

# ***Hypertherm®***

## ***HD4070***

### ***Integrated Command THC® Upgrade***

**Kit # 128523 and 128524**



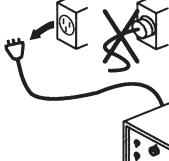
**Field Service Bulletin**  
**(P/N 803850)**

**Revision 1 – March, 2005**

**Hypertherm, Inc.**  
**Hanover, NH USA**  
**[www.hypertherm.com](http://www.hypertherm.com)**

© Copyright 2005 Hypertherm, Inc.  
All Rights Reserved

Hypertherm and Command THC are trademarks of Hypertherm, Inc.  
and may be registered in the United States and/or other countries

		<p><b>WARNING</b> <b>ELECTRIC SHOCK CAN KILL</b></p>
<div style="display: flex; align-items: center;">  <div> <p><b>Disconnect electrical power before performing any maintenance.</b>  <b>All work requiring removal of the power supply cover must be performed by a qualified technician.</b>  <b>See <i>Section 1</i> of the Instruction Manual for more safety precautions.</b></p> </div> </div>		

## Purpose

Describes necessary steps to upgrade an HD4070 power supply without internal THC's. Kit # 128523 upgrades a power supply for one THC. Kit # 128524 upgrades a power supply for a second THC (requires a power supply with one existing internal THC). Order both kits to add two THC's to a power supply without any internal THC's.

**Note:** The lifter and other components for Command THC must be ordered separately from these kits. See HD4070 product configuration manual (P/N 803770). Use order form "B" to order item numbers 20-25 for one THC, or order form "C" to order item numbers 20-25 for a second THC.

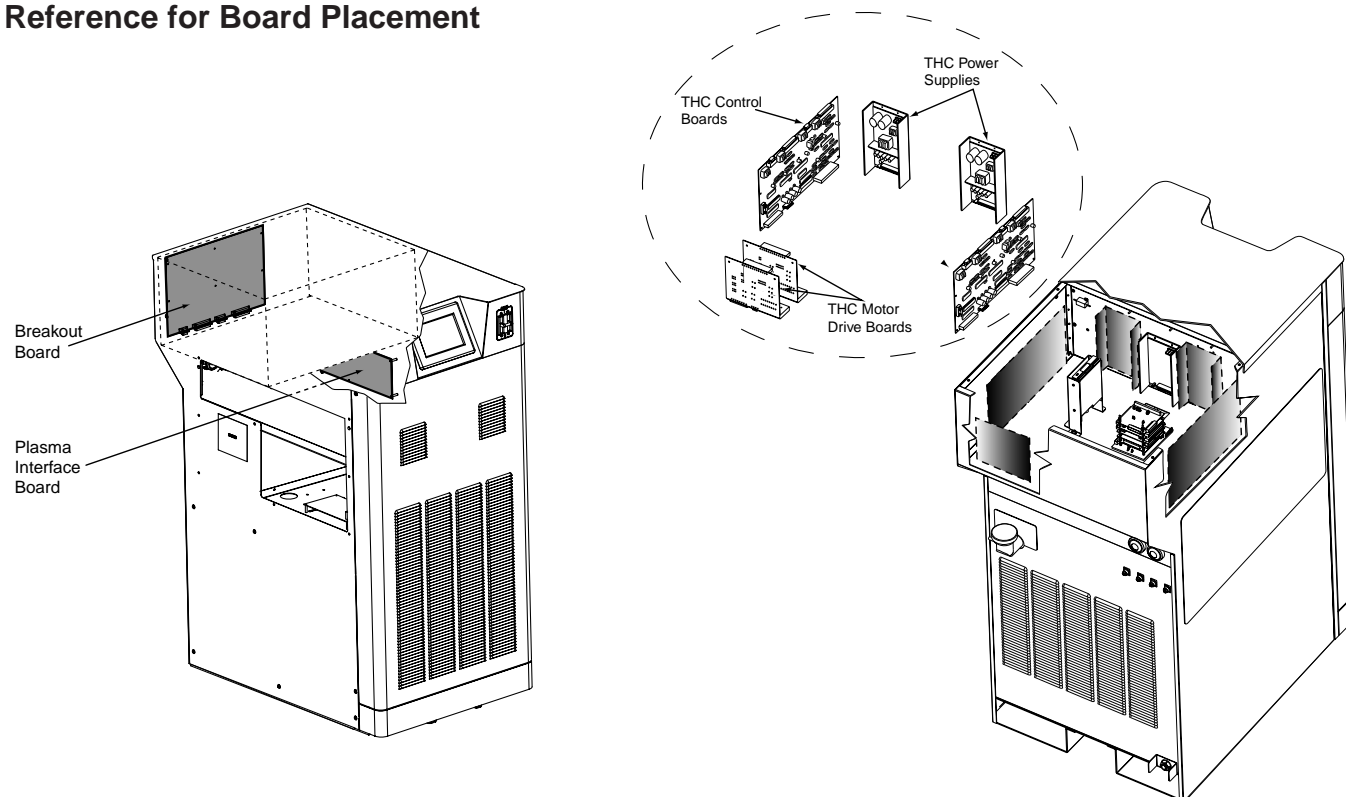
## Kit # 128523 Contents (For one THC upgrade)

