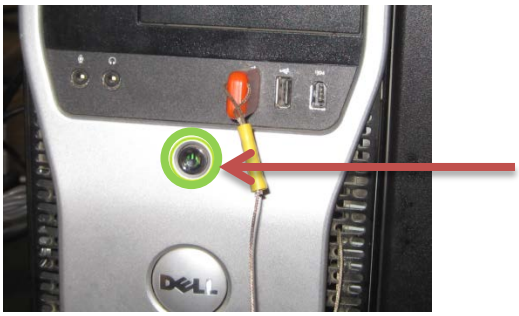
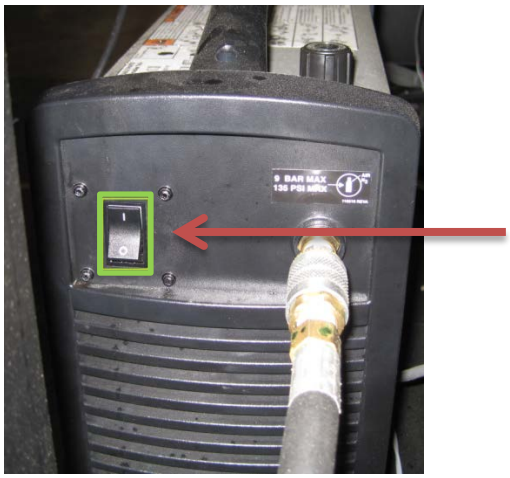
Plasma Cutter User's Guide

1. **Turn on Equipment**
   a. Turn on PC located under the cutting table



Password: .TorchMate

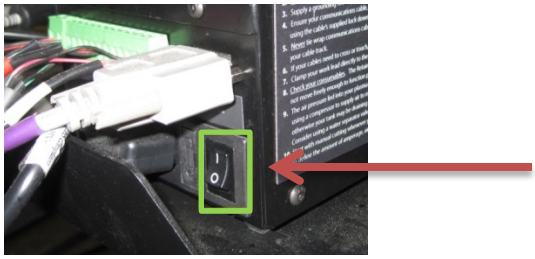
   b. Turn on Plasma Cutter beneath cutting bed



      i. Check for all green lights on the front panel

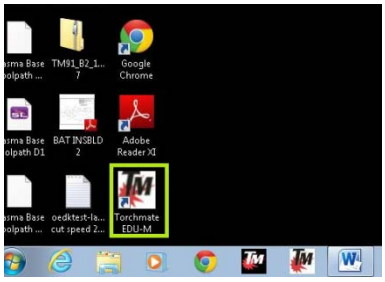
   c. Turn on Plasma Cutter CNC Controller - Red box above computer tower

d. Turn on AVHC - Black box next to keyboard

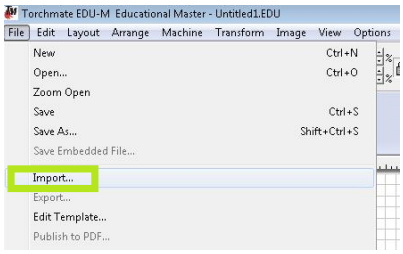


2. Prepare File – Creation Software

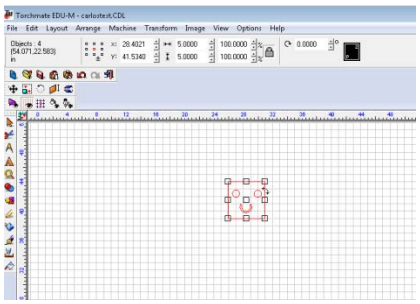
a. Launch Torchmate.EDU



b. Import File

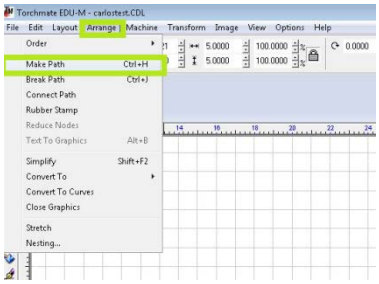


c. Click in work area (Don't drag or it will scale your file)

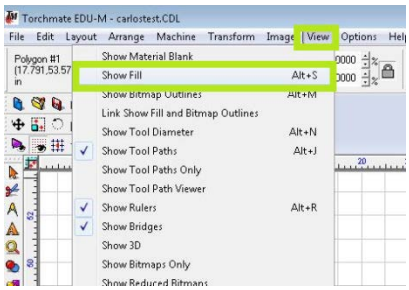


d. Make Tool Path (Refer to manual pg. 21-23)

