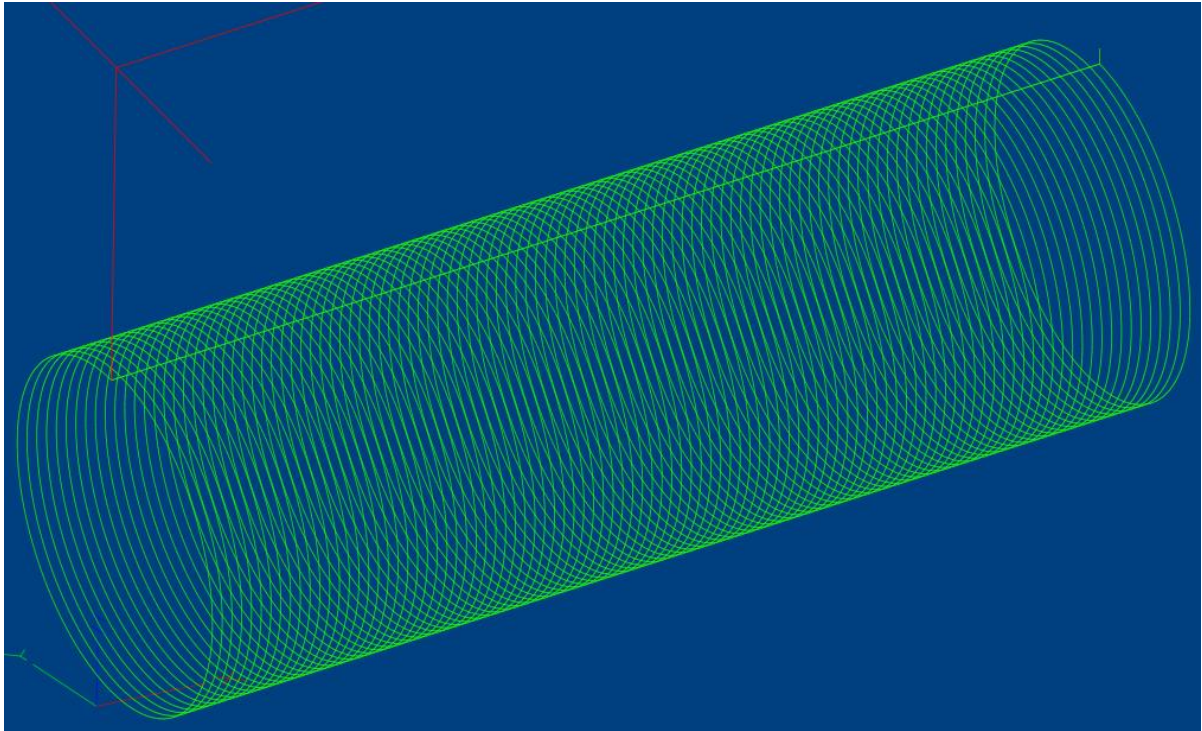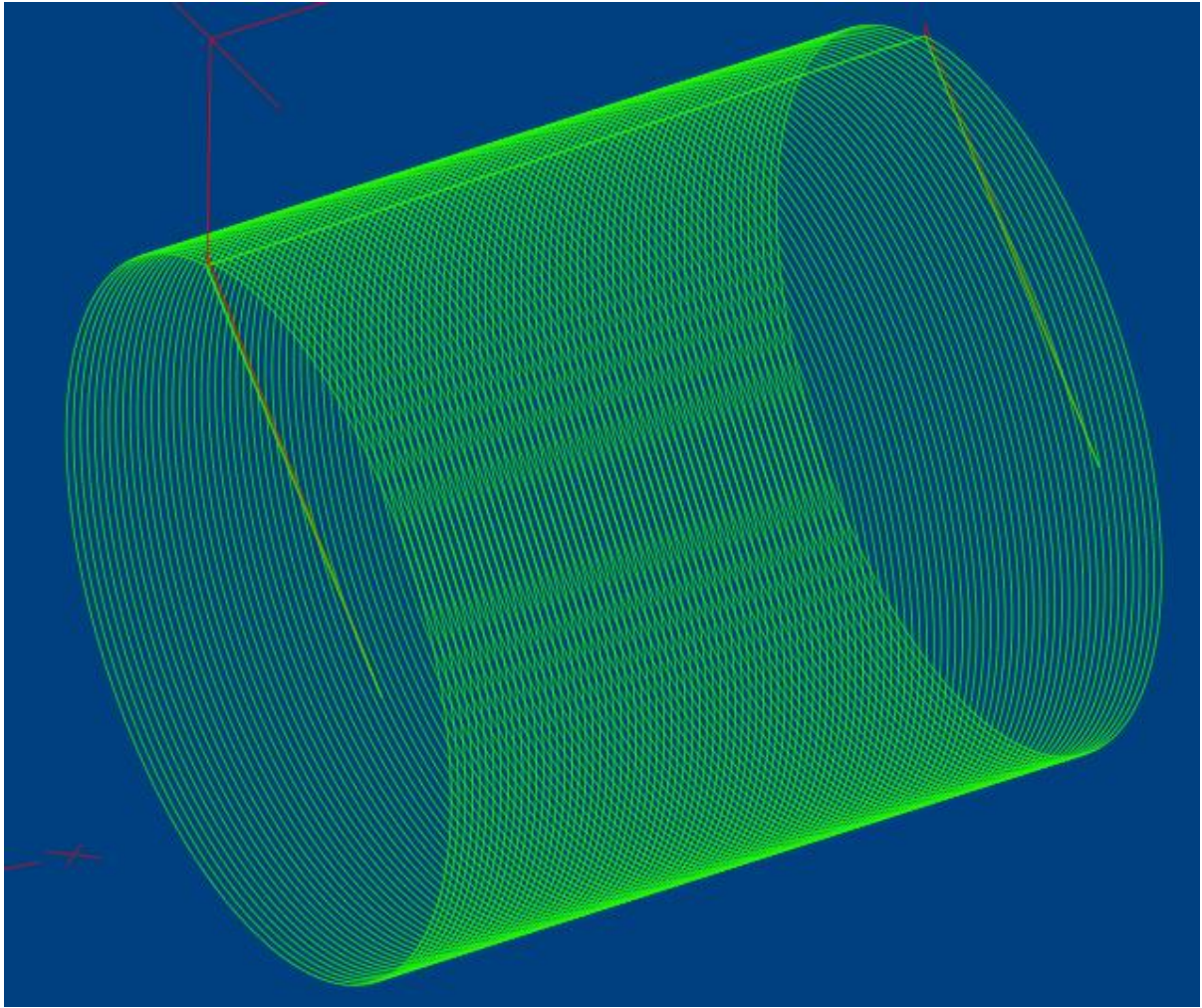Things you need to know about Toolpath when performing 4 Axis processing.