Part Number	Description	Qty
008955	Screw Lock Kit	4
041706	Command THC Control PCB	1
229069	130 Watt Power Supply	1
075404	Machine Screws: 6-32 x 1/4"	6
075491	Machine Screws: 6-32 x 3/8"	6
075501	Machine Screws: 4-40 x 3/8"	2
123479	Ribbon Cable: 36C, 40"	1
123492	Ribbon Cable: 36C, 40"	1
123493	Ribbon Cable: 50C, 25"	1
129597	Harness: THC #1 Power	1
129672	THC Motor Drive Assembly	1
343003	Cable Tie: 3-7/8"	8
108150	Cable Mount: Adhesive Back	4
008680	Heatsink pads	2

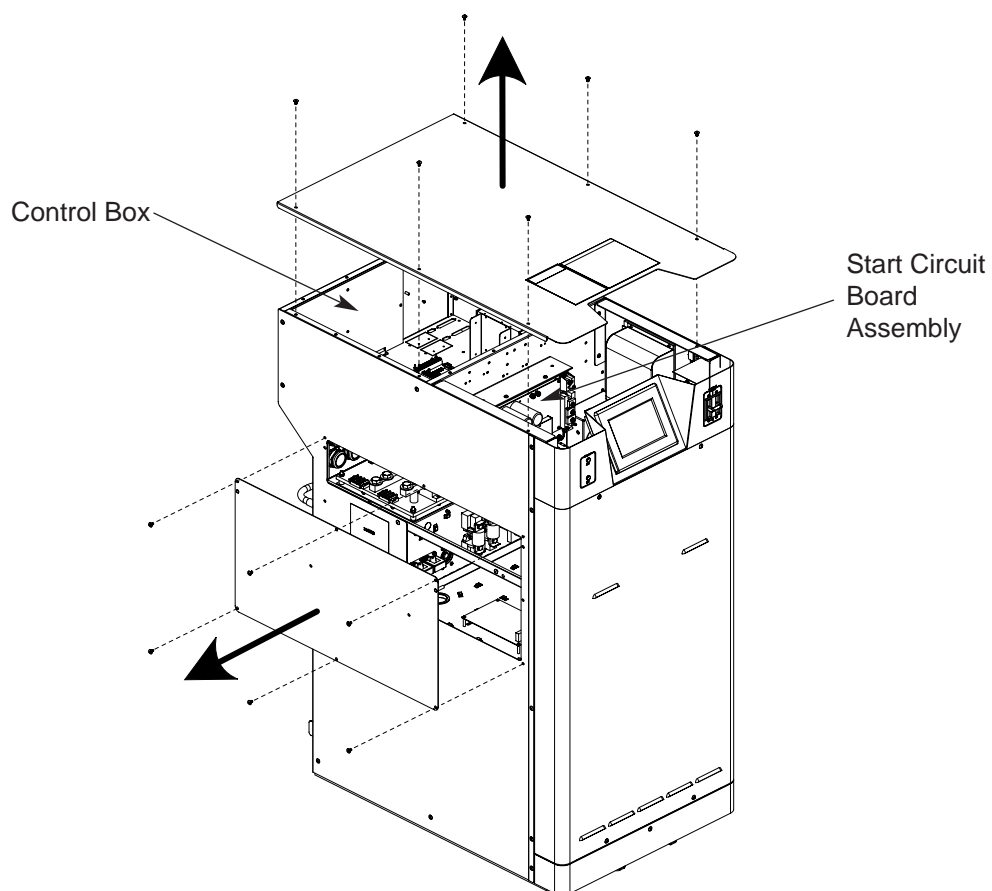
## Kit # 128524 Contents (For second THC upgrade)