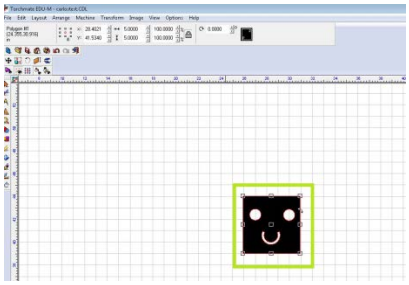
i. Go to **ARRANGE – MAKE PATH**



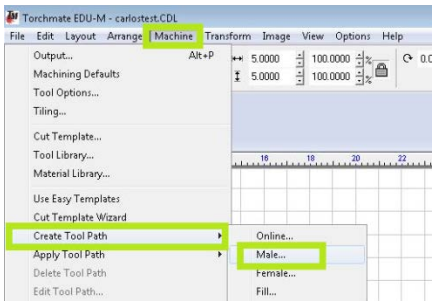
ii. Now go to **VIEW- SHOW FILL**



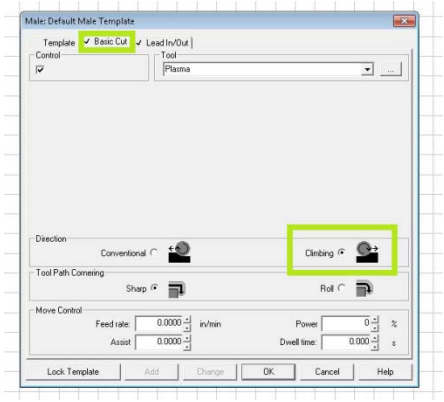
iii. You should now have a file that looks like this:



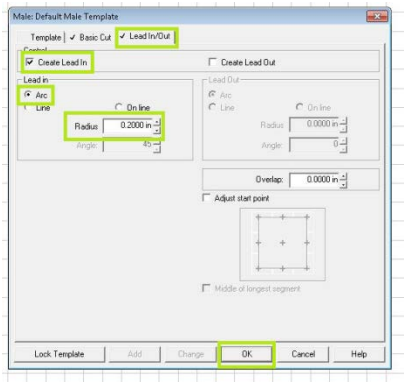
iv. Now you can create the tool path. Go to **MACHINE-CREATE TOOL PATH- MALE**



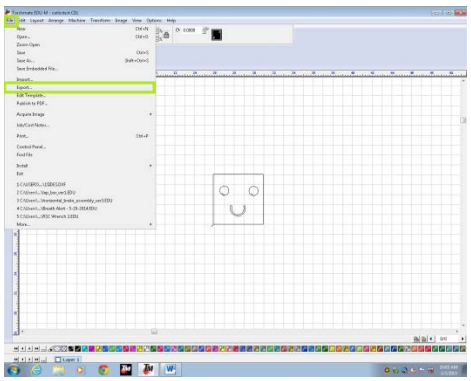
v. In the **BASIC CUT** tab, make sure the **DIRECTION is CLIMBING**



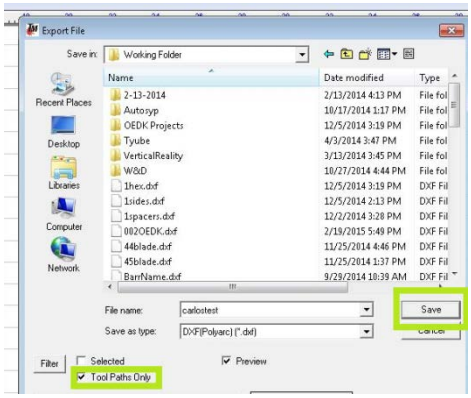
vi. In the **LEAD IN/OUT** tab make an **ARC lead in** with a 0.2” (it can be smaller) radius. Then press OK.



vii. Now go to **FILE-EXPORT**



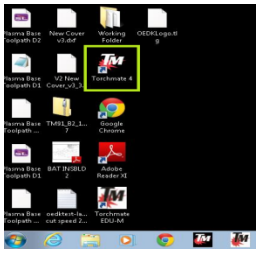
viii. You will be prompted to save your file. Pick your folder, select **SAVE AS TYPE** to be **DXF POLY ARC**, make sure the **TOOL PATHS ONLY** box is checked and click **SAVE**.



e. You should have a .DXF file at this point

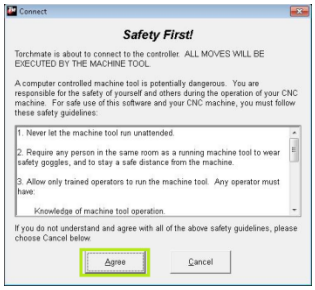
3. Prepare File – Cut software

a. Launch Torchmate 4



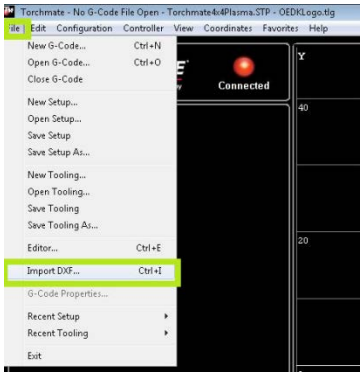
b. Click on 'Connect' to connect to Signal Generator

c. After reading the Safety Guidelines, click 'Accept'

