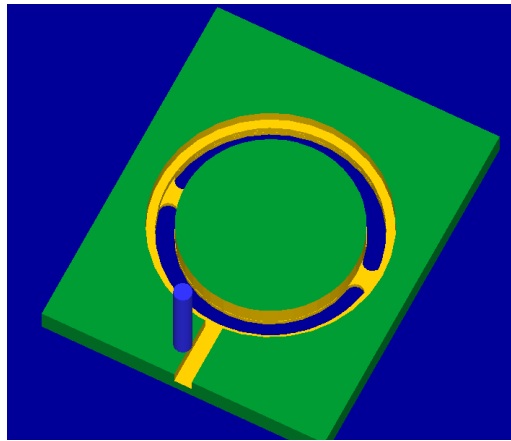
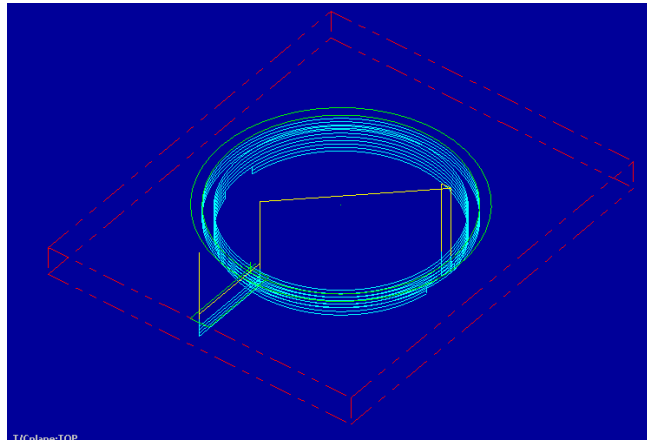
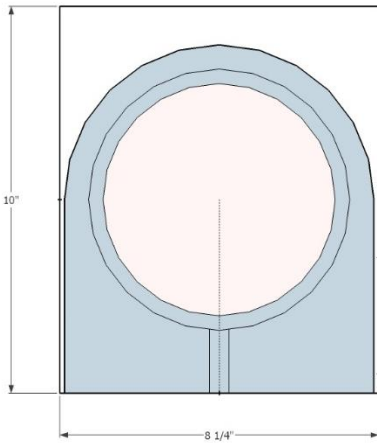
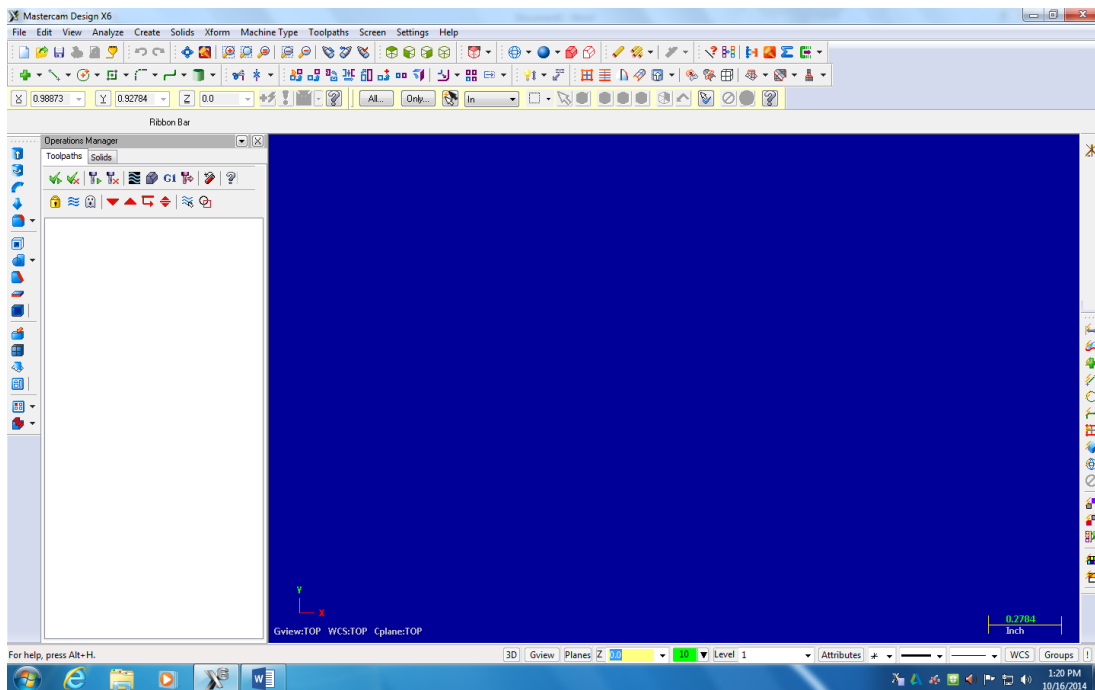