Part Number	Description	Qty
008955	Screw Lock Kit	4
041706	Command THC Control PCB	1
229069	130 Watt Power Supply	1
075404	Machine Screws: 6-32 x 1/4"	6
075491	Machine Screws: 6-32 x 3/8"	6
075501	Machine Screws: 4-40 x 3/8"	2
108112	Standoffs: 6-32 x 2"	2
123480	Ribbon Cable: 36C, 60"	1
123539	Ribbon Cable: 50C, 30"	1
123541	Ribbon Cable: 36C, 40"	1
129630	Harness: THC #2 Power	1
129672	THC Motor Drive Assembly	1
343003	Cable Tie: 3-7/8"	8
108150	Cable Mount: Adhesive Back	4
008680	Heatsink pads	2

### Reference for Board Placement

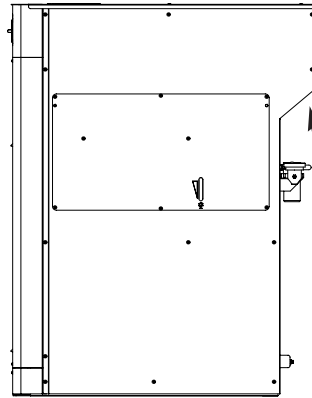
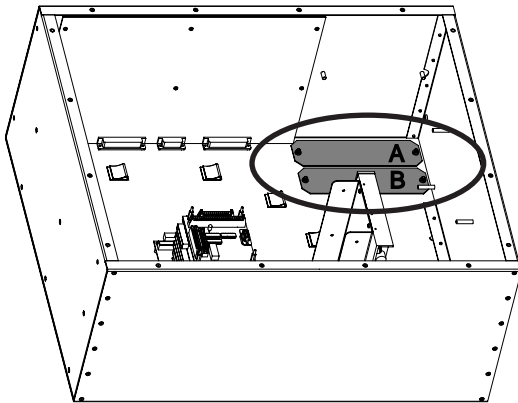


