

Tool-Set Jig

A tool-set jig can be used to ensure that the tool height is the same for each tool change.

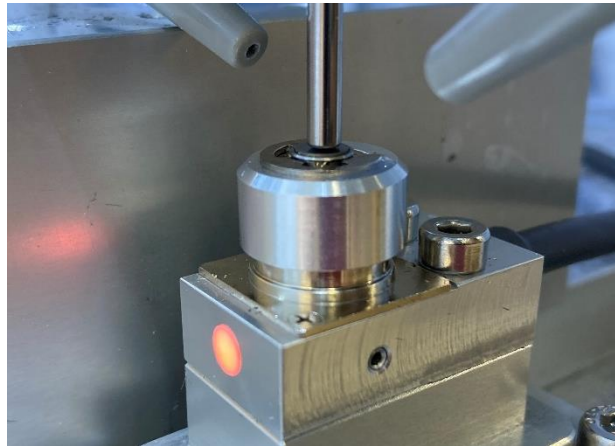
- In the example below, the master tool (a steel rod) is inserted until flush with the bottom of the jig, the set screw is tightened, and the remaining part of the tool is inserted into the collet on the spindle.
- When the collet is tight, the set-screw on the tool-set jig is loosened and the jig is removed.
- When a new tool is needed, the new tool is placed in the jig as before (see end mill below), the above procedure is repeated.



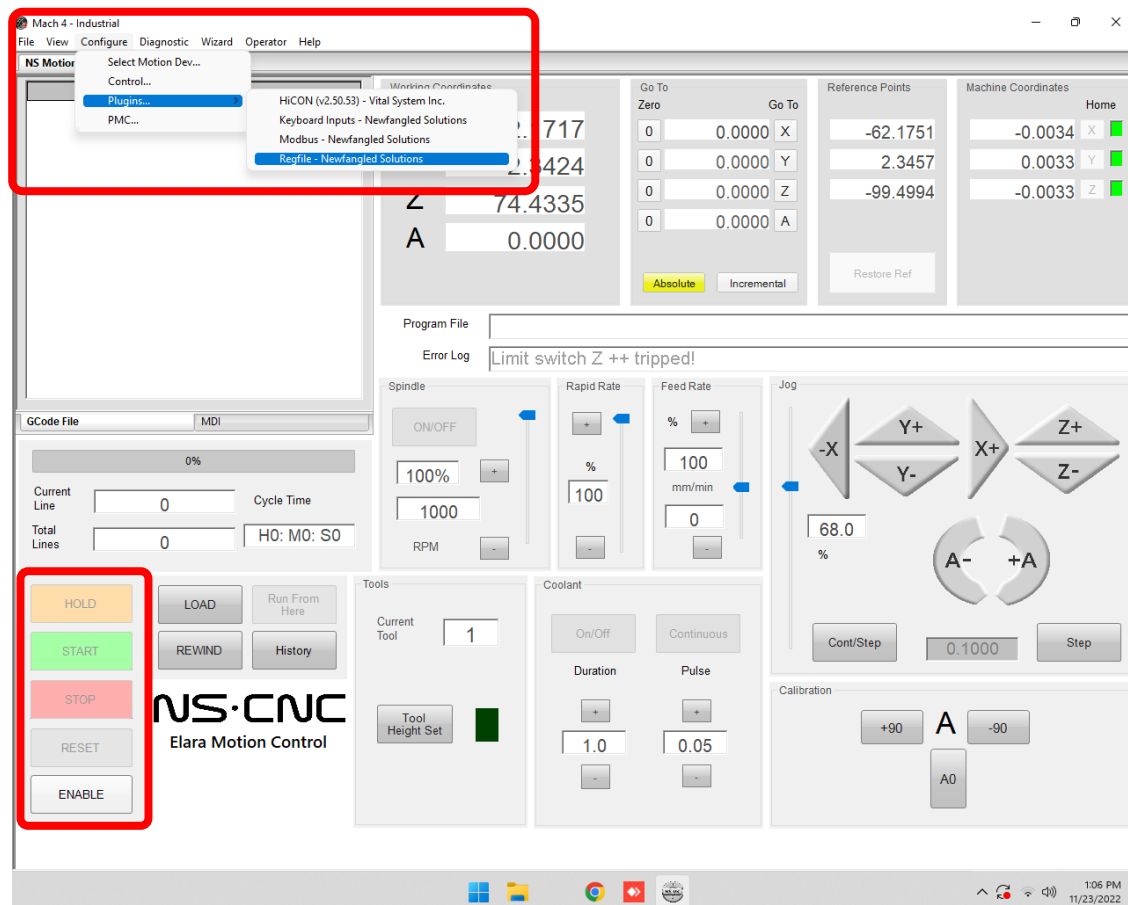
Tool-Set Probe

While a tool set jig is simple and reliable, the automatic tool probe is more accurate, but requires some set up.

- First, insert a master tool, e.g., a steel rod of known length, into the collet in the spindle.
- Initialize the machine
- Jog the position of the spindle to the X,Y,Z location of the tool probe, with Z roughly 0.1 mm above the probe. Remember to jog at 10% when you are near the probe.
- Record the Master Coordinates of this location.



- Disable the machine so that you can access the configuration menus.
- Go to the **Configure** tab, select **Plugins**, then **Regfile**



- Go to the Instance Registers tab.
- Then on **Lines 16-18**, enter the X, Y, Z values you recorded (add 0.1 mm in Z), e.g., **NSCNC/HeightZ = -100.25**.
- Next, you need to tell the machine how fast to move to the sensor. **Line 10, NSCNC/F1 = 300**.
- Next, when the machine is near the sensor, it should be slow. **Line 11, NSCNC/F2 = 40**.
- Next, the machine needs to know where to start going slow. **Line 15, e.g., NSCNC/Z4 = -95**. Your value may be different, but it should be roughly 5 mm above the sensor. In this example the probe will start moving slowly at 5.25 mm above the sensor.
- Finally, click **Apply**, then **OK**.