Kerf Bent Clock Front Geometry in MasterCAM

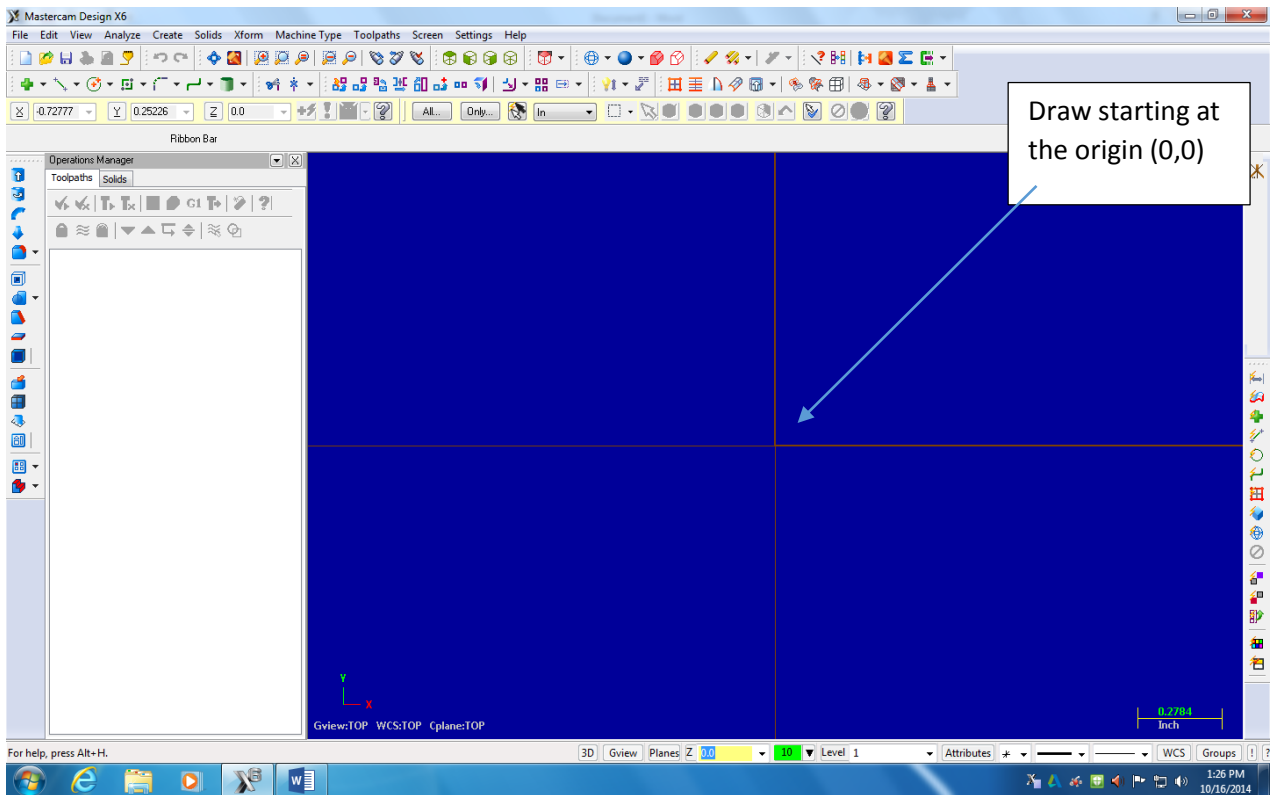


Open the MasterCAM application, it should look something like below.

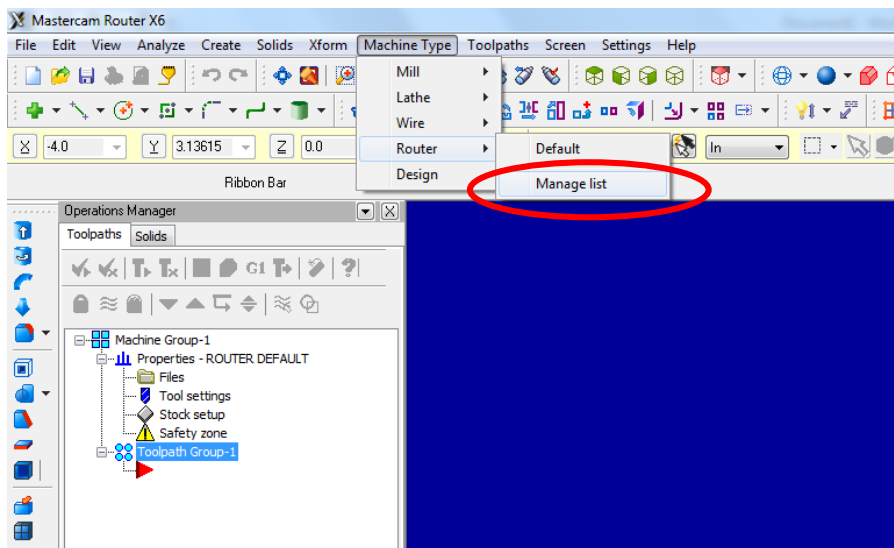


First thing is to figure out what you are making....Using the measurements from your plans, you will draw your geometry (geometry is a generic term for lines, arcs, etc. in a computer drawing program). This geometry must be drawn in the 1st quadrant of the coordinate system, so positive x and y. The placement of the geometry matters since we will later be cutting out the part using the CNC Router. The CNC Router uses the coordinates from where you draw the geometry.

