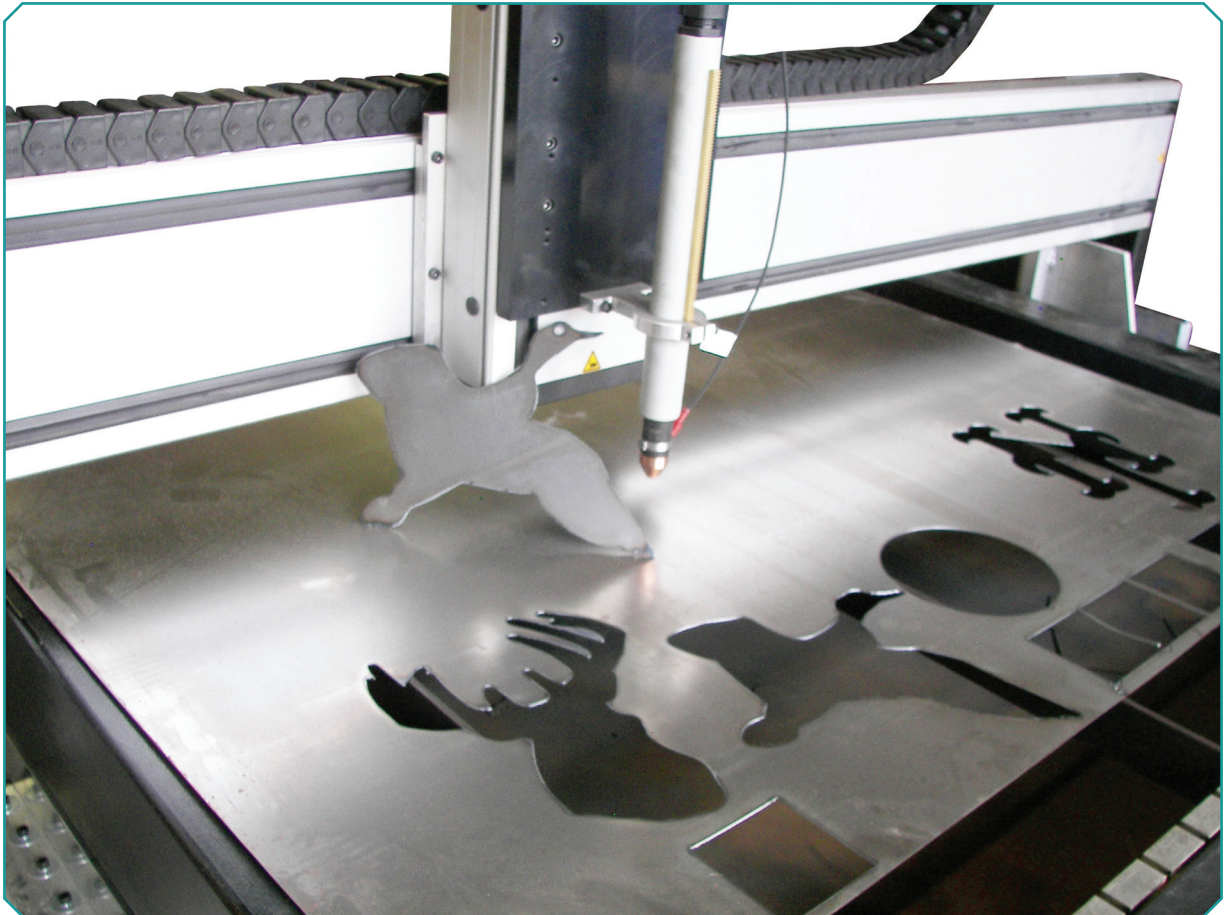




CNC Plasma Cutter Documentation

Call: 631-648-7481 or Visit: support.technocnc.com



Techno CNC Systems, LLC ©2016 (04/16)

Safety Information



WARNING! READ, FOLLOW AND UNDERSTAND THE TORCH MANUAL BEFORE BEGINNING USE.

