

## Adjust Resolution Accuracy

These are instructions on how to check and/or set the resolution. This must be done for each axis individually.

\*\*This example is in inches. If your WinCNC.ini file is not in inches, you will need to make the necessary corrections accordingly.

1. Start with the X axis. Transit the axis as far to the left as possible, without hitting the limit switch. Now move back to the right about 1 inch to eliminate any mechanical backlash. Mark the machines position with a pen, pencil or tape, and know exactly where you start.
2. In the command window, in the WinCNC program, type G92X, then hit enter. This will set a temporary zero.
3. Manually transit (using the arrow keys on your keyboard) the X axis to the right, until it is approximately 1 -2 inches from the right limit switch. Do NOT move the machine back to the left, to prevent mechanical backlash from causing inaccuracy. Look at the readout on the command window, and NOTE THIS NUMBER as your "commanded" position. For this example, we will use 48.
4. Mark the machines position with a pen, pencil or tape, as accurately as possible.
5. Measure as accurately as possible between the two marks. At least two decimals of accuracy is needed. Let's use 47.25 as an example, although your measurement may be much more or less than this.
6. Next, take your "commanded" position, divide it by your actual measured position, to give you value "X". Your formula would look like this:  $48 / 47.25 = X = 1.0159$ .
7. Now go to your WinCNC folder, located on your C: drive. Open the WinCNC.ini file with either Notepad or Wordpad. Locate the heading [X Axis]. On the "AXISSPEC=" line, there is a R# (example AXISSPEC =p0 s1 d1 r500 o1 e1 a1000). That is the current resolution for the X axis.
8. Once you have located the current resolution, you need to do one more calculation. Take the "X" value, and multiply it by your current resolution. Your formula would look like this:  $1.0159 * 500 = 507.95$  (507.95 being your NEW resolution).
9. Change the "R" value on the AXISSPEC= line to the new resolution.
10. Save the WinCNC.ini file.
11. Re-Start WinCNC.