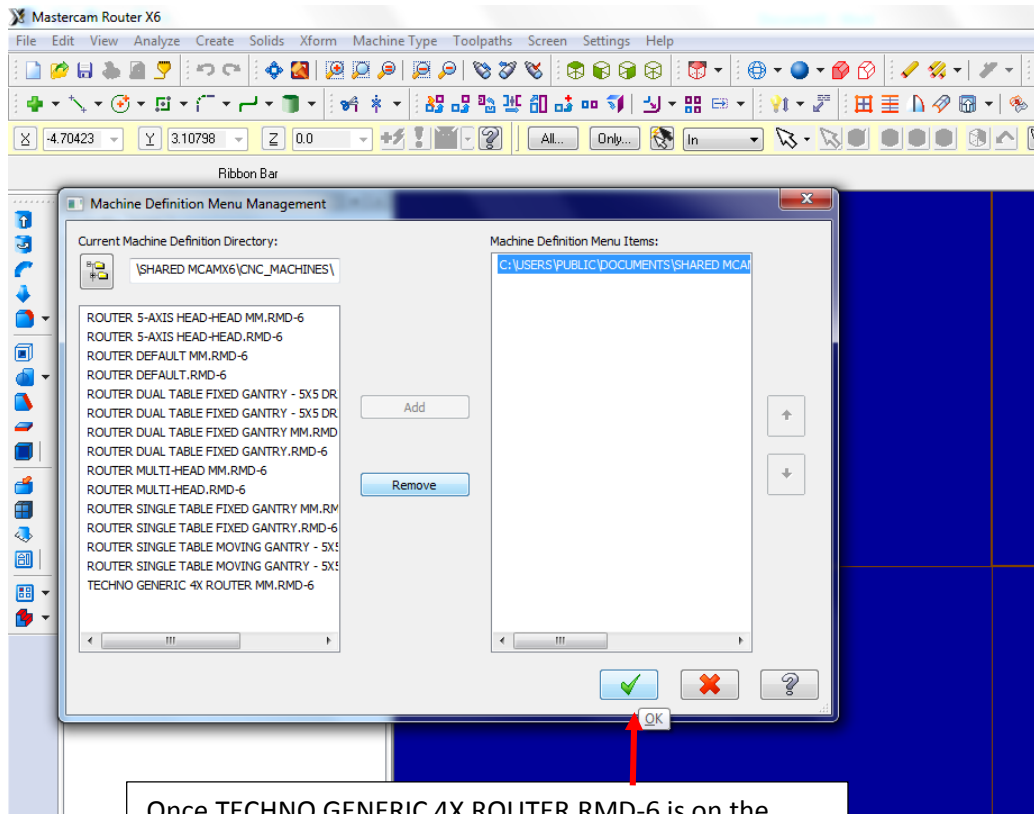
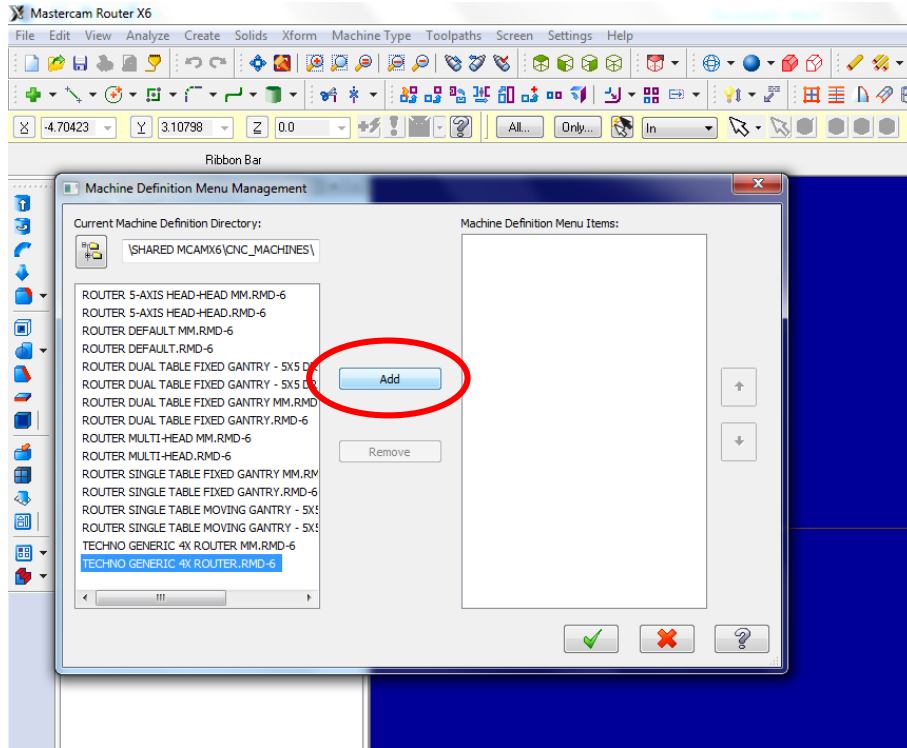
F9 will display the x/y axis such as:



To start a project, we need to set our specific CNC router and set up the stock sizes. MasterCAM can write NC code for different manufacturers of CNC equipment. Our router is a TechnoCNC 3 axis router. MasterCAM will write the correct type of code as long as we pick the correct machine definition. This is a critical first step, without the Techno machine definition, the CNC router will crash....litterly the tool bit will dive into the table top. **Goto Machine Type/Router/Manage list.**