### Remove Top Cover and Left Side Panel

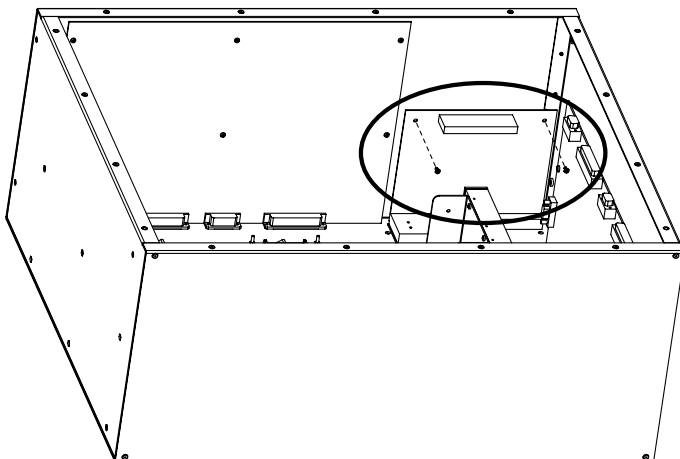
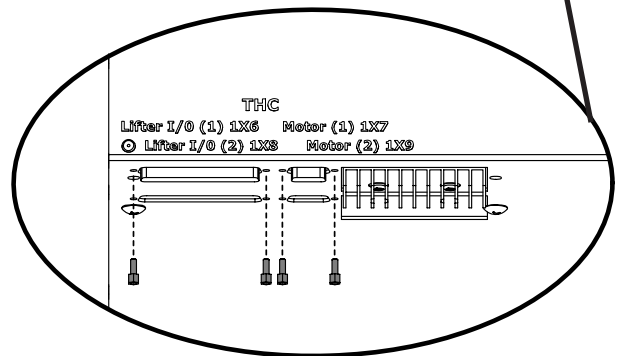
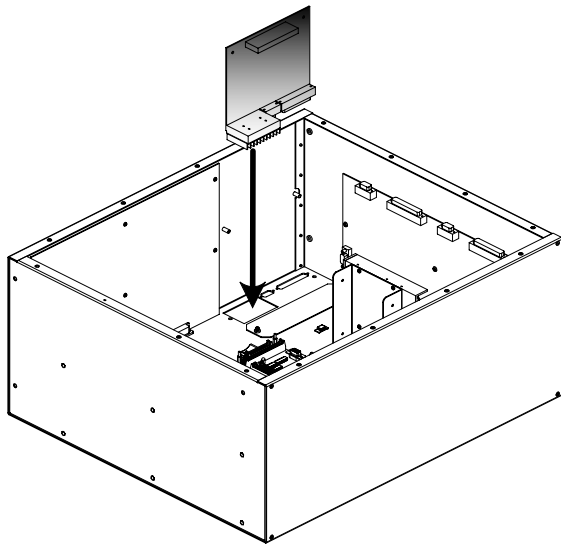


## Install Motor Drive Board(s)

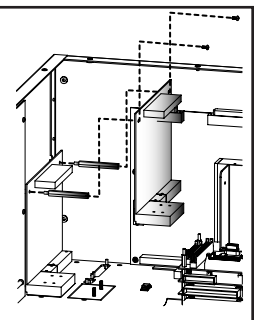
- 1 – Remove plate A from control box when installing one THC. Remove plate B if installing a second THC. Screws are located at the back of the power supply. See figures below for locations.



- 2 – Install board as shown, below left. Use screw lock kits (008955) to attach board in the same area where plate screws were removed. Torque to 6 in/lbs. See figure below right. Use two screws (075404) to attach board inside control box \*. Torque to 10 in/lbs. See figure bottom right.

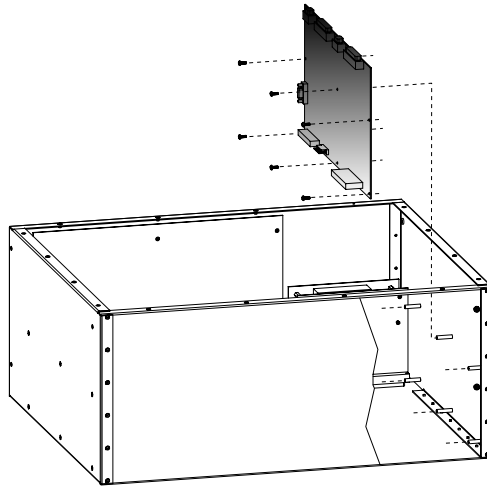


\* Note: If installing two THC's, use the standoffs (108112) to attach board # 1 and screws (075404) for board # 2.



### Install Control Board(s)

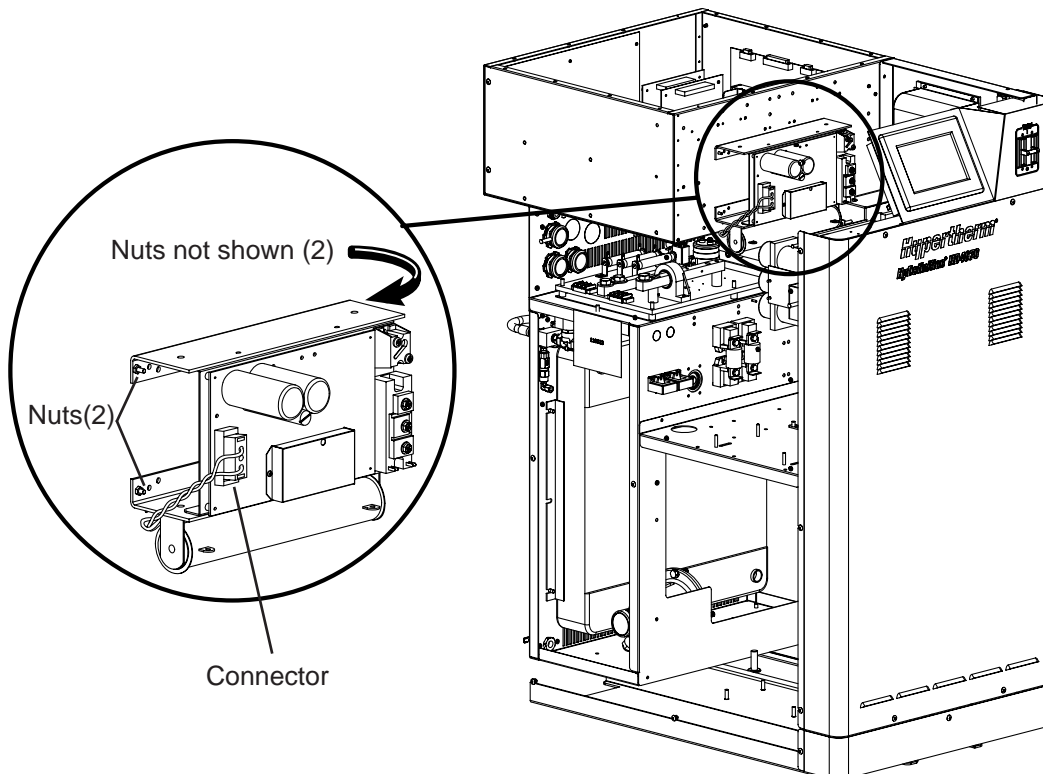
- Install board as shown below. Use six screws (075491) to attach board. Torque to 10 in/lbs. Repeat process on opposite side of control box if adding a second THC.



### Install Power Source(s)

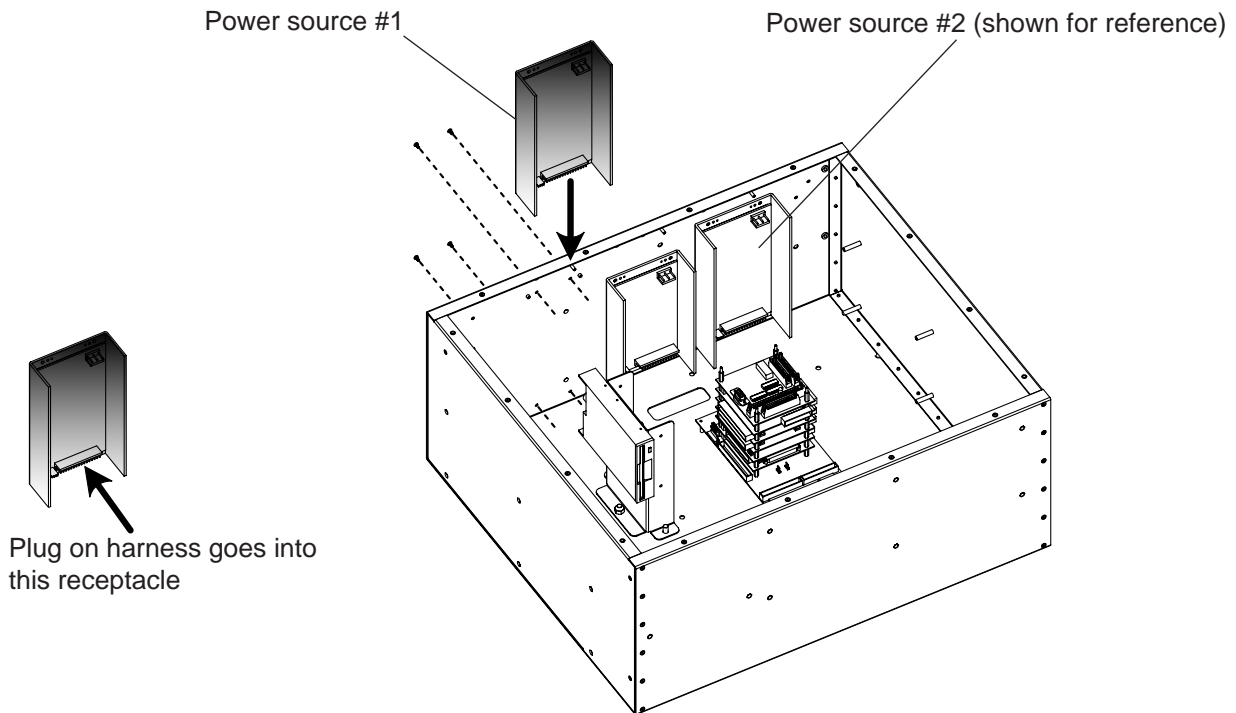
Note: The start circuit assembly must be removed from the front wall of the control box to allow access to the proper screw holes.

