

# SOLIDWIZE

## ONLINE SOLIDWORKS TRAINING

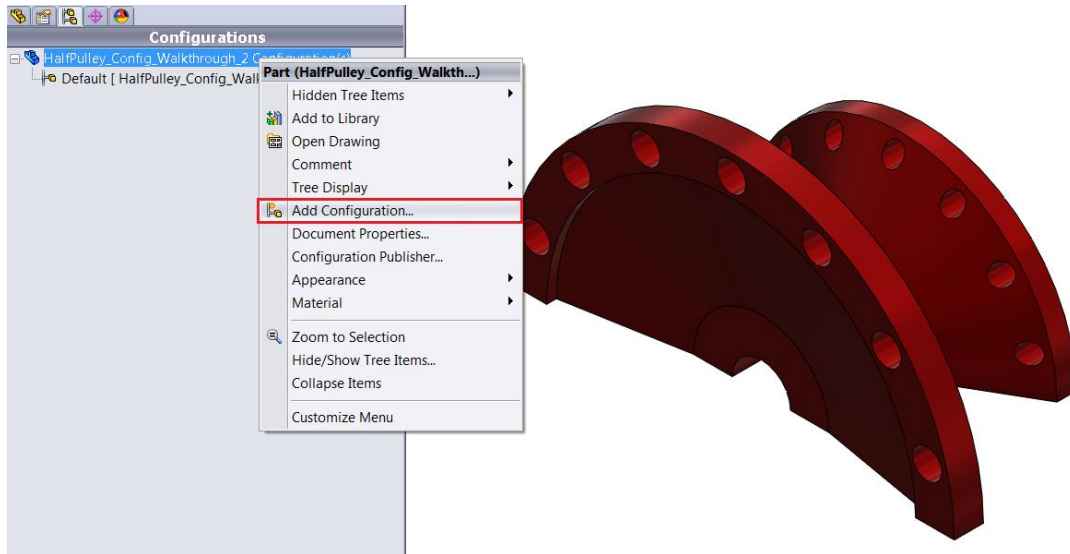
Configuration: Half Pulley, Changing Features



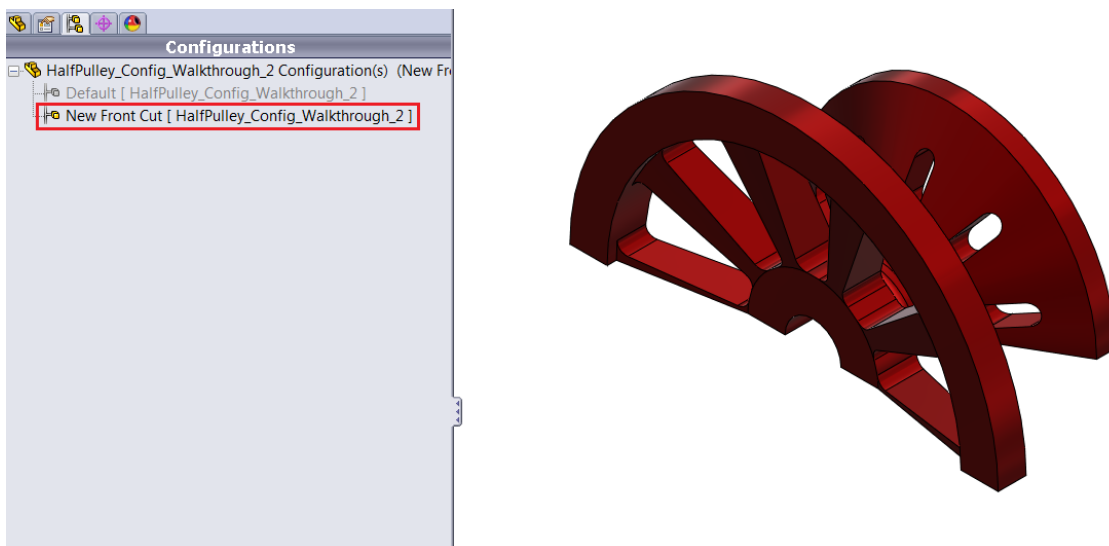
## Step 1: Creating a New Configuration

Open **Revolve\_HalfPulley.sldprt** which was created in the Revolve: Half Pulley exercise. The completed part can be also be downloaded accompanying this exercise.

Go to the configurations tab which can be found above the property manager, as highlighted below. To add a new configuration, right click the name of the part and select **“Add Configuration.”**

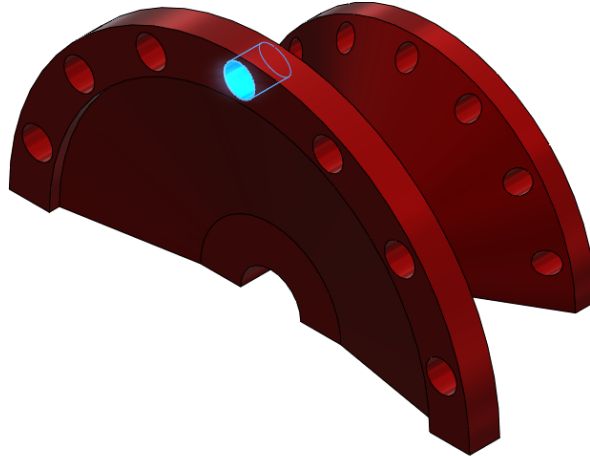
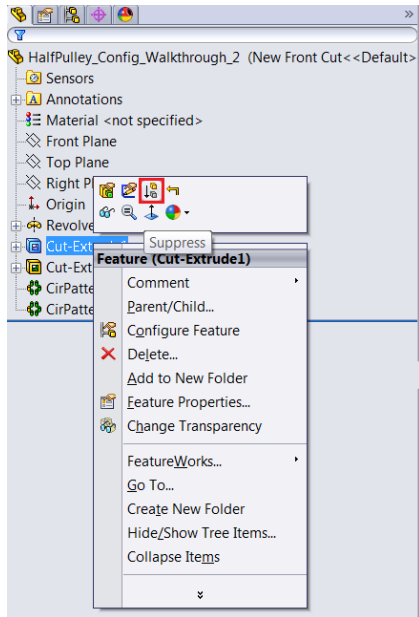


This will bring up the property manager for adding a new configuration. Under **Configuration Properties**, enter the configuration name **“New Front Cut.”** Select the green check mark to accept the configuration.