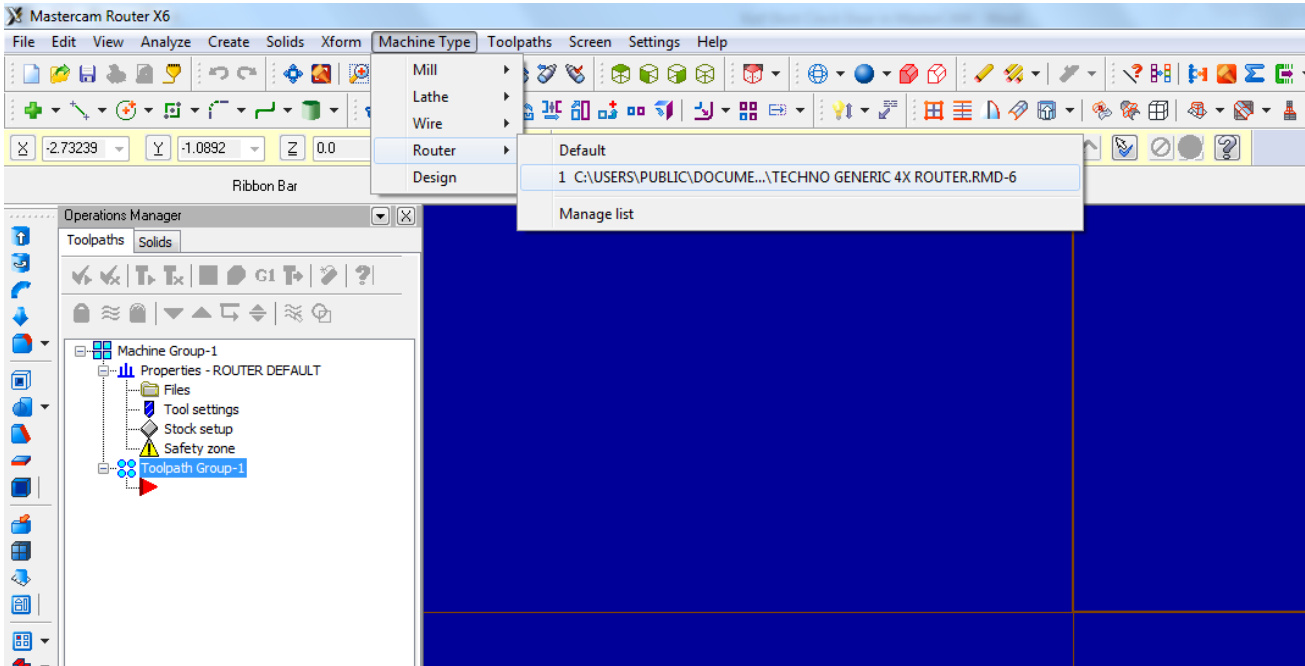


The menu below will open. The last machine definition in the list of the left should be: TECHNO GENERIC 4X ROUTER.RMD-6. Please click on the machine definition, then click ADD. This will put the machine definition in the list on the right.

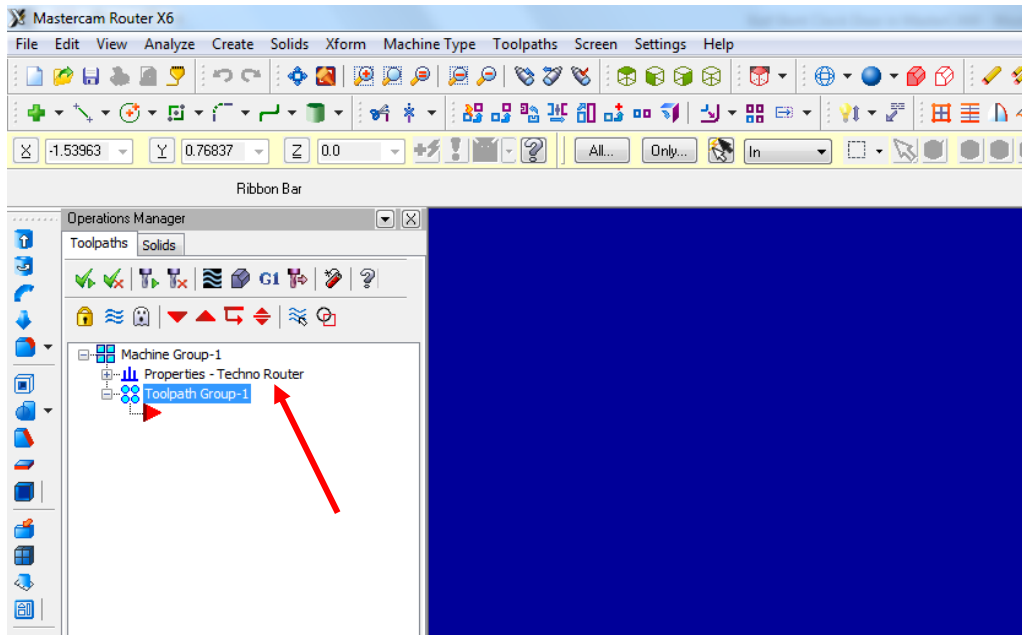


Once TECHNO GENERIC 4X ROUTER.RMD-6 is on the right list, click OK.

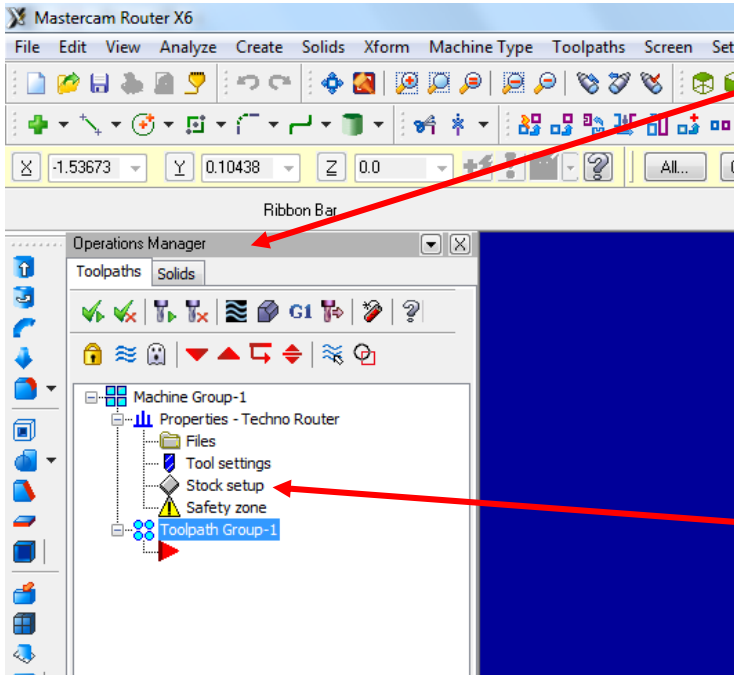
All we did was load the machine definition into the menu. Now go back to **Machine Type/Router**, and Pick the **TECHNO GENERIC 4X ROUTER.RMD-6** as our machine



The result: there should be one machine group that says techno router, if there is other Machine Groups, right-click and delete them.

