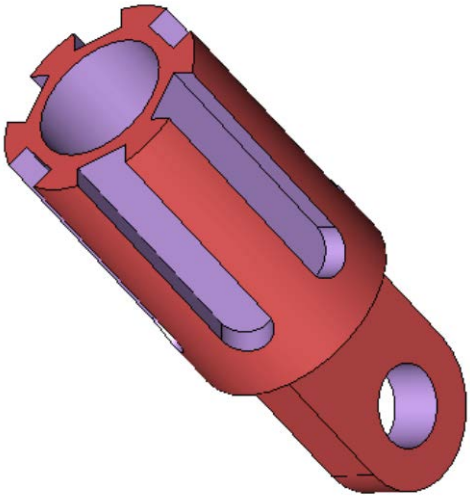
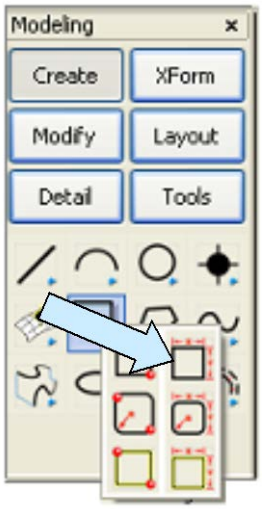
KeyCreator Lesson KC2208

Creating a Slotted Collar



Let's create the slotted collar illustrated to the right. We'll start with a new file in View 2. (The Front View.



Click on the CREATE RECTANGLE BY WIDTH HEIGHT Icon. Use the BotLeft Anchor Option.

Type 1 for the Width and 3 for the Height and hit the ENTER Key.
Hit the ENTER Key three times to place the rectangle at the origin.

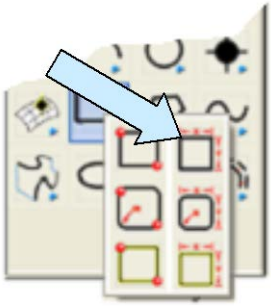
Click on the CREATE LINE PARALLEL AT A DISTANCE Icon. Type 0.375 for the Distance.

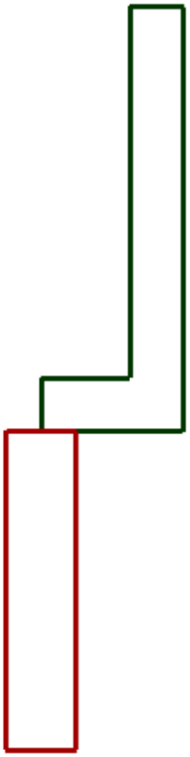
Click on the right side of the rectangle and just to the left of it. Then, click on the bottom of the rectangle and just above it.

Click on the TRIM BOTH Icon and trim the geometry so it looks like a backwards letter "L."

Select a new construction color.

Click on the CREATE RECTANGLE BY WIDTH HEIGHT Icon again. This time, use the TopCtr Anchor Option.

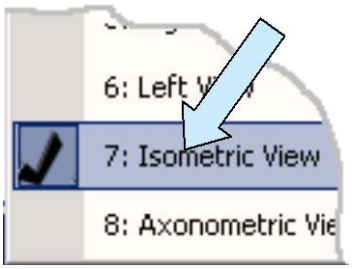




Type 0.5 for the Width and 2.25 for the Height.

Using the EndEnt Option, click on the bottom, left corner of the first profile.

Your screen should now look like this:



Switch to the Isometric View. (View 7.)

Now, click on the REVOLVE Icon.

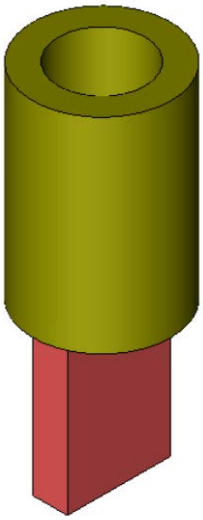
A Dialog Box appears.
Type 360 for the Revolve Angle and hit the ENTER Key.

Select the trimmed first profile and hit the ENTER Key.

Then, click on the short, vertical line at the left side of the profile.

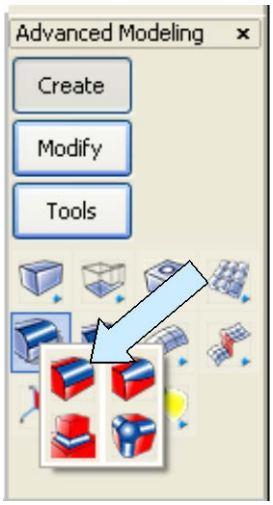
Your screen should look like this:

Next, click on the EXTRUDE Icon.
A Dialog Box appears.



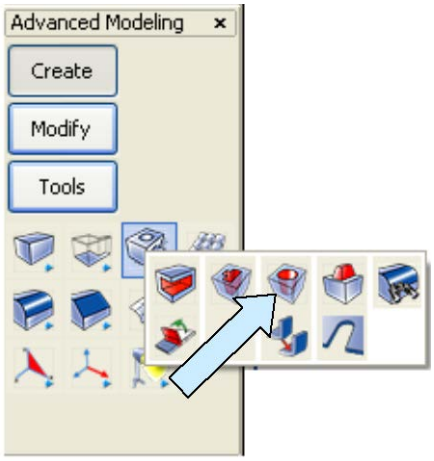
Type 1.5 for the Length, click on the MidPlane Option, and hit the ENTER Key.
Now, select the second, rectangular profile and hit the ENTER Key.

