Auto Tool Setting Routine

This Routine allows you to PRESET all your tools for Tool Height compensation.

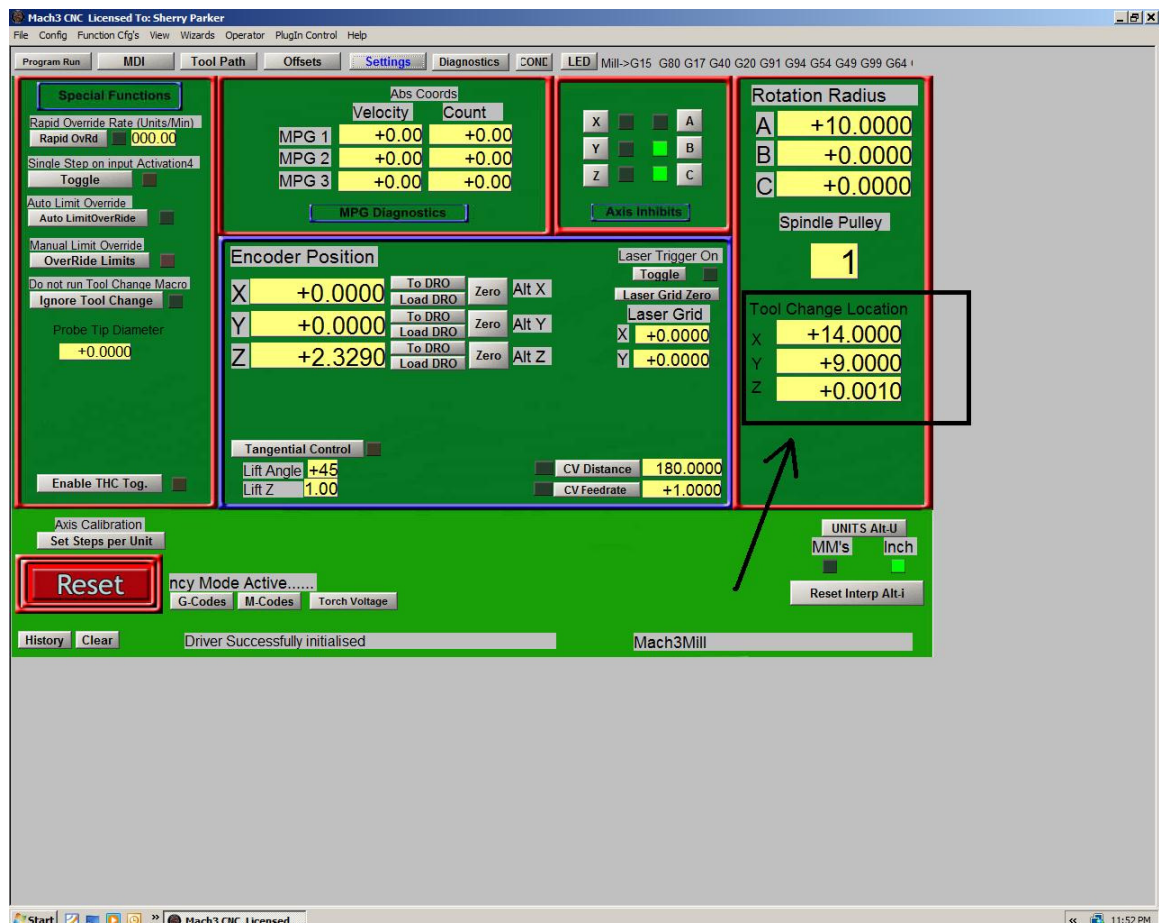To make this work First you must Reference your machine so that it knows exactly where it is at.

You must have a working Tool Setter Probe.

You will be using items on your existing Mach3 screens to make it all work.

On the Settings Page, left side middle there is a section called tool change location. You will input location values into the X Y DROs. The X and Y are the location of the Tool Setter in MACHINE COORDINATES. It is important you remember that.

The Z is the amount of movement that the Z will probe down . It is the total amount of movement that the Z will make to find the tool setter so it is a POSITIVE number.

