

BBCNC,

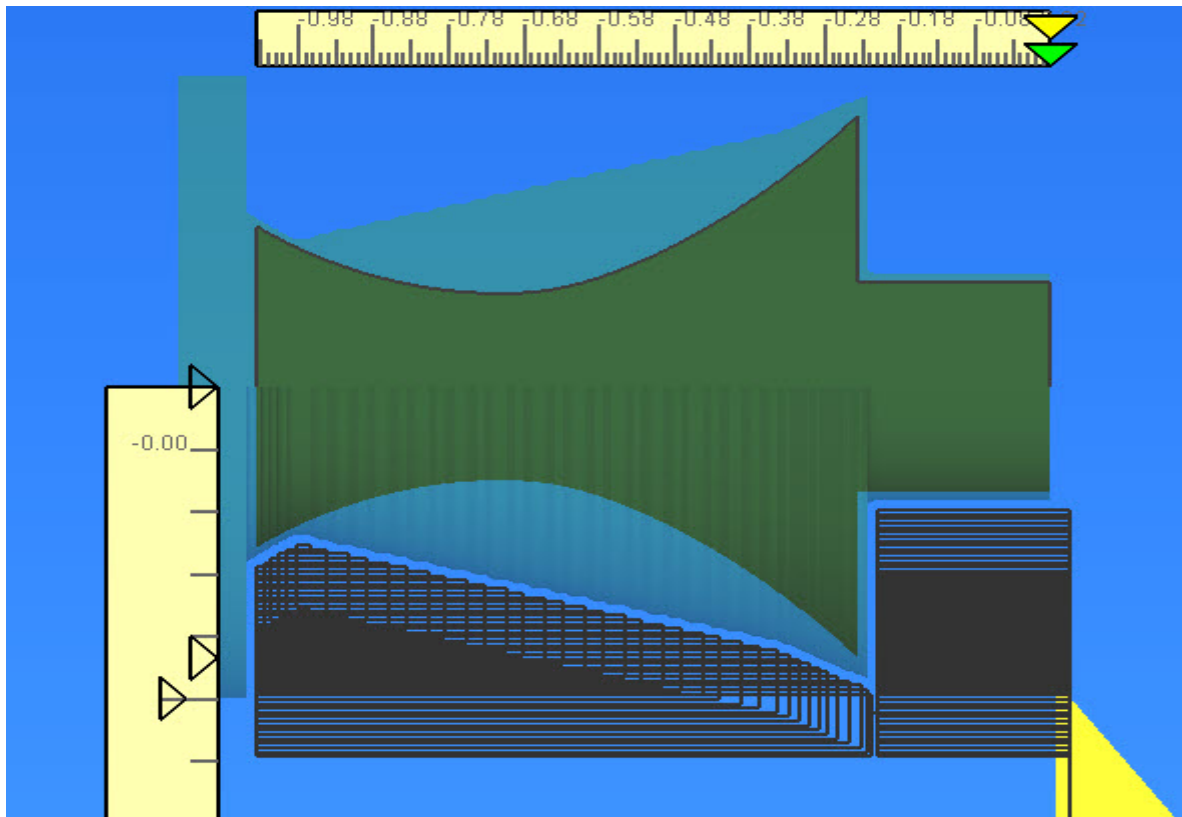
I assumed that your drawing represented radius dimensions in inches.
It is important that you draw, import , and post, with Mach lathe all in the same modes.
I also like to have the end of the profile start at 0,0,0, thus I extended the drawing to Z0.
I created Tool 1 and 3 in Lazyturn based on your posted information.
Here is how I used the tools in Lazyturn:

PASS#1 - ROUGH PROFILE – Tool 1

PULLOUT: 0.1

STOCK CLEARANCE: 0.10 (wanted to leave some stock to remove with finish profile)

DEPTH: 0.007 (less than max cut depth for the tool)



ROUGH PROFILE

There is a lot of material to remove in the arc section so I did a finish pass to remove the bulk of it allowing stock clearance to make a another finish pass and using a deeper and roughly equal depth of cut .

