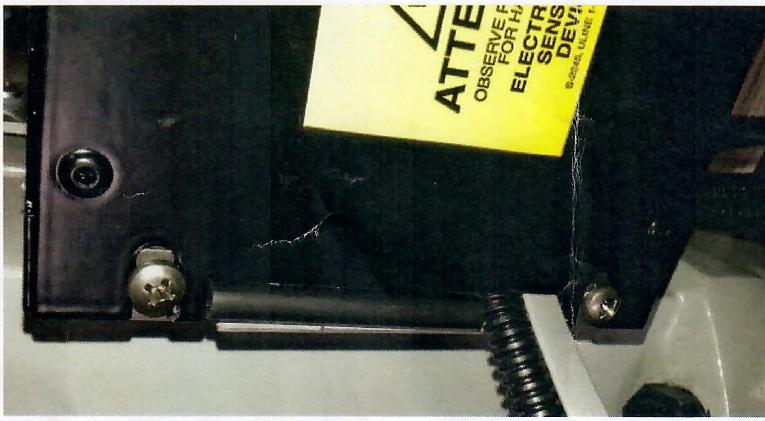
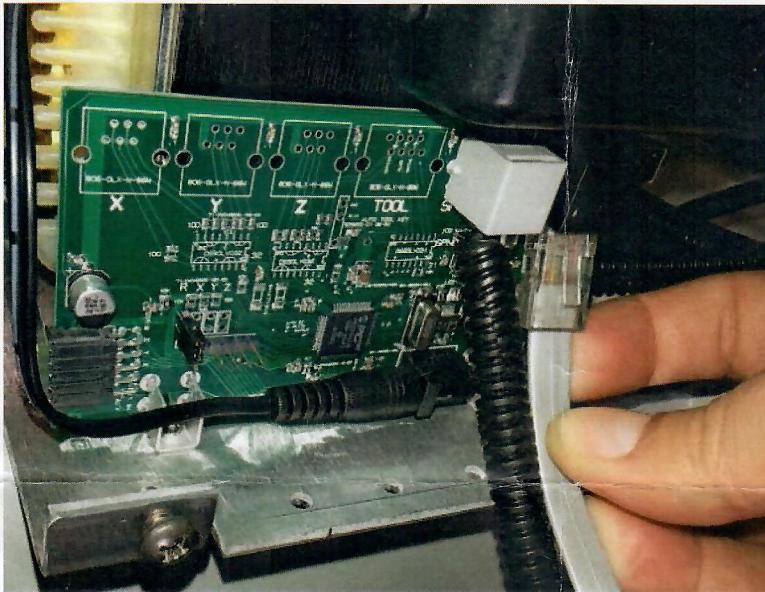
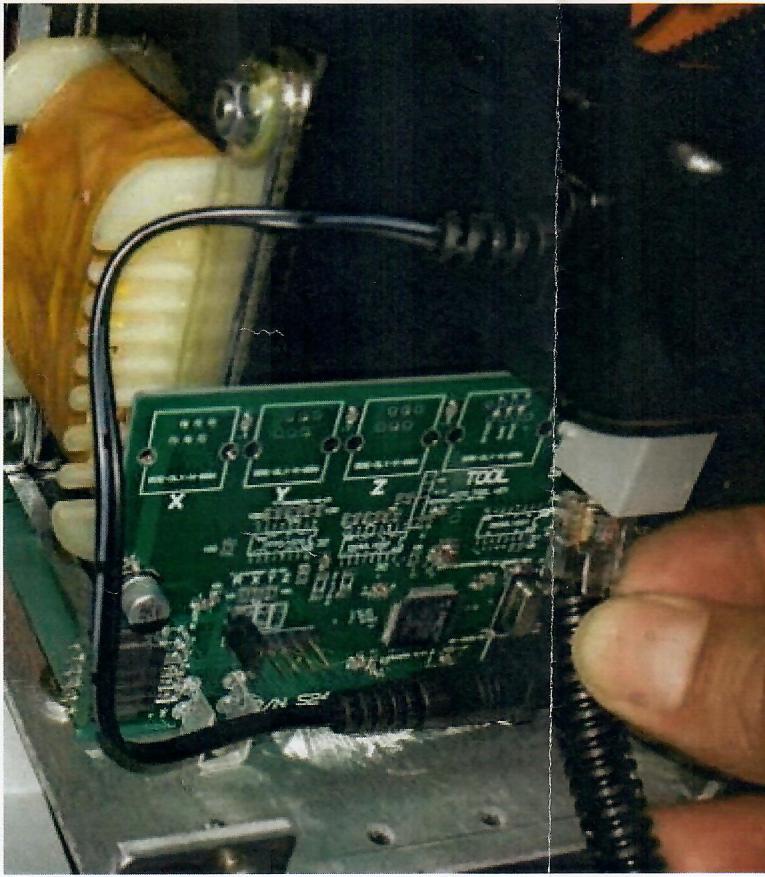
