

Create the DXF, above pic shows the profile. Note the following:

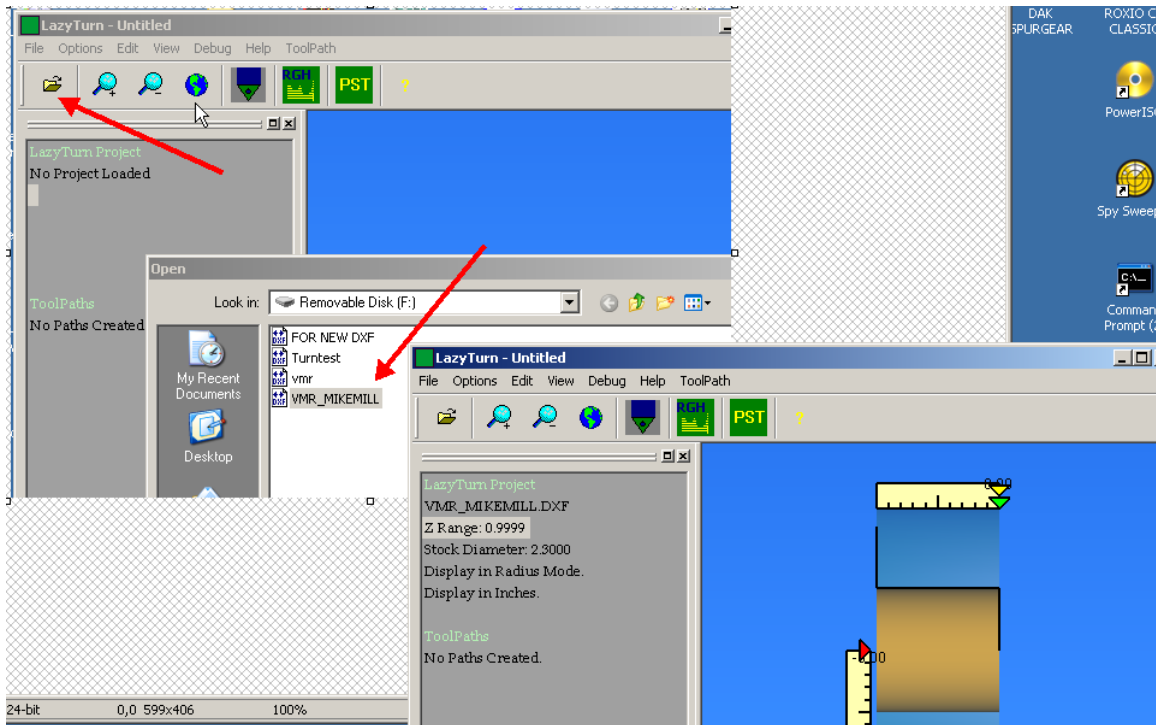
- A vertical line provided from 0,0,0, ( that's where I like to always start)
- Note that for lazyturn you don't need the vertical line but is required for Lazycam turn , so 1. below applies
- the profile is in the +y -x quadrant
- here is some tips / rules on the profile which may be of value "currently",  
From post # 474 in the LAZYTURNT thread :

#### LAZYTURNT IMPORT OF DXF FILES - CAD DRAWING ERRORS

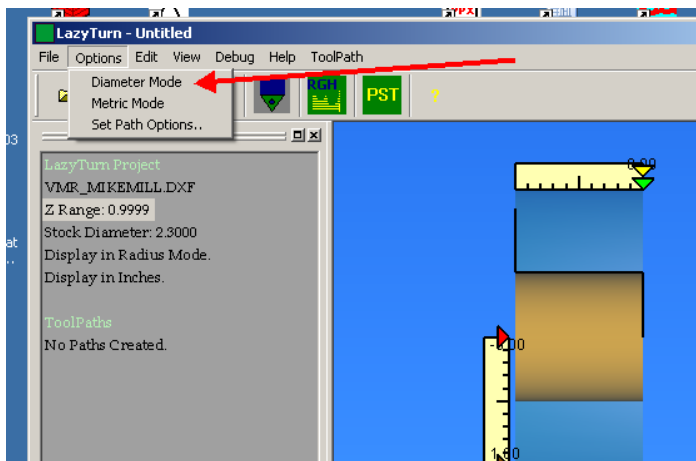
- 1.A vertical line going up or down at the end of the profile is accepted but not required.
- 2.Additional elements ie; multiple lines / one drawn under the other will cause an error " self intersection in master file" and no rendered graphics will be displayed.
- 3.Lines vertical or parrallel not connected to the profile ( even as close as .0001") are ignored.
- 4.A vertical line touching the profile will cause part of the profile to be ignored. The part ignored is to the right of the line. If the line doesn't touch the profile then the line is ignored.
- 5.Two vertical lines touching the profile will cause rejection of profile to the left of the lines and acceptance of the profile to the right of the two lines. I didn't check to see what happens as the gap between the two vertical lines is increased to some value.
- 6.A break in the profile continuity on a straight horizontal line from .001" to about .11" still provides for a rendered image. With the break exceeding .11" to .2" it acts as a break in the profile and the left side of the profile is accepted / is the beginning of the rendered profile.
7. Space between intersecting circles .001" to .1" still allows for a rendered graohic but a horizontal line is created to complete the profile. Greater than .1" and the left side of the profile is created as if it was the start of the profile at zero.
- 8.LazyTurn will reject lines in the lower half of the profile ( similar to 3 above ) including lines drawn through the profile, but, no negative y values are allowed, and if they exist you will get an error message telling you so.
- 9.When partial circles ( arcs not touching / terminating at a common tangent point) overlap, the amount of overlap modifies the profile similar to #7 above. Starting at an overlap tail of approx .050" only a partial rendered profile will be produced. Note that #7 to #9 are for circles which would follow some basic shape formula, thus a continous profile can be generated. This may not be the case for a non basic shape / non generic math formula.

- save the profile as a version 12 dxf ( other versions work but 12 seems to be most consistant)

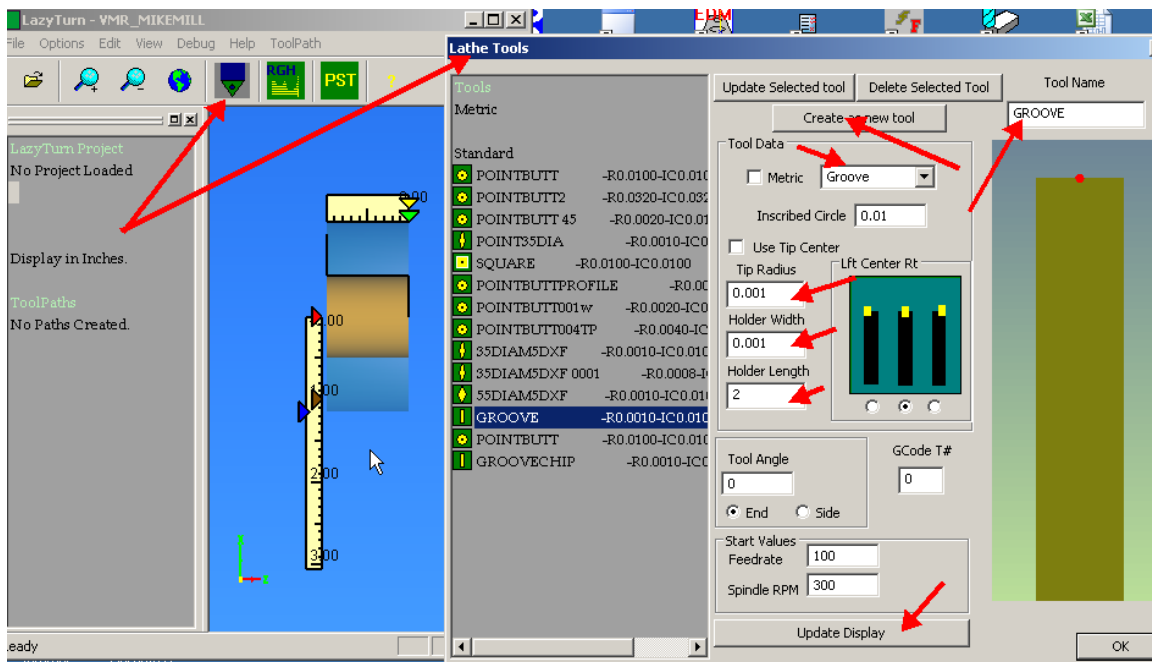
Open / import the dxf file into lazyturn



Note that I the import is done in radius mode and that the profile was also drawn in radius . Don't work in different modes as copying and pasting code from different applications will become confusing.



The following use of tools is only a highlight to get you going.

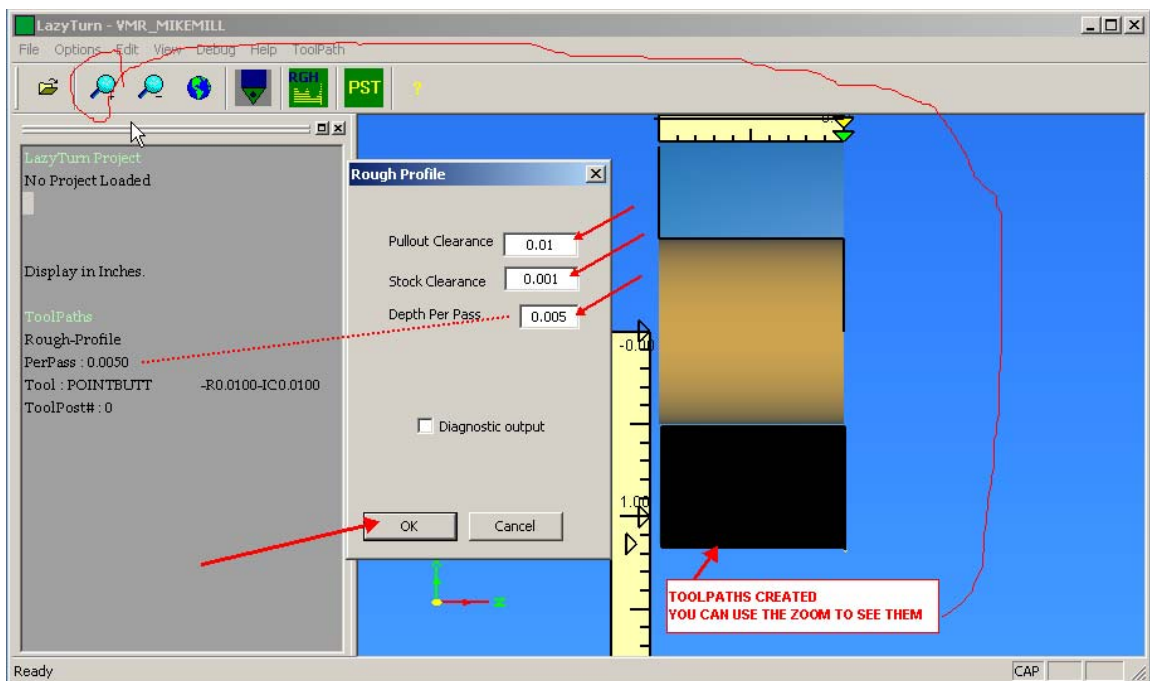


You need to define a tool

- select tool and in the window create a tool, as you can see I have a number of tools created, the tool should be practical and relevant to what you are going to use
- in this example GROOVE is selected from the tool data pulldown menu then different Values for the tool are input , you can update the display ( which is still being enhanced at this time), give it a name in the tool name box, click create new tool and then click ok

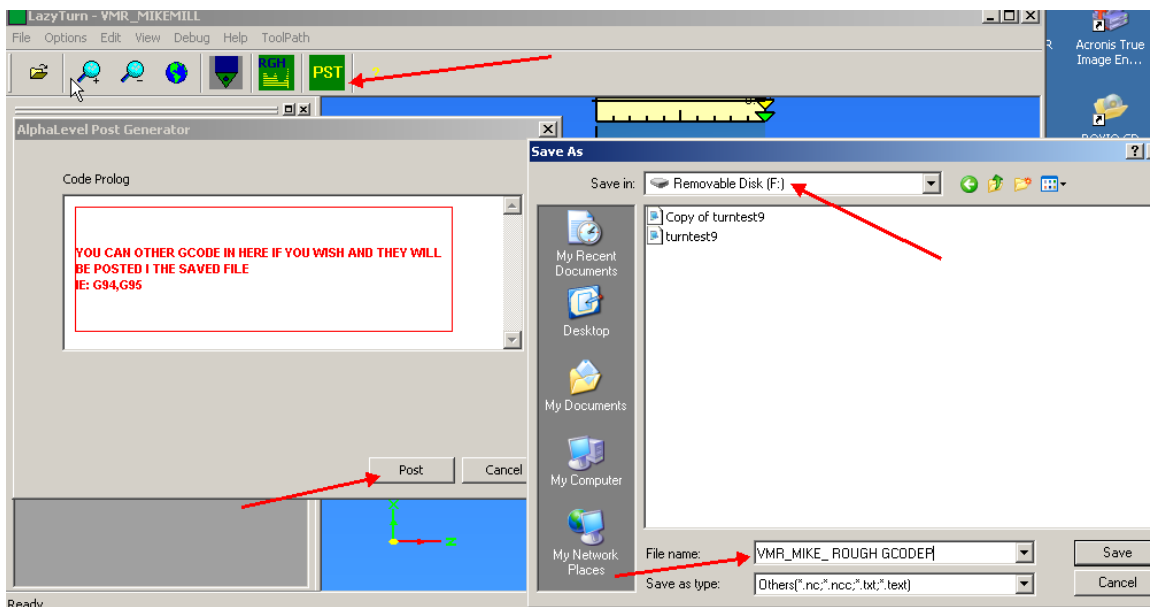
So at this point you have imported a usable dxf file, ( yes you can define the billet / stock size and offsets- but hey, I don't type to fast nor accurately so that's all on that), created a tool, and now you need to create the rough cuts ( additional cuts will be available as it develops),

Import file, create tool / use an existing tool, create toolpaths, post code. EASY



To create rough's just click the RGH box at the top ( I didn't point to it ),  
 Input what is appropriate for your tool / cutting and click ok.  
 Lazyturn will now create the rough paths and if small you can always use the + zoom tool  
 to see them. EASY

Now all you have to do is post the code to the directory of your choice.



Click the PST box, in this case I chose to save it as a txt file, gave it a name , and selected where I wanted it to be saved. Note the comments in the Code Prolog box .

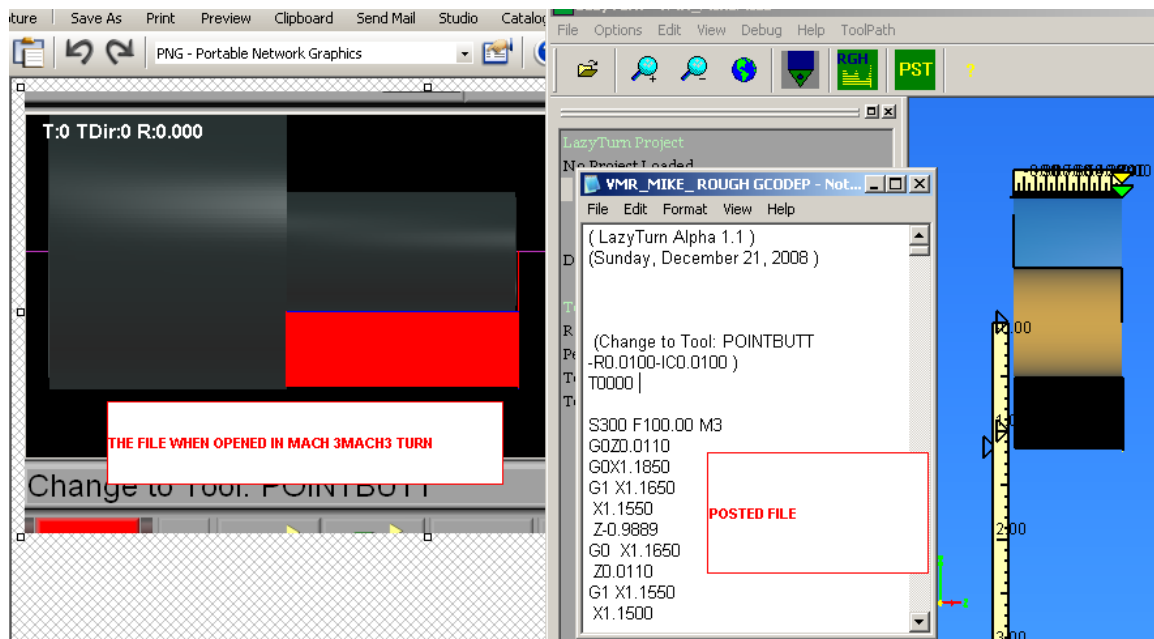
Lets recap;

- 1.Created a dxf file
- 2.imported the file into lazyturn
3. Need to select a tool ( or create one )
- 4.created the rough tool paths
5. saved the toolpaths
6. Opened the gcode in mach

This is a quick tutorial to get you started.

Have fun

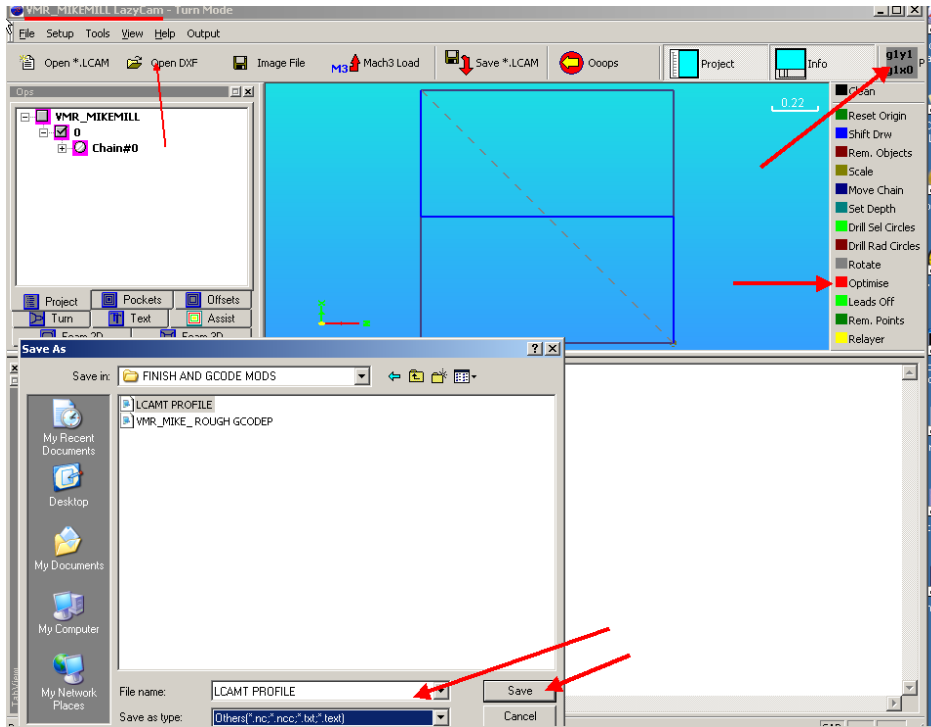
RICH



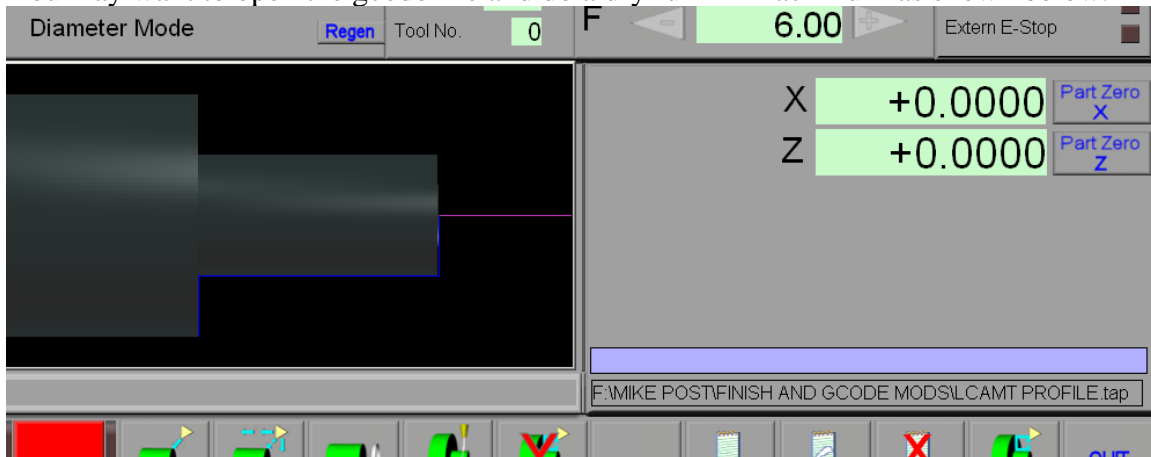
## USING LAZYCAM TURN TO PROVIDE THE PROFILE GCODE

Open LazyCam Turn, and import the same file that you used to create the rough paths in Lazyturn. At the pop up screen ( **NOT SHOWN BELOW** ) just click **TURN**.

