Feedback Board Replacement
(for 1250, 1650, and 3000A 1395 DC Drives)

Contents

This document shows how to remove and replace the feedback board in a 1250, 1650, or 3000A 1395 DC drive.

What This Kit Contains

Using the table below, verify that you have received the appropriate items in your kit:

For this part:	You should receive this quantity:
feedback board	1

Other Items Needed

Before you begin, be sure you also have the following:

- Tools needed for:
  - Removing, loosening, and tightening screws (slotted and Phillips screwdrivers, plus a smaller screwdriver for terminals)
  - Removing, loosening, and tightening nuts (5/16” nut driver or socket wrench)
  - Measuring voltages and currents (multimeter)
- Documentation:
  - Your drive system schematics
  - Publication 1395-5.40, *Bulletin 1395 Digital DC Drive–User Manual*
  - Publication 2361-5.01, *Bulletin 1395 Digital DC Drive in Bulletin 2361 Motor Control Center for Drive Systems–User Manual*

Safety Precautions

The following general precautions apply when working on drives:

ATTENTION: Only those familiar with the drive system, the products used in the system, and the associated machinery should plan or implement the installation, startup, and future maintenance of the system. Failure to comply can result in personal injury and/or equipment damage.

ATTENTION: Verify that all sources of AC and DC power are deenergized and locked out or tagged out in accordance with the requirements of ANSI/NFPA 70E, Part II.

ATTENTION: The system may contain stored energy devices. To avoid the hazard of electrical shock, verify that all voltage on capacitors has been discharged before attempting to service, repair, or remove a drive system or its components. You should only attempt the procedures in this manual if you are qualified to do so and are familiar with solid-state control equipment and the safety procedures in publication NFPA 70E.

ATTENTION: When servicing any unit, do not drop any nuts, bolts, washers, etc. inside the unit, as they may cause a short circuit on power up.

ATTENTION: This drive system contains ESD (Electrostatic Discharge) sensitive parts and assemblies. Static control precautions are required when installing, testing, or repairing this assembly. Component damage can result if ESD control procedures are not followed. If you are not familiar with static control procedures, refer to Rockwell Automation publication 8000-4.5.2, *Guarding Against Electrostatic Damage* or any other applicable ESD protection handbook.

Special Instructions

Important: You will need to reuse parts that are removed from the drive. Place parts, in the order removed, on a clean surface.

Important: Some washers, such as clamp and Belleville washers, have only one correct orientation.

Preliminary Steps

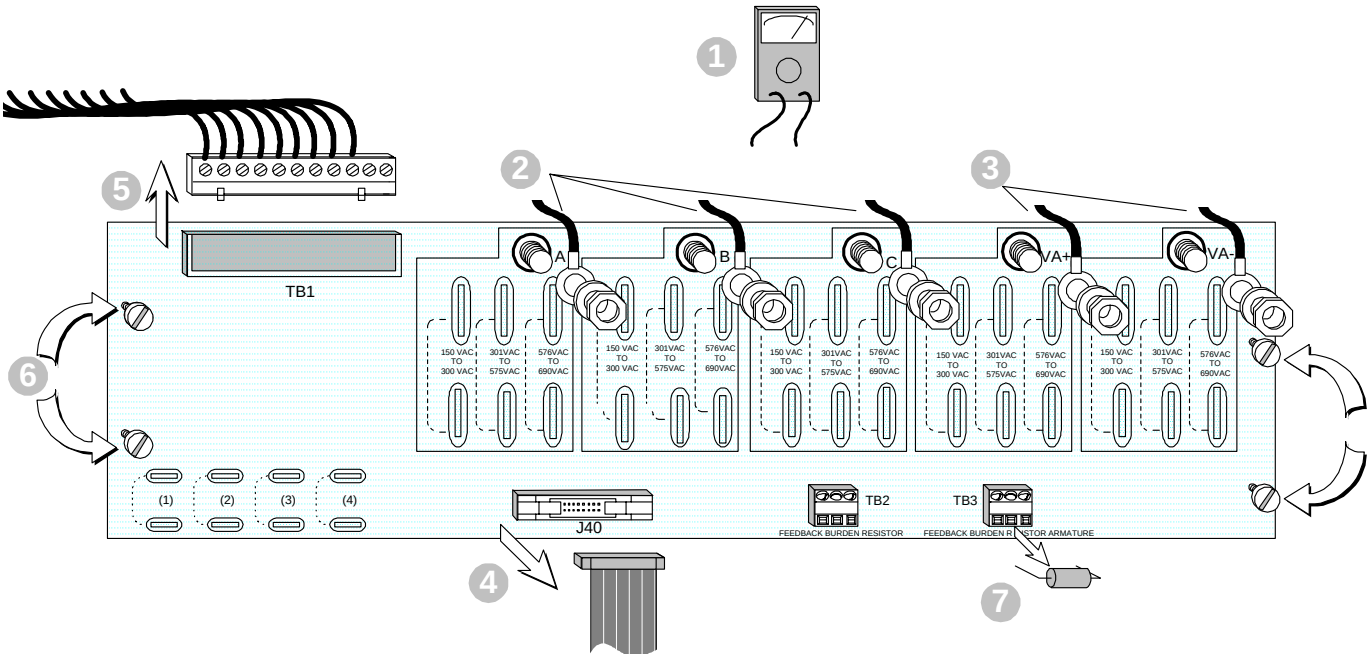
Before replacing the feedback board, shut off the drive power, wait five minutes for the voltage to discharge, open the disconnect bay door, and remove the Lexan™ shielding.

