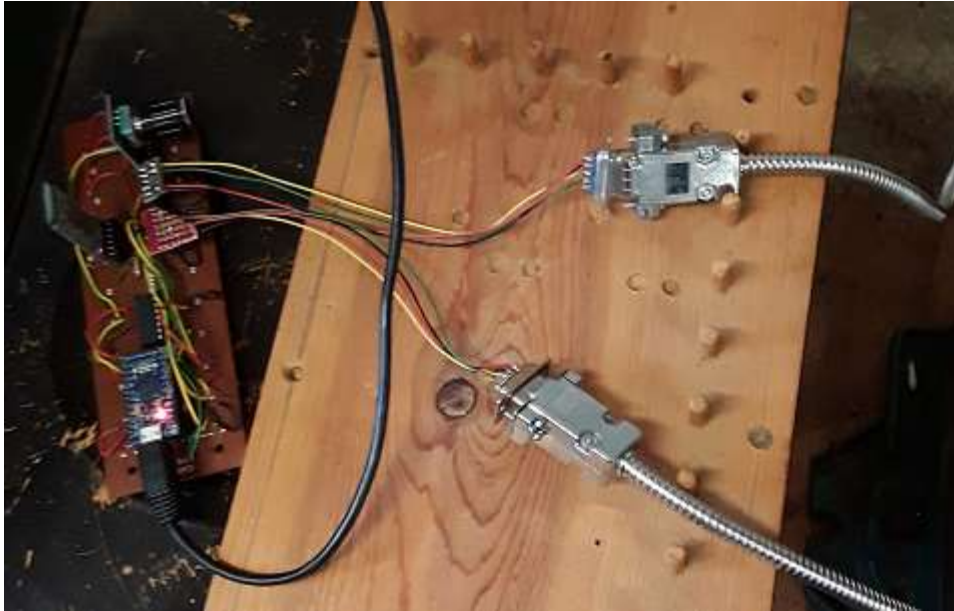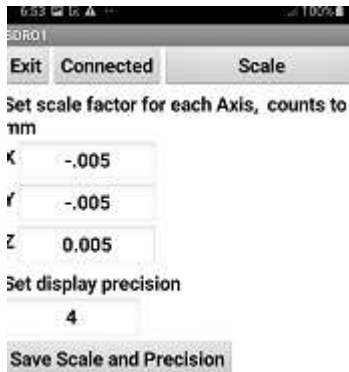# SDRO1 Drilling a Pattern of Holes Test

Joe McCarty

Setup

The rotary encoders for the X and Y axis were unplugged and DB9 connectors were installed and connected to the X and Y axis linear sensors on the milling machine.

The SDRO1 application was started and the Scale option was used to set -0.005 into the X and Y axis so that readings from the sensors conform to the milling machine. The first bug was discovered here. The inch/mm is not being read correctly from the Android tinyDB. Pressing the inch/mm button a couple of times resolves the issue for now. I've made a note to fix this.
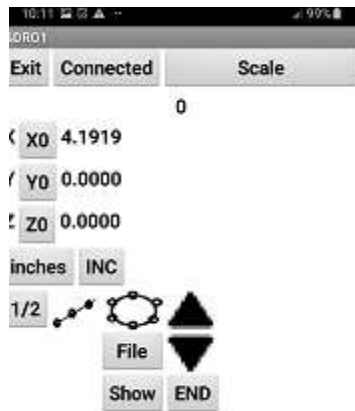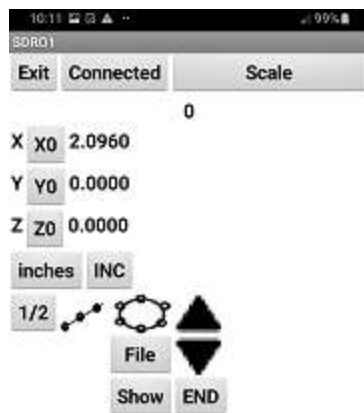
Centering

A section of 2x4 lumber was clamped into the vise and the X-axis moved to the left edge of the workpiece. The X-axis was zeroed in Incremental mode.

The X-axis was then moved to the right edge of the workpiece.

The X-axis shows the position of the drill bit over the right edge of the work piece.

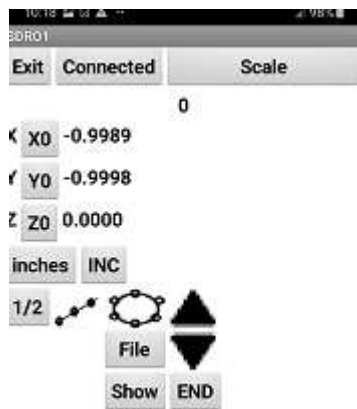Pressing the ½ button changes the X-axis display to one half of its previous value.

The handle of the X-axis is turned to bring the X-Axis display to zero. This centers the drill bit on the X-axis of the workpiece.

The process is repeated to center the Y-Axis.

Drill bit centered over the workpiece

Move to Starting point X=-1, Y=-1

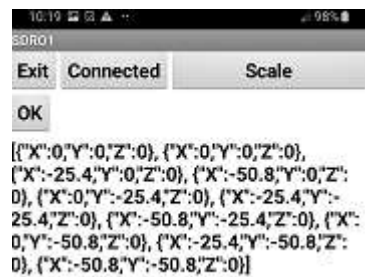

Zero the X and Y axis on the Android display

Drilling the 3x3 Hole Pattern from a CSV File

Pressing the File button on the App brings up this screen.

Press Go to load the file.

Press Show to display the JSON pattern in mm

[{"X":0,"Y":0,"Z":0}, {"X":0,"Y":0,"Z":0},
{"X":-25.4,"Y":0,"Z":0}, {"X":-50.8,"Y":0,"Z":
0}, {"X":0,"Y":-25.4,"Z":0}, {"X":-25.4,"Y":-
25.4,"Z":0}, {"X":-50.8,"Y":-25.4,"Z":0}, {"X":
0,"Y":-50.8,"Z":0}, {"X":-25.4,"Y":-50.8,"Z":
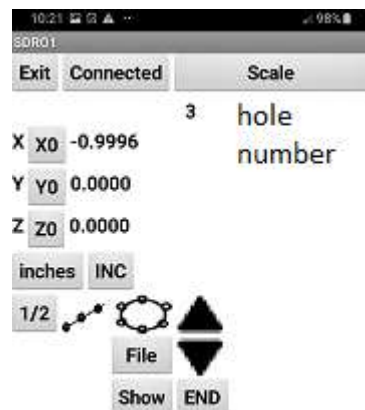0}, {"X":-50.8,"Y":-50.8,"Z":0}]

Press OK

Drill the first hole

To go to the next hole press the ▲ key. To go to the previous hole press the ▼ key.

The End button will end the pattern and clear it from the App.

At hole number 2 position the up arrow was pressed for hole 3. The machine's X-Axis handle is then turned to zero the X-Axis.

Drilling the 6th hole

Finished the 9th hole.

The 3x3.csv file content.

SDRO1

Units		25.4
X	Y	Z
0	0	0
1	0	0
2	0	0
0	1	0
1	1	0
2	1	0
0	2	0
1	2	0
2	2	0