

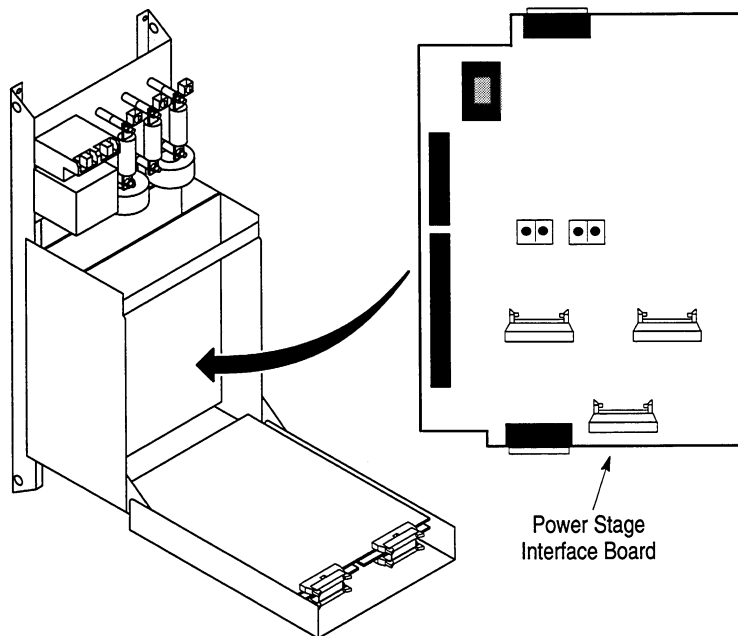


Allen-Bradley Bulletin 1395 PSI/Switcher Board Update Kit

What This Update Covers

This publication provides you with the information necessary to install an updated PSI Switcher Board (PN 173169) in a Series B 1–30 HP, 230 VAC or 2–60 HP, 460 VAC drive (Fig. 1).

Figure 1.
PSI Switcher Board Location



Where This Kit Is Used

3.6 – 110 Amp 1395 Drives, Series B.

What This Kit Contains

The following components make up this kit:
One (1) PSI Switcher Board #173169
Installation Instructions (1395–6.12)

Required Tools & Equipment

Various phillips and straight blade screwdrivers.
Wrist type grounding strap grounded to a chassis ground.

To guard against electrostatic damage to the circuit boards, it is recommended you attach the wrist strap before removing the new circuit board from the conductive packet. When removing boards from the drive, immediately insert them into their conductive packet.

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ATTENTION: Severe injury or death can result from electrical shock, burn, or unintended actuation of controlled equipment. Hazardous voltages may exist in the cabinet even with the circuit breaker in the off position. Multiple sources of power may be connected to the 1395 Drive. Recommended practice is to disconnect and lock out equipment from all power sources and discharge stored energy in capacitors, if present. If it is necessary to work in the vicinity of energized equipment, the safety related work practices of NFPA 70E, Electrical Safety Requirements for Employee Workplaces, must be followed. **DO NOT** work alone on energized equipment!

Replacement Procedure

Deenergize the drive by removing all input voltages (230/460 Volts, 115 Volts and 24 Volts) that are connected to the drive. Check for incoming AC line voltage at the line side of the AC input fuses before continuing. Do Not begin disassembly if voltage is present.



ATTENTION: This Drive contains ESD (Electrostatic Discharge) sensitive parts and assemblies. Static Control precautions are required when installing, testing, servicing or repairing this assembly. These precautions should be applied when working with the control boards. Component damage may result if ESD control procedures are not followed. If you are familiar with static control procedures, reference A-B publication 8000-4.5.2, *Guarding Against Electrostatic Damage* or any other applicable ESD Protection Handbook.

PSI Board Removal:

- Open the drive cover and loosen the two captive thumb screws in the upper right and left corner of the Adapter/Control Board plate. Swing this plate which has the Main Control Board located on the back side down for access to the PSI/Switcher board (Fig. 2).
- Disconnect the ribbon cables at connectors J9, J10 and J13 on the PSI board.
- Disconnect the J6, J7 & J8 wires (if used) at the spade connections in the lower right hand corner of the board (Fig.2).
- Disconnect the J3 and J4 wires at the spade connections in the upper left hand corner of the drive.
- Separate the snap apart connectors at TB2, J2, J5 and J14 (Fig.2). **Note:** Connector J14 may be anchored with screws on some models. These screws must be removed before separating the connector or you can damage the connector.
- Loosen the two captive thumb screws (Upper right and left corners) holding the PSI/Switcher board assembly in place. Swing the PSI/Switcher board assembly down approximately 45° and pull the entire assembly out of the drive.

- Use a small screwdriver to compress the latches on the black plastic board supports and lift the PSI board up and off the mounting plate.