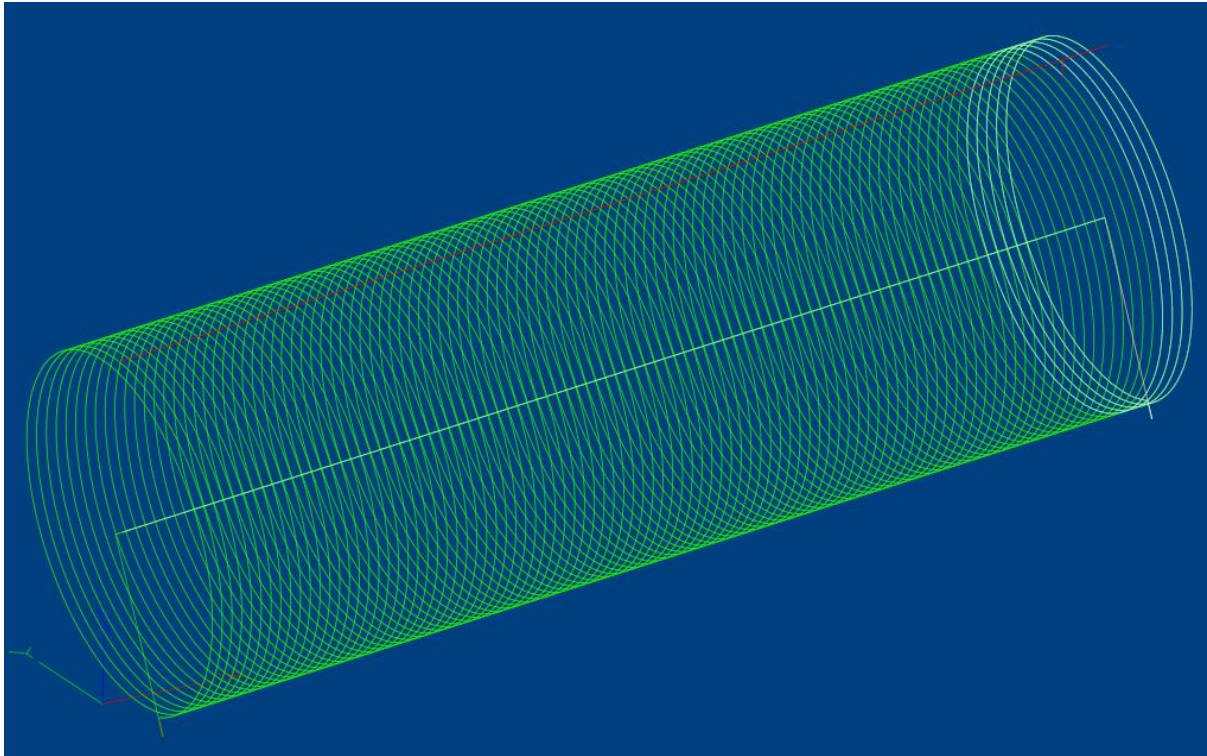G-Code generated with the Z Axis offset by the Radius of the part i.e. top of part is Z Zero.