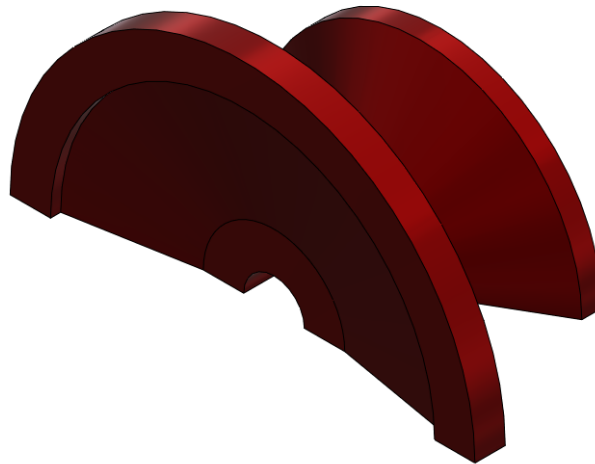
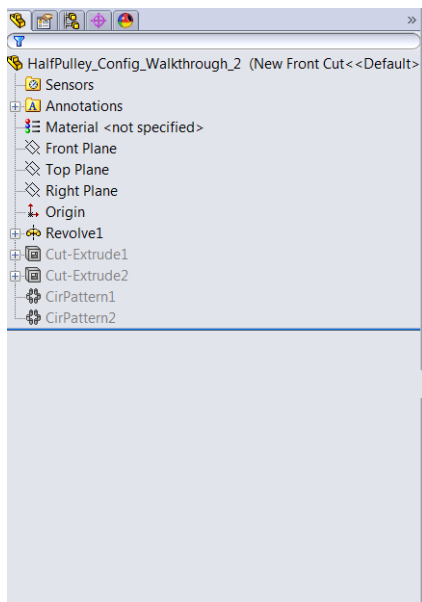


## Step 2: Suppressing Features

Unlike changing dimensions, when features are suppressed, they are automatically suppressed only in the current configuration. Suppress both **Extrude-Cut1** and **Extrude-Cut2** by right clicking the feature and selecting the **Suppress** icon shown below:

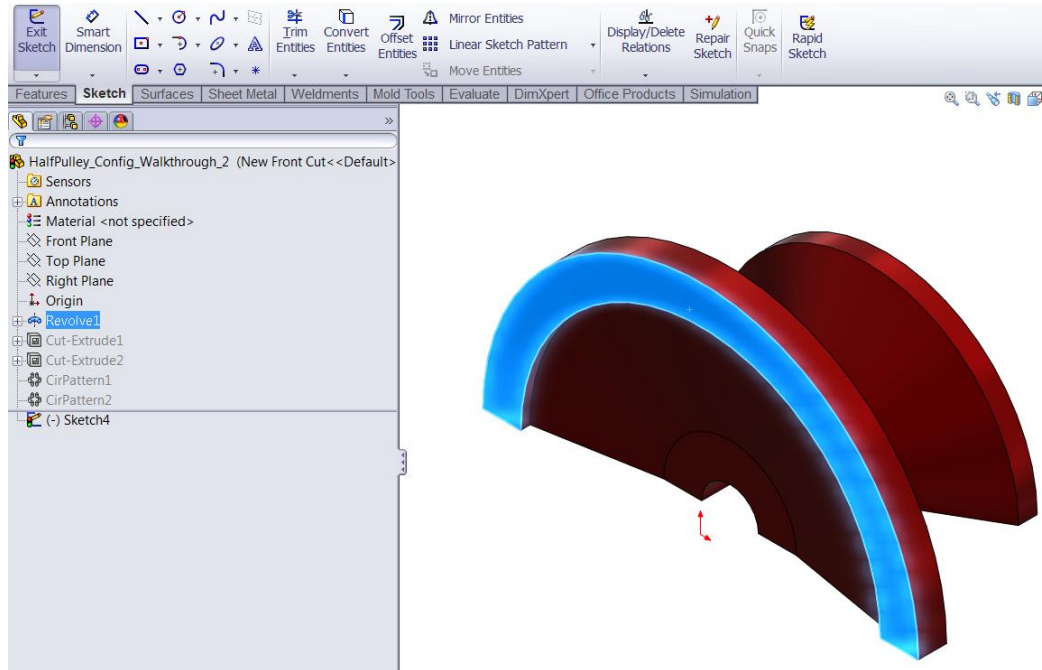


Notice that the two circular patterns have also been greyed out. This is because the patterns were a child feature of the two extrude-cuts; that is they depend upon the cuts. The resulting part should look like the following:

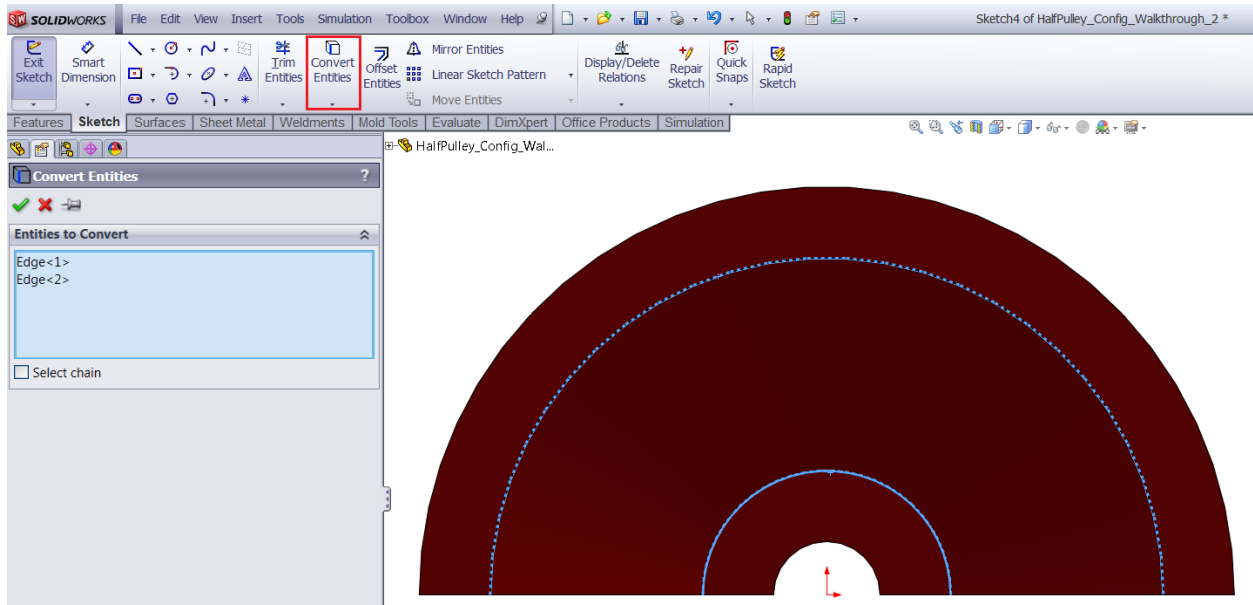


### Step 3: Creating a New Cut Pattern

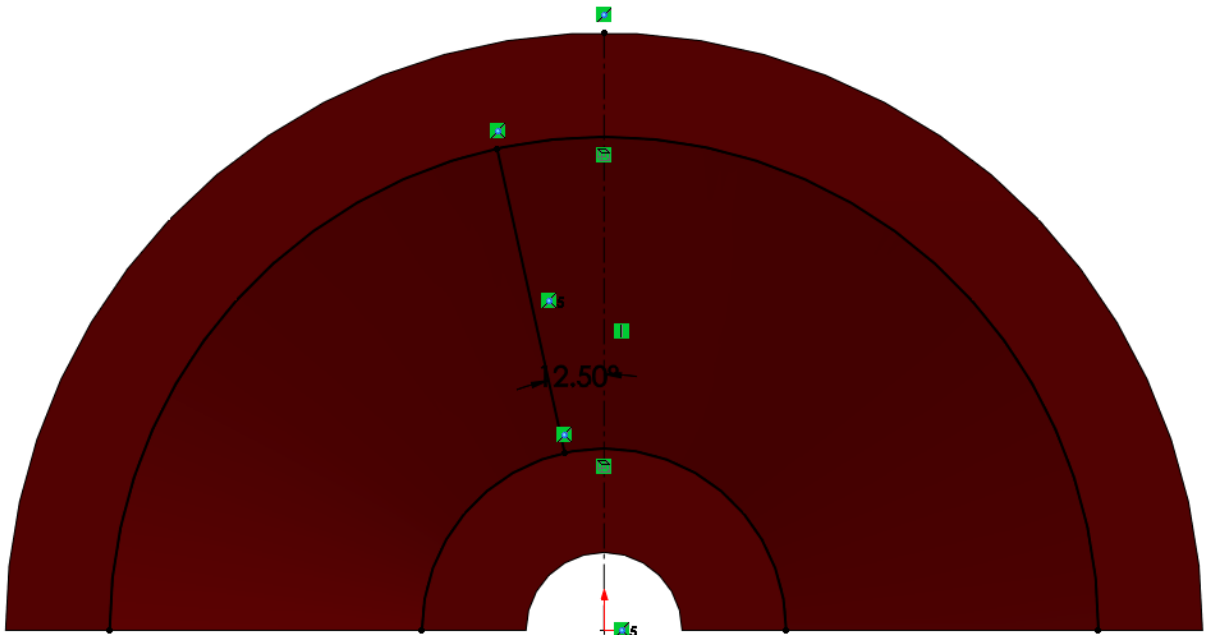
Create a new sketch on the flat surface on the larger side of the pulley. The sketch surface is highlighted below:



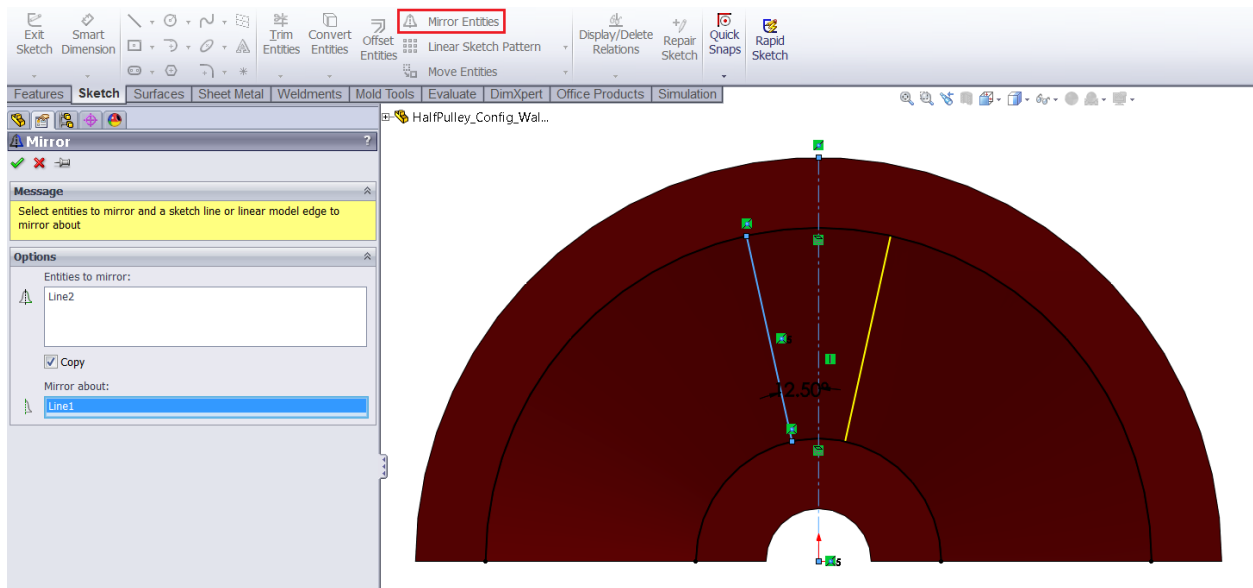
Convert the two semi-circles (highlighted below) using the **Convert Sketch Entities** tool.