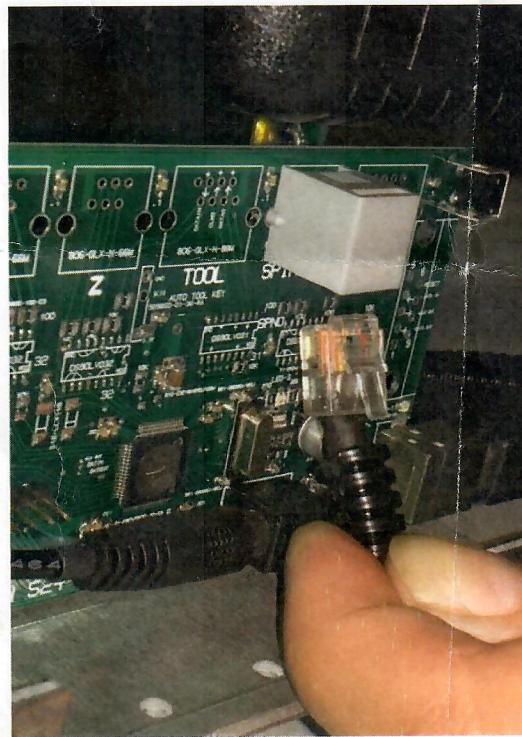
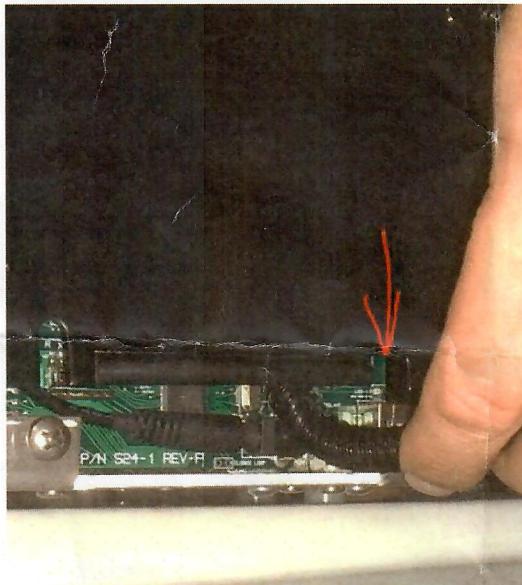
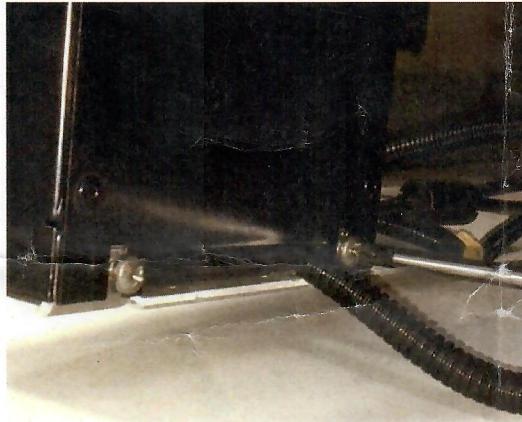


