

Checklist -CNC Plasma Table

☐ **Plug in the Air Dryer in the Woodshop**

☐ **Start the Compressor**

You may have to reset the compressor overload switch. Press down the Red button. You may also have to push the blue button on the Compressor power box.

In the back bay.

☐ **Turn on the main power box.** You will hear a fan start running in the transformer in the corner.

☐ **Turn on the air valve.**

Note the pressures for the Torch Holder and the Plasma Source Supply

60 PSI Orange Plasma Air 35 PSI Grey Torch Holder

As soon as you turn on the Air, you will hear a hissing noise from the torch holder. The torch holder uses air pressure to hold the torch in the fixture. You will need to pull (gently) twist, and otherwise adjust the torch until the holder seals and the air leakage stops.

☐ **Turn on the Plasma Source.**

☐ **Turn on the Torch Cooler.**

The Control Console uses 2 power supplies. A 220 VAC supply and a 110 VAC Supply. Both of these come from power cables plugged into wall outlets. Make sure both are plugged in.

☐ **Turn on the small red switch on the lower left side of the Control Console.**

☐ **Press the Green power button** on the upper right corner of the Control Console Button will latch down. A light below the Emergency Stop button will come on.

☐ **Power on the computer** if it does not automatically start by pressing the power button.

☐ **Double click the Mach4 Plasma Icon** at the top center of the screen once the system boots. Select the Plasma MS option if it is offered.

☐ **Mach4**

Do not Home the machine. This machine does not have a Home position. The work X-zero and Y-Zero is set manually.

☐ **Enable the Machine in Mach4**

Enable the machine by clicking the Enable button in the lower left-hand corner.

☐ **Positioning your blank on the machine.**

Place your material in a convenient place on the bed of the machine.

The material must lay absolutely flat. Use clamps as necessary. Put clamps in places where the torch will not run into them.

☐ **Attach the Ground Connection** to your material in a place that will not be cut, or be in the way of the Torch path. It is a magnetic connection. Turn the knob clockwise to engage the magnet. Counter-clockwise to release. Shiny spots make good ground connections.

☐ **Select the Jogging tab**, lower right window, 4th tab, says Jogging.

☐ **Raise the Z axis** using the Torch up/down switch on the Torch Height Controller.

☐ **Move the Torch to where you want your X-zero Y-zero to be** by using the X and Y jogging buttons.

☐ **Zero all the axes (X, Y, and Z)** when you have the torch at your desired X and Y zero location. The green numbers just to the right of the buttons should all go to 0.0000

☐ **Adjust the Height of Torch Nozzle above work.**

2mm to 5mm (max). Closer is better as long as the Torch does not contact the work. The Torch Height is adjusted using the Torch Up and Torch Down switch. Start with the Torch tip 2mm above your work.

☐ **Move the Auto/Manual switch to Auto** on the Torch Height Controller.
(Do not press the Zero Test button. The Arc Strike button will not do anything.)

☐ **Adjust the Torch Height Controller** if necessary

Use these numbers as a starting point. SetArc should be about 30. Bigger numbers for thicker materials. It is set using the Height knob. Sensitivity should be about 20. It is set using the Sensitivity knob. During the cut, the ARC number will show the arc voltage.

☐ **Load your Gcode**

In Mach4, File – Load Gcode – Your file name

(Your Gcode file should have the file type extension, .tap, .nc, or .gcode)

☐ **When you are ready to cut**, (Torch should be at your work X and Y zero and the Torch height should be set.

☐ **Safety Glasses ON**

☐ **Click the **Cycle Start Gcode** button.**

You can stop the machine by clicking the Stop button.

When stopped, you can send the torch back to X-zero Y-zero by clicking the Go To Work Zero button. You can restart your job by clicking the Reset button and then the Cycle Start Gcode button.

Shutdown:. Turn off the control cabinet by rotating the green power button until it pops out. Exit Mach4. Shut down Windows. Turn off the red switch on the lower left-hand side of the control cabinet. Turn off the Torch Cooler. Turn off the Plasma Source. Turn off the air valve. Turn off the Main Power box.