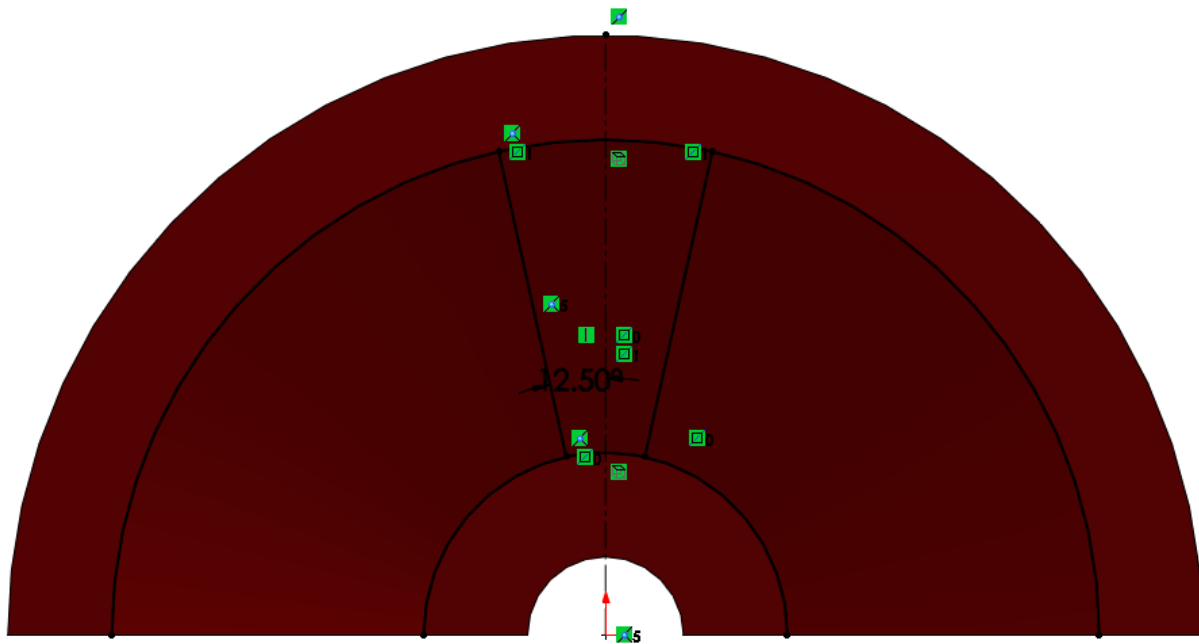
Create a sketch with the following dimensions and relations. Notice the **Coincident** relation between the angled lines and the origin.



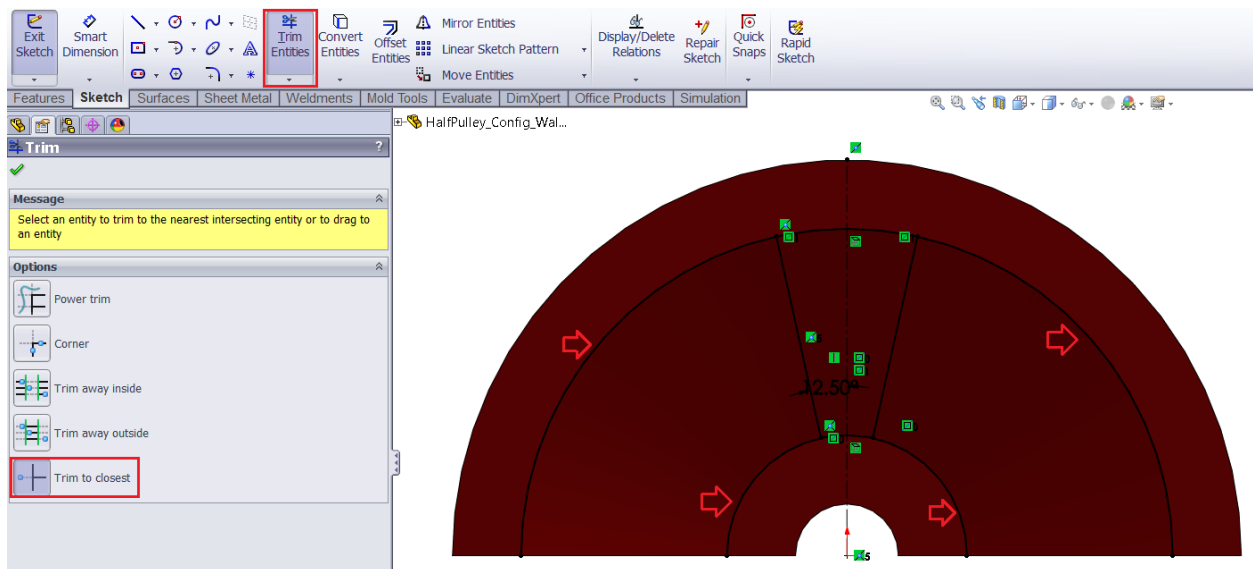
Next, using the **Mirror Entities** tool, create a mirrored line across the vertical construction line:



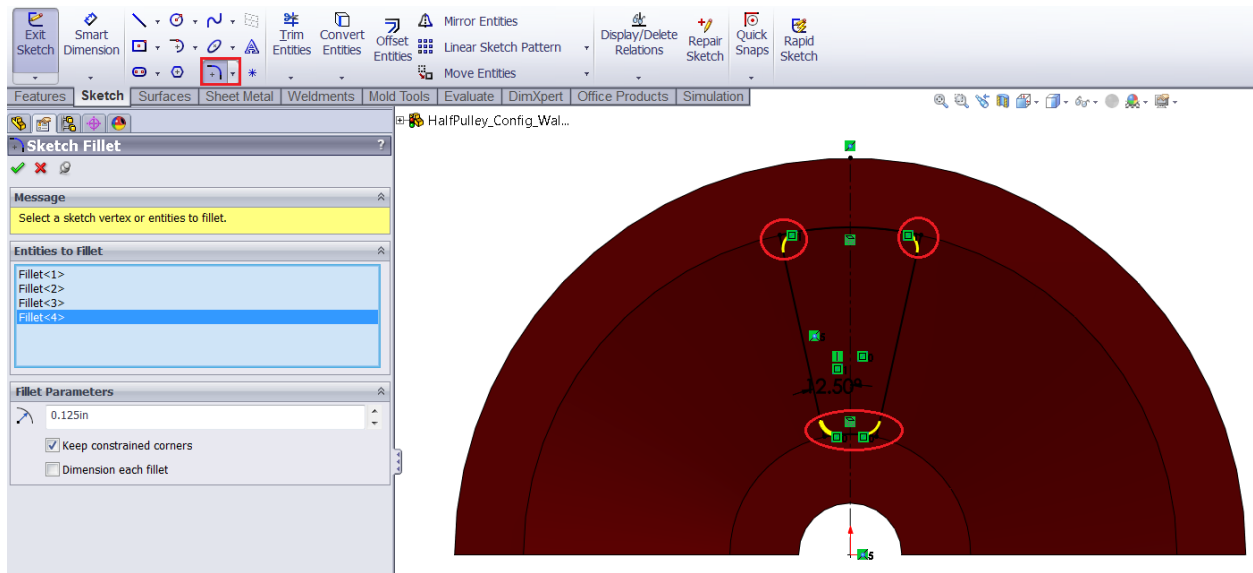
The resulting sketch should look like the following:



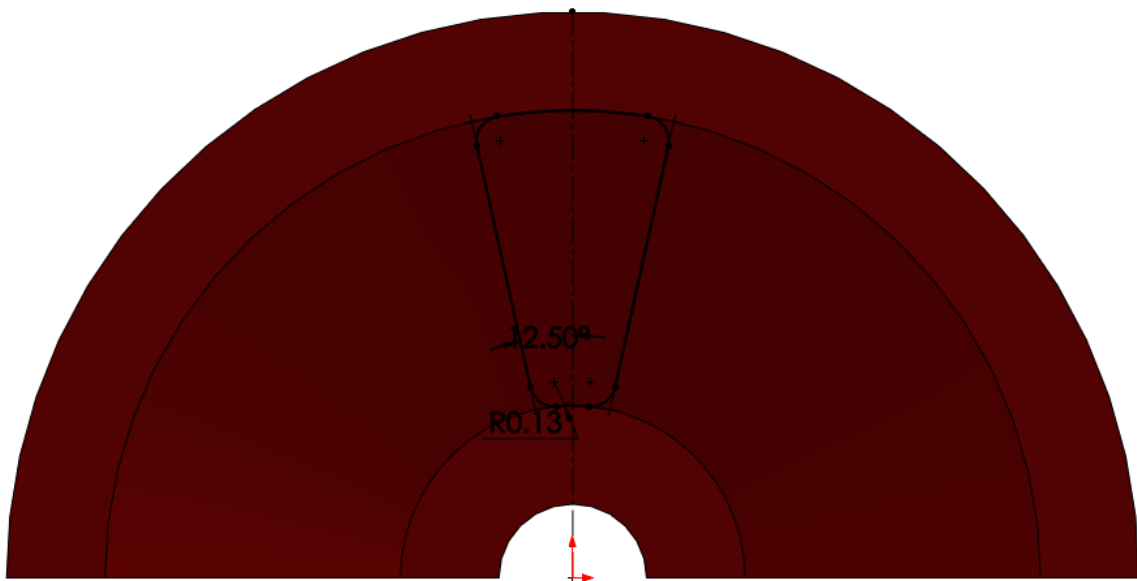
Use the **Trim Entities** tool to trim the four segments of the semicircle shown below. Use the “**Trim to closest**” option.



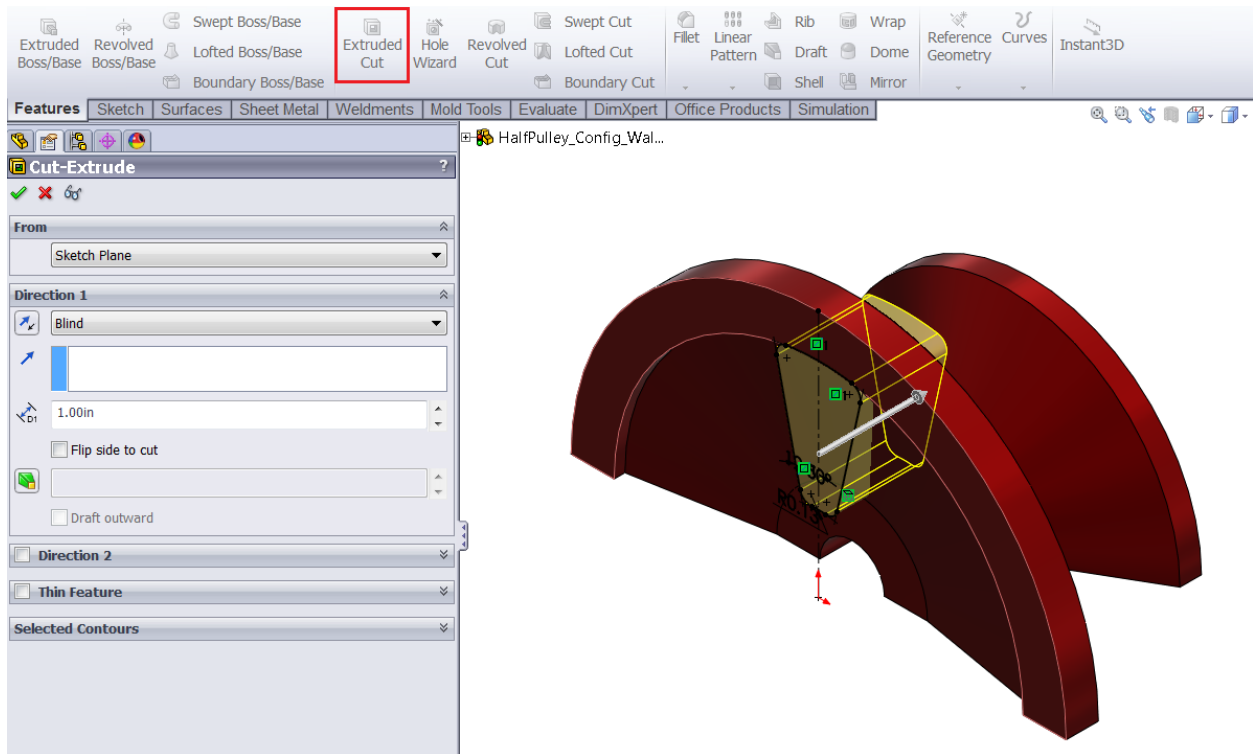
Lastly, add fillets to the four vertices of the sketch. Use a fillet radius of **0.125in**.



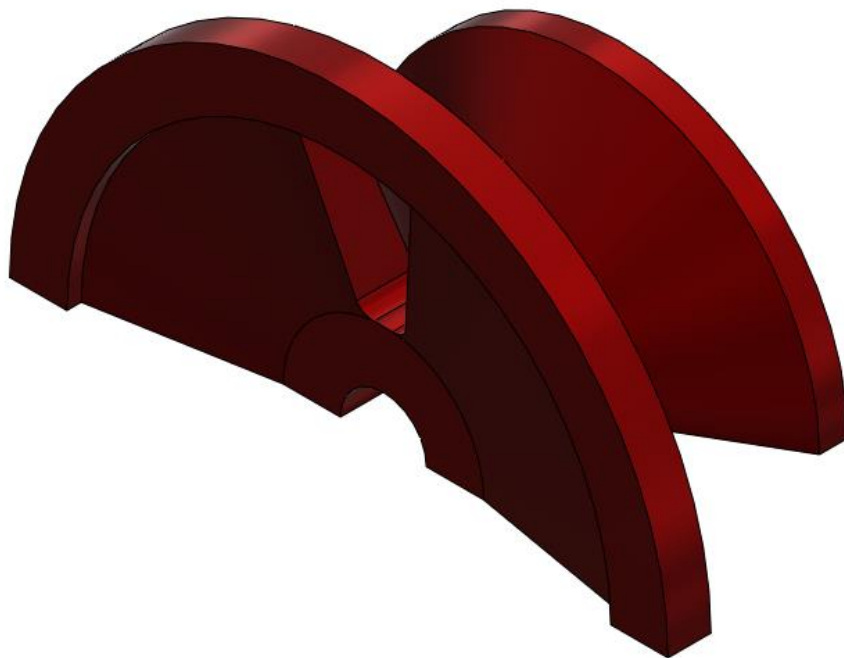
The resulting sketch should look like the following:



Using the **Extruded Cut** tool found in the **Features** tab, extrude cut the sketch into the part. Use the **Blind** cut type and a cut depth of **1.00in**.