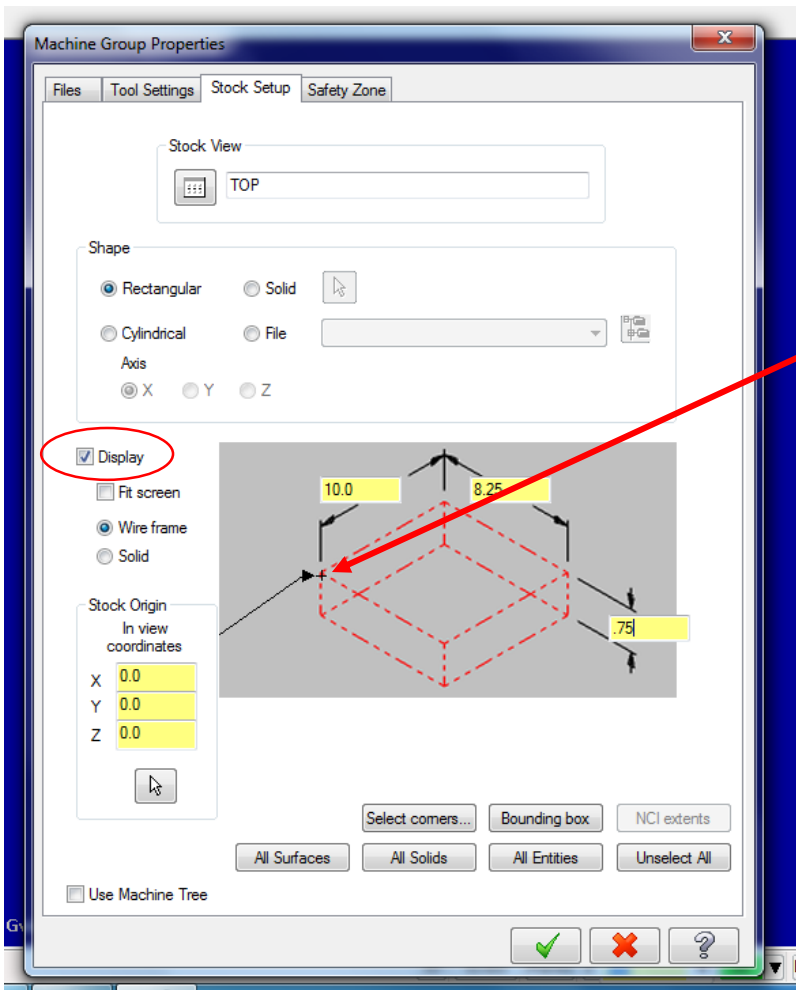


Stock Setup



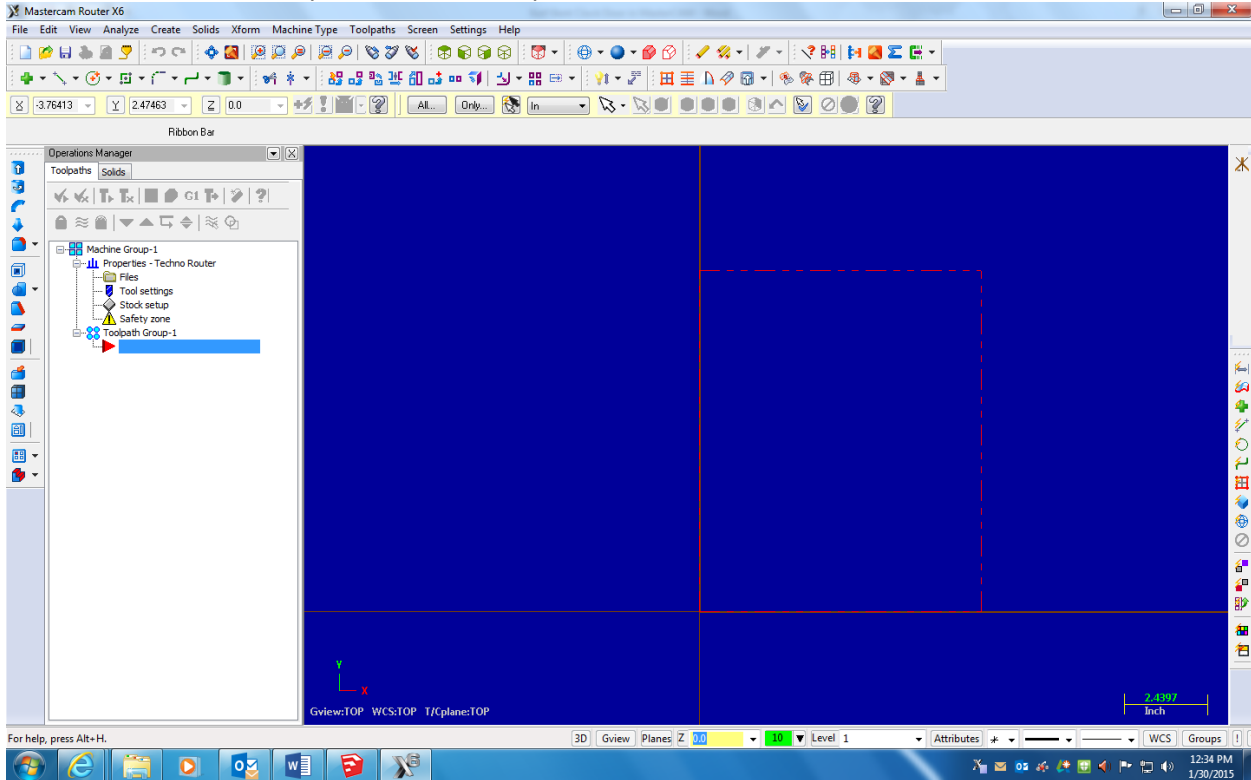
The Operations Manager is the tool palette that is docked on the left of the screen. This displays all the specific information about the tool paths (what the CNC router will cut).

Expand the properties tab in the operations manager. Then click on stock setup.



Setup the stock:
Enter the measurements
10 for x
8.25 for y
.75 for z
Set the stock origin by clicking on this corner.
Check "Display"
Click the Green Check Mark (OK)

After you click ok in the stock setup, you should see a red dashed rectangle that represents your stock. Zoom in or out so that you see the whole piece.