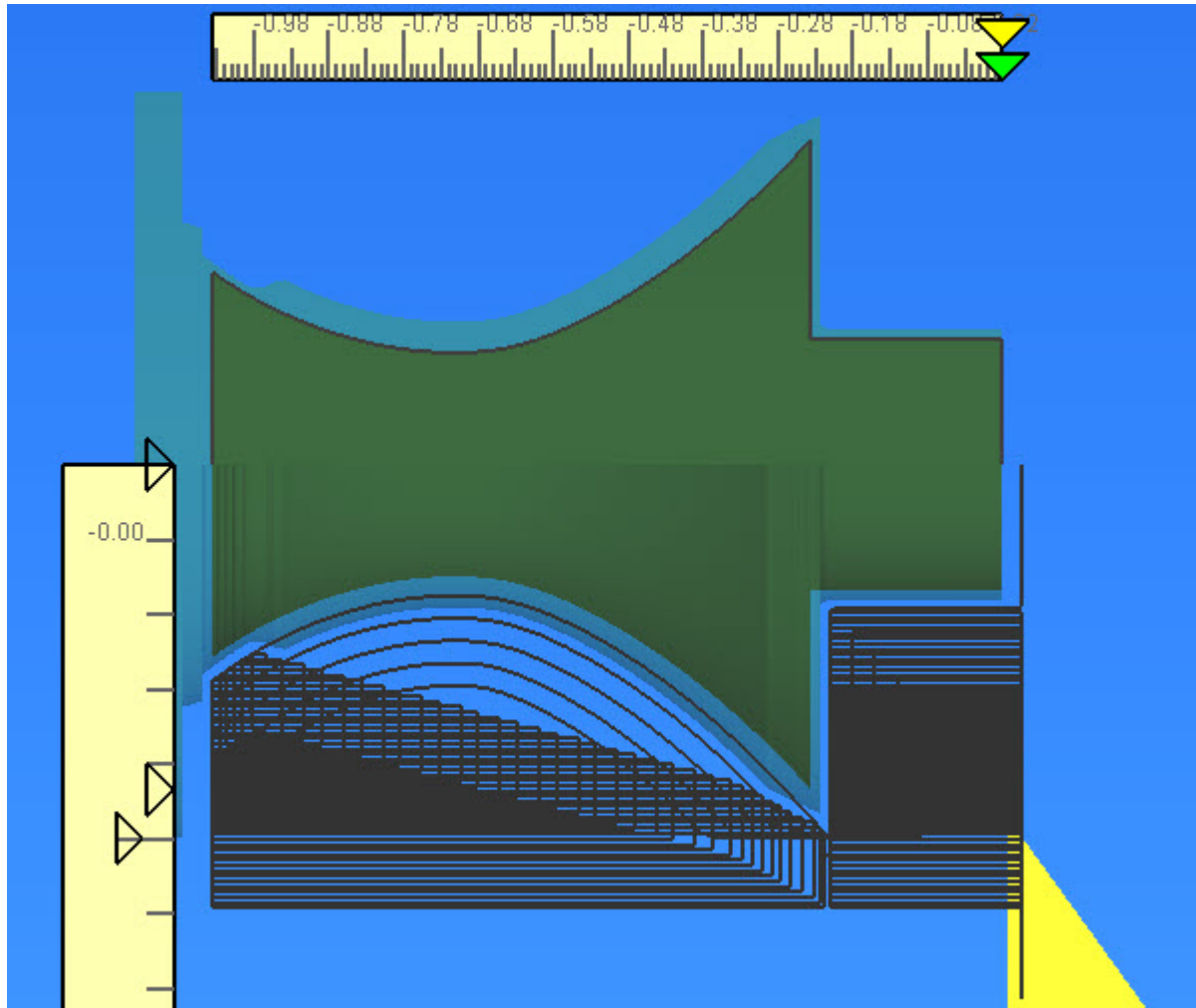
PASS#2 - FINISH PROFILE – Tool 3

CLEARANCE: 0.010 (wanted to leave some stock to remove with another finish profile)

FINAL PASS: 0.001 (wanted a smooth finish)

PER PASS: 0.030 (approx equal and min cuts to remove the material)