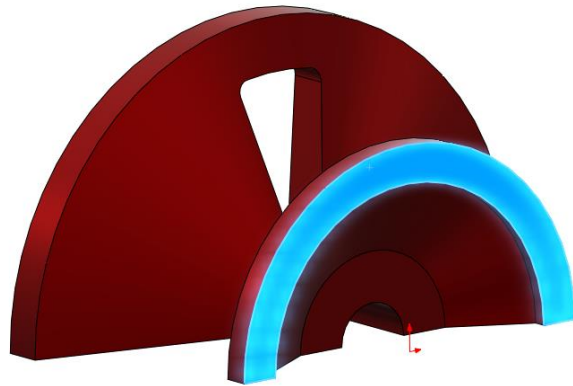
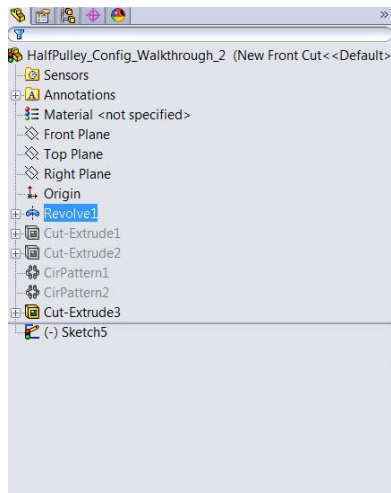
The resulting cut should look like the following:



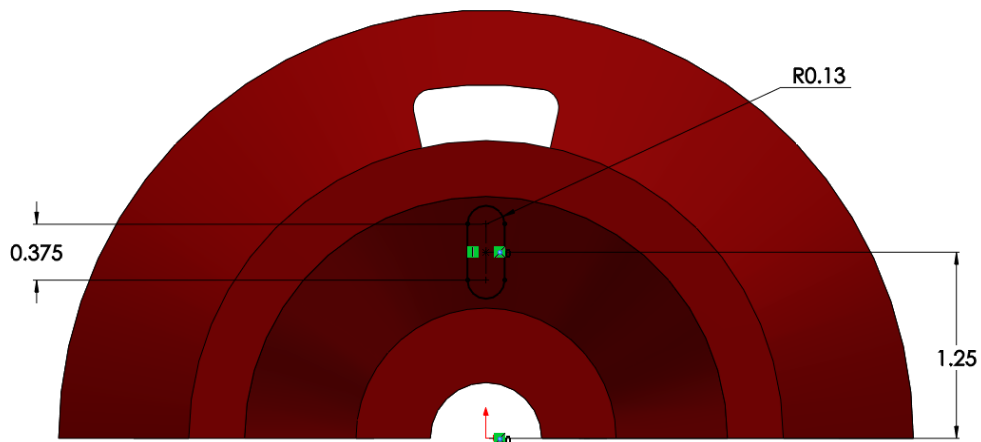
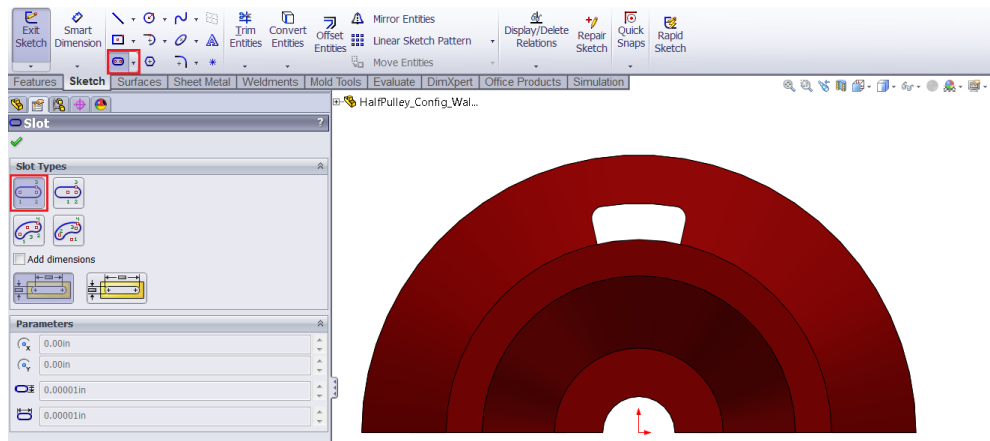


#### Step 4: Create a New Cut Pattern: Part 2

On the following face, create another sketch.

