

powermax800

Power Board Replacement

Field Service Bulletin

IM-271

(P/N 802710)

Revision 0 October, 1996

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INTRODUCTION

Purpose

This field service bulletin will enable a qualified technician to change the power board in any Powermax800 power supply.

General

Beginning with power supply serial number 800-010000, the new Powermax800 power board (041532) was redesigned to be more efficient than the older version power board (041490). For power supplies with serial numbers before 800-010000, you must modify the power transformer when installing this new power board.

Customer Required Tools

Phillips head screwdriver
Crimping tool
Wire clippers
5/16" Nut Driver

Powermax800 Power Board Replacement Kit (128108):

Part No.	Description	Qty.
128108	Powermax800 Power Board Replacement Kit	
041532	Powermax800 Power Board	1
074081	Butt Splice:16-14	4
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INSTALLATION

If the serial number on your Powermax800 is before 800-010000, installation involves 3 steps:

- I. Removing the old power board.
- II. Modifying the power transformer.
- III. Installing the new power board.

If the serial number on your Powermax800 is 800-010000 or greater, skip step II.

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WARNING



SHOCK HAZARD: Always turn off power and wait 5 minutes before removing cover of the power supply. If power unit is directly connected to a line disconnect box, place line disconnect switch to OFF position. Lock out and tag out switch before proceeding!

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I REMOVING THE OLD POWER BOARD

1. Turn off all power to the Powermax800 system - see warning on page 3.
2. Remove the 22 screws that secure the power supply cover to the power supply.
3. Remove the power supply cover.
4. Find power board and remove all wire connections on the rear side of the board - Fig. 2.
Note: Save jumper from E3 to E4 if you have a 400V CE power supply.