Toolpath as loaded with X/Y/Z/A in DRO all ZERO prior to loading into Mach4 will display correctly.

If you ran only part of the G-Code in Mach4 then Cleared the G-Code Zeroed X/Y/Z/A in DRO's then reloaded the same file for example the displayed toolpath will be in my example **double in diameter**.
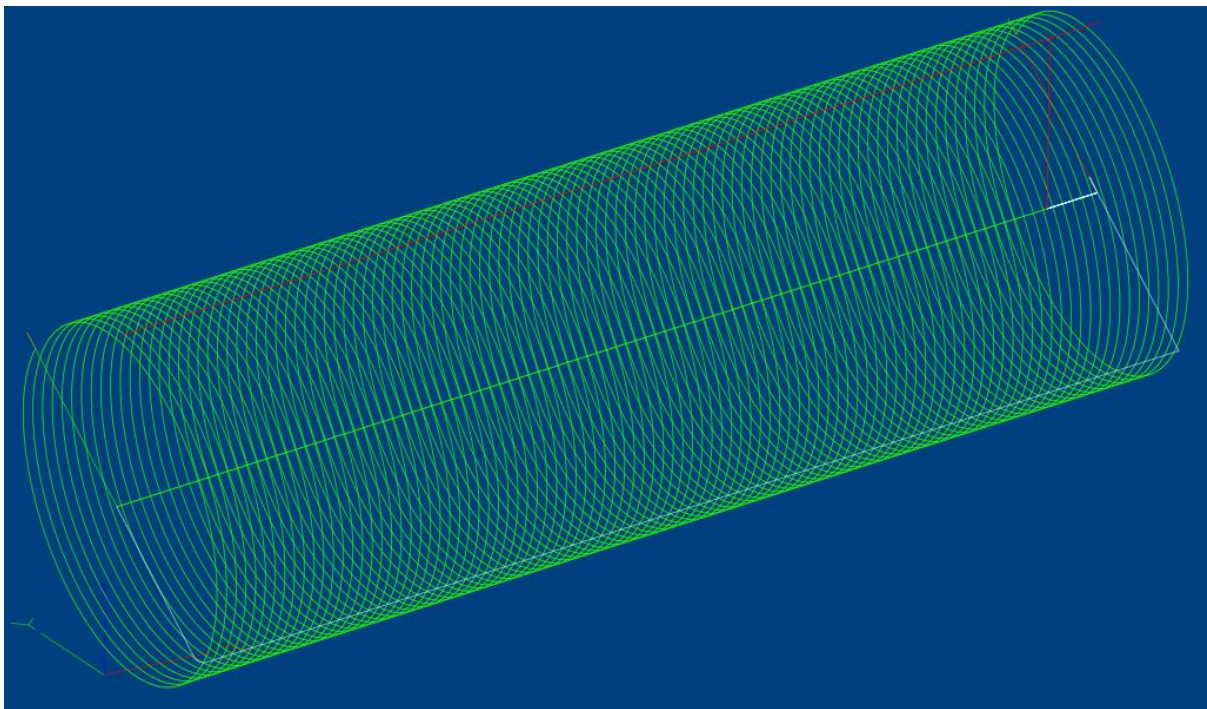
This might be due to the values/buffers still active in Mach4 and not fully cleared, this will show up when you restart Mach4 with the DRO's populated with numbers after a restart?