- 1 – Remove connector from board.
- 2 – Remove nuts (4).
- 3 – Carefully move assembly to allow access to the front of the control box wall.



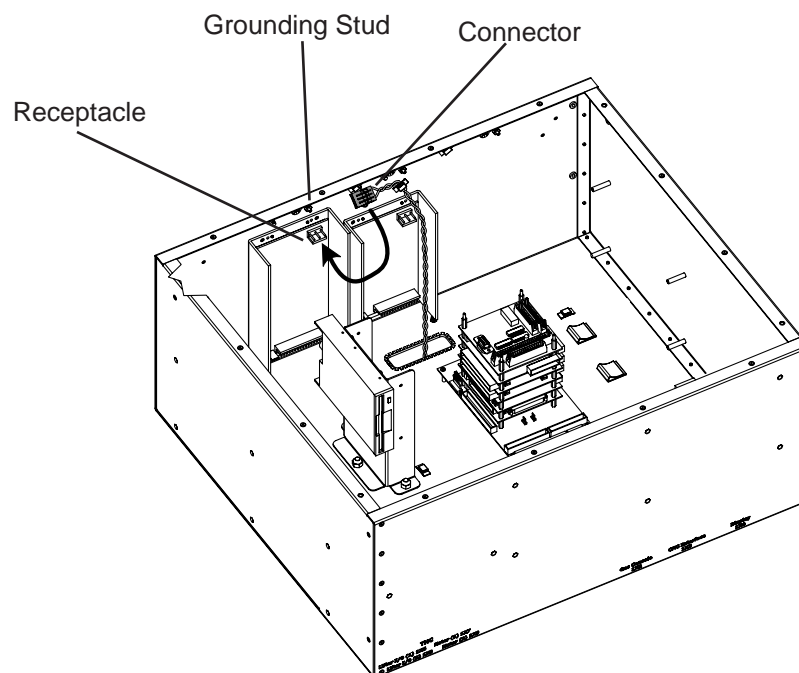
## Install Power Source(s) – Continued

- 4 – Plug THC #1 harness (P/N 129597) into power source and install board as shown below. Use four screws (075501) to attach board from the outside of the control box. Torque to 10 in/lbs. Repeat process if installing a second THC.
- 5 – Reattach start circuit assembly to the control box and plug connector back into receptacle.