PSI Board Installation:

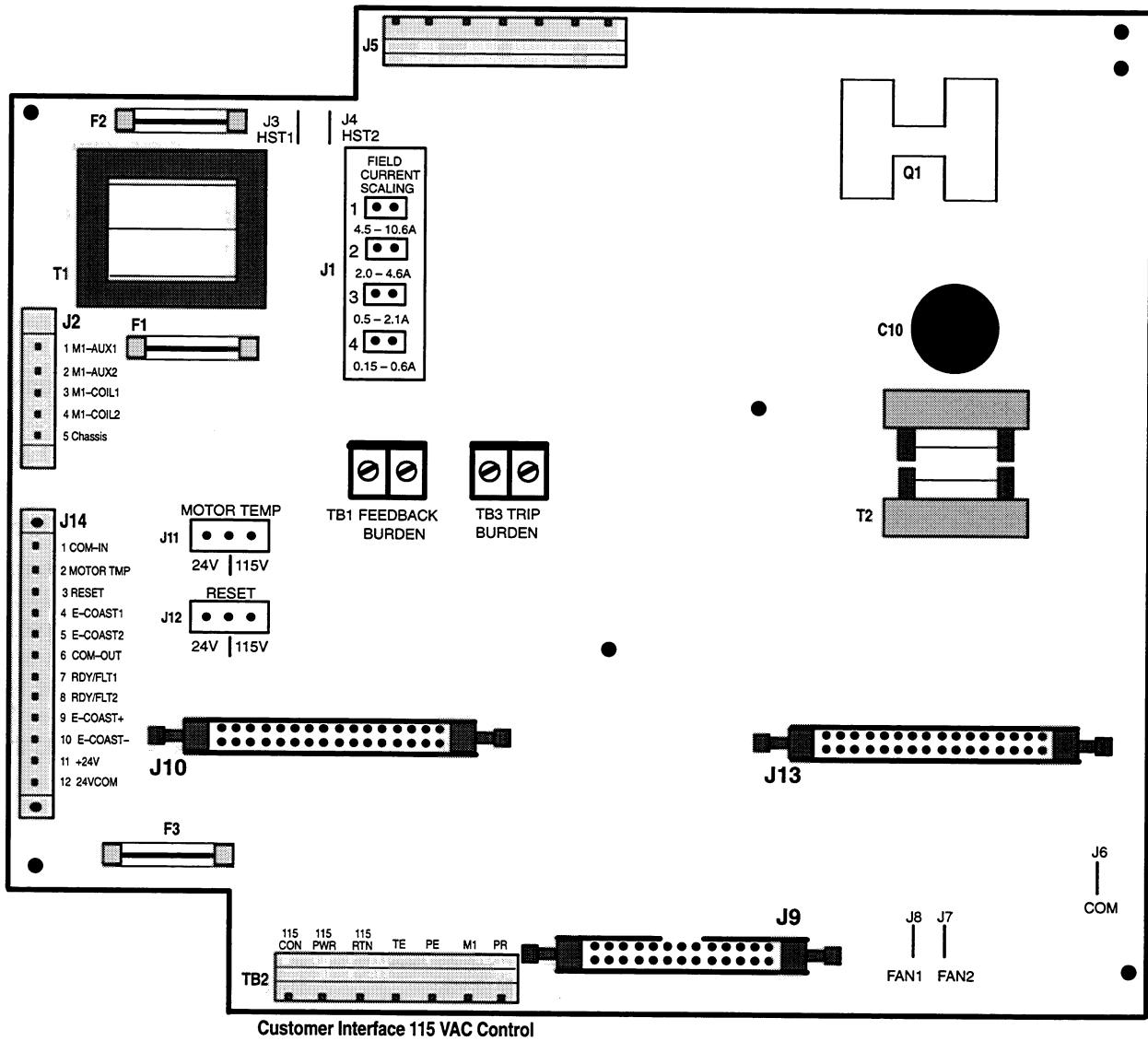
- Carefully lower the new PSI/Switcher board down into position on the black plastic standoffs and press into place until all tabs are latched.
- Slide the assembly back into the drive and fasten with the thumbscrews in the upper right and left corners.
- Reconnect connectors TB2, J2, J5 and J14 (Fig.2).
- Lock connector J14 in place by tightening the locking screws on the wire harness connector.
NOTE: Some drive versions will not have this locking connector on the wire harness.
- Reconnect the wires at spade connectors J3, J4, J6 and J7 & J8 if used.
- Reseat the ribbon cables J10, J13 and J9 and lock into place.
- Verify that voltage selection for the Reset and Motor Thermo inputs are set correctly per Table 1.A. Jumpers J11 and J12 determine whether the voltage used for the Reset and Motor Thermo inputs to the drive is 24 VDC or 115 VAC (refer to the settings on the old board). Both jumpers **MUST** be in the same position. Set Jumper J1 to the desired field current range. If you have further questions on setting these jumpers refer to the Chapter 6 of the Installation Manual 1395-5.40.

Table 1.A
Power Stage Interface Board Jumpers

Jumper	Position	Purpose
J11	24V (1-2)	24 VDC Motor Thermo Input
	115V (2-3)	115 VAC Motor Thermo Input
J12	24V (1-2)	24 VDC Reset Input
	115V (2-3)	115 VAC Reset Input
J1	1	4.5 to 10.6A DC Field Current Range
	2	2.0 to 4.6A DC Field Current Range
	3	0.5 to 2.1A DC Field Current Range
	4	0.15 to 0.6A DC Field Current Range

- Remove the Burden resistors from the old board and reinstall them in the same position at TB1 and TB3 on the new Power Stage Interface Board. **IMPORTANT:** The burden resistors **MUST** go back on the same number terminal block they were removed from, as they are **NOT** identical.
- Swing the Adapter Control board plate up into position and tighten the two captive thumb screws in the upper right and left corners.

Figure 2.
Component Locations on PSI Switcher Board



Test Sequence

- Install the cover on the drive and reconnect all power sources to the drive (460, 115 and 24 volts).
- Reenergize the drive and test to ensure normal operation.

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