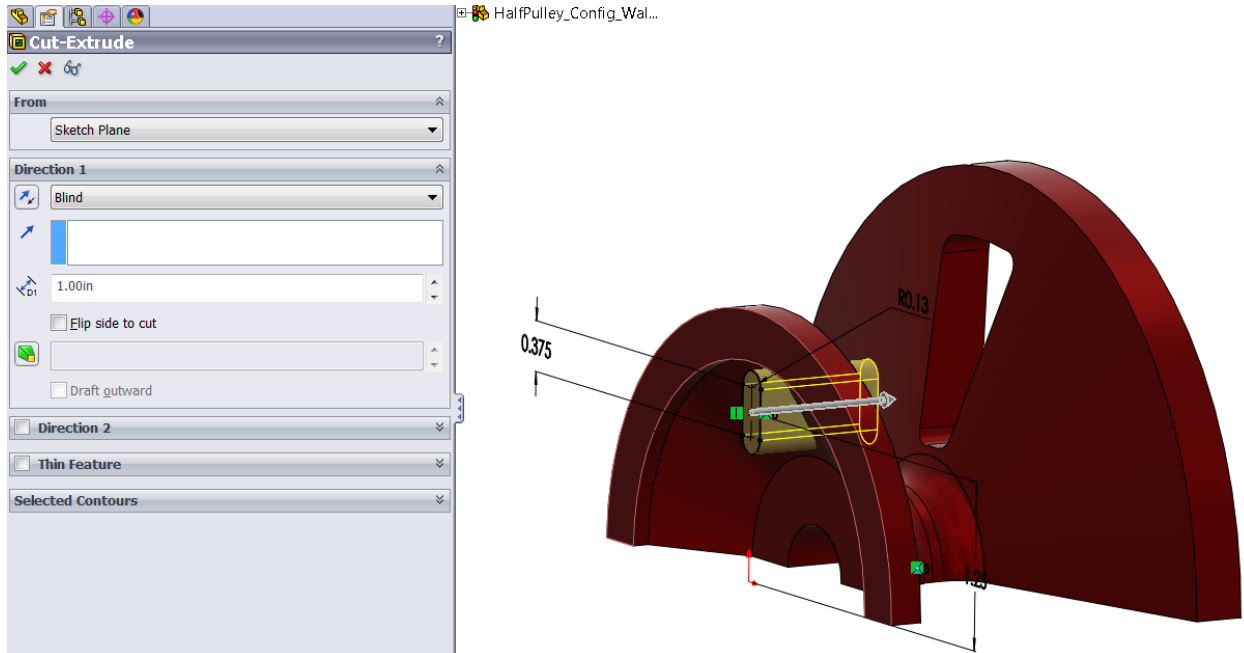


Using the **Slot** tool, create a vertical slot as shown below:

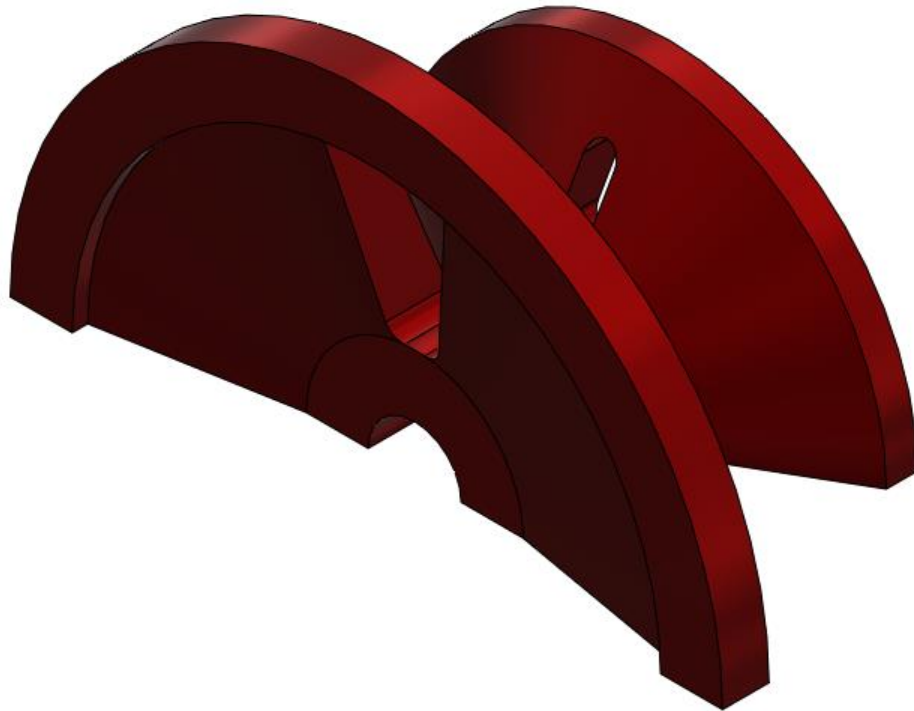


Note the coincident relation between the construction line of the slot and origin.

Using the **Extruded Cut** tool found in the **Features** tab, extrude cut the sketch into the part. Use the **Blind** cut type and a cut depth of **1.00in**.

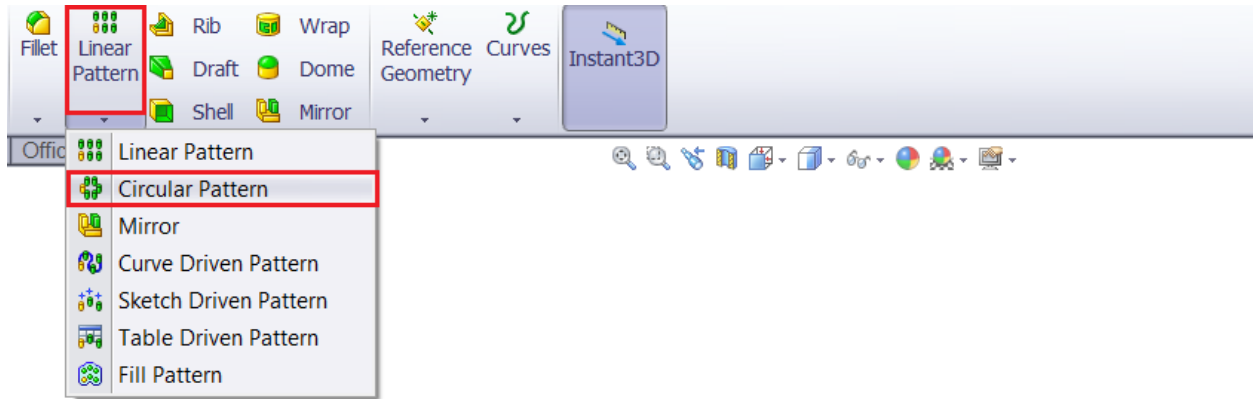


The resulting part with both extruded cuts should look like the following:

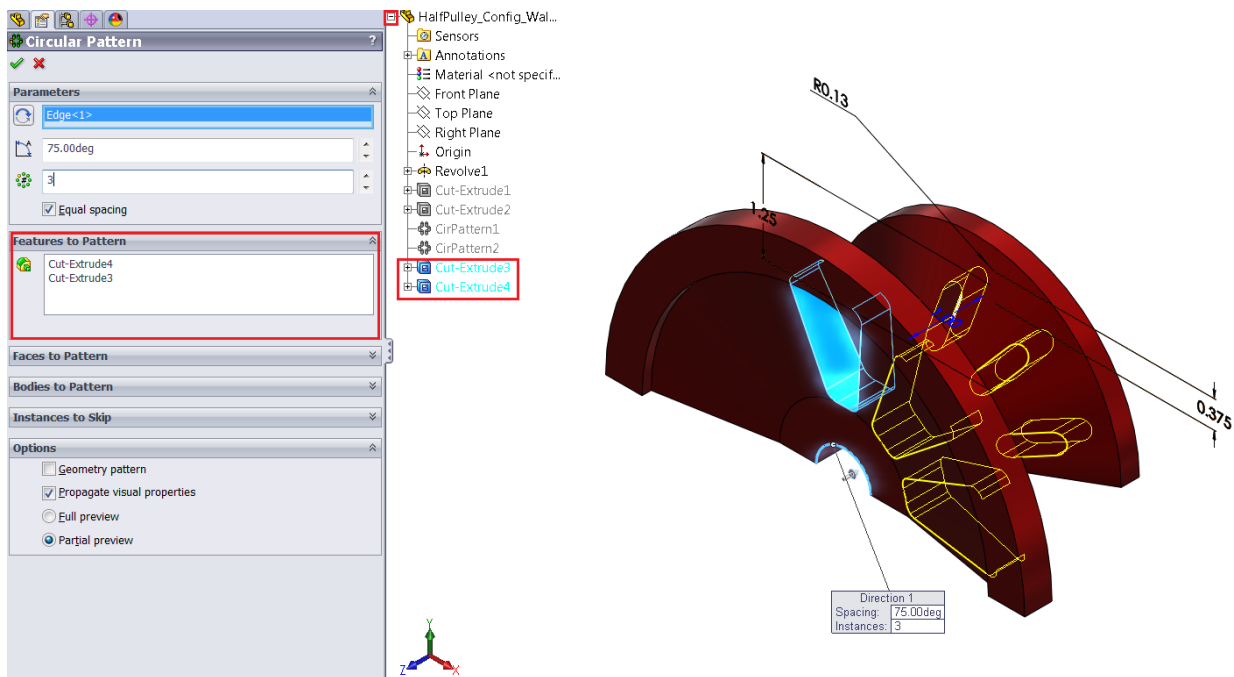


## Step 5: Creating the Pattern

Select the **Circular Pattern** tool from the **Features** tab as shown below:

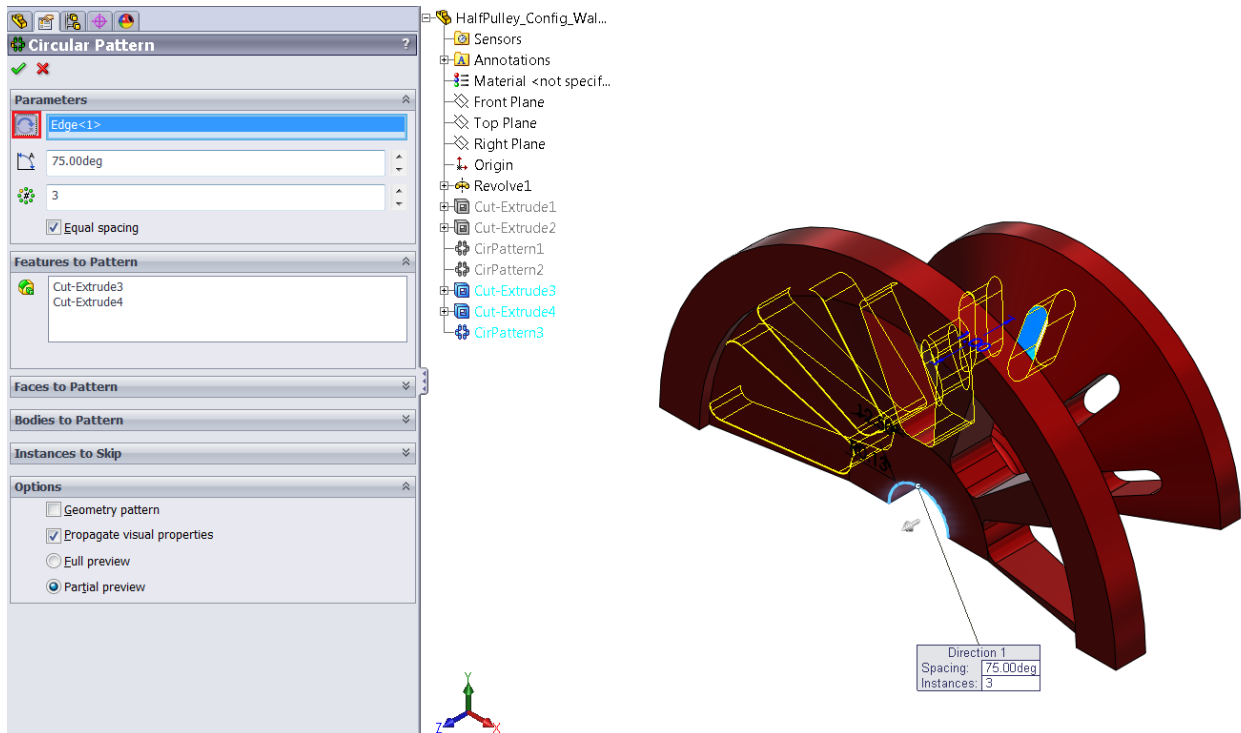


In the property manager, select the two cut extruded features by opening the design tree and selecting each feature. To do so, click on the **“-”** sign next to the part name (highlighted below), and select the two extrude cut features:

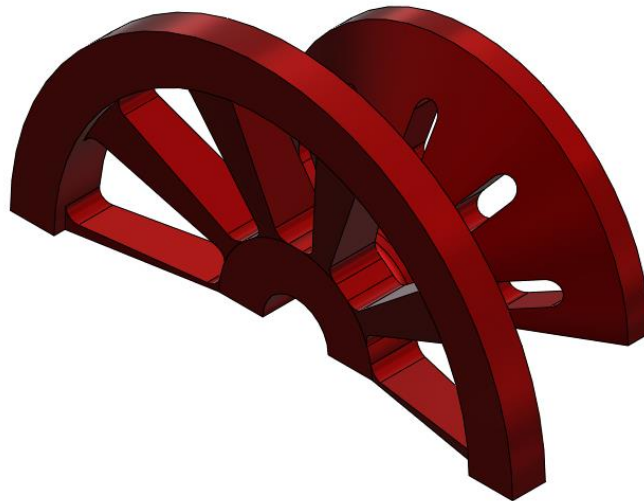


Use the highlighted semi-circular edge as the rotation reference. Use an angle of **75.00 degrees** and set the instance number to **3**. Make sure the **“Equal Spacing”** option is selected.

Repeat this process, but this time we want to pattern the cuts in the other direction. To do so, select the icon next to the rotational reference. This icon is highlighted below:



The resulting pattern should look like the following:



## Step 6: Save and Exit

Save the part as **Config\_HalfPulley\_2.sldprt** and exit the part.