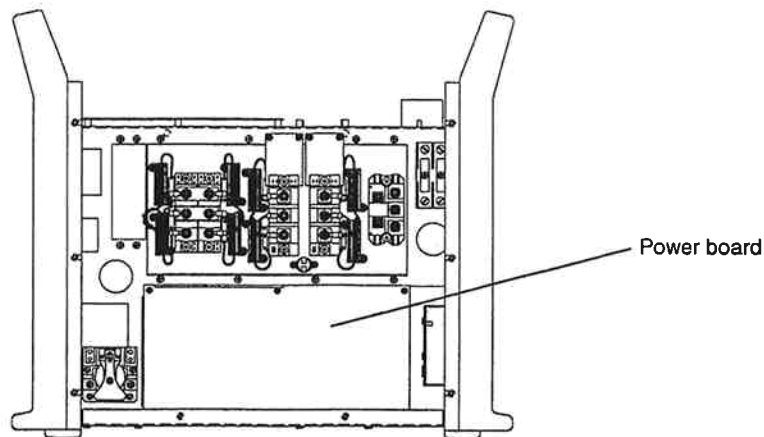


Figure 1 Powermax800 with Cover Removed

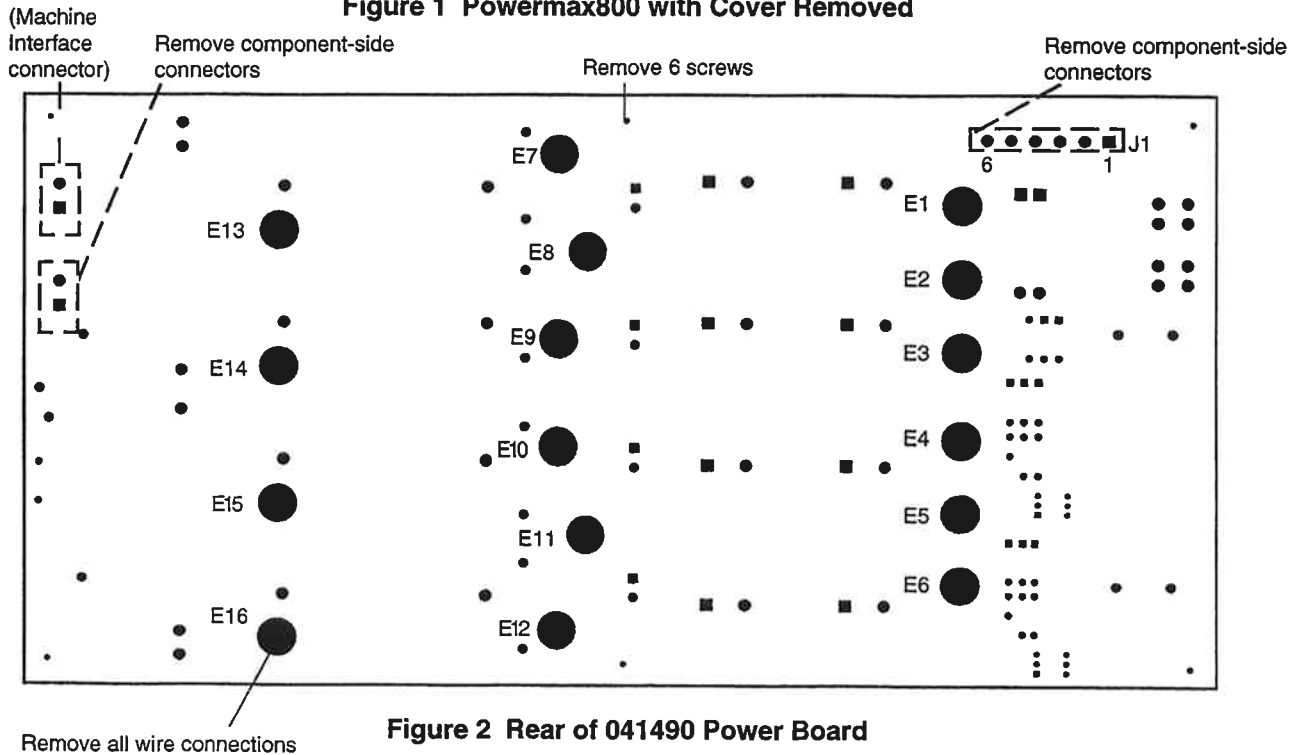


Figure 2 Rear of 041490 Power Board

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I REMOVING THE OLD POWER BOARD - (cont.)

5. Remove the 6 screws that secure the power board to the frame of the Powermax800 - Fig. 2.
6. Remove connectors from the component side of the power board and remove the power board from chassis - Fig. 2.

II. MODIFYING THE POWER TRANSFORMER

Note: Skip this step if your power supply serial number is 10000 or greater.

1. Find the power transformer.
2. Find the four 16AWG wires (orange, violet, grey, white) located at the bottom of the transformer, and cut them back to approximately 3 inches (75 mm) - Fig. 3A.
3. Strip back each of the cut wires approximately 1/4 inch (6 mm).
4. Crimp on the supplied plastic splices to the stripped wires with an appropriate crimping tool - Fig. 3A.
5. Pull on each crimp to verify that it is crimped securely.
6. Neatly tie the 4 crimped wires together - Fig. 3B.

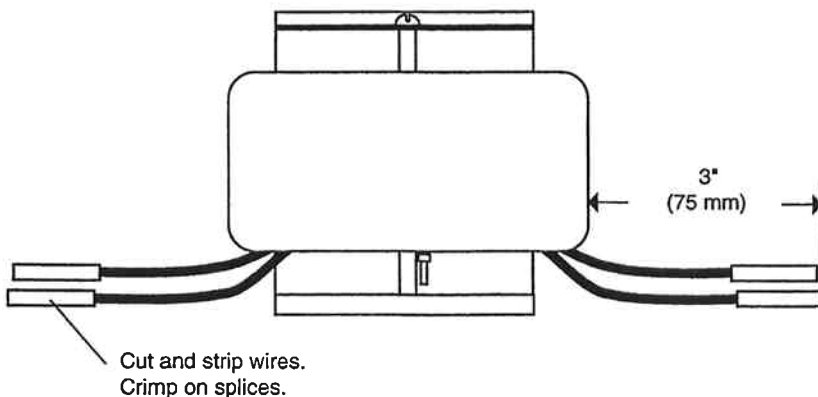


Figure 3A Modified Power Transformer

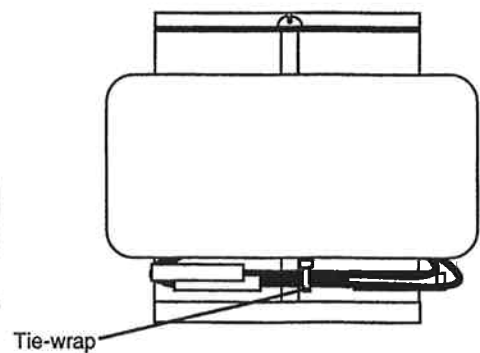


Figure 3B Modified Power Transformer with Wires Tied

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III. INSTALLING THE NEW POWER BOARD IN 208/240/480V AND 200/230/400 POWER SUPPLIES

Note: If you have a 400V CE power supply, skip this page (6) and page 7. Go to pages 8 and 9 to install the power board into the 400V CE power supply.

1. Attach all component side connectors to the power board before mounting board to the chassis.
2. Mount power board to the chassis using screws that were removed in step 6 under *1. Removing the Power Board*.
3. Attach the yellow and the black/white transformer (xfrmr) wires to the power board as shown in Fig. 4.
4. Attach all labeled wires to the appropriate power board location. All wire locations are labeled on the power board silk screen as Wxx. (Example: W15 refers to wire labeled 15).

