

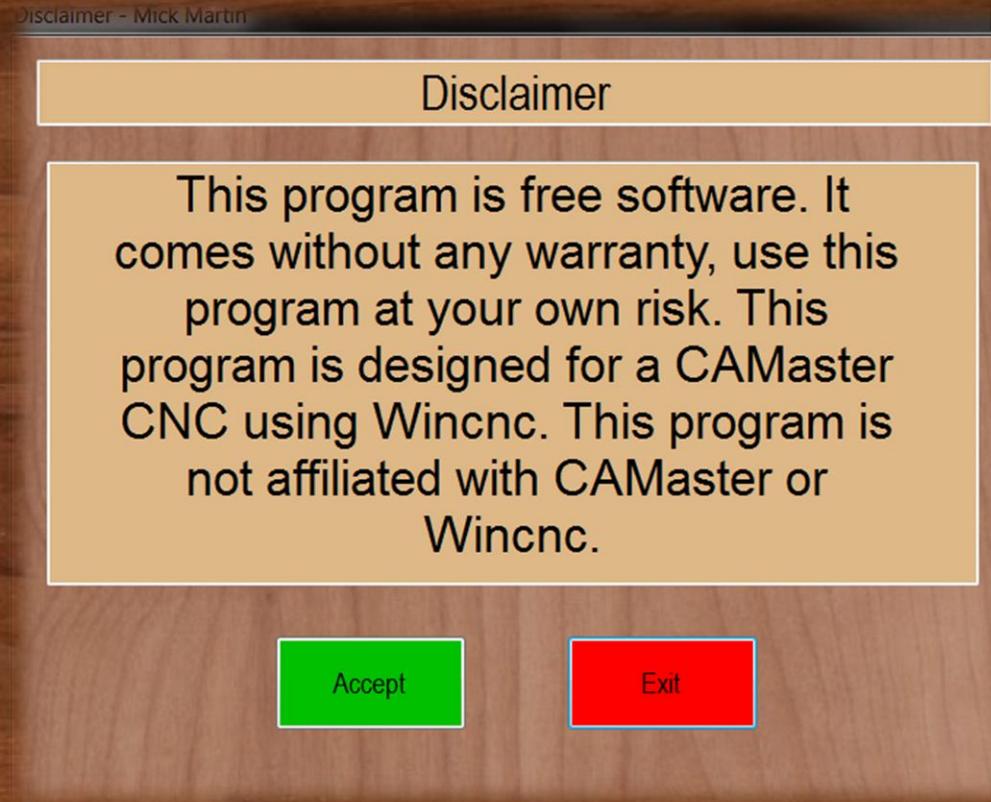
# Mick Martin Woodworking

## Turning Round Wizard

In this section I will explain what to enter into each field of the turning round wizard.

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## Turning Round Wizard



If you agree “Accept” or “Exit”

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Recoil Setup - Mick Martin

## Turning Round Wizard

Important setup information:

- Z0 is on the center line of the A axis
- X0 is top dead center of A axis
- Y0 is is a safe distance from the chuck / mounting plate

Accept

Exit

Basic setup - If you agree “Accept” or “Exit”

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Turning Round Wizard - Mick Martin

## Turning Round Wizard

Blank Height (H):

Blank Width (W):

Blank Length (L):

Distance from Chuck to X0Y0  Set X0Y0 (G92X0Y0) or Zero XY Button

Distance from X0Y0 to Start Position  SafeZ:

Project Length:  Actual project length

Project Final Diameter:

Router Bit Diameter:  Use a large endmill

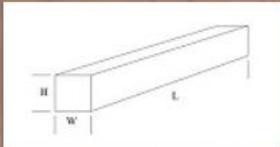
Spindle Speed

Rough depth of cut  
 0.125  0.25

Finishing pass  
 Yes  No

Router/spindle support auto on/off  
 Yes  No

Show setting in tap file  
 Yes  No





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Blank Height:

Enter the actual blank size (if it's a square then enter any side as the height).

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Blank Width:

Enter the actual blank size (if it's a square then enter any side as the width).

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Blank Length:

Enter the actual blank length size.

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Distance from Chuck to X0Y0:

Enter the distance from the chuck /  
faceplate where you will set X0Y0.

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Distance from X0Y0 to Start Position:

Enter the distance from X0Y0 to start of your turning round project.

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Project Length:

Enter the value of your project length

Note

Distance from chuck + project length must be less or equal to the blank length.

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Project Final Diameter:

Enter the value of your project diameter

Note

The final project diameter must be less than the blank width or blank height value (smallest value).

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Router Bit Diameter:

Enter the router bit diameter.

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Spindle Speed:

Select the spindle speed from the pull down menu.

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Rough Depth of Cut:

Select either 0.125 or 0.25 (default setting is 0.25).