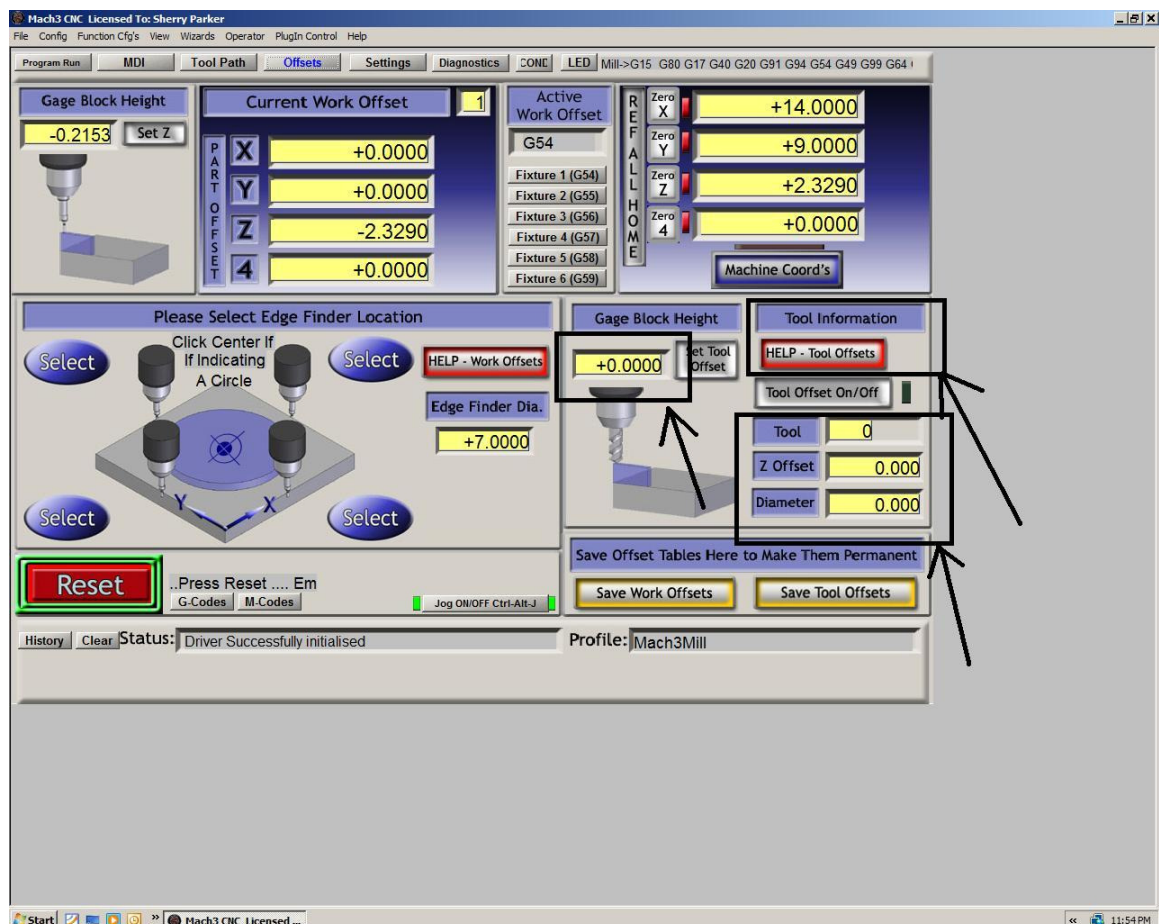That part sets up the probing parameters.

NEXT on the Offsets page Right hand side of the page is the operational values. You will be inserting the Auto Tool Setting script code into the{ HELP Tool Offsets} button. You go to operator, then edit button script. You delete the code that is there and Paste the script code into the ButtonCode . Then SAVE the script. Next CLOSE the button Editor.

The DRO in the "Gauge Block Height" section will be used to set the Probing FEEDRATE. Enter in the value and press ENTER. That will set the feed rate used to probe.

The Tool DRO sets the TOOL# you are working with.

The Diameter DRO shows the Diameter of the tool you are working with.

The Zoffset DRO shows the Tools Z offset that will be applied to the tool table. You DO NOT ENTER anything in that DRO, the script will update it.

This is the script code you will paste into the {Help Tool Offsets} button

```
'Auto Tool Setting Routine
If GetOemDro(1002) = 0 Then
MsgBox("Setting MasterTool")
Code "G00 G53 Z0.000"
While Ismoving()
Wend
Code " G00 G53 X" & GetOemDro(1200) &" Y" & GetOemDro(1201)
While Ismoving()
Wend
Code"G91"
Code"G31 Z" & GetOemDro(1202) & " F10"
Code"G90"
While Ismoving()
Wend
Code"G00 Z#2002"
While Ismoving()
Wend
SetDro(2,0)
While Ismoving()
Wend
SetOemDro(42,0)
While Ismoving()
Wend

Else

Code "G00 G53 Z0.000"
While Ismoving()
Wend
Code " G00 G53 X" & GetOemDro(1200) &" Y" & GetOemDro(1201)
While Ismoving()
Wend
Code"G91"
Code"G31 Z" & GetOemDro(1202) & " F" & GetOemDro(1002)
Code"G90"
While Ismoving()
Wend
Code"G00 Z#2002"
While Ismoving()
Wend
SetOemDro(42,GetDro(2))
Sleep(300)
Code "G00 G53 Z0.000"
Code " G00 G53 X" & GetOemDro(1200) &" Y" & GetOemDro(1201)
While Ismoving()
Wend
DoOemButton(136)
End If
End
```

To use the function you must first setup the tool setter location and Z travel Values.

Then you need to input the Feedrate value into the DRO.

Next you must   INPUT the tool# of your Master Tool in the tool DRO. Now install the master tool that you use to set part Zero. This can be a dedicated master tool or the longest tool in your tool set.

SET the feedrate DRO to 0.000 this will let the script RUN the master tool routine. It finds the tool setter then sets the Z to 0.000. It also updates the tool table and sets the tool height to Zero (0.000)

Run the routine by pressing the {Help Tool Offsets} button. The machine will first RAISE the Z to Machine ZERO then move to the preset Tool Setter Location Values. Then it will Probe down to the tool setter. When it trips the tool setter it will then Raise back to the trip position and ZERO the Z axis. Move (JOG) off the Tool Setting location and insert the next tool.

NOW start setting tools. First input the Tool Number you are working with into the Tool# DRO. When you do this it will automatically UPDATE the Tool Offset DRO and the Diameter DRO to the values that are in the tool table. DO NOT update the Tool Offset value. You CAN update the diameter value if it is different than what the tool is.

Next run the Tool Setting Routine by pressing the {Help Tool Offsets} button. It will do the routine and then UPDATE the tool Offsets value automatically AND it automatically UPDATES the tool table.

Move (JOG) off the Tool Setting location and insert the next tool and repeat the process until you have updated all the tools in your set. After you have changed the tool you do not have to move back to the location as the routine will move back to the location for you.

To USE the preset tools you load the Material then Touch of the top of the material with the MASTER TOOL and set Z to ZERO (0.000). That will SYNC all the tools to the Master Tool.

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