Notes: Figure 4 shows connections from the heatsink assembly, and references connections to the transformer and linkbox.

The linkbox (referenced for wires W57-W60 in Fig. 4) is located behind the power supply rear panel.

5. Replace Powermax800 cover and secure with screws.

Installation complete.

Refer to Powermax800 operator manual IM227 (802270) for operation information.

If your power supply does not function properly, contact Hypertherm Technical Service at 1 800 643 9878.

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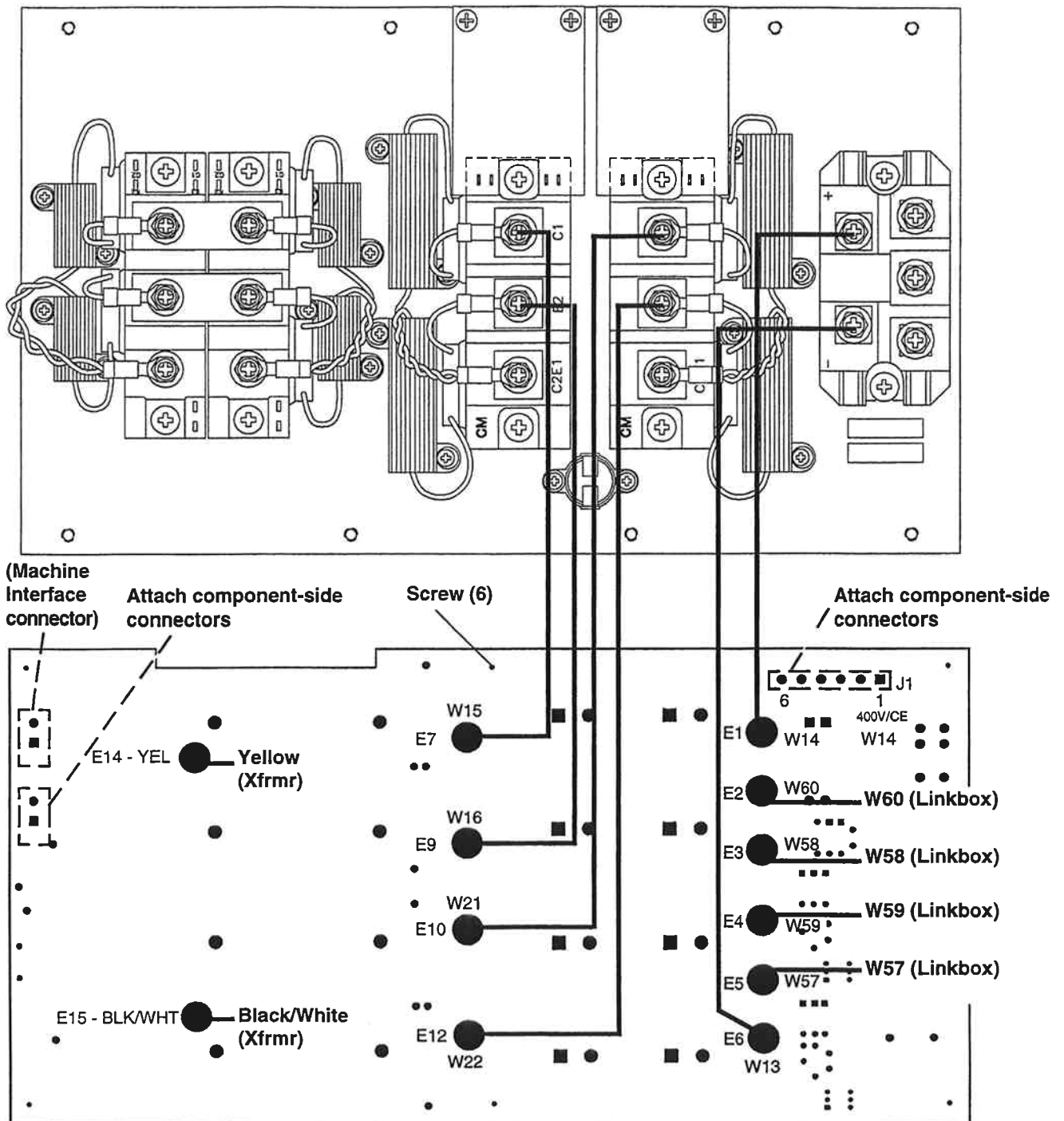


Figure 4 Power Board Connections to 208/240/480V and 200/230/400V Power Supplies

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III. INSTALLING THE NEW POWER BOARD IN 400V CE POWER SUPPLIES

Note: If you have a 208/240/480V or 200/230/400V power supply, skip this page (8) and page 9. Go to pages 6 and 7 to install the power board into non-CE power supplies.