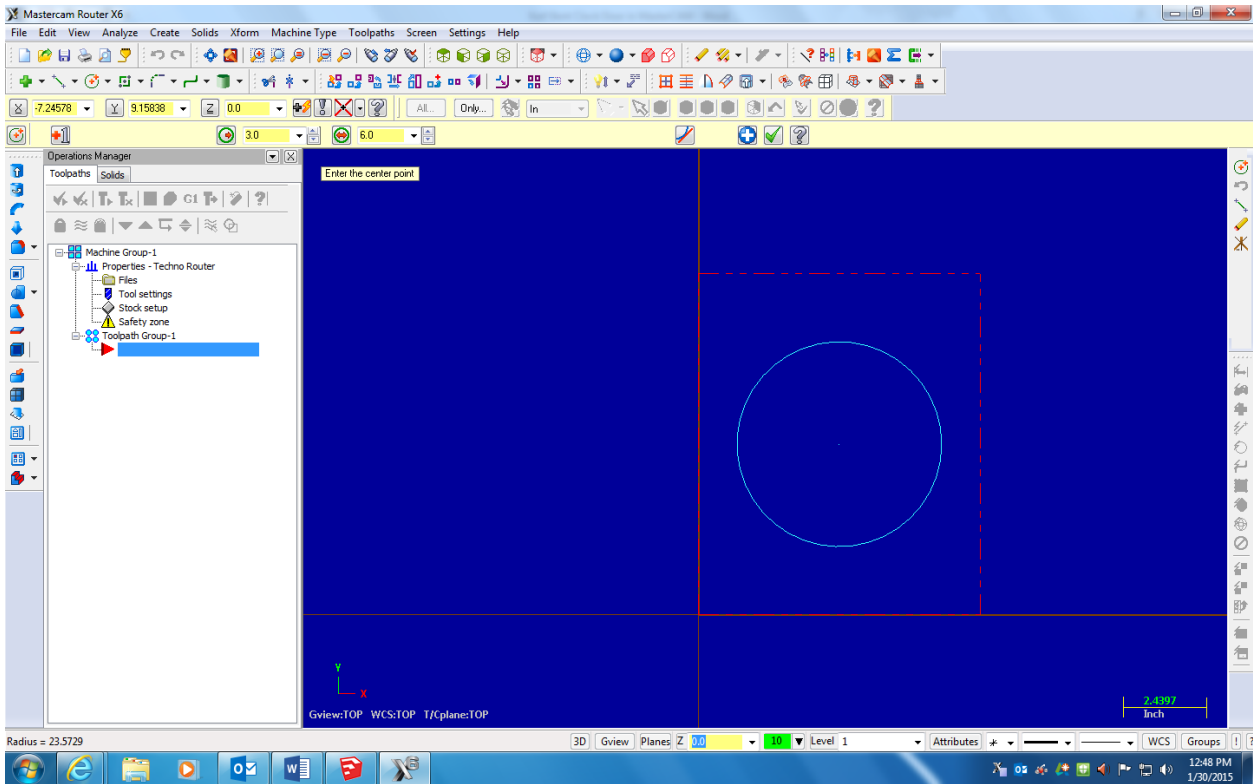


Entering Geometry

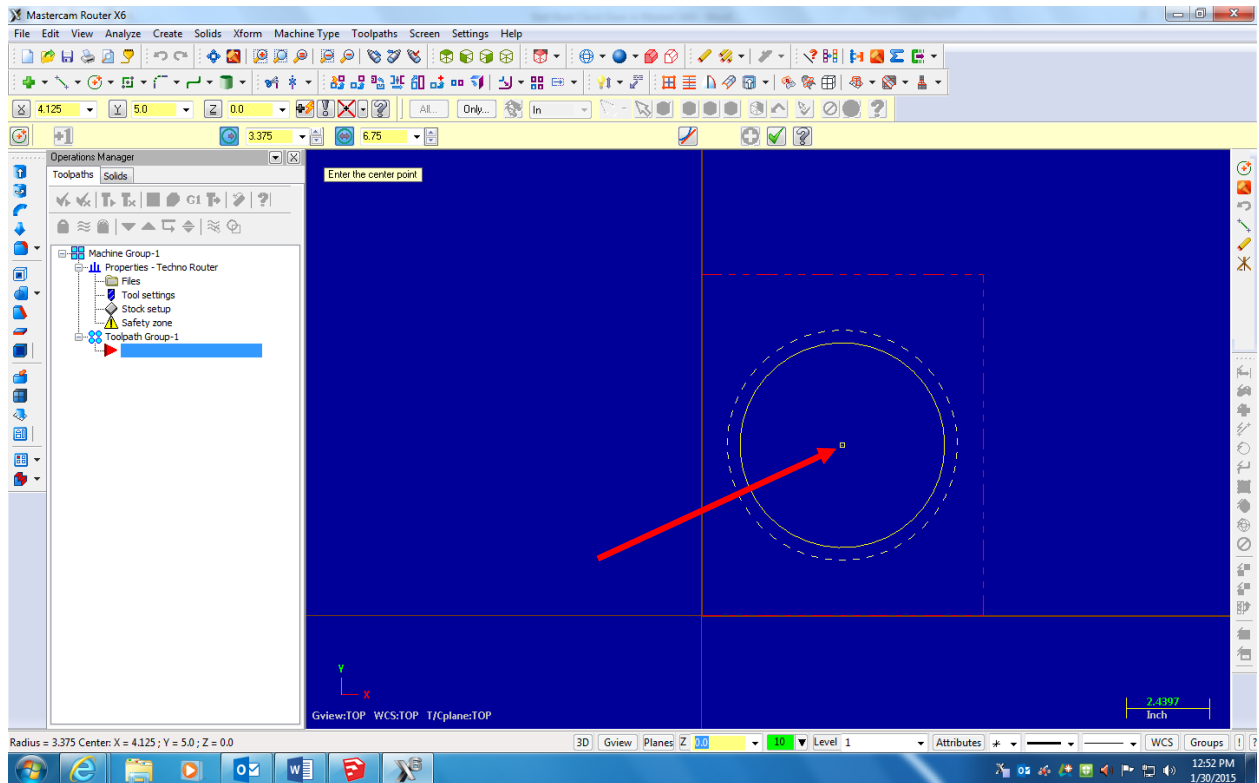
It's time to start drawing some geometry, we can start with the circle cut out and rabbit that will hold the glass. We are going to cut on the back of the clock door. Click on the circle tool. Once inside the tool, you can enter the coordinates for the center and the diameter of the circle. MasterCAM prompts you for what it wants first. Enter the center first. The center is (4.125,5) enter those values in X and Y. Then enter the diameter of 6. To enter your values and draw the circle, hit enter. To get out of the circle tool, click the green check mark.