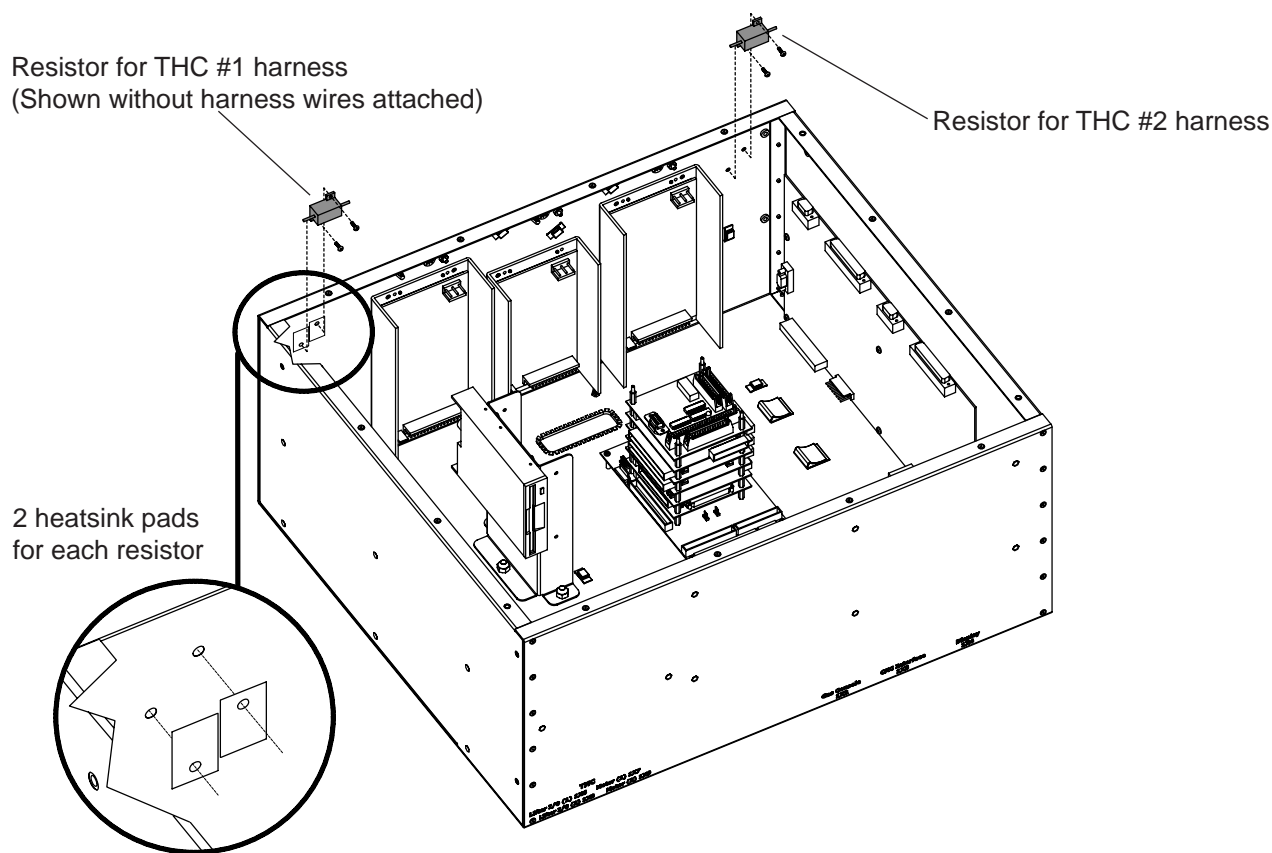
## Power Source(s) – Wiring

- 1 – Cut cable tie holding connector to control box wall and plug into receptacle.
- 2 – Attach ground wire to grounding stud.
- 3 – Repeat if installing a second THC.



### Power Source(s) – Harness Installation

- Apply heat sink pads (P/N 008680) to the control box wall by aligning holes in pads with the screw holes on the wall (see close up below left). Attach resistor using 2 screws (P/N 075501). See figure below.



### Cable and Harness Installation

Refer to the table below for connection points. See the *Maintenance* section of the HD4070 Instruction Manual (P/N 803760) for detailed descriptions of the boards.

#### THC #1

##### Part number

129597	From power source #1	J8 on THC control board and J1 on motor drive board
123493	J7 on control board	J2 on motor drive board
123492	J4 on control board	J1 on breakout board
123479	J6 on control board	J1 on plasma interface board

#### THC #2

##### Part number

129630	From power source #2	J8 on THC control board and J1 on motor drive board
123539	J7 on control board	J2 on motor drive board
123541	J4 on control board	J2 on breakout board
123480	J6 on control board	J2 on plasma interface board

## Cable and Wire Placements

Use cable clips provided or clips present on the bottom of control box to arrange ribbon cables neatly. All other wires should be securely fastened using cable ties supplied in the kit. Make sure wires are not touching other electrical components.