Removing the Feedback Board

1. Using a voltmeter, verify that no AC voltage exists between terminals A and B, B and C, and A and C. Also verify that there is no DC voltage between terminals VA+ and VA-.

ATTENTION: If there is any voltage present, remove the source of the voltage and check the terminals again before proceeding to the next step.

2. Disconnect the AC input leads A (J1), B (J2), and C (J3).
3. Disconnect the armature voltage feedback leads VA+ (J4) and VA- (J5).
4. Remove the ribbon cable at J40.
5. Remove the connector at TB1.
6. Loosen the four set screws to remove the feedback board.
7. Remove the armature feedback burden resistor in TB3 (check if the resistor is damaged).



Install the Feedback Board

1. Secure the armature feedback burden resistor into TB3 of the new feedback board. (TB2 is not used.)
2. Verify that the jumpers on the new board (armature voltage, AC voltage, and field range) match the jumper settings on the old board. There should be six jumpers on the board.

Line Voltage	Jumper Settings				
(V AC)	A	B	C	VA+	VA-
460	J7 to J22	J10 to J25	J13 to J28	J16 to J31	J19 to J34
575	J7 to J22	J10 to J25	J13 to J28	J16 to J31	J19 to J34
660	J8 to J23	J11 to J26	J14 to J29	J17 to J32	J20 to J35

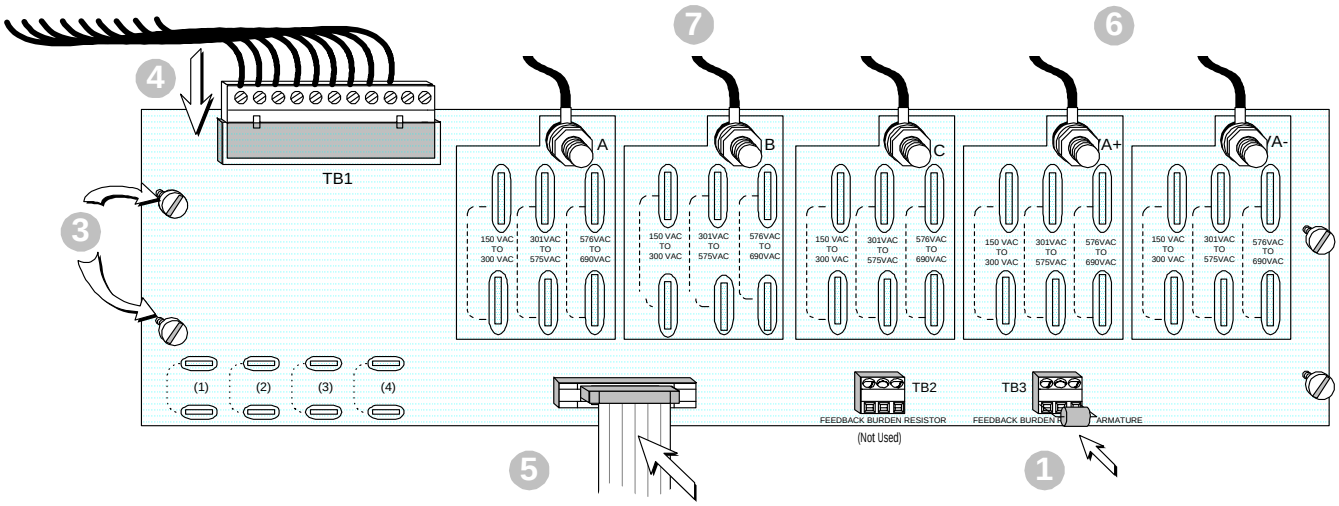
Jumper	Motor Field Current	
Settings	43A Field Bridge	90A Field Bridge
J36 to J41 (1)	1 to 2.4	2 to 4.9
J37 to J42 (2)	2.5 to 9.8	5 to 17.5
J38 to J43 (3)	9.9 to 18.6	17.6 to 37.1
J39 to J44 (4)	18.7 to 43	37.2 to 86

3. Install the feedback board, securing the four set screws.
4. Connect the connector to TB1 and check that the leads are firmly connected to the terminals.
5. Connect the ribbon cable to J40.
6. Connect the armature voltage feedback leads to VA+ (J4) and VA- (J5).
7. Connect the three AC leads A (J1), B (J2), and C (J3).

8. Verify the following:

- Verify AC line voltage parameter 116 with an AC voltmeter.
- Verify DC field current parameter 118 with a DC ammeter in the field circuit.
- Verify DC armature voltage parameter 105 with a DC voltmeter

Note: *The start-up chapter of publication 1395-5.40 provides more detail for verifying parameters.*



Concluding Steps

After installing the feedback board, replace all Lexan shielding and secure the disconnect bay door. Dispose of old parts according to your company procedures and local codes.

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