- 1) *Use a welding screen when operating Plasma Torch.*
- 2) *Wear proper eye protection.*
- 3) *Wear proper protective clothing.*
- 4) *Disconnect all power before adjusting, loading, or replacing any materials or consumables on the machine table or torch.*
- 5) ***CUT MATERIAL AND MACHINE WILL REMAIN HOT FOR MANY MINUTES AFTER PLASMA TORCH HAS BEEN SHUT OFF. LET COOL ACCORDINGLY. ALWAYS USE GLOVES TO AVOID BURNS AND SHARP EDGES.***
- 6) *Disconnect all power before servicing the CNC machine or torch. The machine may have multiple power sources, disconnect all power sources.*
- 7) *Ensure proper ventilation is setup and used during operation of Plasma Torch.*
- 8) *Install Plasma Cutter on a non-flammable surface only.*
- 9) *Keep all areas around the Plasma Torch free of flammable materials, including but not limited to wood, flammable material scraps, clothing, cleaning solvents, plastic and more.*
- 10) *Keep clothing, hair, and jewelry away from the Plasma Torch and hot metals.*
- 11) *Do not operate unattended.*
- 12) *Have appropriate fire extinguishing equipment available in case of emergency.*
- 13) *Refer to MSDS for material being cut for material-specific safety instructions. Stainless steel can be particularly dangerous.*

Safety Information

The general steps for cutting an NC file on the CNC plasma cutter are listed below. Review the steps below before you start the steps in this lesson on the next page and be sure to refer back to this section in you need a refresher as you complete the rest of this manual.

Pre-Machining Checklist:

Make sure you have all of the appropriate safety gear. (Eye protection, hearing protection, adequate ventilation, gloves, apron, fire extinguisher)

Confirm that you are authorized by your instructor or supervisor to operate the CNC plasma cutter.

Make sure that the machine has been setup and tested and is fully operational.

Make sure the torch has the correct consumables installed for the torch's AMP setting and the material to be cut.

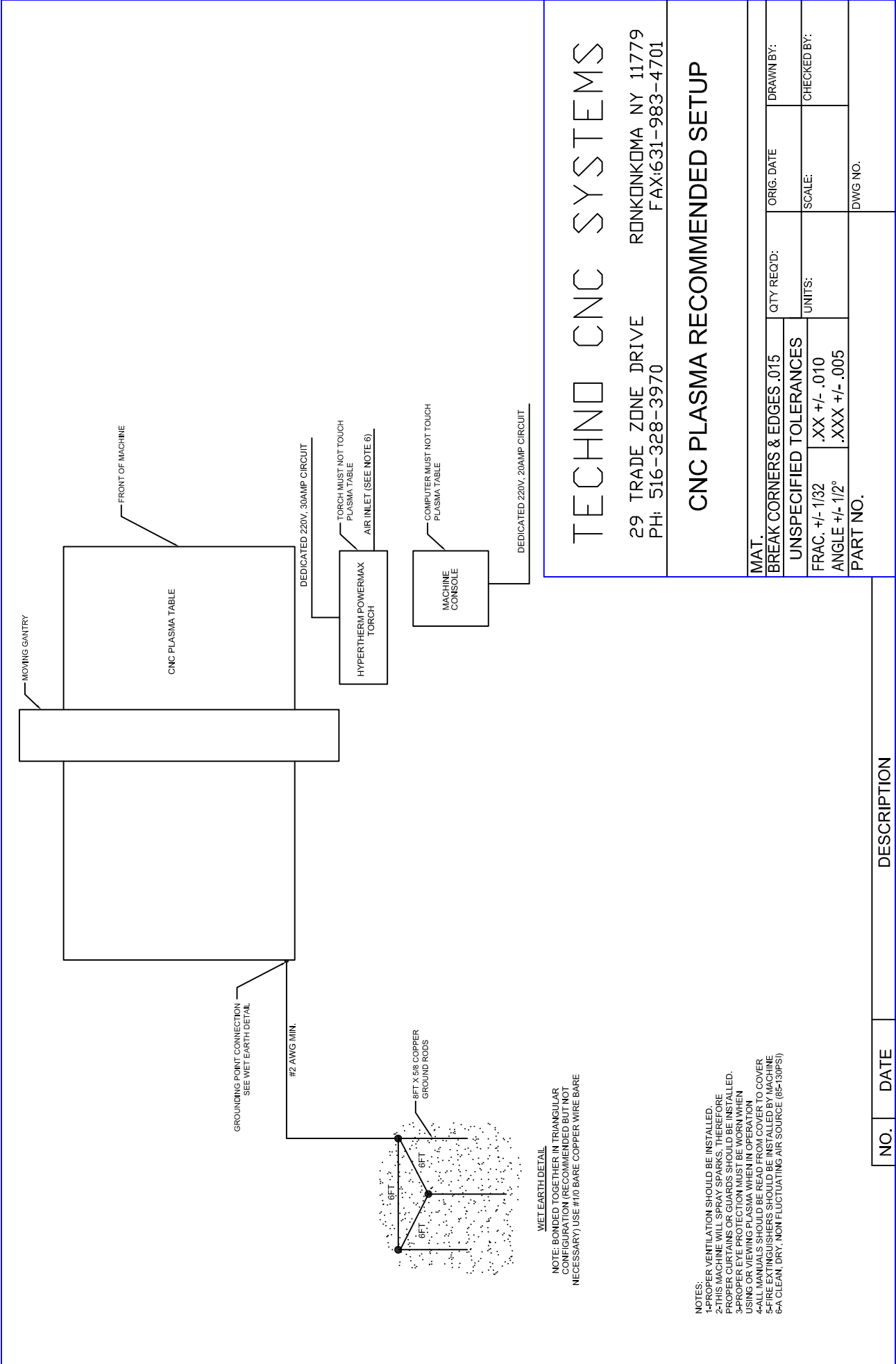
Make sure the CNC controller, the torch controller and air compressor are plugged in and turned on.

Make sure the torch controller has the specified air pressure available.

Cutting an NC file with the CNC Plasma Cutter

1. Check torch consumables and air pressure.
2. Launch the Techno CNC Interface.
3. Position the stock.
4. Set the torch voltage and cut height.
5. Open the desired NC file.
6. Preview the NC file.
7. Set the torch feed rate.
8. Move the machine to the origin on the stock.
9. Zero all of the axes.
10. Touch off the z position.
11. Preprocess the file.
12. Put on welding shield or goggles.
13. Click Start.





TECHNO CNC SYSTEMS

29 TRADE ZONE DRIVE RONKONKOMA NY 11779
PH: 516-328-3970 FAX:631-983-4701

CNC PLASMA RECOMMENDED SETUP

MAT.				QTY REQ'D:		ORIG. DATE	DRAWN BY:
BREAK CORNERS & EDGES .015				UNITS:		SCALE:	CHECKED BY:
UNSPECIFIED TOLERANCES				FRAC. +/- 1/32		.XX +/- .010	
ANGLE +/- 1/2°				XXX +/- .005			
PART NO.				DWG NO.			

NO.	DATE	DESCRIPTION
-----	------	-------------

Quick Start Running Instructions

The screenshot shows the MicroSystems WinCNC Controller software interface. The interface includes a menu bar (File, Configuration, Settings, View, Options, Units, Transit, Jog, Help), a toolbar, a program editor window on the left, a coordinate display window at the top right, a control panel with buttons for Seek Home, Set XY, Set Z, Clear, and Calculator, a jog control pad with directional keys and feed rates (.001, .01, .1, 1), a PDF Manual viewer, and a configuration window at the bottom right. The program editor window displays the following code:

```
N3617 M62
Running TORCHOFF.MAC
L39 [TURN OFF TORCH]
G4 D(THE) [WAIT]
G31 [RESTORE POSITIONS]
L91 G0 Z(THL) [LIFT TORCH]
Returning To C:\WINCNC\DEER.TAP
N3617 G53
Finished: C:\WINCNC\DEER.TAP
Elapsed Time: 2 Minute(s) and 47 Seco
```

The coordinate display window shows the following values:

IN	G54	G92	100%
X	7.800	260	
Y	8.976	260	
Z	0.919	25	

The jog control pad has buttons for Fast, Med, and Slow feed rates, and a feed rate selector with values .001, .01, .1, and 1. The configuration window shows the following settings:

16GA	Config
THC	Auto
Target Voltage:	122.0 Set
Arc Voltage:	80.7
Torch	

Step 1: Home the machine (only for first time).

Step 2: Jog to the place on the material where you would like to start the cut.

Step 3: Set XY origin. Z is not critical for plasma cuts.

Step 4: Set your plasma cut parameters using the Hypertherm manual as a reference.

Step 5: Go to "File > Open" and select your cut file.

Step 6: Start the file.

Plasma Torch Settings

Saved THC Configurations

Material Name: 16GA

Torch Amps: 65 Torch Tip Info

Feed Rate: 260.0 (inch/min)

Target Volts: 123.0

Cold Time: 0.000 seconds

Cold Pierce Delay: 0.000 seconds

Pierce Delay: 0.000 seconds

End Delay: 0.100 seconds

Slow Start Time: 0.000 seconds

Slow Feed: 0.000 %

Early Torch Off: 0.000 (inch)

Plunge Rate: 100.000 (inch/min)

Piercing Height: ☒ Enable 0.150 ☐ Disable

THC Active Delay: 1.000 seconds

THC Mode: ☐ Disabled ☒ Automatic ☐ Auto Sense

Plasma Gas: None Plasma Preflow: 0 Plasma Cutflow: 0

Shield Gas: None Shield Preflow: 0 Shield Cutflow: 0

Default
1/4
1/8
16GA

Save Add Delete

Done

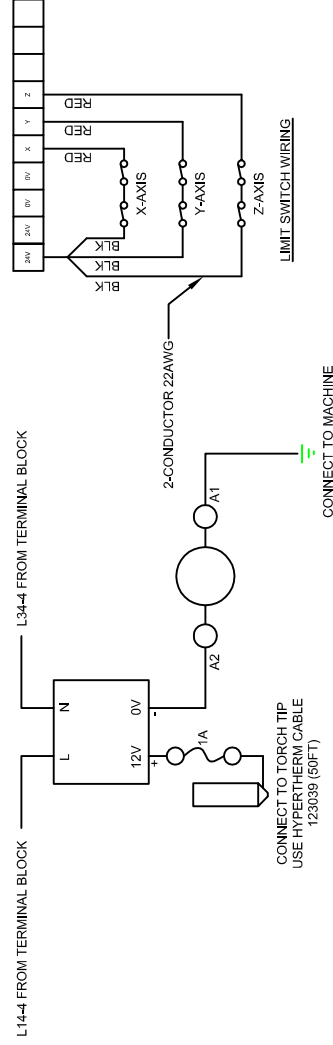
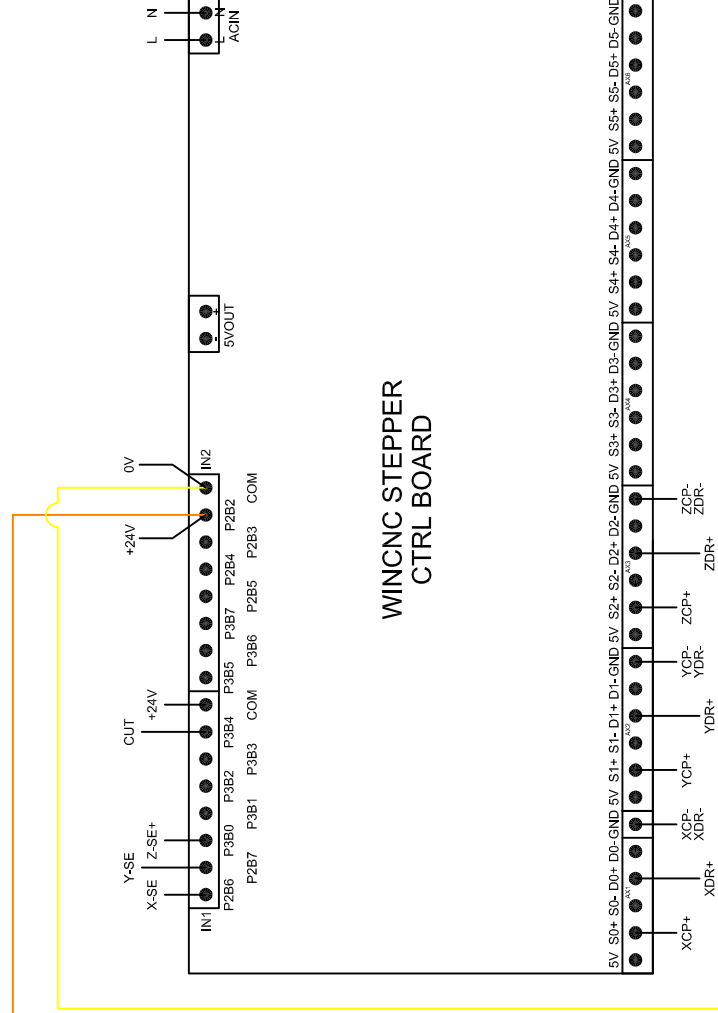
Refer to the Hypertherm manual for these settings.

Only used on HD units.

They will vary depending on your torch strength, the material type, and the material thickness.

These were settings used on .06" mild steel, for example.

"Torch Amps" is based on the power of the torch and the torch tip.



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MATERIAL		QTY REQ'D:	ORIG. DATE	DRAWN BY:
BREAK CORNERS & EDGES .015		UNITS:	SCALE:	CHECKED BY:
UNSPECIFIED TOLERANCES				
FRAC. +/- 1/32	.XX +/- .010			
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