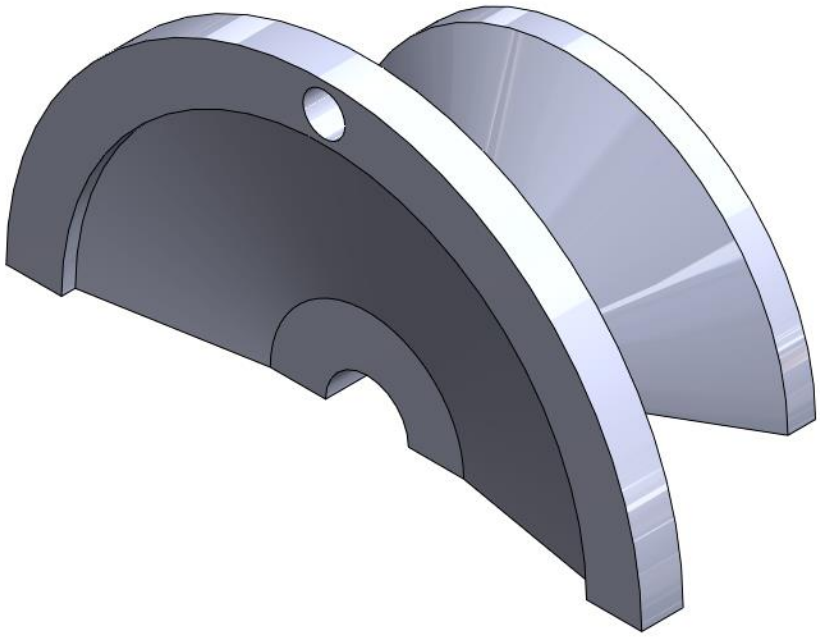


Step 4: Extrude Cut the Lightening Holes

Using the **Extruded Cut** tool, extrude cut the sketch using type **Blind** and a cut depth of **1.00in.**

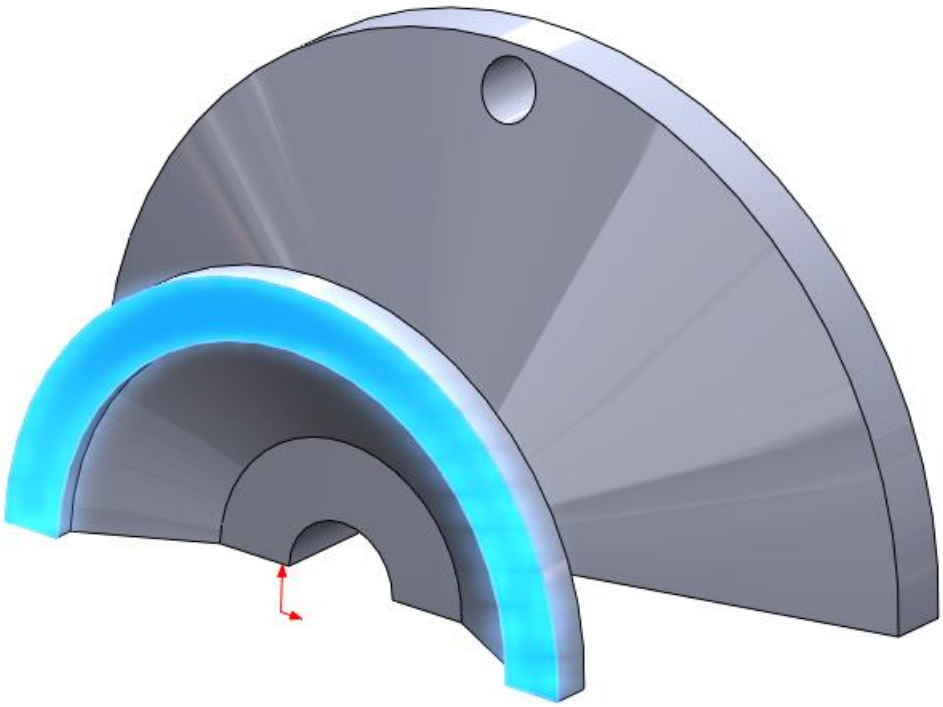


The result should look like the following:

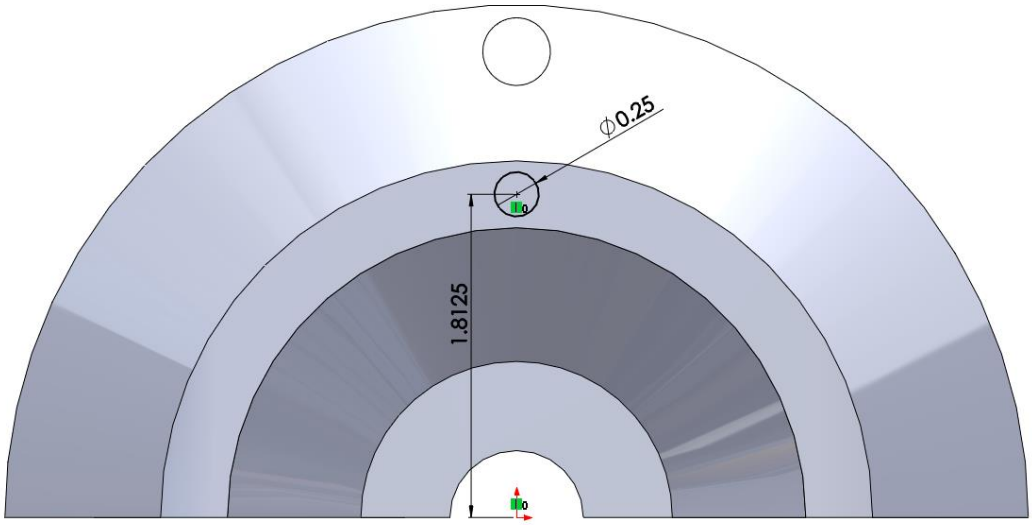


Step 5: Sketching the Lightening Holes: Part 2

Create a sketch on the face highlighted below:

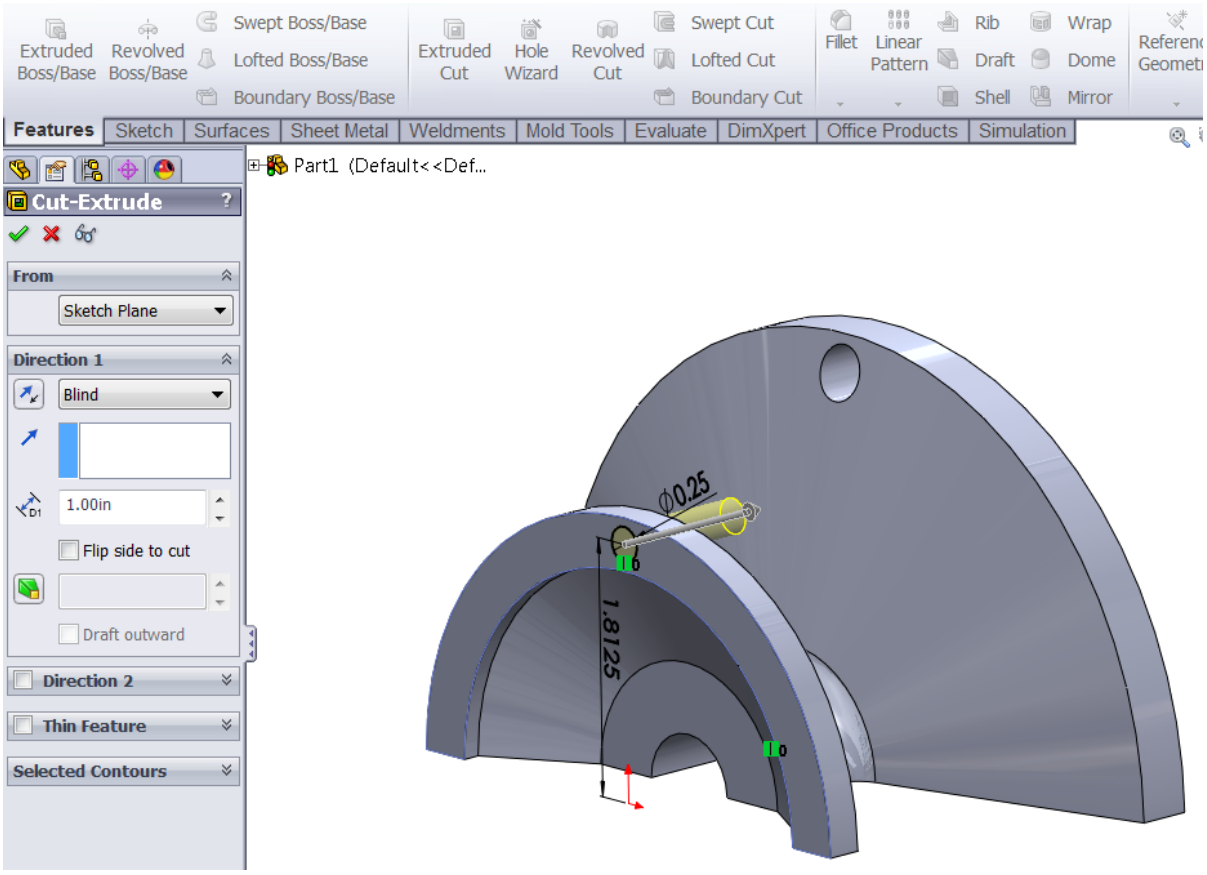


Create the following sketch. Notice the vertical relation between the center of the circle and the origin.



Step 6: Extrude Cut the Lightening Holes

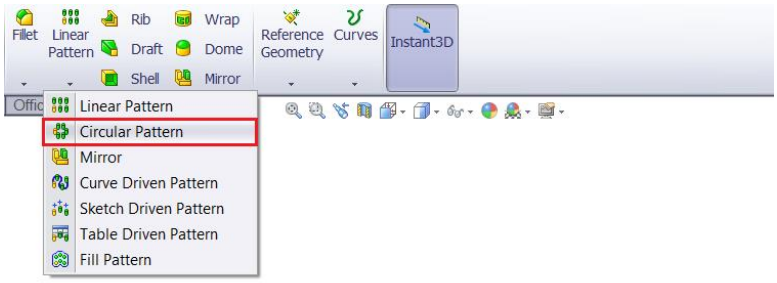
Using the **Extruded Cut** tool, extrude cut the sketch using type **Blind** and a cut depth of **1.00in.**



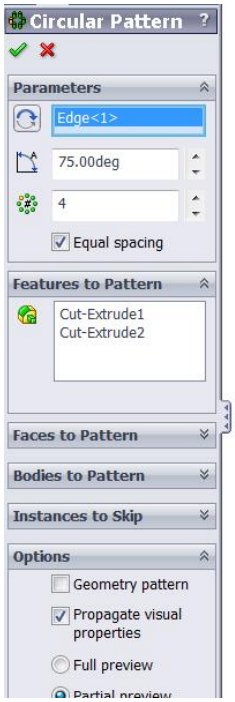
The result should look like the following:

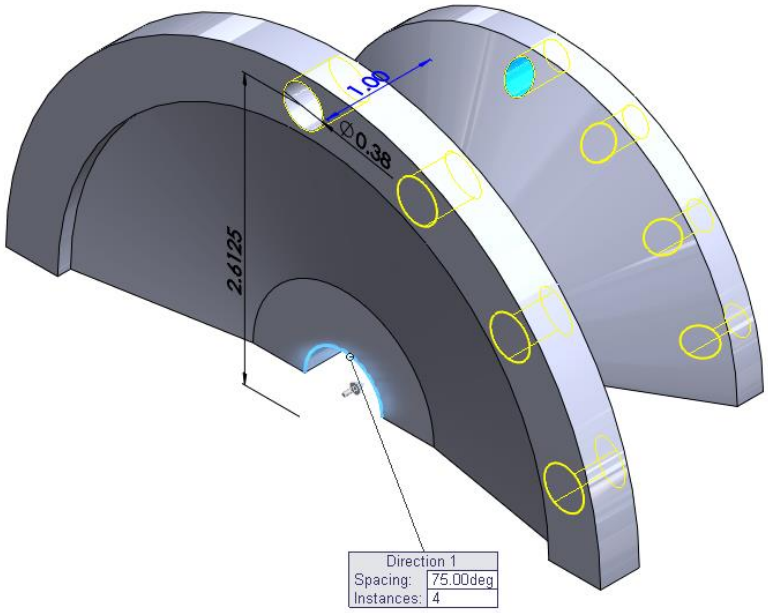
Step 7: Circular Patterns

The **Circular Pattern** tool is found under the **Linear Pattern** tool found in the **Features** tab:

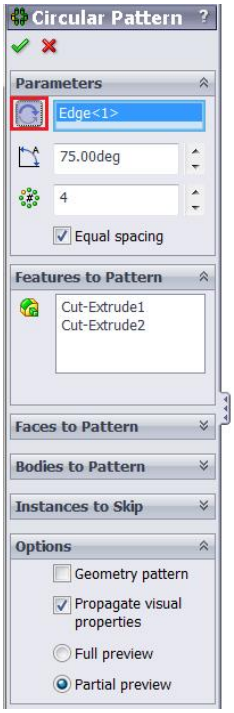


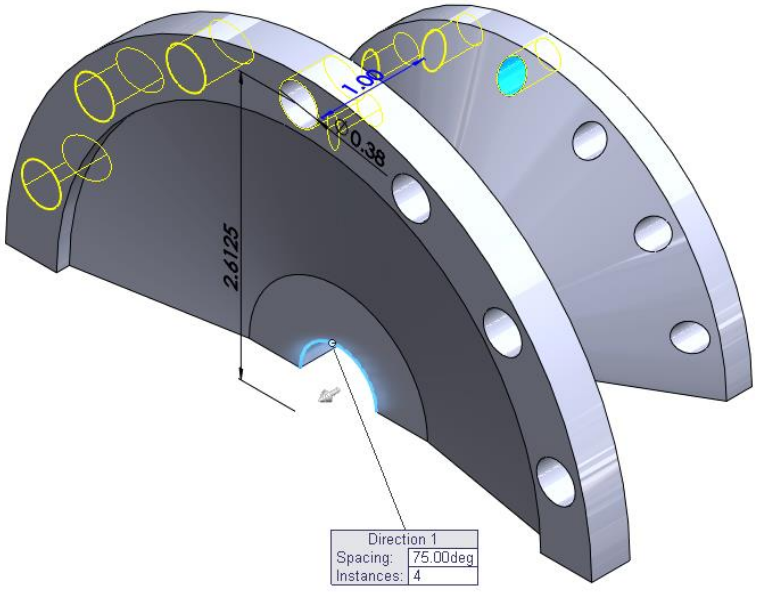
Using the **Circular Pattern** tool, select the inner circular edge (highlighted below) as the revolution guide. Set the instance number to **4 instances** and pattern angle of **75.00 deg**.



