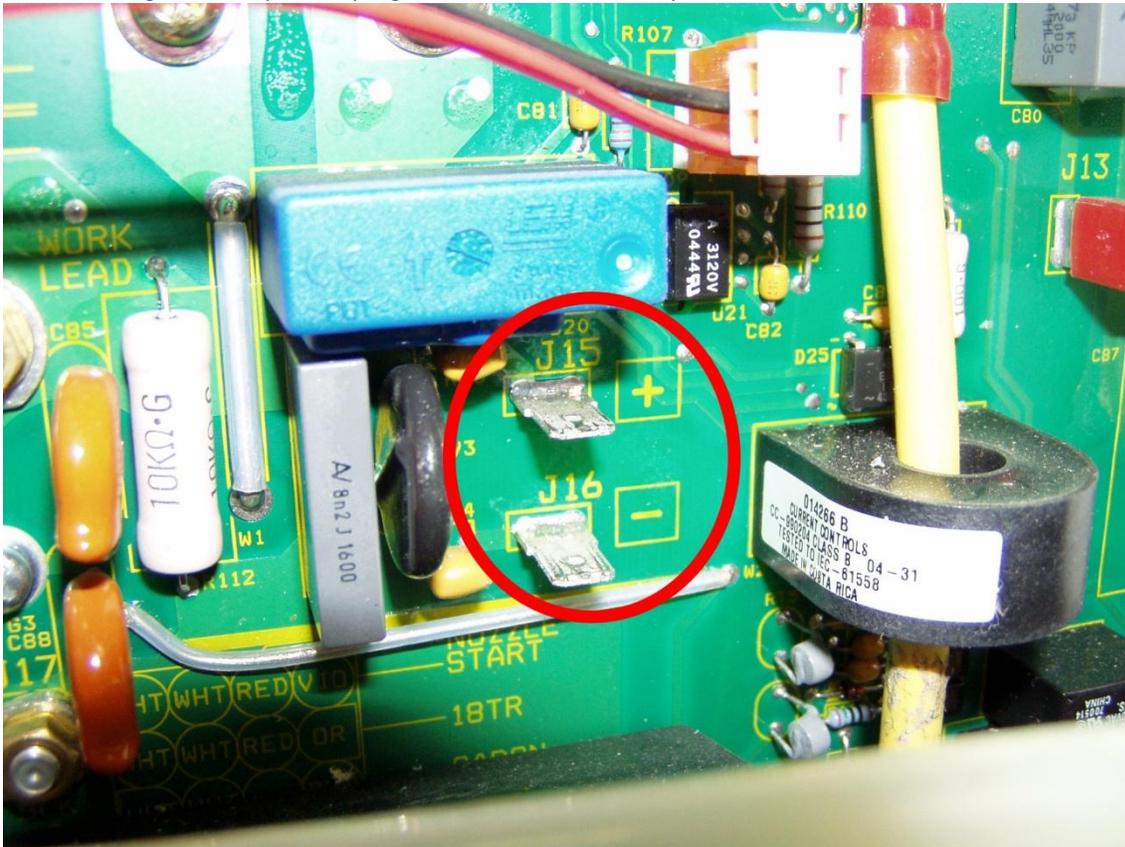
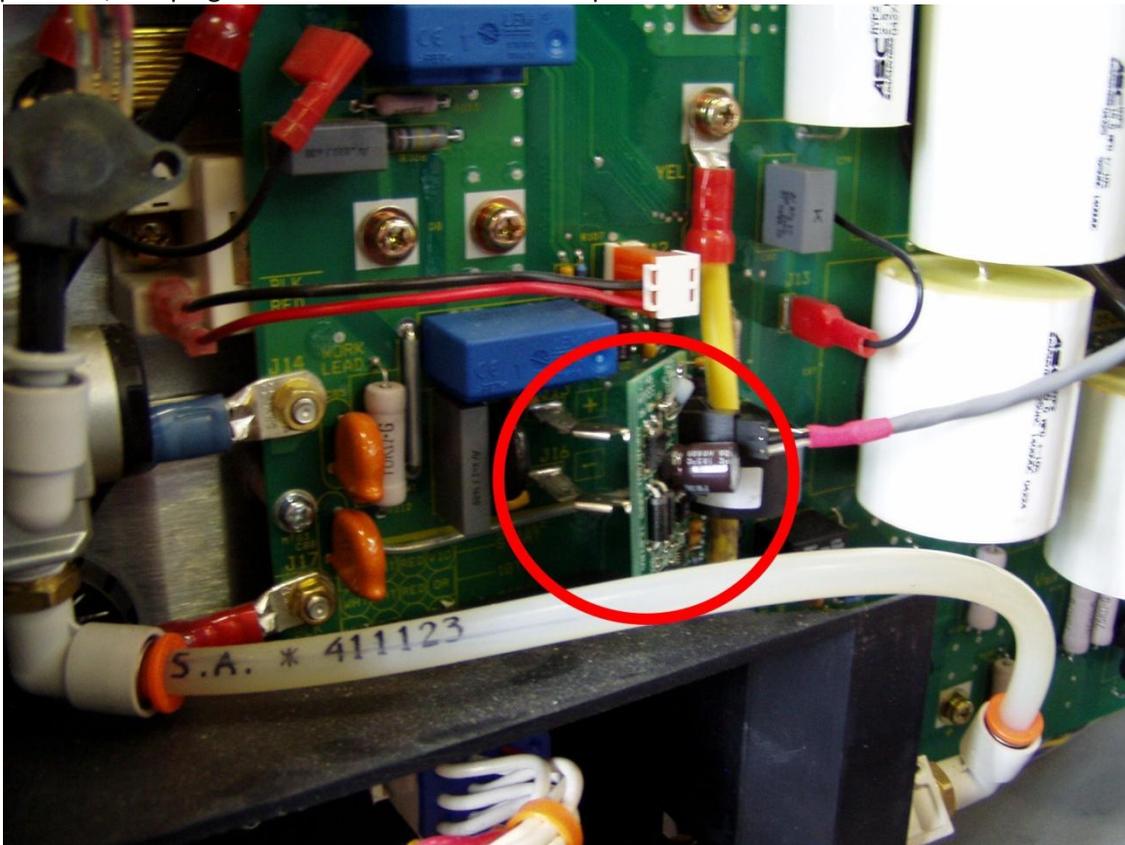