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## Finishing Pass:

Select either **Yes** or **No** (default setting is **Yes**) the final finish pass if **selected** will be cut a 0.125 depth (even when 0.25 is selected) leaving a much smoother finish.

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Router/spindle support auto on/off:

If your CAMaster machine automatically turns on the spindle/router and the start of running a tap file then select Yes (default setting is Yes). Otherwise select No and the tap file will pause asking you to set the router speed and turn on the router.

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Show setting in Tap file:

If this button is check then all your settings will be visible in the tap file. This is handy if you often run the same file (Default setting is No).

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## Generate G-Code

When you are finished entering in all the information and you click the “Generate G-Code” button, you can enter a file name and select a location .

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This is a one time setup to find your exact lathe home position.

Here are detailed instructions on how I find the center of my “A” axis, these values are for my machine, calculate your own values.

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First let's find the center of the  
"A" axis with X.

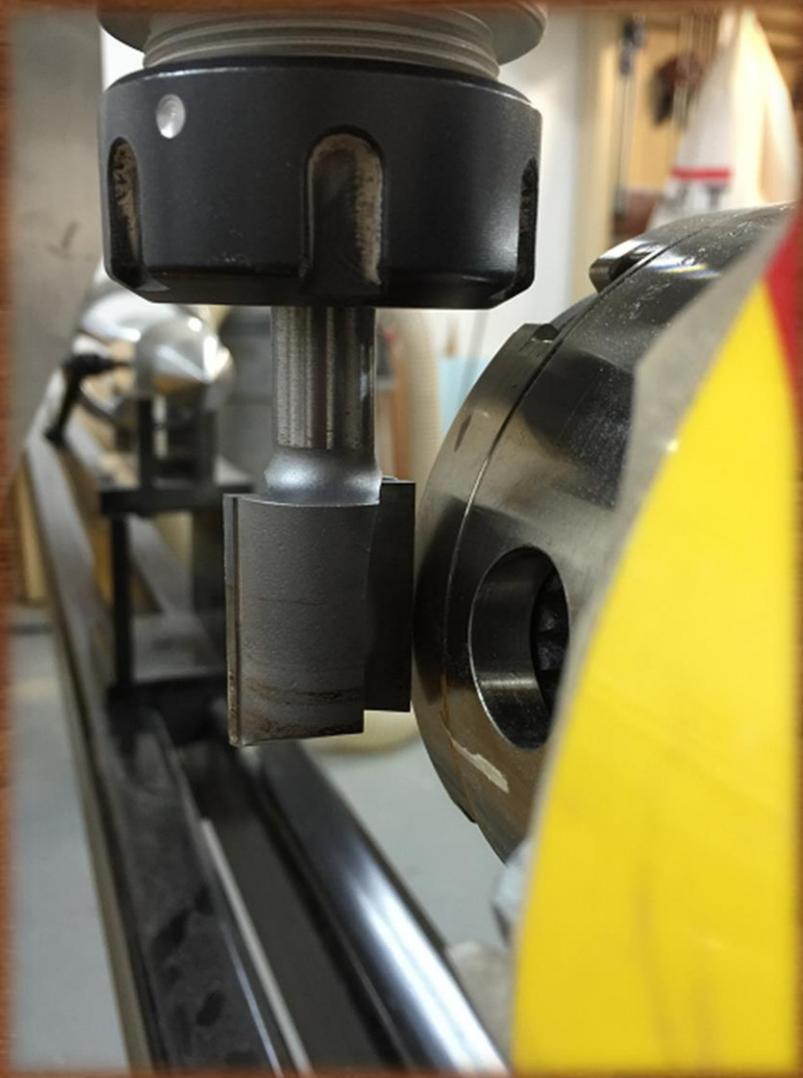
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Use a straight flute bit or a piece of machined rod then carefully touch the side of the chuck (use the increment buttons).

Looking from the front.

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Looking from the rear.

# Mick Martin Woodworking

Leave the bit or rod touching the chuck then jog down the “Y” axis till you are clear of the chuck.

Looking from the rear.



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In Wincnc type G91 X2.725 then press enter (X2.725 is half the diameter of the bit plus half the diameter of the chuck ... use your own values) this is an relative move from your current position of X2.727. You should now be on the center line of the "A" axis for "X".