CONNECTING MX Control Unit to Your Spindle Speed and Encoder:



1. Your Control Unit must be unplugged from its electrical power source.
 2. After you mount the Control Unit in place on the back of the machine column, slightly loosen the two phillips screws on the left side of the Control Unit cover.
 3. Swing the cover open to the right. If you cannot swing the cover open, be sure to unplug the USB and optional coolant cables from under the Control Unit.
 4. On the left side of the circuitry, plug in the loose end of the RJ cord to its female socket named SPINDEL inside the Control Unit box as shown in the first picture.
- Please note your circuit board may also come with other sockets. The **SPINDEL** socket will have the letter "S" on it.
5. Be sure the jack **"SNAPS"** in well inside the female socket. **Push in the connector until you feel it click into the female connector.** Follow the same procedure as in step #5.
 6. Next, connect the spindle encoder silver satin flat cable connector.
 7. Give the cables some slack as you close the cover over the cables. Allow for the sponge lining at the edge of the cover to close over the two cables there on the left side of the control cover. Press in the cover, and tighten the two screws to secure the cover into place.

CONNECTING Your Spindle Speed Cable to the Control Unit:



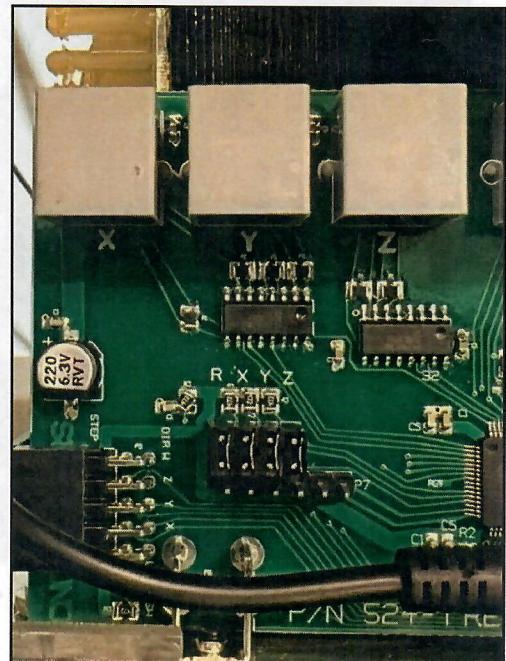
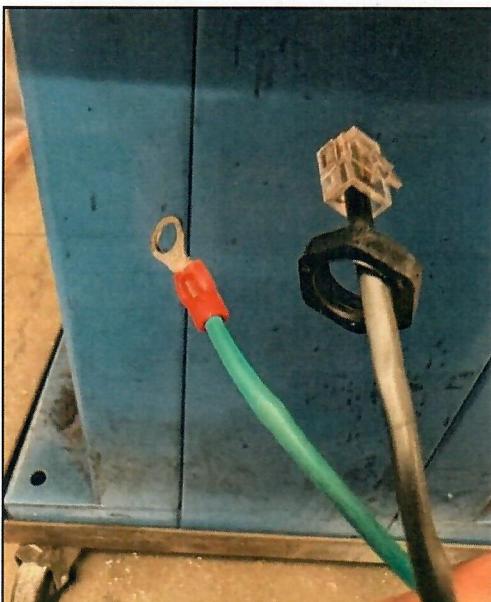
- 1) Your Control Unit must be unplugged from its electrical power source.
- 2) Once the Control Unit is mounted into place, slightly loosen the two phillips screws on the left side of the Control Unit cover. Swing the cover open to the right. If you cannot swing the cover open, be sure to unplug the USB and optional coolant cables from under the Control Unit.
- 3) **On the left side of the circuitry, plug in the loose end of the RJ cord to its female socket named SPINDEL inside the Control Unit box as shown in the first picture.** Please note your circuit board may also come with other sockets. The SPINDEL socket will have the letter "S" on it.
- 4) Be sure the jack **"SNAPS"** in well inside the female socket.
- 5) Give the cable some slack as you close the cover over the cable. Allow for the sponge lining at the edge of the cover to close over the cable there on the left side of the control cover. Press in the cover, and tighten the two screws to secure the cover into place. Do not move the cable so that it goes out the bottom of the control unit next to the USB cable.