Now click **OPTIMISE** , click the **POST** box, name and select where you want to save the file. That's all there is to getting the profile gcode out of LazyCam Turn.



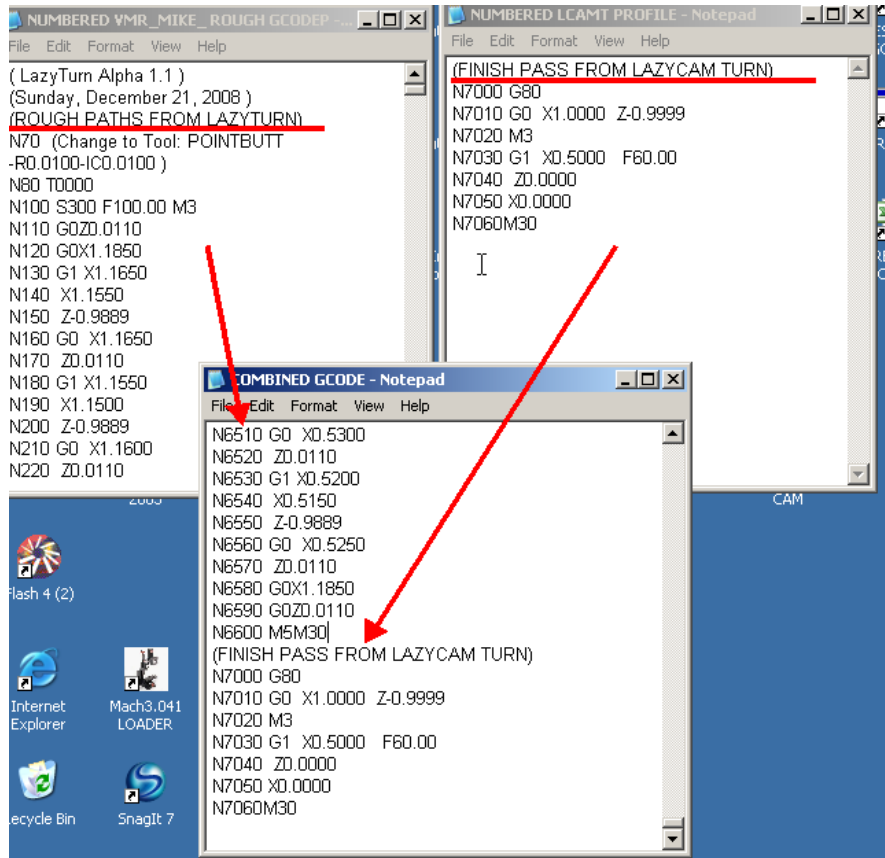
You may want to open the gcode file and do a dry run in Mach Turn as shown below.



## CREATING A COMBINED GCODE FILE

Here is a way to create a combined code for turning.

I have number the lines before combining them, adding a reference remark to each of the original files. Just copy the finish profile code to the end of the roughing code into another file if you wish.



You will need to modify the code. Here is a screen shot in Mach before modifying it:



Here are a few comments for you to consider before you modify the code.

We combined the code, but maybe you only want to do rough cuts and see how things measure up and use the finish pass once or a number of times by tweaking where you actually / physical start from. So practically speaking you didn't even need to combine the code. Depends on what you want to do, how accurate your lathe system is, or maybe this is a one shot turn. How you want to machine something. Can't restore removed metal.

You need to pay attention to where the roughs finished and where the finish code is starting and modify as necessary. Also look for M codes like M30 which would cause the program to rewind and never get to the finish pass code. And if it's a more complex code out of LazyCam Turn watch out for a x-z rapid as highlighted in the manual.

Have fun,

RICH

Modified code attached for example.