Your screen should look like this:



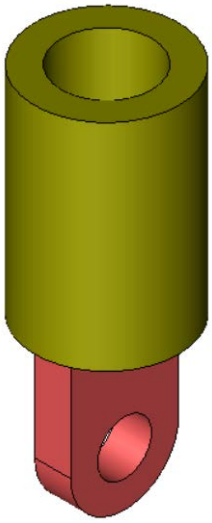
Click on the CONSTANT RADIUS BLEND Icon.
A Dialog Box appears.

Type 0.75 for the radius and hit the ENTER Key.
Click on the two short, bottom edges of the block solid and hit the ENTER Key.



Next, click on the DRILL Icon.
A Dialog Box appears.

Type 0.75 for the Diameter, select the Through Hole Option, and hit the ENTER Key.



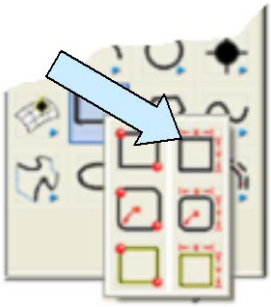
Click on the right side face of the rectangular solid.
Then, using the CtrMid Option, click on the bottom, curved edge to locate the hole.

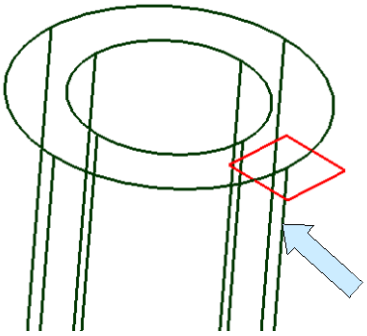
Your screen should now look like this:

Making the six slots on the outside of the hub is easy.
We'll start by clicking on the CONSTRUCTION PLANE Icon.
Type 1 for the construction plane to get a horizontal plane.

Next, click on the CREATE RECTANGLE BY WIDTH HEIGHT Icon. Use the MidCtr Anchor Option.

Type 0.5 for the Width and 0.5 for the Height.





Using the EndEnt Option, click on the top end of the outer tiebar located at the 3:00 O'Clock position on the outer cylindrical surface.

Click on the EXTRUDE Icon.
A Dialog Box appears.

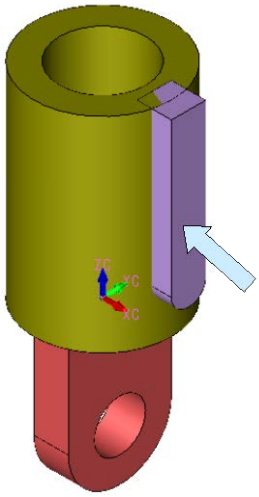
We do NOT want the Midplane Option checked.
Type 2.5 for the Length and hit the ENTER Key.

Select the small square that you just created and hit the ENTER Key.

Then, click on the downward-facing vector.

Click on the CONSTANT RADIUS BLEND Icon.
A Dialog Box appears.

Type 0.25 for the Radius and hit the ENTER Key.
Click on the bottom, front edge and bottom, rear edge and hit the ENTER Key.



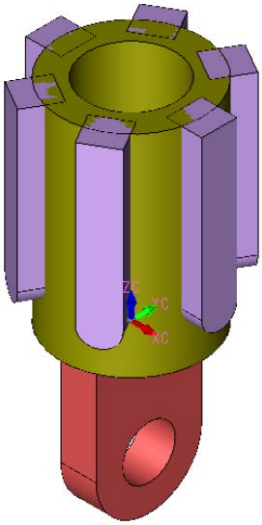
Your small solid should look like this:

Now, click on the XFORM ROTATE COPY Icon.

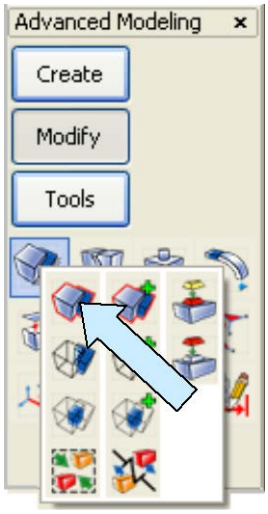
Select the small solid you just made and hit the ENTER Key. Type 5 for the Number of Copies.

Using the CtrMid Option, click on the top, circular edge and bottom, circular edge of the cylindrical solid.

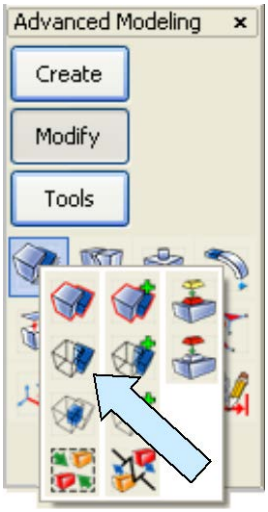
Type 60 for the Number of Degrees and hit the ENTER Key.



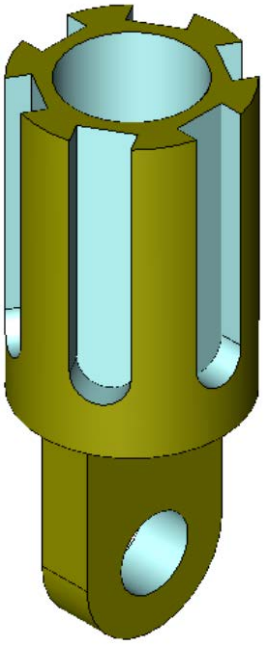
You will now have six identical solids spaced at 60 degrees around the cylindrical part. These solids represent the volume that would be removed by a 0.5 diameter endmill at each location.



First, click on the BOOLEAN UNION Icon.
Select the cylindrical solid and then the rounded, rectangular solid below it and hit the ENTER Key.



Then, click on the BOOLEAN DIFFERENCE Icon.

Select the large solid. Then, select the six small solids and hit the ENTER Key.

Your completed part should look like this: