

# Plasma Cutter - Hand Cutting Certification



**Student:** .....

**Trainer:** .....

**Date:** .....

Certification for: Plasma Torch (Metal Shop)

## Training Check-Off List:

### Tool Anatomy

- Parts of the CMS's Hypertherm Powermax85 plasma cutter are properly identified
  - Torch lead and connector - can take torch lead on and off
  - Work lead, clamp and connector - can install and remove work lead
  - Gas supply line
  - On/Off Switch
  - Operating Mode Switch - can impart different modes
    - Expanded metal
    - Standard cutting and piercing
    - Gouging
    - Lock
  - Status Screen
    - Current setting
    - Fault Icon
    - Fault code
    - Pressure setting
    - Gas Pressure Bar

### Machine Capabilities & Limitations

- Student can convey recommended cutting capacities as respective speeds (ipm) for Powermax85.
- Student can convey duty cycle limitations with Powermax85:
  - At 85 A, the arc can remain on for 6 minutes out of 10 minutes without causing the unit to overheat (60% duty cycle).
  - At 74 A, the arc can remain on for 8 minutes out of 10 (80%)
  - At 66 A, the arc can remain on for 10 minutes out of 10 (100%).

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## Pre-Operation

- Student utilizes proper Personal Protection Gear - safety glasses, welding helmet or glasses, welding gloves, welding jacket (or long sleeves!) No unrestrained long hair and no flowing clothes. Closed-toed shoes are required.
- Student checks to ensure that work area is safe - No puddles on floor in welding/plasma cutting (handheld) area. Plasma cutting area is free of flammable materials.
- Student adjusts welding screens to make sure no bystanders can be caught by arc-flash

## Operation

- Student turn on air compressor AND cooling fan
- Student turns on the Powermax85, checks the indicators and verifies the following
  - The green power ON LED on the front of the power supply is illuminated.
  - The Fault LED is not illuminated.
  - No error icons appear in the status screen.
- Student adjusts the current (amperage) for the specific cutting application.
- Student turns on the fume extractor and position extraction arm correctly.
- Student attaches work clamp correctly
- Student demonstrates proper drag-cutting technique

## Post-Operation

- Student turns off the fume extractor.
- Student turns off the plasma cutter.
- Student turns off air compressor and cooling fan.
- Student disconnects the work clamp, coil cords and stores neatly.
- Student return all tools.
- Student cleans the cutting table and the area around the cutting table.

## Lockout/Tagout Procedure

- Student imparts the following Lockout/Tagout procedure: Tool unplugged and plug wrapped in safe/visible location, tag filled out and posted, front desk and/or Metal Shop Lead notified ([metalshop@claremontmakerspace.org](mailto:metalshop@claremontmakerspace.org))

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**Pass/Fail:** .....

**Comments:**

.....  
.....  
.....

**Student**

**Signature:** .....

**Date**

**Certifier**

**Signature:** .....

**Date**



Certifier: Please scan this QR Code to email [info@claremontmakerspace.org](mailto:info@claremontmakerspace.org), and include a list of students who have passed this test.

Then, return this form to the front desk (even if the student failed!).