If you restart Mach4, with Zero on all DRO's, then the toolpath will display OK.

If your G-Code has the Z Axis Zero at the center of the model (normal) all will display correctly as long as all DRO's started at Zero.
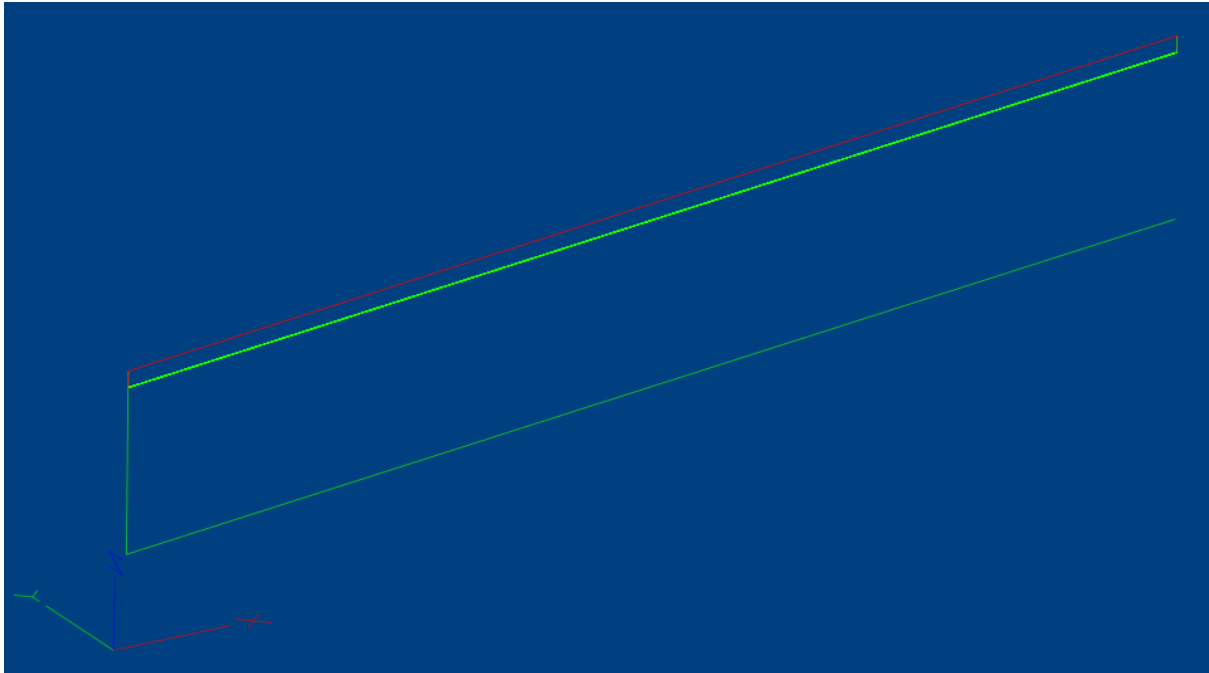
The issue here is, how can you have the cutter at start being Zero, this would mean it will be in middle of the model on the Mill or Router Table.

If your generated G-Code has the Z Axis Zero point at the Center of the part normal process as above and if you load the G-Code into Mach4 with the DRO's set at Zero while loading the G-Code toolpath will display correctly, however if you cutter was actually set to the top of the model on the Mill or

Router Table in this case Z50 and you also set the Z DRO to 50 then your cutting toolpath in the case will be a line at the center of the display.

In other cases were you have a model like a statue you will get Crap.

Of course if you load this example G-Code with the DRO set to Z50 it will display a straight line

So there need to be a change made in the Toolpath Mach4 program so that the Loaded G-Code Toolpath and the Cutting Toolpath match in the display process taking into consideration of the DRO settings at the start of the process, otherwise the Toolpath is useless in the real world of machining and only good for simulation with DRO's all at Zero. I.e. for 4/5 axis applications with the current Mach4, you do not need a toolpath displayed at all.