TOLERANCE: 0.01



FINISH PROFILE

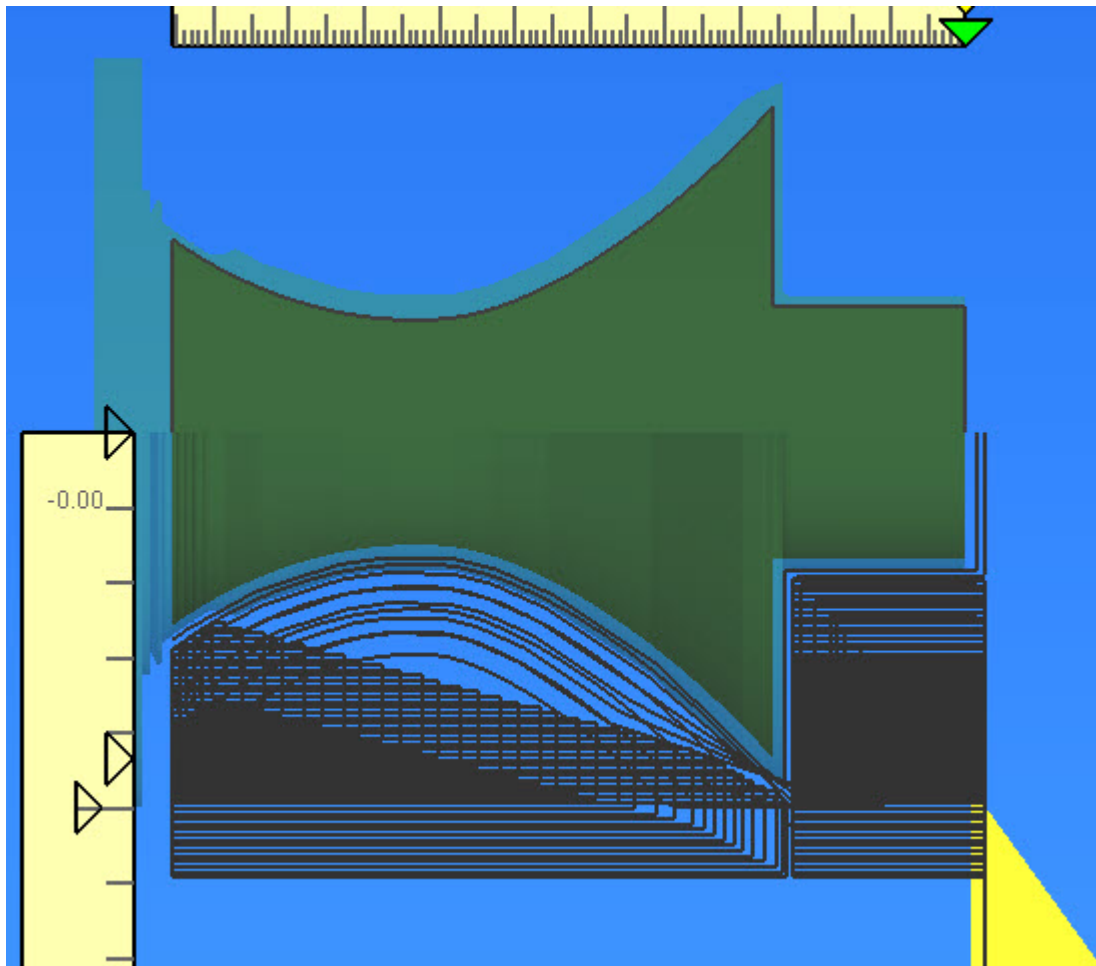
PASS#3 - FINISH PROFILE – Tool 3

CLEARANCE: 0.00 (no clearance since you want to remove all the stock...cold leave some material sanding / polishing)

FINAL PASS: 0.001 (wanted a smooth finish)

PER PASS: 0.002 (fine cuts and remember that I had left 0.010" for finishing)

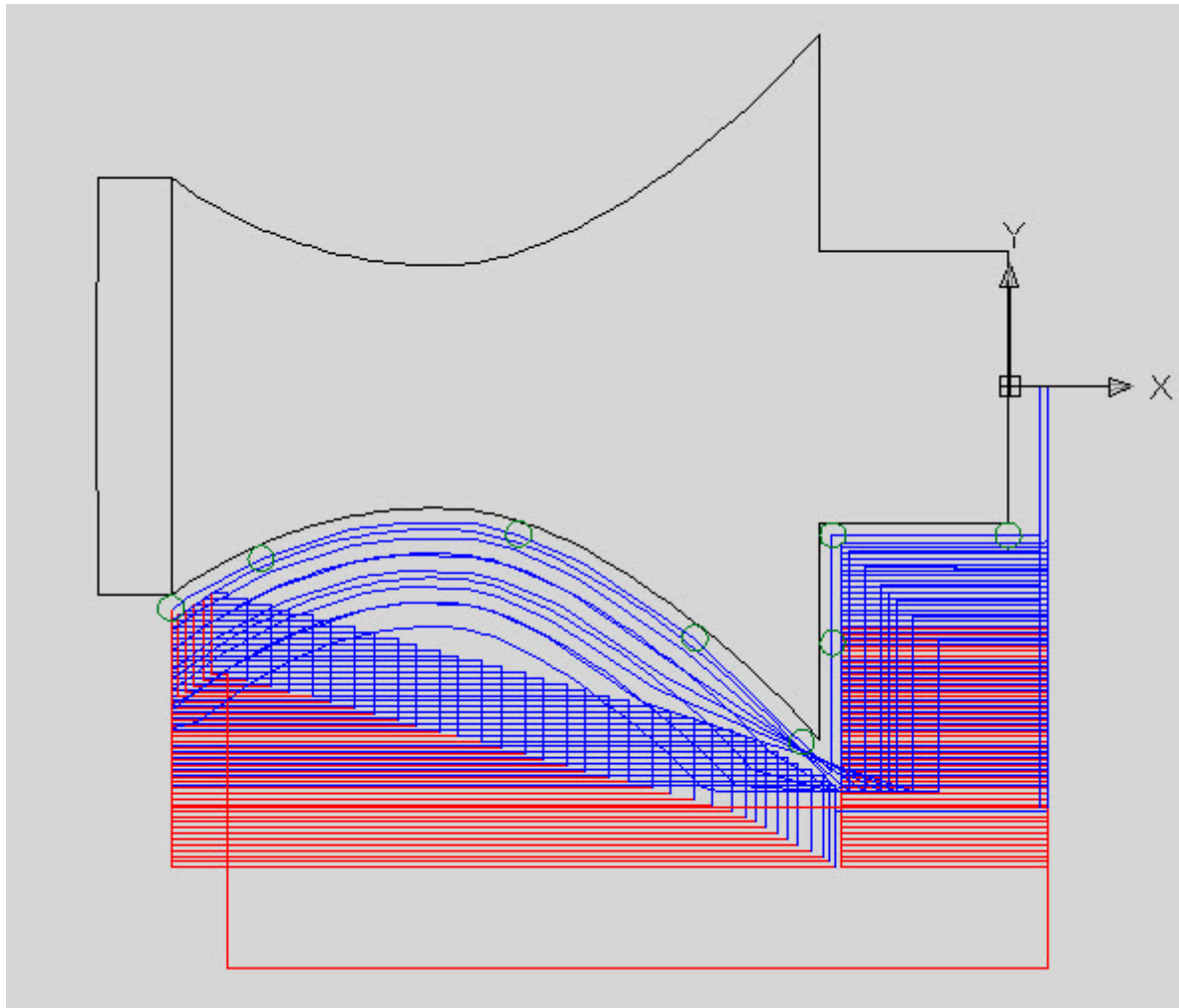
TOLERANCE: 0.001 (close tolerance so the tool follows the profile)