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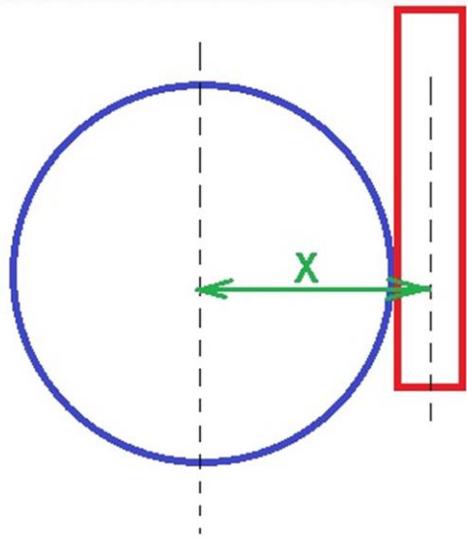
In Wincnc type G92X0 then press enter to set "X0" on the center line of the "A" axis.

Using the arrow keys in Wincnc jog in the "Y" axis only 1.5 to 2.00 away from the chuck then set Y0.

In Wincnc type G92Y0 then press enter to set "Y0" on the center line of the "A" axis.

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How to calculate X values to center of "A" axis



Chuck diameter = 4.450

Radius chuck = 2.225

Bit diameter = 1.000

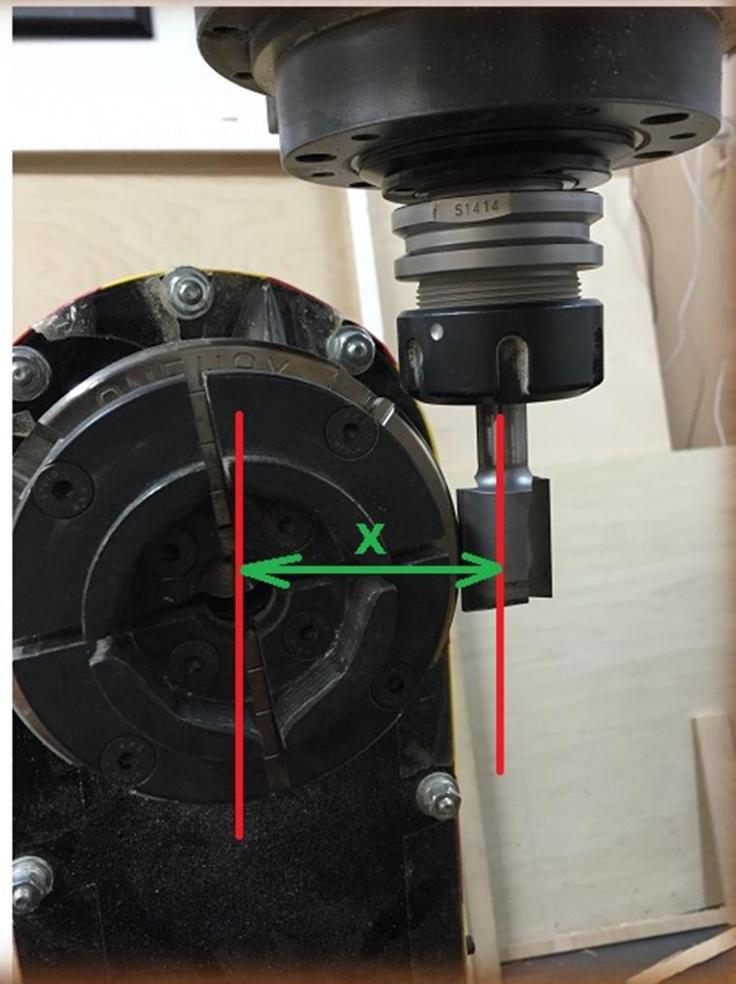
Radius bit = 0.500

Center line to center line =  $2.225 + 0.500$

$X = 2.725$

Jog down Y till you are free from the chuck

In Wincnc type G91 X2.725



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You should have set X0 on the center line of the “A” axis and set Y0 a safe distance from the face of the chuck / mounting plate.

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In Wincnc type G92 then press enter to clear the X and Y local coordinates. (Do not move the “X” or “Y” axis).

Read and note the machine coordinates values for X and Y by looking at the axis box values in Wincnc.

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Open the Lathe\_home macro in the macro folder.

G53Z0

**G53X67.806Y2.383**

G92X0Y0

I92

Edit only the **G53** line in the lathe\_home macro using your values from the Wincnc screen, save and close the lathe\_home macro.

In Wincnc type G92X0Y0 then press enter or click on the button Zero X0Y0 to save your current position.

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Now let's find the center of the  
"A" axis with Z.

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Use a straight flute bit or a piece of machined rod then carefully touch the top of the chuck (use the increment buttons).

Looking from the side.

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Looking from the side.

# Mick Martin Woodworking

Leave the bit rod touching the top of the chuck then jog down the “Y” axis till you are clear of the chuck.