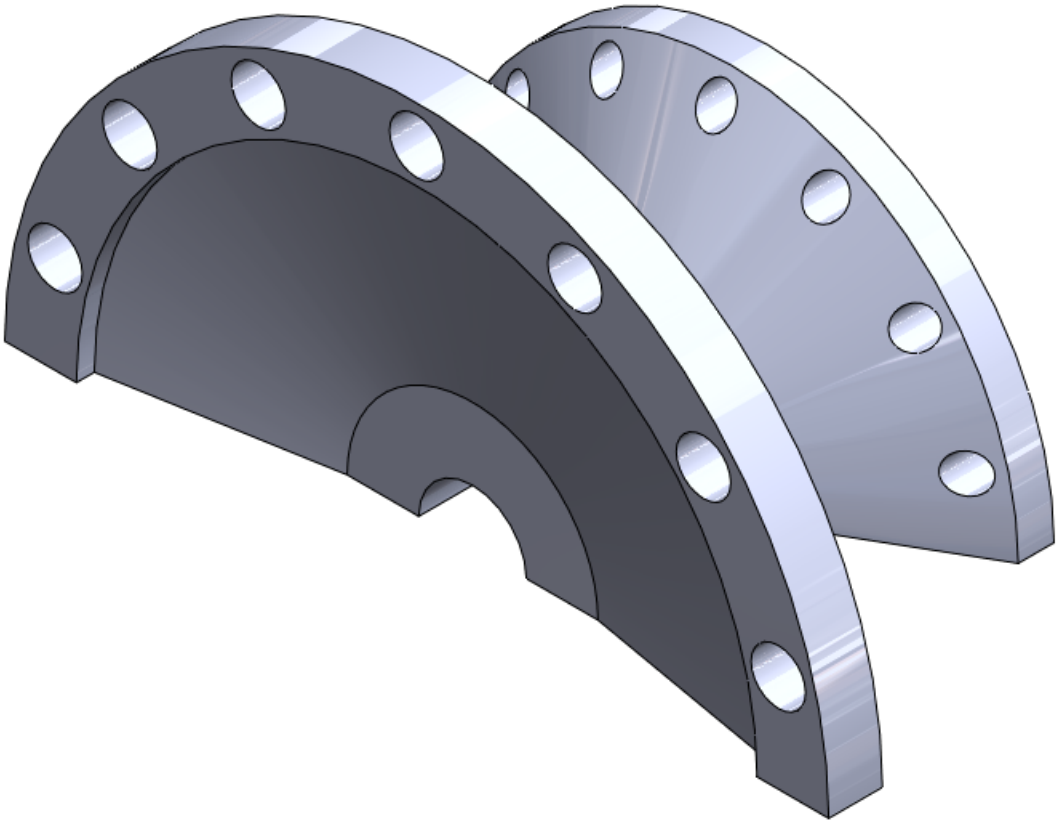


Using the **Circular Pattern** tool again with the same number of instances and same pattern angle, select the **Reverse** select tool (highlighted below) to pattern in the opposite direction.



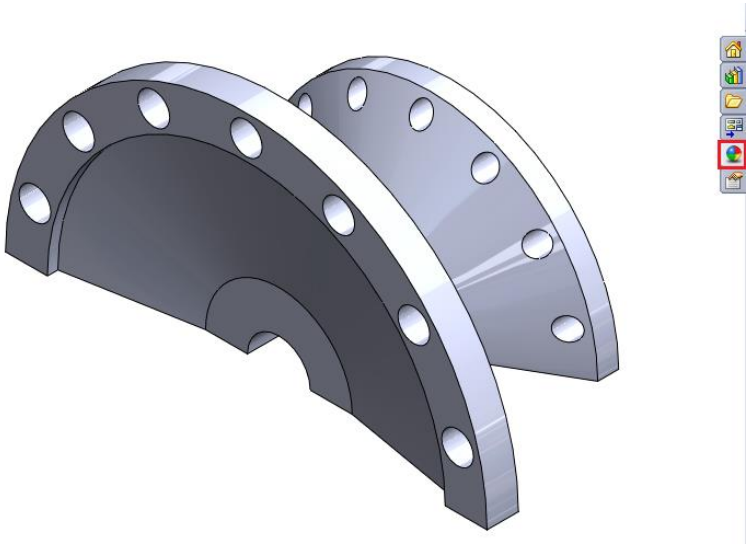


The resulting part should look like the following:

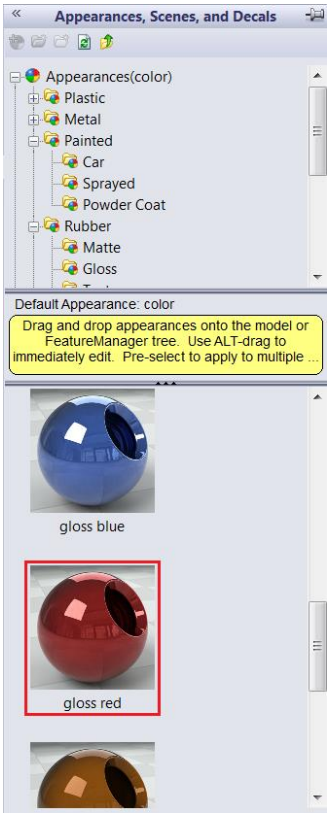


Step 8: Adding Appearance

To add an appearance to the part, select the **Appearance** tab from the menu located on the right of the display pane:

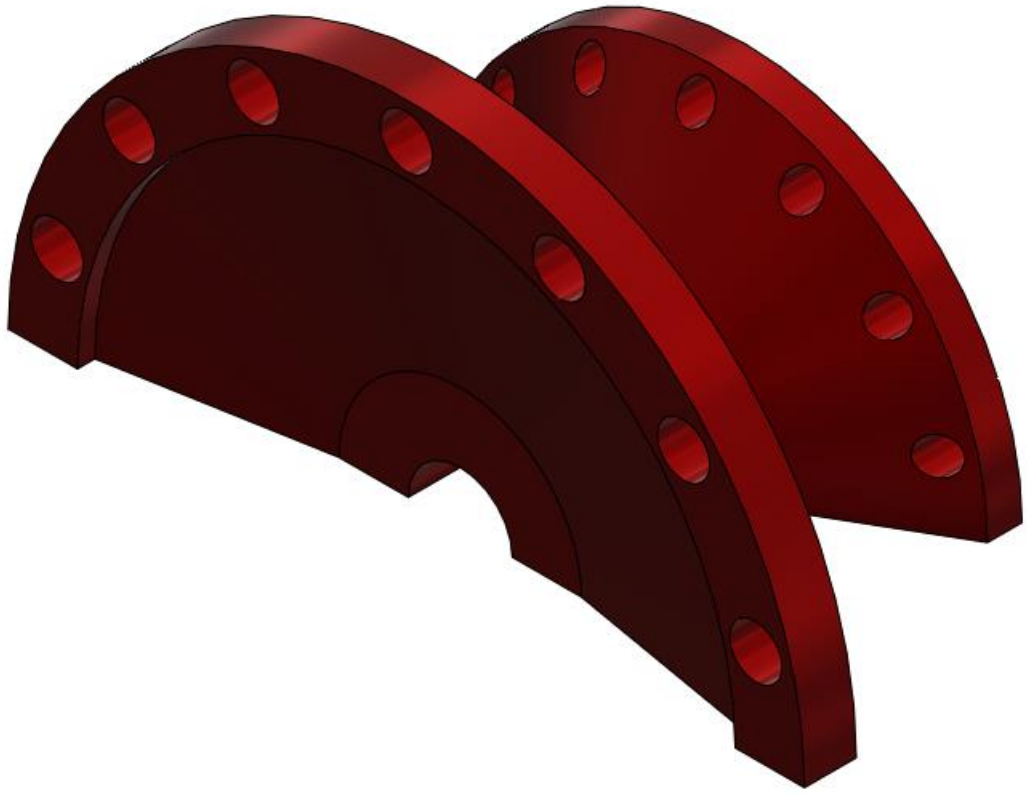


Select **Appearances>Painted>Car** and select **gloss red.**



To add the appearance, simply drag the **gloss red** image onto the display pane. By dragging it right onto the display pane (the blank area around your part), the appearance is automatically applied to the entire part. If you wanted to apply the appearance only to a particular face, feature, or body, drag the appearance onto the desired face and select the desired options from the popup menu.

The resulting part should look like this:



Step 9: Save and Exit

Save the part as **Revolve_HalfPulley.sldprt** and exit the part.