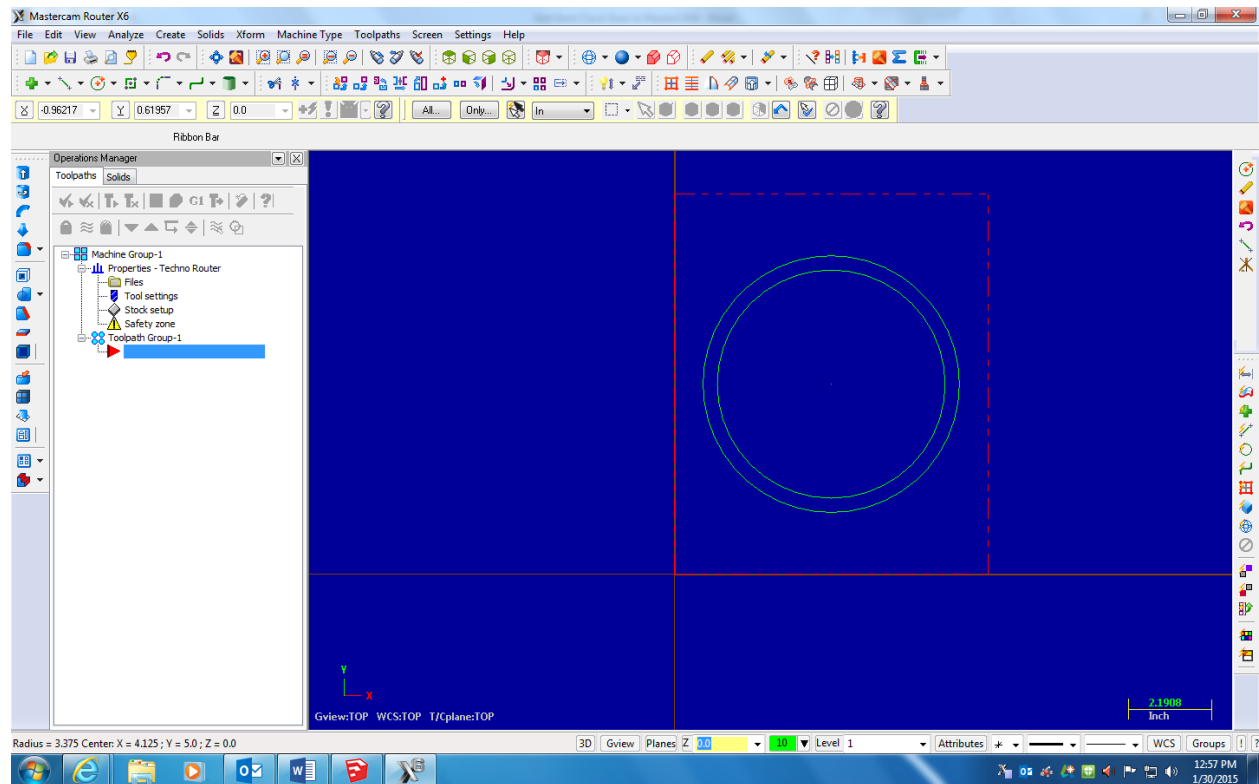
Result:



We want another circle that represents the edge of the rabbit. Go back to the circle tool and draw another circle with the same center point, and a diameter of 6.75. You can do this by entering 6.75 in the diameter field then go anchor the center of the new circle on the center of the old one.