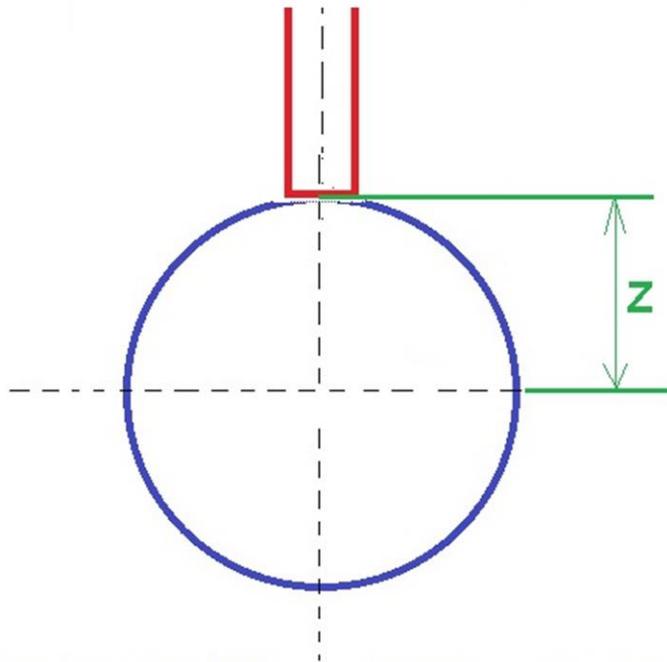
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In Wincnc type G91 Z-2.225 then press enter this is an relative move from your current position. You should now be on the center line of the “A” axis.

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How to calculate Z values to center of "A" axis



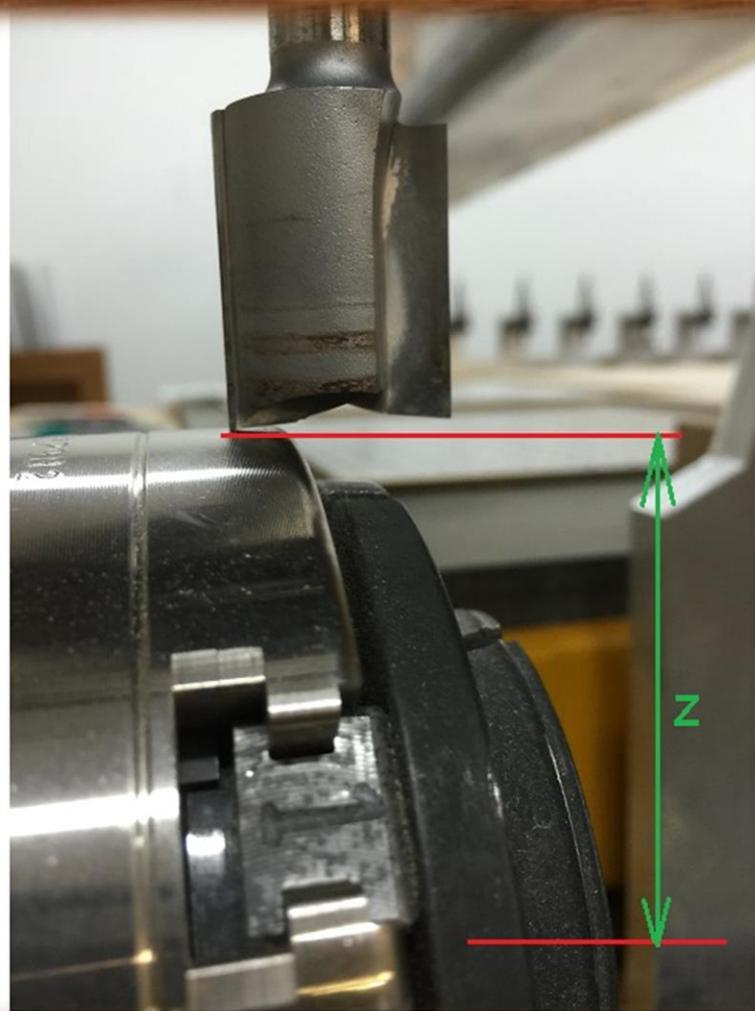
Chuck diameter = 4.450      Radius chuck = 2.225

Bottom of bit to center line = 2.225

**Z = 2.225**

Jog down Y till you are free from the chuck

In Wincnc type G91-Z2.225



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If you have an FTC or ATC machine do the following.

In Wincnc type M37Z0 then press enter to set "Z0" on the center line of the "A" axis. In Wincnc you should now have a blue box next to "Z"

If you don't have an FTC or ATC machine then you would need to make a jig using a piece of wood with the Z touch pad at the same height as the center of the "A" axis.

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All the above instructions are only good for this tool, one time. For follow-on tools use your standard process to measure each tool.

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**Don't forget to re-Calibrate  
the switch for your  
spoilboard when you are  
finished with the lathe.**

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**Your done .... finished**

The next time you want to use  
the lathe click on the button  
“Lathe Home”.