1. Attach all component side connectors to the power board before mounting board to the chassis.
2. Mount power board to the chassis using screws that were removed in step 6 under *I. Removing the Power Board*.
3. Attach the yellow and the black/white transformer (xfmr) wires to the power board as shown in Fig. 5.
4. Attach all labeled wires to the appropriate power board location. All wire locations on the power board are labeled on the silk screen as Wxx (Example: W15 refers to wire labeled 15).

Note: Figure 5 shows connections from the heatsink assembly, and references connections to the transformer.

5. Take the jumper that was saved in step 4 of *I. Removing the Power Board* and attach between power board points E3 and E4.
6. Replace Powermax800 cover and secure with screws.

Installation complete.

Refer to Powermax800 operator manual IM227 (802270) for operation information.

If your power supply does not function properly, contact Hypertherm Technical Service at 1 800 643 9878.

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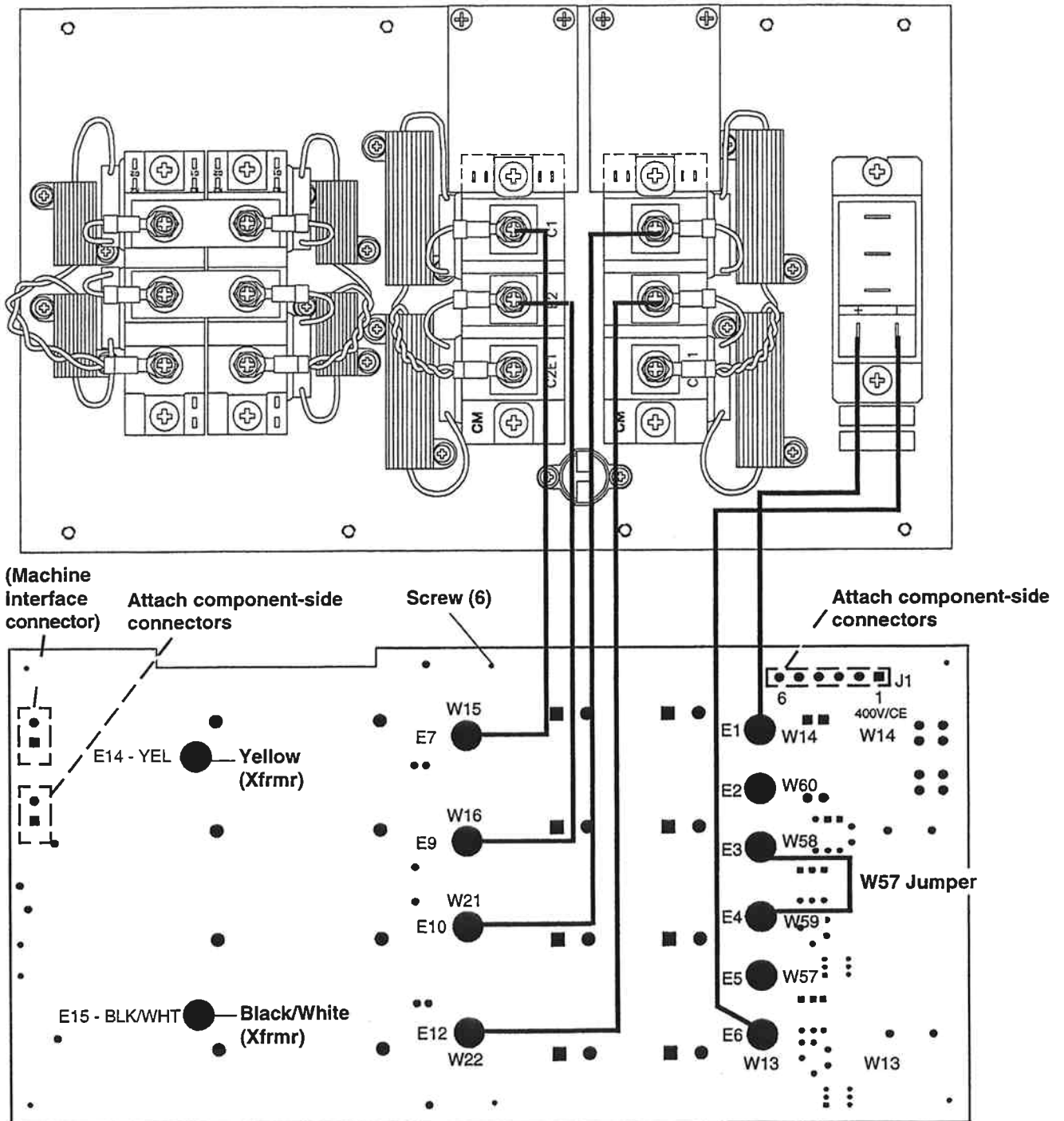


Figure 5 Power Board Connections to 400V CE Power Supplies

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