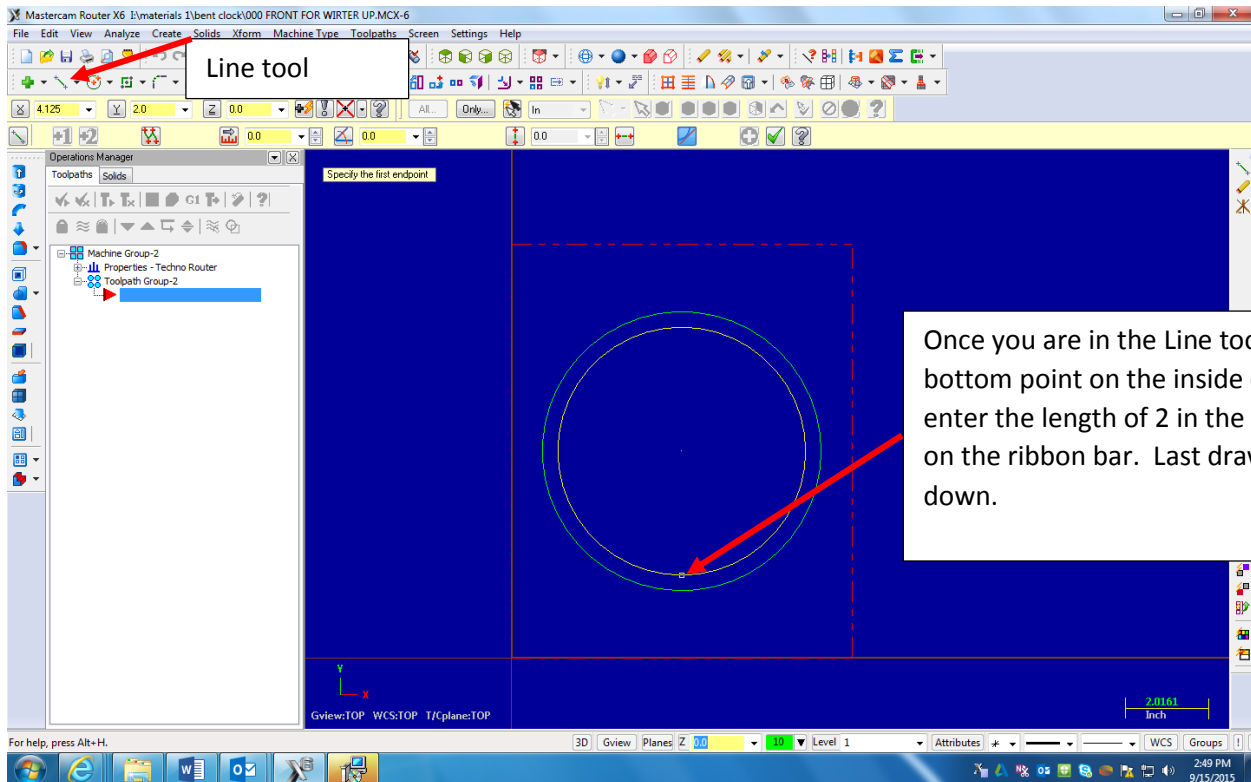


Result:

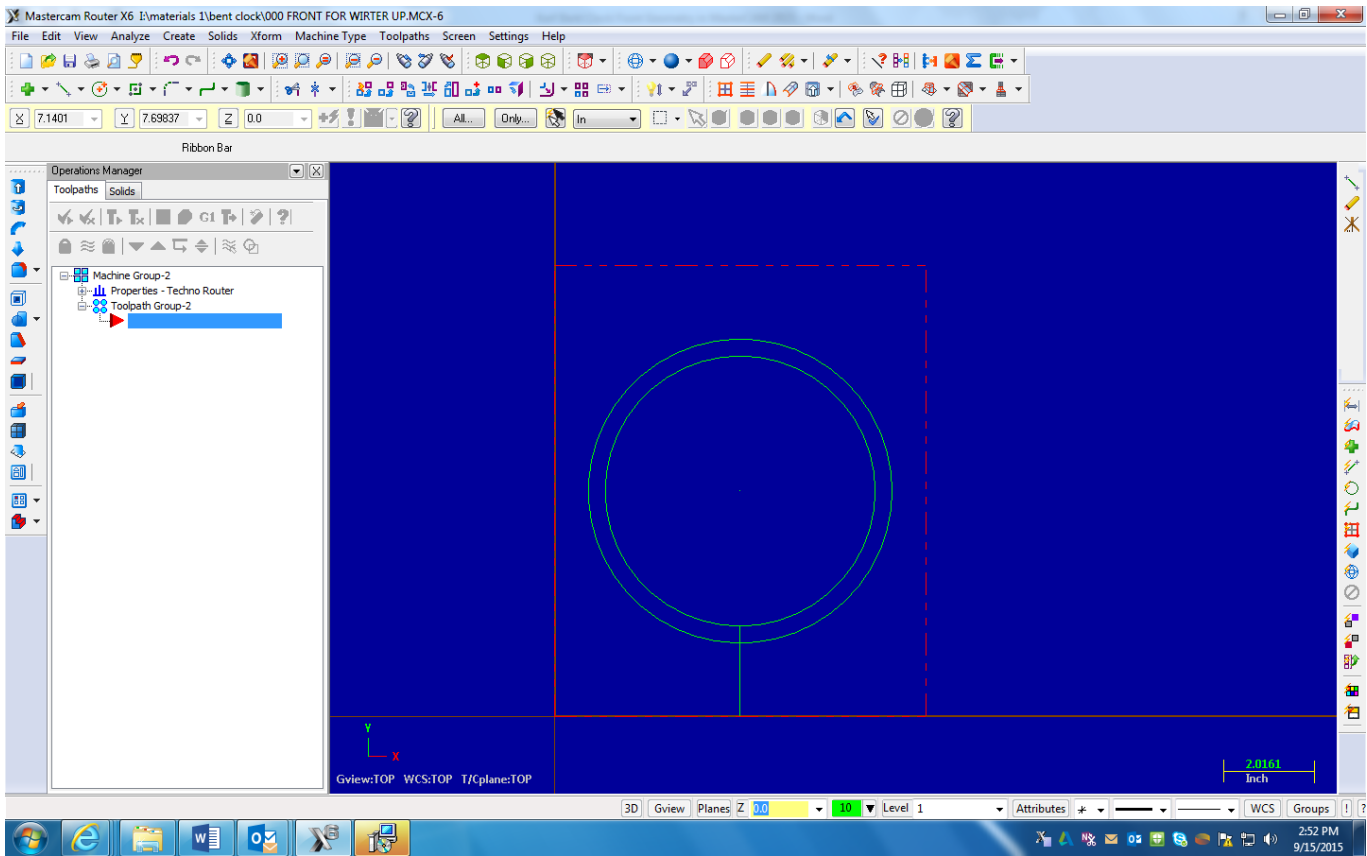


Plow for the clock movement:

The geometry for the clock front needs to include a plow to allow the clock movement to be inserted into the case. All we need to include in the drawing is a line. We will later add a toolpath over the line to let the cutter cut a plow on that path. The line starts at the bottom of the inside circle and is drawn down 2 inches.



Result:



Congratulations, you drew all the geometry you need for the clock front. **Please show Mr. Marmor so he can sign off on your completion of the process.** The clock front toolpaths information will help you complete the toolpaths.