

The G53 Aluminum Extrusion Bed Measures @ $-3.4746''$ with Tool#1(0.250" Gage Pin).

The G53 Tool Setter Activates @ $-1.9815''$ with Tool#1(0.250" Gage Pin).

Tool#1(0.250" Gage Pin) Measures at 1.313" from Collet face to Tool tip.

Distance between G53 Worktop and Tool Setter Activated is $(-3.4746) + (-1.9815) = 1.4931''$.

G53 Worktop height – Tool Length = $-4.7926''$ (G53).

Tool Setter Activates – Tool Length = $-3.2945''$ (G53).

The G54 & G55 Worktops measure @ $-2.8350''$ (G53), with Tool#1(0.250" Gage Pin).

G54 & G55 Worktops – G53 Worktop = $(-3.4746) + (-2.8350) = 0.6396''$.

The G56 Vice Height measures @ $-2.1433''$ (G53), with Tool#1(0.250" Gage Pin).

The G54 & G55 Worktops – Tool Length = $-4.1530''$ (G53).

The G56 Vice Height – Tool Length = $-3.4613''$ (G53).

So, If I'm in G55 coordinates, the Worktop is $0.000''$ (G53 -2.8350").

The Tool Setter Activated is @ $0.6396''$ above the worktop.

Tool Setter Activated(G55) + the Tool Height = $(0.6396'') + (1.313'') = 1.9526''$.

Now to set my offsets: (Auto Tool Set)

In Mach4 "Offsets Tab"; Do I set/measure or enter values for the Gage Blocks (Set Z, Set Tool)?

In my M6 macro: NewOffset = ProbedZ-GageBlockHeight

There is a GageBlockHeight value in the macro. What Z-height value do I enter there?

Or do I just use the Mach4 API stuff like mc.mcToolSetData(inst, mc.MTOOL_MILL_HEIGHT, selectedTool, mc.SV_PROBE_POS_Z) ?

It also seems while I have been trying to figure this out:

If I set the values for the Mach4 Gage Blocks @ $0.000''$, and just change the GageBlockHeight in the macro, it changed the Tool#1 data in the tool table even though I never measured tool#1.

Upon measuring Tool#2, it keeps changing my G55 Z-Height. Not a tool offset, but the actual Z-Height of the G55 coordinate system. Thus the machine ends up nowhere near the actual heights.