FINISH PROFILE

Note that in the graphics it looks like there is more material to be removed but actually that is not the case. You can simply pick a point on the path and place the current tool and see that it touches profile. **Remember that you defined the tool to use the tip radius!**

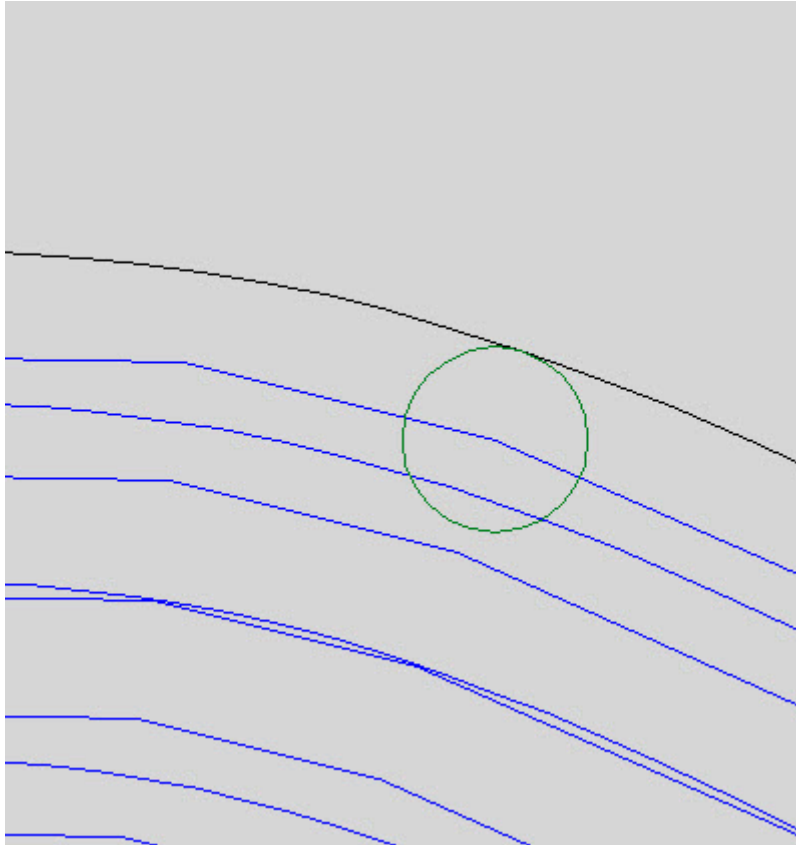
SO how well does the generated code follow the profile? I backplotted the Gcode into CAD and compared it to the profile.



BACKPLOT OF GCODE TO PROFILE

The small circles , in the backplot along the pathing portray the tool nose radius defined for Tool #3.

Below is a close up and there is no clearance between the tool cutting edge and the profile.
Or said another way, it is within the defined tolerance defined.



So have fun with LazyTurn, but do use good judgment in how you use it when creating the pathing.

AND

Can do things a lot of different ways using the profile inputs.....!

RICH