Control Unit Scales Installation

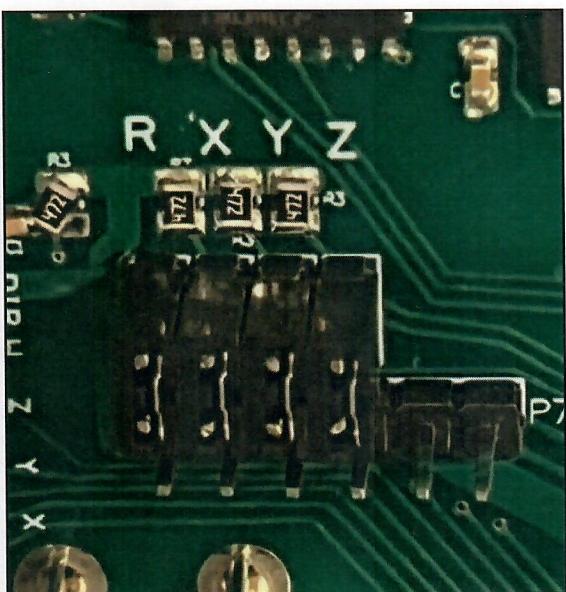
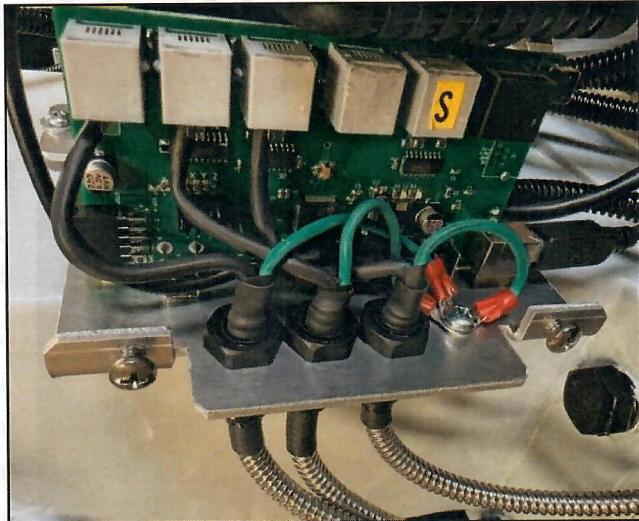


1. On the control, the cables will all come from the backside, or underside, of the unit.
2. The cables will insert from left to right, facing the unit, XYZ, or top to bottom if your looking at it mounted. This will correlate to the plug in jacks on the main USB board if you look just under the jack at the opening you will see the axes printed on the board itself in white.

3. For each cable, remove the nut first by pulling out the ground line then by pushing the phone type connector through. Careful to push the tab down so it doesn't get caught and break. The connector fits very tight through the nut but it will go. Make sure it goes squarely through and not at any angle which will make it harder to push through. Once through, insert the cable from the back side of the unit and reverse the process of putting back the nut. First, push through the connector and then feed through the ground line. Finally, tighten the nut against the inside of the chassis. Repeat this for the other scales.