The THC board should plug directly onto your torch. On the Hypertherm 1250, we had to take the cover off to get at the pins to plug in the board. See the picture below.



Before plugging in, make sure to check which side is negative, and which is positive. If the board is plugged in backwards, it will cause damage. After plugging it in, you then take the small grey cable provided, and plug it into the THC board. See the picture below.



The other end of the THC board cable must be wired to the daughterboard.

For 25 Pin daughterboards, the wiring is as follows:

Red is power – connect to pin 22 or 23 on the daughterboard
Black is signal – connect to pin 3 on the daughterboard
Silver is ground – connect to pin 24 or 25 on the daughterboard

For 37 Pin daughterboards, the wiring is as follows:

Red is power – connect to pin 20 on the daughterboard
Black is signal – connect to pin 11 on the daughterboard
Silver is ground – connect to pin 21 on the daughterboard

The only other additional wiring will be from your torch:

You need to wire the torch on/off to any available output on either the daughterboard or the PCI card. You also need to wire the arc good wire to any available input on either the daughterboard or the PCI card. (You may need to refer to your torch manual for specific wiring).

After the wiring is done, the following must be added to the cncscrn.ini file in the WinCNC folder on your hard drive.

“Display”, “THCWindow”, 0, 0 (The two zeros will position the window, first being position from the left, and next being from the top. The unit of measure is in pixels. If you change your line to read “Display”, “THCWindow”, 10, 20 then your THC window will be 10 pixels from the left, and 20 pixels down from the top .)

Then, in the WinCNC.ini file you have to add the following lines:

auxout= c1 p4 b0 [Torch On/Off] (the c, p & b will be specific to where you wire the on/off).
auxin= c1 p0 b0 [Arc Good] (the c, p & b will be specific to where you wire the arc good.
altaxislo= p0 b1 [Torch Touch] - CNI Pin 2 0=X 1=Y 2=Z

[Torch Height Control]

thc=a2 f50 v140 s.75 e.75 p10 o1 i0 d.5 l1 t1 (see below for specific explanations)
cmdrestartfeed=m61 (z will touch off material after restart)
restart=v0 (z will not move after restart)
THCDISAB=V0T0
THCVEL=F15V5 (respond by 15 units/min voltage change of 5)
THCVEL=F23V10
THCVEL=F65V15

Here is a description of the thc line:

Torch Height Control (THC)

A# is the axis number (x=0, y=1, z=2, etc.) to adjust for THC.

F# is the feed rate or velocity, used to adjust the specified axis up/down for THC. (Default = 100)

V# is the target voltage for the THC, must be between 20 and 250. (Default 140)

S# is the start, or pierce delay, in seconds, used for THC when turning the torch on. (.25-.75 is avg)

E# is the end delay, in seconds, used for THC when turning the torch off. (.25-.75 is avg)

P# is the percentage (1-100) of the programmed velocity that when reached will activate the THC. (50-70 avg)

O# is the auxiliary output channel number used to turn the torch on and off for THC. (Corresponds with your "auxout" C value)

I# is the input channel used to detect the "arc good" signal for THC. (Corresponds with your "auxin" C value)

D# specifies the compression distance of the switch used for the material touch-off. Switch compensation amount.

L# sets the distance to raise the torch when it is turned off prior to moving to the next pierce location.

T# is the tolerance. Voltage changes of less than the tolerance are ignored. (Ignore any voltage change more than 1) Change 1 if needed.