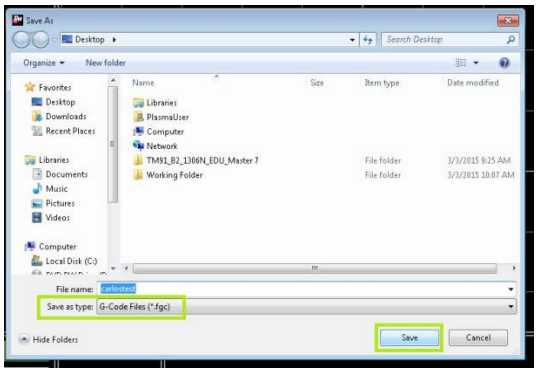


i. If no line test has been performed on that particular material, you will need to run a line test in order to determine the correct speed setting.

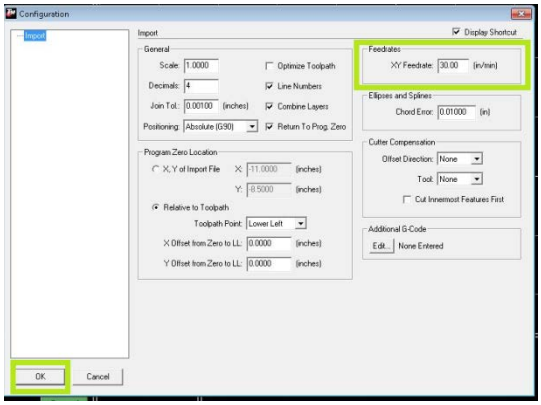
d. Once speed has been determined using line test, Import DXF file



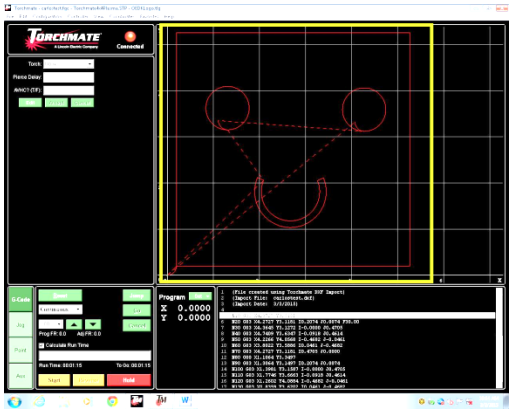
e. A window will pop up asking to save your G-Code file.



f. Check/Set feed rate in upper right hand corner

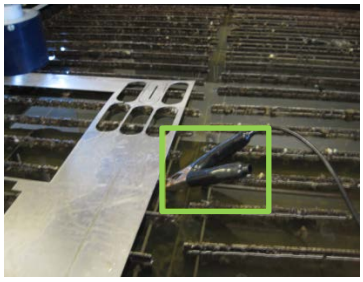


i. Your file should look like this:

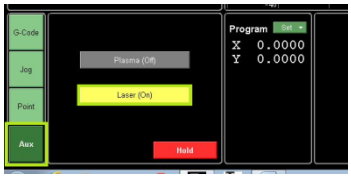


g. Put material in cutting bed

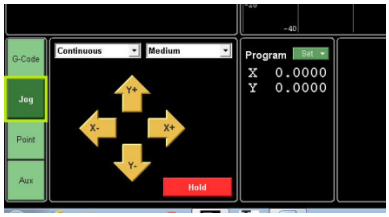
h. Attach grounding cable



i. Click the Aux menu and turn on the laser

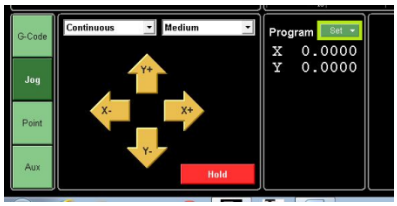


j. Click the Jog menu to jog torch head to a spot suitable for cutting (be sure to leave a minimum ½" material to the edge)



i. Note: keep in mind that the origin of your file is in the lower left-hand corner

k. Once your have the torch positioned go to Program->Set->Zero All



l. Make sure the shield for the torch is in place and properly positioned/ secured to avoid eye hazard.

4. Cutting

a. Click on G-Code Menu button

b. If you wish to do a "dry run", turn off the cut function by pressing and holding the cut button until the Cut On light is off. If not, leave the red cut light on

c. Hit Start button

Notes:

- If material is relatively flat, you can stay in manual mode, which will stay at a specific height based off the initial touch of the torch to the material before every cut. If the torch runs into the material while cutting, you need to switch to automatic mode using the AVHC.
- If material is warped, you will need to use automatic mode. In this mode a differential voltage will need to be established to ensure proper torch height above material is achieved. This will be a trial an error process.
- A good ground is VERY necessary for the plasma cutter to work properly. If the plasma cutter stops functioning properly, check ground and unscrew tip to look for debris build-up.