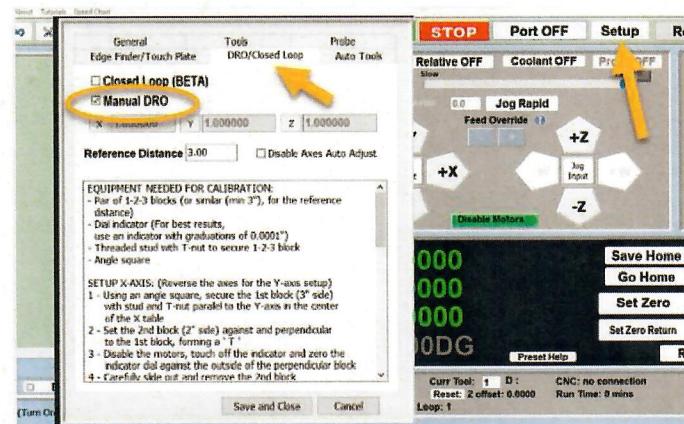
4. Plug in each scale and listen for the 'snap' to ensure the cable is fully plugged in. Once plugged in, all ground lines will terminate at the screw to the right of the connectors on the chassis. Orientate lines in a way that won't get in the way of the control cover closing.



5. This last picture shows a line short connector for each scale which control direction. **Do not touch the connector in the 'R' position.** When running your scale pay attention to the direction the counters move. If moving in a positive direction and your counters on the MX software are running in the negative direction or vice versa then remove the corresponding scale plug at the controller and this will change its direction. They can easily be removed by a pair of needle nose pliers.

END CONTROL UNIT SCALES INSTALLATION

Your DRO scales have been calibrated at the factory. Use these values when initially setting up your machine for the first time. Save this page for future reference. This page will become obsolete should you need to replace the scale, adjust the ball screw, or even adjust the gib.

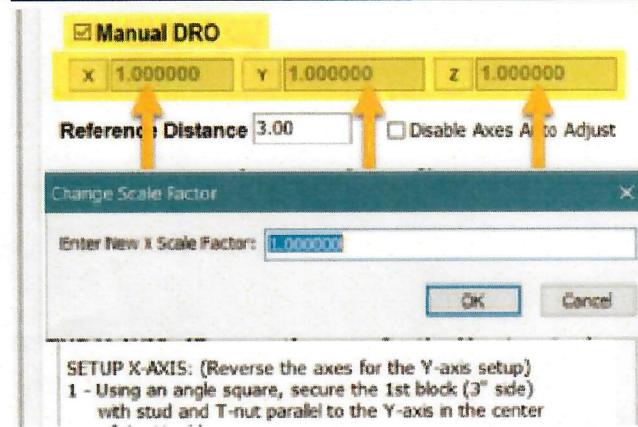


1

Go to Setup

Select the DRO / Closed Loop Tab

Check the box, "Manual DRO"



2

Click directly into the text box, and enter the factor for each axis.

WARNING: Entering the wrong value can lead to a mis-reading of the counters on the MX screen's digital readout. In this case, you will need to follow the calibration procedure for each axis. The instructions are provided on the MX screen.

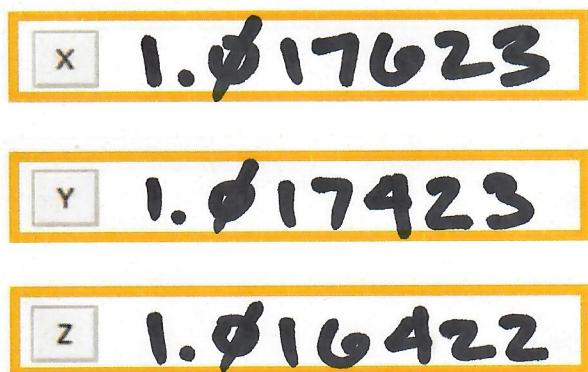
3

These default values were used to test the accuracy of your scales at the factory.

You may choose to re-calibrate at any time. Follow the procedure on the DRO / Closed Loop Tab in the Setup window.

When should you re-calibrate?

Any time an adjustment to the table or ball screw is made such as adjusting the gib, removing backlash from the ball screw, replacing the scale, or even if the axis takes a "hard hit" or crashed into something else.



CNC MASTERS "FIRST TIME" DRO SETUP