



Figure 1 (Step 1)

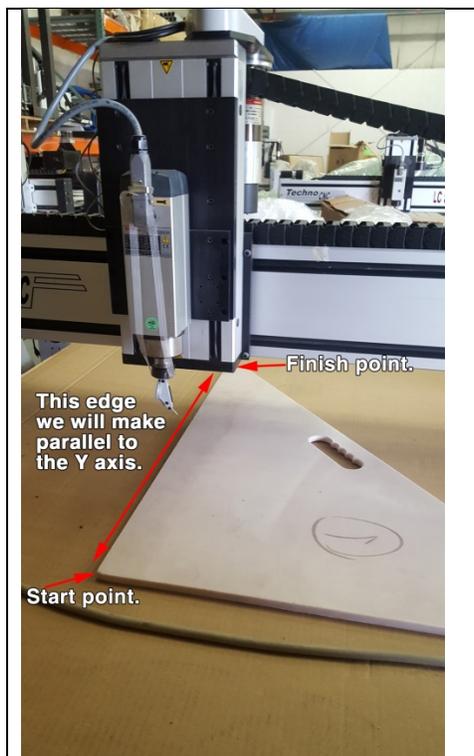


Figure 2 (Step 2)

Step 1) See Figure 1 on left.

Put the dial indicator in the spindle. Use a piece of tape to prevent it from spinning. You are going to set the long edge of the square parallel to the Y axis or long axis of travel before loosening anything.

Once you have the dial indicator in the spindle it is very important NOT to turn on the spindle.

Make sure the dial is facing toward the left hand side of the machine toward the tool holders.

Step 2) See Figure2 on left. Place the square on the table and eyeball as best you can, it being parallel to the Y axis. You need to make the edge of the square perfectly parallel to Y axis of travel. To do this, you will need to jog the machine / dial indicator, very slow, into the square (start point). **NOTE:** Be very carefully jogging the dial indicator into the square since we do not want to damage it. This is a fragile precision instrument and care must be taken when approaching the square. Once you get close to the square, you can toggle into the step mode by pressing F8 key. Looking at the bottom right hand section of the interface, you will see Continuous and Step button. Make sure you see the black dot next to the Step Mode. Set the step value to .005 — to do this you can press F7 until it reads this. Now every time you press the jog arrow on the keyboard the axis will move .005". You only want to jog the dial indicator until you are plunging the dial about .010 to .015". We will call this DSP.

Step 2) Continued

Once this is done you now will toggle back to continuous jog mode (F9). Set your jog speed to 15 (F5 to decrease speed - F6 to increase speed) Keeping an eye on the dial indicator, jog the machine to the finish point. As the machine moves, the dial indicator will either plunge deeper into the square or away from the square depending on how you placed the square on the machine. You will want to lightly tap the finish spot (either to the right or left) so that you keep the dial indicator at the DSP point value. You will not get this perfect on the first try. You will jog the Y axis back and forth until the dial indicator stays stationary at the DSP point.

Step 3)

Okay, we have the square parallel to the Y axis.

Now we get to see how much the machine is out of square.



Figure 3 (Step 3)

We will now rotate the dial indicator manually in the spindle. Loosen the tape and turn the dial indicator 90 degrees by hand and re-secure the tape to hold it from spinning. Make sure the dial indicator is facing you. You now will jog the long axis (Y) into the square until to you are reading .010 - .015 on the dial indicator. This will now be your new DSP (again move slow and use the step mode to carefully get a reading on the dial indicator.) Once this is done, you will jog the X axis right and left. Again, either the dial indicator will plunge deeper into the square or away from it. At this point, we need to loosen screws because we are now going to move the mechanics to make the machine square. **(See Figure 3 above.)** Loosen the screws and then tighten them so they are snug. We do not want them tight nor loose. We want to move the mechanics ever so slightly to make the axis square. Once that is done, we need to determine where to adjust. Keep an eye on the dial indicator. This will tell you which direction to move the axis. Look at Page 2 of the manual Joe sent you. It tells you to loosen the gantry uprights screws, "DO NOT DO THIS" — Just tap the gantry and jog the X axis back and forth until DSP does not move. Once this is complete, the machine is now square and you can re-tighten the 10 screws. Again, you will not get this on the first try. You want to make small adjustment at a time.